

# ArubaOS 7.4

## Command-Line Interface



Reference Guide

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The ArubaOS 7.4 command-line interface (CLI) allows you to configure and manage your Mobility Access Switch. The CLI is accessible from a local console connected to the serial port on the Mobility Access Switch or through a Telnet or Secure Shell (SSH) session from a remote management console or workstation.



Telnet access is disabled by default. To enable Telnet access, enter the **telnet** CLI command from a serial connection or an SSH session.

## What's New in ArubaOS 7.4

### New Commands

The following commands are introduced in the ArubaOS 7.4 command line interface.

Command	Description
<code>arp</code>	Use this command to add static Address Resolution Protocol (ARP) entries to the ARP table.
<code>crypto aruba-vpn</code>	Use this command to configure Aruba VPN tunnel.
<code>device-group</code>	This command dynamically configures an interface based on the type of device connected to it. It uses LLDP to detect the type of device connected to an interface and applies a device-group configuration (a set of predefined configuration) on the interface based on the device-type.
<code>interface-profile ddns-profile</code>	Use this command to configure a Dynamic Domain Name Server (DDNS) profile.
<code>ip dhcp aruba-vpn-pool</code>	Use this command to configure Distributed DHCP scope using the Aruba VPN pool profile.
<code>ip nat pool</code>	Use this command to create a Network Address Translation (NAT) pool.
<code>probe-profile</code>	Use this command to create a probe-profile for monitoring L3 uplink status.
<code>rogue-ap-containment</code>	Enable/disable and configure rogue AP containment options.
<code>set traceflags</code>	Use this command for setting trace flags for various packet forwarding functions.
<code>show aaa deny-inter-user-traffic roles</code>	Use this command to view the list of roles on which <b>deny-inter-user-traffic</b> is enabled.
<code>show ddns-client</code>	Use this command to view the DDNS updates that are sent to the server.
<code>show device-group</code>	This command displays the device-group attached interfaces.

Command	Description
<a href="#"><code>show device-group-config</code></a>	This command displays the device-group configuration parameters.
<a href="#"><code>show interface-profile ddns-profile</code></a>	Use this command to view the DDNS profile configuration information.
<a href="#"><code>show ip dhcp aruba-vpn-pool</code></a>	Use this command to view the details of the Aruba VPN pool profiles configured on the Mobility Access Switch.
<a href="#"><code>show ip nat pool</code></a>	Use this command to view all the NAT pools configured in the network.
<a href="#"><code>show probe</code></a>	Use this command to view the probe status of the interfaces where the probe profile is attached.
<a href="#"><code>show probe-profile</code></a>	Use this command to view the details of the probe profiles configured on the system.
<a href="#"><code>show rogue-ap-containment</code></a>	Use this command to view the rogue AP containment actions configured on the Mobility Access Switch.

## Modified Commands

The following commands are modified in ArubaOS 7.4

Command	Description
<a href="#"><code>crypto-local ipsec-map</code></a>	The <b>standby-interface vlan</b> parameter is introduced to configure a backup VPN interface.
<a href="#"><code>interface vlan</code></a>	The following new parameters are introduced: <ul style="list-style-type: none"> <li>● <b>ddns-profile</b></li> <li>● <b>ip nat outside</b></li> <li>● <b>ip access-group session</b></li> <li>● <b>metric</b></li> <li>● <b>probe-profile</b></li> <li>● <b>aruba-vpn-pool-profile</b></li> </ul>
<a href="#"><code>ip-profile</code></a>	The <b>ipsec</b> parameter is introduced under the <b>controller-ip</b> command.
<a href="#"><code>show datapath session</code></a>	The output includes <b>S</b> and <b>N</b> flags to indicate if source NAT or destination NAT is performed on the session.
<a href="#"><code>show interface-config vlan</code></a>	Introduced the following new parameters as part of this show command: <ul style="list-style-type: none"> <li>● <b>Interface description</b></li> <li>● <b>Interface DDNS profile</b></li> <li>● <b>Probe Profile</b></li> <li>● <b>metric</b></li> <li>● <b>IP NAT Outside</b></li> <li>● <b>Aruba VPN Pool profile</b></li> <li>● <b>Egress ACL</b></li> <li>● <b>Session ACL</b></li> </ul>
<a href="#"><code>show interface vlan</code></a>	<b>Metric</b> and <b>Probe profile</b> details are added to the output.

Command	Description
<a href="#"><u>show ip interface brief</u></a>	The output parameters are modified to include the <b>Probe</b> column indicating the probe status of all the interfaces being ping probed.
<a href="#"><u>show rights</u></a>	The <b>Deny inter-user traffic</b> status information is added to the output.
<a href="#"><u>user-role</u></a>	The <b>deny-inter-user-traffic</b> parameter was introduced. Enabling this on a user-role denies the traffic between users with that role.
<a href="#"><u>vlan-profile igmp-snooping-profile</u></a>	The <b>v3</b> parameter is added under <b>snooping</b> and <b>snooping-proxy</b> commands.

## About this Guide

This guide describes the ArubaOS 7.4 command syntax. The commands in this guide are listed alphabetically. The following information is provided for each command:

- Command Syntax—The complete syntax of the command.
- Description—A brief description of the command.
- Syntax—A description of the command parameters, including license requirements for specific parameters if needed. The applicable ranges and default values, if any, are also included.
- Usage Guidelines—Information to help you use the command, including: prerequisites, prohibitions, and related commands.
- Example—An example of how to use the command.
- Command History—The version of ArubaOS in which the command was first introduced. Modifications and changes to the command are also noted.
- Command Information—This table describes the command modes and platforms for which this command is applicable.

## Connecting to the Mobility Access Switch

This section describes how to connect to the Mobility Access Switch to use the CLI.

### Serial Port Connection

The serial port is located on the front panel of the Mobility Access Switch. Connect a terminal or PC/workstation running a terminal emulation program to the serial port on the Mobility Access Switch to use the CLI. Configure your terminal or terminal emulation program to use the following communication settings.

Baud Rate	Data Bits	Parity	Stop Bits	Flow Control
9600	8	None	1	None

### Telnet or SSH Connection

Telnet or SSH access requires that you configure an IP address and a default gateway on the Mobility Access Switch and connect the Mobility Access Switch to your network. This is typically performed when you run the Initial Setup on the Mobility Access Switch, as described in the *ArubaOS 7.4 Quick Start Guide*.

## CLI Access

When you connect to the Mobility Access Switch using the CLI, the system displays its host name followed by the login prompt. Log in using the admin user account and the password you entered during the Initial Setup on the Mobility Access Switch. For example:

```
(host)
User: admin
Password: *****
```

When you are logged in, the *user* mode CLI prompt displays. For example:

```
(host) >
```

User mode provides only limited access for basic operational testing such as running **ping** and **traceroute**.

Certain management functions are available in enable (also called privileged) mode. To move from user mode to enable mode requires you to enter an additional password (also called privileged mode password) that you entered during the Initial Setup. For example:

```
(host) > enable
Password: *****
```

When you are in enable mode, the > prompt changes to a pound sign (#):

```
(host) #
```

Configuration commands are available in *config* mode. Move from enable mode to config mode by entering **configure terminal** at the # prompt:

```
(host) # configure terminal
Enter Configuration commands, one per line. End with CNTL/Z
```

When you are in basic config mode, (config) appears before the # prompt:

```
(host) (config) #
```

## Command Help

You can use the question mark (?) to view various types of command help.

When typed at the beginning of a line, the question mark lists all the commands available in your current mode or sub-mode. A brief explanation follows each command. For example:

```
(host) > ?

enable          Turn on Privileged commands
exit            Exit this session. Any unsaved changes are lost.
help            Help on CLI command line processing and a
Description of the interactive help system
logout          Exit this session. Any unsaved changes are lost.
ping            Send ICMP echo packets to the specified ip address.
tracpath        Trace path to the specified IPv6 address.
traceroute      Trace route to the specified ip address.
```

When typed at the end of a possible command or abbreviation, the question mark lists the commands that match (if any). For example:

```
(host) > c?

clear           Clear configuration or statistics
clock           Configure the system clock
configure       Configuration Commands
copy            Copy Files
crypto          Configure IPSec, IKE, and CA
```

If more than one item is shown, type more of the keyword characters to distinguish your choice. However, if only one item is listed, the keyword or abbreviation is valid and you can press tab or the spacebar to advance to the next keyword.

When typed in place of a parameter, the question mark lists the available options. For example:

```
(host) # write ?
dhcp-snoop-database
erase            Erase configuration
memory          Write to memory
terminal        Write to terminal
```

The <cr> indicates that the command can be entered without additional parameters. Any other parameters are optional.

## Command Completion

To make command input easier, you can usually abbreviate each key word in the command. You need type only enough of each keyword to distinguish it from similar commands. For example:

```
(host) # configure terminal
```

could also be entered as:

```
(host) # con t
```

Three characters (**con**) represent the shortest abbreviation allowed for **configure**. Typing only **c** or **co** would not work because there are other commands (like **copy**) which also begin with those letters. The configure command is the only one that begins with **con**.

As you type, you can press the spacebar or tab to move to the next keyword. The system then attempts to expand the abbreviation for you. If there is only one command keyword that matches the abbreviation, it is filled in for you automatically. If the abbreviation is too vague (too few characters), the cursor does not advance and you must type more characters or use the help feature to list the matching commands.

## Deleting Configuration Settings

Use the **no** command to delete or negate previously-entered configurations or parameters.

- To view a list of no commands, type **no** at the enable or config prompt followed by the question mark. For example:

```
(host) (config) # no?
```

- To delete a configuration, use the **no** form of a configuration command. For example, the following command removes a configured user role:

```
(host) (config) # no user-role <name>
```

- To negate a specific configured parameter, use the **no** parameter within the command. For example, the following commands delete the VLAN configuration on a user-role:

```
(host) (config) #user-role <name>  
(host) (config-role) #no vlan 1
```

## Saving Configuration Changes

Each Aruba Mobility Access Switch contains two different types of configuration images.

- The *running-config* holds the current Mobility Access Switch configuration, including all pending changes which have yet to be saved. To view the running-config, use the following command:

```
(host) # show running-config
```

- The *startup config* holds the configuration which will be used the next time the Mobility Access Switch is rebooted. It contains all the options last saved using the **write memory** command. To view the startup-config, use the following command:

```
(host) # show startup-config
```

When you make configuration changes via the CLI, those changes affect the current running configuration only. If the changes are not saved, they will be lost after the Mobility Access Switch reboots. To save your configuration changes so they are retained in the startup configuration after the Mobility Access Switch reboots, use the following command in enable mode:

```
(host) # write memory  
Saving Configuration...  
Saved Configuration
```

Both the startup and running configurations can also be saved to a file or sent to a TFTP server for backup or transfer to another system.



## Reloading the Mobility Access Switch

When you execute the reload command, the Mobility Access Switch prompts you to save the configuration if there are any changes in the running configuration. Reloading the Mobility Access Switch causes a momentary disruption in service as the unit resets.

## Conventions

The following conventions are used throughout this manual to emphasize important concepts:

**Table 1:** *Typographical Conventions*

Type Style	Description
<i>Italics</i>	This style is used to emphasize important terms and to mark the titles of books.
System items	This fixed-width font depicts the following: <ul style="list-style-type: none"><li>• Sample screen output</li><li>• System prompts</li><li>• Filenames, software devices, and specific commands when mentioned in the text</li></ul>
<b>Commands</b>	In the command examples, this bold font depicts text that you must type exactly as shown.
< <i>Arguments</i> >	In the command examples, italicized text within angle brackets represents items that you should replace with information appropriate to your specific situation. For example: # <b>send</b> <text message> In this example, you would type “send” at the system prompt exactly as shown, followed by the text of the message you wish to send. Do not type the angle brackets.
[Optional]	Command examples enclosed in brackets are optional. Do not type the brackets.
{Item A   Item B}	In the command examples, items within curled braces and separated by a vertical bar represent the available choices. Enter only one choice. Do not type the braces or bars.

The following informational icons are used throughout this guide:



NOTE

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Indicates helpful suggestions, pertinent information, and important things to remember.

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CAUTION

Indicates a risk of damage to your hardware or loss of data.



WARNING

---

Indicates a risk of personal injury or death.

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## Command Line Editing

The system records your most recently entered commands. You can review the history of your actions, or reissue a recent command easily, without having to retype it.

To view items in the command history, use the *up* arrow key to move back through the list and the *down* arrow key to move forward. To reissue a specific command, press **Enter** when the command appears in the command history. You can even use the command line editing feature to make changes to the command prior

to entering it. The command line editing feature allows you to make corrections or changes to a command without retyping. [Table 1](#) lists the editing controls. To use key shortcuts, press and hold the **Ctrl** button while you press a letter key.

**Table 2: Line Editing Keys**

Key	Effect	Description
<b>Ctrl A</b>	Home	Move the cursor to the beginning of the line.
<b>Ctrl B</b> or the left arrow	Back	Move the cursor one character left.
<b>Ctrl D</b>	Delete Right	Delete the character to the right of the cursor.
<b>Ctrl E</b>	End	Move the cursor to the end of the line.
<b>Ctrl F</b> or the right arrow	Forward	Move the cursor one character right.
<b>Ctrl K</b>	Delete Right	Delete all characters to the right of the cursor.
<b>Ctrl N</b> or the down arrow	Next	Display the next command in the command history.
<b>Ctrl P</b> or up arrow	Previous	Display the previous command in the command history.
<b>Ctrl T</b>	Transpose	Swap the character to the left of the cursor with the character to the right of the cursor.
<b>Ctrl U</b>	Clear	Clear the line.
<b>Ctrl W</b>	Delete Word	Delete the characters from the cursor up to and including the first space encountered.
<b>Ctrl X</b>	Delete Left	Delete all characters to the left of the cursor.

## Contacting Support

**Table 3: Contact Information**

Website Support	
Main Site	<a href="http://www.arubanetworks.com">http://www.arubanetworks.com</a>
Support Site	<a href="https://support.arubanetworks.com">https://support.arubanetworks.com</a>
Airheads Social Forums and Knowledge Base	<a href="https://community.arubanetworks.com">https://community.arubanetworks.com</a>
North American Telephone	1-800-943-4526 (Toll Free) 1-408-754-1200

<b>Website Support</b>	
International Telephone	<a href="http://www.arubanetworks.com/support-services/support-program/contact-support">http://www.arubanetworks.com/support-services/support-program/contact-support</a>
Software Licensing Site	<a href="https://licensing.arubanetworks.com/">https://licensing.arubanetworks.com/</a>
End-of-Support Information	<a href="http://www.arubanetworks.com/support-services/end-of-life-products/">http://www.arubanetworks.com/support-services/end-of-life-products/</a>
Security Incident Response Team (SIRT)	<a href="http://www.arubanetworks.com/support-services/security-bulletins/">http://www.arubanetworks.com/support-services/security-bulletins/</a>
<b>Support Email Addresses</b>	
Americas, EMEA, and APAC	<a href="mailto:support@arubanetworks.com">support@arubanetworks.com</a>
Security Incident Response Team (SIRT)	<a href="mailto:sirt@arubanetworks.com">sirt@arubanetworks.com</a>

## aaa authentication captive-portal

```
aaa authentication captive-portal <profile-name>
  clone <source-profile>
  default-guest-role <role>
  default-role <role>
  enable-welcome-page
  guest-logon
  ip-addr-in-redirectation-url <ip-addr>
  login-page <url>
  logon-wait {cpu-threshold <percent>}|{maximum-delay <seconds>}|{minimum-delay <secs>}
  logout-popup-window
  max-authentication-failures <max-authentication-failures>
  no ...
  protocol-http
  redirect-pause <secs>
  server-group <group-name>
  show-acceptable-use-policy
  show-fqdn
  single-session
  switchip-in-redirectation-url <ipaddr>
  use-chap
  user-logon
  user-vlan-in-redirectation-url <ipaddr>
  welcome-page <url>
  white-list <white-list>
```

### Description

This command configures a Captive Portal authentication profile.

### Syntax

Parameter	Description	Range	Default
<profile-name>	Name that identifies an instance of the profile. The name must be 1-63 characters.	—	default
clone	Name of an existing Captive Portal profile from which parameter values are copied.	—	—
default-guest-role	Role assigned to guest.	—	guest
default-role <role>	Role assigned to the Captive Portal user upon login. When both user and guest logon are enabled, the default role applies to the user logon; users logging in using the guest interface are assigned the guest role.	—	guest
enable-welcome-page	Displays the configured welcome page before the user is redirected to their original URL. If this option is disabled, redirection to the web URL happens immediately after the user logs in.	enabled/ disabled	enabled

Parameter	Description	Range	Default
guest-logon	Enables Captive Portal logon without authentication.	enabled/ disabled	disabled
ip-addr-in-redirect-url	Sends IP address of one of the interface in the redirection URL when external captive portal servers are used.	—	disabled
login-page <url>	URL of the page that appears for the user logon. This can be set to any URL.	—	/auth/index.html
logon-wait	Configure parameters for the logon wait interval	1-100	60%
cpu-threshold <percent>	CPU utilization percentage above which the Logon wait interval is applied when presenting the user with the logon page.	1-100	60%
maximum-delay <seconds>	Maximum time, in seconds, the user will have to wait for the logon page to pop up if the CPU load is high. This works in conjunction with the Logon wait CPU utilization threshold parameter.	1-10	10 seconds
minimum-delay <secs>	Minimum time, in seconds, the user will have to wait for the logon page to pop up if the CPU load is high. This works in conjunction with the Logon wait CPU utilization threshold parameter.	1-10	5 seconds
logout-popup-window	Enables a pop-up window with the Logout link for the user to logout after logon. If this is disabled, the user remains logged in until the user timeout period has elapsed or the station reloads.	enabled/ disabled	enabled
max-authentication-failures	The number of authentication failures before the user is blacklisted.	0-10	0
no	Negates any configured parameter.	—	—
protocol-http	Use HTTP protocol on redirection to the Captive Portal page. If you use this option, modify the captive portal policy to allow HTTP traffic.	enabled/ disabled	disabled (HTTPS is used)

Parameter	Description	Range	Default
<code>redirect-pause &lt;secs&gt;</code>	Time, in seconds, that the system remains in the initial welcome page before redirecting the user to the final web URL. If set to 0, the welcome page displays until the user clicks on the indicated link.	1-60	10 seconds
<code>server-group &lt;group-name&gt;</code>	Name of the group of servers used to authenticate Captive Portal users.	—	—
<code>show-acceptable-use-policy</code>	Show the acceptable use policy page before the logon page.	enabled/ disabled	disabled
<code>show-fqdn</code>	Allows the user to see and select the fully-qualified domain name (FQDN) on the login page. The FQDNs shown are specified when configuring individual servers for the server group used with captive portal authentication.	enabled/ disabled	disabled
<code>single-session</code>	Allows only one active user session at a time.	—	disabled
<code>switchip-in-redirectation-url</code>	Sends the Mobility Access Switch's IP address in the redirection URL when external captive portal servers are used. An external captive portal server can determine the Mobility Access Switch from which a request originated by parsing the 'switchip' variable in the URL.	enabled/ disabled	disabled
<code>use-chap</code>	Use CHAP protocol. You should not use this option unless instructed to do so by an Aruba representative.	enabled/ disabled	disabled (PAP is used)
<code>user-logon</code>	Enables Captive Portal with authentication of user credentials.	enabled/ disabled	enabled
<code>user-vlan-in-redirectation-url</code>	Sends VLAN ID of the user in the redirection URL when external captive portal servers are used.	—	—
<code>welcome-page &lt;url&gt;</code>	URL of the page that appears after logon and before redirection to the web URL. This can be set to any URL.	—	/auth/welcome.html
<code>white-list &lt;white-list&gt;</code>	Name of an existing white list on an IPv4 or IPv6 network destination. The white list contains authenticated websites that a guest can access.	—	—

## Usage Guidelines

Use this command to create a captive portal profile on a Mobility Access Switch.

## Example

The following example configures a Captive Portal authentication profile that authenticates users against the Mobility Access Switch's internal database. Users who are successfully authenticated are assigned the auth-guest role.

To create a captive portal profile:

```
(host)(config)#aaa authentication captive-portal cp-profile
(host)(Captive Portal Authentication Profile "cp-profile") #default-role guest
(host)(Captive Portal Authentication Profile "cp-profile") #server-group cp-srv
```

To attach a captive portal profile to the user role:

```
(host)(config) #user-role cp-first
(host)(config-role) #captive-portal cp-profile
```

To designate the user role created as the initial role of the AAA profile:

```
(host)(config) #aaa profile cp_aaa
(host) (AAA Profile "cp_aaa") #initial-role cp-first
```

To apply the configured AAA profile to the interface:

```
(host)(config) #interface gigabitethernet 0/0/0
aaa-profile cp_aaa no trusted port
```

## Command History

Release	Modification
ArubaOS 7.2	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Configuration Mode (config)

## aaa authentication dot1x

```
aaa authentication dot1x <profile-name>
  ca-cert <certificate>
  cert-cn-lookup
  clone <profile>
  eapol-logoff
  framed-mtu <mtu>
  heldstate-bypass-counter <number>
  ignore-eap-id-match
  ignore-eapolstart-afterauthentication
  machine-authentication blacklist-on-failure|{cache-timeout <hours>}|enable|
    {machine-default-role <role>}|{user-default-role <role>}
  max-authentication-failures <number>
  max-requests <number>
  no ...
  reauth-max <number>
  reauthentication
  server {server-retry <number>}|server-retry-period <seconds>}
  server-cert <certificate>
  termination {eap-type <type>}|enable|enable-token-caching|{inner-eap-type (eap- gtc|eap-
    mschapv2)}|{token-caching-period <hours>}
  timer {idrequest_period <seconds>}|quiet-period <seconds>}|{reauth-period <seconds>}
  tls-guest-access
  tls-guest-role <role>
```

### Description

This command configures the 802.1X authentication profile.

### Syntax

Parameter	Description	Range	Default
<profile>	Name that identifies an instance of the profile. The name must be 1-63 characters.	—	“default”
ca-cert <certificate>	This command creates the CA certificate. The <certificate> parameter is the name of the certificate, which must be loaded on the switch.	—	disabled
cert-cn-lookup	Checks certificate common name against AAA server.	—	—
clone	Name of existing 802.1X profile from which parameters are copied.	—	—
delay-eap-success	Introduces a delay of one second in sending the EAP Success message to the client after it completes the 802.1X authentication to ensure that the clients obtain an IP address in the correct VLAN.	—	disabled



Parameter	Description	Range	Default
deny-dhcp	Denies DHCP requests from the clients till the dot1x authentication is complete to ensure that the 802.1X clients obtain the correct IP addresses in the correct VLANs/subnets.	—	disabled
eapol-logoff	Enables handling of EAPOL-LOGOFF messages.	—	disabled
framed-mtu <MTU>	Use this command to set the framed MTU attribute that is sent to the authentication server.	500-1500	1100
heldstate-bypass-counter <hs-counter>	Use this command to set the maximum number of times a station can send bad user credentials and avoid going to held state by sending an EAPOL-Start.	0-3	0
ignore-eap-id-match	Use this command to ignore EAP ID during negotiation.	—	disabled
ignore-eapol start-afterauthentication	Use this command to ignore EAPOL-START messages after authentication.	—	disabled
machine-authentication	(For Windows environments only) These parameters set machine authentication:		
blacklist-on-failure	Blacklists the client if machine authentication fails.	—	disabled
cache-timeout <hours>	Use this command to blacklist the station if machine authentication fails.	1-1000	24 hours (1 day)
enable	Select this option to enforce machine authentication before user authentication. If selected, either the machine-default-role or the user-default-role is assigned to the user, depending on which authentication is successful.	—	disabled
machine-default-role <role>	Default role assigned to the user after completing only machine authentication.	—	guest
user-default-role <role>	Default role assigned to the user after 802.1X authentication.	—	guest

Parameter	Description	Range	Default
<code>max-authentication-failures &lt;number&gt;</code>	Number of times a user can try to login with wrong credentials after which the user is blacklisted as a security threat. Set to 0 to disable blacklisting, otherwise enter a non-zero integer to blacklist the user after the specified number of failures.	0-5	0 (disabled)
<code>max-requests &lt;number&gt;</code>	Sets the maximum number of times ID requests are sent to the client.	1-10	3
<code>multicast-key rotation</code>	Enables multicast key rotation	—	disabled
<code>no</code>	Negates any configured parameter.	—	—
<code>reauth-max &lt;number&gt;</code>	Maximum number of reauthentication attempts.	1-10	3
<code>reauthentication</code>	Select this option to force the client to do a 802.1X reauthentication after the expiration of the default timer for reauthentication. (The default value of the timer is 24 hours.) If the user fails to reauthenticate with valid credentials, the state of the user is cleared. If derivation rules are used to classify 802.1X-authenticated users, then the reauthentication timer per role overrides this setting.	—	disabled
<code>reload-cert</code>	Reload Certificate for 802.1X termination. This command is available in enable mode only.	—	—
<code>server</code>	Sets options for sending authentication requests to the authentication server group.		
<code>server-retry &lt;number&gt;</code>	Option to set the maximum number of authentication requests that are sent to server group.	0-3	2
<code>server-retry-period &lt;seconds&gt;</code>	Option to set the time interval, in seconds, of failed requests that are sent to a server group.	5-65535	30 seconds

Parameter	Description	Range	Default
<code>server-cert &lt;certificate&gt;</code>	Server certificate used by the controller to authenticate itself to the client.	—	—
<code>termination</code>	Sets options for terminating 802.1X authentication on the controller.		
<code>eap-type &lt;type&gt;</code>	The Extensible Authentication Protocol (EAP) method, either EAP-PEAP or EAP-TLS.	<code>eap-peap/</code> <code>eap-tls</code>	<code>eap-peap</code>
<code>enable</code>	Enables 802.1X termination on the controller.	—	disabled
<code>enable-token</code> <code>-caching</code>	If you select EAP-GTC as the inner EAP method, you can enable the controller to cache the username and password of each authenticated user. The controller continues to reauthenticate users with the remote authentication server, however, if the authentication server is not available, the controller will inspect its cached credentials to reauthenticate users. @@@@  The syntax on the original doc was weird, so I just used this one. (The original was "Option to termination enable-token-caching.")	—	disabled
<code>inner-eap-type eap-gtc eap-mschapv2</code>	When EAP-PEAP is the EAP method, one of the following inner EAP types is used: <b>EAP-Generic Token Card (GTC):</b> Described in RFC 2284, this EAP method permits the transfer of unencrypted usernames and passwords from client to server. The main uses for EAP-GTC are one-time token cards such as SecureID and the use of LDAP or RADIUS as the user authentication server. You can also enable caching of user credentials on the controller as a backup to an external authentication server. <b>EAP-Microsoft Challenge Authentication Protocol version 2 (MS-CHAPv2):</b> Described in RFC 2759, this EAP method is widely supported by Microsoft clients.	<code>eap-gtc/eap-mschapv2</code>	<code>eap-mschapv2</code>

Parameter	Description	Range	Default
<code>token-caching-period &lt;hours&gt;</code>	If you select EAP-GTC as the inner EAP method, you can specify the timeout period, in hours, for the cached information.	(any)	24 hours
<code>timer</code>	Sets timer options for 802.1X authentication:		
<code>idrequest-period &lt;seconds&gt;</code>	Interval, in seconds, between identity request retries.	1-65535	30 seconds
<code>quiet-period &lt;seconds&gt;</code>	Interval, in seconds, following failed authentication.	1-65535	30 seconds
<code>reauth-period &lt;seconds&gt;</code>	Interval, in seconds, between reauthentication attempts, or specify <b>server</b> to use the server-provided reauthentication period.	60-864000	86400 seconds (1 day)
<code>tls-guest-access</code>	Enables guest access for EAP-TLS users with valid certificates.	—	disabled
<code>tls-guest-role &lt;role&gt;</code>	User role assigned to EAP-TLS guest.	—	guest

## Usage Guidelines

The 802.1X authentication profile allows you to enable and configure machine authentication and 802.1X termination on the controller. In the AAA profile, you specify the 802.1X authentication profile, the default role for authenticated users, and the server group for the authentication.

## Examples

The following example enables authentication of the user's client device before user authentication. If machine authentication fails but user authentication succeeds, the user is assigned the restricted "guest" role:

```
aaa authentication dot1x dot1x
  machine-authentication enable
  machine-authentication machine-default-role computer
  machine-authentication user-default-role guest
```

## Command History

Version	Description
ArubaOS 7.0	This command was introduced.
ArubaOS 7.3.1	The following parameters were added: <ul style="list-style-type: none"> <li>• <b>delay-eap-success</b></li> <li>• <b>deny-dhcp</b></li> </ul>

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system.	Configuration mode except where otherwise noted.

## aaa authentication mac

```
aaa authentication mac <profile-name>
  case upper|lower
  clone <profile>
  delimiter {colon|dash|none|oui-nic}
  max-authentication-failures <number>
  no ...
```

### Description

This command configures the MAC authentication profile.

### Syntax

Parameter	Description	Range	Default
<profile>	Variable name of the mac profile.	—	“default”
case	The case (upper or lower) used in the MAC string sent in the authentication request.	upper   lower	lower
clone <profile>	Name of MAC authentication profile to copy.	—	—
delimiter	Use this command to specify the format of the delimiter (colon, dash, none, or oui-nic) used in the MAC string.	colon   dash   none   oui-nic	none
max-authentication-failures <number>	Number of times a client can fail to authenticate before it is blacklisted. A value of 0 disables blacklisting.	0-10	0 (disabled)
no	Negates any configured parameter.	—	—

### Usage Guidelines

MAC authentication profile configures authentication of devices based on their physical MAC address. MAC-based authentication is often used to authenticate and allow network access through certain devices while denying access to all other devices. Users may be required to authenticate themselves using other methods, depending upon the network privileges.

### Example

The following example configures a MAC authentication profile to blacklist client devices that fail to authenticate.

```
aaa authentication mac mac-blacklist
  max-authentication-failures 3
```

## Command History:

Release	Modification
ArubaOS 7.0	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Configuration

## aaa authentication mgmt

```
aaa authentication mgmt
  default-role {root | network-operations | read only | location-api-mgmt | no access |
  location-api-mgmt}
  enable
  no ...
  server-group <group>
```

### Description

This command configures authentication for administrative users.

### Syntax

Parameter	Description	Range	Default
default-role	Select a predefined management role to assign to authenticated administrative users:	—	default
root	Default role, super user role.		
network-operations	Network operator role.		
read only	Read-only role.		
location-api-mgmt	Location API management role.		
no access	None of the commands are accessible for this role.		
enable	Enables authentication for administrative users.	enabled   disabled	disabled
no	Negates any configured parameter.	—	—
server-group <group>	Use this command to name a server group for management authentication.	—	default

### Usage Guidelines

If you enable authentication with this command, users configured with the **mgmt-user** command must be authenticated using the specified server-group.

### Example

The following example configures a management authentication profile that authenticates users against the controller's internal database. Users who are successfully authenticated are assigned the read-only role.

```
aaa authentication mgmt
  default-role read-only
  server-group internal
```

### Command History:

Release	Modification
ArubaOS 7.0	This command was introduced.



## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Configuration mode

## aaa authentication wired

```
aaa authentication wired
  no ...
  aaa-profile <aaa-profile>
```

### Description

This command configures authentication globally with the aaa profile.

### Syntax

Parameter	Description
no	Negates any configured parameter.
aaa-profile <aaa-profile>	Name of the AAA profile that applies to wired authentication. This profile must be configured for a Layer-2 authentication, either 802.1x or MAC.

### Example

The following commands configure an AAA profile for dot1x authentication and a wired profile that references the AAA profile:

```
aaa profile sec-wired
  dot1x-default-role employee
  dot1x-server-group sec-svrs
aaa authentication wired
  profile sec-wired
```

### Command History

Release	Modification
ArubaOS 7.0	This command was introduced.

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Configuration

## aaa authentication-server ldap

```
aaa authentication-server ldap <server>
  admin-dn <name>
  admin-passwd <string>
  allow-cleartext
  authport <port>
  base-dn <name>
  clone <server>
  enable
  filter <filter>
  host <ipaddr>
  key-attribute <string>
  max-connection
  no ...
  preferred-conn-type ldap-s|start-tls|clear-text
  timeout <seconds>
```

### Description

This command configures an LDAP server.

### Syntax

Parameter	Description	Range	Default
<server>	Name that identifies the server.	—	—
admin-dn <name>	Distinguished name for the admin user who has read/search privileges across all of the entries in the LDAP database (the user does not need write privileges but should be able to search the database and read attributes of other users in the database).	—	—
admin-passwd <string>	Password for the admin user.	—	—
allow-cleartext	Allows clear-text (unencrypted) communication with the LDAP server.	enabled disabled	disabled
authport <port>	Port number used for authentication. Port 636 will be attempted for LDAP over SSL, while port 389 will be attempted for SSL over LDAP, Start TLS operation and clear text.	1-65535	389
base-dn <name>	Use this command for the name of the search for the LDAP server. For example: <ul style="list-style-type: none"><li>● cn=users</li><li>● dc=qa</li><li>● dc=domain</li><li>● dc=co</li></ul>	—	—
clone <server>	Name of an existing LDAP server configuration from which parameter values are copied.	—	—
enable	Enables the LDAP server.	—	—

Parameter	Description	Range	Default
<code>filter &lt;filter&gt;</code>	Use this command as the filter that should be used as a key in a search for the LDAP server. The default filter string is: <code>(objectclass=*)</code> .	—	<code>(objectclass=)*</code>
<code>host &lt;ip-addr&gt;</code>	IP address of the LDAP server, in dotted-decimal format.	—	—
<code>key-attribute &lt;string&gt;</code>	Attribute that should be used as a key in search for the LDAP server. <ul style="list-style-type: none"> <li>The value for PAP is <code>sAMAccountName</code></li> <li>The value for EAP-TLS is <code>userPrincipalName</code></li> </ul>	—	<code>sAMAccountName</code>
<code>max-connection</code>	The maximum number of simultaneous non-admin connections that are allowed on the LDAP server.	1-16	4
<code>no</code>	Negates any configured parameter.	—	—
<code>preferred-conn-type</code>	Preferred connection type. The default order of connection type is: <ul style="list-style-type: none"> <li><code>ldap-s</code></li> <li><code>start-tls</code></li> <li><code>clear-text</code></li> </ul> The controller will first try to contact the LDAP server using the preferred connection type, and will only attempt to use a lower-priority connection type if the first attempt is not successful. <p><b>NOTE:</b> You enable the <b>allow-clear-text</b> option before you select <b>clear-text</b> as the preferred connection type. If you set <code>clear-text</code> as the preferred connection type but do not allow clear-text, the controller will only use <code>ldap-s</code> or <code>start-tls</code> to contact the LDAP server.</p>	<code>ldap-s</code> <code>start-tls</code> <code>clear-text</code>	<code>ldap-s</code>
<code>timeout &lt;seconds&gt;</code>	Use this command to set the timeout period for an LDAP request.	1-30	20 seconds

## Usage Guidelines

You configure a server before you can add it to one or more server groups. You create a server group for a specific type of authentication (see [aaa server-group on page 47](#)).

## Example

The following command configures and enables an LDAP server:

```
aaa authentication-server ldap ldap1
  host 10.1.1.243
  base-dn cn=Users,dc=1m,dc=corp,dc=com
  admin-dn cn=corp,cn=Users,dc=1m,dc=corp,dc=com
  admin-passwd abc10
  key-attribute sAMAccountName
  filter (objectclass=*)
  enable
```

## Command History

Release	Modification
ArubaOS 7.0	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Configuration

## aaa authentication-server radius

```
aaa authentication-server radius <server>
  acctport <port>
  authport <port>
  clone <server>
  enable
  host <ip-address>
  key <psk>
  nas-identifier <string>
  nas-ip <ipaddr>
  no ...
  retransmit <number>
  source-interface vlan <vlan>
  timeout <seconds>
  use-md5
```

### Description

This command configures a RADIUS server.

### Syntax

Parameter	Description	Range	Default
<server>	Name that identifies the server.	—	—
acctport <port>	Use this command to configure the port number for accounting.	1-65535	1813
authport <port>	Use this command to configure the port number for authentication.	1-65535	1812
clone <server>	Use this command to copy parameters from another RADIUS server.	—	—
enable	Enables the RADIUS server.		
host	Use this command to configure IP address/Hostname of radius server..	—	—
<ip-address>	IP address of the RADIUS server.	—	—
key <psk>	Shared secret between the switch and the authentication server.	—	—
nas-identifier <string>	Use this parameter to identify the Network Access Server (NAS) in RADIUS packets..	—	—
nas-ip <ip-addr>	NAS IP address to send in RADIUS packets. You can configure a “global” NAS IP address that the controller uses for communications with all RADIUS servers. If you do not configure a server-specific NAS IP, the global NAS IP is used. To set the global NAS IP, enter the <b>ip radius nas-ip ipaddr</b> command.	—	—

Parameter	Description	Range	Default
no	Negates any configured parameter.	—	—
retransmit <number>	Maximum number of retries sent to the server by the controller before the server is marked as down.	0-3	3
source-interface vlan <vlan>	Allows you to use source IP addresses to differentiate RADIUS requests. Associates a VLAN interface with the RADIUS server to allow the server-specific source interface to override the global configuration. <ul style="list-style-type: none"> <li>If you associate a Source Interface (by entering a VLAN number) with a configured server, then the source IP address of the packet will be that interface's IP address.</li> <li>If you do not associate the Source Interface with a configured server (leave the field blank), then the IP address of the global Source Interface will be used.</li> </ul>	—	—
timeout <seconds>	Maximum time, in seconds, that the controller waits before timing out the request and resending it.	1-30	5 seconds
use-md5	Use MD5 hash of cleartext password.	—	disabled

## Usage Guidelines

You configure a server before you can add it to one or more server groups. You create a server group for a specific type of authentication (see [aaa server-group](#)).

## Example

The following command configures and enables a RADIUS server:

```
aaa authentication-server radius radius1
  host 10.1.1.244
  key qwERtyuIOp
  enable
```

## Command History

Release	Modification
ArubaOS 7.0	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Configuration

## aaa authentication-server tacacs

```
aaa authentication-server tacacs <server>
  clone <source>
  enable
  host <ip-address>
  key <psk>
  no ...
  retransmit <number>
  session-authorization
  tcp-port <port>
  timeout <seconds>
```

### Description

This command configures a TACACS+ server.

### Syntax

Parameter	Description	Range	Default
<server>	Name that identifies the server.	—	—
clone <source>	Name of an existing TACACS server configuration from which parameter values are copied.	—	—
enable	Enables the TACACS server.	—	
host <ip-address>	Use this command to configure the IP address of the TACACS server.	—	—
key	Use this command to configure a preshared key to authenticate communication between the TACACS client and server.	—	—
no	Negates any configured parameter.	—	—
retransmit <number>	Use this command to set the maximum number of times a request can be retried.	0-3	3
session-authorization	Enables TACACS+ session authorization. Session-authorization turns on the optional authorization session for admin users.	—	disabled
tcp-port <port>	TCP port used by the server.	1-65535	49
timeout <timeout>	Timeout period of a TACACS request, in seconds.	1-30	20 seconds

### Usage Guidelines

You configure a server before you can add it to one or more server groups. You create a server group for a specific type of authentication (see [aaa server-group](#)).

### Example

The following command configures and enables a TACACS+ server, and enables session authorization:

```
aaa authentication-server tacacs tacacs1
  clone default
```



```
host 10.1.1.245
key qwERTyuIOp
enable
session-authorization
```

## Command History

Release	Modification
ArubaOS 7.0	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Configuration

## aaa authentication-server windows (deprecated)

```
aaa authentication-server windows <windows_server_name>
```

### Description

This command configures a windows server for stateful-NTLM authentication.

### Command History

Release	Modification
ArubaOS 7.0	This command was introduced.
ArubaOS 7.2	Deprecated.

## aaa derivation-rules

```
aaa derivation-rules user <STRING>
no ...
set {role|vlan} condition macaddr <attribute> <value> set-value <STRING> [description
<rule description>][position <number>]
```

### Description

This command configures rules which assigns a role or VLAN to a client.

### Syntax

Parameter	Description
<STRING>	Name that identifies this set of user derivation rules.
no	Negates a configured rule.
set {role vlan}	Specify whether the action of the rule is to set the role or the VLAN.
condition	Condition that should be checked to derive role/VLAN
<attribute> <value>	Specify one of the following conditions: <ul style="list-style-type: none"><li>● <b>contains:</b> Check if attribute <i>contains</i> the string in the &lt;value&gt; parameter.</li><li>● <b>ends-with:</b> Check if attribute <i>ends with</i> the string in the &lt;value&gt; parameter.</li><li>● <b>equals:</b> Check if attribute <i>equals</i> the string in the &lt;value&gt; parameter.</li><li>● <b>not-equals:</b> Check if attribute <i>is not equal</i> to the string in the &lt;value&gt; parameter.</li><li>● <b>starts-with:</b> Check if attribute <i>starts with</i> the string in the &lt;value&gt; parameter.</li></ul>
set-value <STRING>	Specify the user role or VLAN ID to be assigned to the client if the condition is met.
description	Describes the user derivation rule. This parameter is optional and has a 128 character maximum.
position	Position of this rule relative to other rules that are configured.

### Usage Guidelines

You configure the user role to be derived by specifying condition rules; when a condition is met, the specified user role is assigned to the client.

You can specify more than one condition rule; the order of rules is important as the first matching condition is applied. You can also add a description of the rule.

### Examples

The example rule shown below sets a user role for clients whose mac address starts with 0C.

```
aaa derivation-rules user MAC-rules
set role condition mac-addr starts-with 0C set-value mac_role1
```

### Command History

Release	Modification
ArubaOS 7.0	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Configuration

## aaa inservice

```
aaa inservice <server-group> <server>
```

### Description

Use this command to bring an authentication server into service.

### Syntax

Parameter	Description
<server-group>	Server group to which this server is assigned.
<server>	Name of the configured authentication server.

### Usage Guidelines

By default, the controller marks an unresponsive authentication server as “out of service” for a period of 10 minutes (you can set a different time limit with the **aaa timers dead-time** command). The **aaa inservice** command is useful when you become aware that an “out of service” authentication server is again available before the dead-time period has elapsed. (You can use the **aaa test-server** command to test the availability and response of a configured authentication server.)

### Example

The following command sets an authentication server to be in service:

```
aaa inservice corp-rad rad1
```

### Command History

Release	Modification
ArubaOS 7.0	This command was introduced

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable

## aaa password-policy mgmt

```
aaa password-policy mgmt
  enable
  no
  password-lock-out
  password-lock-out-time
  password-max-character-repeat.
  password-min-digit
  password-min-length
  password-min-lowercase-characters
  password-min-special-character
  password-min-uppercase-characters
  password-not-username
```

### Description

Define a policy for creating management user passwords.

### Syntax

Parameter	Description
enable	enable the password management policy
password-lock-out	Command provides the ability to reduce the number of passwords that can be guessed in a short period of time. It automatically clears the lockout after the configured "lock-out" minutes. Range: 0-10 attempts. By default, the password lockout feature is disabled, and the default value of this parameter is 0 attempts.
password-lock-out-time	Command configures the number of minutes a user is locked out. The lockout is cleared without administrator intervention. Range: 1 min to 1440 min (24 hrs). Default: 3.
password-max-character-repeat	Configures the maximum number of consecutive repeating characters allowed in a management user password. Range: 0-10 characters. By default, there is no limitation on the numbers of character that can repeat within a password.
password-min-digit	The minimum number of numeric digits required in a management user password. Range: 0-10 digits. By default, there is no requirement for numerical digits in a password, and the parameter has a default value of 0.
password-min-length	The minimum number of characters required for a management user password. Range: 6-64 characters. Default: 6.
password-min-lowercase-characters	The minimum number of lowercase characters required in a management user password. Range: 0-10 characters. By default, there is no requirement for lowercase letters in a password, and the parameter has a default value of 0.

Parameter	Description
<code>password-min-special-character</code>	The minimum number of special characters required in a management user password. Range: 0-10 characters. By default, there is no requirement for special characters in a password, and the parameter has a default value of 0. See <a href="#">Usage Guidelines</a> for a list of allowed and disallowed special characters.
<code>password-min-uppercase-characters</code>	The minimum number of uppercase characters required in a management user password. Range: 0-10 characters. By default, there is no requirement for uppercase letters in a password, and the parameter has a default value of 0.
<code>password-not-username</code>	Password cannot be the management users' current username or the username spelled backwards.

## Usage Guidelines

By default, the password for a management user has no requirements other than a minimum length of 6 alphanumeric or special characters. You do not need to configure a different management user password policy unless your company enforces a best practices password policy for management users with root access to network equipment.

The table below lists the special characters allowed and not allowed in any management user password

Allowed Characters	Disallowed Characters
exclamation point: !	Parenthesis: ( )
underscore: _	apostrophe: '
at symbol: @	semi-colon: ;
pound sign: #	dash: -
dollar sign: \$	equals sign: =
percent sign: %	slash: /
caret: ^	question mark: ?
ampersand: &	
star: *	
greater and less than symbols: < >	
curled braces: { }	
straight braces: [ ]	
colon :	
period: .	
pipe:	

Allowed Characters	Disallowed Characters
plus sign: +	
tilde: ~	
comma: ,	
accent mark: `	

## Example

The following command sets a management password policy that requires the password to have a minimum of nine characters, including one numerical digit and one special character:

```
aaa password-policy mgmt
  enable
  password-min-digit 1
  password-min-length 9
  password-min-special-characters 1
```

## Command History

Release	Modification
ArubaOS 7.0	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Management Password Policy



## aaa profile

```
aaa profile <profile-name>
  authen-failure-blacklist-time <seconds>
  authentication-dot1x <profile-name>
  authentication-mac <profile-name>
  clone <profile>
  dot1x-default-role <role>
  dot1x-server-group <group>
  download-role
  enforce-dhcp
  initial-role <role>
  l2-auth-fail-through
  mac-default-role <role>
  mac-server-group <group>
  no ...
  preauth
  radius-accounting <server-group-name>
  radius-interim-accounting
  rfc-3576-server
  sip-authentication-role
  unreachable-role
  user-derivation-rules <profile>
  xml-api-server
```

### Description

This command configures the AAA profile.

### Syntax

Parameter	Description	Default
<profile-name>	Name that identifies this instance of the profile.	"default"
auth-failure-blacklist-time	Use this command to set the amount of time, in seconds, to blacklist a STA if it fails repeated authentications. A value of 0 blocks indefinitely.	—
authentication-dot1x <profile-name>	Name of the 802.1x authentication profile associated with the AAA profile.	—
authentication-mac <profile-name>	Name of the MAC authentication profile associated with the AAA profile.	—
clone <profile>	Name of an existing AAA profile configuration from which parameter values are copied.	—
dot1x-default-role <role>	Use this command to assign a dot1x default role. If derivation rules are present, the role assigned to the client through these rules take precedence over the default role.	guest
dot1x-server-group <group>	Name of the server group used for 802.1x authentication.	—

Parameter	Description	Default
<code>download-role</code>	Use this command to download the role attribute details from ClearPass Policy Manager (CPPM) and assign the role to the client, if the user-role does not exist in Mobility Access Switch,	enabled
<code>enforce-dhcp</code>	Use this command to obtain IP address using DHCP.	
<code>initial-role &lt;role&gt;</code>	Use this command to assign role to a user before authentication takes place.	logon
<code>l2-auth-fail-through</code>	Use this command to proceed with the next available authentication mechanism when one fails.	
<code>mac-default-role &lt;role&gt;</code>	Use this command to assign a MAC authentication default role. If derivation rules are present, the role assigned to the client through these rules take precedence over the default role.	guest
<code>mac-server-group &lt;group&gt;</code>	Name of the server group used for MAC authentication. See.	—
<code>no</code>	Negates any configured parameter.	—
<code>preauth</code>	Enables the <b>preauth</b> role on the Mobility Access Switch. This role is assigned to a client until it derives the final role after passing through all the configured authentication methods. Hence, the policies defined on an intermediate role do not get applied on the client traffic. This avoids the clients from obtaining an IP address through DHCP in a subnet different from the final VLAN derived.	Disabled
<code>radius-accounting &lt;server-group-name&gt;</code>	Use this command to assign a server group for RADIUS accounting.	—
<code>radius-interim-accounting</code>	Use this command to send RADIUS interim accounting records.	
<code>sip-authentication-role &lt;role&gt;</code>	Role applied to a user after a successful SIP authentication.	
<code>unreachable-role &lt;role&gt;</code>	Role applied to a user when AAA servers are unreachable.	
<code>user-derivation-rules &lt;profile&gt;</code>	User attribute profile from which the user role or VLAN is derived.	—

## Usage Guidelines

The AAA profile defines the user role for unauthenticated users, the default user role for MAC or 802.1x authentication, and user derivation rules. The AAA profile contains the authentication profile and authentication server group.

## Example

The following command configures an AAA profile that assigns the “employee” role to clients after they are authenticated using the 802.1x server group “radiusnet”.

```
aaa profile corpnet
  dot1x-default-role employee
  dot1x-server-group zachjennings
  authentication-dot1x dot1xprof
```

## Command History

Release	Modification
ArubaOS 7.0	This command was introduced.
ArubaOS 7.2	The <b>download-role</b> parameter was introduced.
ArubaOS 7.2.3	The <b>unreachable-role</b> command was introduced.
ArubaOS 7.3.1	The <b>preauth</b> command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Configuration

## aaa query-user

```
aaa query-user <ldap-server-name> <user-name>
```

### Description

Troubleshoot an LDAP authentication failure by verifying that the user exists in the LDAP server database.

### Syntax

Parameter	Description
<ldap-server-name>	Name of an LDAP server.
<user-name>	Name of a user whose LDAP record you want to view.

### Usage Guidelines

If the Admin-DN binds successfully but the wireless user fails to authenticate, issue this command to troubleshoot whether the problem is with the wireless network, the controller, or the LDAP server. The **aaa query-user <ldap\_server\_name> <username>** command makes the controller send a search query to find the user. If that search fails in spite of the user being in the LDAP database, it is most probable that the base DN where the search was started was not correct. In such case, it is advisable to make the base DN at the root of the LDAP tree.

### Command History

Release	Modification
ArubaOS 7.0	This command was introduced.

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable

## aaa radius-attributes

```
aaa radius-attributes add <STRING> <INT> {date|integer|ipaddr|string} [vendor <name> <vendor-id>]
```

### Description

This command configures RADIUS attributes for use with server derivation rules.

### Syntax

Parameter	Description
<STRING>	Attribute name (alphanumeric string).
<INT>	Associated attribute ID (integer), and type (date, integer, IP address, or string).
date	Attribute type is Date.
integer	Attribute type is Integer.
ipaddr	Attribute type is IP address.
string	Attribute type is String.

### Usage Guidelines

Add RADIUS attributes for use in server derivation rules. Use the `show aaa radius-attributes` command to display a list of the current RADIUS attributes recognized by the controller. To add a RADIUS attribute to the list, use the `aaa radius-attributes` command.

### Example

The following command adds the VSA "Aruba-User-Role":

```
aaa radius-attributes add Aruba-User-Role 1 string vendor Aruba 14823
```

### Command History

Release	Modification
ArubaOS 7.0	This command was introduced.

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Configuration

## aaa rfc-3576-server

```
aaa rfc-3576-server <server-ip-addr>  
    key <psk>  
    no
```

### Description

This command designates a RADIUS server that can send user disconnect and change-of-authorization messages, as described in RFC 3576, "Dynamic Authorization Extensions to Remote Dial In User Service (RADIUS)".

### Syntax

Parameter	Description
<server-ip-addr>	IP address of the server.
key <psk>	Shared secret to authenticate communication between the RADIUS client and server.
no	Negates any configured parameter.

## aaa server-group

```
aaa server-group <group>
  allow-fail-through
  auth-server <name> [match-authstring contains|equals|starts-with <string>] [match-fqdn <string>] [position <number>] [trim-fqdn]
  clone <group>
  no ...
  set role|vlan condition <attribute> contains|ends-with|equals|not-equals|starts-with <string> set-value <set-value-str> [position <number>]
```

### Description

This command allows you to add a configured authentication server to an ordered list in a server group, and configure server rules to derive a user role, VLAN ID or VLAN name from attributes returned by the server during authentication.

### Syntax

Parameter	Description	Default
<group>	Variable name of the server group.	—
allow-fail-through	Command allows traffic that fails authentication to connect with the server.	disabled
auth-server <name>	Name of a configured authentication server.	—
match-authstring	This option associates the authentication server with a match rule that the controller can compare with the user/client information in the authentication request. With this option, the user/client information in the authentication request can be in any of the following formats: <domain>\<user> <user>@<domain> host/<pc-name>.<domain> An authentication request is sent to the server only if there is a match between the specified match rule and the user/client information. You can configure multiple match rules for an authentication server.	—
contains	<b>contains:</b> The rule matches if the user/client information contains the specified string.	
equals	The rule matches if the user/client information exactly matches the specified string.	
starts-with	The rule matches if the user/client information starts with the specified string.	
match-fqdn <string>	This option associates the authentication server with a specified domain. An authentication request is sent to the server only if there is an exact match between the specified domain and the <domain> portion of the user information sent in the authentication request. With this option, the user information must be in one of the following formats: <domain>\<user> <user>@<domain>	—

Parameter	Description	Default
<code>position &lt;number&gt;</code>	Position of the server in the server list. 1 is the top.	(last)
<code>trim-fqdn</code>	This option causes the user information in an authentication request to be edited before the request is sent to the server. Specifically, this option: removes the <domain>\ portion for user information in the <domain>\<user> format removes the @<domain> portion for user information in the <user>@<domain> format	—
<code>clone</code>	Name of an existing server group from which parameter values are copied.	—
<code>no</code>	Negates any configured parameter.	—
<code>set role vlan</code>	Assigns the client a user role, VLAN ID or VLAN name based on attributes returned for the client by the authentication server. Rules are ordered: the first rule that matches the configured condition is applied. VLAN IDs and VLAN names cannot be listed together.	—
<code>condition</code>	Attribute returned by the authentication server.	—
<code>contains</code>	The rule is applied if and only if the attribute value contains the specified string.	—
<code>ends-with</code>	The rule is applied if and only if the attribute value ends with the specified string.	—
<code>equals</code>	The rule is applied if and only if the attribute value equals the specified string.	—
<code>not-equals</code>	The rule is applied if and only if the attribute value is not equal to the specified string.	—
<code>starts-with</code>	The rule is applied if and only if the attribute value begins with the specified string.	—
<code>set-value</code>	User role or VLAN applied to the client when the rule is matched.	—
<code>value-of</code>	Sets the user role or VLAN to the value of the attribute returned. The user role or VLAN ID returned as the value of the attribute must already be configured on the controller when the rule is applied.	—

## Usage Guidelines

You create a server group for a specific type of authentication or for accounting. The list of servers in a server group is an ordered list, which means that the first server in the group is always used unless it is unavailable (in which case, the next server in the list is used). You can configure servers of different types in a server group, for example, you can include the internal database as a backup to a RADIUS server. You can add the same server to multiple server groups. There is a predefined server group “internal” that contains the internal database.

## Example

The following command configures a server group “corp-servers” with a RADIUS server as the main authentication server and the internal database as the backup. The command also sets the client’s user role to



the value of the returned "Class" attribute.

```
aaa server-group corp-servers
  auth-server radius1 position 1
  auth-server internal position 2
  set role condition Class value-of
```

## Command History

Release	Modification
ArubaOS 7.0	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Configuration

## aaa tacacs-accounting server-group

```
aaa tacacs-accounting server-group <group>
  command {action|all|configuration|show}
  mode {enable|disable}
```

### Description

This command configures reporting of commands issued on the controller to a TACACS+ server group.

### Syntax

Parameter	Description	Range	Default
server-group <group>	The TACACS server group to which the reporting is sent.	—	—
command	Enable accounting of all commands of specified type.	—	—
action	Reports action commands only.	—	—
all	Reports all commands.	—	—
configuration	Reports configuration commands only.	—	—
show	Reports show commands only.	—	—
mode	Enables accounting for the server group.	enable/ disable	disabled

### Usage Guidelines

You must have previously configured the TACACS+ server and server group (see [aaa authentication-server tacacs on page 32](#) and [aaa server-group on page 47](#)).

### Example

The following command enables accounting and reporting of configuration commands to the server-group "tacacs1":

```
aaa tacacs-accounting server-group tacacs1 mode enable command configuration
```

### Command History

Release	Modification
ArubaOS 7.0	This command was introduced.

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Configuration

## aaa test-server

```
aaa test-server {mschapv2|pap} <server> <username> <password>
```

### Description

Use this command to test the MSCHAPV2 and PAP authentication servers..

### Syntax

Parameter	Description
mschapv2	Use MSCHAPv2 authentication protocol.
pap	Use PAP authentication protocol.
<server>	Name of the configured authentication server.
<username>	Username to use to test the authentication server.
<password>	Password to use to test the authentication server.

### Usage Guidelines

This command allows you to check a configured authentication server. You can use this command to check for an “out of service” server.

### Example

The following commands verifies that the internal database is responding correctly:

```
aaa test-server pap internal kgreen lkjHGfds
```

```
Authentication successful
```

### Command History

Release	Modification
ArubaOS 7.0	This command was introduced.

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable

## aaa timers

```
aaa timers
  dead-time <minutes>
  idle-timeout <number>
  logon-lifetime <0-255>
  stats-timeout <1-300>
```

### Description

This command configures the timers that you can apply to clients and servers.

### Syntax

Parameter	Description	Range	Default
dead-time <minutes>	Option to set the authentication server dead time in minutes.	0-50	10 minutes
idle-timeout <1-15300>	Option to set user logon lifetime in minutes or seconds.	1 to 255 minutes (30 to 15300 seconds)	5 minutes (300 seconds)
logon-lifetime	Option to set user logon lifetime in minutes.	0-255	5 minutes

### Usage Guidelines

These parameters can be left at their default values for most implementations.

### Example

The following command changes the idle time to 10 minutes:

```
aaa timers idle-timeout 10
```

### Related Commands

```
(host) (config) #show aaa timers
(host) (config) #show datapath user table
```

### Command History

Release	Modification
ArubaOS 7.0	This command was introduced.

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Configuration

## aaa user clear-sessions

```
aaa user clear-sessions <ip address>
```

### Description

This command clears ongoing sessions for the specified client.

### Syntax

Parameter	Description
<ip-addr>	IP address variable.

### Example

The following command clears ongoing sessions for a client:

```
aaa user clear-sessions 10.1.1.236
```

### Command History

Release	Modification
ArubaOS 7.0	This command was introduced.

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable

## aaa user delete

```
aaa user delete <ip address> | all | ap-ip-addr | ap-name | mac | name | role
```

### Description

This command deletes user sessions.

### Syntax

Parameter	Description
<ip address>	IP address variable
all	Delete all users
mac <mac address>	Match MAC address
name <STRING>	Match user name
role <STRING>	Match role name

### Example

The following command deletes a role:

```
aaa user delete role web-debug
```

### Command History

Release	Modification
ArubaOS 7.0	This command was introduced.

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable

## aaa user logout

```
aaa user logout <ip address>
```

### Description

Use this command to logout a user's IP address.

### Syntax

Parameter	Description
<ipaddr>	IP address variable.

### Usage Guidelines

This command logs out an authenticated user.

### Example

The following command logs out a client:

```
aaa user logout 10.1.1.236
```

### Command History

Release	Modification
ArubaOS 7.0	This command was introduced.

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable

# activate firmware

activate firmware check|upgrade

## Description

Issue this command to trigger the Activate firmware upgrade services.

## Syntax

Parameter	Description
check	The <b>activate firmware check</b> command enables the Mobility Access Switch to automatically check Activate to see if there is a new image version to which that switch can upgrade.
upgrade	If the <b>activate firmware check</b> command shows that a new version is available, the <b>activate firmware upgrade</b> command prompts the Mobility Access Switch to attempt to download and upgrade to the new image.

## Usage Guidelines

If the **activate firmware check** command shows that a new version is available, you will be prompted to download and upgrade to the new image.

## Example:

```
(host)(config)# activate firmware update
```

This might take several minutes and will result in reloading the device.

Do you want to proceed? [y/n]:

## Command History

Release	Modification
ArubaOS 7.3	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable mode



# activate-service-firmware

activate-service-firmware

## Description

Issue this command to enable or disable the Activate firmware upgrade services. These features are enabled by default.

## Syntax

Parameter	Description
enable	Issue the command <b>activate-service-firmware enable</b> to enable this feature.
no	Disable this feature using the command <b>activate-service-firmware no enable</b> .

## Usage Guidelines

If the Activate firmware service is enabled, the **activate firmware check** command enables the Mobility Access Switch to automatically check Activate to see if there is a new image version to which that switch can upgrade. If a new version is available, the **activate firmware upgrade** command prompts the Mobility Access Switch to attempt to download and upgrade to the new image.

## Example:

```
(host) (config) # activate-service-firmware enable
```

## Related Commands

Parameter	Description
<a href="#">show activate-service-firmware</a>	Issue this command to verify if the Activate firmware upgrade services are enabled or disabled.

## Command History

Release	Modification
ArubaOS 7.3	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable and Configuration mode

## add stacking

```
add stacking interface stack <module/port> [member <id> | all]
```

### Description

Add a stacking interface to a specified member or to all ArubaStack members.

### Syntax

Parameter	Description
<code>interface stack &lt;module/port&gt;</code>	Enter the keywords <b>interface stack</b> followed by the stacking interface in module/port format.
<code>[member &lt;id&gt;   all]</code>	Enter the keyword <b>member</b> followed by the member ID number or to add stacking interface to all members, enter the keyword <b>all</b> .

### Usage Guidelines

Use this command to add a stacking interface; it also converts existing network interfaces to stacking ports.

### Example

The following example adds an interface to all members of the ArubaStack.

```
(host)(config) #add stacking interface stack 1/2 member all
```

If an interface is already configured on the ArubaStack, a message is returned as follows:

```
(host)(config) #add stacking interface stack 1/2 member all
```

```
Member-id: 0
=====
Interface already configured for stacking

Member-id: 1
=====
Interface already configured for stacking

Member-id: 2
=====
Interface already configured for stacking
```

### Command History

Release	Modification
ArubaOS 7.1	This command was introduced.

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable and Configuration Mode (config)

## arp

arp <ipaddr> <macaddr>

### Description

This command adds a static Address Resolution Protocol (ARP) entry to the ARP table.

### Syntax

Parameter	Description
<ipaddr>	IP address of the device to be added.
<macaddr>	Hardware address of the device to be added, in the format xx:xx:xx:xx:xx:xx.

### Usage Guidelines

If the IP address does not belong to a valid IP subnetwork, the ARP entry is not added. If the IP interface that defines the subnetwork for the static ARP entry is deleted, you will be unable to use the arp command to overwrite the entry's current values; use the no arp command to negate the entry and then enter a new arp command.

### Example

The following command configures an ARP entry:

```
(host) (config) #arp 10.152.23.237 00:0B:86:01:7A:C0
```

### Related Commands

Command	Description
<a href="#">show arp</a>	Displays all the ARP entries.

### Command History

Release	Modification
ArubaOS 7.4	This command was introduced.

### Command Information

Platforms	Licensing	Command Mode
All platforms	Base operating system	Configuration mode.

# aruba-central

```
aruba-central
  enable
  no
```

## Description

This command enables Mobility Access Switch to connect to Aruba Central portal through Activate.

## Syntax

Parameter	Description
enable	Enables the Mobility Access Switch to poll Activate and connect to Aruba Central.
no	Disables the Mobility Access Switch from polling Activate for Aruba Central URL.

## Usage Guidelines

This command is enabled by default. You can disable this if you do not wish to manage your switch through Aruba Central.

## Example

The following command configures enables the Mobility Access Switch to poll Activate for Aruba Central portal URL:

```
(host) (config) #aruba-central
(host) (Aruba Central) #enable
```

## Related Commands

Command	Description
<a href="#">show aruba-central</a>	Displays the status of Aruba Central configuration on the Mobility Access Switch.

## Command History

Release	Modification
ArubaOS 7.3.2	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
All platforms	Base operating system	Configuration mode.

# auto-config

auto-config disable

## Description

Use this command to disable auto configuration.

## Syntax

Parameter	Description	Default
Disable	Disables auto configuration.	Enabled

## Example

```
(host)#auto-config disable
```

## Command History

Release	Modification
ArubaOS 7.0	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
All platforms	Base operating system	Enable

# backup

backup {flash}

## Description

This command backs up compressed critical files in flash.

## Syntax

Parameter	Description
flash	Backs up flash directories to flashbackup.tar.gz file.

## Usage Guidelines

Use the **restore flash** command to untar and uncompress the flashbackup.tar.gz file.

## Example

The following command backs up flash directories to the flashbackup.tar.gz file:

```
(host) (config) #backup flash
```

## Command History

Release	Modification
ArubaOS 7.0	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable and Config

## backup interface

```
backup interface [gigabitethernet <slot/module/port> | port-channel <number>]
```

### Description

Configure the backup interface.

### Syntax

Parameter	Description	Range	Default
<code>gigabitethernet &lt;slot/module/port&gt;</code>	Enter the keyword <b>gigabitethernet</b> followed by the slot, module, port of the Gigabit Ethernet interface you want to add to HSL as a backup.	—	—
<code>port-channel &lt;number&gt;</code>	Enter the keyword <b>port-channel</b> followed by the port-channel number of the port channel interface you want to add to HSL as a backup.	0 to 7	—

### Usage Guidelines

When a primary link goes down, the backup link becomes active. By default, when the link comes up it goes into the standby mode as the other interface is activated.

### Example

In the following example, the primary interface is Gigabit Ethernet 0/0/10 and the backup interface is Gigabit Ethernet 0/0/11:

```
(host) (config) #interface gigabitethernet 0/0/10
(host) (gigabitethernet "0/0/10") #backup interface gigabitethernet 0/0/11
```

### Related Command

Command	Description
<a href="#">show hot-standby-link</a>	List the status of hot standby link interfaces.

### Command History

Release	Modification
ArubaOS 7.0	This command was introduced.

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Interface Config ( <code>gigabitethernet "slot/module/port"</code> ) or ( <code>port-channel number</code> )

## banner motd

banner motd <delimiter> <textString>

### Description

This command defines a text banner to be displayed at the login prompt when a user accesses the Mobility Access Switch.

### Syntax

Parameter	Description	Range
<delimiter>	Indicates the beginning and end of the banner text.	—
<textString>	The text you want displayed.	up to 1023 characters

### Usage Guidelines

The banner you define is displayed at the login prompt to the Mobility Access Switch. The banner is specific to the Mobility Access Switch on which you configure it. The WebUI displays the configured banner at its login prompt, but you cannot use the WebUI to configure the banner.

The delimiter is a single character that indicates the beginning and the end of the text string in the banner. Select a delimiter that is not used in the text string you define, because the Mobility Access Switch ends the banner when it sees the delimiter character repeated.

There are two ways of configuring the banner message:

- Enter a space between the delimiter and the beginning of the text string. The text can include any character except a quotation mark ("). Use quotation marks to enclose your text if you are including spaces (spaces are not recognized unless your text string is enclosed in quotation marks; without quotation marks, the text is truncated at the first space). You can also use the delimiter character within quotation marks.
- Press the **Enter** key after the delimiter to be placed into a mode where you can simply enter the banner text in lines of up to 255 characters, including spaces. Quotation marks are ignored.

### Example

The following example configures a banner by enclosing the text within quotation marks:

```
(host)(config) #banner motd * "Welcome to my Mobility Access Switch. This Mobility Access Switch is in the production network, so please do not save configuration changes. Maintenance will be performed at 7:30 PM, so please log off before 7:00 PM."*
```

The following example configures a banner by pressing the **Enter** key after the delimiter:

```
(host)(config) #banner motd *
Enter TEXT message [maximum of 1023 characters].
Each line in the banner message should not exceed 255 characters.
End with the character '*'.

```

```
Welcome to my Mobility Access Switch. This Mobility Access Switch is in the production network, so please do not save configuration changes. Maintenance will be performed at 7:30 PM, so please log off before 7:00 PM.*
```

The banner display is as follows:

```
Welcome to my Mobility Access Switch. This Mobility Access Switch is in the production network, so please do not save configuration changes. Maintenance will be performed at 7:30 PM, so please log off before 7:00 PM.
```



## Command History

Release	Modification
ArubaOS 7.0	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Configuration Mode (config)

# boot

boot

```
cf-test [fast | read-only | read-write]
config-file <file-name>
oldpartition
system:[0 | 1]
verbose
```

## Description

This command reloads the switch.

## Syntax

Parameter	Description
cf-test	Sets the type of compact flash test to run at boot time.
fast	Performs a fast test with no media tests.
read-only	Performs a read only media test.
read-write	Performs a read-write media test.
config-file	Configures the boot file the system uses to boot.
<file-name>	Name of boot file.
oldpartition	Repartition to old 50M image layout.
system: 0 1	Enter the keyword system followed by the partition number (0 or 1) that you want the switch to use during the next boot (login). NOTE: A reload is required before the new boot partition takes effect.
verbose	Prints extra information for debugging the system at boot time.

## Usage Guidelines

Use the following options to control the boot behavior of the switch:

- `cf-test`  
Test the flash during boot.
- `config-file`  
Sets the configuration file to use during boot.
- `system`  
Specifies the system partition on the switch to use during the next boot (login).
- `verbose`  
Print extra debugging information during boot. The information is sent to the screen at boottime. Printing the extra debugging information is disabled using the `no boot verbose` command

## Example

The following command uses the configuration file `january-config.cfg` the next time the controller boots:

```
boot config-file january-config.cfg
```

The following command uses system partition 1 the next time the controller boots:

```
boot system partition 1
```

## Command History

Release	Modification
ArubaOS 7.0	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
All platforms	Base operating system	Enable and Configuration Mode (config)

# clear

```
clear
  aaa
  arp
  counters
  crash
  crypto
  datapath
  dhcp-snooping-database
  diagnostics
  dot1x
  igmp-snooping
  interface
  ip
  ipc
  lldp
  log
  login-session
  mac-address-table
  mac-learning-log
  mld-snooping
  neighbor-devices
  port
  port-error-recovery interface
  rmon log-table
  snmp
  stacking
  vrrp
```

## Description

This command clears various user-configured values from your running configuration.

## Syntax

Parameter	Description
aaa	Clears all values associated with authentication profile.
authentication-server	Provide authentication server details to clear values specific to an authentication server or all authentication server. Parameters: <ul style="list-style-type: none"><li>• <b>all</b>—Clears all server statistics.</li><li>• <b>internal</b>—Clears Internal server statistics.</li><li>• <b>ldap</b>—Clears LDAP service statistics.</li><li>• <b>radius</b>—Clears RADIUS server statistics.</li><li>• <b>tacacs</b>—Clears TACACS server statistics.</li></ul>
state	Clears internal status of authentication modules. Parameters: <ul style="list-style-type: none"><li>• <b>configuration</b>—Clears all configured objects.</li><li>• <b>debug-statistics</b>—Clears debug statistics.</li><li>• <b>messages</b>—Clears authentication messages that were sent and received.</li></ul>

Parameter	Description
arp	<p>Clears ARP entries.</p> <ul style="list-style-type: none"> <li>arp ip—Clears the specified IP address ARP from the ARP Table</li> <li>all—Clears the entire ARP Table</li> </ul>
counters	<p>Clears the counters in one of the following interfaces:</p> <ul style="list-style-type: none"> <li>gigabitethernet—Clear counters for a gigabit ethernet interface port.</li> <li>oam—Clear operation, administration, and management counters.</li> <li>port-channel id or all—Clears port channel from all interfaces or a specified ID (range 0 to 7)</li> <li>stacking interface stack—module/port to clear counters of a specific stacking interface or all to clear counters of all stacking interfaces.</li> <li>tunnel—Clear counters for a particular tunnel or all tunnels.</li> </ul>
crash	Clears crash files and directories.
crypto	<p>Clears the following crypto state:</p> <ul style="list-style-type: none"> <li>dp—Clears crypto latest DP packets.</li> <li>ipsec sa peer &lt;ip-address&gt;—Delete active IPsec sessions or force IPsec to re-establish new Security Association (SA) for a peer IP.</li> <li>isakmp sa peer &lt;source-ip&gt;—Clears active IKE connections for a peer IP.</li> </ul>
datapath	Clears datapath statistics from policer management-counter statistic
dhcp-snooping-database	<p>Clears DHCP snooping configuration.</p> <ul style="list-style-type: none"> <li>all—Clears dynamic DHCP snooping entries on all the interfaces</li> <li>vlan&lt;id&gt;—Clears DHCP snooping configuration on a specific VLAN ID.</li> <li>vlan&lt;id&gt; mac—Clears dynamic dhcp snooping entries on a specific VLAN ID with the specific mac address.</li> </ul>
diagnostics interface gigabitethernet	<p>Clears the Time-Domain Reflectometer (TDR) on a specific interface or all interfaces:</p> <ul style="list-style-type: none"> <li>&lt;slot/module/port&gt; cable</li> <li>all cable</li> </ul>
dot1x	<p>Clears all 802.1x specific counters and supplicant statistics. Use the following parameters:</p> <ul style="list-style-type: none"> <li>counters</li> <li>supplicant-info</li> </ul>

Parameter	Description
<code>igmp-snooping</code>	Clears IGMP Snooping statistics: <ul style="list-style-type: none"> <li>counters—Clears statistics</li> <li>membership—Clears membership</li> <li>mrouter—Clears dynamically learnt multicast router port</li> </ul>
<code>interface local management ip-address member &lt;member-id&gt;</code>	Clears the local management interface IP address of the member ID
<code>ip dhcp binding</code>	Clears DHCP server binding
<code>ipc</code>	Clears all inter process communication statistics.
<code>lldp</code>	Clears LLDP statistics interface gigabitethernet in slot/module/port format.
<code>log</code>	Clears the following log information: <ul style="list-style-type: none"> <li>all—Clears all logging information from the Mobility Access Switch.</li> <li>errorlog—Clears system error and critical error logs.</li> <li>network—Clears network-specific logs.</li> <li>security—Clears security-specific logs.</li> <li>system—Clears system-specific logs.</li> <li>user—Clears user-specific logs.</li> <li>user-debug—Clears user-debug logs.</li> </ul>
<code>loginsession</code>	Clears login session information for a specific login session, as identified by the session id.
<code>mac-address-table</code>	Clears the MAC forwarding table.
<code>mac-learning-log</code>	Clears the MAC learning logs
<code>mld-snooping</code>	Clears the following Multicast Listener Discovery (MLD) snooping statistic/configuration: <ul style="list-style-type: none"> <li>counters—Clear MLD snooping statistics.</li> <li>membership vlan &lt;id&gt;—Clear MLD snooping membership on a VLAN.</li> <li>mrouter vlan &lt;id&gt;—Clear dynamically learnt multicast router port on VLAN.</li> </ul>
<code>neighbor-devices</code>	Clears the following neighbor device information: <ul style="list-style-type: none"> <li>cdp-statistics interface gigabitethernet &lt;slot/module/port&gt;—Clears CDP RX statistics for a gigabit ethernet port.</li> <li>interface gigabitethernet &lt;slot/module/port&gt;—Clears neighbor device information for a gigabit ethernet interface port.</li> </ul>

Parameter	Description
port	Clears all port statistics that includes link-event counters or all counters. Use the following parameters: <ul style="list-style-type: none"> <li>link-event</li> <li>stats</li> </ul>
port-error-recovery interface	Clears the following layer 2 interface port errors: <ul style="list-style-type: none"> <li>gigabitethernet &lt;slot/module/port&gt;</li> <li>port-channel</li> </ul>
rmon log-table	Clears RMON log table.
snmp	Clears the following SNMP parameters: <ul style="list-style-type: none"> <li>fault—Clears a specific or all faults.</li> <li>trap-queue—Clears SNMP traps in queue.</li> </ul>
stacking member-id <id>	Clears a stack member ID to free up a slot number from the active stack. This is applied to all stack members from the Primary. <b>NOTE:</b> You can not execute this command from a Line Card.
vrrp <id> statistics	Clears VRRP operational statistics.

## Usage Guidelines

The command clears the specified parameters of their current values.

## Example

The following command clears all AAA counters for all authentication servers:

```
(host) (config) #clear aaa authentication-server all
```

The following example clears system and critical error logs from the Mobility Access Switch:

```
(host) #clear log errorlog
```

## Command History

Release	Modification
ArubaOS 7.0	This command was introduced.
ArubaOS 7.1	Introduced <b>stacking</b> and <b>diagnostics</b> parameters (TDR statistics).
ArubaOS 7.3	Introduced the <b>dhcp-snooping-database</b> , <b>log</b> , and <b>vrrp &lt;id&gt; statistics</b> parameters.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable and Configuration Mode (config)

## clear arp

```
clear arp {all|<ip-address>}
```

### Description

This command clears the entries in the ARP table.

### Syntax

Parameter	Description
all	Clears all the entries in the ARP table.
<ip-address>	Clears only the specified IP address in the ARP table.

### Usage Guidelines

Use this command to clear the entries in the ARP table.

### Example

```
(host)(config) #clear arp all
```

### Related Command

Command	Description
<a href="#">show arp</a>	Displays the list of ARP entries.

### Command History

Release	Modification
ArubaOS 7.1	This command was introduced.

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Configuration Mode



## clear ip ospf

```
clear ip ospf {process | statistics [interface vlan <id>]}
```

### Description

Clears the dynamic OSPF related information.

### Syntax

Parameter	Description
process	Restarts the OSPF process.
statistics	Clears the OSPF statistics.
interface vlan <id>	Specifies the VLAN interface.

### Example

The example below restarts the OSPF process.

```
(host) #clear ip ospf process
```

The example below clears the dynamic OSPF related information.

```
(host) #clear ip ospf statistics interface vlan 1
```

### Related Command

Command	Description
<a href="#">router ospf</a>	Configures the global OSPF parameters.
<a href="#">interface-profile ospf-profile</a>	Configures an OSPF interface profile.

### Command History

Release	Modification
ArubaOS 7.1.1	This command was introduced.

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable and Configuration

## clear mac-address-table

```
clear mac-address-table [vlan <vlan-id>][interface {gigabitethernet <slot/module/port>}|  
{port-channel <id>}][mac <mac address>]|sticky
```

### Description

This command clears all learned MAC addresses stored in the MAC address table.

### Syntax

Parameter	Description
vlan <vlan-id>	Clear MAC addresses learned on the specified VLAN.
interface gigabitethernet <slot/module/port>	Clear MAC addresses learned on the specified Gigabit Ethernet port.
interface port-channel <id>	Clear MAC addresses learned on the specified port-channel.
sticky	Clear all the sticky MAC addresses.

### Example

The following example removes MAC addresses learned on VLAN 1 from the MAC address table.

```
(host)(config) #clear mac-address-table vlan 1
```

The following example removes a specific Sticky MAC address on an interface from the MAC address table:

```
(host)(config) # clear mac-address-table interface <interface-name> mac <mac address> sticky
```

### Related Command

Command	Description
<a href="#">show mac-address-table</a>	Displays the MAC address table

### Command History

Release	Modification
ArubaOS 7.0	This command was introduced.
ArubaOS 7.4	The <code>sticky</code> parameter is introduced.

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Config mode (config)

## clear mld-snooping counters vlan

```
clear mld-snooping counters vlan <id>
```

### Description

This command clears MLD-Snooping counters on a VLAN.

### Example

```
(host) #clear mld-snooping counters vlan 1
```

### Command History

Release	Modification
ArubaOS 7.4	This command is introduced.

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable

## clear mld-snooping membership vlan

```
clear mld-snooping membership vlan <id>
```

### Description

This command clears MLD-Snooping membership on a VLAN.

### Example

```
(host) #clear mld-snooping membership vlan 1
```

### Command History

Release	Modification
ArubaOS 7.4	This command is introduced.

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable

## clear mld-snooping mrouter vlan

```
clear mld-snooping mrouter vlan <id>
```

### Description

This command clears multicast router port a specific VLAN.

### Example

```
(host) #clear mld-snooping mrouter vlan 1
```

### Command History

Release	Modification
ArubaOS 7.4	This command is introduced.

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable

## clear port-error-recovery

```
clear port-error-recovery  
  interface {gigabitethernet <slot/mod/port> | port-channel <id>}
```

### Description

This command is used to manually recover the port errors on a specific interface or on all interfaces.

### Syntax

Parameter	Description
interface <interface-name>	Specify the interface on which you want to clear the port errors.

### Usage Guidelines

Use this command to manually recover the port errors on a specific interface or on all interfaces.

### Example

The following command clears the errors on gigabitethernet 0/0/42:

```
(host) (config) #clear port-error-recovery interface gigabitethernet 0/0/42
```

The following command clears the errors on port channel 3:

```
(host) (config) #clear port-error-recovery interface port-channel 3
```

The following command clears the port errors on all the interfaces:

```
(host) (config) #clear port-error-recovery
```

### Command History

Release	Modification
ArubaOS 7.1.3	This command was introduced.

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable and Configuration Mode (config)

## clear rmon log-table

clear rmon log-table

### Description

This command clears all the entries from the rmon log-table.

### Syntax

No parameters.

### Usage Guidelines

Use this command to clear all the entries from the rmon log-table.

### Example

```
(host) #show rmon log-table
```

```
RMON Log Table:
```

```
-----  
Log Id  Event Id  Creation Time      Description  
-----  -  
2       3          3-21-2012@20-08-18  Falling threshold log: ifHCInOctets.455  
1       3          3-21-2012@20-07-22  Rising threshold log: ifHCInOctets.455
```

```
(host) #clear rmon log-table
```

```
(host) #show rmon log-table
```

```
RMON Log Table:
```

```
-----  
Log Id  Event Id  Creation Time      Description  
-----  -  
-----  -
```

### Command History

Release	Modification
ArubaOS 7.1.3	This command was introduced.

### Command Information

Platform	License	Command Mode
Mobility Access Switch	Base operating system	Enable and Configuration Modes

## clock set

```
clock set <year><month><day><time>
```

### Description

This command sets the date and time.

### Syntax

Parameter	Description	Range	Default
year	Sets the year. Requires all 4 digits.	—	Numeric
month	Sets the month. Requires the first three letters of the month.	—	Alphanumeric
day	Sets the day.	1-31	—
time	Sets the time. Specify hours, minutes, and seconds separated by spaces.	—	Numeric

### Usage Guidelines

You can configure the year, month, day, and time. You must configure all four parameters. Specify the time using a 24-hour clock. You must specify the seconds.

### Example

The following example configures the clock to January 1<sup>st</sup> of 2007, at 1:03:52 AM.

```
(host) (config) #clock set 2007 jan 1 1 3 52
```

### Command History

Release	Modification
ArubaOS 7.0	This command was introduced.

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable Mode



## clock summer-time recurring

```
clock summer-time <WORD> [recurring]
  <1-4> <start day> <start month> <hh:mm>
  first <start day> <start month> <hh:mm>
  last <start day> <start month> <hh:mm>
  <1-4> <end day> <end month> <hh:mm>
  first <end day> <end month> <hh:mm>
  last <end day> <end month> <hh:mm>
  [<-23 - 23>]
```

### Description

Set the software clock to begin and end daylight savings time on a recurring basis.

### Syntax

Parameter	Description	Range
WORD	Enter the abbreviation for your time zone. For example, PDT for Pacific Daylight Time.	3-5 characters
1-4	Enter the week number to start/end daylight savings time. For example, enter 2 to start daylight savings time on the second week of the month.	1-4
first	Enter the keyword <b>first</b> to have the time change begin or end on the first week of the month.	—
last	Enter the keyword <b>last</b> to have the time change begin or end on the last week of the month.	—
start day	Enter the weekday when the time change begins or ends.	Sunday-Saturday
start month	Enter the month when the time change begins or ends.	January-December
hh:mm	Enter the time, in hours and minutes, that the time change begins or ends.	24 hours
-23 - 23	Hours offset from the Universal Time Clock (UTC).	-23 - 23

### Usage Guidelines

This command subtracts exactly 1 hour from the configured time.

The `WORD` can be any alphanumeric string, but cannot start with a colon (:). A `WORD` longer than five characters is not accepted. If you enter a `WORD` containing punctuation, the command is accepted, but the time zone is set to UTC.

You can configure the time to change on a recurring basis. To do so, set the week, day, month, and time when the change takes effect (daylight savings time starts). You must also set the week, day, month, and time when the time changes back (daylight savings time ends).

The `start day` requires the first three letters of the day. The `start month` requires the first three letters of the month.

You also have the option to set the number of hours by which to offset the clock from UTC. This has the same effect as the [clock timezone](#) command.

## Example

The following example sets daylight savings time to occur starting at 2:00 AM on Sunday in the second week of March, and ending at 2:00 AM on Sunday in the first week of November. The example also sets the name of the time zone to PST with an offset of UTC - 8 hours.

```
clock summer-time PST recurring 2 Sun Mar 2:00 first Sun Nov 3:00 -8
```

## Command History

Release	Modification
ArubaOS 7.0	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
All platforms	Base operating system	Configuration Mode

## clock timezone

```
clock timezone <name> <-23 to 23>
```

### Description

This command sets the time zone on the controller.

### Syntax

Parameter	Description	Range
<name>	Name of the time zone.	3-5 characters
-23 to 23	Hours offset from UTC.	-23 to 23

### Usage Guidelines

The **name** parameter can be any alphanumeric string, but cannot start with a colon (:). A time zone name longer than five characters is not accepted. If you enter a time zone name containing punctuation, the command is accepted, but the time zone is set to UTC.

### Example

The following example configures the time zone to PST with an offset of UTC - 8 hours.

```
clock timezone PST -8
```

### Command History

This command was introduced in ArubaOS 7.0

Release	Modification
ArubaOS 7.0	This command was introduced.

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Configuration Mode

# clone

clone <source>

## Description

Copy (*clone*) data from another (source) PVST+ profile.

## Syntax

Parameter	Description
<source>	Enter the name of the PVST profile that you want to clone (copy).

## Example

In the example below, the data from profile *default* is copied to the profile *TechPubs*.

```
(host) (pvst-profile "TechPubs") #clone default
```

## Related Command

Command	Description
<a href="#">show vlan-profile pvst-profile</a>	Display the settings for the specified profile name.

## Command History

Release	Modification
ArubaOS 7.4	This command is introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Config Mode (pvst-profile "<profile-name>") and (interface-profile pvst-port-profile <profile-name>)

## copy flash:

```
copy flash: <srcfilename> <destination> <destfilename>
```

### Description

Copy files from flash file system.

### Syntax

Parameter	Description
<srcfilename>	Enter the name of the file you are copying from.
<destination>	Destination can be any one of the following: <ul style="list-style-type: none"><li>• flash:</li><li>• ftp:</li><li>• tftp:</li><li>• scp:</li><li>• member flash:</li><li>• usb: &lt;usbfilename&gt; [usbpartition &lt;number&gt;]</li><li>• member &lt;id&gt; usb: &lt;usbfilename&gt; [usbpartition &lt;number&gt;]</li></ul>
<destfilename>	Enter the name of the destination file.

### Usage Guidelines

Use this command to copy a file from the flash file system.

### Example

The following command copies the file techpubs to techpubs2 in the flash.

```
(host)#copy flash: techpubs flash: techpubs2
```

If your file names are invalid, the system will alert you as follows:

```
Invalid file name
```

### Command History

Release	Modification
ArubaOS 7.0	This command was introduced.
ArubaOS 7.3	Following options were added for destination. <ul style="list-style-type: none"><li>• member flash:</li><li>• usb: &lt;usbfilename&gt; [usbpartition &lt;number&gt;]</li><li>• member &lt;id&gt; usb: &lt;usbfilename&gt; [usbpartition &lt;number&gt;]</li></ul>

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Configuration Mode (config)

## copy ftp:

```
copy ftp: <ftphost> <user> <imagefilename> [member: <id>] system: <partition 0|1>
```

### Description

Copy from a ftp host to upgrade either the system or a specified member.

### Syntax

Parameter	Description
<ftphost>	Enter the IP address of your FTP server in dotted decimal format.
<user>	Enter the user name.
<imagefilename>	Enter the image file name.
member: <id>	Optionally, enter the keyword <b>member:</b> followed by the member's ID to upgrade a particular member from the FTP server.
system: <partition 0 1>	Optionally, enter the keyword <b>system: partition</b> followed by the partition number (either <b>0</b> or <b>1</b> ) to upgrade from the FTP server to the specified partition.

### Usage Guidelines

Use this command to copy files or to copy an image for upgrade to a system partition or to a specified member. For more information about upgrading, see the [Upgrade Chapter](#) of the Release Notes.

### Command History

Release	Modification
ArubaOS 7.0	This command was introduced

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Configuration Mode (config)

## copy member:

```
copy member: <member id> {flash: <srcfilename> <destination> <destfilename>} | {usb:  
<filename> [usbpartition <number>] <destination> <destfilename>}
```

### Description

Copy a file from a member's flash to a <destination>.

### Syntax

Parameter	Description
member: <id>	Enter the keyword <b>member:</b> followed by the member's ID.
<srcfilename>	Enter the name of the file you are copying from.
<destination>	Enter one of the following: <ul style="list-style-type: none"><li>• ftp:</li><li>• scp:</li><li>• tftp:</li><li>• usb</li><li>• member &lt;id&gt; flash</li><li>• member usb</li></ul>
<destfilename>	Enter the name of the destination file.
usb:	External USB.
<filename>	Enter the complete path to the file on your USB device.
usbpartition <number>	Enter the USB partition number.
<destination>	Enter one of the following: <ul style="list-style-type: none"><li>• ftp:</li><li>• scp:</li><li>• tftp:</li><li>• usb</li><li>• member &lt;id&gt; flash</li><li>• member usb</li></ul>
<destfilename>	Enter the name of the destination file.

### Usage Guidelines

Copy from a designated stack member's flash.

### Example

The following command copies the file on a member to a flash via

```
(host)#copy member: 2 flash: techpubs1 ftp: techpubs2
```

If your file names are invalid, the system will alert you as follows:

```
Invalid file name
```

## Related Command

Command	Description
<a href="#">copy flash:</a>	Copy from flash to a destination.
<a href="#">copy ftp:</a>	Upgrade via FTP server.

## Command History

Release	Modification
ArubaOS 7.0	This command was introduced.
ArubaOS 7.4	The <b>usb</b> parameter was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Configuration Mode (config)



## copy running-config

```
copy running-config <destination> <destfilename>
```

### Description

Copy the running configuration to the USB or Flash.

### Syntax

Parameter	Description
<destination>	Destination can be any one of the following: <ul style="list-style-type: none"><li>• flash:</li><li>• ftp:</li><li>• member:</li><li>• scp:</li><li>• startup-config</li><li>• tftp:</li><li>• usb:</li></ul>
<destfilename>	Enter the name of the destination file.

### Usage Guidelines

Use this command to copy a running configuration file into the flash or USB:

### Example

The following command copies the file techpubs to techpubs2 in the flash.

```
(host)#copy running-config flash: techpubs2
```

If your file names are invalid, the system will alert you as follows:

```
Invalid file name
```

### Command History

Release	Modification
ArubaOS 7.0	This command was introduced.
ArubaOS 7.3	Following options were added for destination. <ul style="list-style-type: none"><li>• <b>member flash:</b></li><li>• <b>usb:</b></li><li>• <b>scp:</b></li></ul>

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Configuration Mode (config)

## copy scp:

```
copy scp: <scphost> <username> <filename> [flash: <destfilename> [member: <id>] system: <partition 0|1>]
```

### Description

Copy using secure file transfer (scp).

### Syntax

Parameter	Description
<scphost>	Enter the SCP host address in dotted decimal format.
<username>	Enter the user name for the secure login.
<filename>	Enter the file name to copy.
flash: <destfilename>	Enter the keyword <b>flash:</b> followed by the destination file name.
member: <id>	Enter the keyword <b>member:</b> followed by the member's ID.
system: <partition 0 1>	Enter the keyword <b>system: partition</b> followed by the partition number (either <b>0</b> or <b>1</b> ).

### Usage Guidelines

Use this command to copy files or to copy an image for upgrade. For more information about upgrading, see the [Upgrade Chapter](#) of the Release Notes.

### Example

Below is an upgrade example using the scp. The bold type is entered by the user, the remainder is generated by the system.

```
(host)#copy scp: 1.1.1.1 tftp ArubaOS_MAS_7.1.0.0_30627 system: partition 0  
Password:****
```

```
The authenticity of host '1.1.1.1 (1.1.1.1)' can't be established.  
RSA key fingerprint is 0d:c8:a2:74:ec:3f:16:5e:78:61:3e:33:3f:2f:4b:c4.
```

```
Are you sure you want to continue(y/n): y
```

```
Upgrading partition 0  
Secure file copy:.....  
File copied successfully.  
Saving file to flash:...  
Member-2:The system will boot from partition 0 during the next reboot.  
.....  
Member-0:The system will boot from partition 0 during the next reboot.  
Member-1:The system will boot from partition 0 during the next reboot.
```

## Related Commands

Command	Description
<a href="#">copy ftp:</a>	Copy using a FTP server.
<a href="#">copy tftp:</a>	Copy using a TFTP server

## Command History

Release	Modification
ArubaOS 7.0	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Configuration Mode (config)

## copy startup-config

```
copy startup-config <destination> <destfilename>
```

### Description

Copy the startup configuration options to USB or flash.

### Syntax

Parameter	Description
<destination>	Destination can be any one of the following: <ul style="list-style-type: none"><li>• flash:</li><li>• ftp:</li><li>• tftp:</li><li>• scp:</li><li>• member :</li><li>• usb:</li></ul>
<destfilename>	Enter the name of the destination file.

### Usage Guidelines

Use this command to copy the startup configuration options to USB or flash.

### Example

The following command copies the startup configuration to techpubs in the USB.

```
(host)#copy startup-config usb: techpubs
```

If your file names are invalid, the system will alert you as follows:

```
Invalid file name
```

### Command History

Release	Modification
ArubaOS 7.0	This command was introduced.
ArubaOS 7.3	Following options were added for destination. <ul style="list-style-type: none"><li>• scp:</li><li>• member :</li><li>• usb</li></ul>

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Configuration Mode (config)

## copy tftp:

```
copy tftp: <ftphost> <user> <imagefilename> [member: <id>] system: <partition 0|1>]
```

### Description

Copy from a tftp host to upgrade either the system or a specified member.

### Syntax

Parameter	Description
<ftphost>	Enter the IP address of your FTP server in dotted decimal format.
<user>	Enter the user name.
<imagefilename>	Enter the image file name.
member: <id>	Optionally, enter the keyword <b>member:</b> followed by the member's ID to upgrade a particular member from the FTP server.
system: <partition 0 1>	Enter the keyword <b>system: partition</b> followed by the partition number (either <b>0</b> or <b>1</b> ) to upgrade from the FTP server to the specified partition.

### Usage Guidelines

Use this command to copy files or to copy an image for upgrade to a system partition or to a specified member. For more information about upgrading, see the [Upgrade Chapter](#) of the Release Notes.

### Related Commands

Command	Description
<a href="#">copy ftp:</a>	Copy using a FTP server.
<a href="#">copy usb:</a>	Copy using USB storage.

### Command History

Release	Modification
ArubaOS 7.0	This command was introduced.

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Configuration Mode (config)

## copy usb:

```
copy usb: {<filename> [usbpartition <number>] <destination> <destfilename>} | {snapshot system: partition [0|1]}
```

### Description

Copy from USB storage to a <destination>.

### Syntax

Parameter	Description
<filename>	Enter the complete path to the file on your USB device.
usbpartition <number>	Enter the USB partition number.
<destination>	Enter one of the following: <ul style="list-style-type: none"><li>• ftp:</li><li>• scp:</li><li>• tftp:</li><li>• member &lt;id&gt; flash</li><li>• member usb</li><li>• member &lt;id&gt; system: partition [0   1]</li></ul>
<destfilename>	Enter the name of the destination file.
snapshot system: partition 0   1	Enter the keywords <b>snapshot system: partition</b> followed by the either partition number ( <b>0</b> or <b>1</b> ).

### Usage Guidelines

Use this command to copy files from USB storage.

### Example

The following command copies the file to USB storage:

```
(host)#copy usb: techpubs1 usbpartition 1 flash: techpubs2
```

If your file names are invalid, the system will alert you as follows:

```
Invalid file name
```

### Command History

Release	Modification
ArubaOS 7.1	This command was introduced.
ArubaOS 7.3	The <b>usbpartition &lt;number&gt;</b> and <b>snapshot system: partition [0   1]</b> parameters were introduced.

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable and Configuration Mode (config)

## crypto aruba-vpn

```
crypto aruba-vpn
  interface {loopback <aruba-vpn-interface-loopback-number> | vlan <aruba-vpn-vlan-id>}
  peer-ip <aruba-vpn-peer-ip>
```

### Description

This command configures Aruba VPN Tunnel parameters.

### Syntax

Parameter	Description
<pre>interface {loopback &lt;aruba-vpn- interface-loopback-number&gt;   vlan &lt;aruba-vpn-vlan-id&gt;}</pre>	Specify the Aruba VPN tunnel interface. You can configure the following options: <ul style="list-style-type: none"><li>• Loopback interface —allowed range is 0-63</li><li>• VLAN interface—allowed range is 1-4094</li></ul>
<pre>peer-ip</pre>	Specify the peer IP address to configure the Aruba VPN tunnel peer.

### Usage Guidelines

Use this command to configure Aruba VPN tunnel with a controller at the datacenter which acts as the peer.

### Example

The following command establishes Aruba VPN tunnel with the peer IP, 192.168.165.2 on the VLAN interface 1:

```
(host) (config) #crypto aruba-vpn
(host) (config-aruba-vpn) # peer-ip 192.168.165.2
(host) (config-aruba-vpn) # interface vlan 1
```

### Command History

Release	Modification
ArubaOS 7.4	This command is introduced.

### Command Information

Platforms	Licensing	Command Mode
All platforms	All parameters are available in the base OS.	Configuration mode

## crypto ipsec

```
crypto ipsec
  mtu <max-mtu>
  transform-set <transform-set-name> esp-3des|esp-aes128|esp-aes192|esp-aes256|esp-des esp-
  md5-hmac|esp-null-hmac|esp-sha-hmac}
```

### Description

This command configures IPsec parameters.

### Syntax

Parameter	Description
mtu <max-mtu>	Configure the IPsec Maximum Transmission Unit (MTU) size. The supported range is 1024 to 1500 and the default is 1500.
transform-set <transform-set-name>	Create or modify a transform set.
esp-3des	Use ESP with 168-bit 3DES encryption.
esp-aes128	Use ESP with 128-bit AES encryption.
esp-aes192	Use ESP with 192-bit AES encryption.
esp-aes256	Use ESP with 256-bit AES encryption.
esp-des	Use ESP with 56-bit DES encryption.
esp-md5-hmac	Use ESP with the MD5 (HMAC variant) authentication algorithm
esp-null-hmac	Use ESP with no authentication. This option is not recommended.
esp-sha-hmac	Use ESP with the SHA (HMAC variant) authentication algorithm.

### Usage Guidelines

Define the Maximum Transmission Unit (MTU) size allowed for network transmissions using IPsec security, and create or edit transform sets that define a specific encryption and authentication type.

### Example

The following command configures 3DES encryption and MD5 authentication for a transform set named **set2**:

```
(host) (config)# crypto ipsec transform-set set2 esp-3des esp-md5-hmac
```

### Command History

Release	Modification
ArubaOS 7.2	This command was introduced.



## Command Information

Platforms	Licensing	Command Mode
All platforms	All parameters are available in the base OS.	Config mode on MAS

## crypto isakmp policy

```
crypto isakmp policy
  authentication pre-share|rsa-sig
  encryption 3DES|AES128|AES192|AES256|DES
  group 1|2
  hash md5|sha|sha1-96
  prf PRF-HMAC-MD5|PRF-HMAC-SHA1
  lifetime <seconds>
  version v1|v2
```

### Description

This command configures Internet Key Exchange (IKE) policy parameters for the Internet Security Association and Key Management Protocol (ISAKMP).

### Syntax

Parameter	Description
policy	Configure an IKE policy
<priority>	Specify a number from 1 to 10,000 to define a priority level for the policy. The higher the number, the higher the priority level.
authentication	Configure the IKE authentication method.
pre-share	Use Pre Shared Keys for IKE authentication. This is the default authentication type.
rsa-sig	Use RSA Signatures for IKE authentication.
encryption	Configure the IKE encryption algorithm.
3DES	Use 168-bit 3DES-CBC encryption algorithm. This is the default encryption value.
AES128	Use 128-bit AES-CBC encryption algorithm.
AES192	Use 192-bit AES-CBC encryption algorithm.
AES256	Use 256-bit AES-CBC encryption algorithm.
DES	Use 56-bit DES-CBC encryption algorithm.
group	Configure the IKE Diffie Hellman group.
1	Use the 768-bit Diffie Hellman prime modulus group. This is the default group setting.
2	Use the 1024-bit Diffie Hellman prime modulus group.
hash	Configure the IKE hash algorithm
md5	Use MD5 as the hash algorithm.
sha	Use SHA-160 as the hash algorithm. This is the default policy algorithm.

Parameter	Description
SHA1-96	Use SHA1-96 as the hash algorithm.
prf	Set one of the following pseudo-random function (PRF) values for an IKEv2 policy: <ul style="list-style-type: none"> <li>● PRF-HMAC-MD5</li> <li>● PRF-HMAC-SHA1 (default)</li> </ul>
lifetime <seconds>	Specify the lifetime of the IKE security association (SA), from 300 - 86400 seconds.
version	Specify the version of IKE protocol for the IKE policy <ul style="list-style-type: none"> <li>● <b>v1</b>: IKEv1</li> <li>● <b>v2</b>: IKEv2</li> </ul>

## Usage Guidelines

To define settings for a ISAKMP policy, issue the command `crypto isakmp policy <priority>` then press **Enter**. The CLI will enter config-isakmp mode, which allows you to configure the policy values.

## Example

The following command configures an ISAKMP peer IP address and subnet mask.

```
(host) (config) #crypto isakmp policy 1
(host) (config-isakmp) #auth rsa-sig
```

## Command History

Release	Modification
ArubaOS 7.2	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
All platforms	All other parameters are supported in the base OS.	Config mode on MAS

## crypto-local ipsec-map

```
crypto-local ipsec-map <map> <priority>
  dst-net <ipaddr> <mask>
  force-natt {disable|enable}
  interface {loopback <ipsec-map-loopback-interface> | vlan <ipsec-map-vlan-id>}
  local-fqdn <local_id_fqdn>
  no ...
  peer-cert-dn <peer-dn>
  peer-fqdn any-fqdn|{peer-fqdn <peer-id-fqdn>}
  peer-ip <ipaddr>
  pre-connect {disable|enable}
  set ca-certificate <cacert-name>
  set ikev1-policy
  set ikev2-policy
  set pfs {group1|group2}
  set security-association lifetime seconds <seconds>
  set server-certificate <cert-name>
  set transform-set <name1> [<name2>] [<name3>] [<name4>]
  src-net <ipaddr> <mask>
  standby-interface vlan <id> preempt
  version v1|v2
```

### Description

This command configures IPsec mapping for site-to-site VPN.

### Syntax

Parameter	Description	Range	Default
<map>	Name of the IPsec map.	—	—
<priority>	Priority of the entry.	1-9998	—
dst-net	IP address and netmask for the destination network.	—	—
force-natt	Include this parameter to always enforce UDP 4500 for IKE and IPsec.	—	Disabled
interface	Allows you to set an interface for tunnel source	—	—
loopback <ipsec-map-loopback-interface>	Assigns a loopback interface number	—	—
vlan <ipsec-map-vlan-id>	Assigns a VLAN ID	—	—

Parameter	Description	Range	Default
no	Negates a configured parameter.	—	—
local-fqdn <local_id_fqdn>	If the MAS has a dynamic IP address, you must specify the fully qualified domain name (FQDN) of the MAS to configure it as a initiator of IKE aggressive-mode.		
peer-cert-dn <peer-dn>	If you are using IKEv2 to establish a site-to-site VPN to a remote peer, identify the peer device by entering its certificate subject name in the Peer Certificate Subject Name field		
peer-ip <ipaddr>	If you are using IKE to establish a site-to-site VPN to a statically addressed remote peer, identify the peer device by entering IP address of the peer gateway. <b>NOTE:</b> If you are configuring an IPsec map for a static-ip MAS with a dynamically addressed remote peer, you must leave the peer gateway set to its default value of 0.0.0.0.	—	—

Parameter	Description	Range	Default
<code>peer-fqdn</code>	For site-to-site VPNs using PSK with dynamically addressed peers, specify a fully qualified domain name (FQDN) for the MAS.	any-fqdn fqdn-id	any-fqdn
<code>any-fqdn</code>	If the MAS is defined as a dynamically addressed responder, you can select <b>any-fqdn</b> to make the MAS a responder for all VPN peers,		
<code>fqdn-id &lt;peer-id-fqdn&gt;</code>	Specify the FQDN of a peer to make the MAS a responder for one specific initiator only.		
<code>pre-connect</code>	Enables or disables pre-connection.	enable/ disable	disabled
<code>set ca-certificate &lt;cacert-name&gt;</code>	User-defined name of a trusted CA certificate installed in the MAS. Use the <b>show crypto-local pki TrustedCA</b> command to display the CA certificates that have been imported into the MAS.	—	—
<code>set ikev1-policy</code>	Selects the IKEv1 policy for the ipsec-map	—	—
<code>set ikev2-policy</code>	Selects the IKEv2 policy for the ipsec-map	—	—

Parameter	Description	Range	Default
<code>set pfs</code>	<p>If you enable Perfect Forward Secrecy (PFS) mode, new session keys are not derived from previously used session keys. Therefore, if a key is compromised, that compromised key will not affect any previous session keys. To enable this feature, specify one of the following Perfect Forward Secrecy modes:</p> <ul style="list-style-type: none"> <li>• <b>group1</b> : 768-bit Diffie Hellman prime modulus group.</li> <li>• <b>group2</b>: 1024-bit Diffie Hellman prime modulus group.</li> </ul>	group1 group2	disabled
<code>set security-association lifetime seconds &lt;seconds&gt;</code>	Configures the lifetime, in seconds, for the security association (SA).	300-86400	7200 seconds
<code>set server-certificate &lt;cert-name&gt;</code>	User-defined name of a server certificate installed in the MAS. Use the <b>show crypto-local pki ServerCert</b> command to display the server certificates that have been imported into the MAS.	—	—

Parameter	Description	Range	Default
<code>set transform-set &lt;name1&gt;</code>	Name of the transform set for this IPsec map. One transform set name is required, but you can specify up to four transform sets. Configure transform sets with the <b>crypto ipsec transform-set</b> command.	—	default-transform
<code>src-net &lt;ipaddr&gt; &lt;mask&gt;</code>	IP address and netmask for the source network.	—	—
<code>standby-interface vlan &lt;id&gt;</code>	A backup VPN interface in case the primary VPN goes down.	—	—
<code>preempt</code>	(Optional) Disables preemption on the standby interface which is enabled by default.	—	Enabled
<code>version v1 v2</code>	Select the IKE version for the IPsec map. <ul style="list-style-type: none"> <li>● <b>v1</b>: IKEv1</li> <li>● <b>v2</b>: IKEv2</li> </ul>	—	v1

## Usage Guidelines

You can use MAS instead of VPN concentrators to connect sites at different physical locations.

You can configure separate CA and server certificates for each site-to-site VPN. You can also configure the same CA and server certificates for site-to-site VPN. Use the `show crypto-local ipsec-map` command to display the certificates associated with all configured site-to-site VPN maps; use the `tag <map>` option to display certificates associated with a specific site-to-site VPN map.

ArubaOS supports site-to-site VPNs with two statically addressed MAS, or with one static and one dynamically addressed MAS. By default, site-to-site VPN uses IKE Main-mode with Pre-Shared-Keys to authenticate the IKE SA. This method uses the IP address of the peer, and therefore will not work for dynamically addressed peers.

To support site-site VPN with dynamically addressed devices, you must enable IKE Aggressive-Mode with Authentication based on a Pre-Shared-Key. A MAS with a dynamic IP address must be configured to be the initiator of IKE Aggressive-mode for Site-Site VPN, while the MAS with a static IP address must be configured as the responder of IKE Aggressive-mode.

## Examples

The following commands configure site-to-site VPN between two MAS:



```
(host) (config) #crypto-local ipsec-map sf-chi-vpn 100
(host) (config-ipsec-map) #src-net 101.1.1.0 255.255.255.0
(host) (config-ipsec-map) #dst-net 100.1.1.0 255.255.255.0
(host) (config-ipsec-map) #peer-ip 172.16.0.254
(host) (config-ipsec-map) #interface vlan 1

(host) (config) #crypto-local ipsec-map chi-sf-vpn 100
(host) (config-ipsec-map) #src-net 100.1.1.0 255.255.255.0
(host) (config-ipsec-map) #dst-net 101.1.1.0 255.255.255.0
(host) (config-ipsec-map) #peer-ip 172.16.100.254
(host) (config-ipsec-map) #interface vlan 1
```

For a dynamically addressed MAS that initiates IKE Aggressive-mode for Site-Site VPN:

```
(host) (config) #crypto-local ipsec-map <name> <priority>
(host) (config-ipsec-map) #src-net <ipaddr> <mask>
(host) (config-ipsec-map) #dst-net <ipaddr> <mask>
(host) (config-ipsec-map) #peer-ip <ipaddr>
(host) (config-ipsec-map) #local-fqdn <local_id_fqdn>
(host) (config-ipsec-map) #interface vlan <id>
(host) (config-ipsec-map) #pre-connect enable|disable
```

For the Pre-shared-key:

```
(host) (config) #crypto-local isakmp key <key> address <ipaddr> netmask <mask>
```

For a static IP MAS that responds to IKE Aggressive-mode for Site-Site VPN:

```
(host) (config) #crypto-local ipsec-map <name2> <priority>
(host) (config-ipsec-map) #ssrc-net <ipaddr> <mask>
(host) (config-ipsec-map) #sdst-net <ipaddr> <mask>
(host) (config-ipsec-map) #speer-ip 0.0.0.0
(host) (config-ipsec-map) #speer-fqdn fqdn-id <peer_id_fqdn>
(host) (config-ipsec-map) #sinterface vlan <id>
```

For the Pre-shared-key:

```
(host) (config) #crypto-local isakmp key <key> fqdn <fqdn-id>
```

For a static IP MAS that responds to IKE Aggressive-mode for Site-Site VPN with One PSK for All FQDNs:

```
(host) (config) #crypto-local ipsec-map <name2> <priority>
(host) (config-ipsec-map) #src-net <ipaddr> <mask>
(host) (config-ipsec-map) #peer-ip 0.0.0.0
(host) (config-ipsec-map) #peer-fqdn any-fqdn
(host) (config-ipsec-map) #interface vlan <id>
```

For the Pre-shared-key for All FQDNs:

```
(host) (config) #crypto-local isakmp key <key> fqdn-any
```

You can configure the standby VPN using the following CLI commands:

```
(host) (config) #crypto-local ipsec-map mapA 10
(host) (config-ipsec-map) # peer-ip 20.1.1.2
(host) (config-ipsec-map) # local-fqdn test.arubanetworks.com
(host) (config-ipsec-map) # interface vlan 2
(host) (config-ipsec-map) # src-net 4.1.1.0 255.255.255.255
(host) (config-ipsec-map) # dst-net 3.1.1.0 255.255.255.255
(host) (config-ipsec-map) # standby-interface vlan 4
```

## Command History

Release	Modification
ArubaOS 7.2	This command was introduced.
ArubaOS 7.4	The <b>standby-interface vlan</b> parameter was introduced.

## Command Information

Platforms	Licensing	Command Mode
All platforms	All parameters are available in the base operating system.	Config mode on MAS

## crypto-local isakmp dpd

```
crypto-local isakmp dpd
  idle-timeout <seconds> retry-timeout <seconds> retry-attempts <attempts>
```

### Description

This command configures IKE Dead Peer Detection (DPD) on the local MAS.

### Syntax

Parameter	Description	Range	Default
idle-timeout	Idle timeout, in seconds.	10-3600	22 seconds
retry-timeout	Configures IKE DPD retry timeout	2-60	2 seconds
retry-attempts	Configures IKE DPD retry attempts	3-10	3 attempts

### Usage Guidelines

DPD is enabled by default on the MAS for site-to-site VPN.

### Example

This command configures DPD parameters:

```
crypto-local isakmp dpd idle-timeout 60 retry-timeout 3 retry-attempts 5
```

### Command History

Release	Modification
ArubaOS 7.2	This command was introduced.

### Command Information

Platforms	Licensing	Command Mode
All platforms	Base operating system	Config mode on MAS

## crypto-local isakmp key

```
crypto-local isakmp key <key> {address <peer-ipaddr> netmask <mask>}|{fqdn <ike-id-fqdn>}|fqdn-any
```

### Description

This command configures the IKE preshared key on the local MAS for site-to-site VPN.

### Syntax

Parameter	Description
key <key>	IKE preshared key value, between 6-64 characters.
address <peer-ipaddr>	IP address for the preshared key.
netmask <mask>	Netmask for the preshared key.
fqdn <ike-id-fqdn>	Configure the PSK for the specified FQDN.
fqdn-any	Configure the PSK for any FQDN.

### Usage Guidelines

This command configures the IKE preshared key.

### Example

The following command configures an IKE preshared key for site-to-site VPN:

```
crypto-local isakmp key R8nD0mK3y address 172.16.100.1 netmask 255.255.255.255
```

### Command History

Release	Modification
ArubaOS 7.2	This command was introduced.

### Command Information

Platforms	Licensing	Command Mode
All platforms	Base operating system	Config mode on MAS

# crypto-local isakmp permit-invalid-cert

crypto-local isakmp permit-invalid-cert

## Description

This command allows invalid or expired certificates to be used for site-to-site VPN.

## Syntax

No parameters.

## Usage Guidelines

This command allows invalid or expired certificates to be used for site-to-site VPN.

## Command History

Release	Modification
ArubaOS 7.2	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
All platforms	Base operating system	Config mode on MAS

## crypto-local pki

```
crypto-local pki
  CRL <name> <filename>
  IntermediateCA <name> <filename>
  OCSPResponderCert <certname> <filename>
  OCSPSignerCert <certname> <filename>
  PublicCert <name> <filename>
  ServerCert <name> <filename>
  TrustedCA <name> <filename>
  global-ocsp-signer-cert
  rcp <name>
  service-ocsp-responder
```

### Description

Issue this command to configure a local certificate, OCSP signer or responder certificate and Certificate Revocation List (CRL). You can also list revocation checkpoints and enable the responder service.

### Syntax

Parameter	Description
CRL	Specifies a Certificate Revocation list. Validation of the CRL is done when it imported through the WebUI (requires the CA to have been already present). CRLs can only be imported through the WebUI.
<name>	Name of the CRL.
<filename>	Original imported filename of the CRL.
IntermediateCA	Configures an intermediate CA certificate
<name>	Name of the intermediate CA certificate.
<filename>	Original imported filename of the CRL.
OCSPResponderCert	Configures a OCSP responder certificate.
<certname>	Name of responder certificate.
<filename>	Original imported filename of the responder certificate.
OCSPSignerCert	Configures a OCSP signer certificate.
<certname>	Name of the signer certificate.
<filename>	Original imported filename of the signer certificate.
PublicCert	Public key of a certificate. This allows an application to identify an exact certificate.
<certname>	Name of the signer certificate.
<filename>	Original imported filename of the signer certificate.

Parameter	Description
ServerCert	Server certificate. This certificate must contain both a public and a private key (the public and private keys must match). You can import a server certificate in either PKCS12 or x509 PEM format; the certificate is stored in x509 PEM DES encrypted format on the MAS.
<certname>	Name of the signer certificate.
<filename>	Original imported filename of the signer certificate.
TrustedCA	Trusted CA certificate. This can be either a root CA or intermediate CA. Aruba encourages (but does not require) an intermediate CA's signing CA to be the MAS itself.
<certname>	Name of the signer certificate.
<filename>	Original imported filename of the signer certificate.
global-ocsp-signer-cert	Specifies the global OCSP signer certificate to use when signing OCSP responses if there is no check point specific OSCP signer certificate present. If the ocp-signer-cert is not specified, OCSP responses are signed using the global OCSP signer certificate. If this is not present, than an error message is sent out to clients. <b>NOTE:</b> The OCSP signer certificate (if configured) takes precedence over the global OCSP signer certificate as this is check point specific.
rcp <name>	Specifies the revocation check point. A revocation checkpoint is automatically created when a TrustedCA or IntermediateCA certificate is imported on the MAS.
service-ocsp-responder	This is a global knob that turns the OCSP responder on or off. The default is off (disabled). To enable this option a CRL must be configured for this revocation checkpoint as this is the source of revocation information in the OCSP responses.

## Usage Guidelines

This command lets you configure the MAS to perform real-time certificate revocation checks using the Online Certificate Status Protocol (OCSP) or traditional certificate validation using the Certificate Revocation List (CRL) client.

## Example

This example configures the MAS as an OCSP responder.

The revocation check point is specified as CARoot. (The revocation check point CARoot was automatically created when the CARoot certificate was previously uploaded to this MAS.) The OCSP signer certificate is RootCA-Ocsp\_signer. The CRL file is Security1-WIN-05PRGNGEKAO-CA-unrevoked.crl The OCSP responder is enabled.

```
crypto-local pki service-ocsp-responder
crypto-local pki rcp CARoot
  ocp-signer-cert RootCA-Ocsp_signer
  crl-location file Security1-WIN-05PRGNGEKAO-CA-unrevoked.crl
enable-ocsp-responder
```

## Related Commands

Command	Description	Mode
<a href="#">show crypto-local pki</a>	This command shows local certificate, OCSP signer or responder certificate and CRL data and statistics.	Config mode

## Command History

Release	Modification
ArubaOS 7.2	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
All platforms	Base operating system	Config mode on or MAS



## crypto pki

```
crypto pki csr  
  {rsa key_len <key_val> | {ec curve-name <key_val>}} common_name <common_val> country  
  <country_val> state_or_province <state> city <city_val> organization  
  <organization_val> unit <unit_val> email <email_val>
```

### Description

Generate a certificate signing request (CSR) for the captive portal feature.

### Syntax

Parameter	Description
rsa key_len <key_val>	Generate a certificate signing request with a Rivest, Shamir and Adleman (RSA) key with one of the following supported RSA key lengths: <ul style="list-style-type: none"><li>■ 1024</li><li>■ 2048</li><li>■ 4096</li></ul>
ec curve-name <key_val>	Generate a certificate signing request with an elliptic-curve (EC) key with one of the following EC types: <ul style="list-style-type: none"><li>■ secp256r1</li><li>■ secp384r1</li></ul>
common_name <common_val>	Specify a common name, e.g., www.yourcompany.com.
country <country_val>	Specify a country name, e.g., US or CA.
state_or_province <state>	Specify the name of a state or province.
city <city_val>	Specify the name of a city.
organization <organization_val>	Specify the name of an organization unit, e.g., sales.
unit <unit_val>	Specify a unit value, e.g. EMEA.
email <email_val>	Specify an email address, in the format name@mycompany.com.

### Usage Guidelines

Use this command to install a CSR for the Captive Portal feature.

### Example

The following command installs a server certificate in DER format

```
(host) (config) #crypto pki-import der ServerCert cert_20
```

### Command History

Release	Modification
ArubaOS 7.1	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Configuration Mode

## crypto pki-import

```
crypto pki-import  
  {der|pem|pfx|pkcs12|pkcs7}  
  {PublicCert|ServerCert|TrustedCA} <name>
```

### Description

Use this command to import certificates for the captive portal feature.

### Syntax

Parameter	Description
der	Import a certificate in DER format.
pem	Import a certificate in x509 PEM format.
pfx	Import a certificate in PFX format.
pkcs12	Import a certificate in PKCS12 format.
pkcs7	Import a certificate in PKCS7 format.
PublicCert	Import a public certificate.
ServerCert	Import a server certificate.
TrustedCA	Import a trusted CA certificate.
<name>	Name of a certificate.

### Usage Guidelines

Use this command to install a CSR for the Captive Portal feature.

### Example

The following command installs a server certificate in DER format:

```
(host)(config) #crypto pki-import der ServerCert cert_20
```

### Command History

Release	Modification
ArubaOS 7.1	This command was introduced.

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Configuration Mode

# database synchronize

database synchronize

## Description

Synchronize the Primary and Secondary databases.

## Usage Guidelines

Periodic database synchronization is enabled by default and runs every two minutes. Best practices recommends that you manually synchronize the database prior to changing your Primary and Secondary member's roles (see [system switchover](#)).

## Related Commands

Command	Description
<a href="#">show database synchronize</a>	Display the database synchronization details.
<a href="#">system switchover</a>	Gracefully switches the Secondary member to become the Primary member.

## Command History

Release	Modification
ArubaOS 7.1	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Configuration Mode (config)

## delete

```
delete usb: <usbpathname> [usbpartiton <number>]  
member id usb: <usbpathname> [<usbpathname> usbpartiton <number>]
```

### Description

This command deletes an existing USB directory.

### Syntax

Parameter	Description	Range	Default
member id	Enter a stack member ID.	—	—
<usbpathname>	Deletes the content of member USB.	—	—
usbpartition <number>	Deletes the USB directory in multipartition member.	—	—
usb:	External USB.	—	—
<usbpathname>	Deletes the content of USB.	—	—
usbpartition <number>	Deletes the content of multipartitioned member of USB.	—	—

### Usage Guidelines

Delete the content of a USB directory.

### Example

```
(host) #delete usb: test1 usbpartition 1  
Successfully deleted the path test1 at external USB drive
```

### Command History

Release	Modification
ArubaOS 7.3	This command was introduced.

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Configuration

## delete stacking

```
delete stacking interface stack <module/port> member <id>
```

### Description

Delete a stacking port. This command can be executed locally or from the primary.

### Syntax

Parameter	Description
<code>interface stack &lt;module/port&gt;</code>	Enter the keywords <b>interface stack</b> followed by the stacking interface in <module/port> format.
<code>member &lt;id&gt;</code>	Enter the keyword <b>member</b> followed by the member ID of the stack on which the interface is to be deleted. This can be executed only from the primary Mobility Access Switch.

### Usage Guidelines

Delete a stacking port from the ArubaStack.

### Related Command

Command	Description
<a href="#">clear</a>	Clears stacking from your running configuration.

### Command History

Release	Modification
ArubaOS 7.1	This command was introduced.
ArubaOS 7.3.0.1	The <b>member &lt;id&gt;</b> parameter is added to enable deleting a port from the primary Mobility Access Switch.

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable Mode

## device-group

```
device-group ap
  aaa-profile <profile_name>
  enable
  enet-link-profile <profile_name>
  gvrp-profile <profile_name>
  ip access-group {in <ACL_name>|out <ACL_name>|session <session>}
  lldp-profile <profile_name>
  mstp-profile <profile_name>
  mtu <mtu>
  no
  poe-profile <profile_name>
  policer-profile <profile_name>
  port-security-profile <profile_name>
  pvst-port-profile <profile_name>
  qos trust {aruba-device|auto|disable|dot1p|dscp|pass-through}
  qos-profile <profile_name>
  shutdown {<interface-list>|add <interface-list>|remove <interface-list>}
  switching-profile <profile_name>
  trusted port
```

### Description

This command dynamically configures an interface based on the type of device connected to it. It uses LLDP to detect the type of device connected to an interface and applies a device-group configuration (a set of predefined configuration) on the interface based on the device-type.

### Syntax

Parameter	Description
aaa-profile	Apply an existing AAA profile to this interface.
enable	Enable auto device configuration for AP device-type.
enet-link-profile	Apply an existing Ethernet link profile to this interface.
gvrp-profile	Apply an existing Generic Attribute Registration Protocol (GARP) VLAN Registration Protocol (GVRP) profile to this interface.
ip access-group	Apply IP-based access control lists (ACL). This parameter has the following sub-parameters: <ul style="list-style-type: none"><li>• <b>in &lt;ACL_name&gt;</b>: Add or delete ingress ACLs.</li><li>• <b>out &lt;ACL_name&gt;</b>: Add or delete egress ACLs.</li><li>• <b>session &lt;session&gt;</b>: Add or delete session ACLs.</li></ul>
lldp-profile	Apply an existing LLDP profile to this interface. By default, the <b>device-group-default</b> profile is applied.
mstp-profile	Apply an existing Multiple Spanning Tree Protocol (MSTP) profile to this interface.
mtu	Set the Maximum Transmission Unit (MTU) on the interface between 64 and 9216 (in bytes).
no	Disables any configured parameter.

Parameter	Description
poe-profile	Apply an existing Power over Ethernet profile to this interface. By default, the <b>device-group-default</b> profile is applied.
policer-profile	Apply an existing policer profile to this interface.
port-security-profile	Apply an existing port security profile to this interface.
pvst-port-profile	Apply an existing Per VLAN Spanning Tree (PVST) port profile to this interface.
qos trust	Apply QoS trust for the following trust mode: <ul style="list-style-type: none"> <li>• <b>aruba-device</b>: Trust Differentiated Services Code Point (DSCP) or 802.1p for Aruba devices only. For rest, apply pass-through.</li> <li>• <b>auto</b>: Trust DSCP for IP packets; 802.1p for non-IP packets.</li> <li>• <b>disable</b>: Disable QoS trust and reset DSCP or 802.1p to 0 (lowest priority).</li> <li>• <b>dot1p</b>: Trust 802.1p.</li> <li>• <b>dscp</b>: Trust DSCP.</li> <li>• <b>pass-through</b>: Pass through DSCP or 802.1p.</li> </ul> The default value is set to <b>auto</b> .
qos-profile	Apply an existing QoS profile to this interface.
shutdown	Enable or disable an interface. This parameter has the following sub-parameters: <ul style="list-style-type: none"> <li>• <b>&lt;interface-list&gt;</b>: Replace the existing list with the new list. Enter valid interface(s) in ascending order.</li> <li>• <b>add &lt;interface-list&gt;</b>: Add interface(s) to the current list. Enter valid interface(s) in ascending order.</li> <li>• <b>remove &lt;interface-list&gt;</b>: Remove interface(s) from the current list, Enter valid interface(s) in ascending order.</li> </ul>
switching-profile	Apply an existing switch port profile to this interface.
trusted port	Set this interface a trusted port.

## Usage Guidelines

When device-group configuration is enabled for a device-type and if a device in the device-type is detected on an interface:

- Any previous configuration on the interface is overwritten by the device-group configuration.
- Any new configuration on the interface, including the administrative operation (interface shutdown) can be done only through device-group configuration and not using the interface commands.
- When the device is disconnected from the interface, the original configuration on the interface that existed before the device detection is restored after the LLDP entry of the device gets removed.

You can edit and customize any device-group configuration provided on the Mobility Access Switch but cannot create a new configuration for a device-type.

## Example

The following commands enable auto device configuration for AP device-type:

```
(host) (config) #device-group ap
(host) (device-group access-point) #enable
```



## Related Commands

Command	Description
<code>show device-group</code>	This command displays the device-group attached interfaces.
<code>show device-group-config</code>	This command displays the device-group configuration.

## Command History

Release	Modification
ArubaOS 7.4	This command is introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Configuration Mode

# dhcp-snooping-database

dhcp-snooping-database <mac> gigabitethernet <slot/module/port> <ip\_address>

## Description

This command adds a static binding on a VLAN.

## Syntax

Parameter	Description	Range	Default
mac	MAC address of the interface.	—	—
gigabitethernet <slot/module/port>	Enter the Gigabit Ethernet interface.	—	—
ip_address	IP address of the interface.	—	—

## Usage Guidelines

Use this command to add a static binding on a VLAN.

To delete a static binding on a VLAN, use the following command:

```
(host) ("vlan id") #no dhcp-snooping-database <mac> gigabitethernet <slot/module/port> <ip_address>
```

## Example

The following example adds a static binding on a VLAN:

```
(host) (config) #vlan 2  
(host) (VLAN "2") #dhcp-snooping-database 00:00:00:00:00:01 gigabitethernet 1/0/20 1.1.1.1
```

## Command History

Release	Modification
ArubaOS 7.3	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Configuration mode

## dir

dir <member\_id>

### Description

This command displays a list of files stored in the flash file system.

### Syntax

Parameter	Description
<member_id>	Enter the member ID.

### Usage Guidelines

Use this command to view the system files associated with the Mobility Access Switch.

Output from this command includes the following:

- The first column contains ten place holders that display the file permissions.
  - First place holder: Displays `-` for a file or `d` for directory.
  - Next three place holders: Display file owner permissions: `r` for read access, `w` for write access permissions, `x` for executable.
  - Following three place holders: Display member permissions: `r` for read access or `x` for executable.
  - Last three place holders: Display non-member permissions: `r` for read access or `x` for executable.
- The second column displays the number of links the file has to other files or directories.
- The third column displays the file owner.
- The fourth column displays group/member information.
- The remaining columns display the file size, date and time the file was either created or last modified, and the file name.

### Example

The following command displays the files currently residing on the system flash:

```
(host) #dir
```

The following is sample output from this command:

```
-rw-r--r-- 1 root root 9338 Nov 20 10:33 class_ap.csv
-rw-r--r-- 1 root root 1457 Nov 20 10:33 class_sta.csv
-rw-r--r-- 1 root root 16182 Nov 14 09:39 config-backup.cfg
-rw-r--r-- 1 root root 14174 Nov 9 2005 default-backup-11-8-05.cfg
-rw-r--r-- 1 root root 16283 Nov 9 12:25 default.cfg
-rw-r--r-- 1 root root 22927 Oct 25 12:21 default.cfg.2006-10-25_20-21-38
-rw-r--r-- 2 root root 19869 Nov 9 12:20 default.cfg.2006-11-09_12-20-22
```

### Command History

Release	Modification
ArubaOS 7.1	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable and Configuration Mode (config)

## dir member

```
dir member <id>
  usb
  <usbpathname> [usbpartition <number>]
```

### Description

This command displays the content of a USB directory.

### Syntax

Parameter	Description
<id>	Member ID of the stack.
usb	External USB.
<usbpathname>	Directory content of member USB.
usbpartition <number>	Directory content of member of a multipartitioned USB.

### Usage Guidelines

Use this command to view the content of a USB directory.

### Example

The following command displays the files currently residing on the USB directory:

```
(host) #dir member 1 usb: aajtak
Member-id: 1
-----
drwxr-xr-x  2 root  root      4096 Sep 10 15:49 fr
```

### Command History

Release	Modification
ArubaOS 7.3	This command was introduced.

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable and Configuration Mode (config)

## dir usb

```
dir usb <usbpathname> [usbpartition <number>]
```

### Description

This command displays the content of a USB directory.

### Syntax

Parameter	Description
<usbpathname>	Directory content of the USB.
usbpartition <number>	Directory content of the multipartitioned USB.

### Usage Guidelines

Use this command to view the content of a USB directory.

### Example

The following command displays the files currently residing on the USB directory:

```
(host) #dir usb: aajtak  
drwxr-xr-x  2 root    root          4096 Sep 10 15:49 fr
```

### Command History

Release	Modification
ArubaOS 7.3	This command was introduced.

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable and Configuration Mode (config)

# eject

eject  
usb  
member

## Description

This command ejects an USB.

## Syntax

Parameter	Description
usb	Eject the external USB.
member	Eject the member ID of the stack.

## Usage Guidelines

Use this command to eject an USB.

## Example

The following command ejects an USB:

```
(host) (config) #eject usb
```

## Command History

Release	Modification
ArubaOS 7.1	This command was introduced.
ArubaOS 7.3	The <b>usb</b> and <b>member</b> parameters were introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable Mode

# encrypt

encrypt {disable|enable}

## Description

This command allows passwords and keys to be displayed in plain text or encrypted.

## Syntax

Parameter	Description	Default
disable	Disables encryption and passwords and keys are displayed in plain text.	_
enable	Enables encryption, so passwords and keys are displayed encrypted.	enabled

## Usage Guidelines

Certain commands, such as show crypto isakmp key, display configured key information. Use the encrypt command to display the key information in plain text or encrypted.

## Example

The following command allows passwords and keys to be displayed in plain text:

```
(host) #encrypt disable
```

## Command History

Release	Modification
ArubaOS 7.1	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
All platforms	Base operating system	Enable



# firewall

```
firewall
{disable-stateful-sccp-processing|disable-stateful-sip-processing |disable-stateful-ua-
processing|disable-stateful-vocera-processing|drop-ip-fragments|enable-per-packet-logging
|enforce-tcp-handshake|enforce-tcp-sequence|log-icmp-error|prohibit-arp-spoofing|prohibit-
ip-spoofing |prohibit-rst-replay|session-idle-timeout <seconds>|session-mirror-destination
[ip-address <A.B.C.D>|port <slot/module/port>]|session-mirror-ipsec peer
<ipsecpeer>|session-voip-timeout <seconds>}
```

## Description

This command configures firewall options on the Mobility Access Switch.

## Syntax

Parameter	Description	Range	Default
disable-stateful-sccp-processing	Disables SCCP processing.	—	enabled
disable-stateful-sip-processing	Disables monitoring of exchanges between a voice over IP or voice over WLAN device and a SIP server. This option should be enabled only when there is no VoIP or VoWLAN traffic on the network.	—	enabled
drop-ip-fragments	When enabled, all IP fragments are dropped. You should not enable this option unless instructed to do so by an Aruba representative.	—	disabled
enable-per-packet-logging	Enables logging of every packet if logging is enabled for the corresponding session rule. Normally, one event is logged per session. If you enable this option, each packet in the session is logged. You should not enable this option unless instructed to do so by an Aruba representative, as doing so may create unnecessary overhead on the Mobility Access Switch.	—	disabled
enforce-tcp-handshake	Prevents data from passing between two clients until the three-way TCP handshake has been performed. This option should be disabled when you have mobile clients on the network as enabling this option will cause mobility to fail. You can enable this option if there are no mobile clients on the network.	—	disabled
enforce-tcp-sequence	Enforces the TCP sequence numbers for all packets.	—	disabled
log-icmp-error	Logs received ICMP errors. You should not enable this option unless instructed to do so by an Aruba representative.	—	disabled

Parameter	Description	Range	Default
<code>prohibit-arp-spoofing</code>	Detects and prohibits arp spoofing. When this option is enabled, possible arp spoofing attacks are logged and an SNMP trap is sent.	—	disabled
<code>prohibit-ip-spoofing</code>	Detects IP spoofing (where an intruder sends messages using the IP address of a trusted client). When this option is enabled, source and destination IP and MAC addresses are checked; possible IP spoofing attacks are logged and an SNMP trap is sent.	—	enabled in IPv4 disabled in IPv6
<code>prohibit-rst-replay</code>	Closes a TCP connection in both directions if a TCP RST is received from either direction. You should not enable this option unless instructed to do so by an Aruba representative.	—	disabled
<code>session-idle-timeout &lt;seconds&gt;</code>	Time, in seconds, that a non-TCP session can be idle before it is removed from the session table. You should not modify this option unless instructed to do so by an Aruba representative. <b>NOTE:</b> Configuring the value to 0 sets the session-idle-timeout to the factory defaults, i.e. the session will time out within 15 seconds.	0, 16-300	0
<code>session-mirror-destination[ip-address &lt;A.B.C.D&gt; port &lt;slot/-module/port&gt;</code>	Configures either the IP address or the port as the mirror destination. <b>NOTE:</b> You can only configure one of the options (IP address or port) as the mirror destination.	—	—
<code>session-mirror-ipsec peer &lt;ipsecpeer&gt;</code>	Configures session mirror of all the frames that are processed by IPsec.	—	—
<code>session-voip-timeout &lt;seconds&gt;</code>	Time, in seconds, that a voice session can be idle before it is removed from the session table. <b>NOTE:</b> Configuring the value to 0 sets the session-voip-timeout to the factory defaults, i.e. the VoIP session will time out within 15 seconds.	0, 16-300	0

## Usage Guidelines

This command configures global firewall options on the Mobility Access Switch.

## Example

The following command disables the SIP ALG on the Mobility Access Switch:

```
(host) (config) #firewall disable-stateful-sip-processing
```

## Related Command

```
(host) (config) #show firewall
```

## Command History

Release	Modification
ArubaOS 7.3	This command was introduced.

## Command Information

Platform	License	Command Mode
All platforms	Base operating system	Config mode

## gvrp

```
gvrp
  enable
  join-time <milliseconds>
  leave-all-time <milliseconds>
  leave-time <milliseconds>
  no..
```

### Description

These commands enable and configure the GVRP global profile settings.

### Syntax

Parameter	Description	Range	Default
enable	Enables GVRP.	—	disable
join-time <milliseconds>	Join timer interval in milliseconds.	1 to 65535	200
leave-all-time <milliseconds>	Leave-all timer interval in milliseconds.	1 to 65535	10000
leave-time <milliseconds>	Leave timer interval in milliseconds.	1 to 65535	600
no	Removes the specified configuration parameter.	—	—

### Usage Guidelines

Use this command to enable and configure GVRP in global profile.

### Example

The following command enables and configures GVRP profile:

```
(host)# gvrp
(host) (Global GVRP configuration)# enable
(host) (Global GVRP configuration)# join-time 200
(host) (Global GVRP configuration)# leave-time 600
(host) (Global GVRP configuration)# leave-all-time 10000
```

### Command History

Release	Modification
ArubaOS 7.2	This command was introduced.

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable and Configuration Mode (config)

# halt

halt [<member\_id> | local]

## Description

Halt the system or a specific member.

## Syntax

Parameter	Description
<member_id>	Enter the member ID that you want to halt.
local	Enter the keyword local to halt the local switch.

## Usage Guidelines

The halt command *halts* the stack without rebooting the stack. The `halt` command and the `halt <member_id>` command must be executed from the Primary. The `halt local` command can be execute from any member in the stack.

## Example

The following command halts (without rebooting) member 2 of the stack.

```
(host)# halt 2
```

## Command History

Release	Modification
ArubaOS 7.0	This command was introduced.
ArubaOS 7.1	Added <b>halt</b> local option.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable and Configuration Mode (config)

# interface gigabitethernet

```
interface gigabitethernet <slot/module/port>
  aaa-profile <profile_name>
  backup interface {gigabitethernet <slot/module/port> | port-channel <0-7>}
  clone <source>
  description <name>
  enet-link-profile <profile_name>
  igmp-snooping mrouter-vlan [add|delete] <vlan-list>
  ip access-group [in | out] <ACL_name>
  lacp-profile <profile_name>
  lldp-profile <profile_name>
  mirroring-in-profile <profile_name>
  mirroring-out-profile <profile_name>
  mstp-profile <profile_name>
  mtu <64-7168>
  no {...}
  oam-profile
  poe-profile <profile_name>
  policer-profile <profile_name>
  port-security-profile <profile_name>
  preemption delay <10-300>
  preemption mode {forced|off}
  qos trust
  qos-profile <profile_name>
  shutdown
  switching-profile <profile_name>
  trusted port
  tunneled-node-profile <profile_name>
  voip-profile <profile_name>
```

## Description

This command configures a Gigabit Ethernet port individually on the switch with various profiles and parameters. You need to create the profile before assigning that profile to an interface. To create a profile, see the corresponding sections in this guide.

## Syntax

Parameter	Description	Range	Default
aaa-profile <profile_name>	Applies the specified AAA profile to the interface.	—	—
backup interface {gigabitethernet <slot/module/port>   port-channel <0-7>}	Specifies the secondary interface in the HSL group.	—	—
clone <source>	Copies data from another Gigabit Ethernet interface.	—	—

Parameter	Description	Range	Default
<code>description &lt;name&gt;</code>	Specifies a name for the interface.	Upto 63 characters; can begin with a numeric character	GE-X/X/X
<code>enet-link-profile &lt;profile_name&gt;</code>	Applies the specified ethernet link profile to the interface.	—	—
<code>igmp-snooping mrouter-vlan [add delete] &lt;vlan-list&gt;</code>	Adds or deletes the specified VLAN IDs as the multicast router VLAN IDs for IGMP snooping.	—	—
<code>ip access-group [in   out] &lt;ACL_name&gt;</code>	Adds an ingress or egress access-control-list to the interface.	—	—
<code>lACP-profile &lt;profile_name&gt;</code>	Applies the specified LACP profile to the interface.	—	—
<code>lldp-profile &lt;profile_name&gt;</code>	Applies the specified LLDP profile to the interface.	—	—
<code>mirroring-in-profile &lt;profile_name&gt;</code>	Applies the specified ingress mirroring profile to the interface.	—	—
<code>mirroring-out-profile &lt;profile_name&gt;</code>	Applies the specified egress mirroring profile to the interface.	—	—

Parameter	Description	Range	Default
mstp-profile <profile_name>	Applies the specified MSTP profile to the interface.	—	—
mtu <64-7168>	Sets the number of MTUs in bytes.	64-7168	1514
no {...}	Removes the specified configuration parameter.	—	—
oam-profile <profile_name>	Applies the specified OAM profile to the interface.	—	—
poe-profile <profile_name>	Applies the specified PoE profile to the interface.	—	—
policer-profile <profile_name>	Applies the specified policer profile to the interface.	—	—
port-security-profile <profile_name>	Applies the specified port security profile to the interface.	—	—
preemption delay <seconds>	Specifies the preemption delay in seconds.	10-300	100
preemption mode {forced   off}	<b>forced</b> — Forces preemption of backup. <b>off</b> —Does not force preemption of backup.	—	Off
qos trust	Enables QoS trust mode.	—	Untrusted



Parameter	Description	Range	Default
<code>qos-profile &lt;profile_name&gt;</code>	Applies the specified QoS profile to the interface.	—	—
<code>shutdown</code>	Disables the interface.	—	Enabled
<code>switching-profile &lt;profile_name&gt;</code>	Applies the specified switching profile to the interface.	—	—
<code>trusted port</code>	Sets the port to trusted mode.	—	Untrusted
<code>tunneled-node-profile &lt;profile_name&gt;</code>	Applies the specified tunneled node profile to the interface.	—	—
<code>voip-profile &lt;profile_name&gt;</code>	Applies the specified VoIP profile to the interface.	—	—

## Usage Guidelines

Use this command when you need to configure a GigabitEthernet interface with unique parameter values that makes the interface distinct from other interfaces. If you need to configure the same parameter values to multiple interfaces, then do not use this command. In such a scenario, use the `interface-group` command. If you do not apply any profile, then the default profile is applied.

## Example

The following example configures the various profiles and parameters for an interface:

```

interface gigabitEthernet 0/0/1
  aaa-profile GENERAL
  backup interface gigabitEthernet 0/0/2
  description GeneralInterface
  enet-link-profile ENET_LINK
  igmp-snooping mrouter-vlan add 100-200
  ip access-group in ACL_General
  lldp-profile default
  mirroring-in-profile MIRROR
  mirroring-out-profile MIRROR
  mstp-profile MSTP_GENERAL
  mtu 2054
  poe-profile PoE_General
  preemption delay 200
  preemption mode forced
  qos trust
  qos-profile QoS_General
  no shutdown
  switching-profile Switching_General

```

```
trusted port
voip-profile VOIP_General
```

## Related Commands

Command	Description
<code>show interface gigabitethernet</code>	Issue this command to display information about a specified Gigabit Ethernet interface.
<code>show interface-profile</code>	Displays the specified profile configuration parameters and values.

## Command History

Release	Modification
ArubaOS 7.0	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Configuration mode

## interface-group gigabitethernet

```
interface-group gigabitethernet {default|<group-name>}
  aaa-profile <profile_name>
  apply-to <interface range>
  clone <source>
  enet-link-profile <profile_name>
  igmp-snooping mrouter-vlan [add|delete] <vlan-list>
  ip access-group in <in>
  lacp-profile <profile_name>
  lldp-profile <profile_name>
  mac-limit <limit> action {drop|log|shutdown}
  mirroring-in-profile <profile_name>
  mirroring-out-profile <profile_name>
  mstp-profile <profile_name>
  mtu <64-7168>
  tunneled-node-profile <profile-name>
  no {...}
  poe-profile <profile_name>
  policer-profile <profile_name>
  qos trust
  qos-profile <profile_name>
  shutdown
  switching-profile <profile_name>
  trusted port
  tunneled-node-profile <profile-name>
  voip-profile <profile_name>
```

### Description

This command applies the same configuration parameters to a group of Gigabit Ethernet interfaces.

### Syntax

Parameter	Description	Range	Default
aaa-profile <profile_name>	Applies the specified AAA profile to interface group.	—	—
apply-to	Specifies the interfaces that are part of this group. Example: 0/0/1-0/5,0/0/10,0/0/21-0/25	—	—
clone <source>	Copies data from another gigabitethernet interface.	—	—
enet-link-profile <profile_name>	Applies the specified ethernet link profile to the interface group.	—	—

Parameter	Description	Range	Default
<code>ip access-group in &lt;in&gt;</code>	Adds an ingress access-control-list to the interface group.	—	—
<code>lACP-profile &lt;profile_name&gt;</code>	Applies the specified LACP profile to the interface group.	—	—
<code>lldp-profile &lt;profile_name&gt;</code>	Applies the specified lldp profile to the interface group.	—	—
<code>mac-limit &lt;limit&gt; action {drop log shutdown}</code>	Configures the maximum number of MACs that can be learned on this interface. The drop action drops all further MAC learning requests and packets from unknown MACs. The log option just logs system message that the limit is reached. The shutdown option shuts the port down when the specified MAC limit is exceeded.	—	1
<code>mirroring-in-profile &lt;profile_name&gt;</code>	Applies the specified ingress mirroring profile to the interface group.	—	—
<code>mirroring-out-profile &lt;profile_name&gt;</code>	Applies the specified egress mirroring profile to the interface group.	—	—
<code>igmp-snooping mrouter-vlan [add delete] &lt;vlan-list&gt;</code>	Configures the interfaces in this group as multicast router interfaces.	—	—
<code>mstp-profile &lt;profile_name&gt;</code>	Applies the specified MSTP profile to the interface group.	—	—

Parameter	Description	Range	Default
mtu <64-7168>	Sets the number of MTUs in bytes.	64-7168	1514
tunneled-node-profile <profile_name>	Applies the specified tunneled node profile to the interface group.	—	—
no {...}	Removes the specified configuration parameter.	—	—
poe-profile <profile_name>	Applies the specified PoE profile to the interface group.	—	—
policer-profile <profile_name>	Applies the specified policer profile to the interface group.	—	—
qos trust	Enables QoS trust mode on the interfaces that are part of this group.	—	Untrusted
qos-profile <profile_name>	Applies the specified QoS profile to the interface group.	—	—
shutdown	Disables the interfaces in this group.	—	Enabled
switching-profile <profile_name>	Applies the specified switching profile to the interface group.	—	—

Parameter	Description	Range	Default
trusted port	Sets the ports in this group to trusted mode.	—	Untrusted
tunneled-node-profile <profile_name>	Applies the specified tunneled node profile to the interface.	—	—
voip-profile <profile_name>	Applies the specified VOIP profile to the interface group.	—	—

## Usage Guidelines

Use this command when you want to apply the same configuration to multiple interfaces. Note that the port-channels are different from interface groups. When you use the interface-group command, it applies the same configuration to all the interfaces included in that group. When you use the port-channel command, the interface members included in the port-channel join together and act as a single interface.

## Example

The following example configures the various profiles and parameters for an interface group:

```
interface-group gigabitethernet GENERAL
  aaa-profile AAA_General
  apply-to 0/0/1-0/0/15,0/0/19
  enet-link-profile ENET_LINK_GENERAL
  igmp-snooping mrouter-vlan add 100-200
  ip access-group in ACL_General
  lldp-profile LLDP_General
  mac-limit 25 action drop
  mirroring-in-profile MIRRORING
  mirroring-out-profile MIRRORING
  mstp-profile MSTP_General
  mtu 2045
  poe-profile PoE_General
  qos trust
  qos-profile QoS_General
  no shutdown
  switching-profile Switching_General
  trusted port
  voip-profile VOIP_General
```

## Related Commands

Command	Description
<a href="#">show interface-group-config gigabitethernet</a>	Displays the interface configuration for the specified group.

## Command History

Release	Modification
ArubaOS 7.0	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Configuration mode

# interface loopback

```
interface loopback <0-63>  
  clone <source>  
  description <description>  
  ip address <address> [secondary]  
  no {...}  
  exit
```

## Description

This command configures the loopback interfaces.

## Syntax

Parameter	Description	Range	Default
loopback <0-63>	Specifies an identification number for the loopback interface.	0-63	—
clone <source>	Copies the configuration from another loopback interface.	—	—
description <description>	Specifies a name for the loopback interface.	—	—
ip address <address>	Assigns the specified IP address to the loopback interface.	—	—
secondary	Configures the entered IP address as a secondary IP address.	—	—
no {...}	Removes the specified configuration.	—	—

## Usage Guidelines

Use this command to configure the loopback interfaces.

## Example

The following example configures a loopback interface:

```
(host)(config)# interface loopback 1  
  description loopback01  
  ip address 1.1.1.1 netmask 255.255.255.0  
  exit
```

## Related Commands

Command	Description
<a href="#">show interface loopback</a>	This command displays the loopback interface information.



## Command History

Release	Modification
ArubaOS 7.0	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Configuration mode

## interface mgmt

```
interface mgmt
  description <name>
  ip address <address> netmask <netmask>
  ipv6 address {[link-local <X:X:X:X::X>]| [<X:X:X:X::X> prefix_len <prefix_length>]}
  no {...}
  shutdown
  exit
```

### Description

This command configures the management port on the switch. The management port is a dedicated interface for out-of-band management purposes. This interface is specifically available for the management of the system and cannot be used as a switching interface. You can configure only the IP address and description for this interface. The management port can be used to access the Mobility Access Switch from any location and configure the system.

### Syntax

Parameter	Description	Range	Default
description <description>	Specifies an identification name for the management interface.	Upto 63 characters;can begin with a numeric character	—
ip address <address> netmask <netmask>	Assigns the specified IP address to the management interface.	—	—
ipv6 address	Assigns the specified IPv6 address to the management interface	—	—
link-local <X:X:X:X::X>	Configures the specified IPv6 address as the link local address for this interface.	—	—
<X:X:X:X::X> prefix_len <prefix_length>	Specify the IPv6 prefix/prefix-length to configure the global unicast address for this interface.	—	—
no {...}	Removes the specified configuration parameter for the management interface.	—	—
shutdown	Disables the management interface	—	Disabled

## Usage Guidelines

Use this command to configure the management port. Use the **ipv6 address** option to modify the auto-configured link local address or configure the global unicast address of the management interface.

## Example

The following example configures the management interface:

```
(host) (config) #interface mgmt
(host) (mgmt) #description MGMT
(host) (mgmt) #ip address 10.13.6.1
(host) (mgmt) #no shutdown
```

The following command modifies the auto-configured link local address of the management interface to fe80::20b:86ff:fe6a:2800.

```
(host) (config) #interface mgmt (host) (mgmt) #ipv6 address link-local fe80::20b:86ff:fe6a:2800
```

The following command configures the global unicast address of the management interface to 2cce:205:160:100::fe.

```
(host) (mgmt) #ipv6 address 2cce:205:160:100::fe prefix_len 64
```

## Related Command

Command	Description
<code>show interface mgmt</code>	This command displays the management interface information.

## Command History

Release	Modification
ArubaOS 7.0	This command was introduced.
ArubaOS 7.1	The <b>ipv6 address</b> option was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Configuration mode

# interface port-channel

```
interface port-channel <0-63>
  backup interface {gigabitethernet <slot/module/port>|port-channel <0-63>}
  clone <source>
  description <name>
  enet-link-profile <profile_name>
  igmp-snooping mrouter-vlan [add|delete] <vlan-list>
  ip access-group {in <in> |out <out>}
  mac-limit <limit> action {drop|log|shutdown}
  mirroring-in-profile <profile_name>
  mirroring-out-profile <profile_name>
  mstp-profile <profile_name>
  mtu <64-9216>
  no {...}
  policer-profile <profile_name>
  port-channel-members {<interface-list> | {{add | delete} gigabitethernet
  <slot/module/port>}}
  port-security-profile <profile_name>
  preemption delay <10-300>
  preemption mode {forced | off}
  qos trust
  qos-profile <profile_name>
  shutdown
  switching-profile <profile_name>
```

## Description

This command creates a port-channel.

## Syntax

Parameter	Description	Range	Default
port-channel <0-63>	Specifies the port-channel ID.	0-63: For all Mobility Access Switches except S1500 Mobility Access Switch. 0-7: For the S1500 Mobility Access Switch.	—
backup interface <stac/module/port>	Specifies the secondary interface in the HSL group.	—	—
clone <source>	Copies data from another gigabitethernet interface.	—	—

Parameter	Description	Range	Default
<code>description &lt;name&gt;</code>	Specifies a name for the port-channel.	1-32 characters; cannot begin with a numeric character	—
<code>enet-link-profile &lt;profile_name&gt;</code>	Applies the specified ethernet link profile to the port-channel.	—	—
<code>igmp-snooping mrouter-vlan [add delete] &lt;vlan-list&gt;</code>	Adds or deletes the specified VLAN IDs as the multicast router VLAN IDs for IGMP snooping.	—	—
<code>ip access-group {in &lt;in&gt;  out &lt;out&gt;}</code>	in <in> - Adds ingress access-control-list to the port-channel. out <out> - Adds egress access-control-list to the port-channel.	—	—
<code>mac-limit &lt;limit&gt; action {drop log shutdown}</code>	Configures the maximum number of MACs that can be learned on this interface. The drop action drops all further MAC learning requests and packets from unknown MACs. The log option just logs system message that the limit is reached. The shutdown option shuts down the interface when the specified MAC limit is reached.	—	1

Parameter	Description	Range	Default
mirroring-in-profile <profile_name>	Applies the specified ingress mirroring profile to the port-channel.	—	—
mirroring-out-profile <profile_name>	Applies the specified egress mirroring profile to the port-channel.	—	—
mstp-profile <profile_name>	Applies the specified MSTP profile to the port-channel.	—	—
mtu <64-9216>	Sets the number of MTUs in bytes.	64-9216	1514
no {...}	Delete command	—	—
port-channel-members {interface-list   {{add   delete} gigabitethernet <slot/module/port>}}	Adds or deletes the specified interfaces to/from the port-channel.	—	—
port-security-profile <profile_name>	Applies the specified port security profile to the interface.	—	—
policer-profile <profile_name>	Applies the specified policer profile to the port-channel.	—	—
preemption delay <seconds>	Specifies the preemption delay in seconds.	10-300	100
preemption mode {forced   off}	<b>forced</b> —Forces preemption of backup. <b>off</b> —Does not force preemption of backup.	—	Off.

Parameter	Description	Range	Default
qos trust	Enables QoS trust mode.	—	—
qos-profile <profile_name>	Applies the specified QoS profile to the port-channel.	—	—
shutdown	Disables the port-channel.	—	Enabled.
switching-profile <profile_name>	Applies the specified switching profile to the port-channel.	—	—

## Usage Guidelines

Use this command to create a static port-channel.

## Example

The following example configures a port-channel with profiles, parameters, and member interfaces:

```

host) (config) #show interface port-channel 1
port-channel 1 is administratively Up, Link is Up, Line protocol is Up
Hardware is Port-Channel, Address is 00:0b:86:6a:70:c0
Description: Link Aggregate
Member port(s):
  GE0/0/4 is administratively Up, Link is Up, Line protocol is Up
  GE0/0/5 is administratively Up, Link is Up, Line protocol is Up
Speed: 2 Gbps
Interface index: 1445
MTU 1514 bytes
Flags: Access, Trusted
Link status last changed: 0d 02h:25m:57s ago
Last clearing of counters: 0d 02h:25m:57s ago
Statistics:
  Received 4973595 frames, 1272848056 octets
  668 pps, 1.383 Mbps
  32 broadcasts, 0 runts, 0 giants, 0 throttles
  0 error octets, 0 CRC frames
  13602 multicast, 4959961 unicast
  Transmitted 23674 frames, 6226872 octets
  0 pps, 0 bps
  39 broadcasts, 0 throttles

```

## Related Command

Command	Description
<a href="#">show interface port-channel</a>	Displays the port-channel information.

## Command History

Release	Modification
ArubaOS 7.0	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Configuration mode



## interface-profile ddns-profile

```
interface-profile ddns-profile <profile-name>
  clone <profile>
  hostname
  interval
  no
  password
  service-url
  username
```

### Description

Use the `ddns-profile <profile-name>` command to configure a Dynamic Domain Name Server (DDNS) profile.

### Syntax

Parameter	Description	Range	Default
<code>clone</code>	Copy data from another ddns-profile	–	–
<code>hostname</code>	Host name of the client whose IP is to be updated using DDNS.	–	–
<code>interval</code>	The frequency (in minutes/days) at which the DDNS update happens.	15 minutes - 30 days	7 days
<code>no</code>	Delete command.	–	–
<code>password</code>	A valid password with a maximum of 16 characters. Allowed characters are letters, digits, hyphen (-), dot (.) and underscore (_).	–	–
<code>service-url</code>	Service URL is the update URL that is used to send the DDNS updates to the DDNS server. Every DDNS server site has its own service update URL. Example: myonlineportal.net/updateddns.	–	–
<code>username</code>	A valid username. Allowed characters are letters, digits, hyphen (-), dot (.), at (@), and underscore (_).	–	–

### Example

A sample DDNS profile configuration is provided below:

```
(host) (config) #interface-profile ddns-profile ddns1
(host) (DDNS profile "ddns1") #username John
(host) (DDNS profile "ddns1") #password monika
(host) (DDNS profile "ddns1") #service-url dynupdate.no-ip.com/nic/update
(host) (DDNS profile "ddns1") #interval 0 7 0
(host) (DDNS profile "ddns1") #hostname arubamas.no-ip.info
```

### Command History

Release	Modification
ArubaOS 7.4	This command is introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Configuration Mode (config)

## interface-profile dhcp-relay-profile

```
interface-profile dhcp-relay-profile <profile-name>
  clone <profile>
  helper-address
  no
  option82
  source-ip
```

### Description

Use the `ip dhcp relay-profile <profile-name>` command to configure a DHCP relay profile.

### Syntax

Parameter	Description	Range	Default
<b>clone</b>	Copies data from another DHCP relay profile.	–	–
<profile>	Name of DHCP relay profile to be copied.	–	–
<b>helper-address</b>	DHCP helper address.	–	–
<address>	A.B.C.D format.	–	–
<b>no</b>	Delete command.	–	–
option82	Option 82	–	–
circuit-identifier	Circuit identifier.	–	Disabled
- interface-name	Use interface-name in circuit ID.	–	–
- vlan	Use VLAN in circuit ID.	–	–
remote-identifier	Remote identifier.	–	Disabled
- host-name	Use host name.	–	–
- mac	Use MAC address.	–	–
- <user-defined field>	Configure any string.	–	Disabled
source-ip	Set or change source IP of the relay packet.	–	Disabled
- giaddr	Set giaddr as source IP. By default, the source IP address in the relayed packet is set to the IP address of the outgoing RVI. The source IP address of the relay packet can be changed to take the incoming RVI.	–	–

### Command History

Release	Modification
ArubaOS 7.1	This command was introduced.
ArubaOS 7.1.1	Added host-name, mac, <user-defined field>, and giaddr.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Configuration Mode (config)

## interface-profile enet-link-profile

```
interface-profile enet-link-profile {default|<profile-name>}
  autonegotiation
  duplex {auto|full|half}
  speed {10 | 100 | 1000 | 10000 | 10m_100m | auto}
  flowcontrol {auto|lossless|on|off}
  no {...}
  exit
```

### Description

This command creates an Ethernet link profile that can be assigned to an interface, interface group, or port-channel.

### Syntax

Parameter	Description	Range	Default
default	Modifies the default Ethernet link profile.	—	—
<profile-name>	Identification name for the non-default profile.	Upto 63 characters;can begin with a numeric character	—
autonegotiation	Enables auto-negotiation of port speed.	—	Enabled
duplex {auto full half}	Sets the duplex to one of the following parameters: <ul style="list-style-type: none"><li>• auto—Configures auto mode.</li><li>• full—Configures full duplex mode.</li><li>• half—Configures half duplex mode.</li></ul>	—	auto

Parameter	Description	Range	Default
speed {10   100   1000   10000   10m_100m   auto}	Sets the speed to one of the following parameters: <ul style="list-style-type: none"> <li>• auto—Negotiates bandwidth dynamically between 10 and 1000/10000.</li> <li>• 10—10 Mbps.</li> <li>• 100—100 Mbps.</li> <li>• 1000—1 Gbps.</li> <li>• 10000—10 Gbps.</li> <li>• 10m_100m—10 to 100 Mbps.</li> <li>• auto—auto-negotiate</li> </ul>	—	auto
flowcontrol {auto lossless on off}	Sets the flowcontrol to one of the following parameters: <ul style="list-style-type: none"> <li>• auto—Configures auto mode.</li> <li>• lossless—configures lossless mode.</li> <li>• on—configures on mode.</li> <li>• off—configures off mode.</li> </ul>	—	off
no {...}	Removes the specified configuration.	—	—

## Usage Guidelines

Use this profile to configure autonegotiation, duplex, speed, and flow control for the port. Creating an Ethernet Link profile does not apply the configuration to any interface or interface group. To apply the Ethernet Link profile, use the `interface gigabitethernet` and `interface-group` commands.

## Example

The following example creates an Ethernet link profile:

```
interface-profile enet-link-profile ENET_LINK_General
  autonegotiation
  duplex full
  speed 1000
  flowcontrol lossless
  exit
```

## Related Command

Command	Description
<a href="#">show interface-profile</a>	Displays the specified Ethernet Link profile information.

## Command History

Release	Modification
ArubaOS 7.0	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Configuration mode

## interface-profile gvrp-profile

```
interface-profile gvrp-profile <profile-name>
  clone <source>
  enable
  no..
  registrar-mode [forbidden|normal]
```

### Description

These commands configure a GVRP profile.

### Syntax

Parameter	Description	Default
<profile-name>	Enter a name for the GVRP profile.	—
clone <source>	Copies data from another GVRP profile.	—
enable	Enables or Disables GVRP profile.	Disabled
registrar-mode	Sets the registration mode as <b>normal</b> or <b>fobidden</b> .	normal
normal	In normal mode, Mobility Access Switch registers and de-registers VLANs to or from its connected switches and IAPs.	—
forbidden	In forbidden mode, Mobility Access Switch cannot register nor de-register VLANs to or from its connected switches and IAPs.	—
no {...}	Removes the specified configuration parameter.	—

### Usage Guidelines

Use these commands to configure a GVRP profile. The GVRP profile must then be applied to an interface for it to take effect. To apply the GVRP profile, use the `interface gigabitethernet` command.

### Example

The following command configures GVRP profile on an interface:

```
(host)(config)# interface-profile gvrp-profile Enable-GVRP
(host)(Interface GVRP profile "gvrp")# enable
(host)(Interface GVRP profile "gvrp")# registrar-mode normal
(host)(config) # interface gigabitethernet 0/0/10
(host)(gigabitethernet "0/0/10") # gvrp-profile gvrp
```

### Command History

Release	Modification
ArubaOS 7.2	This command was introduced.



## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable and Configuration Mode (config)

## interface-profile igmp-profile

```
interface-profile igmp-profile <profile-name>
  clone <source>
  disable
  no
  query-interval <secs>
  version [v2|v3]
```

### Description

Use this command to configure an IGMP profile on an interface.

### Syntax

Parameter	Description	Range	Default
clone	Copies data from another interface IGMP profile.	–	–
disable	Disable IGMP.	–	Enabled
no	Delete command.	–	–
query-interval <secs>	Periodic interval in seconds at which IGMP queries are sent.	1-18000	125 secs
version [v2 v3]	Enables IGMP version 2 or version 3 based on the user input. By default, IGMP version 2 is enabled.	–	v2

### Example

```
(host)(config) #interface-profile igmp-profile igmp-int-profile
(host)(Interface IGMP profile "igmp-int-profile") #query-interval 44
(host)(Interface IGMP profile "igmp-int-profile") #version v3
```

### Command History

Release	Modification
ArubaOS 7.1	This command was introduced.
ArubaOS 7.3.1	The <b>version</b> parameter was introduced to support IGMPv3.

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Configuration

## interface-profile lacp-profile

```
interface-profile lacp-profile <profile-name>
  group-id <0-63>
  independent-state
  mode {active|passive}
  no {...}
  port-priority <1-65535>
  timeout {long|short}
  exit
```

### Description

This command creates a dynamic LACP port-channel profile that can be assigned to any interface or interface group.

### Syntax

Parameter	Description	Range	Default
<profile-name>	Identification name for the LACP profile.	1-32 characters;can begin with a numeric character.	—
group-id <0-63>	Specifies the port-channel group ID.	<ul style="list-style-type: none"><li>• 0-63: For all Mobility Access Switches except the S1500 Mobility Access Switch.</li><li>• 0-7: For S1500 Mobility Access Switch.</li></ul>	—
independent-state	Enables LACP Independent state. With this feature enabled, when ethernet ports in an LACP enabled device are connected to an LACP disabled device, the incompatible ports are put into Independent (I) state. When in Independent state, the ports continue to carry data traffic similar to any other single link without any change in the port configuration.	—	Enabled

Parameter	Description	Range	Default
mode {active passive}	Sets the LACP port-channel to one of the following modes: <ul style="list-style-type: none"> <li>active—In active mode, a port-channel member can send participation requests to other ports in the port-channel.</li> <li>passive—In passive, a port-channel member does not send participation requests to other ports. It can only receive and accept participation codes from other members.</li> </ul>	—	passive
port-priority <1-65535>	Specifies the port priority for the port-channel interface.	1-65535	255
timeout {long short}	Specifies the time timeout as long or short: <ul style="list-style-type: none"> <li>long—90 seconds.</li> <li>short—3 seconds.</li> </ul>	—	long
no {...}	Removes the specified LACP configuration parameter.	—	—

## Usage Guidelines

Use this command to create an LACP profile. Creating an LACP profile does not apply the configuration to any interface or interface group. To apply the LACP profile, use the interface gigabitethernet and interface-group commands.

## Example

The following example creates an LACP profile:

```
(host) (config)#interface-profile lACP-profile Port-Channel_01
group-id 1
mode active
port-priority 6553
timeout long
exit
```

## Related Command

Command	Description
<a href="#">show interface-profile lACP-profile</a>	Displays the LACP profile information.

## Command History

Release	Modification
ArubaOS 7.0	This command was introduced.
ArubaOS 7.3.1	The <b>independent-state</b> parameter was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Configuration mode

## interface-profile lldp-profile

```
interface-profile lldp-profile {lldp-factory-initial|default|<profile-name>}
  clone <source>
  lldp fast-transmit-counter <1-8>
  lldp fast-transmit-interval <1-3600>
  lldp med-tlv-select
  lldp receive
  lldp tlv-select
  lldp transmit
  lldp transmit-hold <1-100>
  lldp transmit-interval <1-3600>}
  med enable
  proprietary-neighbor-discovery
  no {...}
  exit
```

### Description

This command creates an LLDP profile that can be assigned to any interface or interface group.

### Syntax

Parameter	Description	Range	Default
lldp-factory-initial  default	Modifies the factory initial or the default LLDP profile.	—	—
<profile-name>	Identification name for the LLDP profile.	1-32 characters; can begin with a numeric character	—
clone <source>	Copies data from another LLDP profile.	—	—
lldp fast-transmit-counter	Set the number of the LLDP data units sent each time fast LLDP data unit transmission is triggered.	1-8	4
lldp fast-transmit-interval	Sets the LLDP fast transmission interval in seconds.	1-3600 seconds	1 second
lldp med-tlv-select	Allows you to enable or disable one of the following MED TLVs: <ul style="list-style-type: none"><li>● <b>network-policy</b></li><li>● <b>power-management</b></li></ul>	—	Enabled
lldp receive	Enables processing of LLDP PDU received.	—	Disabled

Parameter	Description	Range	Default
<code>lldp tlv-select</code>	Allows you to enable or disable one of the following TLVs: <ul style="list-style-type: none"> <li>● <b>aggregation-status</b></li> <li>● <b>mac-phy-config</b></li> <li>● <b>management-address</b></li> <li>● <b>max-frame-size</b></li> <li>● <b>port-description</b></li> <li>● <b>port-vlan-id</b></li> <li>● <b>power-management</b></li> <li>● <b>system-capabilities</b></li> <li>● <b>system-description</b></li> <li>● <b>system-name</b></li> <li>● <b>vlan-name</b></li> </ul>		Enabled
<code>lldp transmit</code>	Enables LLDP PDU transmit.	—	Disabled
<code>lldp transmit-hold &lt;1-100&gt;</code>	Sets the transmit hold multiplier.	1-100.	4
<code>lldp transmit-interval &lt;1-3600&gt;</code>	Sets the transmit interval in seconds.	1-3600 seconds	30 seconds
<code>med enable</code>	Enables the LLDP MED protocol.	—	Disabled
<code>proprietary-neighbor-discovery</code>	Enables proprietary neighbor discovery from protocols such as CDP.	—	Disabled
<code>no {...}</code>	Removes the specified LLDP configuration parameter.	—	—

## Usage Guidelines

Use this command to create an LLDP profile. Creating an LLDP profile does not apply the configuration to any interface or interface group. To apply the LLDP profile, use the `interface gigabitethernet` and `interface-group` commands.

## Example

The following example creates an LLDP profile called LLDP\_General:

```
interface-profile lldp-profile LLDP_General
  lldp fast-transmit-counter 2
  lldp fast-transmit-interval 50
  lldp receive
  lldp transmit
  lldp transmit-hold 60
  lldp transmit-interval 2500
exit
```

## Related Command

Command	Description
<a href="#"><code>show interface-profile lldp-profile</code></a>	Displays LLDP profile information.

## Command History

Release	Modification
ArubaOS 7.0	This command was introduced.
ArubaOS 7.2	<b>lldp fast-transmit-counter</b> and <b>lldp fast-transmit-interval</b> parameters were introduced.
ArubaOS 7.3	<b>lldp med-tlv-select</b> and <b>lldp tlv-select</b> parameters were introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Configuration Mode



## interface-profile mirroring-profile

```
interface-profile mirroring-profile <profile-name>  
  clone <source>  
  destination gigabitethernet <slot/module/port>  
  ratio <0-2047>  
  no {...}  
  exit
```

### Description

This command creates a mirroring profile that can be assigned to any interface, or a interface group.

### Syntax

Parameter	Description	Range	Default
<profile-name>	Identification name for the mirroring profile.	1-32 characters;can begin with a numeric character	
clone <source>	Copies data from another mirroring profile.		
destination gigabitethernet <slot/module/port>	Specifies the destination port to which the packets should be sent.		
ratio <0-2047>	Specifies the ratio of packets that should be mirrored. <ul style="list-style-type: none"><li>• 0—Does not mirror any packet to the destination.</li><li>• 1—Mirrors all packets to the destination (1:1). This is the default.</li><li>• 100—Mirrors 1 out of 100 packets to the destination.</li><li>• 2047—Mirrors 1 out of 2,047 packets to the destination.</li></ul>	0-2047	1
no {...}	Removes the specified mirroring configuration parameter.	—	—

## Usage Guidelines

Use this command to create a port mirroring profile. Creating a mirroring profile does not apply the configuration to any interface or interface group. To apply the mirroring profile, use the `interface gigabitethernet` and `interface-group` commands.

## Example

The following example creates a port mirroring profile:

```
interface-profile mirroring-profile Mirroring
  destination gigabitethernet 0/0/19
  ratio 50
exit
```

## Related Command

Command	Description
<code>show interface-profile mirroring-profile</code>	Displays port mirroring profile information.

## Command History

Release	Modification
ArubaOS 7.0	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Configuration mode

## interface-profile mstp-profile

```
interface-profile mstp-profile <profile-name>
  bpdufilter [default | unconditional]
  bpduguard auto-recovery-time <recovery_timeout>
  clone
  instance {cost <port-cost> | priority <port-priority>}
  loopguard
  no
  point-to-point
  portfast trunk
  rootguard
```

### Description

Creates a Multiple Spanning Tree Protocol (MSTP) profile on the Mobility Access Switch. Using this command, you can enable the loopguard, rootguard, BPDU guard, and Portfast features on the MSTP profile.

## Syntax

Parameter	Description	Range	Default
<code>bpdufilter [default   unconditional]</code>	<p>Configure BPDU filter in one of the following modes specified:</p> <ul style="list-style-type: none"> <li>• <b>Default</b>—If you enable the default BPDU filter on an interface, the Mobility Access Switch first verifies if it is a genuine edge-port by sending a few BPDUs (11 BPDUs). If no response is received, it enables BPDU filter (stops sending BPDUs) on this port. The BPDU filter gets disabled, if it receives any BPDUs from the remote-end port.</li> <li>• <b>Unconditional</b>—If you enable unconditional BPDU filter on an interface, the port disables BPDU processing irrespective of the portfast configuration. In this case, the port neither sends nor processes any BPDUs received on this interface.</li> </ul>	—	Disabled
<code>bpduguard</code>	Enables BPDU guard functionality.	—	Disabled
<code>auto-recovery-timeout &lt;auto-recovery-time&gt;</code>	Enter the time in seconds to automatically activate the interface after it is shutdown. Specifying 0 disables the auto-recovery option.	0-65535	0
<code>instance</code>	Enter the MST instance number.	0 - 64	0
<code>cost &lt;port-cost&gt;</code>	Enter the keyword <b>cost</b> followed by the port cost value.	1 - 2000000000	—

Parameter	Description	Range	Default
<code>priority &lt;port-priority&gt;</code>	Enter the keyword <b>priority</b> followed by the priority value in increments of 16. For example, 16, 32, 48, 64, 80, 96, 112, etc. All other values are rejected.	0 - 240	128
<code>loopguard</code>	Enables loopguard on an interface MSTP profile.	—	—
<code>point-to-point</code>	Enables a broadcast interface as a point-to-point interface.	—	—
<code>portfast trunk</code>	Enables portfast on a trunk port.	—	—
<code>rootguard</code>	Enables rootguard on the MSTP interface profile.	—	—

## Usage Guidelines

The BPDU guard functionality prevents malicious attacks on edge ports. When the malicious attacker sends a BPDU on the edge port, it triggers unnecessary STP calculation. To avoid this attack, use the BPDU guard on that edge port. The BPDU guard enabled port shuts down as soon as a BPDU is received.

Loopguard provides additional protection against Layer 2 forwarding loops (spanning tree loops). A spanning tree loop is created when a spanning tree blocking port, in a redundant topology, erroneously transitions to the forwarding state. This usually happens because one of the ports of a physically redundant topology (not necessarily the spanning tree blocking port) is no longer receiving spanning tree BPDUs (Bridge Protocol Data Units).

If loopguard is enabled on a non-designated port receiving BPDUs, then that non-designated port is moved into the spanning tree loop-inconsistent blocking state.




---

The portfast and rootguard features cannot be enabled if loopguard is enabled.

---

When the link on a bridge port goes up, MSTP runs its algorithm on that port. If the port is connected to a host that does not support MSTP, it takes approximately 30 seconds for the port to transition to the forwarding state. During this time, no user data passes through this bridge port and some user applications may timeout. You can use the portfast functionality to avoid this.

Rootguard provides a way to enforce the root bridge placement in the network. The rootguard feature guarantees that a port will not be selected as Root Port for the CIST or any MSTI. If a bridge receives superior spanning tree BPDUs on a rootguard-enabled port, the port is selected as an Alternate Port instead of Root Port and no traffic is forwarded across this port.

By selecting the port as an alternate port, the rootguard configuration prevents bridges, external to the region, from becoming the root bridge and influencing the active spanning tree topology.




---

Best practices is that loopguard and rootguard are used on designated ports.

---

## Example

```
(host) (config) #interface-profile mstp-profile mstp
(host) (Interface MSTP "mstp") #bpduguard auto-recovery-time 30
(host) (Interface MSTP "mstp") #instance 1 cost 200
(host) (Interface MSTP "mstp") #instance 1 priority 128
(host) (Interface MSTP "mstp") #portfast
(host) (Interface MSTP "mstp") #rootguard
```

## Related Commands

Command	Description
<a href="#">show mstp-global-profile</a>	View the global MSTP settings
<a href="#">show spanning-tree</a>	View the spanning tree configuration
<a href="#">show spanning-tree mstp msti</a>	View the details of a specific instance or a complete listing of all the MSTP instance settings.

## Command History

Release	Modification
ArubaOS 7.0	This command was introduced.
ArubaOS 7.2	<b>bpduguard</b> command was introduced.
ArubaOS 7.3.2	<b>bpdufilter</b> command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Configuration

## interface-profile oam-profile

```
interface-profile oam-profile <oam-profile-name>
  allow-loopback
  clone
  discovery-mode
  link-fault-action
  link-timeout
  no
  pdu-rate
  remote-loopback
```

### Description

This command creates a OAM profile that can be applied to any interface.

### Syntax

Parameter	Description	Range	Default
allow-loopback	Enables support for OAM local loopback.		Disabled
clone <source>	Clones configuration parameters from the specified OAM profile.		
discovery-mode	Enables OAM Discovery mode.	Active or Passive	Active
link-fault-action	Action taken on link-fault detection.	Syslog or Error-disable	Error-disable
link-timeout	Timeout out in seconds to declare a link fault.	2 - 10	5
no	Removes the command.		
pdu-rate	Maximum OAM PDUs sent per second.	1 - 10	5
remote-loopback	Puts remote device into loopback mode.		Disabled

### Usage Guidelines

Use this command to create an OAM profile. Creating an OAM profile does not apply the configuration to any interface or interface group. To apply the OAM profile, use the `interface gigabitethernet` and `interface-group` commands.

```
(host) (OAM profile "oamtest") #allow-loopback
(host) (OAM profile "oamtest") #link-fault-action syslog
(host) (OAM profile "oamtest") #link-timeout 3
(host) (OAM profile "oamtest") #pdu-rate 8
```

### Command History

Release	Modification
ArubaOS 7.1.3	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Config mode (config)



## interface-profile ospf-profile

```
interface-profile ospf-profile <profile-name>
  area <areaid>
  clone <source>
  cost <1-65535>
  dead-interval <1-65535>
  disable
  hello-interval <1-65535>
  message-digest-key [1-255] md5-passwd <md5-passwd>
  no {...}
  priority <0-255>
  retransmit-interval <1-3600>
  transmit-delay <1-65535>
```

### Description

Configures an interface OSPF profile that can be applied to the Layer 3 routed VLAN interfaces and loopback interfaces.



---

There is a default profile named "default" that you can use or you can create your own profile name.

---

### Syntax

Parameter	Description	Range	Default
area <areaid>	Enter the keyword <b>area</b> followed by the area identification, in A.B.C.D or decimal format, to configure an OSPF area.	0-4294967295	0.0.0.0
clone <source>	Enter the keyword <b>clone</b> followed by the name of the OSPF source profile that you want to copy (clone) data from.	—	—
cost	Enter the keyword <b>cost</b> followed by the cost value to set cost associated with the OSPF traffic on an interface.	1 to 65535	1
dead-interval	Enter the keywords <b>dead-interval</b> followed by the elapse interval, in seconds, since the last hello-packet is received from the router. After the interval elapses, the neighboring routers declare the router dead.	1 to 65535 seconds	40
disable	Enter the keyword <b>disable</b> to disable (or enable) an OSPF profile.	—	Enabled
hello-interval	Enter the keywords <b>hello-interval</b> followed by the elapse interval, in seconds, between hello packets sent on the interface.	1 to 65535 seconds	10
message-digest-key <md5-key>	Enter the keyword message-digest-key.	1 to 255	—

Parameter	Description	Range	Default
<code>md5-passwd</code> <code>&lt;md5-passwd&gt;</code>	The OSPF password in bytes.	1 -16	—
<code>priority</code>	Enter the keyword <b>priority</b> followed by a value that sets the priority number of the interface to determine the designated router.	0 to 255	1
<code>retransmit-interval</code>	Enter the keywords <b>retransmit-interval</b> followed by the elapse time, in seconds, to set the retransmission time between link state advertisements for adjacencies belonging to the interface. Set the time interval so that unnecessary retransmissions do not occur.	1 to 3600 seconds	5
<code>transmit-delay</code>	Enter the keywords <b>transmit-delay</b> followed by the elapse time, in seconds, to set the delay time before re-transmitting link state update packets on the interface.	1 to 65535 seconds	1
<code>no {...}</code>	Removes the specified OSPF configuration.	—	—

## Usage Guidelines

When configuring OSPF over multiple vendors, use this **cost** command to ensure that all routers use the same cost. Otherwise, OSPF may route improperly.

## Example

The example below clones the OSPF profile named “techpubs” to the OSPF profile named “default”. The profile named “default”

```
(host) (Interface OSPF profile "techpubs") #clone default
(host) (Interface OSPF profile "techpubs") #
```

## Related Command

Command	Description
<a href="#">router ospf</a>	Configure the global OSPF parameters.

## Command History

Release	Modification
ArubaOS 7.1.1	This command was introduced.
ArubaOS 7.1.3	Message Digest Key introduced

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Configuration Mode ((Interface OSPF profile <"profilename">))

## interface-profile pim-profile

```
interface-profile pim-profile <profile-name>
  clone <source>
  dr-priority <priority>
  hello-interval <secs>
  mode {sparse}
  no {...}
```

### Description

Use this command to configure a PIM profile under an interface profile.

### Syntax

Parameter	Description	Range	Default
clone	Copies data from another Interface PIM profile.	–	–
disable	Enable or disable PIM.	–	Enabled
dr-priority	Router priority that is advertised in the PIM “hello message.”	1-65535	1
hello-interval	Periodic interval at which PIM “hello messages” are sent.		30 sec
mode	Configures PIM mode.	–	sparse
no	Delete command.	–	–

### Example

```
(host) (config) #interface-profile pim-profile aaa-pim-profile
(host) (Interface PIM profile "aaa-pim-profile") #mode sparse
```

### Command History

Release	Modification
ArubaOS 7.1.1	This command was introduced.

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Configuration

## interface-profile poe-profile

```
interface-profile poe-profile <profile-name>
  close <source>
  enable
  poe-maxpower <milliwatts>
  poe-priority {critical|high|low}
  time-range-profile <name>
```

### Description

This command creates a PoE profile that can be assigned to any interface or interface group.

### Syntax

Parameter	Description	Range	Default
<code>poe-factory-initial default</code>	Modifies the factory initial or the default PoE profile.	—	—
<code>&lt;profile-name&gt;</code>	Identification name for the new PoE profile.	Upto 63 characters;can begin with a numeric character	—
<code>clone</code>	Copy data from another PoE profile	—	—
<code>enable</code>	Enables power over Ethernet.	—	Disabled
<code>poe-maxpower &lt;milliwatts&gt;</code>	Specifies the maximum power that can be supplied to the Ethernet interface in milliwatts.	—	30000
<code>poe-priority {critical high low}</code>	Specifies the PoE priority to one of the following: <ul style="list-style-type: none"><li>• critical</li><li>• high</li><li>• low</li></ul> When there is power shortage, the low priority ports are powered off before the high priority ports and then the critical priority ports. When ports have the same priority, the lowest port number is powered off before a higher port number.	—	low
<code>time-range-profile &lt;name&gt;</code>	Applies time range profile to the PoE interface.	—	—

### Usage Guidelines

Use this command to create a PoE profile where the ethernet ports are supplied with Power over Ethernet. Creating a PoE profile does not apply the configuration to any interface or interface group. To apply the PoE profile, use the `interface gigabitethernet` and `interface-group` commands.

### Example

The following example creates a power over Ethernet profile:

```
interface-profile poe-profile PoE_General
  enable
  poe-maxpower 10000
  poe-priority high
  time-range-profile sample
  mode periodic
  periodic start-day daily start-time 7:00 end-day daily end-time 18:00
  exit
```

## Related Commands

Command	Description
<a href="#">show interface-profile</a>	Displays the specified PoE profile information.

## Command History

Release	Modification
ArubaOS 7.0	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Configuration mode

## interface-profile port-security-profile

```
interface-profile port-security-profile <profile-name>
  clone
  dynamic-arp-inspection
  ipv6-ra-guard action {drop|shutdown} auto-recovery-time <recovery-time>
  loop-protect [auto-recovery-time <recovery_timeout>]
  mac-limt <limit> action {drop|log|shutdown} auto-recovery-time <auto-recovery-time>
  no
  sticky-mac
  trust dhcp
  ip-src-guard
```

### Description

This command configures port security profile on an interface.

### Syntax

Parameter	Description	Default
<profile-name>	Enter a name for the port security profile.	—
dynamic-arp-inspection	Enables Dynamic ARP Inspection.	—
ipv6-ra-guard	Configures RA guard action.	—
action{drop shutdown}	When set to drop, the packet is dropped and a message is logged. When set to shutdown, the interface is shutdown.	—
auto-recovery-time <recovery-time>	Enter the recovery time in seconds to activate the interface after it is shutdown. Specifying 0 disables the auto-recovery option.	0
loop-protect	Enables Port Loop protect.	—
auto-recovery-time <recovery_timeout>	Enter the time in seconds to automatically activate the interface after it is shutdown. Specifying 0 disables the auto-recovery option.	0
trust dhcp	Enables DHCP trust mode.	—

Parameter	Description	Default
mac-limit	Configures the maximum number of MACs that can be learned on this interface.	—
<limit>	Enter the MAC limit.	—
action {drop log shutdown}	The drop action drops all further MAC learning requests and packets from unknown MACs. The log option just logs system message that the limit is reached. The shutdown option shuts the port down when the specified MAC limit is exceeded.	—
ip-src-guard	Enables IP Source Guard functionality.	—
auto-recovery-timeout <auto-recovery-time>	Enter the recovery time in seconds to activate the interface after it is shutdown. Specifying 0 disables the auto-recovery option.	0
sticky-mac	Enables Sticky MAC on the interface.	—
no {...}	Removes the specified configuration parameter.	—

## Usage Guidelines

Use this command to create port security profile on an interface. Creating a port security profile does not apply the configuration to any interface or interface group. To apply the port-security profile, use the `interface gigabitethernet` and `interface port-channel` commands.

## Examples

The following commands enable and configure RA guard profile on an interface:

```
(host) (config) # interface-profile port-security-profile RA-Guard1
  ipv6-ra-guard action drop auto-recovery-time 60
(host) (config) # interface gigabitethernet 0/0/6
  port-security-profile RA-Guard1
```

The following commands enable and configure DHCP trust on an interface:

```
(host) (config) # interface-profile port-security-profile ps1
  no trust dhcp
(host) (config) # interface gigabitethernet 0/0/6
  port-security-profile PS1
```

The following commands enable and configure Loop Protect on an interface:

```
(host) (config) #interface-profile port-security-profile Loop-Protect
  loop-protect auto-recovery-time 10
```



```
(host) (config) # interface gigabitethernet 0/0/6
    port-security-profile Loop-Protect
(host) (config) #interface port-channel 3
    port-security-profile Loop-Protect
```

The following commands configures MAC limit on an interface:

```
(host) (config) # interface-profile port-security-profile MAC_Limit
    mac-limit 30 action drop auto-recovery-time 50
(host) (config) # interface gigabitethernet 0/0/6
    port-security-profile MAC_Limit
```

The following commands enable and configure IPSG :

```
(host) (config) # interface-profile port-security-profile ipsg
    ip-src-guard
```

The following commands enable and configure DAI:

```
(host) (config) # interface-profile port-security-profile dai
    dynamic-arp-inspection
```

The following commands enables Sticky-MAC:

```
(host) (config) # interface-profile port-security-profile <profile-name> sticky-mac
```

## Command History

Release	Modification
ArubaOS 7.1.3	This command was introduced.
ArubaOS 7.4	The <b>sticky-mac</b> , <b>dynamic-arp-inspection</b> , and <b>ip-src-guard</b> parameters were introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable and Configuration Mode (config)

## interface-profile pvst-port-profile

```
interface-profile pvst-port-profile <profile-name>
  bpdufilter [default | unconditional]
  bpduguard [auto-recovery-time <recovery_timeout>]
  clone
  loopguard
  no
  point-to-point
  portfast trunk
  rootguard
  vlan <vlan> [cost <cost> | priority <priority>]
```

### Description-

Configure an interface PVST+ bridge.

### Syntax

Parameter	Description	Range	Default
<profile-name>	Enter a PVST profile name.	—	—

Parameter	Description	Range	Default
<code>bpdufilter [default   unconditional]</code>	<p>Configure BPDU filter in one of the following modes specified:</p> <ul style="list-style-type: none"> <li>• <b>Default</b>—If you enable the default BPDU filter on an interface, the Mobility Access Switch first verifies if it is a genuine edge-port by sending a few BPDUs (11 BPDUs). If no response is received, it enables BPDU filter (stops sending BPDUs) on this port. The BPDU filter gets disabled, if it receives any BPDUs from the remote-end port.</li> <li>• <b>Unconditional</b>—If you enable unconditional BPDU filter on an interface, the port disables BPDU processing irrespective of the portfast configuration. In this case, the port neither sends nor processes any BPDUs received on this interface.</li> </ul>	—	Disabled
<code>bpduguard</code>	Enables BPDU guard functionality.	—	Disabled
<code>auto-recovery-timeout &lt;auto-recovery-time&gt;</code>	Enter the time in seconds to automatically activate the interface after it is shutdown. Specifying 0 disables the auto-recovery option.	0-65535	0
<code>loopguard</code>	Enables loopguard on an interface MSTP profile.	—	—
<code>point-to-point</code>	Enables a broadcast interface as a point-to-point interface.	—	—

Parameter	Description	Range	Default
<code>portfast trunk</code>	Enable portfast on a trunk.	—	—
<code>rootguard</code>	Enables rootguard on an interface MSTP profile.	—	—
<code>vlan &lt;vlan&gt;</code>	Enter the keyword <b>vlan</b> followed by the vlan spanning tree identifier.	1 to 4094	—
<code>cost &lt;cost&gt;</code>	Enter the keyword <b>cost</b> followed by the port-cost value.	1 to 2000000000	—
<code>priority &lt;priority&gt;</code>	Enter the keyword <b>priority</b> followed by the port priority value (in increments of 16). Valid values are: 0, 16, 32, 48, 64, 80, 96, 112, 128, 144, 160, 176, 192, 208, 224, 240. All other values are rejected.	0 to 240	128

## Usage Guidelines

Loopguard provides additional protection against Layer 2 forwarding loops (spanning tree loops). A spanning tree loop is created when a spanning tree blocking port, in a redundant topology, erroneously transitions to the forwarding state. This usually happens because one of the ports of a physically redundant topology (not necessarily the spanning tree blocking port) is no longer receiving spanning tree BPDUs (Bridge Protocol Data Units).

If loopguard is enabled on a non-designated port receiving BPDUs, then that non-designated port is moved into the spanning tree loop-inconsistent blocking state

When the link on a bridge port goes up, PVST+ runs its algorithm on that port. If the port is connected to a host that does not “speak” PVST+, it takes approximately 30 seconds for the port to transition to the forwarding state. During this time, no user data passes through this bridge port and some user applications may time out.

Rootguard provides a way to enforce the root bridge placement in the network. The rootguard feature guarantees that a port will not be selected as Root Port. If a bridge receives superior spanning tree BPDUs on a rootguard-enabled port, the port is selected as an Alternate Port instead of Root Port and no traffic is forwarded across this port.

By selecting the port as an Alternate Port, the rootguard configuration prevents bridges, external to the region, from becoming the root bridge and influencing the active spanning tree topology.

## Examples

The following example sets VLAN 2 port cost to 500.

```
(host)(Interface PVST bridge "techpubs") #vlan 2 cost 500
```

The following example enables and configures BPDU guard on an interface by using PVST profile:

```
(host) (config) #interface-profile pvst-port-profile BPDU_Guard
    bpduguard
    auto-recovery-time 30
```

Enable loopguard:

```
(host) (Interface PVST bridge "TechPubs") #loopguard
```

Associate to the interface:

```
(host) (config) #interface gigabitethernet 0/0/2
    (host) (gigabitethernet "0/0/2") #pvst-port-profile TechPubs
```

To immediately transition the bridge port into the forwarding state upon linkup, enable the PVST+ portfast feature.

```
(host) (config) #interface-profile pvst-port-profile TechPubs
```

The bridge port still participates in PVST+; if a BPDU is received, it becomes a normal port.



---

Portfast is operational only on access ports.

---

Enable rootguard:

```
(host) (Interface PVST bridge "TechPubs") #rootguard
```

Associate to the interface:

```
(host) (config) #interface gigabitethernet 0/0/2v
    (host) (gigabitethernet "0/0/2") #pvst-port-profile TechPubs
```

## Command History

Release	Modification
ArubaOS 7.1	This command was introduced.
ArubaOS 7.2	The <b>bpduguard</b> parameter was introduced.
ArubaOS 7.3.2	<b>bpdufilter</b> command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Configuration Mode (interface PVST bridge "profile-name")

## interface-profile switching-profile

```
interface-profile switching-profile {default|<profile-name>}
  access-vlan <vlan id>
  clone <source>
  native-vlan <vlan id>
  no
  storm-control-bandwidth <1-100>
  storm-control-broadcast
  storm-control-multicast
  storm-control-unknown
  switchport-mode {access|trunk}
  trunk allowed vlan [add|all|except|remove] <vlan list>
```

### Description

This command creates a switching profile that can be applied to any interface, interface group, or a port-channel.

### Syntax

Parameter	Description	Range	Default
default	Modifies the default switching profile.		
<profile-name>	Identification name for switching profile.	1-32 characters; can begin with a numeric character	
access-vlan <VLAN-ID>	Specifies the access VLAN ID.		1
native-vlan <VLAN-ID>	Specifies the native VLAN ID.		1
storm-control-bandwidth <1-100>	Specifies the storm control bandwidth.	1-100	50
storm-control-broadcast	Enables storm control for broadcast.		Enabled
storm-control-multicast	Enables storm control for multicast.		Disabled
storm-control-unknown-unicast	Enables storm control for unknown.		Enabled
switchport-mode {access trunk}	Specifies the switch port mode as access or trunk: <ul style="list-style-type: none"><li>• <b>access</b>—Configures the port to be an access port.</li><li>• <b>trunk</b>—Configures the port to be a trunk port.</li></ul>		access
trunk allowed vlan [add all except remove] <VLANs-List>	Specifies the allowed VLANs on a trunk port.		1-4094
no {...}	Removes the specified configuration parameter.		

## Usage Guidelines

Use this command to assign VLAN IDs to an interface. Creating a switching profile does not apply the configuration to any interface or interface group. To apply the switching profile, use the `interface gigabitethernet` and `interface-group` commands.

## Example

```
interface-profile switching-profile Switching_General
  access-vlan 1
  switchport-mode access
exit
```

## Related Command

Command	Description
<a href="#">show interface-profile switching-profile</a>	Displays the switching profile information.

## Command History

Release	Modification
ArubaOS 7.0	This command was introduced.
ArubaOS 7.3.2	The allowed range for <b>storm-control-bandwidth</b> was changed from 50-100 to 1-100.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Config mode (config)

## interface-profile tunneled-node-profile

```
interface-profile tunneled-node-profile <profile-name>
  backup-controller-ip <IP-address>
  clone <source>
  controller-ip <IP-address>
  keepalive <1-40>
  mtu <1024-1500>
  no {...}
```

### Description

This command creates a tunneled node profile that can be applied to any interface.

### Syntax

Parameter	Description	Range	Default
<profile-name>	Identification name for the tunneled node profile.	1-32 characters; can begin with a numeric character	—
backup-controller-ip <IP-address>	Specifies the IP address of the back-up controller for establishing a tunneled node.	—	—
clone <source>	Copy configuration from another tunneled node server profile.	—	—
controller-ip <IP-address>	Specifies the IP address of the primary controller for establishing a tunneled node.	—	—
keepalive <1-40>	Specifies the keepalive time in seconds.	1-40 seconds	10
mtu <1024-7168>	Specifies the MTU on the path to the controller in bytes.	1024-1500	1400
no {...}	Removes the specifies configuration parameter.	—	—

### Usage Guidelines

Use this command to create a tunneled node profile. Creating a Tunneled Nodes profile does not apply the configuration to any interface or interface group. To apply the Tunneled Nodes profile, use the `interface gigabitethernet` and `interface-group` commands.

### Example

```
interface-profile tunneled-node-profile WLAN_Controller
  backup-controller-ip 10.5.18.2
  controller-ip 10.6.17.1
  keepalive 30
  mtu 1400
```



## Related Command

Command	Description
<a href="#">show interface-profile tunneled-node-profile</a>	Displays the tunneled node profile information.

## Command History

Release	Modification
ArubaOS 7.0	This command was introduced.
ArubaOS 7.1.1	The <b>backup-controller-ip</b> parameter is introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Config mode (config)

## interface-profile voip-profile

```
interface-profile voip-profile <profile-name>
  clone <source>
  no{...}
  voip-dot1p <priority>
  voip-dscp <value>
  voip-mode [auto-discover | static]
  voip-vlan <VLAN-ID>
```

### Description

This command creates a VoIP profile that can be applied to any interface, interface group, or a port-channel.

### Syntax

Parameter	Description	Range	Default
<profile-name>	Name of the VoIP profile.	1-32 characters; can begin with a numeric character	—
voip-dot1p <priority>	Specifies the dot1p priority.	—	—
voip-dscp <value>	Specifies the DSCP value for the voice VLAN.	—	—
voip-mode [auto-discover   static]	Specifies the mode of VoIP operation. <ul style="list-style-type: none"><li>• auto-discover - Operates VoIP on auto discovery mode.</li><li>• static - Operates VoIP on static mode.</li></ul>	—	static
voip-vlan <vlan id>	Specifies the Voice VLAN ID.	—	—
no {...}	Removes the specifies configuration parameter.	—	—

### Usage Guidelines

Use this command to create VoIP VLANs for VoIP phones. Creating a VoIP profile does not apply the configuration to any interface or interface group. To apply the VoIP profile, use the `interface gigabitethernet` and `interface-group` commands.

### Example

```
interface-profile voip-profile VoIP_PHONES
  voip-dot1p 100
  voip-dscp 125
  voip-mode auto-discover
  voip-vlan 126
```

## Related Command

Command	Description
<a href="#">show interface-profile voip-profile</a>	Displays the VoIP profile information for VoIP phones.

## Command History

Release	Modification
ArubaOS 7.0	This command was introduced.
ArubaOS 7.1.3	voip-mode parameter is added.

# interface range

```
interface range  
  gigabitethernet <interface-list>
```

## Description

This command configures a range of gigabit ethernet ports on the Mobility Access Switch.

## Syntax

Parameter	Description
<code>gigabitethernet &lt;interface-list&gt;</code>	Specify a range of gigabit ethernet port on the Mobility Access Switch. <b>NOTE:</b> Enter valid interface member in ascending order.

## Example

The following example configures gigabit ethernet ports from 0/0/1 to 0/0/5:

```
(host)(config) #interface range gigabitethernet 0/0/1-0/0/5  
(host)(config-range) #
```

## Command History

Release	Modification
ArubaOS 7.3	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Configuration mode

## interface tunnel ethernet

```
interface tunnel ethernet <id>
  clone <source>
  description <LINE>
  destination-ip <address>
  inter-tunnel-flooding
  keepalive <interval> <retries>
  mtu <mtu>
  no {...}
  protocol <protocol>
  shutdown
  source-ip <address> {controller-ip | loopback <interface> | vlan <interface>}
  switching-profile <profile_name>
```

### Descripton

This command configures an L2-GRE tunnel. By default, the tunnel is trusted.

### Syntax

Parameter	Description	Range	Default
<id>	Identification number of the tunnel interface.	1 - 50	-
clone <source>	Name of the tunnel interface to copy. <b>NOTE:</b> Source IP and destination IP do not get copied. They need to be configured separately.	-	-
description <LINE>	Interface description upto 128 characters long.	1 - 128 characters	-
destination ip <address>	Set the destination IP address of the interface.	-	-
inter-tunnel-flooding	Enables inter-tunnel flooding.	-	enabled
keepalive <interval> <retries>	Enables sending of periodic keepalive frames on the tunnel to determine the tunnel status (up or down). You can optionally set the interval at which keepalive frames are sent, and the number of times the frames are resent before a tunnel is considered to be down.	<b>interval:</b> 1 - 86400 <b>retries:</b> 1 - 1024	disabled

Parameter	Description	Range	Default
mtu <mtu>	Maximum Transmission Unit (MTU) size for the interface.	1024 - 1500	1100
no {...}	Negates any configured parameter.	-	-
protocol <protocol>	Specifies 16-bit Generic Route Encapsulation (GRE) protocol number that uniquely identifies a Layer-2 tunnel. The Mobility Access Switch and the Mobility Controller at both endpoints of the tunnel must be configured with the same protocol number.	0 - 65535	0
shutdown	Causes a hard shutdown of the interface.	-	-
source-ip <address> {controller-ip   loopback <interface>   vlan <interface>}	The local endpoint of the tunnel on the switch. This can be one of the following: <ul style="list-style-type: none"> <li>source IP address of the interface</li> <li>controller IP address</li> <li>the loopback interface configured on the switch</li> <li>802.1q VLAN interface number</li> </ul>	<b>loopback:</b> 0 - 63 <b>vlan:</b> 1 - 4094	-
switching-profile <profile_name>	Apply switch-port profile to the tunnel interface.	-	default

## Usage Guidelines

Use this command to configure an L2-GRE tunnel and apply the switching profile.

### Example

```
(host) (config) #interface tunnel ethernet 1
(host) (Tunnel "1") #description L2-GRE_Interface
(host) (tunnel "1") #source-ip 10.0.0.1
(host) (tunnel "1") #destination-ip 10.0.1.2
(host) (tunnel "1") #switching-profile mDNS_vlan_200
(host) (tunnel "1") #keepalive 30 5
```

## Related Command

Command	Description
<a href="#">show interface tunnel</a>	Displays L2 or L3 GRE tunnel interface information.

## Command History

Release	Modification
ArubaOS 7.2	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Configuration Mode

## interface tunnel ip

```
interface tunnel ip <id>
  clone <source>
  description <LINE>
  destination-ip <address>
  ip <address>
  keepalive <interval> <retries>
  mtu <mtu>
  no {...}
  ospf-profile <interface name>
  protocol <protocol>
  shutdown
  source-ip <address> {controller-ip | loopback <interface> | vlan <interface>}
```

### Descripton

This command configures an L3-GRE tunnel. By default, the tunnel is trusted.

### Syntax

Parameter	Description	Range	Default
<id>	Identification number of the tunnel interface.	1 - 50	-
clone <source>	Name of the tunnel interface to copy. <b>NOTE:</b> Source IP and destination IP do not get copied. They need to be configured separately.	-	-
description <LINE>	Interface description upto 128 characters long.	1 - 128 characters	-
destination ip <address>	Set the destination IP address of the interface.	-	-
ip <address> <mask>	Interface IP address and subnet mask	-	-
keepalive <interval> <retries>	Enables sending of periodic keepalive frames on the tunnel to determine the tunnel status (up or down). You can optionally set the interval at which keepalive frames are sent, and the number of times the frames are resent before a tunnel is considered to be down.	<b>interval:</b> 1 - 86400 <b>retries:</b> 1 - 1024	Disabled
mtu <mtu>	Maximum Transmission Unit (MTU) size for the interface.	1024 - 1500	1100



Parameter	Description	Range	Default
no {...}	Negates any configured parameter.	-	-
ospf-profile	OSPF profile name to attach to L3 GRE tunnel.	-	-
shutdown	Causes a hard shutdown of the interface.	-	-
source-ip <address> {controller-ip loopback <interface> vlan <interface>}	The local endpoint of the tunnel on the switch. This can be one of the following: <ul style="list-style-type: none"> <li>source IP address of the interface</li> <li>controller IP address</li> <li>the loopback interface configured on the switch</li> <li>802.1q VLAN interface number</li> </ul>	<b>loopback:</b> 0 - 63 <b>vlan:</b> 1 - 4094	-

## Usage Guidelines

Use this command to configure an L3-GRE tunnel and attach the switching profile.

## Example

```
(host) (config) #interface tunnel ip 1
(host) (Tunnel "1") #description L3-GRE_Interface
(host) (tunnel "1") #source-ip 192.0.2.1
(host) (tunnel "1") #destination-ip 192.0.2.98
(host) (tunnel "1") #keepalive 30 5
(host) (tunnel "1") #mtu 1100
(host) (Tunnel "1") #ip address 192.0.2.0 255.255.255.0
(host) (Tunnel "1") # ospf-profile TechPubs
```

## Related Command

Command	Description
<a href="#">show interface tunnel</a>	Displays L2 or L3 GRE tunnel interface information.

## Command History

Release	Modification
ArubaOS 7.3	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Configuration Mode

## interface vlan

```
interface vlan <vlan-id>
  aruba-vpn-pool-profile
  clone <source>
  ddns-profile <profile_name>
  description <name>
  dhcp-relay-profile <profile-name>
  igmp-profile <profile_name>
  ip
    address {{<address> <netmask> [secondary]}}| dhcp-client}
    directed-broadcast
    nat [inside | outside]
  ipv6 address {{<prefix> netmask <subnet-mask>}}|{link-local <link-local>}}
  metric
  mtu <64-7168>
  no {...}
  ospf-profile <profile-name>
  pim-profile <profile-name>
  probe-profile <profile-name>
  session-processing
  shutdown
  vrrp-profile <id>
```

### Description

This command creates routed VLAN interfaces.

### Syntax

Parameter	Description	Range	Default
aruba-vpn-pool-profile	Applies the specified Aruba VPN pool profile to the interface.	—	—
clone <source>	Clones configuration parameters from the specified VLAN.	—	—
ddns-profile <profile_name>	Applies the specified dynamic Domain Name Server profile to the interface.	—	—
description <name>	Specifies a name for the VLAN interface.	1-32 characters; cannot begin with a numeric character	
dhcp-relay-profile <profile-name>	Assigns the specified DHCP Relay profile to the interface VLAN.	—	—
igmp-profile <profile_name>	Applies the specified IGMP profile to the interface.	—	—

Parameter	Description	Range	Default
ip	This command is used to assign an IPv4 address to the VLAN.	—	—
access-group [in <acl>   out <acl>   session <acl>]	Applies one of the following types of ACLs to the interface: <ul style="list-style-type: none"> <li>• <b>in</b>—Applies the specified ingress ACL on the interface</li> <li>• <b>out</b>—Applies the specified egress ACL on the interface.</li> <li>• <b>session</b>—Applies the specified session ACL on the interface</li> </ul>	—	—
address {{<address> <netmask>} [secondary]   dhcp-client)	Assigns the specified IP address to the VLAN interface. Additionally, by adding the secondary option, the IP address is assigned as the secondary IP for the VLAN interface. Alternatively, the VLAN interface can be configured to get the IP address from the DHCP client.	—	—
directed-broadcast	Enables IP directed broadcast. An IP directed broadcast enabled on VLAN interface allows a packet sent to the broadcast address of a subnet to which the originating device is not directly connected. For more information, refer ArubaOS 7.2 User Guide.	—	disabled
nat [inside   outside]	Enables Network Address Translation (NAT) on VLAN interfaces for inside or outside traffic. You can set	—	disabled

Parameter	Description	Range	Default
<code>ipv6 address {{&lt;prefix&gt; netmask &lt;subnet-mask&gt;}}  link-local &lt;link-local&gt;}</code>	Assigns the specified IPv6 IP address to the VLAN interface. Alternatively, the VLAN interface can be configured to get the IP address from the link local.	—	—
<code>metric</code>	Assigns a cost value for the VLAN interface.	—	—
<code>mtu &lt;64-7168&gt;</code>	Specifies the size of the jumbo frames in bytes	64-7168	1514
<code>no {...}</code>	Removes the specified configuration parameter.	—	—
<code>ospf-profile &lt;profile-name&gt;</code>	Assigns the specified OSPF interface profile to the interface VLAN.	—	—
<code>pim-profile &lt;profile-name&gt;</code>	Assigns the specified PIM interface profile to the interface VLAN.	—	—
<code>probe-profile</code>	Applies the specified probe-profile to the VLAN interface.	—	—
<code>session-processing</code>	Enables session processing on the interface for applying selective stateful firewall policy.	—	—
<code>shutdown</code>	Disables the VLAN interface.	—	—
<code>vrrp-profile &lt;id&gt;</code>	Apply VRRP profile to the VLAN inetface.	—	—

## Usage Guidelines

Use this command to create routed VLAN interfaces.

### Example

```
(host) (config) # interface vlan 10
ip address 10.10.10.10 netmask 255.255.255.0
ip directed-broadcast
description Layer3
mtu 1500
no shutdown
exit
```

The following command modifies the auto-configured link local address of VLAN 1 to fe80::20b:86ff:fe6a:2800.

```
(host) (config) #interface vlan 1
(host) (vlan "1") #ipv6 address link-local fe80::20b:86ff:fe6a:2800
```

The following command configures the global unicast address of VLAN 1 to 2cce:205:160:100::fe.

```
(host) (config) #interface vlan 1
(host) (vlan "1") #ipv6 address 2cce:205:160:100::fe prefix_len 64
```

## Related Command

Command	Description
<code>show interface vlan</code>	Displays the interface VLAN information.

## Command History

Release	Modification
ArubaOS 7.0	This command was introduced for the VLAN interface 1.
ArubaOS 7.1	This command is supported for a total of 4094 VLAN interfaces.
ArubaOS 7.1.1	The <b>ipv6</b> parameter was introduced.
ArubaOS 7.2	A new parameter <b>directed-broadcast</b> is introduced to enable IP directed broadcast on a VLAN interface. A new parameter <b>secondary</b> is introduced to allow you to assign a secondary IP address to a VLAN interface. A new parameter <b>nat inside</b> is introduced to allow you to enable NAT on a VLAN interface.
ArubaOS 7.3	New parameters <b>vrp-profile</b> and <b>session-processing</b> were introduced.
ArubaOS 7.3.2	The <b>ip access-group out</b> parameter was introduced.
ArubaOS 7.4	The following new parameters are introduced: <ul style="list-style-type: none"><li>• <b>aruba-vpn-pool-profile</b></li><li>• <b>ddns-profile</b></li><li>• <b>ip nat outside</b></li><li>• <b>ip access-group session</b></li><li>• <b>metric</b></li><li>• <b>probe-profile</b></li></ul>

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Config mode (config)

## ipv6-profile

```
ipv6-profile  
  default-gateway <X:X:X:X::X>
```

### Description

This command configures the IPv6 default gateway.

### Syntax

Parameter	Description
default-gateway <X:X:X:X::X>	Specify the IPv6 address of the default gateway.

### Usage Guidelines

Use this command to configure the IPv6 default gateway.

### Example

The following command configures an IPv6 default gateway.

```
(host) (config) #ipv6-profile  
(host) (ipv6-profile) #default-gateway 2cce:205:160:100::fe
```

### Command History

Release	Modification
ArubaOS 7.1	This command was introduced.

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Configuration Mode

## ip access-list eth

```
ip access-list eth {<number>|<name>}
deny {<ethtype> [<bits>]|any}
no ...
permit {<ethtype> [<bits>]|any}
```

### Description

This command configures an Ethertype access control list (ACL).

### Syntax

Parameter	Description	Range
eth	Enter a name, or a number in the specified range.	200-299
deny	Reject the specified packets, which can be one of the following: Ethertype in decimal or hexadecimal (0-65535) and optional wildcard (0-65535) any: match any Ethertype.	—
no	Negates any configured parameter.	—
permit	Allow the specified packets, which can be one of the following: Ethertype in decimal or hexadecimal (0-65535) and optional wildcard (0-65535) any: match any Ethertype.	—

### Usage Guidelines

The Ethertype field in an Ethernet frame indicates the protocol being transported in the frame. This type of ACL filters on the Ethertype field in the Ethernet frame header, and is useful when filtering non-IP traffic on a physical port. This ACL can be used to permit IP frames while blocking other non-IP protocols such as IPX or Appletalk.

### Example

The following command configures an Ethertype ACL:

```
ip access-list eth 200
deny 809b
```

### Command History

Release	Modification
ArubaOS 7.0	This command was introduced.

### Command Information

Platform	License	Command Mode
Mobility Access Switch	Base operating system	Configuration Mode

## ip access-list extended

```
ip access-list extended {<number>|<name>}
deny <protocol> <source> <dest>
no ...
permit <protocol> <source> <dest>
```

### Description

This command configures an extended access control list (ACL).

### Syntax

Parameter	Description	Range
extended	Enter a name, or a number in the specified range.	100-199, 2000-2699
deny	Reject the specified packets.	
<protocol>	Protocol, which can be one of the following: <ul style="list-style-type: none"><li>● Protocol number between 0-255</li><li>● any: any protocol</li><li>● icmp: Internet Control Message Protocol</li><li>● igmp: Internet Gateway Message Protocol</li><li>● tcp: Transmission Control Protocol</li><li>● udp: User Datagram Protocol</li></ul>	—
<source>	Source, which can be one of the following: Source address and wildcard any: any source host: specify a single host IP address <ul style="list-style-type: none"><li>● eq: To match packets only on a given source port number</li><li>● lt: To match packets with lower source port number</li><li>● gt: To match packets with greater source port number</li><li>● neq: To match packets not on a given source port number</li><li>● range: To match packets in the range of source port numbers</li></ul>	—
<dest>	Destination, which can be one of the following: Destination address and wildcard any: any destination host: specify a single host IP address <ul style="list-style-type: none"><li>● eq: To match packets only on a given source port number</li><li>● lt: To match packets with lower source port number</li><li>● gt: To match packets with greater source port number</li><li>● neq: To match packets not on a given source port number</li><li>● range: To match packets in the range of source port numbers</li></ul>	—
no	Negates any configured parameter.	—
permit	Allow the specified packets.	
<protocol>	Protocol, which can be one of the following: <ul style="list-style-type: none"><li>● Protocol number between 0-255</li><li>● any: any protocol</li><li>● icmp: Internet Control Message Protocol</li><li>● igmp: Internet Gateway Message Protocol</li><li>● tcp: Transmission Control Protocol</li><li>● udp: User Datagram Protocol</li></ul>	—



Parameter	Description	Range
<source>	Source, which can be one of the following: Source address and wildcard any: any source host: specify a single host IP address <ul style="list-style-type: none"> <li>• eq: To match packets only on a given source port number</li> <li>• lt: To match packets with lower source port number</li> <li>• gt: To match packets with greater source port number</li> <li>• neq: To match packets not on a given source port number</li> <li>• range: To match packets in the range of source port numbers</li> </ul>	—
<dest>	Destination, which can be one of the following: Destination address and wildcard any: any destination host: specify a single host IP address <ul style="list-style-type: none"> <li>• eq: To match packets only on a given destination port number</li> <li>• lt: To match packets with lower destination port number</li> <li>• gt: To match packets with greater destination port number</li> <li>• neq: To match packets not on a given source port number</li> <li>• range: To match packets in the range of source port numbers</li> </ul>	—

## Usage Guidelines

Extended ACLs are supported for compatibility with router software from other vendors. This ACL permits or denies traffic based on the source or destination IP address or IP protocol. You can also use the extended ACLs to match packets based on Layer 4 source ports and destination ports.

## Example

The following command configures an extended ACL:

```
(host) (config) #ip access-list extended 100
    permit tcp host 1.1.1.1 eq 80 host 2.2.2.2 gt 440 established
```

## Command History

Release	Modification
ArubaOS 7.0	This command was introduced.

## Command Information

Platform	License	Command Mode
Mobility Access Switch	Base operating system	Configuration Mode

## ip access-list mac

```
ip access-list mac {<number>|<name>}
deny {<macaddr>[<wildcard>]|any|host <macaddr>}
no ...
permit {<macaddr>[<wildcard>]|any|host <macaddr>}
```

### Description

This command configures a MAC access control list (ACL).

### Syntax

Parameter	Description	Range
mac	Configures a MAC access list. Enter a name, or a number in the specified range.	700-799, 1200-1299
deny	Reject the specified packets, which can be the following: MAC address and optional wildcard any: any packets host: specify a MAC address	—
no	Negates any configured parameter.	—
permit	Allow the specified packets, which can be the following: MAC address and optional wildcard <ul style="list-style-type: none"><li>any: any packets</li><li>host: specify a MAC address</li></ul>	—

### Usage Guidelines

MAC ACLs allow filtering of non-IP traffic. This ACL filters on a specific source MAC address or range of MAC addresses.

### Example

The following command configures a MAC ACL:

```
(host) (config) #ip access-list mac 700
deny 11:11:11:00:00:00
```

### Command History

Release	Modification
ArubaOS 7.0	Command introduced.

### Command Information

Platform	License	Command Mode
Mobility Access Switch	Base operating system	Configuration Mode

## ip access-list session

```
ip access-list session <accname>
  <source> <dest> <service> <action> [<extended action>]
  no ...
```

### Description

This command configures an access control list (ACL) session.

### Syntax

Parameter	Description
<accname>	Name of an access control list session.
<source>	The traffic source, which can be one of the following: <ul style="list-style-type: none"><li>• <b>alias</b>: specify the network resource (use the <b>netdestination</b> command to configure aliases; use the <b>show netdestination</b> command to see configured aliases)</li><li>• <b>any</b>: match any traffic</li><li>• <b>host</b>: specify a single host IP address</li><li>• <b>network</b>: specify the IP address and netmask</li><li>• <b>user</b>: represents the IP address of the user</li></ul>
<dest>	The traffic destination, which can be one of the following: <ul style="list-style-type: none"><li>• <b>alias</b>: specify the network resource (use the <b>netdestination</b> command to configure aliases; use the <b>show netdestination</b> command to see configured aliases)</li><li>• <b>any</b>: match any traffic</li><li>• <b>host</b>: specify a single host IP address</li><li>• <b>network</b>: specify the IP address and netmask</li><li>• <b>user</b>: represents the IP address of the user</li></ul>
<service>	<ul style="list-style-type: none"><li>• <b>&lt;0-255&gt;</b>: Network service, which can be one of the following:<ul style="list-style-type: none"><li>• IP protocol number (0-255)</li><li>• <b>STRING</b>: name of a network service (use the show netservice command to see configured services)</li></ul></li><li>• <b>any</b>: match any traffic</li><li>• <b>tcp</b><ul style="list-style-type: none"><li>• <b>destination port number</b>: specify the TCP port number (0-65535)</li><li>• <b>source</b>: TCP/UDP source port number</li></ul></li><li>• <b>udp</b>: specify the UDP port number (0-65535)</li></ul>
<action>	Action if rule is applied, which can be one of the following: <ul style="list-style-type: none"><li>• <b>deny</b>: Reject packets</li><li>• <b>dst-nat</b>: Performs destination NAT on packets. Forward packets from source network to destination; re-mark them with destination IP of the target network. This action functions in tunnel/decrypt-tunnel forwarding mode. User should configure the NAT pool in the Mobility Access Switch.</li><li>• <b>permit</b>: Forward packets.</li><li>• <b>redirect tunnel &lt;id&gt;</b>: Specify the ID of the tunnel configured with the interface tunnel command.</li><li>• <b>src-nat</b>: Performs source NAT on packets. Source IP changes to the outgoing interface IP address (implied NAT pool) or from the pool configured (manual NAT pool). This action functions in tunnel/decrypt-tunnel forwarding mode.</li></ul>

Parameter	Description
<extended action>	Optional action if rule is applied, which can be one of the following: <ul style="list-style-type: none"> <li>● <b>blacklist</b>: blacklist user if ACL gets applied.</li> <li>● <b>dot1p-priority</b>: specify 802.1p priority (0-7)</li> <li>● <b>log</b>: generate a log message</li> <li>● <b>mirror</b>: mirror all session packets to datapath or remote destination</li> <li>● If you configure the mirror option, define the destination to which mirrored packets are sent in the firewall policy.</li> <li>● <b>position</b>: specify the position of the rule (1 is first, default is last)</li> <li>● <b>queue</b>: assign flow to priority queue (high/low)</li> <li>● <b>send-deny-response</b>: if &lt;action&gt; is deny, send an ICMP notification to the source</li> <li>● <b>time-range</b>: specify time range for this rule (configured with time-range command)</li> <li>● <b>tos</b>: specify ToS value (0-63)</li> </ul>
no	Negates any configured parameter.

## Usage Guidelines

Session ACLs define traffic and firewall policies on the Mobility Access Switch. You can configure multiple rules for each policy, with rules evaluated from top (1 is first) to bottom. The first match terminates further evaluation. Generally, you should order more specific rules at the top of the list and place less specific rules at the bottom of the list.

## Examples

The following command configures a session ACL that drops any traffic from 10.0.0.0 subnetwork:

```
ip access-list session drop-from10
    network 10.0.0.0 255.0.0.0 any any deny
```

The following command configures a session ACL with IPv4 and IPv6 address:

```
(host) (config)#ip access-list session common
(host) (config-sess-common)#host 10.12.13.14 any any permit
```

The following example displays information for an ACL.

```
(host) (config-sess-common)#show ip access-list common
ip access-list session common

common
-----
Priority  Source          Destination  Service  Action  ...
-----  -
1        10.12.13.14        any         any      permit ...
2        11:12:11:11::2    any         any      permit ...

Queue  TOS  8021P  ...  ClassifyMedia  IPv4/6
-----  -
Low    ...          ...          ...          ...          ...
Low    ...          ...          ...          ...          ...
```

## Command History

Release	Modification
ArubaOS 7.3	This command was introduced.

## Command Information

Platform	License	Command Mode
Available on all platforms	Requires the PEFNG license	Config mode on master Mobility Access Switch

## ip access-list standard

```
ip access-list standard {<number>|<name>}
deny {<ipaddr> <wildcard>|any|host <ipaddr>}
no ...
permit {<ipaddr> <wildcard>|any|host <ipaddr>}
```

### Description

This command configures a standard access control list (ACL).

### Syntax

Parameter	Description	Range
standard	Enter a name, or a number in the specified range.	1-99, 1300-1399
deny	Reject the specified packets, which can be the following: IP address and optional wildcard <ul style="list-style-type: none"><li>any: any packets</li><li>host: specify a host IP address</li></ul>	—
no	Negates any configured parameter.	—
permit	Allow the specified packets, which can be the following: IP address and optional wildcard <ul style="list-style-type: none"><li>any: any packets</li><li>host: specify a host IP address</li></ul>	—

### Usage Guidelines

Standard ACLs are supported for compatibility with router software from other vendors. This ACL permits or denies traffic based on the source address of the packet.

### Example

The following command configures a standard ACL:

```
(host) (config) #ip access-list standard 1
permit host 10.1.1.244
```

### Command History

Release	Modification
ArubaOS 7.0	This command was introduced.

### Command Information

Platform	License	Command Mode
Mobility Access Switch	Base operating system	Configuration Mode

## ip access-list stateless

```
ip access-list stateless <acc-name>
  <source>
  <destination>
  <service>
  <action>
  <extended-action>
no
```

### Description

This command configures a stateless access control list (ACL).

### Syntax

Parameter	Description	Range
<acc-name>	Name of the stateless ACL.	—
<source>	Source of the traffic, which can be one of the following: <ul style="list-style-type: none"><li>alias: This refers to using an alias for a host or network.</li><li>any: Acts as a wildcard and applies to any source address.</li><li>host: This refers to traffic from a specific host. When this option is chosen, you must enter the IP address of the host.</li><li>network: This refers to a traffic that has a source IP from a subnet of IP addresses. When this option is chosen, you must enter the IP address and network mask of the subnet.</li></ul>	—
<destination>	Destination of the traffic, which can be configured in the same manner as source.	—
<service>	Protocol, which can be one of the following: <ul style="list-style-type: none"><li>&lt;0-255&gt;: Protocol number between 0-255</li><li>STRING: Name of the network service</li><li>any: Any protocol</li><li>arp: Match ARP traffic</li><li>icmp: Internet Control Message Protocol</li><li>igmp: Internet Gateway Message Protocol</li><li>tcp &lt;port&gt;: Transmission Control Protocol</li><li>udp &lt;port&gt;: User Datagram Protocol</li></ul>	—
<action>	Action, which can be one of the following: <ul style="list-style-type: none"><li>permit: Allow the specified packets.</li><li>deny: Reject the specified packets.</li><li>redirect tunnel &lt;id&gt;   ipsec &lt;mapname&gt;: Redirect packets to an L3-GRE tunnel.</li></ul>	—

Parameter	Description	Range
<extended-action> (optional)	<p>This can be one of the following options:</p> <ul style="list-style-type: none"> <li>• <b>blacklist</b>: Automatically blacklists a client that is the source or destination of traffic matching this rule. This option is recommended for rules that indicate a security breach where the blacklisting option can be used to prevent access to clients that are attempting to breach the security.</li> <li>• <b>log</b>: Logs a match to this rule. This is recommended when a rule indicates a security breach, such as a data packet on a policy that is meant only to be used for voice calls.</li> <li>• <b>policer-profile</b>: Attaches the policer-profile to the ACL.</li> <li>• <b>position</b>: Configures the position of the ACE in the ACL.</li> <li>• <b>qos-profile</b>: QoS profile can be configured to assign specific TC/DP, DSCP, and 802.1p values. This option attaches the qos-profile to the ACL.</li> <li>• <b>time-range</b>: Time range for which this rule is applicable.</li> </ul>	—

## Usage Guidelines

A stateless ACL statically evaluates packet contents. The traffic in the reverse direction will be allowed unconditionally.

## Examples

The following command configures a stateless ACL:

```
(host) (config) #ip access-list stateless STATELESS
network 10.100.100.0 255.255.255.0 any tcp 8888 deny log
any host 10.100.100.200 any deny log
any any any permit
```

The following command configures and applies a Policy-Based Routing:

```
(host) (config) #ip access-list stateless st
any any tcp 10 100 permit nexthop 200.0.0.5
any any udp 10 100 redirect tunnel 10
any any udp 10 100 redirect ipsec ipsec1
(host) (config) #interface vlan 100
ip access-group in st
```

## Command History

Release	Modification
ArubaOS 7.0	This command was introduced.
ArubaOS 7.2	The <b>redirect tunnel</b> parameter was introduced.

## Command Information

Platform	License	Command Mode
Mobility Access Switch	Base operating system	Configuration Mode



## ip dhcp aruba-vpn-pool

```
ip dhcp aruba-vpn-pool <profile-name>
  client-count
  clone
  dns-server
  domain-name
  ip-range
  lease
  no
  option
  reserve
  server-type
```

### Description

Use this command to configure Aruba VPN pool profile.

### Syntax

Parameter	Description	Range	Default
<profile-name>	Name of the Aruba VPN pool profile.	-	-
client-count	Configure the number of DHCP clients per branch in Distributed DHCP scope.	-	-
clone	Copy data from another Aruba VPN pool.	-	-
dns-server <address>	(Optional) Create a DNS server in A.B.C.D format.	-	-
domain-name	(Optional) Specify a domain name.	-	-
ip-range	Range of IP addresses which can be divided in to multiple IP subnets for the specified client count in Distributed,L3 scope.	-	-
<address1>	Start address in A.B.C.D format.	-	-
<address2>	End address in A.B.C.D format.	-	-
lease	(Optional) Configure the client IP lease time.	-	-
<days>	Number of days.	0-4096	-
<hours>	Number of hours.	0-24	12
<minutes>	Number of minutes.	0-60	-
<seconds>	Number of seconds.	0-60	-
no	Delete Command.	-	-
option	(Optional) Configure DHCP server options.	-	-
<code>	Option code.	1-255	-
ip	IP address.	-	-

Parameter	Description	Range	Default
text	Text string.	-	-
<string>	IP address in A.B.C.D format, if 'ip' is chosen above text string, if 'text' is chosen above.	-	-
reserve	(Optional) Reserve the specified number of IP addresses in the beginning or end of the subnet.	-	-
server-type	Configure the server type for distributed DHCP scope. <b>NOTE:</b> Distributed, L3 mode is the only server-type supported.	-	Distributed, L3

## Usage Guidelines

Ensure that you configure the following features on the Mobility Access Switch for Distributed, L3 DHCP scope to be functional.

- Enable **service dhcp**
- Establish Aruba VPN tunnel.

Apply the configured Aruba VPN pool profile to a VLAN interface.



You can configure up to six Aruba VPN pools and apply them to the required VLAN interfaces. You can apply only one profile per VLAN and cannot apply the same profile to another VLAN.

## Example

Use the following commands to configure Distributed,L3 DHCP scope:

```
(host) (config)# service dhcp
(host) (config) #ip dhcp aruba-vpn-pool Distributed,L3
(host) (Aruba VPN DHCP Pool "Distributed,L3") #ip-range 30.30.0.0 30.30.255.255
(host) (Aruba VPN DHCP Pool "Distributed,L3") #client-count 5
(host) (Aruba VPN DHCP Pool "Distributed,L3") # exit
(host) (config) #interface vlan 1
(host) (vlan "1") #dhcp-scope-profile Distributed,L3
```

## Related Command

Command	Description
<a href="#">show ip dhcp aruba-vpn-pool</a>	Displays the details of the configured Aruba VPN pool profiles on the Mobility Access Switch.

## Command History

Release	Modification
ArubaOS 7.4	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Configuration Mode (config)

## ip dhcp pool

```
ip dhcp pool <profile-name>
  clone
  default-router
  dns-server
  domain-name
  exclude-address
  hardware-address
  lease
  netbios-name-server
  network
  no
  option
  vendor-class-identifier
```

### Description

Use the `ip dhcp pool <profile-name>` command to configure a DHCP server profile.

### Syntax

Parameter	Description	Range	Default
clone	Copies data from another DHCP server profile.	-	-
profile-name	Name of DHCP server profile to be copied.	-	-
default-router	Creates a DHCP default router in A.B.C.D format.	-	-
<address>	Default router address.	-	-
dns-server	Creates a DNS server in A.B.C.D format.	-	-
<address>	DNS server address.	-	-
domain-name	Specifies a domain name.	-	-
<name>	Name of the domain.	-	-
exclude-address	Configures exclude addresses in A.B.C.D format.	-	-
<address1>	Start address in A.B.C.D format.	-	-
<address2>	End address in A.B.C.D format.	-	-
hardware-address <mac> ip-address <address>	Assigns a fixed IP address for a specific device using DHCP based on the MAC address of the device.	-	-

Parameter	Description	Range	Default
lease	Configures DHCP server pool lease times.	-	-
<days>	Number of days.	0-4096	-
<hours>	Number of hours.	0-24	-
<minutes>	Number of minutes.	0-60	-
<seconds>	Number of seconds.	0-60	-
netbios-name-server	Configures netbios name servers in A.B.C.D format.	-	-
<address>	Netbios name server address in A.B.C.D format.	-	-
network	DHCP server network pool.	-	-
<address>	Address in A.B.C.D format.	-	-
<mask>	Mask in A.B.C.D format.	-	-
no	Delete Command.	-	-
option	Configure DHCP server options.	-	-
<code>	Option code.	1-255	-
ip	IP address.	-	-
text	Text string.	-	-
<string>	IP address in A.B.C.D format, if 'ip' is chosen above text string, if 'text' is chosen above.	-	-
vender-class-identifier	Configures vendor-class-identifier.	-	-
<string>	Vendor-class-identifier string.	-	ArubaAP

## Command History

Release	Modification
ArubaOS 7.1	This command was introduced.
ArubaOS 7.3.2	The <b>hardware-address</b> parameter was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Configuration Mode (config)

## ip nat pool

```
ip nat pool [<pool_name> <start_ip_src_nat_range> <end_ip_src_nat_range> <dest_ip> static]
```

### Description

Use the ip nat pool command to create a Network Address Translation (NAT) pool on the Mobility Access Switch.

### Syntax

Parameter	Description
<pool_name>	Name of the NAT pool.
<start_ip_src_nat_range>	The starting IP address of the source NAT range.
<end_ip_src_nat_range>	The ending IP address of the source NAT range.
<dest_ip>	The IP address of the destination NAT.
static	(Optional) Maps the NAT IP address on a one-to-one basis.

### Example

The following sample configuration illustrates different NAT pool configuration:

#### NAT pool with source NAT option

```
(host) (config) #ip nat pool NAT_pool1 192.168.1.10 192.168.1.15
```

#### NAT Pool with dual NAT option

```
(host) (config) #ip nat pool dual_nat_pool1 192.168.1.10 192.168.1.15 172.16.10.1
```

### Related Command

Command	Description
<a href="#">show ip nat pool</a>	This command displays a list of IP NAT pools created in the network.

### Command History

Release	Modification
ArubaOS 7.4	This command was introduced.

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Configuration Mode (config)

## ip-profile

```
ip-profile
  controller-ip {ipsec <mapname> | loopback <interface> | vlan <interface>}
  default-gateway {<next-hop> | import dhcp}
  no
  prefix-list <prefix-list-name> seq <sequence-number> {[deny|permit] <network prefix
  A.B.C.D> <network mask A.B.C.D> [ge <bit-length> | le <bit-length>]}
  route <destip> <netmask> [<nexthop> | gre <tunnel-id> | ipsec <mapname>] | <metric>
```

### Description

Configures the IP profile for the Mobility Access Switch.

### Syntax

Parameter	Description	Range	Default
controller-ip	Configures the controller IP.	—	—
ipsec <mapname>	Use this command to configure the inner IP of the VPN tunnel as the controller IP.	—	—
loopback <interface>	Use this command to configure the loopback interface.	0 - 63	—
vlan <interface>	Use this command to specify the VLAN interface.	1 - 4094	—
default-gateway	Specifies the default gateway IP address or imports from DHCP server.	—	—
<next-hop>	Enter the IP address of the next-hop in dotted decimal format (A.B.C.D).	—	—
import dhcp	Use this command to import the default gateway from DHCP (when available) server.	—	—
prefix-list <plist_name>	Prefix list name.	—	—



Parameter	Description	Range	Default
seq <sequence-number>	Sequence number. Prefix lists are evaluated starting with the lowest sequence number and continue down the list until a match is made. Once a match is made, the permit or deny statement is applied to that network and the rest of the list is ignored. <ul style="list-style-type: none"> <li>● <b>deny &lt;network-prefix&gt; &lt;network mask&gt;</b>— Specify IPv4 packets to reject.</li> <li>● <b>permit &lt;network-prefix&gt; &lt;network mask&gt;</b>— Specify IPv4 packets to forward.</li> <li>● <b>ge &lt;bit-length&gt;</b>— Minimum prefix length to be matched.</li> <li>● <b>le &lt;bit-length&gt;</b>— Maximum prefix length to be matched.</li> </ul>	1 - 4294967287	—
route <destip> <netmask>	Specifies the static route for a destination IP. Enter the destination IP address in dotted decimal format (A.B.C.D).	—	—
<nexthop>	Use this command to configure the forwarding router's IP address.	—	—
gre <tunnel-id>	Use this command to configure the nexthop route using the GRE tunnel ID.	1 - 50	—
ipsec <mapname>	Use this command to configure the nexthop route using the IPsec map name	1 - 30	—
<metric>	Use this command to configure the cost to the specified destination prefix.	—	—

## Usage Guidelines

Use this IP-profile to configure IPv4 default gateway, static routes, and prefix lists.

**prefix-list** option is used to configure IP prefix filtering. Prefix lists are used to either permit or deny the configured prefix based on the matching condition.




---

Any traffic that does not match any prefix-list entry is denied.

---

If only a ge value is entered, the range is the value entered for ge-length argument to a full 32-bit length. If only the le value is entered, the range is from the value entered for network-length argument to le-length argument. If a ge or le value is not used, the prefix list is processed using an exact match. If both ge and le values are

entered, the range falls between the values between the values used for the ge-length and le-length arguments. The behavior is described as follows:

```
network/length < ge-length <= le-length <= 32
```



---

The ge and le values are optional parameters.

---

## Examples

The following example configures a default gateway in the IP profile:

```
(host) (config) #ip-profile
(host) (ip-profile) #default-gateway 2.2.2.2
```

The following examples configure static routes for the specified IP addresses:

```
(host) (ip-profile) #route 20.20.31.0 255.255.255.0 10.10.10.31
(host) (ip-profile) #route 20.20.32.0 255.255.255.0 10.10.10.32
(host) (ip-profile) #route 20.20.33.0 255.255.255.0 10.10.10.33
(host) (ip-profile) #no route 20.20.34.0 255.255.255.0 10.10.10.20
```

The following examples configure sequence numbers for the prefix-list test:

```
(host) (ip-profile) #prefix-list test seq 1 permit 5.5.5.0 255.255.255.0 ge 32
(host) (ip-profile) #prefix-list test seq 2 deny 6.6.6.0 255.255.255.0 ge 32
(host) (ip-profile) #prefix-list test seq 3 permit 10.10.0.0 255.255.255.0 ge 24 le 32
```

## Related Command

Command	Description
<a href="#">show ip-profile</a>	Displays the IP profile information which includes the default gateway IP address.

## Command History

Release	Modification
ArubaOS 7.0	This command was introduced.
ArubaOS 7.1	The <b>controller-ip</b> option was added.
ArubaOS 7.2	The <b>prefix-list</b> option was added.
ArubaOS 7.3	The <b>gre</b> parameter under the <b>route</b> command was added.
ArubaOS 7.4	The <b>ipsec</b> parameter under the <b>controller-ip</b> command is added.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Configuration mode

## lcd-menu

```
lcd-menu
  [no] disable [maintenance [factory-default| media-eject| qui-quick-setup |
media-eject | system-halt | system-reboot | upgrade-image [partition0 | partition1]| upload-
config]]
```

### Description

This command disables the LCD menu either completely or only the specified operations.

### Syntax

Parameter	Description	Default
lcd-menu	Enters the LCD menu configuration mode.	Enabled
no	Delete the specified LCD menu option.	
disable	Disables (or enables) the complete LCD menu.	Enabled
maintenance	Disables (or enables) the maintenance LCD menu.	Enabled
factory-default	Disables (or enables) the factory default LCD menu.	Enabled
media-eject	Disables (or enables) the media eject LCD menu.	Enabled
qui-quick-setup	Disables (or enables) the quick setup LCD menu.	Enabled
system-halt	Disables (or enables) the system halt LCD menu.	Enabled
system-reboot	Disables (or enables) the system reboot LCD menu.	Enabled
upgrade-image	Disables (or enables) the image upgrade LCD menu.	Enabled
partition0 partition1	Disables (or enables) image upgrade on the specified partition (0 or 1).	Enabled
upload-config	Disables (or enables) the upload LCD menu.	Enabled

### Usage Guidelines

You can use this command to disable executing the maintenance operations using the LCD menu. You can use the `no` form of these commands to enable the specific LCD menu. For example, the following commands enable `system halt` and `system reboot` options:

```
(host) (config) #lcd-menu
(host) (lcd-menu) #no disable menu maintenance system-halt
(host) (lcd-menu) #no disable menu maintenance system-reboot
```

You can use the following `show` command to display the current LCD settings:

```
(host) #show lcd-menu
lcd-menu
-----
Menu                                     Value
----                                     -
menu maintenance upgrade-image partition0  enabled
menu maintenance upgrade-image partition1  enabled
menu maintenance system-reboot reboot-stack  enabled
menu maintenance system-reboot reboot-local  enabled
```

```

menu maintenance system-halt halt-stack          enabled
menu maintenance system-halt halt-local          enabled
menu maintenance upgrade-image                   enabled
menu maintenance upload-config                   enabled
menu maintenance factory-default                 enabled
menu maintenance media-eject                     enabled
menu maintenance system-reboot                   enabled
menu maintenance system-halt                     enabled
menu maintenance gui-quick-setup                 enabled
menu maintenance                                enabled
menu                                              enabled

```

## Examples

The following example disables the LCD menu completely:

```

(host) #configure terminal
(host) (config) #lcd-menu
(host) (lcd-menu) #disable menu

```

The following example disables executing the specified maintenance operation using the LCD menu:

```

(host) #configure terminal
(host) (config) #lcd-menu
(host) (lcd-menu) #disable menu maintenance ?
factory-default          Disable factory default menu
gui-quick-setup          Disable quick setup menu on LCD
media-eject              Disable media eject menu on LCD
system-halt              Disable system halt menu on LCD
system-reboot            Disable system reboot menu on LCD
upgrade-image            Disable image upgrade menu on LCD
upload-config            Disable config upload menu on LCD

(host) (lcd-menu) #disable menu maintenance upgrade-image ?
partition0               Disable image upgrade on partition 0
partition1               Disable image upgrade on partition 1

```

## Command History

Release	Modification
ArubaOS 7.0	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable and Configuration Mode (config)

## local-userdb add

```
local-userdb add {generate-username|username <name>} {generate-password|password <passwd>}  
[comments <g_comments>][email <email>] [expiry {duration <minutes>|time <hh/mm/yyyy> <hh:mm>}]  
[guest-company <g_company>][guest-fullname <g_fullname>][guest-phone <g-phone>][mode disable]  
[opt-field-1 <opt1>][opt-field-2 <opt2>][opt-field-3 <opt3>][opt-field-4 <opt4>][role <role>]  
[sponsor-dept <sp_dept>][sponsor-mail <sp_email>][sponsor-fullname <sp_fullname>][sponsor-name  
<sp_name>]  
[start-time <mm/dd/yyyy> <hh.mm>]
```

### Description

This command creates a user account entry in the Mobility Access Switch's internal database.

### Syntax

Parameter	Description	Range	Default
generate-username	Automatically generate and add a username.	—	—
username	Add the specified username.	1 – 64 characters	—
generate-password	Automatically generate a password for the username.	—	—
password	Add the specified password for the username.	6 – 128 characters	—
comments	Comments added to the user account.	—	—
email	Email address for the user account.	—	—
expiry	Expiration for the user account. If this is not set, the account does not expire.	—	no expiration
duration	Duration, in minutes, for the user account.	1-2147483647	—
time	Date and time, in mm/dd/yyyy and hh:mm format, that the user account expires.	—	—
guest-company	Name of the guest's company. <b>NOTE:</b> A guest is the person who needs guest access to the company's Aruba wireless network.		
guest-fullname	The guest's full name.		
guest-phone	The guest's phone number.		
mode	Enables or disables the user account.	—	Disable
opt-field-1	This category can be used for some other purpose. For example, the optional category fields can be used for another person, such as a "Supervisor." You can enter username, full name, department and Email information into the optional fields.	—	—
opt-field-2	Same as opt-field-1.	—	—

Parameter	Description	Range	Default
opt-field-3	Same as opt-field-1.	—	—
opt-field-4	Same as opt-field-1.	—	—
role	Role for the user. This role takes effect when the internal database is specified in a server group profile with a server derivation rule. If there is no server derivation rule configured, then the user is assigned the default role for the authentication method.	—	guest
sponsor-dept	The guest sponsor's department name <b>NOTE:</b> A sponsor is the guest's primary contact for the visit.	—	—
sponsor-email	The sponsor's email address.	—	—
sponsor-fullname	The sponsor's full name.	—	—
sponsor-name	The sponsor's name.	—	—
start-time	Date and time, in mm/dd/yyyy and hh:mm format, the guest account begins.	—	—

## Usage Guidelines

When you specify the internal database as an authentication server, client information is checked against the user accounts in the internal database. You can modify an existing user account in the internal database with the `local-userdb modify` command, or delete an account with the `local-userdb del` command.

By default, the internal database in the Mobility Access Switch is used for authentication. Issue the `aaa authentication-server internal use-local-switch` command to use the internal database in a Mobility Access Switch; you then need to add user accounts to the internal database in the Mobility Access Switch.

## Example

The following command adds a user account in the internal database with an automatically generated username and password:

```
(host) #local-userdb add generate-username generate-password expiry duration 480
```

The following information is displayed when you enter the command:

```
GuestConnect
Username: guest4157
Password: cDFD1675
Expiration: 480 minutes
```

## Command History

Release	Modification
ArubaOS 7.0	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable and Configuration Mode (config)

## local-userdb del

```
local-userdb {del username <name>|del-all}
```

### Description

This command deletes entries in the Mobility Access Switch's internal database.

### Syntax

Parameter	Description
del username	Deletes the user account for the specified username.
del-all	Deletes all entries in the internal database.

### Usage Guidelines

User account entries created with expirations are automatically deleted from the internal database at the specified expiration. Use this command to delete an entry before its expiration or to delete an entry that was created without an expiration.

### Example

The following command deletes a specific user account entry:

```
(host)#local-userdb del username guest4157
```

### Command History

Release	Modification
ArubaOS 7.0	This command was introduced.

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable and Configuration Mode (config)



# local-userdb export

local-userdb export <filename>

## Description

This command exports the internal database to a file.



---

Use this command with caution. It replaces the existing users with user entries from the imported file.

---

## Syntax

Parameter	Description
export	Saves the internal database to the specified file in flash.

## Usage Guidelines

After using this command, you can use the `copy` command to transfer the file from flash to another location.

## Example

The following command saves the internal database to a file:

```
(host)#local-userdb export jan-userdb
```

## Command History

Release	Modification
ArubaOS 7.0	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable and Configuration Mode (config)

## local-userdb-guest add

```
local-userdb-guest add {generate-username|username <name>} {generate-password|password <passwd>} [comments <g_comments>][email <email>] [expiry {duration <minutes>|time <hh/mm/yyyy> <hh:mm>}] [guest-company <g_company>][guest-fullname <g_fullname>][guest-phone <g-phone>][mode disable][opt-field-1 <opt1>][opt-field-2 <opt2>][opt-field-3 <opt3>][opt-field-4 <opt4>] [sponsor-dept <sp_dept>][sponsor-mail <sp_email>][sponsor-fullname <sp_fullname>][sponsor-name <sp_name>] [start-time <mm/dd/yyyy> <hh.mm>]
```

### Description

This command creates a guest user in a local user database.

### Syntax

Parameter	Description	Range	Default
generate-username	Automatically generate and add a guest username.	—	—
username	Add the specified guest username.	1 - 64 characters	—
generate-password	Automatically generate a password for the username.	—	—
password	Add the specified password for the username.	6 - 128 characters	—
comments	Comments added to the guest user account.	—	—
email	Email address for the guest user account.	—	—
expiry	Expiration for the user account. If this is not set, the account does not expire.	—	no expiration
duration	Duration, in minutes, for the user account.	1-2147483647	—
time	Date and time, in mm/dd/yyyy and hh:mm format, that the user account expires.	—	—
guest-company	Name of the guest's company.		
guest-fullname	The guest's full name.		
guest-phone	The guest's phone number.		
mode	Enables or disables the user account.	—	Disable

Parameter	Description	Range	Default
opt-field-1	This category can be used for some other purpose. For example, the optional category fields can be used for another person, such as a "Supervisor." You can enter username, full name, department and Email information into the optional fields.	—	—
opt-field-2	Same as opt-field-1.	—	—
opt-field-3	Same as opt-field-1.	—	—
opt-field-4	Same as opt-field-1.	—	—
sponsor-dept	The guest sponsor's department name. <b>NOTE:</b> A sponsor is the guest's primary contact for the visit.	—	—
sponsor-email	The sponsor's email address.	—	—
sponsor-fullname	The sponsor's full name.	—	—
sponsor-name	The sponsor's name.	—	—
start-time	Date and time, in mm/dd/yyyy and hh:mm format, the guest account begins.	—	—

## Usage Guidelines

When you specify the internal database as an authentication server, client information is checked against the user accounts in the internal database. You can modify an existing user account in the internal database with the `local-userdb-guest modify` command, or delete an account with the `local-userdb-guest del` command.

By default, the internal database in the Mobility Access Switch is used for authentication. Issue the `aaa authentication-server internal use-local-switch` command to use the internal database in a Mobility Access Switch; you then need to add user accounts to the internal database in the Mobility Access Switch.

## Example

The following command adds a guest user in the internal database with an automatically generated username and password:

```
(host) #local-userdb-guest add generate-username generate-password expiry none
```

The following information is displayed when you enter the command:

```
GuestConnect
Username: guest-5433352
Password: mBgJ6764
Expiration: none
```

## Command History

Release	Modification
ArubaOS 7.0	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable and Configuration Mode (config)

## local-userdb-guest modify

```
local-userdb-guest modify username <name> [comments <g_comments>] [email <email>] [expiry {duration <minutes>|time <hh/mm/yyy> <hh:mm>}] [guest-company <g_company>] [guest-fullname <g_fullname>] [guest-phone <g-phone>] [mode disable] [opt-field-1 <opt1>] [opt-field-2 <opt2>] [opt-field-3 <opt3>] [opt-field-4 <opt4>] [password <passwd>] [sponsor-dept <sp_dept>] [sponsor-mail <sp_email>] [sponsor-fullname <sp_fullname>] [sponsor-name <sp_name>] [start-time <mm/dd/yyyy> <hh.mm>]
```

### Description

This command modifies an existing guest user entry in the Mobility Access Switch's internal database.

### Syntax

Parameter	Description	Range	Default
username	Name of the existing user account entry.	1 - 64 characters	—
comments	Comments added to the user account.	—	—
email	Email address for the use account.	—	—
expiry	Expiration for the user account. If this is not set, the account does not expire.	—	no expiration
duration	Duration, in minutes, for the user account.	1-2147483647	—
time	Date and time, in mm/dd/yyy and hh:mm format, that the user account expires.	—	—
guest-company	Name of the guest's company.		
guest-fullname	The guest's full name.		
guest-phone	The guest's phone number.		
mode	Enables or disables the user account.	—	Disable
opt-field-1	This category can be used for some other purpose. For example, the optional category fields can be used for another person, such as a "Supervisor." You can enter username, full name, department and Email information into the optional fields.	—	—
opt-field-2	Same as opt-field-1.	—	—
opt-field-3	Same as opt-field-1.	—	—
opt-field-4	Same as opt-field-1.	—	—
password	User's password	1- 6 characters	—
sponsor-dept	The guest sponsor's department name <b>NOTE:</b> A sponsor is the guest's primary contact for the visit.	—	—

Parameter	Description	Range	Default
sponsor-email	The sponsor's email address.	—	—
sponsor-fullname	The sponsor's full name.	—	—
sponsor-name	The sponsor's name.	—	—
start-time	Date and time, in mm/dd/yyyy and hh:mm format, the guest account begins.	—	—

## Usage Guidelines

Use the `show local-userdb-guest` command to view the current user account entries in the internal database.

## Example

The following command disables an guest user account in the internal database:

```
(host)local-userdb-guest modify username guest4157 mode disable
```

## Command History

Release	Modification
ArubaOS 7.0	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable and Configuration Mode (config)

## local-userdb modify

```
local-userdb modify username <name> [comments <g_comments>][email <email>] [expiry {duration <minutes>|time <hh/mm/yyyy> <hh:mm>}] [guest-company <g_company>][guest-fullname <g_fullname>][guest-phone <g-phone>][mode disable][opt-field-1 <opt1>][opt-field-2 <opt2>][opt-field-3 <opt3>][opt-field-4 <opt4>][role <role>][sponsor-dept <sp_dept>][sponsor-mail <sp_email>][sponsor-fullname <sp_fullname>][sponsor-name <sp_name>][start-time <mm/dd/yyyy> <hh:mm>]
```

### Description

This command modifies an existing user account entry in the Mobility Access Switch's internal database.

### Syntax

Parameter	Description	Range	Default
username	Name of the existing user account entry.	1 - 64 characters	—
comments	Comments added to the user account.	—	—
email	Email address for the use account.	—	—
expiry	Expiration for the user account. If this is not set, the account does not expire.	—	no expiration
duration	Duration, in minutes, for the user account.	1-2147483647	—
time	Date and time, in mm/dd/yyyy and hh:mm format, that the user account expires.	—	—
guest-company	Name of the guest's company. <b>NOTE:</b> A guest is the person who needs guest access to the company's Aruba wireless network.		
guest-fullname	The guest's full name.		
guest-phone	The guest's phone number.		
mode	Enables or disables the user account.	—	Disable
opt-field-1	This category can be used for some other purpose. For example, the optional category fields can be used for another person, such as a "Supervisor." You can enter username, full name, department and Email information into the optional fields.	—	—
opt-field-2	Same as opt-field-1.	—	—
opt-field-3	Same as opt-field-1.	—	—
opt-field-4	Same as opt-field-1.	—	—
role	Role for the user. This parameter requires the PEFNG license.	—	guest

Parameter	Description	Range	Default
sponsor-dept	The guest sponsor's department name <b>NOTE:</b> A sponsor is the guest's primary contact for the visit.	—	—
sponsor-email	The sponsor's email address.	—	—
sponsor-fullname	The sponsor's full name.	—	—
sponsor-name	The sponsor's name.	—	—
start-time	Date and time, in mm/dd/yyyy and hh:mm format, the guest account begins.	—	—

## Usage Guidelines

Use the **show local-userdb** command to view the current user account entries in the internal database.

## Example

The following command disables an existing user account in the internal database:

```
(host)# local-userdb modify username guest4157 mode disable
```

## Command History

Release	Modification
ArubaOS 7.0	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable and Configuration Mode (config)



## local-userdb-guest del

```
local-userdb-guest del username <name>
```

### Description

This command deletes entries in the Mobility Access Switch's internal database.

### Syntax

Parameter	Description
del username	Deletes the user account for the specified username.

### Usage Guidelines

User account entries created with expirations are automatically deleted from the internal database at the specified expiration. Use this command to delete an entry before its expiration or to delete an entry that was created without an expiration.

### Example

The following command deletes a specific user account entry:

```
(host) #local-userdb-guest del username guest4157
```

### Command History

Release	Modification
ArubaOS 7.0	This command was introduced.

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable and Configuration Mode (config)

## mgmt-server type amp

```
mgmt-server type amp
  config-server {host <ip-addr>|<host>} shared-secret <secret> group <group_name> folder
  <folder_name>
```

### Description

Issue this command to associate the Mobility Access Switch with an AirWave configuration in a specified group and folder.

### Syntax

Parameter	Description
<code>config-server {host &lt;ip-addr&gt; &lt;host&gt;}</code>	IP address or host name of the AirWave server to be configured.
<code>shared-secret &lt;secret&gt;</code>	Shared secret for the AirWave server.
<code>group &lt;group-name&gt;</code>	Name of the AirWave group that contains the configuration for the Mobility Access Switch.
<code>folder &lt;folder-name&gt;</code>	Name of the AirWave folder that contains the configuration for the Mobility Access Switch.

### Usage Guidelines

When the Mobility Access Switch connects to the AirWave server, it is assigned to the AirWave group and folder containing its group configuration. After the Mobility Access Switch appears as an associated device on the AirWave server, you must use AirWave to provision it with device-specific information (such as an IP address or port settings) before you allow the Mobility Access Switch to download its new configuration.

### Example:

```
(host)(config)# mgmt-server type amp
(host)(mgmt-server-amp)# config-server host 192.0.2.0 shared-secret pwd123 group MAS folder
office4
```

### Command History

Release	Modification
ArubaOS 7.3	This command was introduced.

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable and Configuration mode

# mkdir

mkdir

```
member: <id> usb: <usbdirname> <usbpartition <number>>  
usb: <usbdirname> <usbpartition <number>>
```

## Description

This command creates a new directory for USB .

## Syntax

Parameter	Description	Range	Default
member id	Enter a stack member ID.	—	—
<usbdirname>	Creates the USB directory in a member of a stack.	—	—
usbpartition <number>	Creates the USB directory in multipartition member.	—	—
usb:	External USB.	—	—
<usbdirname>	Creates the USB directory.	—	—
usbpartition <number>	Creates the USB directory in multipartition.	—	—

## Usage Guidelines

Use this command to create a new directory for USB .

## Example

```
(host) #mkdir member: 1 usb: test2 usbpartition 1  
Member-id: 1  
-----  
Successfully created the directory test2 at usb
```

## Command History

Release	Modification
ArubaOS 7.3	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Configuration

## mstp

```
mstp
  forward-delay
  hello-time
  instance
  max-age
  max-hops
  region-name
  revision
```

### Description

Enters the Global MSTP mode and allows you to configure the forward delay time, refresh time, VLAN instance mapping, region name, maximum hops, and revision.

### Syntax

Parameter	Description	Range	Default
<code>forward-delay</code>	Specifies the forward-delay time in seconds.	4 - 30	15
<code>hello-time</code>	The time interval in seconds. at which the Bridge Protocol Data Units (BPDUs) are sent.	1 - 10	2
<code>instance &lt;instance&gt;</code>	An MSTP instance	0 - 64	0
<code>bridge priority &lt;priority&gt;</code>	Specify the bridge priority value in increments of 4096. <b>Valid values:</b> 0, 4096, 8192, 12288, 16384, 20480, 24576, 28672, 32768, 36864, 40960, 45056, 49152, 53248, 57344, and 61440. All other values are rejected.	0 - 61440	32768
<code>vlan &lt;vlan-list&gt;</code>	Specify the VLAN identifier value.	1 - 4094	—
<code>max-age</code>	Specify the time interval for the MSTP to maintain configuration information before refreshing that information	6 - 40	20
<code>max-hops</code>	Specify the maximum number of hops.	6 - 40	20
<code>region-name</code>	Specify the MSTP region names in bytes	1 - 32	—
<code>revision</code>	Specify the revision number.	0 - 65535	0

### Usage Guidelines

MSTP allows users to map between a set of VLANs and to an MSTP instance (msti). By default, all VLANs are mapped to msti 0 unless you use the **vlan <vlan-list>** parameter to map it to a non-zero instance.



---

For Mobility Access Switches to be in the same region, they must share the same name, the same version, and the same VLAN instance mapping. Any Mobility Access Switch that does not share these three characteristics with the remaining switches in the region will be seen as belonging to a different region.

---

## Example

```
(host) (config) #mstp
(host) (Global MSTP) #forward-delay 10
(host) (Global MSTP) #hello-time 7
(host) (Global MSTP) #instance 44 bridge-priority 6144
(host) (Global MSTP) #max-age 22
(host) (Global MSTP) #max-hops 22
(host) (Global MSTP) #region-name my_region
(host) (Global MSTP) #revision 2
```

## Command History

Release	Modification
ArubaOS 7.0	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Configuration

## netdestination

```
netdestination <name>
  host <ipaddr> [position <number>]
  name <host_name>
  network <ipaddr> <netmask> [position <number>]
  no ...
```

### Description

This command configures an alias for an IPv4 network host or subnet.

### Syntax

Parameter	Description
host	Configures a single IPv4 host and its position in the list.
name	Name for this host or domain.
network	An IPv4 subnet consisting of an IP address and netmask.
no	Negates any configured parameter.

### Usage Guidelines

Aliases can simplify configuration of session ACLs, as you can use an alias when specifying the traffic source and/or destination IP in multiple session ACLs. Once you configure an alias, you can use it to manage network and host destinations from a central configuration point, because all policies that reference the alias will be updated automatically when you change the alias.

### Example

The following command configures an alias for an internal network:

```
(host) (config) #netdestination Internal
  network 10.1.0.0 255.255.0.0
```

### Related Command

Command	Description
<a href="#">show netdestination</a>	This command displays a list of IPv4 network destinations.

### Command History

Release	Modification
ArubaOS 7.0	This command was introduced.
ArubaOS 7.3.2	Deprecated the <b>invert</b> and <b>range</b> parameters.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Configuration Mode

## net service

```
net service <name> <protocol>|tcp|udp {list <port>,<port>}|<port> [<port>]}  
[ALG <service>]
```

### Description

This command configures an alias for network protocols.

### Syntax

Parameter	Description	Range
net service <name>	Name for this alias.	—
<protocol>	IP protocol number.	0-255
tcp	Configure an alias for a TCP protocol	—
udp	Configure an alias for a UDP protocol	—
list <port>,<port>	Specify a list of non-contiguous port numbers, by entering up to six port numbers, separated by commas.	0-65535
<port> [<port>]	TCP or UDP port number. You can specify a single port number, or define a port range by specifying both the lower and upper port numbers.	0-65535
ALG	Application-level gateway (ALG) for this alias.	—
<service>	Specify one of the following service types: <ul style="list-style-type: none"><li>● dhcp: Service is DHCP</li><li>● dns: Service is DNS</li><li>● ftp: Service is FTP</li><li>● h323: Service is H323</li><li>● noe: Service is Alcatel NOE</li><li>● rtsp: Service is RTSP</li><li>● sccp: Service is SCCP</li><li>● sip: Service is SIP</li><li>● sips: Service is Secure SIP</li><li>● svp: Service is SVP</li><li>● tftp: Service is TFTP</li><li>● vocera: Service is VOCERA</li></ul>	—

### Usage Guidelines

Aliases can simplify configuration of session ACLs, as you can use an alias when specifying the network service. Once you configure an alias, you can use it in multiple session ACLs.

### Example

The following command configures an alias for a network service:

```
(host) (config) #net service HTTP tcp 80
```



## Related Command

Command	Description
<a href="#">show netservice</a>	This command displays a list of IPv4 network protocol services.

## Command History

Version	Modification
ArubaOS 7.0	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Configuration Mode

# ntp authenticate

ntp authenticate

## Description

This command enables or disables NTP authentication.

## Syntax

No parameters.

## Usage Guidelines

Network Time Protocol (NTP) authentication enables the Mobility Access Switch to authenticate the NTP server before synchronizing local time with server. This helps identify secure servers from fraudulent servers. This command has to be enabled for NTP authentication to work.

## Example

The following command configures an NTP server:

```
(host) (config) #ntp authenticate
```

## Command History

Release	Modification
ArubaOS 7.0	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Configuration mode

## ntp authentication-key

```
ntp authentication-key <key-id> md5 <keyvalue>
```

### Description

This command configures a key identifier and secret key and adds them into the database. NTP authentication works with a symmetric key configured by user. The key is shared by the client (Mobility Access Switch) and an external NTP server.

### Syntax

Parameter	Description	Default
<key-id>	The key identifier is a string that is shared by the client (Mobility Access Switch) and an external NTP server. This value is added into the database.	—
md5 <keyvalue>	The key value is a secret string, which along with the key identifier, is used for authentication. This is added into the database.	—

### Usage Guidelines

NTP authentication works with a symmetric key configured by user. The key is shared by the client (Mobility Access Switch) and an external NTP server. This command adds both the key identifier and secret string into the database.

### Example

The following command configures the NTP authentication key. The key identifier is 12345 and the shared secret is 67890.

```
(host) (config) #ntp authentication-key 12345 md5 67890
```

### Command History

Release	Modification
ArubaOS 7.0	This command was introduced.

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Configuration mode

## ntp server

```
#ntp server <server-ip> [iburst] [key <key-id>]
```

### Description

This command configures a Network Time Protocol (NTP) server.

### Syntax

Parameter	Description	Default
<ipaddr>	IP address of the NTP server, in dotted-decimal format.	—
iburst	(Optional) This parameter causes the Mobility Access Switch to send up to ten queries within the first minute to the NTP server. This option is considered “aggressive” by some public NTP servers.	Disabled
key <key-id>	This is the key identifier used to authenticate the NTP server. This needs to match the key identifier configured in the <b>ntp authentication-key</b> command.	—

### Usage Guidelines

You can configure the Mobility Access Switch to set its system clock using NTP by specifying one or more NTP servers.

### Example

The following command configures an NTP server using the `iburst` optional parameter and using a key identifier “123456.”

```
(host) (config) #ntp server 10.1.1.245 iburst key 12345
```

### Command History

Release	Modification
ArubaOS 7.0	This command was introduced.

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Configuration mode

## ntp trusted-key

ntp trusted-key <keyid>

### Description

This command configures an additional subset of trusted keys which can be used for NTP authentication.

### Syntax

Parameter	Description	Default
<keyid>	An additional trusted string that can be used for authentication	—

### Usage Guidelines

You can configure additional subset of keys which are trusted and can be used for NTP authentication.

### Example

The following command configures an additional trusted key (84956) that can be used for NTP authentication.

```
(host) (config) #ntp trusted-key 84956
```

### Command History

Release	Modification
ArubaOS 7.0	This command was introduced.

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Configuration mode

# ospf-profile

ospf-profile <profile\_name>

## Description

Set an OSPF interface profile name.

## Syntax

Parameter	Description
<profile_name>	Enter a profile name.

## Usage Guidelines

Use this command to attach the OSPF profile name to the Routed VLAN Interface (RVI) or Loopback Interface.

## Example

The following steps help assign an OSPF profile name to a Loopback Interface.

1. Create the loopback interface (3 in the example).

```
(host) (config) #interface loopback 3
(host) (loopback "3") #
```

2. Configure an IP address and Mask for the loopback.

```
(host) (loopback "3") #ip address 172.0.25.254 255.255.255.255
```

3. Attach the ospf-profile "techpubs" to the loopback interface.

```
(host) (loopback "3") #ospf-profile techpubs
```

4. Verify the loopback configuration:

```
(host) (loopback "3") #show interface loopback 3
```

```
loopback3 is administratively Up, Line protocol is Up
Hardware is Ethernet, Address is 00:0b:86:6a:f2:40
Description: Loopback
Internet address is 172.0.25.254, Netmask is 255.255.255.255
Interface index: 100663299
MTU 1514 bytes
```

Verify the interface configuration:

```
(host) (config) #show interface-config loopback 3
```

```
loopback "3"
-----
Parameter                Value
-----                -
Interface OSPF profile    techpubs
IP Address                172.0.25.254/255.255.255.255
Interface description     N/A
```

Verify that the OSPF is enabled on a Loopback interface:

```
(host) #show ip ospf interface loopback 3
```

```
Interface is loopback3, line protocol is up
Internet Address 172.0.25.254, Mask 255.255.255.255, Area 0.0.2.0
Router ID 5.5.5.5, Network Type LOOPBACK, Cost: 10
Transmit Delay is 1 sec, State LOOP, Priority 1
```

```

Timer intervals configured, Hello 10, Dead 40, Retransmit 5
Neighbor Count is 0
Tx Stat: Hellos 0 DbDescr 0 LsReq 0 LsUpdate 0 LsAck 0 Pkts 0
Rx Stat: Hellos 0 DbDescr 0 LsReq 0 LsUpdate 0 LsAck 0 Pkts 0
        BadCksum 0 BadVer 0 BadNet 0 BadArea 0 BadDstAdr 0 BadAuType 0
        BadAuth 0 BadNeigh 0 BadMTU 0 BadVirtLink 0

```

## Related Commands

Command	Description
<a href="#">interface loopback</a>	Set the loopback interface
<a href="#">show interface loopback</a>	View the interface loopback settings
<a href="#">show ip ospf</a>	View the loopback interface

## Command History

Release	Modification
ArubaOS 7.1.1	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Configuration Mode (config)

## page

page <length>

### Description

This command sets the number of lines of text the terminal will display when paging is enabled.

### Syntax

Parameter	Description	Range
<length>	Specifies the number of lines of text displayed.	24 - 100

### Usage Guidelines

Use this command in conjunction with the `paging` command to specify the number of lines of text to display. For more information on the pause mechanism that stops the command output from printing continuously to the terminal, refer to the command [paging on page 257](#).

If you need to adjust the screen size, use your terminal application to do so.

### Example

The following command sets 80 as the number of lines of text displayed:

```
(host) (config) #page 80
```

### Command History

Release	Modification
ArubaOS 7.0	This command was introduced.

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Configuration and Enable modes



# paging

paging

## Description

This command stops the command output from printing continuously to the terminal.

## Syntax

No parameters.

## Usage Guidelines

By default, paging is enabled.

With paging enabled, there is a pause mechanism that stops the command output from printing continuously to the terminal. If paging is disabled, the output prints continuously to the terminal. To disable paging, use the `no paging` command. You must be in enable mode to disable paging.

The paging setting is active on a per-user session. For example, if you disable paging from the CLI, it only affects that session. For new or existing sessions, paging is enabled by default.

You can also configure the number of lines of text displayed when paging is enabled. For more information, refer to the command [page on page 256](#).

If you need to adjust the screen size, use your terminal application to do so.

## Example

The following command enables paging:

```
(host) (config) #paging
```

## Command History

This command was introduced in ArubaOS 7.0.

Release	Modification
ArubaOS 7.0	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Configuration and Enable modes

## ping

ping <ipaddress>

### Description

This command sends five ICMP echo packets to the specified IP address.

### Syntax

Parameter	Description
<ipaddress>	Destination IP Address

### Usage Guidelines

You can send five ICMP echo packets to a specified IP address. The Mobility Access Switch times out after two seconds.

### Example

The following example pings 10.10.10.5.

```
(host) >ping 10.10.10.5
```

The sample Mobility Access Switch output is:

Press 'q' to abort.

```
Sending 5, 100-byte ICMP Echos to 10.10.10.5, timeout is 2 seconds:!!!!!
```

```
Success rate is 100 percent (5/5), round-trip min/avg/max = 0.408/0.5434/1.073 ms
```

### Command History

Release	Modification
ArubaOS 7.0	Command introduced

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable and Configuration Mode (config)

## ping ipv6

```
ping ipv6  
  <X:X:X:X::X> | interface [mgmt <X:X:X:X::X> | vlan <vlan#> <X:X:X:X::X>]
```

### Description

This command pings the specific IPv6 address.

### Syntax

Parameter	Description
<X:X:X:X::X>	Specify the IPv6 global unicast address of the host to ping.
interface mgmt <X:X:X:X::X>	Specify the IPv6 link-local address of the host connected to the management interface.
interface vlan <vlan#> <X:X:X:X::X>	Specify the IPv6 link-local address of the host connected to the VLAN interface.

### Usage Guidelines

Use this command to ping a specific IPv6 address.

### Examples

The following command pings an IPv6 global unicast address:

```
(host) #ping ipv6 2cce:205:160:100::fe
```

The following command pings the IPv6 link-local address of the host connected to the management interface:

```
(host) #ping ipv6 interface mgmt fe80::20b:86ff:fe6a:2800
```

The following command pings the IPv6 link-local address of the host connected to VLAN 20:

```
(host) #ping ipv6 interface vlan 20 fe80::225:90ff:fe06:c84e
```

### Command History

Release	Modification
ArubaOS 7.1	This command was introduced.
ArubaOS 7.1.1	The parameter <code>interface vlan &lt;vlan#&gt; &lt;X:X:X:X::X&gt;</code> was introduced.

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable and Configuration Modes

## ping <ip-address> mtu\_discovery do

```
ping <ip-address> mtu_discovery {do|dont|want} size <value>
```

### Description

This command helps you to find out the MTU path between the specified IP address and the Mobility Access Switch.

### Syntax

Parameter	Description
<ip-address>	Specify the IP address of the controller.
mtu_discovery {do dont want}	
size <value>	

### Usage Guidelines

Use this command to find out the MTU requirements for a tunneled node client.

### Example

The following ping command helps find the MTU path between the IP address 10.16.7.1 of the controller and the Mobility Access Switch:

```
ping 10.16.7.1 mtu_discovery do size 1500
```

### Related Command

Command	Description
<a href="#">show tunneled-node</a>	Displays the tunneled node information

### Command History

Release	Modification
ArubaOS 7.0	This command was introduced.

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Configuration Mode (config)

## poe-management-profile

```
poe-management-profile slot <slot-number>
  cisco-compatibility
  clone <source>
  config-delay <config-delay>
  no {...}
  poe-guardband <1000-30000 milliwatts>
  poe-powermanagement {class | dynamic | static}
```

### Description

Configures PoE global power management parameters on the Mobility Access Switch.

### Syntax

Parameter	Description	Range	Default
slot <slot-number>	Specifies the stack member ID.	0—7	—
cisco-compatibility	Enable or disable Cisco® Pre-Standard compatibility. Cisco® legacy IP phone models such as 7940 and 7960 use a pre-standard Power Over Ethernet (PoE) detection mechanism and may not get powered up when connected to the Mobility Access Switch PoE models. ArubaOS for Mobility Access Switch introduces the functionality to provide PoE compatibility with Cisco® legacy IP phones. By default, this function is disabled. If you enable this function, the Mobility Access Switch changes the detection mechanism to give power to the Cisco® legacy IP phones.	—	Disabled
clone <source>	Copy data from another poe-management profile	—	—

Parameter	Description	Range	Default
<code>config-delay &lt;config-delay&gt;</code>	Introduces a time delay in milliseconds while applying the PoE configuration between each port. For example, if you configure a delay of 2 seconds and if the PoE configuration is applied on port 0 at t seconds, then the PoE configuration is applied on port 1 at t+2 seconds, port 2 at t+4 seconds and so on.	0—30000 in steps of 100.	2000
<code>no</code>	Delete a poe-management command	—	—
<code>poe-guardband &lt;1000-30000 milliwatts&gt;</code>	Specifies the PoE guardband between 1000-30000 milliwatts in step of 1000.	1000—30000 milliwatts in steps of 1000	11000
<code>poe-powermanagement {class dynamic static}</code>	The Mobility Access Switch supports three PoE power management modes: Static Mode—The power deducted from the total power pool is the maximum power for that interface. This mode ensures that the maximum power specified by you for the interface is always reserved and cannot be shared by other PDs. Dynamic Mode—The power allocated from the total power pool for each port is the actual power consumed at that port. You can allocate any unused portion of power to the other PDs. This is the default mode. Class-based Mode—The power allocated for each port from the total power pool is the maximum power available for the class of PD connected to that port.	—	class

## Usage Guidelines

Use this command to set the global configuration for Power over Ethernet on the switch.

## Example

The following example configure the power over Ethernet global parameters:

```
poe-management-profile slot 0
  cisco-compatibility
  poe-powermanagement dynamic
  poe-guardband 15000
```

## Related Command

Command	Description
<a href="#">show poe-management-profile</a>	This command displays total PoE pool information for the Mobility Access Switch.

## Command History

Release	Modification
ArubaOS 7.0	This command was introduced.
ArubaOS 7.2.2	The <b>cisco-compatibility</b> parameter was introduced.
ArubaOS 7.3.2	The <b>config-delay</b> parameter was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Configuration mode

## policer-profile

```
policer-profile <profile-name>  
  cbs {k | m | g}  
  cir <cir>  
  clone <source>  
  ebs [k | m | g]  
  exceed-action drop | permit | remark  
  exceed-profile <profile-name>  
  no  
  violate-action drop | permit  
  violate-profile <profile-name>
```

### Description

Use the policer-profile command in the configuration mode to create a Policer profile.

### Syntax

Parameter	Description
<profile-name>	Name of the Policer profile.
cbs	Use this command to set the committed burst size. Range is 1 - 2147450880 bytes.
k	Option to set 1,000 byte burst size.
m	Option to set 1,000,000 byte burst size.
g	Option to set 1,000,000,000 byte burst size.
cir	Use this command to set the committed information rate.
<cir>	CIR value in Kbps. Range is 1-10230000.
clone	Use this command to copy an existing QoS profile.
<source>	Name of the QoS profile to be copied.
ebs	Use this command to set the committed burst size. Range is 1 - 2147450880 bytes.
k	Option to set 1,000 byte burst size.
m	Option to set 1,000,000 byte burst size.
g	Option to set 1,000,000,000 byte burst size.
exceed-action	Use this command to set the exceed action.
drop	Option to drop packet for exceed action.
permit	Option to do nothing for exceed action.
remark	Option to remark on packet in QoS profile for exceed action.
exceed-profile	QoS Profile for exceed action violations.



Parameter	Description
<profile-name>	Name of the profile.
no	Delete command.
violate-action	Use this command to set action for a QoS profile violation.
drop	Option to drop packet for violation.
permit	Option to do nothing for violation.
remark	Option to remark on packet in QoS profile.
violate-profile	Use this command to manage a QoS profile for violating packets.
<profile-name>	Name of the Profile.

## Example

The following command helps create a Policer Profile from the Configuration mode:

```
(Host) (config) #policer-profile policerProfile
(Host) (Policer Profile "policerProfile") #
```

In the Policer Profile mode, the following commands are available:

- cbs
- cir
- clone
- ebs
- exceed-action
- exceed-profile
- no
- violate-action
- violate-profile

## Command History

Release	Modification
ArubaOS 7.0	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Configuration / Policer Profile

# preemption

preemption [delay <seconds> | mode [off | forced]]

## Description

Set the preemption mode to forced so you can configure the time delay (preemption) before the backup takes over from the primary. The preemption time (10 to 300 seconds) is recommended to avoid network flapping.

## Syntax

Parameter	Description	Range	Default
delay <seconds>	Enter the keyword <b>delay</b> followed by the number of seconds you want to expire before the backup takes over from the primary interface. Range: Default:	10 to 300 seconds (5 minutes)	100 seconds
mode [off   forced]	Enter the keyword <b>mode</b> followed by the keyword <b>forced</b> to enable preemption. To turn off preemption, enter the keywords <b>mode off</b> .		

## Usage Guidelines

When a primary link goes down then comes back up, that link goes into standby mode by default, and the backup link remains active. You can force the primary interface to become active when it comes back up by configuring preemption in forced mode

## Example

The following example enables preemption mode and sets the delay to 10 seconds.

```
(host) (gigabitethernet "0/0/10") #preemption mode forced
(host) (gigabitethernet "0/0/10") #preemption delay 10
```

## Related Command

Command	Description
<a href="#">show hot-standby-link</a>	List the status of hot standby link interfaces.

## Command History

Release	Modification
ArubaOS 7.0	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Interface Config (gigabitethernet "slot/module/port") or (port-channel <i>number</i> )

## probe-profile

```
probe-profile <profile-name>
  clone <source>
  destination <destip>
  no
  pkt-found-cnt <pkt-found-cnt>
  pkt-lost-cnt <pkt-lost-cnt>
  pkt-send-freq <pkt-send-freq>
  protocol
```

### Description

Use the **probe-profile** command in the configuration mode to create a Probe profile.

### Syntax

Parameter	Description	Range	Default
<profile-name>	Name of the Probe profile.	—	—
clone <source>	Copy data from another probe profile	—	—
destination <destip>	The IP address of the destination to be probed.	—	—
pkt-found-cnt <pkt-found-cnt>	The minimum successful response packet count required to keep the probe status as Up.	2-32	6
pkt-lost-cnt <pkt-lost-cnt>	The minimum failed response packet count required to change the probe status to Down.	2-32	6
pkt-send-freq <pkt-send-freq>	The frequency (in seconds) at which the probe packets are sent to the destination IP.	1-32	5
protocol	The protocol to be used for sending the probe packets. <b>NOTE:</b> ICMP is the only protocol supported currently.	ICMP	ICMP

### Usage Guidelines

This command can be used to monitor the L3 uplink status using ping probe.

### Related Commands

Command	Description
<a href="#">show probe</a>	View the probe status of the interfaces where the probe profile is attached.
<a href="#">show probe-profile</a>	View the probe profile configuration.

### Example

The following sample configures a probe-profile, **L3Monitoring** and applies it to the VLAN interface 1:

```

(host) (config) #probe-profile L3Monitoring
(host) (probe profile "L3Monitoring") #destination 10.1.10.1
(host) (probe profile "L3Monitoring") #pkt-found-cnt 16
(host) (probe profile "L3Monitoring") #pkt-lost-cnt 16
(host) (probe profile "L3Monitoring") #pkt-send-freq 11
(host) (probe profile "L3Monitoring") #protocol icmp
(host) (config) # interface vlan 1
(host) (vlan "1") # probe-profile L3Monitoring

```

## Command History

Release	Modification
ArubaOS 7.4	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Configuration / Probe Profile

## qos-profile

```
qos-profile <profile-name>
  clone <source>
  dot1p <priority>
  drop-precedence {high | low}
  dscp <rewrite-value>
  no
  traffic-class <traffic-class-value>
```

### Description

Use the qos-profile command in the configuration mode to create a QoS profile.

### Syntax

Parameter	Description
<profile-name>	Name of the QoS profile.
clone	Use this command to copy an existing QoS profile.
<source>	Name of the QoS profile to be copied.
dot1p	Use this command to set the dot1p user priority.
<priority>	Value of the priority. Range is 0 - 7.
drop-precedence	Use this command to set the drop precedence to high or low.
high	Option to set the drop precedence to high.
low	Option to set the drop precedence to low.
dscp	Use this command to set the dscp rewrite value.
<rewrite-value>	Value of the rewrite. Default is disabled. Range is 0-63.
no	Delete command.
traffic-class	Use this command to set the traffic-class value.
<traffic-class-value>	Value of the traffic class. Default is disabled. Range is 0-63.

### Example

Use the following command to create a QoS profile from the Configuration mode:

```
(Host) (config) #qos-profile qosProfile
(Host) (QoS Profile "qosProfile")#
```

In the QoS Profile mode, the following commands are available:

- clone
- dot1p
- drop-precedence
- dscp
- no
- traffic-class

## Command History

Release	Modification
ArubaOS 7.0	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Configuration, QoS Profile

## qos trust

qos trust aruba-device | auto | disable | dot1p | dscp | pass-through

### Description

Configures QoS trust mode.

### Syntax

Parameter	Description
aruba-device	In this particular mode, when an Aruba device is connected directly through LLDP (Example: IAP), the operation state of <code>qos trust</code> on that interface is set to <code>auto</code> . If Aruba device is not detected, then fall back to <b>pass-through</b> and preserve DSCP/802.1p markings. Even in case of any connectivity loss or port going down you can change the operation mode to <code>none</code> and reset it back when a device is detected.
auto	Option for (L2+L3) trust mode prioritizes DSCP over 802.1P. If the received frame is IP, the DSCP value is used for indexing the QoS profile. If the received tagged frame is non-IP, then the 802.1P value is used for indexing the QoS profile.
disable	Option to disable QoS trust (reset DSCP/802.1p to 0).
dot1p	Option for Layer 2 QoS Trust Mode. Port is configured to trust the IEEE 802.1P user priority. This is relevant for 802.1Q packets. This option does not allow the attachment of a <code>qos-profile</code> while configured on an interface.
dscp	Preserves DSCP value and use <b>qos-profile trusted</b> queuing mapping. This option does not allow the attachment of a <code>qos-profile</code> that is configured on an interface.
pass-through	Option to preserve the incoming DSCP/802.1p values. A <b>qos-profile &lt;name&gt;</b> can be attached to the interface to override and remark/queue according to <b>qos-profile &lt;name&gt;</b> .
no qos trust	All markings will be reset to 0 and creates a QoS untrust. A <b>qos-profile &lt;name&gt;</b> can be attached to the interface to remark/queue according to <b>qos-profile &lt;name&gt;</b> .

### Usage Guidelines

Use the `qos-trust` command in the configuration-interface mode to configure Layer 3 QoS Trust on an interface.

- `qos-profile` configured is mutually exclusive with `dscp`, `dot1p` and `auto` modes.
- `qos-profile` configured takes priority in Disable and Passthrough mode.
- `qos-profile` config is allowed even with `aruba-vevice` option. But will take effect only if no `aruba-device` is detected.

### Example

The following example provides a list of QoS trust modes:

```
(host) (gigabitethernet "6/6/6") #
(sv1_techpubs) (gigabitethernet "6/6/6") #qos ?
trust                QoS trust mode
```

```

(Host) (gigabitethernet "6/6/6") #qos trust ?
auto          Trust DSCP for IP packets; 802.1P for non-IP packets
disable       Disable QoS trust (reset DSCP/802.1p to 0)
dot1p         Trust 802.1p
dscp          Trust DSCP
aruba-device  In this mode, the oper state will be Auto in case neighbor device is
              Aruba (Eg; IAP) else it will be none
pass-through  Pass-through DSCP/802.1p

```

## Command History

Release	Modification
ArubaOS 7.1	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Configuration



## rcli

```
rcli member <member_id>
```

### Description

Remote CLI on a specified member.

### Syntax

Parameter	Description
<member_id>	Enter the member ID.

### Usage Guidelines

This command is only supported on a serial connection.

### Example

Execute the following command remotely on a specific member:

```
(host)# rcli member 1
```

### Command History

Release	Modification
ArubaOS 7.1	This command was introduced.

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable and Configuration Mode (config)

# reload

reload

## Description

This command performs a reboot of the Mobility Access Switch.

## Syntax

No parameters.

## Usage Guidelines

Use this command to reboot the Mobility Access Switch if required after making configuration changes or under the guidance of Aruba Networks customer support. The `reload` command powers down the Mobility Access Switch, making it unavailable for configuration. After the Mobility Access Switch reboots, you can access it via a local console connected to the serial port, or through an SSH, Telnet, or WebUI session. If you need to troubleshoot the Mobility Access Switch during a reboot, use a local console connection.

After you use the `reload` command, the Mobility Access Switch prompts you for confirmation of this action. If you have not saved your configuration, the Mobility Access Switch returns the following message:

```
Do you want to save the configuration (y/n):
```

- Enter **y** to save the configuration.
- Enter **n** to not save the configuration.
- Press [Enter] to exit the command without saving changes or rebooting the Mobility Access Switch.

If your configuration has already been saved, the Mobility Access Switch returns the following message:

```
Do you really want to reset the system(y/n):
```

- Enter **y** to reboot the Mobility Access Switch.
- Enter **n** to cancel this action.

The command will timeout if you do not enter y or n.

## Example

The following command assumes you have already saved your configuration and you must reboot the Mobility Access Switch:

```
(host) (config) #reload
```

The Mobility Access Switch returns the following messages:

```
Do you really want to reset the system(y/n): y
System will now restart!
...
Restarting system.
```

## Command History

Release	Modification
ArubaOS 7.0	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable and Configuration Mode (config)

# rename

rename

```
usb <oldfilename> <newfilename> [usbpartition <number>]  
member <id> <oldfilename> <newfilename> [usbpartition <number>]
```

## Description

This command renames an existing system file.

## Syntax

Parameter	Description
usb	Enter the USB.
[usbpartition <number>]	Enter the usb partition number.
<oldfilename>	An alphanumeric string that specifies the current name of the file on the system.
<newfilename>	An alphanumeric string that specifies the new name of the file on the system.
member <id>	Enter the member ID of the stack.
[usbpartition <number>]	Enter the usb partition number.
<oldfilename>	An alphanumeric string that specifies the current name of the file on the system.
<newfilename>	An alphanumeric string that specifies the new name of the file on the system.

## Usage Guidelines

Use this command to rename an existing system file on the Mobility Access Switch. You can use a combination of numbers, letters, and punctuation (periods, underscores, and dashes) to rename a file. The new name takes affect immediately.

Make sure the renamed file uses the same file extension as the original file. If you change the file extension, the file may be unrecognized by the system. For example, if you have an existing file named `upgrade.log`, the new file must include the `.log` file extension.

You cannot rename the active configuration currently selected to boot the Mobility Access Switch. If you attempt to rename the active configuration file, the Mobility Access Switch returns the following message:

```
Cannot rename active configuration file
```

To view a list of system files, and for more information about the directory contents, see [encrypt](#).

## Example

The following command changes the file named **test\_configuration** to **deployed\_configuration**:

```
(host) (config) #rename usb test_configuration deployed_configuration
```

## Command History

Release	Modification
ArubaOS 7.1	This command was introduced.
ArubaOS 7.3	The <b>usb</b> and <b>member &lt;id&gt;</b> parameters were introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable Mode

## restore

```
restore [factory_default {certificate | stacking}] | [flash]
```

### Description

Restores configuration, database (which stores roles, slot numbers, any previous Primary information and/or backup information), and the flash to the factory default.

### Syntax

Parameter	Description
factory_default	Reverts the database, configuration, or the current default certificate to the factory default configuration.
certificate	Reverts the current default certificate to the factory default certificate.
stacking	Reverts to the factory default database and configuration.
flash	Restores flash directories from the flashbackup.tar.gz file.

### Usage Guidelines

This command is used to restore configuration, database (which stores roles, slot numbers, any previous Primary information and/or backup information), and the flash to the factory default. This command is applied locally only; you can not execute this remotely.



---

This command *clears* the current configuration and stacking interface configuration.

---

### Example

The following example restores the factory default certificate:

```
(host)#restore factory_default certificate
```

### Command History

Release	Modification
ArubaOS 7.0	This command was introduced.
ArubaOS 7.1	The <b>stacking</b> parameter was introduced.

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable and Configuration Mode (config)

## rmon alarm

```
rmon alarm <alarm-index>  
    alarm-profile <alarm-profile-name>
```

### Description

This command creates and associates an alarm profile with the alarm entry.

### Syntax

Parameter	Description	Range	Default
<alarm-index>	Index of the alarm entry.	1-65535	—
alarm-profile <alarm-profile-name>	Applies RMON alarm profile to an alarm entry.	—	—
clone	Copy data from another alarm profile.	—	—
monitor	Configures an OID to monitor.	—	—
no	Delete command.	—	—
owner	Configures the owner of this alarm entry.	—	config

### Usage Guidelines

Associate `alarm-profile` with the `alarm-entry`. Please note that the `monitor-entity` must be set to valid OID before applying the `alarm-profile`.

### Example

The following example creates and associates an `alarm-profile` with the `alarm-entry`:

```
(host) (config) #rmon alarm 1  
    (alarm "1") #alarm-profile my_profile  
    (alarm "1") #monitor gigabitethernet 0/0/2 oid-type in-errors-pkts  
    (alarm "1") #owner aruba_1  
  
(host) (config) #rmon alarm 2  
    (alarm "2") #alarm-profile my_2_profile  
    (alarm "2") #monitor ifInErrors.3  
    (alarm "2") #owner aruba_2  
  
(host) (config) #rmon alarm 3  
    (host) (alarm "3") #alarm-profile my_profile  
    (host) (alarm "3") #monitor port-channel 0 oid-type out-bcast-pkts
```

### Command History

Release	Modification
ArubaOS 7.1.3	This command was introduced.

## Command Information

Platform	License	Command Mode
Mobility Access Switch	Base operating system	Enable and Configuration Modes



## rmon alarm-profile

```
rmon alarm-profile <profile-name>
  clone <source>
  falling-event <event-index>
  falling-threshold-value <value>
  interval<interval>
  no..
  rising-event <event-index>
  rising-threshold-value <value>
  sample-type <absolute|delta>
  startup-alarm {falling|rising|rising-or-falling}
```

### Description

This command creates an alarm profile to apply to alarm entry.

### Syntax

Parameter	Description	Range	Default
<profile-name>	Enter the name of the alarm profile.	—	—
clone <source>	Copy data from another alarm profile.	—	—
falling-event <event-index>	Associate an event index or profile to the falling event.	—	—
falling-threshold-value <value>	Specifies the value at which the event is generated.	—	0
interval <interval>	Configures sampling period (in seconds) of the monitored variable.	—	10
no	Removes the specified configuration parameter.	—	—
rising-event <event-index>	Associate an event profile or index to the rising event.	—	—
rising-threshold-value <value>	Specifies the value at which the event is generated.	—	0

Parameter	Description	Range	Default
<code>sample-type &lt;absolute delta&gt;</code>	<p>Specifies whether the sample type is either delta or absolute.</p> <ul style="list-style-type: none"> <li>When the sample-type is delta, the value of the selected variable at the last sample will be subtracted from the current value, and the difference is compared with the thresholds.</li> <li>When the sample-type is absolute, the value of the selected variable will be compared directly with the thresholds at the end of the sampling interval.</li> </ul>	—	delta
<code>Initial-alarm &lt;falling  rising  rising-or-falling&gt;</code>	Configures initial alarm (rising, falling, or either).	—	rising-or-falling

## Usage Guidelines

To configure the alarm variable, first you have to create an alarm profile.

## Examples

The following example creates an alarm-profile:

```
(host) (config) #rmon alarm-profile my_profile
(alarm profile "my_profile") #rising-event 1
    falling-event 2
    rising-threshold-value 2000
    falling-threshold-value 100
```

```
startup-alarm rising
sample-type absolute
interval 10
```

The following example displays the details on the alarm-profile created:

```
(host) #show rmon-config alarm-profile my_profile
```

```
alarm profile "my_profile"
```

```
-----
```

Parameter	Value
-----	-----
Interval at which samples need to be taken	10
Alarm sample type	absolute
Rising threshold against which to compare the value	2000
Falling threshold against which to compare the value	100
Rising event index	1
Falling event index	2
Initial alarm (rising, falling, or either)	rising

## Command History

Release	Modification
ArubaOS 7.1.3	This command was introduced.

## Command Information

Platform	License	Command Mode
Mobility Access Switch	Base operating system	Configuration Mode

## rmon etherstat

```
rmon etherstat <etherstat-index>{clone|monitor|owner}
```

### Description

This command configures ethernet statistics collection on an interface.

### Syntax

Parameter	Description	Range	Default
<etherstat-index>	Enter the index of the etherstat entry.	1-65535	—
clone	Copy data from another Etherstat index.	—	—
monitor	Configures an OID to monitor.	—	—
no	Delete command.	—	—
owner	Configure owner of an etherstat entry	—	config

### Usage Guidelines

You have to first create an `etherstat-profile` with `profile-name` as etherstat index. Then associate the SNMP OID to monitor.

### Example

The following `rmon etherstat` entries monitor the same OID:

```
(host) (config) #rmon etherstat 1
(host) (Etherstat index "1") #monitor gigabitethernet 0/0/3
(host) (config) #rmon etherstat 2
(host) (Etherstat index "2") #monitor ifIndex.4

(host) (config) #rmon etherstat 3
(host) (Etherstat index "3") #monitor port-channel 0
(host) (config) #rmon etherstat 4
(host) (Etherstat index "4") #monitor ifIndex.1441
```

The following example shows the SNMP `ifIndex` of a particular interface:

```
(host) #show interface port-channel 0
port-channel 0 is administratively Up, Link is Up, Line protocol is Up
Hardware is Port-Channel, Address is 00:0b:86:6b:51:c0
Description: Link Aggregate
Member port(s):
    GE0/0/1 is administratively Up, Link is Up, Line protocol is Up
Speed: 1 Gbps
Interface index: 1441
MTU 1514 bytes
```

### Command History

Release	Modification
ArubaOS 7.1.3	This command was introduced.

## Command Information

Platform	License	Command Mode
Mobility Access Switch	Base operating system	Configuration Mode

## rmon event

```
rmon event <event-index>{type|description|owner}
```

### Description

This command configures an event entry.

### Syntax

Parameter	Description	Range	Default
<event-index>	Index of the event entry.	1-65535	—
type	Specifies whether to send SNMPtrap or create log entry when the event occurs. <ul style="list-style-type: none"><li>When type is log or log-and-trap, an RMON log entry is created when the event is triggered and sets the eventType in the RMON MIB to log or log-and-trap.</li><li>When type is trap or log-and-trap, SNMP trap is generated.</li><li>When type is none, no action is taken for this event.</li></ul>	—	—
description	Configures description of the event.	—	—
owner	Configures owner of the event.	—	config

### Usage Guideline

Event-profile is used to specify the action to take when an alarm triggers an event.

### Example

The following example configures an event entry:

```
(host) (config) #rmon event 1
(Event index "1") #description low_mcast
(Event index "1") #owner Administrator
(Event index "1") #type trap
```

### Command History

Release	Modification
ArubaOS 7.1.3	This command was introduced.

### Command Information

Platform	License	Command Mode
Mobility Access Switch	Base operating system	Configuration Mode

## rmon history

```
rmon history <history-index>{monitor|samples|sampling-interval|owner}
no..
```

### Description

This command enables the RMON history group of statistics on an interface.

### Syntax

Parameter	Description	Range	Default
<history-index>	Specifies the index of the history entry.	1-65535	—
monitor	Configures the OID to monitor.	—	—
samples	Specifies the number of samples to sample the data.	1-65535	50
sampling-interval	Specifies the interval of each sample.	1-3600	1800
owner	Configures owner of the history group.	—	config
no	Deletes the configuration.		

### Usage Guidelines

First create `history-profile` with `profile-name` as history index which is equivalent to `historyControlIndex` in `history ControlTable` of RMON MIB. Then associate the SNMP OID to monitor. If the interval is changed later then the older history will be lost and a new history collection will be created with the same history index.



The memory usage on the Mobility Access Switch will increase with the increase in the number of history samples and/or etherstat entries. The network administrator has to make sure that the configured samples or entries do not end up consuming all the available free memory.

### Example

The following example enables the RMON history group of statistics on an interface.

```
(host) (config) #rmon history 1
(host) (History index "1") #monitor gigabitethernet 0/0/3
      (History index "1") #samples 10
      (History index "1") #sampling-interval 8
      (History index "1") #owner Administrator

(host) (config) #rmon history 2
(host) (History index "2") #monitor ifIndex.4
```

### Command History

Release	Modification
ArubaOS 7.1.3	This command was introduced.

## Command Information

Platform	License	Command Mode
Mobility Access Switch	Base operating system	Configuration Mode



# rogue-ap-containment

```
rogue-ap-containment
  action {default [auto-recovery-time <recovery_timeout>] | log}
  enable
  no
```

## Description

Configure the rogue AP containment actions.

## Syntax

Parameter	Description
action	Set one of the following containment actions: <ul style="list-style-type: none"><li>• default</li><li>• log</li></ul>
default	If the MAC address is detected on a trunk port or on an untrusted access port, it is blacklisted and a message is logged into the syslog. If detected on a trusted access port, the port and the PoE are shutdown.
auto-recovery-time <recovery_timeout>	You can optionally configure the auto recovery time for the port in seconds. Default value is 300 seconds and the allowed range is 0-65535 seconds.
log	Discards the MAC address and logs it as blacklisted address.
enable	Enables rogue AP containment. This is enabled by default.
no	Delete command.

## Usage Guidelines

Use this command to enable or disable rogue AP containment and configure the action to be taken on the list of MAC addresses received from IAP.

## Example

The following sample enables rogue AP containment and sets the default action with an auto recovery time of 50 seconds:

```
(host) (rogue-ap-containment) #enable
(host) (rogue-ap-containment) #action default auto-recovery-time 50
```

## Related Command

Command	Description
<a href="#">show rogue-ap-containment</a>	View the rogue AP containment configuration.

## Command History

Release	Modification
ArubaOS 7.4	This command is introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Configuration Mode

## router ospf

```
router ospf
  area <areaid> [stub [no-summary]] | [nssa [default-info-originate metric <cost> metric-type
  <mtype> [translate-always]] | [no-summary] | [translate-always]]
  area-range
  default-info-originate [always [metric <cost> metric-type <mtype>]] | [metric <cost>
  metric-type <mtype> [always]]
  disable
  disable-compatible-rfc1583
  distribute-list <distribute-list>
  no {...}re
  redistribute vlan {<vlan-ids> | add <vlan-ids> | remove <vlan-ids>}
  router-id <A.B.C.D>
  summary-address
```

### Description

Configure the OSPF global profile.

### Syntax

Parameter	Description	Range	Default
area <areaid>		0 - 4294967295	0.0.0.0

Parameter	Description	Range	Default
<pre>[stub [no-summary]]   [nssa [default-info-originate metric &lt;cost&gt; metric-type &lt;mtype&gt; [translate-always]]   [no-summary]   [translate-always]]</pre>	<p>Optionally, enter the following parameters to define an area type:</p> <ul style="list-style-type: none"> <li>• <b>stub</b> — Set an area as a stubby area</li> <li>• <b>no-summary</b> — set an area as a Totally Stubby Area (TSA)</li> <li>• <b>nssa</b> — Set an area as a Not So Stubby Area (NSSA)</li> <li>• <b>default-info-originate</b> — Send default Link State Advertisement (LSA) in NSSA</li> <li>• <b>metric</b> — Metric cost for the default route</li> <li>• <b>metric-type</b> — Set the metric type (N1 or N2 for NSSA) for the destination routing protocol</li> <li>• <b>translate-always</b> — Configures an NSSA Area Border Router (ABR) as a forced NSSA LSA translator. The NSSA ABR router unconditionally translates Type-7 LSAs to Type-5 LSAs.</li> </ul>	<p><b>&lt;cost&gt;</b> — 1 - 65535  <b>&lt;mtype&gt;</b> — 1 - 2</p>	<p><b>&lt;mtype&gt;</b> — 2</p>
<pre>area-range &lt;ip&gt; &lt;netmask&gt; &lt;area-id&gt;</pre>	<p>Configures the inter-area route summarization to consolidate and summarize the routes at the boundary</p>	<p>—</p>	<p>—</p>

Parameter	Description	Range	Default
<pre>default-info-originate [always [metric &lt;cost&gt; metric-type &lt;mtype&gt;]]   [metric &lt;cost&gt; metric-type &lt;mtype&gt; [always]]</pre>	<ul style="list-style-type: none"> <li>• <b>default-info-originate</b> — Generate default LSA</li> <li>• <b>always</b> — Generate default LSA when there is no default route</li> <li>• <b>metric</b> — Metric cost of the default route</li> <li>• <b>metric-type</b> — Set the metric type (E1 or E2) for the destination routing protocol</li> </ul>	<p>&lt;cost&gt; — 1 - 65535</p> <p>&lt;mtype&gt; — 1 - 2</p>	<p>&lt;mtype&gt; — 2</p>
disable	Enter the keyword <b>disable</b> to disable (or <b>no disable</b> to enable) an OSPF instance.	—	Enabled
disable-compatible-rfc1583	Disable RFC 1583 compatibility. Use the no parameter to enable this command.	—	Enabled
<pre>distribute-list &lt;distribute-list&gt;</pre>	<p>Use this command to filter networks received in updates.</p> <p><b>NOTE:</b> Before configuring distribute-list, <a href="#">ip-profile</a> must be configured on the switch.</p>	—	—
<pre>redistribute vlan &lt;vlan-ids&gt;</pre>	Enter the keywords <b>redistribute vlan</b> followed by the VLAN identification to redistribute the VLAN subnet.	—	—

Parameter	Description	Range	Default
<code>add &lt;vlan-ids&gt;</code>	Enter the keyword <b>add</b> followed by the VLAN identification to add the specified VLANs to the current list.	—	—
<code>remove &lt;vlan-ids&gt;</code>	Enter the keyword <b>remove</b> followed by the VLAN identification to remove the specified VLANs from the current list.	—	—
<code>router-id &lt;router-id&gt;</code>	Enter the keyword <b>router-id</b> followed by the router identification number (in dotted decimal format A.B.C.D) to configure the specified router.	—	—
<code>summary-address &lt;ip&gt; &lt;netmask&gt;</code>	Configures external route summarization.	—	—

## Usage Guidelines

Configure the OSPF global commands.

## Examples

Executing this command changes the mode as shown below:

```
(host) (config) #router ospf
(host) (Global OSPF profile) #area 1
```

Following example adds VLAN 2 to the redistribute subnet's current list.

```
(host) (Global OSPF profile) #redistribute vlan add 2
```

Following example creates an NSSA area which adds a default route to the NSSA area and configures an NSSA Area Border Router (ABR) as a forced NSSA LSA translator. The NSSA ABR router unconditionally translates Type-7 LSAs to Type-5 LSAs.

```
(host) (Global OSPF profile) #area 0.0.0.1 nssa default-info-originate metric 1 metric-type 1
translate-always
```

Before configuring `distribute-list`, `prefix-list` must be configured on the switch. To configure `prefix-list`, see [ip-profile](#). Following example configures `distribute-list` with `aruba` `prefix-list` name.

```
(host) (Global OSPF profile) #distribute-list aruba
```

## Related Commands

Command	Description
<a href="#">interface-profile ospf-profile</a>	Configures an OSPF interface profile.
<a href="#">ip-profile</a>	This command is used to configure IP prefix filtering. Prefix lists are used to either permit or deny the configured prefix based on the matching condition.

## Command History

Release	Modification
ArubaOS 7.1.1	This command was introduced.
ArubaOS 7.2	The following new parameters were introduced: <ul style="list-style-type: none"><li>• <b>stub no-summary</b></li><li>• <b>nssa</b></li><li>• <b>default-info-originate</b></li><li>• <b>disable-compatible-rfc1583</b></li><li>• <b>distribute-list</b></li></ul>
ArubaOS 7.3.1	The following parameters were introduced: <ul style="list-style-type: none"><li>• <b>area-range</b></li><li>• <b>summary-address</b></li></ul>

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Configuration Mode

## router pim

```
router pim  
<rp-address> <group-range> <grpmask>  
ssm
```

### Description

Use this command to configure global PIM profile.

### Syntax

Parameter	Description
rp-address <rp-address>	Configures IP address of RP.
group range <group-range>	Configures group range serviced by this RP.
grpmask <grpmask>	Configures group address mask.
ssm	Enables PIM-SSM protocol.
no	Delete command.

### Example

```
(host) (Global PIM profile) #rp-address 1.1.1.1 group-range 1.1.1.1 1.1.1.1
```

### Command History

Release	Modification
ArubaOS 7.1.1	This command was introduced.
ArubaOS 7.3.1	The <b>ssm</b> parameter was introduced.

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Configuration



# run diagnostic interface gigabitethernet

```
run diagnostics interface gigabitethernet  
  <slot/module/port> cable
```

## Description

Run a Time-Domain Reflectometer (TDR) diagnostic test on a specific gigabitethernet interface. TDR is a measurement technique used to characterize and locate faults in metallic cables such as twisted pair. TDR transmits a short rise electric pulse across the conducting cable and if the cable is properly terminated, the entire electric pulse is absorbed on the other end. If any faults exist in the cable, some of the incident signal is sent back towards the source. TDR also:

- Locates the position of faults within meters
- Detects and reports open circuits, short circuits, and impedance mismatches in a cable
- Detects pair swap (straight/crossover) on each pair of cable in twisted pair cable
- Detects pair polarity (positive/negative) on each channel pairs in a cable



---

TDR is not supported over management interfaces, Direct Attach Cables (DAC) or Fiber interfaces.

---

## Syntax

Parameter	Description
<code>&lt;slot/module/port&gt; cable</code>	Specifies the cable on which the TDR diagnostic will be executed.

## Usage Guidelines

Use this command to execute a TDR diagnostic test on a specific gigabitethernet interface.

## Example

```
run diagnostics interface gigabitethernet <slot/module/port> cable
```

## Related Command

Command	Description
<a href="#">show diagnostics interface gigabitethernet</a>	Display the results of the TDR diagnostic test.

## Command History

Release	Modification
ArubaOS 7.1	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable and Configuration Mode (config)

## service rmon

service rmon

### Description

This command enables rmon service on the Mobility Access Switch.

### Syntax

No parameters.

### Usage Guidelines

By default, `service rmon` is disabled. When the `service rmon` command is disabled, the rmon data is not populated in the CLI display command but all the other configurations can be performed. When the `service rmon` command is enabled, all the configurations that are performed earlier would be applied.

### Example

The following command enables rmon service on the Mobility Access Switch:

```
(host)(config)# service rmon
```

### Command History

Release	Modification
ArubaOS 7.1.3	This command was introduced.

### Command Information

Platform	License	Command Mode
Mobility Access Switch	Base operating system	Configuration Mode

## set interface local-mgmt

```
set interface local-mgmt [ip-address <address> netmask <mask> gateway <gw> member <id>] | [no-shut] | [shut]
```

### Description

Set the local management interface or administratively bring an interface up or down.

### Syntax

Parameter	Description
ip-address <address>	Enter the keyword <b>ip-address</b> followed by the IP address of the local management interface in A.B.C.D. format.
netmask <mask>	Enter the keyword <b>netmask</b> followed by the netmask address in A.B.C.D. format.
gateway <gw>	Enter the keyword <b>gateway</b> followed by the gateway address in A.B.C.D. format to set the gateway for the local management access.
member <id>	Enter the keyword <b>member</b> followed by a member's ID number.
no shut	Enter the keywords <b>no shut</b> to change the admin state of the management interface to UP.
shut	Enter the keyword <b>shut</b> to change the admin state of the management interface to DOWN.

### Command History

Release	Modification
ArubaOS 7.1	This command was introduced.

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable and Configuration Mode (config)

# set stacking activate

set stacking activate

## Description

Activate an ArubaStack.

## Usage Guidelines

This command activates the ArubaStack and runs the distributed election algorithm on all local ArubaStack members. Only currently connected members are considered in the election algorithm. Any previous ArubaStack members, which are no longer connected, are “forgotten” by the current members of the ArubaStack.



---

This command can not be executed remotely.

---

## Example

Activate the ArubaStack as follows:

```
(host) # set stacking activate  
(host) #
```

If you execute this command on an ArubaStack that is already activated, a message notifying you of the ArubaStack’s status is returned as follows:

```
(host) # set stacking activate  
Stack already active
```

## Command History

Release	Modification
ArubaOS 7.1	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable Mode

## set stacking interface stack

```
set stacking interface stack <module/port> [member <id> | all] | [shut | no-shut]
```

### Description

Administratively bring an ArubaStack port up or down.

### Syntax

Parameter	Description
<module/port>	Enter the stacking interface details in module/port format.
member <id>	Enter the keyword <b>member</b> followed by a member's ID number.
all	Enter the keyword <b>all</b> to set all member information in the ArubaStack.
no-shut	Enter the keywords <b>no-shut</b> to change the administrative state of the stacking interface to UP.
shut	Enter the keyword <b>shut</b> to change the administrative state of the stacking interface to DOWN. <b>NOTE:</b> The shut option is available on local members only.

### Command History

Release	Modification
ArubaOS 7.1	This command was introduced.

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable Mode

## set stacking renumber

```
set stacking renumber <id> <new-id>
```

### Description

Renumber a member's slot number to a new slot number. Execute this command from the Primary.

### Syntax

Parameter	Description
<id>	Existing slot number.
<new-id>	New slot number.

### Command History

Release	Modification
ArubaOS 7.1	This command was introduced.

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable Mode

## set stacking swap

```
set stacking swap <id1> <id2>
```

### Description

Swap two members existing slot numbers.

### Syntax

Parameter	Description
<id1>	Member ID number.
<id2>	Second Member ID number.

### Usage Guidelines

This command can only be used on linecard members; you can *not* swap Primary or Secondary member's slot numbers.

### Example

The command below swaps slot numbers.

```
(host)#set stacking swap id2 id0
```

### Command History

Release	Modification
ArubaOS 7.1	This command was introduced.

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable Mode

# set traceflags

```
set traceflags  
  dpa  
  dpe  
  dpa-sos
```

## Description

Use this command for setting trace flags for various packet forwarding functions.

## Syntax

Parameter	Description
dpa	<p>Set logs for the following hardware packet forwarding functions:</p> <ul style="list-style-type: none"><li>• ace—Set debug of ACE operations</li><li>• acl—Set debug of ACL operations</li><li>• all—Set debug of all supported operations</li><li>• auth—Set debug of AUTH operations</li><li>• bss—Set debug of BSS operations</li><li>• crypto-key—Set debug of CRYPTO-KEY operations</li><li>• fdb—Set debug of FDB operations</li><li>• ipseca—Set debug of IPSECSA operations</li><li>• l3mcr— Set debug of L3 MULTICAST ROUTE operations</li><li>• lif—Set debug of LIF operations</li><li>• mc2rt—Set debug of MC2RT operations</li><li>• mcrt—Set debug of MCRT operations</li><li>• mcrt-sta—Set debug of MCRT-STA operations</li><li>• msti-state—Set debug of MSTI-STATE indications</li><li>• mstp-entry—Set debug of MSTP-ENTRY operations</li><li>• nat—Set debug of NAT operations</li><li>• nh— Set debug of Next Hop operations</li><li>• pif—Set debug of PIF operations</li><li>• qos—Set debug of QOS operations</li><li>• role—Set debug of role operations</li><li>• route—Set debug of ROUTE operations</li><li>• sapm-ap-info—Set debug of SAPM-AP-INFO operations</li><li>• ssm-ind—Set debug of SSM indications</li><li>• station—Set debug of STATION operations</li><li>• user—Set debug of USER operations</li><li>• user-key—Set debug of USER-KEY operations</li><li>• vassign—Set debug of VASSIGN operations</li><li>• vlan—Set debug of VLAN operations</li></ul>



Parameter	Description
dpe	<p>Set logs for the following packet forwarding functions in the hardware engine:</p> <ul style="list-style-type: none"> <li>• all— Set debug of all supported operations</li> <li>• devrt— Set debug of DEVRT operations</li> <li>• efltr— Set debug of EFLTR operations</li> <li>• fdb— Set debug of FDB operations</li> <li>• fdb-age— Set debug of FDB AGE operations</li> <li>• fdb-intr— Set debug of FDB DMA operations</li> <li>• l3mcrct— Set debug of L3 MULTICAST ROUTE operations</li> <li>• pcl—Set debug of PCL operations</li> <li>• policer—Set debug of POLICER operations</li> <li>• port—Set debug of PORT operations</li> <li>• qos—Set debug of QOS operations</li> <li>• route—Set debug of L3 ROUTE operations</li> <li>• sysinfo—Set debug of SYSINFO operations</li> <li>• user—Set debug of USER operations</li> <li>• vassign—Set debug of VASSIGN operations</li> <li>• vidx—Set debug of VIDX operations</li> <li>• vlan—Set debug of VLAN operations</li> </ul>
dpa-sos	<p>Set logs for the following software packet forwarding functions:</p> <ul style="list-style-type: none"> <li>• ace—Set debug of ACE operations</li> <li>• acl—Set debug of ACL operations</li> <li>• all—Set debug of all supported operations</li> <li>• auth—Set debug of AUTH operations</li> <li>• contract—Set debug of CONTRACT operations</li> <li>• fdb—Set debug of FDB operations</li> <li>• lif—Set debug of LIF operations</li> <li>• mcrt —Set debug of MCRT operations</li> <li>• mcrt-sta—Set debug of MCRT-STA operations</li> <li>• nat-pool—Set debug of NAT-POOL operations</li> <li>• nh—Set debug of Next Hop operations</li> <li>• nodeinfo—Set debug of NODEINFO operations</li> <li>• route —Set debug of ROUTE operations</li> <li>• service—Set debug of SERVICE operations</li> <li>• station —Set debug of STATION operations</li> <li>• user —Set debug of USER operations</li> <li>• user-key—Set debug of USER-KEY operations</li> <li>• vlan —Set debug of VLAN operations</li> <li>• vlif —Set debug of VLIF operations</li> </ul>

## Usage Guidelines

This command can be used for troubleshooting packet forwarding functions in the software and hardware using the log files.

## Example

You can use the following commands for troubleshooting NAT operations using DPA logs:

```
(host) #set traceflags dpa nat
```

## Command History

Release	Modification
ArubaOS 7.4	This command is introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable Mode

## show aaa authentication dot1x

```
show aaa authentication dot1x <profile-name>
```

### Description

This command shows information for 802.1X authentication profiles.

Parameter	Description
<profile-name>	The name of an existing 802.1X authentication profile.

### Usage Guidelines

Issue this command without the <profile-name> option to display the entire 802.1X Authentication profile list, including profile status and the number of references to each profile. Include a profile name to display detailed dot1x authentication configuration information for that profile.

### Examples

The following example lists all dot1x authentication profiles. The **References** column lists the number of other profiles with references to a 802.1X authentication profile, and the **Profile Status** column indicates whether the profile is predefined. User-defined 802.1X profiles will not have an entry in the **Profile Status** column.

```
(host) #show aaa authentication dot1x
```

```
802.1X Authentication Profile List
-----
Name           References  Profile Status
-----
default        2
dot1x          5
dot1xtest      0
```

```
Total:3
```

To display a complete list of parameters for an individual profile, include the <profile> parameter. The example below displays some of the profile details for the authentication profile **pDotix**.

```
(host) #show aaa authentication dot1x default
```

```
802.1X Authentication Profile "default"
-----
Parameter                                           Value
-----
Max authentication failures                          0
Enforce Machine Authentication                      Disabled
Machine Authentication: Default Machine Role        guest
Machine Authentication Cache Timeout                24 hr(s)
Blacklist on Machine Authentication Failure         Disabled
Machine Authentication: Default User Role           guest
Interval between Identity Requests                  30 sec
Quiet Period after Failed Authentication            30 sec
Reauthentication Interval                           86400 sec
Use Server provided Reauthentication Interval        Disabled
Authentication Server Retry Interval                 30 sec
Authentication Server Retry Count                   2
Framed MTU                                           1100 bytes
Number of times ID-Requests are retried             3
```

```

Maximum Number of Reauthentication Attempts          3
Maximum number of times Held State can be bypassed  0
Reauthentication                                   Disabled
Termination                                         Disabled
Termination EAP-Type                               N/A
Termination Inner EAP-Type                         N/A
Enforce Suite-B 128 bit or more security level Authentication Disabled
Enforce Suite-B 192 bit security level Authentication Disabled
Token Caching                                       Disabled
Token Caching Period                               24 hr(s)
CA-Certificate                                      N/A
Server-Certificate                                  N/A
TLS Guest Access                                    Disabled
TLS Guest Role                                      guest
Ignore EAPOL-START after authentication            Disabled
Handle EAPOL-Logoff                                Disabled
Ignore EAP ID during negotiation.                  Disabled
...

```

The output of the `show aaa authentication dot1x` command includes the following parameters:

Parameter	Value
Max authentication failures	Number of times a user can try to login with wrong credentials after which the user is blacklisted as a security threat. Blacklisting is disabled if this parameter is set to 0.
Enforce Machine Authentication	Shows if machine authentication is enabled or disabled for Windows environments. If enabled, If enabled, either the machine-default-role or the user-default-role is assigned to the user, depending on which authentication is successful.
Machine Authentication: Default Machine Role	Default role assigned to the user after completing only machine authentication.
Machine Authentication Cache Timeout	The timeout period, in hours, for machine authentication. After this period passes, the use will have to re-authenticate.
Blacklist on Machine Authentication Failure	If enabled, the client is blacklisted if machine authentication fails.
Machine Authentication: Default User Role	Default role assigned to the user after 802.1X authentication.
Interval between Identity Requests	Interval, in seconds, between identity request retries
Quiet Period after Failed Authentication	Interval, in seconds, following failed authentication.

Parameter	Value
Reauthentication Interval	Interval, in seconds, between reauthentication attempts.
Use Server provided Reauthentication Interval	If enabled, 802.1X authentication will use the server-provided reauthentication period.
Authentication Server Retry Interval	Server group retry interval, in seconds.
Authentication Server Retry Count	The number of server group retries.
Framed MTU	Shows the framed MTU attribute sent to the authentication server.
Number of times ID-Requests are retried	Maximum number of times ID requests are sent to the client.
Maximum Number of Reauthentication Attempts	Maximum number of reauthentication attempts.
Maximum number of times Held State can be bypassed	Number of consecutive authentication failures which, when reached, causes the switch to not respond to authentication requests from a client while the switch is in a held state after the authentication failure.
Reauthentication	If enabled, this option forces the client to do a 802.1X reauthentication after the expiration of the default timer for reauthentication. (The default value of the timer is 24 hours.)
Termination	Shows if 802.1X termination is enabled or disabled on the switch.
Termination EAP-Type	Shows the current Extensible Authentication Protocol (EAP) method, either EAP-PEAP or EAP-TLS.
Termination Inner EAP-Type	When EAP-PEAP is the EAP method, this parameter displays the inner EAP type.
Enforce Suite-B 128 bit or more security level Authentication	Shows if Suite-B 128 bit or more security level authentication enforcement is enabled or disabled.
Enforce Suite-B 192 bit security level Authentication	Shows if Suite-B 192 bit or more security level authentication enforcement is enabled or disabled.

Parameter	Value
Token Caching	If this feature enabled (and EAP-GTC is configured as the inner EAP method), token caching allows the switch to cache the username and password of each authenticated user.
Token Caching Period	Timeout period, in hours, for the cached information.
CA-Certificate	Name of the CA certificate for client authentication loaded in the switch.
Server-Certificate	Name of the Server certificate used by the switch to authenticate itself to the client.
TLS Guest Access	Shows if guest access for valid EAP-TLS users is enabled or disabled.
TLS Guest Role	User role assigned to EAP-TLS guest.
Ignore EAPOL-START after authentication	If enabled, the switch ignores EAPOL-START messages after authentication.
Handle EAPOL-Logoff	Shows if handling of EAPOL-LOGOFF messages is enabled or disabled.
Ignore EAP ID during negotiation	If enabled, the switch will ignore EAP IDs during negotiation.

## Related Command

Command	Description
<a href="#">aaa authentication dot1x</a>	Use this command to enter the aaa authentication dot1x profile mode.

## Command History

Release	Modification
ArubaOS 7.0	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable

## show aaa authentication-server all

```
show aaa authentication-server all
```

### Description

View authentication server settings for both external authentication servers and the internal switch database.

### Usage Guidelines

The output of this command displays statistics for the Authentication Server Table, including the name and address of each server, server type and configured authorization and accounting ports.

### Examples

The following command shows information for the internal Authentication server, and another RADIUS server named RADIUS-1.

The following data columns appear in the output of this command:

Parameter	Description
Name	Name of the authentication server.
Type	The type of authentication server. ArubaOS supports LDAP, RADIUS and TACACS+ servers, in addition to its own local, internal authentication server.
FQDN	The Fully-Qualified Domain Name of the server, if configured.
IP addr	IP address of the server, in dotted-decimal format.
AuthPort	Port number used for authentication. An LDAP server uses port 636 for LDAP over SSL, and port 389 for SSL over LDAP, Start TLS operation and clear text. The default RADIUS authentication port is port 1812.
AcctPort	Accounting port on the server. The default RADIUS accounting port is port 1813.
AcctPort	Accounting port on the server.
Status	Shows whether the Authentication server is enable or disabled.
Requests	Number of authentication requests received by the server.

### Related Commands

Command	Description
<a href="#">aaa authentication-server radius</a>	This command configures a RADIUS server.
<a href="#">aaa authentication-server tacacs</a>	This command configures a TACACS server.

### Command History

Release	Modification
ArubaOS 7.0	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable



## show aaa authentication mac

```
show aaa authentication mac [<profile-name>]
```

### Description

This command shows information for MAC authentication profiles.

### Syntax

Parameter	Description
<profile-name>	The name of an existing MAC authentication profile.

### Usage Guidelines

Issue this command without the <profile-name> option to display the entire MAC Authentication profile list, including profile status and the number of references to each profile. Include a profile name to display detailed MAC authentication configuration information for that profile.

### Examples

The output of the example below shows two MAC authentication profiles, **default** and **macProfile1**, which are referenced three times by other profiles. the **Profile Status** columns are blank, indicating that these profiles are both user-defined. (If a profile is predefined, the value **Predefined** appears in the Profile Status column.)

```
(host) #show aaa authentication mac

MAC Authentication Profile List
-----
Name           References  Profile Status
----           -
default        3
MacProfile1    3

Total:2
```

The following example displays configuration details for the MAC authentication profile "MacProfile1," including the delimiter and case used in the authentication request, and the maximum number of times a client can fail to authenticate before it is blacklisted.(host) #show aaa authentication mac MacProfile1

```
MAC Authentication Profile "MacProfile1"
-----
Parameter           Value
-----
Delimiter            colon

Case upperMax Authentication failures 3
```

### Related Command

Command	Description
<a href="#">aaa authentication mac</a>	Use this command to enter the aaa authentication mac profile mode.

## Command History

Release	Modification
ArubaOS 7.0	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable

# show aaa authentication mgmt

## Description

This command displays administrative user authentication information, including management authentication roles and servers.

## Usage Guidelines

Issue this command to identify the default management role assigned to authenticated administrative users, and the name of the group of servers used to authenticate these users.

## Example

The output of the following example displays management authentication information for your switch.

```
(host) #show aaa authentication mgmt
Management Authentication Profile
-----
Parameter      Value
-----
Default Role   root
Server Group   Servgroup1
Enable         Enabled
```

The output of the **show aaa authentication mgmt** command includes the following parameters:

Parameter	Description
Default Role	This parameter shows which of the following roles the switch uses for authentication management. <ul style="list-style-type: none"><li>• <b>root</b>, the super user role (default).</li><li>• <b>network-operations</b>, network operator role.</li><li>• <b>read-only</b>, read only role.</li><li>• <b>location-api-mgmt</b>, location API management role.</li><li>• <b>no-access</b>, no commands are accessible.</li></ul>
Server Group	The name of a server group.
Enable	The <b>Enable</b> parameter indicates whether or not management authentication is enabled or disabled.

## Related Command

Command	Description
<a href="#">aaa authentication mgmt</a>	Use this command to enter the aaa authentication mgmt profile mode.

## Command History

Release	Modification
ArubaOS 7.0	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable

## show aaa authentication-server internal

```
show aaa authentication-server internal [statistics]
```

### Description

View authentication server settings for the internal switch database.

### Example

The output of the command below shows that the internal authentication server has been disabled.

The following data columns appear in the output of this command:

Parameter	Description
Host	Name of the internal authentication server.
IP addr	Address of the internal server, in dotted-decimal format.
Retries	Number of retries allowed before the server stops attempting to authenticate a request.
Timeout	Timeout period, in seconds.
Status	Shows if the server is enabled or disabled

Include the **statistics** parameter to display additional details for the internal server.

The following data columns appear in the output of this command:

Parameter	Description
PAP Requests	Number of PAP requests received by the internal server.
PAP Accepts	Number of PAP requests accepted by the internal server.
PAP Rejects	Number of PAP requests rejected by the internal server.
MSCHAPv2 Requests	Number of MSCHAPv2 requests received by the internal server.
MSCHAPv2 Accepts	Number of MSCHAPv2 requests accepted by the internal server.
MSCHAPv2 Rejects	Number of MSCHAPv2 requests rejected by the internal server.
Mismatch Response	Number of times the server received an authentication response to a request after another request had been sent.
Users Expired	Number of users that were deauthenticated because they stopped responding.
Unknown Response	Number of times the server did not recognize the response, possibly due to internal errors.
Timeouts	Number of times that the switch timed out an authentication request.

Parameter	Description
AvgRespTime (ms)	Time it takes the server to respond to an authentication request, in seconds.
Uptime (d:h:m)	Time elapsed since the last server reboot.
SEQ first/last/free	This internal buffer counter keeps track of the requests to the authentication server.

## Related Command

Command	Description
<a href="#">aaa server-group</a>	This command allows you to add a configured authentication server to an ordered list in a server group, and configure server rules to derive a user role, VLAN ID or VLAN name from attributes returned by the server during authentication.

## Command History

Release	Modification
ArubaOS 7.0	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable

## show aaa authentication-server ldap

```
show aaa authentication-server ldap [<ldap_server_name>]
```

### Description

Display configuration settings for your LDAP servers.

### Syntax

Parameter	Description
<ldap_server_name>	Name that identifies an LDAP server.

### Examples

The output of the example below displays the LDAP server list with the names of all the LDAP servers. The **References** column lists the number of other profiles that reference an LDAP server, and the **Profile Status** column indicates whether the profile is predefined. User-defined profiles will not have an entry in the **Profile Status** column.

Include the **<ldap\_server\_name>** parameter to display additional details for an individual server.

The output of this command includes the following parameters:

Parameter	Description
host	IP address of the LDAP server.
Admin-DN	Distinguished name for the admin user who has read/search privileges across all of the entries in the LDAP database.
Admin Passwd	Password for the admin user.
Allow Clear-Text	If enabled, this parameter allows clear-text (unencrypted) communication with the LDAP server.
Auth Port	Port number used for authentication. Port 636 will be attempted for LDAP over SSL, while port 389 will be attempted for SSL over LDAP, Start TLS operation and clear text.
Base-DN	Distinguished Name of the node which contains the required user database.
Filter	Filter that should be applied to search of the user in the LDAP database (default filter string is: (objectclass=*).
Key attribute	Attribute that should be used as a key in search for the LDAP server.
Timeout	Timeout period of a LDAP request, in seconds.
Mode	Shows whether this server is <b>Enabled</b> or <b>Disabled</b> .
Preferred Connection Type	Preferred type of connection to the server. Possible values are <ul style="list-style-type: none"><li>● <b>Clear text</b></li><li>● <b>LDAP-S</b></li><li>● <b>START-TLS</b></li></ul>

## Related Command

Command	Description
<code>aaa authentication-server ldap</code>	This command configures an LDAP server.

## Command History

Release	Modification
ArubaOS 7.0	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable



## show aaa authentication-server radius

```
show aaa authentication-server radius [<rad_server_name>|statistics]
```

### Description

Display configuration settings for your RADIUS servers.

### Syntax

Parameter	Description
<rad_server_name>	Name that identifies a RADIUS server.

### Example

The output of the example below displays the RADIUS server list with the names of all the RADIUS servers. The **References** column lists the number of other profiles that reference a RADIUS server, and the **Profile Status** column indicates whether the profile is predefined. User-defined servers will not have an entry in the **Profile Status** column.

To view additional statistics for all RADIUS servers, include the **statistics** parameter.

Include the **<rad\_server\_name>** parameter to display additional details for an individual server.

The output of this command includes the following parameters:

Parameter	Description
host	IP address of the RADIUS server
Key	Shared secret between the switch and the authentication server.
Acct Port	Accounting port on the server.
auth port	Authentication port on the server.
Retransmits	Maximum number of retries sent to the server by the switch before the server is marked as down.
Timeout	Maximum time, in seconds, that the switch waits before timing out the request and resending it.
NAS ID	Network Access Server (NAS) identifier to use in RADIUS packets.
NAS IP	NAS IP address to send in RADIUS packets. If you do not configure a server-specific NAS IP, the global NAS IP is used.
Source Interface	The source interface VLAN ID number.
Use MD5	If enabled, the RADIUS server will use a MD5 hash of the cleartext password.
Mode	Shows whether this server is <b>Enabled</b> or <b>Disabled</b> .

## Related Command

Command	Description
<a href="#">aaa authentication-server radius</a>	This command configures a RADIUS server.

## Command History

Release	Modification
ArubaOS 7.0	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable

## show aaa authentication-server tacacs

```
show aaa authentication-server tacacs [<tacacs_server_name>]|statistics
```

### Description

Display configuration settings for your TACACS+ servers.

### Syntax

Parameter	Description
<tacacs_server_name>	Name that identifies an TACACS+ server.
statistics	Displays accounting, authorization, and authentication request and response statistics for the TACACS server.

### Example

The output of the example below displays the TACACS+ server list with the names of all the TACACS+ servers. The **References** column lists the number of other profiles that reference a TACACS+ server, and the **Profile Status** column indicates whether the profile is predefined. User-defined profiles will not have an entry in the **Profile Status** column.

Include the **<tacacs\_server\_name>** parameter to display additional details for an individual server.

The output of this command includes the following parameters:

Parameter	Description
host	IP address of the TACACS+ server
Key	Shared secret between the switch and the authentication server.
TCP Port	TCP port used by the server.
Retransmits	Maximum number of retries sent to the server by the switch before the server is marked as down.
Timeout	Maximum time, in seconds, that the switch waits before timing out the request and resending it.
Mode	Shows whether this server is <b>Enabled</b> or <b>Disabled</b> .

### Related Command

Command	Description
<a href="#">aaa authentication-server tacacs</a>	This command configures a TACACS server.

### Command History

Release	Modification
ArubaOS 7.0	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable

## show aaa authentication-server windows

```
show aaa authentication-server windows [<windows_server_name>]
```

### Description

Display configuration settings for your Windows servers.

### Syntax

Parameter	Description
<windows_server_name>	Name that identifies a Windows server.

### Examples

The output of the example below displays the Windows server list with the names of all the Windows servers used for NTLM authentication. The **References** column lists the number of other profiles that reference a Windows server, and the **Profile Status** column indicates whether the profile is predefined. User-defined profiles will not have an entry in the **Profile Status** column.

Include the **<windows\_server\_name>** parameter to display additional details for an individual server.

The output of this command includes the following parameters:

Parameter	Description
host	IP address of the Windows server.
Mode	Shows whether this server is <b>Enabled</b> or <b>Disabled</b> .
Windows Domain	Name of the Windows domain to which this server is assigned.

### Command History

Release	Modification
ArubaOS 7.0	This command was introduced.

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable

# show aaa authentication all

```
show aaa authentication all
```

## Description

Show authentication statistics for your switch, including authentication methods, successes and failures.

## Usage Guidelines

This command displays a general overview of authentication statistics. To view authentication information for specific profiles such as a MAC or 801.x authentication profile, issue the commands specific to those features.

## Example

The output of this command displays an authentication overview for your switch, including the authentication methods used, and the numbers of successes or failures for each method. This example shows the numbers of authentication successes and failures for a switch using TACACS+ and RADIUS authentication methods.

```
(host) #show aaa authentication all
```

```
Auth Method Statistics
-----
Method Success Failures
-----
tacacs 12 2Radius 9 1
```

## Related Commands

Command	Description
<a href="#">aaa authentication dot1x</a>	Use this command to enter the aaa authentication dot1x profile mode.
<a href="#">aaa authentication mac</a>	Use this command to enter the aaa authentication mac profile mode.
<a href="#">aaa authentication mgmt</a>	Use this command to enter the aaa authentication mgmt profile mode.
<a href="#">aaa authentication wired</a>	Use this command to enter the aaa authentication wired profile mode.

## Command History

Release	Modification
ArubaOS 7.0	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable

# show aaa authentication wired

## Description

View wired authentication settings for a client device that is directly connected to a port on the switch.

## Usage Guidelines

This command displays the name of the AAA profile currently used for wired authentication.

## Example

The following example shows the current wired profile for the switch is a profile named "secure\_profile\_3."

```
(host) #show aaa authentication wired
Wired Authentication Profile
-----
Parameter      Value
-----      -
AAA Profile    Secure_profile_3
```

## Related Command

Command	Description
<a href="#">aaa authentication wired</a>	Use this command to enter the aaa authentication wired profile mode.

## Command History

Release	Modification
ArubaOS 7.0	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable

## show aaa deny-inter-user-traffic roles

```
show aaa deny-inter-user-traffic roles
```

### Description

View the list of user roles on which deny inter-user traffic is enabled:

### Example

The following command displays the list of user roles on which deny inter-user traffic is enabled:

```
(host) #show aaa deny-inter-user-traffic roles
Maximum number of user roles supported: 7
Enabled on user roles:
-----
Role3
guest
```

### Related Command

Command	Description
<a href="#">user-role</a>	Using this command , you can create a user-role and enable deny-inter-user traffic for that role.

### Command History

Release	Modification
ArubaOS 7.4	This command is introduced.

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable



# show aaa authentication captive-portal

```
show aaa authentication captive-portal [<profile-name> | customization]
```

## Description

This command shows configuration information for captive portal authentication profiles.

## Syntax

Parameter	Description
<profile-name>	The name of an existing captive portal authentication profile.
customization	Displays captive portal customization information.

## Usage Guidelines

Issue this command without the **<profile-name>** parameter to display the entire Captive Portal Authentication profile list, including profile status and the number of references to each profile. Include a profile name to display detailed configuration information for that profile.

If you do not yet have any captive portal authentication profiles defined, use the command [aaa authentication captive-portal](#) to configure your captive portal profiles.

## Examples

This first example shows that there are three configured captive portal profiles in the Captive Profile Authentication Profile List. The **References** column lists the number of other profiles with references to a captive portal authentication profile, and the **Profile Status** column indicates whether the profile is predefined. User-defined profiles will not have an entry in the **Profile Status** column.

The following example displays if a captive portal profile is customized:

```
(host) #show aaa authentication captive-portal
```

```
Captive Portal Authentication Profile List
```

```
-----  
Name           References  Profile Status  
----           -  
c-portal       2  
remoteuser                    1  
portall                    1
```

```
Total: 4
```

```
(host) #show aaa authentication captive-portal customization
```

```
Captive-Portal Customization
```

```
-----  
Profile  Customized  
-----  
cp1      Yes  
default  No
```

The **Profile** column lists the number of captive portal profiles and the **Customized** column indicates whether a captive portal profile is customized or not.

Include a captive portal profile name to display a complete list of configuration settings for that profile. The example below shows settings for the captive portal profile *c-portal*.

```
(host) #show aaa authentication captive-portal c-portal

Captive Portal Authentication Profile "c-portal"
-----
Parameter                               Value
-----
Default Role                             guest
Default Guest Role                       guest
Server Group                             default
Redirect Pause                           10 sec
User Login                               Enabled
Guest Login                              Disabled
Logout popup window                      Enabled
Use HTTP for authentication              Disabled
Logon wait minimum wait                  5 sec
Logon wait maximum wait                  10 sec
logon wait CPU utilization threshold     60 %
Max Authentication failures               0
Show FQDN                                Disabled
Use CHAP (non-standard)                 Disabled
Login page                              /auth/index.html
Welcome page                             /auth/welcome.html
Show Welcome Page                        Yes
Add switch IP address in the redirection URL Disabled
Adding user vlan in redirection URL       Disabled
Add a controller interface in the redirection URL N/A
Allow only one active user session       Disabled

White List
```

The output of this command includes the following parameters:

Parameter	Description
Default Role	Role assigned to the captive portal user upon login.
Default Guest Role	Guest role assigned to the captive portal user upon login.
Server Group	Name of the group of servers used to authenticate captive portal users.
Redirect Pause	Time, in seconds, that the system remains in the initial welcome page before redirecting the user to the final web URL. If set to 0, the welcome page displays until the user clicks on the indicated link.
User Login	Shows whether the profile has enabled or disabled captive portal with authentication of user credentials.
Guest Login	Shows whether the profile has enabled or disabled captive portal guest login without authentication.

Parameter	Description
Logout popup window	Shows whether the profile has enabled or disabled a pop-up window that allows a user to log out. If this is disabled, the user remains logged in until the user timeout period has elapsed or the station resets.
Use HTTP for authentication	Shows whether the profile has enabled or disabled the ability to use the HTTP protocol to redirect users to the captive portal page.
Logon wait minimum wait	Minimum time, in seconds, the user will have to wait for the logon page to pop up if the CPU load is high.
Logon wait maximum wait	Maximum time, in seconds, the user will have to wait for the logon page to pop up if the CPU load is high.
logon wait CPU utilization threshold	CPU utilization percentage above which the logon wait interval is applied when directing a captive portal user with the logon page.
Max Authentication failures	Maximum number of authentication failures before the user is blacklisted.
Show FQDN	If enabled, the user can see and select the fully-qualified domain name (FQDN) on the captive portal login page.
Use CHAP (non-standard)	If enabled, the captive portal profile can use the CHAP protocol.
Login page	URL of the page that appears for the user logon.
Welcome page	URL of the page that appears after logon and before the user is redirected to the web URL.
Add switch IP interface in the redirection URL	Shows the IP address of a Mobility Access Switch's interface added to the redirection URL, if enabled.
Adding user vlan in redirection URL	VLAN ID of the user in the redirection URL when external captive portal servers are used.
Allow only one active user session	If enabled, only one active user session is allowed at any time. This feature is disabled by default.

Parameter	Description
Add a controller interface in the redirection URL	IP address of one of the interface in the redirection URL when external captive portal servers are used.
White List	Shows the configured white list on an IPv4 or IPv6 network destination. The white list contains authenticated websites that a guest can access.
Show the acceptable use policy page	If enabled, the captive portal page will show the acceptable use policy page before the user logon page. This feature is disabled by default.

## Related Commands

Command	Description	Mode
<a href="#">aaa authentication captive-portal</a>	Use <a href="#">aaa authentication captive-portal</a> to configure the parameters displayed in the output of this show command.	Config mode

## Command History

Release	Modification
ArubaOS 7.2	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable or Configuration Mode (config)

## show aaa derivation-rules

```
show aaa derivation-rules [server-group <group-name>|user <name>]
```

### Description

Show derivation rules based on user information or configured for server groups.

### Syntax

Parameter	Description
server-group <group-name>	Name of a server group
user <name>	Name of a user rule group

### Example

The output of the following command shows that the server group group1 has the internal database configured as its authentication server, and that there is a single rule assigned to that group. You can omit the **<group-name>** parameter to show a table of all your server groups.

```
(host) #show aaa derivation-rules server-group group1
```

```
Server Group
```

```
Name      Inservice  trim-FQDN  match-FQDN
----      -
Internal  Yes        No
```

```
Server Rule Table
```

```
-----
Priority  Attribute  Operation  Operand  Action  Value  Total Hits  New Hits
-----  -
1         Filter-Id  equals     nsFilter  set vlan  111    24
```

```
Rule Entries: 1
```

The following data columns appear in the output of this command:

Parameter	Description
Name	Name of the authentication server assigned to this server group
Inservice	Specifies if the server is in service or out-of-service.
trim-FQDN	If enabled, user information in an authentication request is edited before the request is sent to the server.
match-FQDN	If enabled, the authentication server is associated with a specified domain.
Priority	The priority in which the rules are applied. Rules at the top of the list are applied before rules at the bottom.
Attribute	This is the attribute returned by the authentication server that is examined for <b>Operation</b> and <b>Operand</b> match.

Parameter	Description
Operation	<p>This is the match method by which the string in <b>Operand</b> is matched with the attribute value returned by the authentication server.</p> <ul style="list-style-type: none"> <li>• <b>contains</b> – The rule is applied if and only if the attribute value contains the string in parameter <b>Operand</b>.</li> <li>• <b>starts-with</b> – The rule is applied if and only if the attribute value returned starts with the string in parameter <b>Operand</b>.</li> <li>• <b>ends-with</b> – The rule is applied if and only if the attribute value returned ends with the string in parameter <b>Operand</b>.</li> <li>• <b>equals</b> – The rule is applied if and only if the attribute value returned equals the string in parameter <b>Operand</b>.</li> <li>• <b>not-equals</b> – The rule is applied if and only if the attribute value returned is not equal to the string in parameter <b>Operand</b>.</li> <li>• <b>value-of</b> – This is a special condition. What this implies is that the role or VLAN is set to the value of the attribute returned. For this to be successful, the role and the VLAN ID returned as the value of the attribute selected must be already configured on the switch when the rule is applied.</li> </ul>
Operand	This is the string to which the value of the returned attribute is matched.
Action	This parameter identifies whether the rule sets a server group role ( <b>set role</b> ) or a VLAN ( <b>set vlan</b> ).
Value	Sets the user role or VLAN ID to be assigned to the client if the condition is met.
Total Hits	Number of times the rule has been applied since the last server reboot.
New Hits	Number of times the rule has been applied since the <b>show aaa derivation-rules</b> command was last issued.

To display derivation rules for a user group, include the **user <name>** parameter. You can also display a table of all user rules by including the **user** parameter, but omitting the **<name>** parameter.

```
(host) (config) #show aaa derivation-rules user user44
```

User Rule Table

```
-----
Priority  Attribute Operation  Operand          Action  Value
-----  -
1         macaddr    equals          00:25:90:06:96:42 set role  authenticated
```

```
Total Hits  New Hits  Description
-----
```

```
56          18
```

The following data columns appear in the output of this command:

Parameter	Description
Priority	The priority in which the rules are applied. Rules at the top of the list are applied before rules at the bottom.
Attribute	This is the attribute returned by the authentication server that is examined for <b>Operation</b> and <b>Operand</b> match.
Operation	This is the match method by which the string in <b>Operand</b> is matched with the attribute value returned by the authentication server. <ul style="list-style-type: none"> <li>• <b>contains</b> – The rule is applied if and only if the attribute value contains the string in parameter <b>Operand</b>.</li> <li>• <b>starts-with</b> – The rule is applied if and only if the attribute value returned starts with the string in parameter <b>Operand</b>.</li> <li>• <b>ends-with</b> – The rule is applied if and only if the attribute value returned ends with the string in parameter <b>Operand</b>.</li> <li>• <b>equals</b> – The rule is applied if and only if the attribute value returned equals the string in parameter <b>Operand</b>.</li> <li>• <b>not-equals</b> – The rule is applied if and only if the attribute value returned is not equal to the string in parameter <b>Operand</b>.</li> <li>• <b>value-of</b> – This is a special condition. What this implies is that the role or VLAN is set to the value of the attribute returned. For this to be successful, the role and the VLAN ID returned as the value of the attribute selected must be already configured on the switch when the rule is applied.</li> </ul>
Operand	This is the string to which the value of the returned attribute is matched.
Action	This parameter identifies whether the rule sets a server group role ( <b>set role</b> ) or a VLAN ( <b>set vlan</b> ).
Value	Sets the user role or VLAN ID to be assigned to the client if the condition is met.
Total Hits	Number of times the rule has been applied since the last server reboot.
New Hits	Number of times the rule has been applied since the <b>show aaa derivation-rules</b> command was last issued.
Description	This optional parameter describes the rule. If no description was configured then it does not appear when you view the User Table.

## Related Command

Command	Description
<a href="#">aaa authentication-server windows (deprecated)</a>	This command configures rules which assigns an AAA profile, role or VLAN to a client based upon the client's association with an AP.

## Command History

Release	Modification
ArubaOS 7.0	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable



## show aaa fqdn-server-names

```
show aaa fqdn-server-names
```

### Description

Show a table of IP addresses that have been mapped to fully qualified domain names (FQDNs).

### Usage Guidelines

If you define a RADIUS server using the FQDN of the server rather than its IP address, the switch will periodically generate a DNS request and cache the IP address returned in the DNS response. Issue this command to view the IP addresses that currently correlate to each RADIUS server FQDN.

### Example

The output of this command shows the IP addresses for two RADIUS servers.

### Related Command

Command	Description
<code>aaa authentication-server radius</code>	This command configures a RADIUS server.

### Command History

Release	Modification
ArubaOS 7.0	This command was introduced.

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable

## show aaa password-policy mgmt

```
show aaa password-policy mgmt [statistics]
```

### Description

Show the current password policy for management users.

Parameter	Description
statistics	Include this optional parameter to show the numbers of failed login attempts and any lockout periods for management user accounts.

### Example

The output of the **show aaa password-policy mgmt** command below shows that the current password policy requires a management user to have a password with a minimum of 9 characters, including one numeric character and one special character.

```
(host) #show aaa password-policy mgmt
Mgmt Password Policy
```

```
-----
Parameter                                     Value
-----
Enable password policy                         Yes
Minimum password length required               9
Minimum number of Upper Case characters        0
Minimum number of Lower Case characters        0
Minimum number of Digits                       1
Minimum number of Special characters           1
(!, @, #, $, %, ^, &, *, <, >, {, }, [, ], :, ., comma, |, +, ~, `  1
Username or Reverse of username NOT in Password No
Maximum Number of failed attempts in 3 minute window to lockout user 0
Time duration to lockout the user upon crossing the "lock-out" threshold 3
Maximum consecutive character repeats          0
```

The following data columns appear in the output of this command:

Parameter	Description
Enable password policy	Shows if the defined policy has been enabled
Minimum password length required	Minimum number of characters required for a management user password. The default setting is 6 characters.
Minimum number of Upper Case characters	The maximum number of uppercase letters required for a management user password. By default, there is no requirement for uppercase letters in a password, and the parameter has a default value of 0.

Parameter	Description
Minimum number of Lower Case characters	The maximum number of lowercase letters required for a management user password. By default, there is no requirement for lowercase letters in a password, and the parameter has a default value of 0.
Minimum number of Digits	Minimum number of numeric digits required in a management user password. By default, there is no requirement for digits in a password, and the parameter has a default value of 0.
Minimum number of Special characters	Minimum number of special characters required in a management user password. By default, there is no requirement for special characters in a password, and the parameter has a default value of 0.
Username or Reverse of username NOT in Password	If <b>Yes</b> , a management user's password cannot be the user's username or the username spelled backwards. If <b>No</b> , the password can be the username or username spelled backwards.
Maximum Number of failed attempts in 3 minute window to lockout user	Number of times a user can unsuccessfully attempt to log in to the switch before that user gets locked out for the time period specified by the <b>lock-out threshold</b> below. By default, the password lockout feature is disabled, and the default value of this parameter is 0 attempts.
Time duration to lockout the user upon crossing the "lock-out" threshold	Amount of time a management user will be "locked out" and prevented from logging into the switch after exceeding the maximum number of failed attempts setting show above. The default lockout time is 3 minutes.
Maximum consecutive character repeats	The maximum number of consecutive repeating characters allowed in a management user password. By default, there is no limitation on the numbers of character that can repeat within a password, and the parameter has a default value of 0 characters.

Include the optional **statistics** parameter to show failed login statistics in the Management User table. The example below shows that a single failed login attempt locked out the root user **admin14**, and displays the time when that user can attempt to login to the switch again.

```
(host) #show aaa password-policy mgmt statistics
```

```
Management User Table
```

```
-----
USER      ROLE      FAILED_ATTEMPTS  STATUS
----      -
admin14  root      1                Locked until 12/1/2009 22:28
```

## Command History

Release	Modification
ArubaOS 7.0	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable

## show aaa profile

```
show aaa profile [<profile-name>]
```

### Description

Show a list of all AAA profiles, or configuration details for a single AAA profile.

### Syntax

Parameter	Description
<profile-name>	Name of an AAA profile.

### Usage Guidelines

Issue this command without the <profile-name> option to display the entire AAA profile list, including profile status and the number of references to each profile. Include a profile name to display detailed AAA configuration information for that profile.

### Example

Below is an output of the AAA profile named "default."

```
(host) #show aaa profile default

AAA Profile "default"
-----
Parameter                               Value
-----
Initial role                             logon
MAC Authentication Profile                N/A
MAC Authentication Default Role           guest
MAC Authentication Server Group           default
802.1X Authentication Profile             N/A
802.1X Authentication Default Role        guest
802.1X Authentication Server Group        N/A
Download Role from ClearPass              Enabled
L2 Authentication Fail Through            Enabled
RADIUS Accounting Server Group            N/A
RADIUS Interim Accounting                 Disabled
XML API server                            N/A
AAA unreachable role                      N/A
RFC 3576 server                           N/A
User derivation rules                     N/A
SIP authentication role                   N/A
Enforce DHCP                              Disabled
Authentication Failure Blacklist Time     3600 sec
```

### Related Command

Command	Description
<a href="#">aaa profile</a>	Use this command to enter the AAA profile mode.

## Command History

Release	Modification
ArubaOS 7.0	This command was introduced.
ArubaOS 7.1.1	Output parameters were corrected.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable

## show aaa radius-attributes

```
show aaa radius-attributes
```

### Description

Show RADIUS attributes recognized by the switch.

### Example

The output of the following command shows the name, currently configured value, type, vendor and RADIUS ID for each attribute.

```
(host) #show aaa radius-attributes
```

```
Dictionary
-----
Attribute          Value  Type      Vendor      Id
-----
MS-CHAP-NT-Enc-PW  6      String    Microsoft   311
Suffix              1004   String
Revoke-Text        316    String
WISPr-Session-Term-End-Of-Day  10     Integer   WISPr       14122
WISPr-Redirection-URL  4      String    WISPr       14122
Menu                1001   String
Acct-Session-Time  46     Integer
Framed-AppleTalk-Zone  39     String
Connect-Info       77     String
Acct-Ouput-Packets  48     Integer
Aruba-Location-Id  6      String    Aruba       14823
Service-Type        6      Integer
Rad-Length          310    Integer
CHAP-Password       3      String
WISPr-Bandwidth-Min-Down  6     Integer   WISPr       14122
Aruba-Template-User  8      String    Aruba       14823
Event-Timestamp     55     Date
Login-Service       15     Integer
Exec-Program-Wait  1039   String
Tunnel-Password     69     String
Framed-IP-Netmask   9      IP Addr
Acct-Output-Gigawords  53     Integer
MS-CHAP-CPW-2      4      String    Microsoft   311
DB-Entry-State      318    String
Acct-Tunnel-Packets-Lost  86     Integer
Tunnel-Connection-Id  68     String
Session-Timeout     27     Integer
...
MS-CHAP-LM-Enc-PW  5      String    Microsoft   311
...
```

### Related Command

Command	Description
aaa authentication-server radius	This command configures a RADIUS server

## Command History

Release	Modification
ArubaOS 7.0	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable



## show aaa state configuration

```
show aaa state configuration
```

### Description

Display authentication state configuration information, including the numbers of successful and failed authentications.

### Example

This example shows authentication settings and values for a switch with no current users.

```
(host) #show aaa state configuration

Authentication State
-----
Name                               Value
----                               -
Switch IP                           10.6.2.253
Current/Max/Total IPv4 Users         0/6/14
Current/Max/Total User Entries       0/4/15
Current/Max/Total Stations           121/190/367550
Configured user roles                 21
Configured destinations               32
Configured services                   77
Configured Auth servers               9
Auth server in service                9

Successful authentications
-----
Web  MAC  VPN  RadAcct  Management
---  ---  ---  ---      ---
138  0    0    10117   0

Failed authentications
-----
Web  MAC  VPN  RadAcct  Management
---  ---  ---  ---      ---
48   0    0    0        0    0

Idled users                = 3366
fast age                   = Disabled
```

The output of the `show aaa state configuration` command includes the following parameters:

Parameter	Description
Switch IP	IP address of the switch.
Current/Max/Total IPv4 Users	Current number of IPv4 users on the switch/Maximum number of IPv4 users that can be assigned to the switch at any time/Total number of IPv4 users that have been assigned to the switch since the last switch reboot.
Current/Max/Total User Entries	Current number of users on the switch/Maximum number of users that can be assigned to the switch at any time/Total number of users that have been assigned to the switch since the last switch reboot.

Parameter	Description
Current/Max/Total Stations	Current number of stations registered with the switch/Maximum number of stations that can be registered with the switch at any time/Total number of stations that have registered the switch since the last switch reboot.
Configured user roles	Number of configured user roles.
Configured destinations	Number of destinations configured using the <b>netdestination</b> command.
Configured services	Number of service aliases configured using the <b>netservice</b> command.
Configured Auth servers	Number of configured authentication servers.
Auth server in service	Number of authentication servers currently in service.
Idled users	Total number of users that are not broadcasting data to an AP.
fast age	When the <b>fast age</b> feature allows the switch actively sends probe packets to all users with the same MAC address but different IP addresses. The users that fail to respond are purged from the system. This parameter shows if fast aging of user table entries has been enabled or disabled.

## Related Command

Command	Description
<code>show aaa authentication all</code>	Show authentication statistics for your switch, including authentication methods, successes and failures.

## Command History

Release	Modification
ArubaOS 7.0	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable

## show aaa state debug-statistics

```
show aaa state debug-statistics
```

### Description

Show debug statistics for switch authentication, authorization and accounting.

### Example

The following example displays debug statistics for a variety of authentication errors:

```
(host) #show aaa state debug-statistics
user miss: ARP=47, 8021Q=5216, non-IP=0, zero-IP=0, loopback=0
user miss: mac mismatch=0, spoof=269 (74), drop=390, ncfg=0
Idled users = 3376
Idled users due to MAC mismatch = 0
Logon lifetime iterations = 4501, entries deleted = 121
Missing auth user deletes: 0
```

The output of this command includes the following parameters:

Parameter	Description
ARP	Number of ARP packets sent between the datapath and the control path.
8021q	Number of 802.1q (VLAN tag) packets sent between the datapath and the control path.
non-ip	Number of non-ip type packets sent between the datapath and the control path.
zero-ip	Number packets sent without an internet protocol (IP).
loopback	If <b>1</b> , the switch has a defined loopback address. If <b>0</b> , a loopback address has not yet been configured.
mac mismatch	Number of users that were not authenticated due to MAC mismatches.
spoof	Number of users that were not authenticated due to spoofed IP addresses.
drop	Number of user authentication attempts that were dropped.
ncfg	Number of packets sent between datapath and control path, where the authentication module has not completed the initialization required to process the traffic.
idled users	Number of inactive stations that are not broadcasting data to an AP.
idled users due to MAC mismatch	For internal use only.
Logon lifetime iteration	Number of users deleted for lack of activity.
Missing auth user deletes	Number of users removed from the datapath by the auth module, even without a mapping entry in control path. This counter can help identify problems with messages sent between the control path and the datapath.

## Related Command

Command	Description
<a href="#">show aaa authentication all</a>	Show authentication statistics for your switch, including authentication methods, successes and failures.

## Command History

Release	Modification
ArubaOS 7.0	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable

## show aaa state messages

show aaa state messages

### Description

Display numbers of authentication messages sent and received.

### Usage Guidelines

This command displays a general overview of authentication statistics. To view authentication information for specific profiles such as a captive-portal, MAC or 801.x authentication profile, issue the commands specific to those features.

### Example

The output of this command displays tables of statistics for PAPI, RAW socket and Sibyte messages.

```
(host) #show aaa state messages
PAPI Messages
-----
Msg ID  Name                               Since last Read  Total
-----  ---
5004    set master ip                       2                 2
7005    Set switch ip                       1                 1
7007    Set VLAN ip                         5                 5
66      delete xauth vpn users              1                 1

RAW socket Messages
-----
Msg ID  Name                               Since last Read  Total
-----  ---
1       raw PAP req                         188              188
33      captive portal config               11113            11113
59      TACACS ACCT config for cli          1                1
60      TACACS ACCT config for web          1                1

Sibyte Messages
-----
Opcode  Name                               Sent Since Last Read  Sent Total  Recv Since Last Read  Recv Total
-----  ---
2       bridge                             21             21           0           0
4       session                             4877           4877         0           0
11      ping                                 768            768          768         768
13      8021x                               114563         114563       229126     229126
15      acl                                  803            803          0           0
16      ace                                  5519           5519         0           0
17      user                                781821         781821       0           0
27      bwm                                  3              3             0           0
29      wkey                                 27109          27109        4           4
42      nat                                  1              1             0           0
43      user tmout                           4164           4164         4160        4160
56      forw unenc                           1787103        1787103      0           0
64      auth                                  5268           5268         5267        5267
94      aesccm key                           17885          17885        0           0

111 dot1x term 196813 196813 151161 151161
```

The output of this command contains the following parameters:

Parameter	Description
Msg ID	ID number for the message type
Name	Message name
Since last Read	Number of messages received since the buffer was last read.
Total	Total number of message received since the switch was last reset.
opcode	Code number of the message type.
Sent Since last Read	Number of messages sent since the buffer was last read.
Sent Total	Total number of message sent since the switch was last reset.
Recv Since last Read	Number of messages received since the buffer was last read.
Recv Total	Total number of message received since the switch was last reset.

## Related Command

Command	Description
<code>show aaa authentication all</code>	Show authentication statistics for your switch, including authentication methods, successes and failures.

## Command History

Release	Modification
ArubaOS 7.0	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable

## show aaa state station

```
show aaa state  
how aaa state station <A:B:C:D:E:F>
```

### Description

Display AAA statistics for a station.

Parameter	Description
<A:B:C:D:E:F>	MAC address of a station

### Example

The example below shows statistics for a station with four associated user IP addresses. The output of this command shows station data, the AAA profiles assigned to the station, and the station's authentication method.

```
(host) #show aaa state station 00:21:5c:85:d0:4b  
Association count = 1, User count = 4  
User list = 10.1.10.10 10.6.5.168 192.168.229.1 192.168.244.1  
ssid: ethersphere-wpa2, bssid: 00:1a:1e:8d:5b:31 AP name/group: AL40/corp1344 PHY: a,  
ingress=0x10e8 (tunnel 136)  
vlan default: 65, assigned: 0, current: 65 cached: 0, user derived: 0, vlan-how: 0  
name: MYCOMPANY\tgonzales, role:employee (default:logon, cached:employee, dot1x:), role-how:  
1, acl:51/0, age: 00:02:50  
Authentication: Yes, status: successful, method: 802.1x, protocol: EAP-MD5, server: vortex  
dot1xctx:1 sap:1  
Flags: mba=0  
AAA prof: default-corp1344, Auth dot1x prof: default, AAA mac prof:, def role: logon  
ncfg flags udr 1, mac 0, dot1x 1
```

### Related Command

Command	Description
<a href="#">show aaa authentication all</a>	Show authentication statistics for your switch, including authentication methods, successes and failures.

### Command History

Release	Modification
ArubaOS 7.0	This command was introduced.

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable

## show aaa state user

```
show aaa state user <ip-addr>
```

### Description

Display statistics for an authenticated user.

Parameter	Description
<ip-addr>	IP address of a user.

### Example

The following example shows statistics for a user with the IP address 10.1.10.11. The output of this command shows user data, the user's authentication method, and statistics for assigned roles, timers and flags.

```
(host) #show aaa state user 10.1.10.11
Name: MYCOMPANY\tsender, IP: 10.1.10.11, MAC: 00:21:5c:85:d0:4a, Role:employee, ACL:51/0, Age:
00:01:46
Authentication: Yes, status: successful, method: 802.1x, protocol: EAP-MD5, server: vortex
Bandwidth = No Limit
Bandwidth = No Limit
Role Derivation: Default
VLAN Derivation: Matched user rule
Idle timeouts: 0, ICMP requests sent: 0, replies received: 0, Valid ARP: 0
Mobility state: Associated, HA: Yes, Proxy ARP: No, Roaming: No Tunnel ID: 0 L3 Mob: 0
Flags: internal=0, trusted_ap=0, delete=0, l3auth=0, l2=1 mba=0
Flags: innerip=0, outerip=0, guest=0, station=0, download=1, nodatapath=0
Auth fails: 0, phy_type: a-HT, reauth: 0, BW Contract: up:0 down:0, user-how: 1
Vlan default: 65, Assigned: 0, Current: 65 vlan-how: 0
Mobility Messages: L2=0, Move=0, Inter=0, Intra=0, ProxyArp=0, Flags=0x0
Tunnel=0, SlotPort=0x1018, Port=0x10e2 (tunnel 130)
Role assigned: n/a, VPN: n/a, Dot1x: Name: employee role-how: 0
Essid: ethersphere-wpa2, Bssid: 00:1a:1e:11:6b:91 AP name/group: AL31/corp1344 Phy-type: a-HT
RadAcct sessionID:n/a
RadAcct Traffic In 0/0 Out 0/0 (0:0/0:0:0:0:0,0:0/0:0:0:0)
Timers: arp_reply 0, spoof_reply 0, reauth 0
Profiles AAA:default-corp1344, dot1x:default, mac: CP: def-role:'logon' sip-role:''
ncfg flags udr 0, mac 0, dot1x 0
Born: 1233772328 (Wed Feb 4 10:32:08 2011)
```

### Related Command

Command	Description
<a href="#">show aaa authentication all</a>	Show authentication methods, successes and failures.

### Command History

Release	Modification
ArubaOS 7.0	This command was introduced.



## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable

# show aaa tacacs-accounting

show aaa tacacs-accounting

## Description

Show TACACS accounting configuration.

## Example

The example below shows that TACACS accounting has been enabled, and that the TACACS server is in the server group acct-server.

```
(host) #show aaa tacacs-accounting
```

```
TACACS Accounting Configuration
```

```
-----  
Parameter      Value  
-----  
Mode           Enabled  
Commands       all
```

```
Server-Group servgroup1
```

The output of this command includes the following parameters:

Parameter	Description
Mode	Shows if the TACACS accounting feature is enabled or disabled
Commands	The server group that contains the active TACACS server. The output of this parameter can be any of the following: <ul style="list-style-type: none"><li>● <b>action</b> : Reports action commands only.</li><li>● <b>all</b> : Reports all commands.</li><li>● <b>configuration</b>: Reports configuration commands only</li><li>● <b>show</b>: Reports show commands only</li></ul>
Server-Group	The server group that contains the active TACACS server.

## Related Command

Command	Description
<a href="#">aaa tacacs-accounting server-group</a>	This command configures reporting of commands issued on the switch to a TACACS+ server group.

## Command History

Release	Modification
ArubaOS 7.0	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable

## show aaa timers

```
show aaa timers
```

### Description

Show AAA timer values.

### Example

The example below shows that the switch has all default timer values:

```
(host) #show aaa timers
User idle timeout = 300 seconds
Auth Server dead time = 10 minutes
Logon user lifetime = 5 minutes
User Interim stats frequency = 300 seconds
```

### Related Command

Command	Description
aaa timers dead-time	Use this command to set the dead time for an authentication server that is down.
aaa timers idle-timeout	Use this command to set the maximum lifetime of idle users before timeout.
aaa timers logon-lifetime	Use this command to set the maximum lifetime of unauthenticated users before timeout.

### Command History

Release	Modification
ArubaOS 7.0	This command was introduced.

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable

## show aaa web admin-port

```
show aaa web admin-port
```

### Description

Show the port numbers of HTTP and HTTPS ports used for web administration.

### Example

The example below shows that the switch is configured to use HTTPS on port 4343, and HTTP on port 8888.

```
(host) #show aaa web admin-port
https port = 4343
http port = 8888
```

### Related Command

Command	Description
<a href="#">aaa authentication wired</a>	Use this command to enter the Management Authentication Profile mode

### Command History

Release	Modification
ArubaOS 7.0	This command was introduced.

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable

## show acl ace-table

```
show acl ace-table {ace <0-1999>}|{acl <1-2700>}
```

### Description

Show an access list entry (ACE) table for an access control list (ACL).

### Syntax

Parameter	Description
ace <0-1999>	Show a single ACE entry.
acl <1-2700>	Show all ACE entries for a single ACL.

### Example

The following example shows that there are eighteen access control entries for ACL 1.

### Command History

Release	Modification
ArubaOS 7.0	This command was introduced.

### Command Information

Platform	License	Command Mode
Mobility Access Switch	Base operating system	Configuration Mode

## show acl acl-table

```
show acl acl-table <1-2700>
```

### Description

Display information for a specified access control list (ACL).

### Syntax

Parameter	Description
acl-table <1-2700>	Specify the number of the ACL for which you want to view information.

### Example

The following example displays the ACL table for the switch.

```
(host) #show acl acl-table acl 1
```

```
AclTable
-----
ACL   Type   ACE Index   Ace Count   Name   Applied
----  ---   -
1     role   1459        18          logon  0
```

```
Total free ACE entries = 3591
Free ACE entries at the bottom = 2552
Next ACE entry to use = 1480 (table 1)
Ace entries reused 622 times
ACL count 64, tunnel acl 0
```

```
Ace entries reused 373 times
ACL count 64, tunnel acl 0
```

The output of this command displays the following parameters:

Parameter	Description
ACL	Number of the specified ACL.
Type	Shows the ACL type: <ul style="list-style-type: none"><li>• role: Access list is used to define a user role.</li><li>• mac: MAC ACLs allow filtering of non-IP traffic. This ACL filters on a specific source MAC address or range of MAC addresses.</li><li>• ether-type: This type of ACL filters on the Ethertype field in the Ethernet frame header, and is useful when filtering non-IP traffic on a physical port.</li><li>• standard: Standard ACLs are supported for compatibility with router software from other vendors. This ACL permits or denies traffic based on the source address of the packet.</li><li>• stateless: Stateless ACL statically evaluates packet contents. The traffic in the reverse direction will be allowed unconditionally.</li><li>• extended: Extended ACL permits or denies traffic based on the source or destination IP address or IP protocol.</li></ul>
ACE Index	Starting index entry for the ACL's access control entries.
ACE count	Number of access control entries in the ACL.

Parameter	Description
Name	Name of the access control list.
Applied	Number of times the ACL was applied to a role.
Total free ACE entries	The total number of free ACE entries. This includes available ACE entries at the bottom of the list, as well as free ACE entries in the middle of the table from previous access list entries that were later removed.
Free ACE entries at the bottom	The total number of free ACE entries at the bottom of the list.
Next ACE entry to use	Ace number of the first free entry at the bottom of the list.
ACE entries reused	For internal use only.
ACL count	Total number of defined ACLs.
Tunnel ACL	Total number of defined tunnel ACLs.

The following example displays the ACL table for ACL 1.

```
(host) #show acl ace-table acl 1
Acl Table
-----
ACL  Type  ACE Index  Ace Count  Name  Applied
---  ---  -
1   role  1020      18         logon  0

Total free ACE entries = 3591
Free ACE entries at the bottom = 2991
Next ACE entry to use = 1041 (table 1)
Ace entries reused 373 times
ACL count 64, tunnel acl 0
```

## Command History

Release	Modification
ArubaOS 7.0	This command was introduced.

## Command Information

Platform	License	Command Mode
Mobility Access Switch	Base operating system	Enable and Configuration mode

# show activate-service-firmware

show activate-service-firmware

## Description

Issue this command to verify if the Activate firmware upgrade services are enabled or disabled.

## Syntax

No parameters.

## Usage Guidelines

If the Activate firmware service is enabled, the **activate firmware check** command enables the Mobility Access Switch to automatically check Activate to see if there is a new image version to which it can upgrade. If a new version is available, the **activate firmware upgrade** command prompts the Mobility Access Switch to attempt to download and upgrade to the new image.

## Example:

```
(host) (config) # show activate-service-firmware
activate-service-firmware
-----
Parameter                Value
-----                -
Activate Firmware Service Enabled
```

## Related Commands

Parameter	Description
<a href="#">activate-service-firmware</a>	Issue this command to enable or disable the Activate firmware upgrade services. These features are enabled by default.

## Command History

Release	Modification
ArubaOS 7.3	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable and Configuration mode



## show alarms

```
show alarms [critical | major | minor | summary]
```

### Description

Display the alarm status.

### Syntax

Parameter	Description
critical	Enter the keyword <b>critical</b> to display the critical alarms.
major	Enter the keyword <b>major</b> to display the major alarms.
minor	Enter the keyword <b>minor</b> to display the minor alarms.
summary	Enter the keyword <b>summary</b> to display a summary of all alarms.

### Example

The following command displays the alarm class, time, and a description of the alarm. In the output below the command, an optional power supply is absent. This is, of course, a minor alarm.

```
(host)#show alarms
```

```
3 Active Alarms in the System
-----
Class   Time                               Description
-----  ---
Minor  2011-10-28 23:50:05 (PDT)  Slot 0 Power Supply 1 Absent
Minor  2011-10-28 23:49:54 (PDT)  Slot 1 Power Supply 1 Absent
Minor  2011-10-28 23:49:54 (PDT)  Slot 2 Power Supply 1 Absent
```

The following command displays the Critical, Major, and Minor alarms by slot.

```
(host)(config)#show alarms summary
```

```
Slot   Critical   Major   Minor
----   -
0      0           0       1
1      0           0       1
2      0           0       1
Total  0           0       3
```

### Command History

Release	Modification
ArubaOS 7.0	This command was introduced.

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable and Configuration Mode (config)

## show arp

show arp

### Description

This command displays the ARP table.

### Usage Guidelines

Use this command to display the ARP table.

### Example

The following example shows details of routes1

```
(host) (config) #show arp
Codes: * - Local Addresses, S - Static, A - Auth
Total ARP entries: 6
IPV4 ARP Table
-----
Protocol      IP Address      Hardware Address  Interface  Age (min)
-----
* Internet    192.168.210.26  00:0b:86:99:13:f7  vlan1      NA
* Internet    10.73.7.209     00:0b:86:99:13:f7  vlan10     NA
S Internet    10.73.7.222     ac:7f:3e:e6:cc:05  vlan10     NA
  Internet    192.168.210.1   f8:e4:fb:9a:37:2f  vlan1      NA
  Internet    192.168.210.254 e0:cb:4e:55:3e:28  vlan1      NA
```

The output of this command includes the following parameters:

Parameter	Description
Protocol	Protocol using ARP. Although the Mobility Access Switch will most often use ARP to translate IP addresses to Ethernet MAC addresses, ARP may also be used for other protocols, such as Token Ring, FDDI, or IEEE 802.11, and for IP over ATM.
Address	IP address of the device.
Hardware Address	MAC address of the device.
Interface	Interface used to send ARP requests and replies.

### Related Commands

Command	Description
<a href="#">arp</a>	Use this command to create static ARP entries.
<a href="#">clear arp</a>	Clears the ARP entries.

### Command History

Release	Modification
ArubaOS 7.1	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable Mode

## show aruba-central

show aruba-central

### Description

This command displays if Mobility Access Switch is enabled for connecting to Aruba Central portal through Activate.

### Syntax

No parameters.

### Example

You can use the following CLI command to view the current status of Aruba Central on the Mobility Access Switch:

```
(host) #show aruba-central
```

```
Aruba Central
-----
Parameter                Value
-----                -
Aruba Central IP/URL      Unknown
Connection Status        DOWN
Mode                      Monitor
Time of last disconnect   Tue Aug 26 15:25:35 2014
```

### Related Commands

Command	Description
<a href="#">aruba-central</a>	Displays the status of Aruba Central configuration on the Mobility Access Switch.

### Command History

Release	Modification
ArubaOS 7.3.2	This command was introduced.

### Command Information

Platforms	Licensing	Command Mode
All platforms	Base operating system	Configuration mode.

## show storage

```
show storage
  member <0-7>
```

### Description

View the storage details on the Mobility Access Switch.

### Syntax

Parameter	Description
member <0-7>	Displays the storage on the specified member.

### Example

The following example displays the storage details on a member:

```
(host) #show storage member 2
Member-id: 2
-----
Filesystem              Size      Used Available Use% Mounted on
none                    300.0M    11.3M   288.7M    4% /tmp
/dev/ud3                 755.6M    176.0M  541.2M   25% /flash
```

### Command History

Release	Modification
ArubaOS 7.0	This command was introduced.

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable and Configuration Mode (config)

## show crypto dp

```
show crypto dp [peer <source-ip>]
```

### Descriptions

Displays crypto data packets.

### Syntax

Parameter	Description
dp	Shows crypto latest datapath packets. The output is sent to crypto logs.
peer <source-ip>	Clears crypto ISAKMP state for this IP.

### Usage Guidelines

Use this command to send crypto data packet information to the MAS log files, or to clear a crypto ISAKMP state associated with a specific IP address.

### Example

The command `show crypto dp` sends debug information to CRYPTO logs.

```
(host) # show crypto
```

Datapath debug output sent to CRYPTO logs.

### Related Command

Command	Description	Mode
<a href="#">crypto isakmp policy</a>	Use this command to configure Internet Key Exchange (IKE) parameters for the Internet Security Association and Key Management Protocol (ISAKMP)	Enable and Config modes

### Command History

Release	Modification
ArubaOS 7.2	This command was introduced.

### Command Information

Platforms	Licensing	Command Mode
All platforms	Base operating system	Config mode on or MAS

## show crypto ipsec

```
show crypto ipsec {mtu|sa[peer <peer-ip>]|transform-set [tag <transform-set-name>]}
```

### Descriptions

Displays the current IPsec configuration on the MAS.

### Syntax

Parameter	Description
mtu	IPsec maximum mtu.
sa	Security associations.
peer <peer-ip>	IPsec security associations for a peer.
transform-set	IPsec transform sets.
tag <transform-set-name>	A specific transform set.

### Usage Guidelines

The command **show crypto ipsec** displays the Maximum Transmission Unit (MTU) size allowed for network transmissions using IPsec security. It also displays the transform sets that define a specific encryption and authentication type.

### Example

The command **show crypto transform-set** shows the settings for both preconfigured and manually configured transform sets.

```
(host) #show crypto ipsec transform-set

Transform set default-transform: { esp-3des esp-sha-hmac }
    will negotiate = { Transport, Tunnel }
Transform set default-ml-transform: { esp-3des esp-sha-hmac }
    will negotiate = { Transport, Tunnel }
Transform set default-boc-bm-transform: { esp-3des esp-sha-hmac }
    will negotiate = { Transport, Tunnel }
Transform set default-cluster-transform: { esp-aes256 esp-sha-hmac }
    will negotiate = { Transport, Tunnel }
Transform set default-1st-ikev2-transform: { esp-aes256 esp-sha-hmac }
    will negotiate = { Transport, Tunnel }
Transform set default-3rd-ikev2-transform: { esp-aes128 esp-sha-hmac }
    will negotiate = { Transport, Tunnel }
Transform set default-rap-transform: { esp-aes256 esp-sha-hmac }
    will negotiate = { Transport, Tunnel }
Transform set default-remote-node-bm-transform: { esp-3des esp-sha-hmac }
    will negotiate = { Transport, Tunnel }
Transform set default-aes: { esp-aes256 esp-sha-hmac }
    will negotiate = { Transport, Tunnel }
Transform set newset: { esp-3des esp-sha-hmac }
    will negotiate = { Transport, Tunnel }
Transform set name: { esp-aes256-gcm esp-sha-hmac }
    will negotiate = { Transport, Tunnel }
```

## Related Command

Command	Description	Mode
<a href="#">crypto ipsec</a>	Use this command to configure IPsec parameters.	Config mode

## Command History

Release	Modification
ArubaOS 7.2	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
All platforms	Base operating system	Config mode on or MAS



## show crypto isakmp

```
show crypto isakmp
  key
  policy
  sa
  stats
  transports
  udpencap-behind-natdevice
```

### Descriptions

This command displays Internet Key Exchange (IKE) parameters for the Internet Security Association and Key Management Protocol (ISAKMP).

### Syntax

Parameter	Description
key	Show the IKE pre-shared keys.
policy	Show the following information for predefined and manually configured IKE policies: <ul style="list-style-type: none"><li>• IKE version</li><li>• encryption and hash algorithms</li><li>• authentication method</li><li>• PRF methods,</li><li>• DH group</li><li>• lifetime settings</li></ul>
sa	Show the security associations
peer <peer-ip>	Shows crypto isakmp security associations for this IP.
stats	Show detailed IKE statistics. This information can be very useful for troubleshooting problems with ISAKMP.
transports	Shows IKE Transports.
udpencap-behind-natdevice	Shows the configuration if NAT-T is enabled if the MAS is behind a NAT device.

### Usage Guidelines

Use the `show crypto isakmp` command to view ISAKMP settings, statistics and policies.

### Example

The command `show crypto isakmp stats` shows the IKE statistics.

```
(host) #show crypto isakmp policy
```

```
Default protection suite 10001
  Version 1
  encryption algorithm: 3DES - Triple Data Encryption Standard (168 bit keys)
  hash algorithm: Secure Hash Algorithm 160
  authentication method: Pre-Shared Key
  Diffie-Hellman Group: #2 (1024 bit)
  lifetime: [300 - 86400] seconds, no volume limit
Default RAP Certificate protection suite 10002
  Version 1
```

```

encryption algorithm: AES - Advanced Encryption Standard (256 bit keys)
hash algorithm: Secure Hash Algorithm 160
authentication method: Rivest-Shamir-Adelman Signature
Diffie-Hellman Group: #2 (1024 bit)
lifetime: [300 - 86400] seconds, no volume limit
Default RAP PSK protection suite 10003
Version 1
encryption algorithm: AES - Advanced Encryption Standard (256 bit keys)
hash algorithm: Secure Hash Algorithm 160
authentication method: Pre-Shared Key
Diffie-Hellman Group: #2 (1024 bit)
lifetime: [300 - 86400] seconds, no volume limit

```

## Related Command

Command	Description	Mode
<a href="#">crypto isakmp policy</a>	Use this command to configure Internet Key Exchange (IKE) parameters for the Internet Security Association and Key Management Protocol (ISAKMP).	Config mode

## Command History

Release	Modification
ArubaOS 7.2	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
All platforms	Base operating system	Config mode on or MAS

## show crypto-local ipsec-map

```
show crypto-local ipsec [tag <ipsec-map-name>]
```

### Description

Displays the current IPsec map configuration on the MAS.

### Syntax

Parameter	Description
tag <ipsec-map-name>	Display a specific IPsec map.

### Usage Guidelines

The command `show crypto-local ipsec` displays the current IPsec configuration on the MAS.

### Example

The command `show crypto-local ipsec-map` shows the default map configuration along with any specific IPsec map configurations.

```
(host) #show crypto-local ipsec-map

Crypto Map Template "mapA" 10
IKE Version: 2
IKEv2 Policy: 10
Security association lifetime: 7200 seconds
PFS (Y/N): N
Transform sets={ default-transform }
Peer gateway: 20.1.1.2
Local FQDN: test.arubanetworks.com
Interface:  vlan 4
Source network: 4.1.1.1/255.255.255.255
Destination network: 3.1.1.1/255.255.255.255
Pre-Connect (Y/N): N
Tunnel Trusted (Y/N): Y
Forced NAT-T (Y/N): N
```

### Related Command

Command	Description	Mode
<a href="#">crypto-local ipsec-map</a>	Use this command to configure IPsec mapping for site-to-site VPN.	Config mode

### Command History

Release	Modification
ArubaOS 7.2	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
All platforms	Base operating system	Config mode on or MAS

## show crypto-local isakmp

```
show crypto isakmp {ca-certificates}|{dpd}|{key}|{server-certificate}
```

### Descriptions

This command displays Internet Key Exchange (IKE) parameters for the Internet Security Association and Key Management Protocol (ISAKMP).

### Syntax

Parameter	Description
ca-certificate	Shows all the Certificate Authority (CA) certificate associated with VPN clients.
dpd	Shows the IKE Dead Peer Detection (DPD) configuration on the MAS.
key	Shows the IKE preshared key on the MAS for site-to-site VPN. This includes keys configured by Fully Qualified Domain Name (FQDN) and local and global keys configured by address.
server-certificate	Shows all the IKE server certificates used to authenticate the MAS for VPN clients.

### Usage Guidelines

Use this command to view IKE parameters.

### Examples

This example shows sample output for the **show crypto-local dpd** and the **show crypto-local key** commands:

```
(host) #show crypto-local isakmp ca-certificate
ISAKMP CA Certificates
-----
CA certificate name  Client-VPN  # of Site-Site-Maps
-----
Aruba-Factory-CA    Y           0
```

```
(host) #show crypto-local isakmp dpd
DPD is Enabled: Idle-timeout = 22 seconds, Retry-timeout = 2 seconds, Retry-attempts = 3
```

```
(host) #show crypto-local isakmp key
ISAKMP Local Pre-Shared keys configured for ANY FQDN
-----
Key
---
ISAKMP Local Pre-Shared keys configured by FQDN
-----
FQDN of the host    Key
-----
servers.mycorp.com *****
```

```
ISAKMP Local Pre-Shared keys configured by Address
-----
IP address of the host  Subnet Mask Length  Key
```

```
-----
10.4.62.10          32          *****
```

ISAKMP Global Pre-Shared keys configured by Address

```
-----
IP address of the host  Subnet Mask Length  Key
-----
0.0.0.0                0                    *****
```

## Related Commands

Command	Description	Mode
<a href="#">crypto-local isakmp dpd</a>	Use this command to configure IKE Dead Peer Detection (DPD) on the MAS.	Config mode
<a href="#">crypto-local isakmp key</a>	Use this command to configure the IKE preshared key on the MAS for site-to-site VPN.	Config mode

## Command History

Release	Modification
ArubaOS 7.2	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
All platforms	Base operating system	Config mode on or MAS

## show crypto-local pki

```
show crypto-local pki
  CRL [<name> ALL|crlnumber|fingerprint|hash|issuer|lastupdate|nextupdate]
  IntermediateCA
  [<name>ALL|alias|dates|fingerprint|hash|issuer|modulus|purpose|serial|subject]

  OCSPResponderCert
  [<name>ALL|alias|dates|fingerprint|hash|issuer|modulus|purpose|serial|subject]

  OCSPSignerCert
  [<name>ALL|alias|dates|fingerprint|hash|issuer|modulus|purpose|serial|subject]

  PublicCert
  [<name>ALL|alias|dates|fingerprint|hash|issuer|modulus|purpose|serial|subject]

  ServerCert
  [<name>ALL|alias|dates|fingerprint|hash|issuer|modulus|purpose|serial|subject]

  TrustedCA
  [<name>ALL|alias|dates|fingerprint|hash|issuer|modulus|purpose|serial|subject]

  crl-stats
  oosp-client-stats
  rcp
  service-ocsp-responder [stats]
```

### Description

Issue this command to show local certificate, OCSP signer or responder certificate and CRL data and statistics.

### Syntax

Parameter	Description
CRL	Shows the name, original filename, reference count and expiration status of all CRLs on this MAS.
<CRL name> ALL	Shows the version, signature algorithm, issuer, last update, next update, and CRL extensions and all other attributes of this CRL.
<CRL name> crlnumber	Shows the number of this CRL.
<CRL name> fingerprint	Shows the fingerprint of this CRL.
<CRL name> hash	Shows the hash number of this CRL.
<CRL name> issuer	Shows the issuer of this CRL.
<CRL name> lastupdate	Shows the last update (date and time) at which the returned status is known to be correct.
<CRL name> nextupdate	Shows the next date and time (date and time) where the responder retrieves updated status information for this certificate. If this information is not present, then the responder always holds up to date status information.

Parameter	Description
IntermediateCA	Shows the name, original filename, reference count and expiration status of this certificate. <b>NOTE:</b> IntermediateCA has the identical sub-parameters as those listed under the TrustedCA parameter in this table.
OCSPResponderCert	Shows the name, original filename, reference count and expiration status of all ocsprospendercert certificates on this MAS. <b>NOTE:</b> OCSPResponderCert has the identical sub-parameters as those listed under the TrustedCA parameter in this table.
OCSPSignerCert	Shows the OCSP Signer certificate. <b>NOTE:</b> OCSPSignerCert has the identical sub-parameters as those listed under the TrustedCA parameter in this table.
PublicCert	Shows Public key information of a certificate. This certificate allows an application to identify an exact certificate. <b>NOTE:</b> PublicCert has the identical sub-parameters as those listed under the TrustedCA parameter in this table.
ServerCert	Shows Server certificate information. This certificate must contain both a public and a private key (the public and private keys must match). You can import a server certificate in either PKCS12 or x509 PEM format; the certificate is stored in x509 PEM DES encrypted format on the MAS. <b>NOTE:</b> ServerCert has the identical sub-parameters as those listed under the TrustedCA parameter in this table.
TrustedCA	Shows trusted CA certificate information. This certificate can be either a root CA or intermediate CA. Aruba encourages (but does not require) an intermediate CA's signing CA to be the MAS itself.
<name> ALL	Shows the version, signature algorithm, issuer, last update, next update, and CRL extensions and all other attributes of this certificate.
<name> alias	Shows this certificate's alias, if it exists.
<name> dates	Shows the dates for which this certificate is valid.
<name> fingerprint	Shows the certificate's fingerprint.
<name> hash	Shows the hash number of this certificate.
<name> issuer	Shows the certificate issuer.
<name> modulus	Shows the modulus which is part of the public key of the certificate.
<name> purpose	Shows the certificate's purposes such as if this is an SSL server, SSL server CA and so on.
<name> serial	Shows the certificate's serial number.
<name> subject	Shows the certificate's subject identification number.
crl-stats	Shows the CRL request statistics.
ocsp-client-stats	Shows the OCSP client statistics.



Parameter	Description
rcp	Shows the revocation check point.
service-ocsp-responder [stats]	Shows if OCSP responder service is enabled and shows statistics.

## Usage Guidelines

Use the **show crypto-local pki** command to view all CRL and certificate status, OCSP client and OCSP responder status and statistics.

## Examples

This example displays a list of all OCSP responder certificates on this MAS.

```
(host) (config) #show crypto-local pki OCSPResponderCert
```

```
Certificates
```

```
-----
```

Name	Original Filename	Reference Count	Expired
-----	-----	-----	-----
ocspJan28	ocspresp-jan28.cer	0	No
ocspresp-standalone-feb21	ocspresp-feb21.cer	0	No
ocsprespFeb02	ocspresp-feb2.cer	1	No
OCSPresponder1	ocspresponder-new1.cer	0	No
ocspresponder2	subsubCA-ocsp-res-2.cer	0	No
OCSPresponderlatest	ocspresponder-latest.cer	0	No

The output of this command includes the following parameters:

Parameter	Description
Name	Name of the OCSP responder certificate.
Original Filename	Name of the original certificate when it was added to the MAS.
Reference Count	Number of RCPs that reference this OCSP responder certificate, signer certificate or CRL.
Expired	Shows whether the MAS has enabled or disabled client remediation with Sygate-on-demand-agent.

This example shows the dates for which this OCSP responder certificate is valid.

```
(host) (config) #show crypto-local pki OCSPResponderCert ocspJan28 dates
```

```
notBefore=Jan 21 02:37:47 2011 GMT
notAfter=Jan 20 02:37:47 2013 GMT
```

This example displays the certificate's hash number.

```
(host) (config) #show crypto-local pki OCSPResponderCert ocspJan28 hash
```

```
91dcb1b3
```

This example shows the purpose and information about this certificate.

```
(host) (config) #show crypto-local pki OCSPResponderCert ocspJan28 purpose
```

```
Certificate purposes:For validation
```

```

SSL client : No
SSL client CA : No
SSL server : No
SSL server CA : No
Netscape SSL server : No
Netscape SSL server CA : No
S/MIME signing : No
S/MIME signing CA : No
S/MIME encryption : No
S/MIME encryption CA : No
CRL signing : No
CRL signing CA : No
Any Purpose : Yes
Any Purpose CA : Yes
OCSP helper : Yes
OCSP helper CA : No

```

This example displays the certificate's subject.

```
(host) (config) #show crypto-local pki OCSPResponderCert obspJan28 subject
```

```
subject= /CN=WIN-T1BQQFMVDED.security1.qa.mycorp.com
```

## Related Command

Command	Description	Mode
<a href="#">crypto-local pki</a>	This command is saved in the configuration file and verifies the presence of the certificate in the MAS's internal directory structure.	Config mode

## Command History

Release	Modification
ArubaOS 7.2	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
All platforms	Base operating system	Enable mode

# show crypto map

show crypto ipsec map

## Description

This command displays the IPsec map configurations.

## Syntax

Parameter	Description
map	

## Usage Guidelines

Use the show crypto map command to view configuration for global, dynamic and default map configurations.

## Example

The command `show crypto map` shows statistics for the global, dynamic and default maps.

```
(host) #show crypto map
```

```
Crypto Map "GLOBAL-MAP" 10000 ipsec-isakmp
Crypto Map Template"default-dynamicmap" 10000
    IKE Version: 1
    lifetime: [300 - 86400] seconds, no volume limit
    PFS (Y/N): N
    Transform sets={ default-transform, default-aes }
Crypto Map "GLOBAL-IKEV2-MAP" 10000 ipsec-isakmp
Crypto Map "default-local-master-ipsecmap" 9999 ipsec-isakmp
Crypto Map Template"default-local-master-ipsecmap" 9999
    IKE Version: 1
    lifetime: [300 - 86400] seconds, no volume limit
    PFS (Y/N): N
    Transform sets={ default-ml-transform }
    Peer gateway: 10.4.62.9
    Interface: VLAN 0
    Source network: 172.16.0.254/255.255.255.255
    Destination network: 10.4.62.9/255.255.255.255
    Pre-Connect (Y/N): Y
    Tunnel Trusted (Y/N): Y
    Forced NAT-T (Y/N): N
```

## Command History

Release	Modification
ArubaOS 7.2	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
All platforms	Base operating system	Config mode on or MAS

## show crypto pki csr

show crypto pki csr

### Descriptions

This command displays the certificate signing request (CSR) for the captive portal feature.

### Syntax

Parameter	Description
csr	The certificate signing request (CSR) for the captive portal feature.

### Usage Guidelines

Use the `show crypto pki` command to view the CSR output.

### Examples

The command `show crypto pki` shows output from the `crypto pki csr` command.

```
(host) #show crypto pki csr
```

Certificate Request:

```
Data:
  Version: 0 (0x0)
  Subject: C=US, ST=CA, L=Sunnyvale, O=sales, OU=EMEA,
  CN=www.mycompany.com/emailAddress=myname@mycompany.com
  Subject Public Key Info:
    Public Key Algorithm: rsaEncryption
    RSA Public Key: (1024 bit)
      Modulus (1024 bit):
        00:e6:b0:f2:95:37:d0:18:c4:ee:f7:bd:5d:96:85:
        49:a3:56:63:76:ee:99:82:fe:4b:31:6c:80:25:c4:
        ed:c7:9e:8e:5e:3e:a2:1f:90:62:b7:91:69:75:27:
        e8:29:ba:d1:76:3c:0b:14:dd:83:3a:0c:62:f2:2f:
        49:90:47:f5:2f:e6:4e:dc:c3:06:7e:d2:51:29:ec:
        52:8c:40:26:de:ae:c6:a0:21:1b:ee:46:b1:7a:9b:
        dd:0b:67:44:48:66:19:ec:c7:f4:24:bd:28:98:a2:
        c7:6b:fb:b6:8e:43:aa:c7:22:3a:b8:ec:9a:0a:50:
        c0:29:b7:84:46:70:a5:3f:09
      Exponent: 65537 (0x10001)
  Attributes:
    a0:00
  Signature Algorithm: sha1WithRSAEncryption
    25:ce:0f:29:91:73:e9:cd:28:85:ea:74:7c:44:ba:b7:d0:5d:
    2d:53:64:dc:ad:07:fd:ed:09:af:b7:4a:7f:14:9a:5f:c3:0a:
    8a:f8:ff:40:25:9c:f4:97:73:5b:53:cd:0e:9c:d2:63:b8:55:
    a5:bd:20:74:58:f8:70:be:b9:82:4a:d0:1e:fc:8d:71:a0:33:
    bb:9b:f9:a1:ee:d9:e8:62:e4:34:e4:f7:8b:7f:6d:3c:70:4c:
    4c:18:e0:7f:fe:8b:f2:01:a2:0f:00:49:81:f7:de:42:b9:05:
    59:7c:e4:89:ed:8f:e1:3b:50:5a:7e:91:3b:9c:09:8f:b7:6b:
    98:80
-----BEGIN CERTIFICATE REQUEST-----
MIIB1DCCAT0CAQAwgZMxCzAJBgNVBAYTAlVTMQswCQYDVQQIEwJDQTESMBAGAlUE
BxMJU3Vubnl2YWxlMQ4wDAYDVQQKEwVzYWxlczENMAsGAlUECxMERU1FQTEaMBGg
A1UEAxMRd3d3Lm15Y292tcGFueS5jb20xKDAmbGkqhkiG9w0BCQEWGXB3cmVkaH1A
YXJ1YmFuZXR3b3Jrcy5jb20wgZ8wDQYJKoZIhvcNAQEBBQADgY0AMIGJAoGBAOaw
8pU30BjE7ve9XZaFSaNEWY3bumYL+SzFsgCXE7ceej14+oh+QYreRaXUn6Cm60XY8
CxTdgzoMYvIvSZBH9S/mTtzDBn7SUSnsUoxAJt6uxqAhG+5GsXqb3QtnREhmGezH
```

```

9CS9KJiix2v7to5DqsciOrj smgpQwCm3hEZwpT8JAgMBAAGgADANBgkqhkiG9w0B
AQUFAAOBgQAlzg8pkXPpzSiF6nR8RLq30F0tU2TcrQf97Qmvt0p/FJpfwwqK+P9A
JZz013NbU80OnNJjuFWlvSB0WPhwvrmCStAe/I1xoDO7m/mh7tnoYuQ05PeLf208
cExMGOB//ovyAaI PAEmB995CuQVZfOSJ7Y/h01BafpE7nAmPt2uYgA==
-----END CERTIFICATE REQUEST-----

```

## Related Commands

Command	Description	Mode
<a href="#">crypto pki</a>	Use this command to generate a certificate signing request (CSR) for the captive portal feature.	Enable mode
<a href="#">crypto pki-import</a>	Use this command to import certificates for the captive portal feature.	Enable mode

## Command History

Release	Modification
ArubaOS 7.2	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
All platforms	Base operating system	Config mode on or MAS

# show database synchronize

show database synchronize

## Description

View database synchronization details.

## Usage Guidelines

Verify database synchronization; manual or periodic.

## Example

The example below displays the database synchronization details including file sizes, automatic synchronization attempts, and any failed synchronization.

```
(host)#show database synchronize

Last synchronization time: Mon Oct 24 04:55:49 2011
To Primary member at 128.0.193.0: succeeded
Local User Database backup file size: 9267 bytes
Cert Database backup file size: 2491 bytes
Synchronization took 1 second

40 synchronization attempted
2 synchronization have failed

Periodic synchronization is enabled and runs every 2 minutes
```

## Related Command

Command	Description
<a href="#">database synchronize</a>	Synchronize database

## Command History

Release	Modification
ArubaOS 7.1	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable and Configuration Mode (config)

# show datapath dpe acl hits

show datapath dpe acl hits <acl ID> slot <slot Id>

## Description

Displays internal ACL hit counters.



ArubaOS Mobility Access Switch supports only up to 2000 counters for ACLs.

## Syntax

Parameter	Description
acl hits <acl ID>	Enter the ACL number. <b>NOTE:</b> You can get the ACL number from the <a href="#">show acl acl-table</a> command.
slot <slot Id>	Enter the slot id.

## Example

The following example displays the ACL hits:

```
(host) #show datapath dpe acl hits 33 slot 0
```

```
Datapath Element ACL Hits
```

```
-----  
Index      Source                               Destination                             Proto  
-----  
127:      129.64.5.0 255.255.255.0             10.129.63.1 255.255.255.255             6 0-65535 22-22  
128:      10.63.127.1 255.255.255.255                 10.129.63.1 255.255.255.255             6 0-65535 22-22  
129:      10.63.127.1 255.255.255.255                 129.64.129.1 255.255.255.255             6 0-65535 22-22  
130:      0.0.0.0 0.0.0.0                       10.129.63.1 255.255.255.255             6 0-65535 22-22  
131:      0.0.0.0 0.0.0.0                       129.64.129.1 255.255.255.255             6 0-65535 22-22  
132:      ::/0                                   ::/0                                       any
```

```
Pkts      Bytes  
-----  
0          0  
0          0  
0          0  
0          0  
0          0  
0          0
```

## Command History

Release	Modification
ArubaOS 7.0	Command introduced.



## Command Information

Platform	License	Command Mode
Mobility Access Switch	Base operating system	Enable and Configuration mode

## show datapath session

show datapath session

### Description

Displays the session table entries.

### Example

The following example displays the session table entries:

```
(host) #show datapath session
Datapath Session Table Entries
-----
Flags: F - fast age, S - src NAT, N - dest NAT
Source IP/      Destination IP  Prot SPort DPort  Cntr Prio ToS Age Destination TAge  UsrIdx
Destination MAC
-----
192.168.5.10    192.168.1.20   17  8211  8218  0/0  0   0   0   1/0/0    5   0
192.168.1.20    192.168.1.10   17  8218  8211  0/0  0   0   0   1/0/0    5   0

UsrVer  Flags
-----  -----
0       FSI
0       FNCI
```

The output of this command includes the following parameters:

Parameter	Description
Source IP	Source IP address of the session entry.
Destination IP	Destination IP address of the session entry.
Prot	Indicates the protocol number.
SPort	Source port of the protocol.
Dport	Destination port of the protocol.
Cntr	Bandwidth contract. <b>NOTE:</b> This is not supported on Mobility Access Switch.
Prio	dot1p priority assigned to the user.
ToS	ToS value assigned to the user through the session ACL.
Age	Time elapsed in seconds since the session was last refreshed.
Destination	The interface on the Mobility Access Switch where the session or user exists.
TAge	Time elapsed in seconds since the session was created.
UsrIdx	User index entry.
UsrVer	Version of the user.
Flags	Flags if any, raised on the session.

## Command History

Release	Modification
ArubaOS 7.3	This command was introduced.
ArubaOS 7.4	The <b>S</b> and <b>N</b> flags are introduced in the output to indicate if source NAT and destination NAT operations are performed on the sessions.

## Command Information

Platform	License	Command Mode
Mobility Access Switch	Base operating system	Enable and Configuration mode

## show ddns-client

```
show ddns-client
```

### Description

This command displays the updates that are sent to the server.

### Example

```
(host) # show ddns-client  
Dynamic DNS Client Information
```

```
-----  
Interface      Hostname          Service URL          IP Address          Update Status  
-----  
vlan4          arubamas.no-ip.info  dynupdate.no-ip.com/nic/update  4.4.4.10           Success
```

The output of this command includes the following information:

Command	Description
Interface	Displays the interface on which the DDNS profile is applied.
Hostname	Displays the host name of the DDNS.
Service URL	Displays the the update URL that is used to send the DDNS updates to the DDNS server.
IP Address	Displays the updated IP address of the client.
Update Status	Displays if the update was successfully sent or not.

### Command History

Release	Modification
ArubaOS 7.4	This command was introduced.

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable Mode

## show device-group

```
show device-group
  interfaces [ap]
```

### Description

This command displays the device-group attached interfaces.

### Syntax

Parameter	Description
interfaces	Displays device-group attached interfaces.
ap	Option to display the device-group attached interfaces for the device type AP.

### Example

The following command displays AP device-group attached interfaces:

```
(host) #show device-group interfaces ap
```

```
Device-Group Config Attached Interfaces
```

```
-----
```

```
Device Type   Interface List
```

```
-----
```

```
access-point  1/0/2,1/0/15-1/0/16,1/0/21-1/0/22,1/0/27-
1/0/28,1/0/32,1/0/40,1/0/42,1/0/46,2/0/16,
                2/0/28,2/0/42,2/0/46,3/0/2,3/0/15,3/0/18,3/0/29,3/0/40
```

### Command History

Release	Modification
ArubaOS 7.4	This command is introduced.

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable Mode

## show device-group-config

```
show device-group-config
  ap
```

### Description

This command displays the device-group configuration parameters.

### Syntax

Parameter	Description
ap	Displays the device group configuration parameters for device-type AP.

### Example

The following command displays the device group configuration parameters for device-type AP:

```
(host) #show device-group-config ap

device-group access-point (N/A)
-----
Parameter                               Value
-----
Enable Device Config                     true
Interface MSTP Profile                    default
Interface GVRP Profile                    N/A
Interface PVST Profile                    default
Interface LLDP Profile                    device-group-default
Interface PoE Profile                     device-group-default
Interface Ethernet Link Profile           default
Interface QoS Profile                     N/A
Interface Policer Profile                  N/A
Interface AAA Profile                     default
Interfaces To Shutdown                    N/A
Interface MTU                             1514
Interface Ingress ACL                     N/A
Interface Egress ACL                      N/A
Interface Session ACL                     N/A
Interface QoS Trust Mode                   auto
Interface Switching Profile               default
Interface Security Profile                 N/A
Interface Trusted Mode                     Trusted
```

### Command History

Release	Modification
ArubaOS 7.4	This command is introduced.

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable Mode

# show dhcp-snooping-database

show dhcp-snooping-database [gigabitethernet|port-channel|summary|vlan <vlan\_id>]

## Description

This command displays the DHCP snooping configuration information.

## Syntax

Parameter	Description
gigabitethernet	Displays dhcp snooping configuration information on a Gigabit Ethernet interface.
port-channel	Displays dhcp snooping configuration information on a port channel.
summary	Displays the summary of the DHCP Snooping database.
vlan <vlan_id>	Displays the DHCP snooping learnt on the VLAN interface.

## Usage Guidelines

Use this command to view the DHCP snooping configuration information.

## Example

```
(host) #show dhcp-snooping-database vlan 6
Total DHCP Snoop Entries : 3
Learnt Entries : 1, Static Entries : 2
```

DHCP Snoop Table

```
-----
MAC                IP                BINDING-STATE  LEASE-TIME                VLAN-ID  INTERFACE
---                --                -
00:00:00:60:4a:69  6.6.6.10         Dynamic entry  2013-09-06 10:50:05 (PST)      6
gigabitethernet1/0/2
00:00:11:22:44:55  4.4.4.4         Static entry   No lease time              6
gigabitethernet1/0/2
00:00:11:33:66:77  7.7.7.7         Static entry   No lease time              6
gigabitethernet1/0/11
```

## Command History

Release	Modification
ArubaOS 7.3	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable Mode

# show diagnostics interface gigabitethernet

```
show diagnostics interface gigabitethernet  
  <slot/module/port> cable  
  all cable
```

## Description

Displays the test results for the Time-Domain Reflectometer (TDR) cable diagnostics. The information returned by the test can be used to characterize and locate faults in metallic cables such as twisted pair.

## Syntax

Parameter	Description
<slot/module/port> cable	Displays the TDR test results for a specific interface.
all cable	Displays the TDR test results for all gigabitethernet interfaces.

## Usage Guidelines

This command returns the results from a TDR cable diagnostic for a specific gigabitethernet interface or all gigabitethernet interfaces upon which a TDR diagnostic was executed.

## Example

If you execute this command before the test is complete, you will see the following:

```
#show diagnostics interface gigabitethernet 1/0/23 cable  
  Interface name      : gigabitethernet1/0/23  
  Test status        : Running  
  Once the test has finished, you will see the following:  
#show diagnostics interface gigabitethernet 1/0/23 cable  
  
  Interface name      : gigabitethernet1/0/23  
  Test status        : Completed  
  Normal cable length : 3 metres  
  
  Pair 1-2  
  -----  
  Pair status        : Normal  
  Polarity swap      : Positive  
  Pair skew          : 0  
  
  Pair 3-6  
  -----  
  Pair status        : Normal  
  Polarity swap      : Positive  
  Pair skew          : 8  
  
  Pair 4-5  
  -----  
  Pair status        : Normal  
  Polarity swap      : Positive  
  Pair skew          : 0  
  
  Pair 7-8  
  -----  
  Pair status        : Normal  
  Polarity swap      : Positive
```



```
Pair skew                : 0

Channel 0:
Pair swap                : Straight

Channel 1:
Pair swap                : Straight
```

## Command History

Release	Modification
ArubaOS 7.1	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable and Configuration Mode (config)

## show firewall

show firewall

### Description

Display a list of global firewall policies.

### Syntax

No parameters

### Example

This example below shows all firewall policies currently configured on the Mobility Access Switch.

```
(host) (config) #show firewall
Global firewall policies
-----
Policy                               Action   Rate    Port
-----
Enforce TCP handshake before allowing data Disabled
Prohibit RST replay attack           Disabled
Deny all IP fragments                Disabled
Prohibit IP Spoofing                 Enabled
Log all received ICMP errors         Disabled
Per-packet logging                   Disabled
Session mirror destination           Disabled
Stateful SIP Processing               Disabled
Session Idle Timeout                 Disabled
Session VOIP Timeout                 Disabled
Stateful H.323 Processing             Disabled
Stateful SCCP Processing              Disabled
Monitor/police CP attacks            Disabled
Rate limit CP untrusted ucast traffic Enabled  1000 pps
Rate limit CP untrusted mcast traffic Enabled  1000 pps
Rate limit CP trusted ucast traffic  Enabled  8000 pps
Rate limit CP trusted mcast traffic  Enabled  1000 pps
Rate limit CP route traffic           Enabled  200 pps
Rate limit CP session mirror traffic Enabled  200 pps
Rate limit CP auth process traffic    Enabled  500 pps
Prohibit ARP Spoofing                Disabled
Stateful VOCERA Processing            Disabled
Stateful UA Processing                Disabled
Enforce TCP Sequence numbers         Disabled
Session mirror IPSEC                 Disabled
```

The output of this command includes the following information:

Parameter	Description
Enforce TCP handshake before allowing data	If enabled, this feature prevents data from passing between two clients until the three-way TCP handshake has been performed. This option should be disabled when you have mobile clients on the network as enabling this option will cause mobility to fail. You can enable this option if there are no mobile clients on the network.

Parameter	Description
Prohibit RST replay attack	If enabled, this setting closes a TCP connection in both directions if a TCP RST is received from either direction.
Deny all IP Fragments	If enabled, all IP fragments are dropped.
Prohibit IP Spoofing	When this option is enabled, source and destination IP and MAC addresses are checked; possible IP spoofing attacks are logged and an SNMP trap is sent.
Log all received ICMP errors	Shows if the Mobility Access Switch will log received ICMP errors.
Per-packet logging	If active, and logging is enabled for the corresponding session rule, this feature logs every packet.
Stateful SIP Processing	Shows if the Mobility Access Switch has enabled or disabled monitoring of exchanges between a voice over IP or voice over WLAN device and a SIP server. This option should be enabled only when there is no VoIP or WLAN traffic on the network
Session Idle Timeout	Shows if a session idle timeout interval has been defined.
Session VOIP Timeout	If enabled, an idle session timeout is defined for voice sessions.
Stateful H.323 Processing	Shows if the Mobility Access Switch has enabled or disabled stateful H.323 processing. This option is disabled and cannot be enabled in ArubaOS 7.3.
Stateful SCCP Processing	Shows if the Mobility Access Switch has enabled or disabled stateful SCCP processing.
Monitor/police CP attacks	If enabled, the Mobility Access Switch monitors a misbehaving user's inbound traffic rate. If this rate is exceeded, the Mobility Access Switch can register a denial of service attack.
Rate limit CP untrusted ucast traffic	Shows the inbound traffic rate
Rate limit CP untrusted mcast traffic	Displays the untrusted multicast traffic rate limit.
Rate limit CP trusted ucast traffic	Displays the trusted unicast traffic rate limit.
Rate limit CP trusted mcast traffic	Displays the trusted multicast traffic rate limit.
Rate limit CP route traffic	Displays the traffic rate limit for traffic that needs generated ARP requests.
Rate limit CP session mirror traffic	Displays the traffic rate limit for session mirrored traffic forwarded to the Mobility Access Switch.

Parameter	Description
Rate limit CP auth process traffic	Displays the traffic rate limit for traffic forwarded to the authentication process.
Prohibit ARP Spoofing	When this option is enabled, possible arp spoofing attacks are logged and an SNMP trap is sent.
Stateful VOCERA Processing	VOCERA processing is disabled by default. <b>NOTE:</b> You cannot enable this option in this release.
Stateful UA Processing	UA processing is disabled by default. <b>NOTE:</b> You cannot enable this option in this release.
Enforce TCP Sequence numbers	If enabled, prevents data from passing between two clients until the three-way TCP handshake has been performed.
Session mirror IPSEC	Shows if the session mirror is configured for all the frames processed by IPsec.

## Related Command

Command	Description	Mode
<a href="#">firewall</a>	This command configures firewall options on the Mobility Access Switch.	Config mode

## Command History

Release	Modification
ArubaOS 7.3	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
All platforms	Base operating system	Enable and Configuration Mode (config)

# show gvrp-global-profile

show gvrp-global-profile

## Description

Displays GVRP global profile settings.

## Syntax

No parameters.

## Example

The following example displays global GVRP status and current timer values:

```
(host) (config) #show gvrp-global-profile
```

```
Global GVRP configuration
```

```
-----  
Parameter      Value  
-----  
GVRP status    Enabled  
Join Time      200  
Leave Time      600  
Leave-all Time  10000
```

The output of this command displays the following parameters

Parameter	Description	Range	Default
GVRP status	Displays status of the GVRP profile.	—	disable
Join Time	Join timer interval in milliseconds.	1 to 65535	200
Leave Time		1 to 65535	600
Leave-all time	Leave timer interval in milliseconds.	1 to 65535	10000

## Command History

Release	Modification
ArubaOS 7.2	This command was introduced

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable and Configuration Mode (config)

## show gvrp interfaces

show gvrp interfaces

### Description

Displays the list of interfaces on which GVRP is enabled, GVRP state of that interface, and the registrar mode.

### Syntax

No parameters.

### Example

The following example displays the interfaces on which GVRP is enabled, GVRP state of that interface, and the registrar mode:

```
(host) (config) #show gvrp interfaces
```

```
Interface GVRP info
```

```
-----  
Interface          State      Registrar Mode  
-----  
gigabitethernet0/0/10  Enabled   Normal  
gigabitethernet0/0/20  Disabled  N/A  
port-channell        Disabled  N/A
```

The output of this command displays the following parameters

Parameter	Description
Interface	Name of the interface.
State	State of GVRP profile.
Registrar Mode	Displays registrar mode (normal, forbidden, or N/A)

### Command History

Release	Modification
ArubaOS 7.2	This command was introduced.

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable and Configuration Mode (config)

## show hot-standby-link

```
show hot-standby-link [gigabitethernet <slot/module/port> | port-channel <number>]
```

### Description

Display details for a primary and backup link configured to use the hot standby link feature.

### Syntax

Parameter	Description
<code>gigabitethernet &lt;slot/module/port&gt;</code>	Gigabit Ethernet interface, in the format slot/module/port.
<code>port-channel &lt;number&gt;</code>	Port channel ID (0-7).

### Usage Guidelines

The hot standby link feature enables a Layer-2 interface (or port-channel) to back-up another Layer 2-interface (or port-channel) so that these interfaces become mutual backups.

### Examples

To view details of HSL on an interface, use the following command.

```
(host) #show hot-standby-link gigabitethernet 0/0/10

HSL Interface Info
-----
Primary Interface: GE-0/0/10 (Active) Backup Interface: GE-0/0/11 (Standby)
Preemption Mode: forced Preemption Delay: 200
Last Switchover Time: NEVER Flap Count: 0
```

To view details of all HSL links, use the following command.

```
(host) #show hot-standby-link

HSL Interfaces Info
-----
Primary   State   Backup   State   Last Switchover Time
-----
GE-0/0/10 Active  GE-0/0/11 Standby  Never
GE-0/0/3  Down   PC-4     Down    Never
PC-1      Down   GE-0/0/0 Active   Never
PC-2      Down   PC-3     Down    Never
```

The output of these command includes the following information:

Parameter	Description
Primary	The Primary interface or a list of the primary interfaces for the HSL pair.
State	The state of the primary interface—Active, Down or Standby.
Backup	The backup interface or a list of the backup interfaces for the HSL pair.
Preemption Mode	This parameter shows if the current preemption mode is <b>forced</b> or <b>off</b> .

Parameter	Description
Preemption Delay	If preemption is in forced mode, the preemption delay defines the time before the primary link becomes active again.
Last Switchover Time	Amount of time, if any, that has elapsed since the last link switchover happened.
Flap Count	Number of times the active link switchover has happen.

## Related Commands

Command	Description
<a href="#">backup interface</a>	Configure a backup interface (Gigabit Ethernet or Port Channel).
<a href="#">preemption</a>	Sets preemption mode and delay times for the hot standby link feature.
<a href="#">show interface-config gigabitethernet</a>	This command displays the interface configuration information.
<a href="#">show interface-config port-channel</a>	This command displays the port-channel configuration information.

## Command History

Release	Modification
ArubaOS 7.0	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable Mode



# show igmp-snooping

```
show igmp-snooping counters|groups|membership|mrouter [vlan <vlan-id>]
```

## Description

This command lists IGMP snooping counters, groups, membership, and multicast router information.

## Syntax

Parameter	Description
counters	Displays the IGMP snooping counters.
groups	Displays the IGMP snooping groups.
membership	Displays the IGMP snooping membership information.
mrouter	Displays the IGMP snooping multicast router ports information.
[vlan <vlan-id>]	Displays the details only for the specified VLAN.
[detail]	Displays the details only for the specified VLAN in detail.

## Usage Guidelines

By default, this command shows general information for all VLANs. Include the optional `vlan <vlan-id>` parameters to display detailed output for a single VLAN.

## Examples

The following examples show the output from the `show igmp-snooping groups`, `show igmp-snooping membership`, `show igmp-snooping mrouter` commands.

```
(host) # show igmp-snooping groups
```

```
IGMP Snooping Multicast Route Table
```

```
-----
```

```
VLAN  Group          Port List
----  -
0100  224.0.1.40        GE 0/0/11
0100  239.255.255.250   GE 0/0/11
```

```
(host) # show igmp-snooping membership
```

```
IGMP Snooping Multicast Membership
```

```
-----
```

```
VLAN  Group          Port          Expiry      UpTime
----  -
0001  224.0.1.40     GE0/0/9       00:03:36    04:47:27
0001  225.0.1.1      GE0/0/9       00:00:00    00:01:25
1900  225.0.1.1      GE0/0/3       00:03:49    04:47:32
0003  225.0.1.1      GE0/0/9       00:00:00    04:46:30
0003  239.0.0.1      GE0/0/9       00:00:00    04:44:42
```

```
(host) # show igmp-snooping mrouter
```

```
Flags: D - Dynamic, S - Static, P - PIM, M - IGMP/MLD query
```

```
IGMP Snooping Multicast Router Ports
```

```
-----
```

```
VLAN  Elected-Querier  Ports (Flags)  Expiry      UpTime      Src-Ip
----  -
0001  10.10.10.6        GE0/0/9 (DM)   00:04:07    04:45:55    10.10.10.6
                                GE0/0/9 (DP)   00:04:09    04:45:34    10.10.10.6
```

```

0003 3.3.3.10      GE0/0/9 (DM)  00:04:15  04:45:25  3.3.3.10
                                GE0/0/9 (DP)  00:04:06  04:44:56  3.3.3.10
0300 20.20.20.1    GE0/0/9 (DM)  00:04:15  04:45:25  20.20.20.1
                                GE0/0/9 (DP)  00:04:05  04:45:13  20.20.20.1

```

**(host) # show igmp-snooping mrouter vlan 1**

Flags: D - Dynamic, S - Static, P - PIM, M - IGMP/MLD query  
 IGMP Snooping Multicast Router Ports

```

-----
VLAN  Elected-Querier  Ports (Flags)  Expiry    UpTime      Src-Ip
----  -
0001  10.10.10.6         GE0/0/9 (DM)  00:03:25  04:35:30  10.10.10.6
                                GE0/0/9 (DP)  00:04:14  04:35:09  10.10.10.6

```

**(host)# show igmp-snooping mrouter vlan 1 detail**

Flags: D - Dynamic, S - Static, P - PIM, M - IGMP/MLD query  
 Vlan:0001 Elected-Querier:10.10.10.6  
 GE0/0/9 (DM) Expiry Time: 00:03:45 Uptime: 04:36:10  
     Router IP: 10.10.10.6  
     Router MAC: 00:19:06:55:15:40  
 GE0/0/9 (DP) Expiry Time: 00:04:04 Uptime: 04:35:49  
     Router IP: 10.10.10.6  
     Router MAC: 00:19:06:55:15:40

The output of this command includes the following information:

Parameter	Description
VLAN	Name of the VLAN on which IGMP snooping has been configured.
Group	Group.
Port	Gigabit Ethernet port on the switch.
Expiry	Amount of time before the querier timeout interval expires.
Uptime	Amount of time the router ports have been active, in the format <i>hours:minutes:seconds</i> .
Elected-Querier	IP address of the IGMP querier configured on a switch.
Src-IP	Source IP.

## Related Commands

Command	Description
<a href="#">vlan-profile igmp-snooping-profile</a>	This command creates an IGMP snooping profile that can be applied to a VLAN.
<a href="#">show vlan-profile igmp-snooping-profile</a>	This command displays a IGMP snooping profile and the associated parameters.

## Command History

Release	Modification
ArubaOS 7.0	This command was introduced

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Configuration Mode

# show interface all

```
show interface all switchport <brief|detail|extensive>
```

## Description

This command displays all the interface information in brief or detail..

## Syntax

Parameter	Description
switchport <brief detail extensive>	Displays the interface information. <ul style="list-style-type: none"><li>• brief: provides a brief information on the interface.</li><li>• detail: provides a more detailed information on the interface.</li><li>• extensive: provides an extensive information on the interface.</li></ul>

## Examples

The following examples display the information on all the interfaces:

```
(host) #show interface all switchport brief
```

```
GE0/0/0
Link is Down
Flags: Access, Untrusted
VLAN membership: 12
GE0/0/1
Link is Down
Flags: Access, Trusted
VLAN membership: 1
GE0/0/10
Link is Down
Flags: Access, Trusted
VLAN membership: 1
<output truncated>
```

```
(host) #show interface all switchport extensive
```

```
GE0/0/0
Link is Down
Flags: Access, Untrusted
VLAN membership:
VLAN tag Tagness STP-State
-----
12      Untagged DIS
GE0/0/1
Link is Down
Flags: Access, Trusted
VLAN membership:
VLAN tag Tagness STP-State
-----
1      Untagged DIS
<output truncated>
```

```
.
.
.
```

```
(host) #show interface all switchport detail
```

```
GE0/0/0
Link is Down
Flags: Access, Untrusted
```

```

VLAN membership:
VLAN tag  Tagness  STP-State
-----  -
12         Untagged  DIS
GE0/0/1
Link is Down
Flags: Access, Trusted
VLAN membership:
VLAN tag  Tagness  STP-State
-----  -
1         Untagged  DIS
GE0/0/10
Link is Down
Flags: Access, Trusted
VLAN membership:
VLAN tag  Tagness  STP-State
-----  -
1         Untagged  DIS
.
.
.
(host) #show interface all switchport detail
GE0/0/0
Link is Down
Flags: Access, Untrusted
VLAN membership:
VLAN tag  Tagness  STP-State
-----  -
12         Untagged  DIS
GE0/0/1
Link is Down
Flags: Access, Trusted
VLAN membership:
VLAN tag  Tagness  STP-State
-----  -
1         Untagged  DIS
GE0/0/10
Link is Down
Flags: Access, Trusted
VLAN membership:
VLAN tag  Tagness  STP-State
-----  -
1         Untagged  DIS
<output truncated>

```

## Command History

Release	Modification
ArubaOS 7.1.3	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Configuration mode

## show interface brief

```
show interface brief
  gigabitethernet <slot/module/port>
  port-channel id <id>
```

### Description

This command displays all the interface information in brief.

### Syntax

Parameter	Description
gigabitethernet	Displays the gigabit Ethernet interface information in brief.
port-channel	Displays the port-channel interface information in brief.

### Example

The following example displays the interface details of Port channel 1

```
(host) #show interface brief port-channel 1
Interface      Admin   Link   Line Protocol   Speed/Duplex
-----      -
port-channell  Enable  Down   Down             N/A
```

### Command History

Release	Modification
ArubaOS 7.1.3	This command was introduced.

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable mode

## show interface-config gigabitethernet

show interface-config gigabitethernet <slot/module/port>

### Description

This command displays the interface configuration information.

### Syntax

Parameter	Description
<slot/module/port>	The slot, module and port numbers of the interface, separated by slashes (/).

### Example

The output of this command displays the following information:

```
(host) #show interface-config gigabitethernet 0/0/0

gigabitethernet "0/0/0"
-----
Parameter                               Value
-----
Interface MSTP Profile                   default
Interface Rapid PVST Profile             default
Interface Tunneled Node Profile          N/A
Interface VOIP Profile                   N/A
Interface LLDP Profile                   lldp-factory-initial
Interface PoE Profile                     poe-factory-initial
Interface Ethernet Link Profile           default
Interface LACP Profile                   N/A
Interface QoS Profile                    N/A
Interface Policer Profile                 N/A
Interface AAA Profile                    N/A
Interface Shutdown                       Disabled
Interface MTU                            1514
Interface Ingress ACL                    N/A
Interface Egress ACL                     N/A
Interface Session ACL                    N/A
Interface QoS Trust Mode                 Disabled
Interface Description                     N/A
Interface Switching Profile              default
Ingress Port Mirroring Profile           N/A
Egress Port Mirroring Profile            N/A
Static IGMP Multicast Router port for VLANs 0
Static MLD Multicast Router port for VLANs 0
Interface Trusted Mode                   Enabled
HSL backup interface                     N/A
HSL preemption mode                      Off
HSL preemption delay                     100
MAC-Limit (Action)                       N/A
Configuration Derivation                  gigabitethernet0/0/0 default
```

The output of this command includes the following information:

Parameter	Description
Interface MSTP Profile	The MSTP profile applied to the interface.
Interface Tunneled Node Profile	The Tunneled Node profile applied to the interface.
Interface VOIP Profile	The VoIP profile applied to the interface.
Interface LLDP Profile	The LLDP profile applied to the interface.
Interface PoE Profile	The PoE profile applied to the interface.
Interface Ethernet Link Profile	The Ethernet Link profile applied to the interface.
Interface LACP Profile	The LACP profile applied to the interface.
Interface QoS Profile	The QoS profile applied to the interface.
Interface Policer Profile	The Policer profile applied to the interface.
Interface AAA Profile	The AAA profile applied to the interface.
Interface Shutdown	Shows if the interface has been disabled.
Interface MTU	Maximum Transmission Unit (MTU) value configured in bytes.
Interface Ingress ACL	Ingress Access Control List (ACL) configured for the interface.
Interface Egress ACL	Egress Access Control List (ACL) configured for the interface.
Interface Session ACL	Session Access Control List (ACL) configured for the interface.
Interface QoS Trust Mode	Shows if the QoS Trust Mode is enabled on this interface.
Interface Description	Description of the interface, if configured.
Interface Switching Profile	The Switching profile applied to the interface.
Ingress Port Mirroring Profile	If port mirroring is enabled, this feature can send copies of all or sampled packets seen on specific port (s) or port-channel to a destination. This parameter displays the ingress mirroring profile for the interface.
Egress Port Mirroring Profile	If port mirroring is enabled, this feature can send copies of all or sampled packets seen on specific port (s) or port-channel to a destination. This parameter displays the egress mirroring profile for the interface.
Static Multicast Router port for the VLAN	In IGMP snooping proxy mode, you can enable suppressing reports to multicast router ports. This parameter shows the VLAN ID configured as the multicast router VLAN IDs for IGMP snooping.
Interface Trusted Mode	Shows if trusted mode is enabled for the interface.



Parameter	Description
HSL backup interface	Hot Standby-Link (HSL) backup interface.
HSL preemption mode	When a primary link goes down, the backup link becomes active. By default, when this link comes back up, it goes into standby mode as the other backup interface is already activated. If preemption mode is enabled for the primary link, the primary interface to become active again once it comes back up. This parameter is disabled by default.
HSL preemption delay	If preemption mode is enabled, this parameter shows the configured preemption delay.
MAC-Limit (Action)	The maximum number of MACs that can be learned on this interface.
Configuration Derivation	The active configuration from interface and interface groups.

## Related Commands

Command	Description
<a href="#">interface gigabitethernet</a>	This command configures a Gigabit Ethernet port on the switch.

## Command History

Release	Modification
ArubaOS 7.0	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable Mode

# show interface-config mgmt

show interface-config mgmt

## Description

This command displays the management interface configuration information.

## Syntax

No parameters.

## Example

The output of this command displays the following information:

```
(host) #show interface-config mgmt

mgmt
----
Parameter                Value
-----
Interface shutdown       Disabled
IP Address                10.16.48.28/255.255.255.0
IPv6 Address              N/A
IPv6 link local Address  N/A
Interface description    N/A
```

The output includes the following parameters:

Parameter	Description
Interface Shutdown	Shows if the interface shutdown feature is enabled or disabled for the management interface. By default this feature is disabled, (the interface is active).
IP address	IP address and netmask of the management interface.
Interface Description	Description of the management interface, if configured.

## Related Commands

Command	Description
<a href="#">interface mgmt</a>	This command configures the management port on the switch.

## Command History

Release	Modification
ArubaOS 7.0	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable Mode

# show interface-config port-channel

show interface-config port-channel [<0-63>]

## Description

This command displays the port-channel configuration information.

## Syntax

Parameter	Description
<0-63>	Port-channel ID.

## Usage Guidelines

By default, this command displays the entire list of defined port-channels, including their status and the number of references to each port-channel. Include a port-channel ID to display detailed configuration information for that port-channel.

## Examples

The first example shows that the switch has one defined port-channel configuration. The References column shows that there are two other profiles with references to that port-channel configuration, and the Profile Status column indicates whether the settings are predefined. User-defined port-channels will not have an entry in the Profile Status column.

The second example displays the current settings of the **0** port-channel configuration.

```
(host) #show interface-config port-channel
port-channel List
-----
Name   References  Profile Status
----  -
0      2
Total:1

(host) #show interface-config port-channel 0
port-channel "0"
-----
Parameter                               Value
-----
Interface MSTP profile                   default
Interface Ethernet link profile         pc_default
QoS Profile                              N/A
Policer Profile                          N/A
Interface Ingress Mirroring profile      N/A
Interface Egress Mirroring profile       N/A
Interface shutdown                       Disabled
mtu                                       1514
Ingress ACL                              N/A
QoS Trust                                Disabled
Interface description                    N/A
Interface switching profile              default
Static Multicast Router port for the VLANs N/A
HSL backup interface                    N/A
HSL preemption mode                     off
HSL preemption delay                    100
MAC-Limit (Action)                      N/A
Port channel member list                 N/A
```

The output of this command includes the following information:

Parameter	Description
Interface MSTP profile	MSTP profile assigned to the port-channel interface.
Interface Ethernet link profile	Ethernet link profile assigned to the port-channel interface.
QoS Profile	QoS profile assigned to the port-channel interface.
Policer Profile	Policer profile assigned to the port-channel interface.
Interface Ingress Mirroring profile	Interface Ingress Mirroring profile assigned to the port-channel interface.
Interface Egress Mirroring profile	Interface Egress Mirroring profile assigned to the port-channel interface.
Interface shutdown	Shows if the port-channel interface has been administratively enabled or disabled
mtu	Maximum Transmission Units in bytes.
Ingress ACL	Access Control List assigned to the port-channel interface.
QoS Trust	Shows if QoS trust mode is enabled or disabled.
Interface description	Description of the interface, if configured.
Interface switching profile	Switching profile assigned to the port-channel interface.
Static Multicast Router port for the VLANs	Lists the VLAN IDs to be used as the multicast router VLAN IDs for IGMP snooping.
HSL backup interface	Hot Standby-Link (HSL) backup interface.
HSL preemption mode	When a primary link goes down, the backup link becomes active. By default, when this link comes back up, it goes into standby mode as the other backup interface is already activated. If preemption mode is enabled for the primary link, the primary interface to become active again once it comes back up. This parameter is disabled by default.
HSL preemption delay	If preemption mode is enabled, this parameter shows the configured preemption delay.
MAC-Limit (Action)	The maximum number of MACs that can be learned on this interface.
Port channel member list	List of port channels members.

## Related Command

Command	Description
<a href="#">interface port-channel</a>	This command creates a static port-channel.

## Command History

Release	Modification
ArubaOS 7.0	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable Mode

## show interface-config tunnel

```
show interface-config tunnel [ethernet <tunnel-id> | ip <tunnel-id>]
```

### Description

This command displays the GRE tunnel configuration information.

### Syntax

Parameter	Description
ethernet <tunnel-id>	Displays the L2 GRE tunnel configuration information for the specified tunnel ID.
ip <tunnel-id>	Displays the L3 GRE tunnel configuration information for the specified tunnel ID.

### Usage Guidelines

By default, this command shows general information for all the L2 or L3 tunnels based on the parameter specified. Include the **<tunnel-id>** parameter to show detailed information for the specified tunnel.

### Examples

The output of the first command in this example shows a list of tunnels. The **References** column lists the number of other profiles with references to the tunnel, and the **Profile Status** column indicates whether the profile is predefined.

The following examples show the detailed configuration settings for the IP tunnel 1.

```
(host) #show interface-config tunnel ip
```

```
Tunnel List
-----
Name   References  Profile Status
----   -
1      0
3      0
7      0
Total:3
```

```
(host) #show interface-config tunnel ip 1
```

```
Tunnel "1"
-----
Parameter          Value
-----
Tunnel Description  L3 Tunnel
Tunnel Source IP    10.1.30.4
Tunnel Destination IP 10.1.30.100
Ospf-profile        N/A
Tunnel Keepalive    30/6
Tunnel MTU          1100
Tunnel Shutdown     Disabled
```

The output of the command includes the following information:

Parameter	Description
Tunnel Description	Description of the tunnel that was specified while configuring the tunnel.
Tunnel Source IP	Source IP address of the tunnel.
Tunnel Destination IP	Destination IP address of the tunnel.
Ospf-profile	Name of the OSPF profile attached to the tunnel.
Tunnel Keepalive	The interval at which keepalive frames are sent, and the number of times the frames are resent before a tunnel is considered to be down.
Tunnel MTU	Maximum Transmission Unit (MTU) size for the interface.
Tunnel Shutdown	Indicates if the hard shutdown of the interface is enabled or disabled.

The following examples show the detailed configuration settings for the ethernet tunnel 2:

```
(host) #show interface-config tunnel ethernet
Tunnel List
-----
Name  References  Profile Status
----  -
2     0
23    0
Total:2
```

```
#show interface-config tunnel ethernet 2
Tunnel "2"
-----
Parameter                Value
-----
Tunnel Description        L2 Tunnel
Tunnel Source IP          10.1.30.4
Tunnel Protocol           0
Inter-Tunnel-Flooding     Enabled
Tunnel Keepalive          N/A
Tunnel Switching Profile  accessvlan100
Tunnel Trusted            Enabled
Tunnel MTU                1100
Tunnel Shutdown           Disabled
```

The output of the command includes the following information:

Parameter	Description
Tunnel Description	Description of the tunnel that was specified while configuring the tunnel.
Tunnel Source IP	Source IP address of the tunnel.
Tunnel Protocol	16-bit Generic Route Encapsulation (GRE) protocol number that uniquely identifies a Layer-2 tunnel.
Inter-Tunnel-Flooding	Indicates if inter-tunnel flooding is enabled or disabled.



Parameter	Description
Tunnel Keepalive	The interval at which keepalive frames are sent, and the number of times the frames are resent before a tunnel is considered to be down.
Tunnel Switching Profile	Name of the Switching profile associated to the tunnel.
Tunnel Trusted	Indicates if trusted tunnel is enabled or disabled.
Tunnel MTU	Maximum Transmission Unit (MTU) size for the interface.
Tunnel Shutdown	Indicates if the hard shutdown of the interface is enabled or disabled.

## Related Commands

Command	Description
<code>interface tunnel ethernet</code>	This command creates an L2 GRE tunnel.
<code>interface tunnel ip</code>	This command creates an L3 GRE tunnel.

## Command History

Release	Modification
ArubaOS 7.2	This command was introduced.
ArubaOS 7.3	The <b>ip</b> parameter was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable Mode

## show interface-config vlan

```
show interface-config vlan [<vlan-id>]
```

### Description

This command displays the interface VLAN configuration information.

### Syntax

Parameter	Description
<vlan-id>	VLAN ID

### Usage Guidelines

By default, this command shows general information for all ports. Include the <vlan-id> parameter to show detailed information for the specified VLAN.

### Examples

The output of the first command in this example shows a list of VLANs. The **References** column lists the number of other profiles with references to the VLAN, and the **Profile Status** column indicates whether the profile is predefined. User-defined VLANs will not have an entry in the **Profile Status** column.

The second command in this example shows detailed configuration settings for VLAN 1.

```
(host) #show interface-config vlan
vlan List
-----
Name  References  Profile Status
----  -
1     0
Total:1
(host) #show interface-config vlan 100
vlan "100"
-----
Parameter                Value
-----
Interface description     N/A
Interface OSPF profile    N/A
Interface PIM profile     N/A
Interface IGMP profile    N/A
Interface DDNS profile    N/A
Interface VRRP profile    N/A
Probe Profile             N/A
Directed Broadcast Enabled Disabled
Interface shutdown       Disabled
Session-processing       Disabled
metric                   0
mtu                       1500
IP Address                N/A
IP NAT Inside             Disabled
IP NAT Outside            Disabled
IPv6 Address              N/A
IPv6 link local Address   N/A
DHCP client               Disabled
DHCP relay profile        N/A
Aruba VPN Pool profile    N/A
Ingress ACL               N/A
```

Egress ACL	N/A
Session ACL	N/A

The output of this command includes the following information:

Parameter	Description
Interface OSPF profile	Shows if the OSPF profile has been configured on the Routing Virtual Interface (RVI).
Interface PIM profile	Shows if the PIM profile has been configured on the RVI.
Interface IGMP profile	Shows if the IGMP profile has been configured on the RVI.
Interface VRRP profile	Shows if the VRRP profile is applied on this RVI.
Directed Broadcast Enabled	Shows if IP directed broadcast is enabled or not.
Interface shutdown	Shows if the VLAN interface has been disabled
Session-processing	Shows if session-processing is enabled on the VLAN interface. This is enabled by default.
mtu	Maximum transmission units allowed on the VLAN in bytes.
IP Address	The IP address of the VLAN interface. This IP address can be manually configured, or the VLAN interface can be configured to automatically get an IP address from the DHCP client.
IP NAT Inside	Shows if the IP NAT is enabled on the inside traffic.
IPv6 Address	Set Global IPv6 prefix of the interface.
IPv6 link local Address	Sets link local IPv6 prefix of interface.
DHCP client	Shows if the VLAN has been configured to get its IP address from a DHCP client. If this feature is disabled, the IP address must be manually configured.
DHCP relay profile	Shows if the dhcp relay profile is configured on their RVI interface.
Ingress ACL	Shows the name of the ACL when an ingress ACL is applied on the VLAN.
Interface description	Description given to the VLAN, if configured.

## Related Command

Command	Description
<a href="#">interface vlan</a>	This command creates the VLAN interface for the switch.

## Command History

Release	Modification
ArubaOS 7.0	This command was introduced.
ArubaOS 7.3	The following new parameters as part of this show command were introduced: <ul style="list-style-type: none"><li>● <b>Interface VRRP profile</b></li><li>● <b>Ingress ACL</b></li></ul>
ArubaOS 7.4	The following new parameters as part of this show command are introduced: <ul style="list-style-type: none"><li>● <b>Interface description</b></li><li>● <b>Interface DDNS profile</b></li><li>● <b>Probe Profile</b></li><li>● <b>metric</b></li><li>● <b>IP NAT Outside</b></li><li>● <b>Aruba VPN Pool profile</b></li><li>● <b>Egress ACL</b></li><li>● <b>Session ACL</b></li></ul>

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable Mode

# show interface counters

show interface counters

## Description

Displays a table of L2 interfaces counters.

## Syntax

No parameters.

## Example

The output of this command displays the following information:

```
(host) #show interface counters
```

Port	InOctets	InUcastPkts	InMcastPkts	InBcastPkts
GE0/0/0	123	0	1	0
GE0/0/1	195787	0	1592	0
GE0/0/2	224690	741	1854	4
GE0/0/7	450256	308	3154	0
GE0/0/8	421784	86	3154	61
GE0/0/9	409952	0	3154	26
GE0/0/23	0	0	0	0

Port	OutOctets	OutUcastPkts	OutMcastPkts	OutBcastPkts
GE0/0/0	195787	0	1592	0
GE0/0/1	123	0	1	0
GE0/0/2	102037	389	118	131
GE0/0/7	674639	396	5044	31
GE0/0/8	459150	349	3169	12
GE0/0/9	405730	0	3170	0
GE0/0/23	196800	0	1600	0

The output of this command includes the following parameters:

Parameter	Description
Port	Port number.
InOctets	Number of octets received through the port.
InUcast	Pkts Number of unicast packets received through the port.
InMcast	Pkts Number of multicast packets received through the port.
InBcast	Pkts Number of broadcast packets received through the port.
OutOctets	Number of octets sent through the port.
OutUcastPkts	Number of unicast packets sent through the port.
OutMcastPkts	Number of multicast packets sent through the port.
OutBcastPkts	Number of broadcast packets sent through the port.

## Command History

Release	Modification
ArubaOS 7.0	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable Mode

## show interface gigabitethernet

```
show interface gigabitethernet <slot/module/port> [counters|statistics|switchport  
[brief|detail|extensive]|transceiver [detail]]
```

### Description

Issue this command to display information about a specified Gigabit Ethernet port.

### Syntax

Parameter	Description
<slot/module/port>	The slot, module and port numbers of the interface.
counters	Displays the counters for the specified interface.
statistics	Displays the statistics for the specified interface.
switchport <brief detail extensive>	Displays the interface information. <ul style="list-style-type: none"><li>• <b>brief</b>: Provides a brief information on the specified Gigabit ethernet interface.</li><li>• <b>detail</b>: Provides a more detailed information on the specified Gigabit ethernet interface.</li><li>• <b>extensive</b>: Provides an extensive information on the specified Gigabit ethernet interface.</li></ul>
transceiver [detail]	Displays the interface transceiver information. <ul style="list-style-type: none"><li>• <b>detail</b>: Displays L2 fiber transceiver diagnostic information.</li></ul>

### Usage Guidelines

By default, this command displays detailed interface information. Include the optional counters or statistics parameters to display only counters and statistics data.

### Examples

The output of this command displays the following information:

```
(host) (config) #show interface gigabitethernet 1/0/24

GE1/0/24 is administratively Up, Link is Down, Line protocol is Down
Hardware is Gigabit Ethernet, Interface is GE1/0/24, Address is 00:0b:86:6a:2f:da
Encapsulation ARPA, Loopback not set
Configured: duplex (Auto), Speed (Auto), FC (Off), Autoneg (On)
Auto negotiation in progress
Interface index: 169
MTU 1514 bytes
Link flaps: 1
Flags: Trunk, Trusted
Port shutdown reason : BPDU received
Link status last changed:      0d 00:00:00 ago
Last update of counters:      0d 00:00:00 ago
Last clearing of counters:     0d 00:00:00 ago
Statistics:
  Received 240 frames, 31806 octets
  0 pps, 0 bps
  0 unicast, 240 multicast, 0 broadcast
  0 runts, 0 giants, 0 throttles
  0 error octets, 0 CRC frames
```

Transmitted 307 frames, 29461 octets  
 0 pps, 0 bps

The following command displays the transceiver details for the specified interface:

```
(host) #show interface gigabitethernet 0/1/0 transceiver detail
Vendor Name                : OPNEXT INC
Vendor Serial Number       : L12J55161
Vendor Part Number         : TRF2716AALB465
Aruba Supported            : YES
Cable Type                 : 1000BASE-SX
Connector Type             : LC
Wave Length                : 850 nm
Last update of transceiver information : 4 hours 41 min 50 sec
Module                    Low Warning    Low Alarm    High Warning  High Alarm
Temperature               Threshold    Threshold    Threshold     Threshold
-----
37 C /                    -10 C /     -15 C /     80 C /        85 C /
98.60 F                   14.00 F    5.00 F      176.00 F     185.00 F
Low                        Low         High        High
Warning                    Alarm       Warning     Alarm
-----
Inactive                  Inactive    Inactive     Inactive
Module                    Low Warning  Low Alarm    High Warning  High Alarm
Voltage                   Threshold    Threshold    Threshold     Threshold
-----
3404 mV                   3100 mV     3000 mV     3500 mV      3600 mV
Low                        Low         High        High
Warning                    Alarm       Warning     Alarm
-----
Inactive                  Inactive    Inactive     Inactive
Laser Bias                Low Warning  Low Alarm    High Warning  High Alarm
Current                   Threshold    Threshold    Threshold     Threshold
-----
4 mA                      1 mA       1 mA       14 mA       15 mA
Low                        Low         High        High
Warning                    Alarm       Warning     Alarm
-----
Inactive                  Inactive    Inactive     Inactive
Laser TX                  Low Warning  Low Alarm    High Warning  High Alarm
Power                     Threshold    Threshold    Threshold     Threshold
-----
0.279 mW /                0.089 mW /  0.070 mW /  0.631 mW /   0.794 mW /
-5.54 dBM                 -10.51 dBM  -11.55 dBM  -2.00 dBM    -1.00 dBM
Low                        Low         High        High
Warning                    Alarm       Warning     Alarm
-----
Inactive                  Inactive    Inactive     Inactive
Laser RX                  Low Warning  Low Alarm    High Warning  High Alarm
Power                     Threshold    Threshold    Threshold     Threshold
-----
0.000 mW/                 0.015 mW/   0.012 mW/   1.258 mW/    1.584 mW/
-40.00 dBM                -18.24 dBM  -19.21 dBM  1.00 dBM     2.00 dBM
Low                        Low         High        High
Warning                    Alarm       Warning     Alarm
-----
Active                    Active       Inactive     Inactive
```



Parameter	Description
GE <port> is...	Shows if the port has been administratively enabled or disabled.
line protocol is...	Displays the status of the line protocol on the specified port.
Hardware is....	Describes the hardware interface type.
Address is...	Displays the MAC address of the hardware interface.
Encapsulation	Encapsulation method assigned to this port.
Loopback	Displays whether or not loopback is set.
Configured	Configured transfer operation and speed.
Negotiated	Negotiated transfer operation and speed.
Interface index	Unique identifier for the interface useful in debugging.
MTU bytes	MTU size of the specified port in bytes.
Port shutdown...	Displays the reason for the port shutdown.
link status last changed...	Time since the link status changed.
Last update of counters	Time since the counters were updated. All current counters related to the specified port are listed in the output of this command.

Parameter	Description
Last clearing of counters	Time since the counters were cleared.
Statistics	<p>Counters and statistics for received and transmitted data:</p> <p>Received statistics:</p> <ul style="list-style-type: none"> <li>frames: Number of data frames received.</li> <li>octets: Bytes of data received.</li> <li>broadcasts: Number of broadcast frames received.</li> <li>runt: Number of packets discarded because they were smaller than the minimum required packet size.</li> <li>giants: Number of packets discarded because they were larger than the maximum required packet size.</li> <li>throttles: Number of times the neighbouring interface has sent 802.3 flow control frames.</li> <li>error octets: Bytes of data that had errors.</li> <li>CRC frames: Number of frames with Cyclic redundancy check errors.</li> <li>multicast: Number of multicast frames.</li> <li>unicast: Number of unicast frames.</li> </ul> <p>Transmitted statistics:</p> <ul style="list-style-type: none"> <li>frames: Number of data frames sent.</li> <li>octets: Bytes of data sent.</li> <li>broadcasts: Number of broadcast frames sent.</li> <li>throttles: Number of times the interface's input buffers were exceeded.</li> <li>errors octets: Bytes of data that had errors.</li> <li>deferred: Number of deferred packets.</li> <li>collisions: Number of collisions on this Ethernet segment.</li> <li>late collisions: Number of collision errors that occurred after the first 512 bit times of data were transmitted.</li> </ul>
POE Information	The Power-Over-Ethernet (POE) status of the specified port. For additional information on these output parameters, see <a href="#">show poe interface</a> .

## Related Commands

Command	Description
<a href="#">interface gigabitethernet</a>	This command configures a Gigabit Ethernet port on the switch.
<a href="#">show poe</a> <a href="#">show poe interface</a>	These commands display PoE information for the switch or the switch interfaces.

## Command History

Release	Modification
ArubaOS 7.0	This command was introduced.
ArubaOS 7.3	Introduced <b>detail</b> sub-parameter under <b>transceiver</b> parameter.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable Mode

# show interface-group-config gigabitethernet

show interface-group-config gigabitethernet [<group-name>]

## Description

This command displays the interface group configuration information.

## Syntax

Parameter	Description
<group-name>	Name of the interface group.

## Usage Guidelines

By **default**, this command displays the entire list of Ethernet interface group configurations, including the configuration status and the number of references to each configuration. Include a configuration name to display detailed information for that interface group configuration.

## Examples

The first example below shows that the switch has three Gigabit Ethernet interface group configurations. The **References** column lists the number of other profiles with references to the interface group, and the **Profile Status** column indicates whether the group is predefined. User-defined groups will not have an entry in the **Profile Status** column.

The second example shows current configuration settings for the **default** Gigabit Ethernet interface group.

```
(host) #show interface-group-config gigabitethernet  
gigabitethernet List
```

```
-----  
Name          References  Profile Status  
----          -  
default       2  
Mgt           1  
TechPubs     1  
Total:3
```

```
(host) #show interface-group-config gigabitethernet default  
gigabitethernet "default"
```

```
-----  
Parameter                               Value  
-----  
Interface group members                 ALL  
Interface MSTP profile                   default  
Interface Tunneled Node profile         N/A  
Interface VOIP profile                   N/A  
Interface LLDP profile                   lldp-factory-initial  
Interface PoE profile                    poe-factory-initial  
Interface Ethernet link profile         default  
Interface LACP profile                   N/A  
QoS Profile                             N/A  
Policer Profile                          N/A  
Interface AAA profile                    N/A  
Interface Ingress Mirroring profile     N/A  
Interface Egress Mirroring profile     N/A  
Interface shutdown                       Disabled  
mtu                                      1514  
Ingress ACL                              N/A
```

QoS Trust	Disabled
Interface switching profile	default
Static Multicast Router port for the VLANs	N/A
Interface Trusted/Untrusted	Trusted
MAC-Limit (Action)	N/A

The output of this command includes the following information:

Parameter	Description
Interface group members	The member interfaces of the group.
Interface MSTP Profile	The MSTP profile applied to the interface group configuration.
Interface Tunneled Node Profile	The Tunneled Node profile applied to the interface group configuration.
Interface VOIP Profile	The VoIP profile applied to the interface group configuration.
Interface LLDP Profile	The LLDP profile applied to the interface group configuration.
Interface PoE Profile	The PoE profile applied to the interface group configuration.
Interface Ethernet Link Profile	The Ethernet Link profile applied to the interface group configuration.
Interface LACP Profile	The LACP profile applied to the interface group configuration.
QoS Profile	The QoS profile applied to the interface group configuration.
Policer Profile	The Policer profile applied to the interface group configuration.
Interface AAA Profile	The AAA profile applied to the interface group configuration.
Interface Ingress Mirroring Profile	If port mirroring is enabled, this feature can send copies of all or sampled packets seen on specific port (s) or port-channel to a destination. This parameter displays the ingress mirroring profile for the interface group configuration.
Interface Egress Mirroring Profile	If port mirroring is enabled, this feature can send copies of all or sampled packets seen on specific port (s) or port-channel to a destination. This output parameter displays the egress mirroring profile for the interface group configuration.
Interface Shutdown	Shows if the interface has been disabled in the group configuration.
MTU	Maximum Transmission Unit (MTU) value configured in bytes.

Parameter	Description
Ingress ACL	Ingress Access Control List (ACL) configured for the interface group configuration.
QoS Trust	Shows if the QoS Trust Mode is enabled on this interface group configuration.
Interface Switching Profile	The Switching profile applied to the interface group configuration.
Static Multicast Router port for the VLAN	In IGMP snooping proxy mode, you can enable suppressing reports to multicast router ports. This parameter shows the VLAN ID configured as the multicast router VLAN IDs for IGMP snooping.
Interface Trusted/Untrusted	Shows if trusted mode is enabled for the interface.
MAC-Limit (Action)	The maximum number of MACs that can be learned on this interface.

## Related Command

Command	Description
<a href="#">interface-group gigabitethernet</a>	This command applies the same configuration parameters to a group of Gigabit Ethernet interfaces.

## Command History

Release	Modification
ArubaOS 7.0	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable Mode

## show interface local-mgmt

```
show interface local-mgmt member <member-id>
```

### Description

This command displays the local management interface information.

### Syntax

Parameter	Description
member <member-id>	Specifies the member id (0-7).

### Example

The output of this command displays the following information:

```
(host)# show interface local-mgmt member-id 3

Member-id: 3
-----
Ip/Mask          Gateway          Admin   Operational   Link
-----
10.16.56.144/24  10.16.56.254   Enable  Up            Up
```

The output of this command includes the following parameters:

Parameter	Description
Ip/Mask	Interface IP address or the Interface netmask.
Gateway	Displays the gateway IP address of the interface.
Admin	Displays the admin status.
Operational	Displays the operational status.
Link	Displays the status of the interface link.

### Command History

Release	Modification
ArubaOS 7.0	This command was introduced.

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable Mode

# show interface loopback

show interface loopback <0-63>

## Description

This command displays the loopback interface information.

## Syntax

Parameter	Description
<0-63>	Specifies the loopback interface identification number.

## Example

The output of this command displays the following information:

```
(host)# show interface loopback 1
loopback1 is administratively Up, Line protocol is Up
Hardware is Ethernet, Address is 00:0b:86:6b:57:80
Description: Loopback
Internet address is unassigned
Interface index: 100663297
MTU 1514 bytes
```

## Related Command

Command	Description
<a href="#">interface loopback</a>	This command configures a loopback interface.

## Command History

Release	Modification
ArubaOS 7.0	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable Mode



## show interface mgmt

```
show interface mgmt
```

### Description

This command displays the management interface information.

### Syntax

No parameters.

### Example

The output of this command displays the following information:

```
(host) #show interface mgmt
mgmt is administratively Up, Link is Up
Hardware is Ethernet, Address is 00:0b:86:6a:42:01
Internet address is 10.16.48.28, Netmask is 255.255.255.0
Global Unicast address(es) :
IPV6 link-local address is fe80::20b:86ff:fe6a:4e00
Negotiated: duplex (Full), Speed (100 Mbps)
Interface index: 83886080
```

The output of this command includes the following parameters:

Parameter	Description
mgmt	Status of the management port
Link	Shows if the link is currently up or down
Hardware	Status of the interface hardware
Address	MAC address of the interface
Internet Address	Interface IP address
Netmask	Interface netmask
Negotiated	Negotiated transfer operation and speed
Interface index	Index number of the interface

### Related Command

Command	Description
<a href="#">interface mgmt</a>	This command configures the management port on the switch.

### Command History

Release	Modification
ArubaOS 7.0	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable Mode

## show interface port-channel

```
show interface port-channel
<id> {counters|statistics|switchport [brief|detail|extensive]}
all
```

### Description

This command displays the configuration, current status, and statistics for the specified port channel.

### Syntax

Parameter	Description
<id>	Displays port-channel for a particular ID. This parameter has the following sub-parameters: <ul style="list-style-type: none"><li>• <b>counters</b>: Displays the layer 2 interface counters information.</li><li>• <b>statistics</b>: Displays the layer 2 interface statistics information.</li><li>• <b>switchport</b>: Displays the layer 2 information of the port channel in brief, detail, or extensive.</li></ul> Range: 0-63.
all	Displays all port-channels on the Mobility Access Switch.

### Example

The following command displays the details of port-channel 1:

```
(host) #show interface port-channel 1
port-channel 1 is administratively Up, Link is Down, Line protocol is Down
Hardware is Port-Channel, Address is 00:0b:86:6a:f2:40
Description: Link Aggregate
Member port(s):
Speed: 0 Mbps
Interface index: 1442
MTU 1514 bytes
Flags: Access, Trusted
Link status last changed: 0d 00h:00m:00s ago
Last clearing of counters: 0d 00h:00m:00s ago
Statistics:
Received 0 frames, 0 octets
0 pps, 0 bps
0 broadcasts, 0 runts, 0 giants, 0 throttles
0 error octets, 0 CRC frames
0 multicast, 0 unicast
Transmitted 0 frames, 0 octets
0 pps, 0 bps
0 broadcasts, 0 throttles
0 errors octets, 0 deferred
0 collisions, 0 late collisions
```

### Related Command

Command	Description
<a href="#">interface port-channel</a>	This command creates a static port-channel.

## Command History

Release	Modification
ArubaOS 7.0	This command was introduced.
ArubaOS 7.1	The <b>switchport</b> parameter was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable Mode

## show interface-profile

```
show interface-profile {dhcp-relay-profile|enet-link-profile|igmp-profile|lACP-profile|lldp-profile|mirroring-profile|mstp-profile|poe-profile|pvst-port-profile|switching-profile|tunneled-node-profile|voip-profile}
```

### Description

This command displays a list of interface profiles for the specified profile type.

### Syntax

Parameter	Description
dhcp-relay-profile	Displays all the dhcp relay profiles
enet-link-profile	Displays all the Ethernet Link profiles.
gvrp-profile	Displays all the GVRP profiles.
igmp-profile	Displays an interface IGMP profile.
lACP-profile	Displays an LACP profile.
lldp-profile	Displays an LLDP profile.
mirroring-profile	Displays all the mirroring profile.
mstp-profile	Displays the interface of the MSTP.
oam-profile	Displays all the OAM profiles.
ospf-profile	Displays all the OSPF profiles.
pim-profile	Displays all the PIM profiles.
poe-profile	Displays all the Power over Ethernet profiles.
port-security-profile	Displays all the port security profiles.
pvst-port-profile	Displays an interface PVST bridge.
switching-profile	Displays a switching profile.
tunneled-node-profile	Displays a tunneled node server profile.
voip-profile	Displays a VOIP profile

### Example

The output of the command in this example shows a list of parameters for MSTP profiles and their values.

```
(host) (config) #show interface-profile mstp-profile bpdu-guard
```

```
Interface MSTP "bpdu-guard"
-----
Parameter                               Value
-----
Instance port cost                       N/A
Instance port priority                   N/A
Enable point-to-point                   Disabled
```

Enable portfast	Disabled
Enable rootguard	Enabled
Enable loopguard	Disabled
Enable bpduguard	Enabled
Enable bpduguard auto recovery time	N/A

## Related Commands

Command	Description
<a href="#">show profile-list interface-profile</a>	This command displays a list of of interface profiles for the specified profile type.
<a href="#">show interface-profile switching-profile</a>	This command displays the specified switching profile configuration information.
<a href="#">show interface-profile voip-profile</a>	This command displays the specified VOIP profile configuration information.

## Command History

Release	Modification
ArubaOS 7.0	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable Mode

## show interface-profile ddns-profile

```
show interface-profile ddns-profile <profile-name>
```

### Description

This command displays the DDNS profile configuration information.

### Syntax

Parameter	Description
<profile-name>	Name of the profile.

### Usage Guidelines

By default, this command displays the entire list of DDNS profiles, including profile status and the number of references to each profile. Include a profile name to display detailed configuration information for that profile.

### Example

The following example displays the configuration details of the ddns-profile ddns1

```
(host) # show interface-profile ddns-profile ddns1
DDNS profile "ddns1"
-----
Parameter                               Value
-----
configured username                       John
configured password                       *****
Configured update interval [D:H:M]       0:7:0
configured service-url                    dynupdate.no-ip.com/nic/update
configured hostname                       arubamas.no-ip.info
```

### Related Command

Command	Description
<a href="#">interface-profile ddns-profile</a>	This command creates a dynamic DNS profile that can be assigned to any interface or interface group.

### Command History

Release	Modification
ArubaOS 7.4	This command is introduced.

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable Mode

## show interface-profile lldp-profile

```
show interface-profile lldp-profile [<profile-name>]
```

### Description

This command displays the specified Link Layer Discovery Protocol (LLDP) profile configuration information.

### Syntax

Parameter	Description
<profile-name>	Name of the LLDP profile.

### Usage Guidelines

Link Layer Discovery Protocol (LLDP), defined in the IEEE 802.1AB standard, is a Layer 2 protocol that allows network devices to advertise their identity and capabilities on the LAN. The switch supports simple one-way neighbor discovery protocol with periodic transmissions of LLDP PDUs.

By default this command displays the entire list of LLDP profiles, including profile status and the number of references to each profile. Include a profile name to display detailed configuration information for that profile.

### Examples

The first example below shows that the switch has three LLDP profiles. The **References** column lists the number of other profiles with references to the LLDP profile, and the **Profile Status** column indicates whether the profile is predefined. User-defined profiles will not have an entry in the **Profile Status** column.

The second example shows current configuration settings for the LLDP profile **profile3**.

```
(host) #show interface-profile lldp-profile profile
LLDP Profile List
-----
Name                References  Profile Status
----                -
default              3
lldp-factory-initial 1
profile3             0
Total:3
```

```
(host) #show interface-profile lldp-profile profile3
LLDP Profile "profile3"
-----
Parameter                Value
-----
LLDP pdu transmit         Disabled
LLDP protocol receive processing Disabled
Port Description TLV      Enabled
System Name TLV           Enabled
System Description TLV    Enabled
System Capabilities TLV   Enabled
Management Address TLV    Enabled
Port VlanID TLV           Enabled
Vlan Name TLV             Enabled
Aggregation Status TLV    Enabled
MAC/PHY configuration TLV Enabled
Maximum Frame Size TLV    Enabled
Power Via MDI TLV         Enabled
Network Policy TLV        Enabled
```



```

Extended Power Via MDI TLV           Enabled
LLDP transmit interval (Secs)        30
LLDP transmit hold multiplier         4
LLDP fast transmit interval (Secs)    1
LLDP fast transmit counter            4
LLDP-MED protocol                     Disabled
Control proprietary neighbor discovery Disabled

```

The output of this command includes the following information:

Parameter	Description
LLDP pdu transmit	Shows if LLDP Protocol Data Unit (PDU) transmission is enabled or disabled.
LLDP protocol receive processing	Shows if LLDP Protocol Data Unit (PDU) receive is enabled or disabled.
LLDP transmit interval (Secs)	The LLDP transmit interval, in seconds.
LLDP transmit hold multiplier	The LLDP transmit hold multiplier.
LLDP fast transmit interval (Secs)	The LLDP fast transmission interval, in seconds.
LLDP fast transmit counter	Number of the LLDP data units sent each time fast LLDP data unit transmission is triggered.
LLDP-MED protocol	Enables the LLDP MED protocol.
Control proprietary neighbor discovery	Shows if receiving of proprietary neighbor protocol packets is enabled. <b>NOTE:</b> This release of Mobility Access Switch supports Cisco Discovery Protocol (CDP).

## Command History

Release	Modification
ArubaOS 7.0	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable Mode

## show interface-profile lacp-profile

```
show interface-profile lacp-profile <profile-name>
```

### Description

This command displays the specified LACP profile configuration information.

### Syntax

Parameter	Description
<profile-name>	Name of the profile.

### Usage Guidelines

By default, this command displays the entire list of LACP profiles, including profile status and the number of references to each profile. Include a profile name to display detailed configuration information for that profile.

### Examples

The first example below shows that the switch has two LACP profiles. The References column lists the number of other profiles with references to the interface group, and the Profile Status column indicates whether the profile is predefined. User-defined groups will not have an entry in the Profile Status column.

The second example below shows the current settings for the LACP profile **profile2**.

```
(host) #show interface-profile lacp-profile
LACP List
-----
Name      References  Profile Status
----      -
profile1  2
profile2  0
Total:1

(host) #show interface-profile lacp-profile profile2
LACP "profile2"
-----
Parameter      Value
-----
Group identifier 65535
Priority         255
Mode            passive
Timeout         long
```

The output of this command includes the following information:

Parameter	Description
Group identifier	Identifies the port-channel group ID.
Priority	Specifies the port priority for the port-channel interface.
mode	Sets the LACP port-channel to one of the following modes: <ul style="list-style-type: none"> <li>● <b>active</b>—In active mode, a port-channel member can send participation requests to other ports in the port-channel.</li> <li>● <b>passive</b>—In passive, a port-channel member does not send participation requests to other ports. It can only receive and accept participation codes from other members.</li> </ul>
timeout	Specifies the time timeout as long or short: <ul style="list-style-type: none"> <li>● <b>long</b>—90 seconds.</li> <li>● <b>short</b>—3 seconds.</li> </ul>

## Related Command

Command	Description
<a href="#">interface-profile lacp-profile</a>	This command creates a dynamic LACP port-channel profile that can be assigned to any interface or interface group.

## Command History

Release	Modification
ArubaOS 7.0	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable Mode

## show interface-profile mstp-profile

show interface-profile mstp-profile <profile-name>

### Description

View the interface MSTP configuration.

### Syntax

Parameter	Description
<profile-name>	Enter the name of the profile.

### Example

The following example displays the listing of the interface MSTP profile names.

```
(host) #show interface-profile mstp-profile bpdu-guard
Interface MSTP "bpdu-guard"
-----
Parameter                               Value
-----
Instance port cost                       N/A
Instance port priority                   N/A
point-to-point                           Disabled
portfast                                 Disabled
portfast on trunk                        Disabled
rootguard                                 Disabled
loopguard                                 Disabled
bpduguard                                 Enabled
bpduguard auto recovery time             N/A
bpdufilter unconditional                 Disabled
bpdufilter default                       Disabled
```

### Command History

Release	Modification
ArubaOS 7.0	This command was introduced.

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Configuration Mode (config)

# show interface-profile mirroring-profile

show interface-profile mirroring-profile <profile-name>

## Description

This command displays information about the port mirroring profile and its configuration.

## Syntax

Parameter	Description
<profile-name>	Name of the profile.

## Usage Guidelines

By default, this command displays the name of the current mirroring-profile. The **References** column lists the number of other profiles with references to the mirroring profile, and the **Profile Status** column indicates whether the profile is predefined. User-defined profiles will not have an entry in the **Profile Status** column.

Include the optional <profile-name> parameter to view configuration details for the mirroring profile.

## Examples

The output of the command in the first example below shows that the current mirroring-profile is named profile1. The output of the second command shows that the mirroring profile has defined port **0/0/3** as the destination port to which the packets should be sent.

```
(host) #show interface-profile mirroring-profile
Mirroring profile List
-----
Name          References  Profile Status
-----
profile1      2
Total:1
```

```
(host) #show interface-profile mirroring-profile profile1
Mirroring profile "profile1"
-----
Parameter          Value
-----
gigabitethernet    0/0/3
Port mirroring ratio 1
```

The output of this command includes the following information:

Command	Description
gigabitethernet	Destination port to which the packets should be sent.
Port mirroring ratio	Ratio of packets that should be mirrored. <ul style="list-style-type: none"><li>0—Does not mirror any packet to the destination.</li><li>1—Mirrors all packets to the destination (1:1). This is the default.</li><li>100—Mirrors 1 out of 100 packets to the destination.</li><li>2047—Mirrors 1 out of 2,047 packets to the destination.</li></ul>

## Related Command

Command	Description
<a href="#">interface-profile</a> <a href="#">mirroring-profile</a>	This command creates a mirroring profile that can be assigned to any interface or interface group.

## Command History

Release	Modification
ArubaOS 7.0	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable Mode

## show interface-profile ospf-profile

```
show interface-profile ospf-profile [default | <profile-name>]
```

### Description

View the specified OSPF interface profile.

### Syntax

Parameter	Description
default	Display the default OSPF profile configuration.
<profile-name>	Display the specified OSPF profile configuration.

### Usage Guidelines

Use this command to view the specified OSPF profile configuration parameters.

### Examples

The following show command displays the name of the configured OSPF interface profiles.

```
(host) (config) #show interface-profile ospf-profile
```

```
Interface OSPF profile List
-----
Name      References  Profile Status
----      -
default   0
techpubs  0
Total:2
```

The following show command displays the details of the OSPF profile named "default."

```
(host) (config) #show interface-profile ospf-profile default
```

```
Interface OSPF profile "default"
-----
Parameter          Value
-----
Area                0.0.0.0
Cost                1
Dead-interval       40
Hello-interval      10
Retransmit-interval 5
Transmit-delay      1
Priority             1
State               Enabled
```

### Related Command

Command	Description
<a href="#">show router ospf</a>	View the global OSPF profile configuration.

## Command History

Release	Modification
ArubaOS 7.1.1	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Configuration Mode.



## show interface-profile oam-profile

```
show interface-profile oam-profile <profile-name>
```

### Description

This command displays the name and configuration setting of the specified oam-profile.

### Syntax

Parameter	Description
<profile-name>	Name of the profile.

### Usage Guidelines

By default, this command lists the configured OAM profiles, including the status and the number of references for each. Include the profile name to display detailed information of a specific OAM profile.

### Examples

The first example below shows that the OAM profile is named **oamtest**, and that there are three other profiles with references to the OAM profile. The Profile Status column indicates whether the profile is predefined. (User-defined profiles will not have an entry in the Profile Status column.)

```
OAM profile List
-----
Name      References  Profile Status
----      -
oamtest   3
Total:1
```

The second example shows configuration details for **oamtest**.

```
(host) (config) #show interface-profile oam-profile oamtest
```

```
OAM profile "oamtest"
-----
Parameter                               Value
-----
OAM discovery mode                       active
OAM remote-loopback                      Disabled
OAM local-loopback                       Enabled
OAM PDU rate (PDU per second)           8
OAM link-fault timeout (seconds)         3
OAM link-fault action                    syslog
```

### Command History

Release	Modification
ArubaOS 7.1.3	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Config mode (config)

## show interface-profile port-security-profile

```
show interface-profile port-security <profile name>
```

### Description

Display the details of the port security profile on an interface.

### Syntax

Parameter	Description
<profile name>	Enter the name of the profile that you want to view.

### Example

```
(host) #show interface-profile port-security-profile techpubs
Port security profile "techpubs"
```

```
-----
Parameter                               Value
-----
IPV6 RA Guard Action                     N/A
IPV6 RA Guard Auto Recovery Time         N/A
MAC Limit                                 N/A
MAC Limit Action                         N/A
MAC Limit Auto Recovery Time             N/A
Trust DHCP                               No
Port Loop Protect                        N/A
Port Loop Protect Auto Recovery Time     N/A
Sticky MAC                               Enabled
IP Source Guard                          Enabled
IP Source Guard with MAC binding         N/A
Dynamic Arp Inspection                   Enabled
```

### Related Command

Command	Description
<a href="#">interface-profile port-security-profile</a>	Specify a name for your port security profile.

### Command History

Release	Modification
ArubaOS 7.1	This command was introduced.
ArubaOS 7.4	The <b>Dynamic Arp Inspection</b> , <b>IP Source Guard</b> , and <b>Sticky MAC</b> parameters are introduced.

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable or Configuration Mode (config)

## show interface-profile pvst-port-profile

show interface-profile pvst-port-profile <profile name>

### Description

Display the details of the interface PVST+ port profile.

### Syntax

Parameter	Description
<profile name>	Enter the name of the profile that you want to view.

### Example

```
(host) #show interface-profile pvst-port-profile TechPubs
Interface PVST bridge "TechPubs"
-----
Parameter                               Value
-----
Instance port cost                       N/A
Instance port priority                   N/A
point-to-point                           Enabled
portfast                                 Disabled
portfast on trunk                        Disabled
rootguard                                Disabled
loopguard                                Disabled
bpduguard                                Disabled
bpduguard auto recovery time             N/A
bpdufilter unconditional                 Disabled
bpdufilter default                       Disabled
```

### Related Command

Command	Description
<a href="#">vlan-profile pvst-profile</a>	Specify a name for your PVST+ profile.

### Command History

Release	Modification
ArubaOS 7.1	This command was introduced.

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable or Configuration Mode (config)

## show interface-profile switching-profile

```
show interface-profile switching-profile [<profile-name>]
```

### Description

This command displays the specified switching profile configuration.

### Syntax

Parameter	Description
<profile-name>	Name of the switching profile.

### Usage Guidelines

By default, this command displays the entire list of switching profiles, including the profile status and the number of references to each profile. Include a switching profile name to display detailed information for that profile's configuration.

### Examples

The first example below shows that the switch has three switching profiles. The **References** column lists the number of other profiles with references to the switching profile, and the **Profile Status** column indicates whether the profile is predefined. User-defined groups will not have an entry in the **Profile Status** column.

The second example shows configuration details for the switching profile **upstream-profile**.

```
(host) #show interface-profile switching-profile
switching profile List
-----
Name                References  Profile Status
----                -
default             4
profile5            0
Upstream-profile    1
Total:3
```

```
(host) #show interface-profile switching-profile Upstream-profile
switching profile "Upstream-profile"
-----
Parameter                               Value
-----
Switchport mode                          trunk
Access mode VLAN                         1
Trunk mode native VLAN                   1
Enable broadcast traffic rate limiting    Enabled
Enable multicast traffic rate limiting    Disabled
Enable unknown unicast traffic rate limiting Enabled
Max allowed rate limit traffic on port in percentage 50
Trunk mode allowed VLANs                  1-4094
```

The output of this command includes the following information:

Parameter	Description
Switchport mode	Shows whether the switch port is configured to be an access or trunk port <ul style="list-style-type: none"> <li><b>access</b> mode—Configures the port to be an access port.</li> <li><b>trunk</b> mode—Configures the port to be a trunk port.</li> </ul>
Access mode VLAN	The access VLAN ID.
Enable broadcast traffic rate limiting	Shows if the storm control feature has been enabled for broadcast traffic.
Enable multicast traffic rate limiting	Shows if the storm control feature has been enabled for multicast traffic.
Enable unknown unicast traffic rate limiting	Shows if the storm control feature has been enabled for unknown unicast traffic.
Max allowed rate limit traffic on port in percentage	The level of storm control, shown as a percentage of total interface speed. Range is 50 to 100%.
Trunk mode allowed VLANs	Range of allowed VLANs on the trunk port.

## Related Command

Command	Description
<a href="#">interface-profile switching-profile</a>	This command is used to create a switching profile.

## Command History

Release	Modification
ArubaOS 7.0	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable Mode

# show interface-profile tunneled-node-profile

show interface-profile tunneled-node-profile <profile-name>

## Description

This command displays the name and configuration settings of the current tunneled node profile.

## Syntax

Parameter	Description
<profile-name>	Name of the profile.

## Usage Guidelines

By default, this command displays the name of the current tunneled node profile, including the status and the number of references to the tunneled node profile. Include the profile name to display detailed information for that tunneled node profile.

## Example

The first example below shows that the tunneled node profile is named **tunnel1**, and that there are three other profiles with references to the tunneled node profile. The **Profile Status** column indicates whether the profile is predefined. (User-defined profiles will not have an entry in the **Profile Status** column.)

The second example shows configuration details for the current tunneled node profile.

```
(host) #show interface-profile tunneled-node-profile
Tunneled Node Server profile List
-----
Name      References  Profile Status
-----  -
tunnel1  3
Total:1

(host)# show interface-profile tunneled-node-profile tunnel1
Tunneled Node Server profile "tunnel1"
Parameter                               Value
-----
Controller IP Address                    1.1.1.1
Backup Controller IP Address              2.2.2.1
Keepalive timeout in seconds              10

MTU on path to controller 1400
```

The output of this command includes the following information:

Command	Description
Controller IP Address	Specifies the IP address of the controller.
Keepalive timeout in seconds	Specifies the keepalive time in seconds.
MTU on path to controller	Specifies the MTU on the path to the controller.

## Related Command

Command	Description
<a href="#">interface-profile</a> <a href="#">tunneled-node-profile</a>	This command creates a tunneled node profile that can be applied to any interface.

## Command History

Release	Modification
ArubaOS 7.0	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable Mode



## show interface-profile voip-profile

```
show interface-profile voip-profile [<profile-name>]
```

### Description

This command displays the specified VoIP profile configuration information.

### Syntax

Parameter	Description
<profile-name>	Name of the profile.

### Usage Guidelines

By default, this command displays the entire list of VoIP profiles, including the profile status and the number of references to each VoIP profile. Include a VoIP profile name to display detailed information for that profile's configuration.

### Examples

The first example below shows that the switch has one VoIP profile. The **References** column lists the number of other profiles with references to the VoIP profile, and the **Profile Status** column indicates whether the profile is predefined. User-defined groups will not have an entry in the **Profile Status** column.

The second example shows configuration details for the VoIP profile.

```
(host) #show interface-profile voip-profile
VOIP profile List
-----
Name           References  Profile Status
-----
profile7       0
Total:1

(host) #show interface-profile voip-profile profile7
VOIP profile "profile7"
-----
Parameter  Value
-----
VOIP VLAN  1
DSCP       0
802.1 UP   0
VOIP Mode  auto-discover
```

The output of this command includes the following information:

Parameter	Description
VOIP VLAN	The Voice VLAN ID.
DSCP	The DSCP value for the voice VLAN.
802.1 UP	The 802.11p priority level.
VOIP Mode	The mode of VoIP operation. It can be auto-discover or static.

## Related Command

Command	Description
<a href="#">interface-profile voip-profile</a>	This command creates a VoIP profile that can be applied to any interface, interface group, or a port-channel.

## Command History

Release	Modification
ArubaOS 7.0	This command was introduced.
ArubaOS 7.1.3	VOIP Mode parameter is added.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable Mode

# show interface status

show interface status

## Description

This command displays the status of the interface.

## Syntax

No parameters.

## Example

The output of this command displays the following information:

```
(host) #show interface status
```

Port	Name	Status	Vlan	Duplex	Speed	Type
GE0/0/0		connected	1	a-full	a-1 Gbps	10/100/1000Base-T
GE0/0/1		connected	1	a-full	a-1 Gbps	10/100/1000Base-T
GE0/0/2		connected	13	a-full	a-1 Gbps	10/100/1000Base-T
GE0/0/3		notconnect	1	auto	auto	10/100/1000Base-T
GE0/0/4		disabled	1	auto	auto	10/100/1000Base-T
GE0/0/5		notconnect	-	auto	auto	10/100/1000Base-T
GE0/0/6		notconnect	-	auto	auto	10/100/1000Base-T
GE0/0/7		connected	13	full	1 Gbps	10/100/1000Base-T
GE0/0/8		connected	13	full	1 Gbps	10/100/1000Base-T
GE0/0/9		connected	13	full	1 Gbps	10/100/1000Base-T
GE0/0/10		notconnect	1	auto	auto	10/100/1000Base-T
GE0/0/11		notconnect	1	auto	auto	10/100/1000Base-T
GE0/0/12		notconnect	1	auto	auto	10/100/1000Base-T
GE0/0/13		notconnect	1	auto	auto	10/100/1000Base-T
GE0/0/14		notconnect	1	auto	auto	10/100/1000Base-T
GE0/0/15		notconnect	1	auto	auto	10/100/1000Base-T
GE0/0/16		notconnect	1	auto	auto	10/100/1000Base-T
GE0/0/17		notconnect	1	auto	auto	10/100/1000Base-T
GE0/0/18		notconnect	1	auto	auto	10/100/1000Base-T
GE0/0/19		notconnect	1	auto	auto	10/100/1000Base-T
GE0/0/20		notconnect	1	auto	auto	10/100/1000Base-T
GE0/0/21		notconnect	1	auto	auto	10/100/1000Base-T
GE0/0/22		notconnect	1	auto	auto	10/100/1000Base-T
GE0/0/23		connected	100	a-full	a-1 Gbps	10/100/1000Base-T
GE0/1/0		notconnect	1	n/a	n/a	1000/10000Invalid
GE0/1/1		notconnect	1	n/a	n/a	1000/10000Invalid
Pc0		connected	13	full	3 Gbps	10/100/1000Base-T
MGMT		connected	-	full	100 Mbps	10/100Base-T

The output of this command includes the following parameters:

Parameter	Description
Port	Port number.
Name	Name of the interface.
Status	Status of the interface.
Vlan	Displays the access or native vlan.

Parameter	Description
Duplex	Displays the current or configured transfer operation.
Speed	Displays the current or configured speed.
Type	Displays the media type.

## Command History

Release	Modification
ArubaOS 7.0	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable Mode

## show interface transceivers

```
show interface transceivers [brief]
```

### Description

Issue this command to display transceiver diagnostic information in a tabular format.

### Syntax

Parameter	Description
brief	Displays the transceiver diagnostic information in a tabular format.

### Example

The output of this command displays the following information:

```
(host) (config) #show interface transceiver brief
```

```
Port      VendorName      VendorSN      ArubaSupported  CableType
----      -
GE0/1/0   OPNEXT INC     L12J55161    YES             1000BASE-SX
```

Parameter	Description
Port	Displays the port number.
VendorName	Displays the name of the SFP vendor.
VendorSN	Displays the vendor serial number of the SFP transceiver.
ArubaSupported	Displays if the vendor SFP transceiver is supported by Aruba.
CableType	Displays the type of cable used.

### Command History

Release	Modification
ArubaOS 7.3	This command was introduced.

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable Mode

## show interface tunnel

```
show interface tunnel [<id>]
```

### Description

This command displays all the tunnel interfaces configured in the switch.

### Syntax

Parameter	Description	Range	Default
<id>	Shows tunnel interface information for a specific tunnel ID.	1 - 50	-

### Example

```
(ArubaS3500) #show interface tunnel 1

tunnel 1 is administratively Up, Line protocol is Down
Description: GRE Interface
Internet address is unassigned
Source 10.0.0.1
Destination unconfigured
Protocol number 0
Tunnel mtu is set to 1100
Tunnel is an L2 GRE Tunnel
Tunnel is Trusted
Inter Tunnel Flooding is disabled
Tunnel keepalive is enabled
Tunnel keepalive interval is 30 seconds, retries 5
    Heartbeats sent 9610, Heartbeats lost 9609
    Tunnel is down 0 times
Switching-profile "default"
```

### Related Commands

Command	Description
<a href="#">interface tunnel ethernet</a>	This command configures an L2 GRE tunnel.
<a href="#">interface tunnel ip</a>	This command configures an L3 GRE tunnel.

### Command History

Release	Modification
ArubaOS 7.2	This command was introduced.

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable Mode

## show interface vlan

```
show interface vlan <vlan-id>
```

### Description

This command displays the interface VLAN information.

### Syntax

Parameter	Description
<vlan-id>	VLAN ID

### Example

The following sample output displays the details of metric and probe configuration on VLAN 26:

```
(host) #show interface vlan 26
VLAN26 is administratively Up, Line protocol is Up
Hardware is CPU Interface, Address is 00:1a:1e:17:31:00
Description: 802.1Q VLAN
Internet address is 26.0.0.2, Netmask is 255.255.255.0
IPV6 link-local address is fe80::1a:1e00:1a17:3100
Global Unicast address(es):
Routing interface is enabled, Forwarding mode is enabled
Directed broadcast is disabled, BCMC Optimization disabled
Encapsulation 802, Loopback not set
Interface index: 50331674
MTU 1500 bytes
Metric 5
Probe Name: default, Probe Status: Up
Ospf-profile "default"
```

The output of this command includes the following parameters:

Parameter	Description
VLAN26 is...	Status of the specified VLAN
line protocol is...	Displays the status of the line protocol on the specified port
Hardware is...	Describes the hardware interface type
Address is...	Displays the MAC address of the hardware interface
Description	Description of the specified VLAN
Internet address is...	IP address and subnet mask of the specified VLAN
Routing interface is...	Status of the routing interface
Forwarding mode is...	Status of the forwarding mode
Directed broadcast is...	Displays if directed broadcast and BCMC optimization is enabled
Encapsulation	Encapsulation type

Parameter	Description
loopback...	Loopback status
MTU	Maximum Transmission Units in bytes.
Metric	The metric value configured on the interface VLAN.
Probe Name	Name of the Probe profile applied on the interface.
Ospf-profile	Name of the OSPF profile applied on the interface.

## Related Command

Command	Description
<a href="#">interface vlan</a>	This command creates the VLAN interface for the switch.

## Command History

Release	Modification
ArubaOS 7.0	This command was introduced.
ArubaOS 7.1.1	IPv6 details were added to the output.
ArubaOS 7.4	Metric and Probe profile details are added to the output.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable Mode



# show inventory

show inventory

## Description

Displays the hardware inventory of the Mobility Access Switch.

## Syntax

No parameters.

## Example

Issue this command to display the hardware component inventory of the Mobility Access Switch. The output of this command varies depending on the Mobility Access Switch model. The following is a sample output:

```
(host) #show inventory
Show Inventory
-----
System Card Slot           : 0
SC Serial #                : AW0000428 (Date: 06/19/11)
SC Model Name              : ArubaS3500-48P
Mgmt Port HW MAC Addr     : 00:0b:86:6b:82:81
HW MAC Addr                : 00:0b:86:6b:82:80 to 00:0b:86:6b:82:bf
CPLD Version               : (Rev: 11)
PoE Firmware Version      : 4.1.5 (Build: 1)
CPU Assembly #            : 2010095E (Rev: 02.B0)
CPU Serial #              : AB24019190 (Date: 06/15/11)
Fantray                    : Present (Version: 1)
Module 1                   : Online
Module 1 Assembly #       : 2010140B (Rev: 01.00)
Module 1 Serial #         : UB33000099 (Date: 08/17/11)
Power Supply 0             : Present (600W)
                           : 12V System Voltage Ok
                           : 56V PoE Voltage Ok
Power Supply 0 Serial #    : QCS111900Y0 (Date: 05/13/11)
Power Supply 0 Model No    : 2510056
Power Supply 0 Vendor Model No : DCJ6002-02P (Rev: 66.0)
Power Supply 1             : Present (600W)
                           : 12V System Voltage Ok
                           : 56V PoE Voltage Ok
Power Supply 1 Serial #    : QCS112900JH (Date: 07/20/11)
Power Supply 1 Model No    : 2510056
Power Supply 1 Vendor Model No : DCJ6002-02P (Rev: 66.0)
<Intentionally Truncated>
```

The output includes the following parameters:

Parameter	Description
System Card Slot	System card slot number
SC Serial#	Serial number of the system card
SC Model#	Model number of the system card

Parameter	Description
Mgmt Port HW MAC Addr	MAC address of the mgmt port. This parameter is not valid for the Aruba S1500 Mobility Access Switch
HW MAC Addr	MAC address
CPLD Version	Revision of programmable logic device on system card.
PoE Firmware Version	Revision of the PoE Firmware version.
CPU Assembly #	Assembly number of the CPU
CPU Serial #	Serial number of the CPU
Fantray	Fantray status (present or absent)
Module 1	Status of module 1
Module 1 Assembly #	Assembly number of module 1
Module 1 Serial #	Serial number of module 1
Power Supply <power supply number>	Power supply <power supply number> status (present or absent)
Power Supply <power supply number> Serial #	Serial number of power supply <power supply number>
Power Supply <power supply number> Model No	Model number of power supply <power supply number>
Power Supply <power supply number> Vendor Model No	Vendor model number of power supply <power supply number>
System Temperature	Temperature of the system
System Voltages	Voltages of the system
Fantray Fan Tachometers	Fantray fan speed

## Command History

Release	Modification
ArubaOS 7.0	This command was introduced.
ArubaOS 7.3	The <b>PoE Firmware Version</b> , <b>Power Supply &lt;power supply number&gt;</b> , <b>Power Supply &lt;power supply number&gt; Serial #</b> , <b>Power Supply &lt;power supply number&gt; Model No</b> , and <b>Power Supply &lt;power supply number&gt; Vendor Model No</b> parameters were introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Configuration Mode

## show ip access-list

```
show ip access-list
  STRING
  brief [ipv4]
```

### Description

Display a table of all configured access control lists (ACLs), or show details for a specific ACL.

### Syntax

Parameter	Description
STRING	Specify the name of a single ACL to display detailed information on that ACL.
brief [ipv4]	Display a table of information for all ACLs or IPv4 ACLs.

### Example

```
(host) # show ip access-list brief
```

```
Access list table
```

```
-----
```

Name	Type	Use Count	Roles
----	----	-----	-----
allowall-stateless	stateless	1	authenticated
default	stateless		
denyall	session	1	denyall
denyall-stateless	stateless	1	denyall
dhcp-acl-stateless	stateless	1	guest
dns-acl-stateless	stateless	1	guest

### Command History

Release	Modification
ArubaOS 7.0	This command was introduced.

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable Mode

## show ip dhcp aruba-vpn-pool

```
show ip dhcp aruba-vpn-pool <profile-name>
    extensive
```

### Description

Displays a table of all configured Aruba VPN pool profiles.

### Syntax

Parameter	Description
<profile-name>	Displays the configuration information of the specified Aruba VPN pool profile.
extensive	Displays the detailed information of all the Aruba VPN pool profiles configured on the Mobility Access Switch.

### Examples

You can use the following CLI commands to verify the Aruba VPN Pool configuration:

```
(host) #show ip dhcp aruba-vpn-pool extensive
```

```
Aruba VPN DHCP Pool Table
```

```
-----
```

Name	Vlan	DNS Server	Domain name	Lease time	IP Range		
----	----	-----	-----	-----	-----		
Distributed ,L3	1			0:12:0:0	30.30.0.0-30.30.255.255		
Client count	Reserve	First	Reserve	Last	Branch ID	Branch Netmask	Branch Router
-----	-----	-----	-----	-----	-----	-----	-----
5	0		0		0.0.0.0	0.0.0.0	0.0.0.0

```
(host) #show ip dhcp aruba-vpn-pool
```

```
Aruba VPN DHCP Pool List
```

```
-----
```

Name	References	Profile Status
----	-----	-----
Distributed,L3	1	N/A

Total:1

```
(host) #show ip dhcp aruba-vpn-pool Distributed,L3
```

```
Aruba VPN DHCP Pool "Distributed,L3"
```

```
-----
```

Parameter	Value
-----	-----
Domain name for the branch scope	N/A
DHCP pool lease time	0 days 12 hr 0 min 0 sec
Configure DNS servers	N/A
DHCP Option	N/A
IP-Range	30.30.0.0 30.30.255.255
DHCP Client Count	5
DHCP Static First IP Count	0
DHCP Static Last IP Count	0

## Related Command

Command	Description
<a href="#">ip dhcp aruba-vpn-pool</a>	Use this command to create an Aruba VPN pool profile for Distributed DHCP scope.

## Command History

Release	Modification
ArubaOS 7.4	This command is introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable Mode

# show ip dhcp binding

show ip dhcp binding <ip-address>

## Description

Displays the DHCP Server binding table and binding information of a specific IP address.

## Syntax

Parameter	Description
<ip-address>	Specify the IP address for which the binding information is to be viewed.

## Examples

The following command displays the DHCP binding table:

```
(host) #show ip dhcp binding

lease 172.16.1.251 {
  starts Fri Oct 21 08:10:29 2011
  ends Fri Oct 21 20:10:29 2011
  binding state active;
  next binding state free;
  hardware ethernet 00:25:90:0a:95:e1;
  uid "\001\000%\220\012\225\341";
}
lease 172.16.1.254 {
  starts Fri Oct 21 09:21:30 2011
  ends Fri Oct 21 21:21:30 2011
  binding state active;
  next binding state free;
  hardware ethernet 00:25:90:0a:95:d2;
  uid "\001\000%\220\012\225\322";
}
lease 172.16.1.253 {
  starts Fri Oct 21 13:09:32 2011
  ends Sat Oct 22 01:09:32 2011
  binding state active;
  next binding state free;
  hardware ethernet 00:25:90:0a:96:42;
  uid "\001\000%\220\012\226B";
}
```

## Related Command

Command	Description
<a href="#">ip dhcp pool</a>	Use this command to configure a IP DHCP pool profile.

## Command History

Release	Modification
ArubaOS 7.1	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable Mode



# show ip dhcp database

show ip dhcp database

## Description

Displays the complete IP DHCP database table.

## Example

The following example shows the DHCP IP database table:

```
(host)#show ip dhcp database
DHCP enabled
# pool-1
subnet 172.16.1.0 netmask 255.255.255.0 {
default-lease-time 43200;
max-lease-time 43200;
option domain-name "www.test.com";
option vendor-class-identifier "testStr";
option vendor-encapsulated-options "172.16.0.254";
option routers 172.16.1.254;
option user-option-43 code 43 = ip-address;
option user-option-43 172.16.1.254;
range 172.16.1.1 172.16.1.254;
authoritative;
```

## Related Command

Command	Description
<a href="#">ip dhcp pool</a>	Use this command to configure a IP DHCP pool profile.

## Command History

Release	Modification
ArubaOS 7.1	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable Mode

## show ip dhcp pool

```
show ip dhcp pool <profile-name>
```

### Description

Displays the list of the dhcp pools configured and information about their references.

### Syntax

Parameter	Description
<profile-name>	Specify the name of the DHCP pool.

### Example

The following command displays the DHCP pools configured on the Mobility Access Switch:

```
(host)#show ip dhcp pool

dhcp server profile List
-----
Name           References  Profile Status
-----
pool-1         0
pool-2         0
pool-3         0
pool-4         0
Total:4
```

The output of this command includes the following parameters:

Parameter	Description
Name	Name of the pool.
References	Number of references to the pool.
Profile Status	Status of the pool profile.

### Related Command

Command	Description
<a href="#">ip dhcp pool</a>	Use this command to configure a IP DHCP pool profile.

### Command History

Release	Modification
ArubaOS 7.1	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable Mode

# show ip dhcp reserved

show ip dhcp reserved

## Description

Displays the DHCP reserved IP addresses assigned to the devices.

## Syntax

Parameter	Description
<ipaddr>	Specify the IP address to view the DHCP reservation information.

## Example

Use the following command to view the DHCP reserved IP assigned to the device:

```
(host) #show ip dhcp reserved
DHCP Server Device Reservation Information
-----
Vlan  Hardware Address  Reserved IP Address
-----
4      00:00:ac:07:01:14  4.4.4.3
4      00:00:ac:07:01:13  4.4.4.2
```

The output of this command includes the following parameters:

Parameter	Description
Vlan	The VLAN interface of the DHCP reserved IP.
Hardware Address	The hardware address of the device for which DHCP IP is reserved.
Reserved IP Address	The IP address reserved for the device.

## Related Command

Command	Description
<a href="#">ip dhcp pool</a>	Use this command to configure an IP DHCP pool profile.

## Command History

Release	Modification
ArubaOS 7.3.2	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable Mode

## show ip dhcp statistics

```
show ip dhcp statistics
```

### Description

Show DHCP Server Settings and statistics.

### Examples

The example below shows DHCP statistics for two configured networks.

```
(host) # show ip dhcp statistics
```

```
DHCPv4 enabled; DHCPv6 enabled
```

```
DHCP Pools
```

```
-----  
Network Name  Type  Active  Configured leases  Active leases  Free leases  Expired leases  
Abandoned leases  
-----  
-----  
2-2-2-nw      v4    Yes     242                0              242         0              0  
3-2-2-nw      v4    Yes     254                0              254         0              0  
test          v4    Yes     254                0              254         0              0  
2011          v6    No      5                  -              -           -              -  
2012          v6    No      5                  -              -           -              -  
Current leases                750  
Total leases                   512
```

The output of this command includes the following parameters:

Parameter	Description
Network Name	Range of addresses that the DHCP server may assign to clients.
Type	Indicates the IP version of the DHCP server. It can be v4 or v6.
Active	Indicates if the DHCP server is active or not.
Configured leases	Number of leases configured on the DHCP server.
Active leases	Number of active DHCP leases.
Free leases	Number of available DHCP leases.
Expired leases	Number of leases that have expired because they have extended past their valid lease period.
Abandoned leases	Number of abandoned leases. Abandoned leases will not be reassigned unless there are no free leases available.

### Related Commands

Command	Description
<a href="#">ip dhcp pool</a>	Use this command to configure an IP DHCP pool profile.

## Command History

Release	Modification
ArubaOS 7.1	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable Mode

## show ip igmp groups

```
show ip igmp groups
```

### Description

Use this command to display IP IGMP group information.

### Example

The example below shows the IP IGMP group information.

```
(host)show ip igmp groups
```

```
IGMP Group Information
```

```
-----  
Interface  Group      UpTime      Expiry      Last Reporter  
-----  
vlan2      230.0.0.1  00h:00m:05s 00h:04m:15s 20.1.1.102  
vlan2      230.0.0.2  00h:00m:05s 00h:04m:15s 20.1.1.102  
vlan2      230.0.0.3  00h:00m:05s 00h:04m:15s 20.1.1.102  
vlan2      230.0.0.4  00h:00m:05s 00h:04m:15s 20.1.1.102  
vlan2      230.0.0.5  00h:00m:05s 00h:04m:15s 20.1.1.102  
vlan2      230.0.0.6  00h:00m:05s 00h:04m:15s 20.1.1.102  
vlan2      230.0.0.7  00h:00m:05s 00h:04m:15s 20.1.1.102  
vlan2      230.0.0.8  00h:00m:05s 00h:04m:15s 20.1.1.102  
vlan2      230.0.0.9  00h:00m:05s 00h:04m:15s 20.1.1.102  
vlan2      230.0.0.10 00h:00m:05s 00h:04m:15s 20.1.1.102
```

## show ip igmp interfaces

```
show ip igmp interfaces
```

### Description

Use this command to display IP IGMP interface information.

### Example

```
(host) #show ip igmp interfaces vlan 2

vlan2 is up, line protocol is up
  Internet address is 20.1.1.4
  IGMP is enabled on the interface
  IGMP router version 2
  IGMP query interval is 125 seconds
  IGMP querier timeout is 255 seconds
  IGMP max query response time 10 seconds
  Last member query count 0
  Last member query response interval 10 ms
  IGMP activity: 10 joins, 0 leaves
  IGMP querying routers 20.1.1.1
```



## show ip igmp stats interface

```
show ip igmp stats interface
```

### Description

Use this command to display IP IGMP interface information.

### Example

```
(host) #show ip igmp stats interface vlan 2
```

```
IGMP Statistics
```

```
-----
```

Interface	Counter	Value
-----	-----	-----
vlan2	Rx Queries	0704
	Rx Reports	2122
	Rx Leaves	0000
	Tx Queries	0002

# show ip interface brief

show ip interface brief

## Description

This command displays the interfaces with an IP address.

## Syntax

No parameters.

## Example

In this example, the `show ip interface brief` command shows details for the **VLAN 1**, **VLAN 400**, and **mgmt** interfaces.

Flags: S - Secondary IP address

Probe: U - Up, D - Down, U/O - Up & Own IP, N/A - Not Applicable

Interface	IP Address / IP Netmask	Admin	Protocol	Probe Flags
vlan 1	10.16.4.1 /255.255.255.0	Up	Up	U
vlan 400	18.18.8.9 /255.255.255.0	Up	Down	N/A
loopback 0	unassigned /unassigned	Up	Up	N/A
mgmt	10.16.48.28 /255.255.255.0	Up	Up	N/A

The output of this command includes the following information:

Parameter	Description
Interface	Name of the switch interface.
IP Address / IP Netmask	IP address and IP netmask of the interface.
Admin	Shows if the port has been administratively enabled or disabled.
Protocol	Displays the status of the line protocol on the interface.
Probe	Displays the probe status of the interface. It can be one of the following: <ul style="list-style-type: none"><li>• U—The probe status of the interface is up.</li><li>• D—The probe status of the interface is down</li><li>• U/O—The probe status of the interface is up and the destination IP is the IP of the same Mobility Access Switch.</li><li>• N/A—The probe status is not applicable for the interface.</li></ul>
Flag	Displays S if the interface has a secondary IP address.

## Related Command

Command	Description
<a href="#">ip-profile</a>	Configures the IP profile for the Mobility Access Switch.

## Command History

Release	Modification
ArubaOS 7.0	This command was introduced.
ArubaOS 7.4	The <b>Probe</b> column is added to the output.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable Mode

## show ip nat pool

```
show ip nat pool
```

### Description

Displays the Network Address Translation (NAT) pools configured in the network.

### Example

The following show command displays OSPF information.

```
(host) #show ip nat pool
NAT Pools
-----
Name                Start IP      End IP       DNAT IP      Flags
----                -
dual_nat_pool1     192.168.1.10 192.168.1.15 172.16.10.1  Static
NAT_pool1          192.168.1.10 192.168.1.15 0.0.0.0
```

The table below describes the output of the command.

Column Name	Description
Name	Name of the NAT pool.
Start IP	The starting IP of the source NAT range.
End IP	The ending IP of the source NAT range.
DNAT IP	The IP address of the destination NAT.
Flags	Indicates if one-to-one mapping is configured for the NAT IP address.

### Related Commands

Command	Description
<a href="#">ip nat pool</a>	Use this command to create a NAT pool in the network.

### Command History

Release	Modification
ArubaOS 7.4	This command is introduced.

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable Mode.

## show ip ospf

```
show ip ospf [database area {<area-id> | detail} | debug route | interface {loopback <id> |  
vlan <id>}| neighbor | redistribute]
```

### Description

View the OSPF IP runtime information.

### Syntax

Parameter	Description
database area <area-id>	View the database information for the specified area identification.
detail	View the database detail.
debug route	View the debug route information.
interface {loopback <id>   vlan <id>}	Enter the keyword <b>interface</b> followed by either keyword <b>loopback or vlan</b> and their identification information number to view interface loopback or VLAN information.
neighbor	View the status of OSPF neighboring routers.
redistribute	View the OSPF route distribution information.

### Example

The following show command displays OSPF information.

```
(host) (config) #show ip ospf

OSPF is currently running with Router ID 5.5.5.5
Number of areas in this router is 2
Area 0.0.0.0
    Number of interfaces in this area is 0
    Area is normal area
    SPF algorithm executed 1 times
Area 0.0.0.1
    Number of interfaces in this area is 1
    Area is stub area
    Default route cost is 16
    SPF algorithm executed 1 times
Tx --->: Hellos 0 DbDescr 0 LsReq 0 LsUpdate 0 LsAck 0
Rx <---: Hellos 0 DbDescr 0 LsReq 0 LsUpdate 0 LsAck 0
Errors : BadPkt 0 BadHdr 0 BadVer 0 BadCks 0 BadAuth 0
        NoMIf 0 NoIf 0 InvIf 0 InvMsk 0
        InvHInt 0 InvDInt 0 InvNbr 0 InvOpt 0
        MFmm 0 IFmm 0 SEQmm 0 InvLs 0
        BadLSR 0 BadVif 0 BadArea 0 BadMIF 0
        InvMD5 0 OwnPkt 0 InvAky 0 InvDDO 0
        PasvIf 0 DwnVif0 SameRtId 0 BadMTU 0
```

The table below describes the output in the preceding command.

Line Beginning with...	Description
OSPF is currently ...	Verifies that OSPF is running and the router ID that OSPF is running on.
Number of areas ...	List the number of areas configured in the router.
Area ...	Displays the Area ID followed by: <ul style="list-style-type: none"> <li>● <b>number of interfaces in the area</b></li> <li>● <b>indicates if the area is a stub area</b></li> <li>● <b>number of times the SPF algorithm has been executed</b></li> </ul>
Tx Stat	Counters and statistics for transmitted data. <ul style="list-style-type: none"> <li>● <b>Hellos</b>: Number of transmitted hello packets. These packets are sent every hello interval.</li> <li>● <b>DbDescr</b>: Number of transmitted database description packets.</li> <li>● <b>LsReq</b>: Number of transmitted link state request packets.</li> <li>● <b>LsUpdate</b>: Number of transmitted link state update packets.</li> <li>● <b>LsAck</b>: Number of transmitted link state acknowledgment packets</li> <li>● <b>Pkts</b>: Total number of transmitted packets.</li> </ul>
Rx Stat	Counters and statistics for received data. <ul style="list-style-type: none"> <li>● <b>Hellos</b>: Number of received hello packets. These packets are sent every hello interval.</li> <li>● <b>DbDescr</b>: Number of received database description packets.</li> <li>● <b>LsReq</b>: Number of received link state request packets.</li> <li>● <b>LsUpdate</b>: Number of received link state update packets.</li> <li>● <b>LsAck</b>: Number of received link state acknowledgment packets</li> <li>● <b>Pkts</b>: Total number of received packets.</li> </ul>
DisCd	Number of received packets that are discarded.
BadVer	Number of received packets that have bad OSPF version number.
BadNet	Number of received packets that belong to different network than the local interface.
BadArea	Number of received packets that belong to different area than the local interface.
BadDstAdr	Number of received packets that have wrong destination address.
BadAuType	Number of received packets that have different authentication type than the local interface.
BadAuth	Number of received packets where authentication failed.
BadNeigh	Number of received packets which didn't have a valid neighbor.
BadPckType	Number of received packets that have wrong OSPF packet type.
BadVirtLink	Number of received packets that didn't match have a valid virtual link.

## Related Commands

Command	Description
<code>router ospf</code>	Configure OSPF on the interface

## Command History

Release	Modification
ArubaOS 7.1.1	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Configuration Mode.

## show ip pim interface

```
show ip pim interface vlan <4094>
```

### Description

Use this command to display IP PIM interface information.

### Example

The example below shows the IP PIM interface information.

```
(host)#show ip pim interface
```

```
PIM Interface Information
```

```
-----  
Address      Interface  Ver/Mode  Nbr Cnt  Hello Intvl  DR prio  DR State  DR address  
-----  
20.1.1.1    vlan2      v2/S      3         30           1        NotDR     20.1.1.11  
20.2.1.1    vlan3      v2/S      1         30           1        NotDR     20.2.1.4  
20.3.1.1    vlan4      v2/S      1         30           1        NotDR     20.3.1.6  
60.1.1.5    vlan6      v2/S      0         30           1        DR        60.1.1.5
```

### Command History

Release	Modification
ArubaOS 7.1.1	This command was introduced.

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable



# show ip pim mcache

show ip pim mcache

## Description

Use this command to display IP multicast cache information.

## Example

The following example shows the IP multicast mcache information.

```
(host)#show ip pim mcache
```

```
IP Multicast Cache  
Flags: T - Bridge/Trapped, D - Discard, R - Route  
  
(60.1.1.140/32,225.0.0.100/32), flags:R, IIF:vlan6  
      vlan3  
      vlan4
```

## Command History

Release	Modification
ArubaOS 7.1.1	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable

## show ip pim mroute

show ip pim mroute detail | group

### Description

Use this command to display IP PIM mroute information.

### Example

The example below shows the IP PIM mroute information.

```
(host)#show ip pim mroute
```

```
IP Multicast Route Table
```

```
Flags:  D - Dense, S - Sparse, C - Connected, L - Local,  
        J - Join SPT, P - Pruned, R - RP-bit set, T - SPT bit set  
        F - Register Flag, N - Null Register, A - Assert Winner
```

```
(* ,225.0.0.1), 03h:13m:27s, RP 10.10.10.10, flags: S  
  Incoming Interface: vlan4, RPF nbr: 20.3.1.6  
  Outgoing Interface List:
```

```
(60.1.1.140,225.0.0.100), 01h:43m:16s, RP 10.10.10.10, flags: STCF  
  Incoming Interface: vlan6, RPF nbr: 0.0.0.0  
  Outgoing Interface List:  
    vlan3, 01h:43m:16s  
    vlan4, 01h:43m:16s
```

### Command History

Release	Modification
ArubaOS 7.1.1	This command was introduced.

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable

## show ip pim neighbor

```
show ip pim neighbor interface vlan 4
```

### Description

Use this command to display IP PIM neighbor information.

### Example

The example below shows the IP PIM neighbor information.

```
(host)#show ip pim neighbor
```

```
PIM Neighbor Information
```

```
-----  
Interface  Neighbor IP  UpTime      Expiry  
-----  
vlan2      20.1.1.11    03h:13m:23s 00h:01m:19s  
vlan2      20.1.1.5     03h:13m:23s 00h:01m:36s  
vlan2      20.1.1.4     03h:13m:23s 00h:01m:43s  
vlan3      20.2.1.4     03h:13m:19s 00h:01m:43s  
vlan4      20.3.1.6     03h:13m:21s 00h:01m:25s
```

### Command History

Release	Modification
ArubaOS 7.1.1	This command was introduced.

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable

## show ip pim rp

```
show ip pim rp group <grp ip>
```

### Description

Use this command to display IP PIM mroute information.

### Example

The example below shows the IP PIM mroute information.

```
(host)#show ip pim mroute
```

```
IP Multicast Route Table
```

```
Flags:  D - Dense, S - Sparse, C - Connected, L - Local,  
        J - Join SPT, P - Pruned, R - RP-bit set, T - SPT bit set  
        F - Register Flag, N - Null Register, A - Assert Winner
```

```
(* ,225.0.0.1), 03h:13m:27s, RP 10.10.10.10, flags: S  
  Incoming Interface: vlan4, RPF nbr: 20.3.1.6  
  Outgoing Interface List:
```

```
(60.1.1.140,225.0.0.100), 01h:43m:16s, RP 10.10.10.10, flags: STCF  
  Incoming Interface: vlan6, RPF nbr: 0.0.0.0  
  Outgoing Interface List:  
    vlan3, 01h:43m:16s  
    vlan4, 01h:43m:16s
```

### Command History

Release	Modification
ArubaOS 7.1.1	This command was introduced.

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable

## show ip pim rpf

```
show ip pim rpf
```

### Description

Use this command to display IP PIM mroute information. TBD

### Example

The example below shows the IP PIM mroute information.

```
(host)#show ip pim mroute
```

```
IP Multicast Route Table
```

```
Flags:  D - Dense, S - Sparse, C - Connected, L - Local,  
        J - Join SPT, P - Pruned, R - RP-bit set, T - SPT bit set  
        F - Register Flag, N - Null Register, A - Assert Winner
```

```
(* ,225.0.0.1), 03h:13m:27s, RP 10.10.10.10, flags: S  
  Incoming Interface: vlan4, RPF nbr: 20.3.1.6  
  Outgoing Interface List:
```

```
(60.1.1.140,225.0.0.100), 01h:43m:16s, RP 10.10.10.10, flags: STCF  
  Incoming Interface: vlan6, RPF nbr: 0.0.0.0  
  Outgoing Interface List:  
    vlan3, 01h:43m:16s  
    vlan4, 01h:43m:16s
```

### Command History

Release	Modification
ArubaOS 7.1.1	This command was introduced.

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable

## show ip pim-ssm mcache

```
show ip pim-ssm mcache
```

### Description

Use this command to display IP Source Specific Multicast cache information.

### Example

Use the following command to view the SSM Range of Mroutes installed in the hardware:

```
(host) # show ip pim-ssm mcache
IP Multicast Cache
Flags: T - Bridge/Trapped, D - Discard, R - Route
(99.99.99.100/32,232.1.2.3/32), flags:R, IIF:vlan356
OIF:
vlan4001
(99.99.99.100/32,232.1.2.4/32), flags:R, IIF:vlan356
OIF:
vlan4001
(99.99.99.100/32,232.1.2.5/32), flags:R, IIF:vlan356
OIF:
vlan4001
(99.99.99.100/32,232.1.2.6/32), flags:R, IIF:vlan356
OIF:
vlan4001
(99.99.99.100/32,232.1.2.7/32), flags:R, IIF:vlan356
OIF:
vlan4001
(99.99.99.100/32,232.1.2.8/32), flags:R, IIF:vlan356
OIF:
vlan4001
```

### Command History

Release	Modification
ArubaOS 7.3.1	This command was introduced.

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable

## show ip pim-ssm mroute

```
show ip pim-ssm mroute
```

### Description

Use this command to display IP PIM-SSM mroute information.

### Example

The example below shows the the SSM range of Mroutes:

```
(host) #show ip pim-ssm mroute
IP Multicast Route Table
Flags: D - Dense, S - Sparse, s - SSM, C - Connected Receiver,
J - Join SPT, R - RP-bit set, T - SPT bit set
F - Register Flag, N - Null Register, A - Assert Winner
(99.99.99.100,232.1.2.3), 04h:30m:18s/00h:00m:00s, flags: sSJ
Incoming Interface: vlan356, RPF nbr: 3.5.5.6
Outgoing Interface List:
vlan4001, 04h:30m:18s
(99.99.99.100,232.1.2.4), 04h:30m:18s/00h:00m:00s, flags: sSJ
Incoming Interface: vlan356, RPF nbr: 3.5.5.6
Outgoing Interface List:
vlan4001, 04h:30m:18s
(99.99.99.100,232.1.2.5), 04h:30m:18s/00h:00m:00s, flags: sSJ
Incoming Interface: vlan356, RPF nbr: 3.5.5.6
Outgoing Interface List:
vlan4001, 04h:30m:18s
(99.99.99.100,232.1.2.6), 04h:30m:18s/00h:00m:00s, flags: sSJ
Incoming Interface: vlan356, RPF nbr: 3.5.5.6
Outgoing Interface List:
vlan4001, 04h:30m:18s
(99.99.99.100,232.1.2.7), 04h:30m:18s/00h:00m:00s, flags: sSJ
Incoming Interface: vlan356, RPF nbr: 3.5.5.6
```

### Command History

Release	Modification
ArubaOS 7.3.1	This command was introduced.

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable

## show ip pim stats interface vlan

```
show ip pim stats interface vlan <1-4094>
```

### Description

Use this command to display IP PIM statistics.

### Example

The example below shows IP PIM statistical information.

```
PIM Statistics
-----
Interface  Counter          Value
-----  -
vlan4      Rx Hellos         0394
           Rx Join/Prune    70927
           Rx Join          0000
           Rx Prune        0000
           Rx Register-Stop 0000
           Rx Asserts    0000
           Tx Hellos     0389
           Tx Join/Prune 0000
           Tx Join       0000
           Tx Prunes    0000
           Tx Register  698391
           Tx Asserts   0000
           Invalid Hellos 0000
           Invalid Join/Prune 0000
           Invalid Join  0000
           Invalid Prune 0000
           Invalid Register 0000
           Invalid Register-Stop 0000
           Invalid Asserts 0000
```

### Command History

Release	Modification
ArubaOS 7.1.1	This command was introduced.

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable



## show ip-profile

show ip-profile

### Description

This command displays the default gateway information.

### Syntax

No parameters.

### Example

The output of this command displays the following information:

```
(config) #show ip-profile
ip-profile "default"
-----
Parameter          Value
-----
Default Gateway    10.18.7.254
Import DHCP Gateway Disabled
controller-ip      N/A
prefix-list list1  seq 1 permit 5.5.5.0 255.255.255.0 ge 32
prefix-list list2  seq 2 deny 6.6.6.0 255.255.255.0 ge 32
prefix-list list3  seq 3 permit 10.10.0.0 ge 24 le 32
```

The output parameters of the preceding command are explained in the following table:

Parameter	Description
Default gateway	IP address of the default gateway.
Import DHCP gateway	Indicates if the default gateway was configured using DHCP.
prefix-list <list-name>	Displays prefix list(s) configured on the IP profile.
route	Displays the routes configured on the IP profile.

### Related Command

Command	Description
<a href="#">ip-profile</a>	Configures the IP profile for the Mobility Access Switch.

### Command History

Release	Modification
ArubaOS 7.0	This command was introduced.
ArubaOS 7.2	Prefix list information was added.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable Mode

## show ip route

```
show ip route
  <route_ip>
  ospf
  static
  summary
```

### Description

This command displays the various types of IP routes in the routing table.

### Syntax

Parameter	Description
<route_ip>	Displays the specified IP route.
ospf	Displays the OSPF routes only.
static	Displays the static routes only.
summary	Displays the summary of all the routes.

### Usage Guidelines

Use this command to view the existing IP routes.

### Examples

The examples below show the details of routes1

```
(host) #show ip route
Codes: C - connected, O - OSPF, R - RIP, S - static
       M - mgmt, U - route usable, * - candidate default
Gateway of last resort is 10.18.7.254 to network 0.0.0.0 at cost 39
S   0.0.0.0/0 [39/0] via 10.18.7.254
C   10.10.10.0 is directly connected: vlan1
C   10.10.10.1 is directly connected: vlan1
C   10.10.10.20 is directly connected: vlan1
C   10.10.10.31 is directly connected: vlan1
C   10.10.10.32 is directly connected: vlan1
C   10.10.10.33 is directly connected: vlan1
M   10.18.7.0 is connected mgmt-intf: 10.18.7.125
M   10.18.7.125 is connected mgmt-intf: 10.18.7.125
M   10.18.7.254 is connected mgmt-intf: 10.18.7.125
S   20.20.31.0 [0] via 10.10.10.31
S   20.20.32.0 [0] via 10.10.10.32
S   20.20.33.0 [0] via 10.10.10.33
S   20.20.34.0 [0] via 10.10.10.20
(host) #show ip route 50.50.50.0 netmask 255.255.255.0
Codes: C - connected, R - RIP
       O - OSPF, O(IA) - Ospf inter Area
       O(E1) - OSPF Ext Type 1, O(E2) - Ospf Ext Type 2
       M - mgmt, S - static, * - candidate default
       D - DHCP
S   50.50.50.0/24 [0] via 12.1.1.252
(host) #show ip route ospf
Codes: C - connected, R - RIP
       O - OSPF, O(IA) - Ospf inter Area
```

```

O(E1) - OSPF Ext Type 1, O(E2) - Ospf Ext Type 2
M - mgmt, S - static, * - candidate default
O      100.1.0.0/24 [2] via 100.2.0.103
O(E2)  100.5.0.0/24 [11] via 100.2.0.120
O      192.3.2.0/24 [2] via 100.2.0.103
O(E1)  192.12.1.0/24 [11] via 100.2.0.120
(host) #show ip route static
Codes: C - connected, R - RIP
       O - OSPF, O(IA) - Ospf inter Area
       O(E1) - OSPF Ext Type 1, O(E2) - Ospf Ext Type 2
       M - mgmt, S - static, * - candidate default
       D - DHCP
Gateway of last resort is 10.16.56.254 to network 0.0.0.0 at cost 39
S      * 0.0.0.0 /0 [39] via 10.16.56.254
S      50.50.50.0/24 [0] via 12.1.1.252
S      60.60.60.0/24 [0] via 12.1.1.252
S      60.60.60.1/32 [0] via 12.1.1.252
S      60.60.60.2/32 [0] via 12.1.1.252
S      60.60.60.3/32 [0] via 12.1.1.252
S      60.60.60.4/32 [0] via 12.1.1.252

```

## Related Commands

Command	Description
<a href="#">show arp</a>	Displays the list of ARP entries.
<a href="#">clear arp</a>	Clears the ARP entries.

## Command History

Release	Modification
ArubaOS 7.1	This command was introduced.
ArubaOS 7.1.1	<b>ospf</b> , a new parameter, was introduced.
ArubaOS 7.1.3	<b>summary</b> , a new parameter, was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable Mode

# show ip source-guard

show ip source-guard

## Description

Displays all the interfaces on which IPSG is enabled, and the type of IPSG filter.

## Syntax

No parameters.

## Example

```
(host) #show ip source-guard
IPSG interface Info
-----
Interface    IPSG
-----
GE0/0/12     Enabled
GE0/0/20     Enabled
GE1/0/20     Enabled
GE1/0/24     Enabled
GE2/0/16     Enabled
GE2/0/20     Enabled
GE3/0/8      Enabled
GE3/0/20     Enabled
```

## Command History

Release	Modification
ArubaOS 7.3	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable Mode

# show ipv6 interface

show ipv6 interface

## Description

Displays all the ipv6 interface details.

## Syntax

No parameters.

## Example

The output of this command shows the details of all the IPv6 interfaces on the Mobility Access Switch.

## Command History

Release	Modification
ArubaOS 7.1	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable and Configuration Mode

## show ipv6 interface brief

```
show ipv6 interface brief
```

### Description

Displays the ipv6 interfaces.

### Syntax

No parameters.

### Example

The output of this command shows the IPv6 interfaces on the Mobility Access Switch.

### Command History

Release	Modification
ArubaOS 7.1	This command was introduced.

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable and Configuration Mode

# show ipv6 neighbors

show ipv6 neighbors

## Description

Displays the neighboring ipv6 devices in the network.

## Syntax

No parameters.

## Example

The output of this command shows the neighboring IPv6 devices in the network.

## Command History

Release	Modification
ArubaOS 7.1	Command introduced

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable and Configuration Mode



## show ipv6 route

show ipv6 route

### Description

Displays the IPv6 routing table.

### Usage Guidelines

Use this command to view the IPv6 routing table on the Mobility Access Switch.

### Examples

The example below shows the ipv6 routing table on the Mobility Access Switch:

### Command History

Release	Modification
ArubaOS 7.1	Command introduced

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable and Configuration Mode

## show lacp

```
show lacp {<0-63> counters|internal|neighbor}|sys-id
```

### Description

This command displays LACP port-channel and LACP neighbor information.

### Syntax

Parameter	Description
<0-63>	Port-channel ID.
counters	Displays the port-channel counters information.
internal	Displays the port-channel internal information.
neighbor	Displays the port-channel neighbor information.
sys-id	Displays the system ID used by LACP.

### Example

The following four commands display detailed LACP information for the switch. The output of these commands is described in the table below.

```
(host) #show lacp 2 neighbor
```

```
Flags: S - Device is requesting slow LACPDUs  
       F - Device is requesting fast LACPDUs  
       A - Device is in Active mode P - Device is in Passive mode
```

```
LACP Neighbor Table
```

```
-----  
Port      Flags  Pri    OperKey  State  Num  Dev Id  
----      -
```

Port	Flags	Pri	OperKey	State	Num	Dev Id
GE 1/2	SA	32768	0x2	0x3d	0xc0	00:13:19:6A:4D:80
GE 1/3	SA	32768	0x2	0x3d	0xc2	00:13:19:6A:4D:80
GE 1/1	SA	32768	0x2	0x3d	0xc1	00:13:19:6A:4D:80

```
(host) #show lacp 2 counters
```

```
LACP Counter Table
```

```
-----  
Port      LACPDUTx  LACPDURx  MrkrTx  MrkrRx  MrkrRspTx  MrkrRspRx  ErrPktRx  
----      -
```

Port	LACPDUTx	LACPDURx	MrkrTx	MrkrRx	MrkrRspTx	MrkrRspRx	ErrPktRx
GE 1/2	95	92	0	0	0	0	0
GE 1/3	96	90	0	0	0	0	0
GE 1/1	92	88	0	0	0	0	0

```
(host) #show lacp 2 internal
```

```
Flags: S - Device is requesting slow LACPDUs  
       F - Device is requesting fast LACPDUs  
       A - Device is in Active mode P - Device is in Passive mode
```

```
LACP Internal Table
```

```
-----  
Port      Flags  Pri  AdminKey  OperKey  State  Num  Status  
----      -
```

Port	Flags	Pri	AdminKey	OperKey	State	Num	Status
------	-------	-----	----------	---------	-------	-----	--------

```

GE 1/2 SA 255 0x3 0x3 0x3d 0x3 up
GE 1/3 SA 255 0x3 0x3 0x3d 0x4 up
GE 1/1 SA 255 0x3 0x3 0x3d 0x2 up

```

```

(host) #show lacp sys-id
32768,00:0B:86:61:66:14

```

The output of the show lacp commands includes the following information:

Parameter	Description
Port	Interface slot/port number.
Flags	This column lists the following flags for the LACP port, when applicable: <ul style="list-style-type: none"> <li>● S - Device is requesting slow LACPDUs</li> <li>● F - Device is requesting fast LACPDUs</li> <li>● A - Device is in Active mode</li> <li>● P - Device is in Passive mode</li> </ul>
Pri	Port priority for the port-channel interface.
OperKey	Operational key assigned to this port by LACP, in hexadecimal format.
State	The state options.
Num	The hex options.
Dev Id	Device ID of the neighbor port.
LACPDUTx	Number of LACP packets sent front the port.
LACPDURx	Number of LACP received by the port.
MrkrTx	Number of LACP marker packets sent from the port.
MrkrRx	Number of LACP marker packets received by the port.
MrkrRspTx	Number of LACP marker response packets sent from the port.
MrkrRspRx	Number of LACP marker response packets received by the port.
ErrPktRx	Number of error or unknown packets received by LACP for the port.
AdminKey	Administrative key assigned to this port by LACP, in hexadecimal format.
Status	Shows if port is enabled or disabled.
sys-id	The system ID is comprised of the LACP system priority and the switch's MAC address.

## Related Command

Command	Description
<a href="#">interface-profile lacp-profile</a>	This command creates a dynamic LACP port-channel profile that can be assigned to any interface or interface group.

## Command History

Release	Modification
ArubaOS 7.0	Command introduced

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable Mode

# show lacp-system-profile

show lacp-system-profile

## Description

This command displays the priority value for the LACP system profile.

## Syntax

No parameters.

## Example

The output of the example below shows that the current LACP system profile has a priority of **37000**.

```
(host) #show lacp-system-profile
lacp-system-profile
-----
Parameter                               Value
-----
LACP priority for the system            37000
```

## Related Command

Command	Description
<code>interface-profile lacp-profile &lt;profile-name&gt;port-priority &lt;1-65535&gt;</code>	This command creates a dynamic LACP port-channel profile and specifies the port priority for the port-channel interface.

## Command History

Release	Modification
ArubaOS 7.0	Command introduced

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable Mode

# show layer2 interface-errors

show layer2 interface-errors

## Description

This command displays the Layer 2 interface errors.

## Syntax

No parameters.

## Example

The output of this command in the example below shows there are currently no layer-2 errors on the switch. If there were any errors, this output would display the name of the interface that triggered the error in the **Interface** column, and give a description of the error in the **Error** column.

```
(host) #show layer2 interface-errors
Layer-2 Interface Error Information
-----
Interface  Error
-----  -----
```

## Related Commands

Command	Description
<a href="#">show interface all</a>	This command displays the interfaces information either in detail or in brief.

## Command History

Release	Modification
ArubaOS 7.0	Command introduced

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable Mode

## show lcd

```
show lcd [slot <number>]
```

### Description

View the LCD status.

### Syntax

Parameter	Description
slot <number>	Enter the keyword <b>slot</b> followed by the slot number to view (0 to 7)

### Example

The command below displays the LCD status for each slot.

```
(host)#show lcd

Slot 0:
-----
LCD:
  0 : Primary
    svl_techpubs 00

LED status:
  Power LED:   Green
  Status LED:  Green
  Stack LED:   Green

Port LED mode: Speed

Slot 1:
-----
LCD:
  1 : Secondary
    svl_techpubs 00

LED status:
  Power LED:   Green
  Status LED:  Green
  Stack LED:   Green Blinking

Port LED mode: Speed

Slot 2:
-----
LCD:
  2 : Linecard
    svl_techpubs 00

LED status:
  Power LED:   Green
  Status LED:  Green
  Stack LED:   OFF

Port LED mode: Speed
```

## Command History

Release	Modification
ArubaOS 7.1	Command introduced

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Configuration Mode (config)



## show lldp interface

```
show lldp interface [gigabitethernet <slot/module/port>]
```

### Description

This command displays the LLDP interfaces information.

### Syntax

Parameter	Description
<slot/module/port>	Displays the LLDP interface information for the specified port number.

### Usage Guidelines

By default, this command displays details for the entire list of LLDP interfaces. Include a slot/module/port number to display information only for that one interface.

### Example

The example shows two commands. The output of **show lldp interface** command displays information for all LLDP interfaces.

The second example only shows information for the GE0/0/1 interface.

```
(host) #show lldp interface
LLDP Interfaces Information
-----
Interface  LLDP TX  LLDP RX  LLDP-MED  TX interval  Hold Timer
-----
GE0/0/0    Enabled  Enabled  Enabled    30           120
GE0/0/1    Enabled  Enabled  Enabled    30           120
GE0/0/2    Enabled  Enabled  Enabled    30           120
GE0/0/3    Enabled  Enabled  Enabled    30           120
GE0/0/4    Enabled  Enabled  Enabled    30           120
GE0/0/5    Enabled  Enabled  Enabled    30           120
<output truncated>
```

```
(host) #show lldp interface gigabitethernet 0/0/0
```

```
Interface: gigabitethernet0/0/0
LLDP Tx: Enabled, LLDP Rx: Enabled
LLDP-MED: Enabled
Transmit interval: 30, Hold timer: 120
```

The output of these commands includes the following information:

Parameter	Description
Interface	Name of an LLDP interface.
LLDP TX	Shows if LLDP Protocol Data Unit (PDU) transmission is enabled or disabled.
LLDP RX	Shows if the switch has enabled or disabled processing of received LLDP PDUs.
LLDP-MED	Shows if LLDP MED protocol is enabled or disabled.

Parameter	Description
TX interval	The LLDP transmit interval, in seconds.
Hold Timer	The LLDP transmit hold multiplier.

## Command History

Release	Modification
ArubaOS 7.0	Command introduced

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable Mode

## show lldp neighbor

```
show lldp neighbor [interface gigabitethernet <slot/module/port> [detail]]
```

### Description

This command displays information about LLDP peers.

### Syntax

Parameter	Description
<slot/module/port>]	Displays the LLDP interface information for the specified port number.
detail	Includes details.

### Usage Guidelines

The LLDP protocol allows switches, routers, and wireless LAN access points to advertise information about themselves such as identity, capabilities, and neighbors to other nodes on the network. Use this command to display information about with switch's LLDP peers.

By default, this command displays LLDP neighbors for the entire list of LLDP interfaces. Include a slot/module/port number to display neighbor information only for that one interface.

### Example

The command in the first example below shows that the ports **GE4/0/1** and **GE4/0/2** recognize each other as an LLDP peers.

```
(host)#show lldp neighbor
Capability codes: (R)Router, (B)Bridge, (A)Access Point, (P)Phone, (O)Other
LLDP Neighbor Information
-----
Local Intf   Chassis ID           Capability  Remote Intf  Expiry-Time (Secs)
-----
GE4/0/1     00:0b:86:6a:25:40   B:R        GE0/0/17     105
GE4/0/2     00:0b:86:6a:25:40   B:R        GE0/0/18     105

System name
-----
ArubaS3500
ArubaS3500
Number of neighbors: 2
```

```
(host) #show lldp neighbor interface gigabitethernet 1/0/40 detail

Interface: gigabitethernet1/0/40, Number of neighbors: 1
-----
Chassis id: d8:c7:c8:ce:0d:63, Management address: 192.168.0.252
Interface description: bond0, ID: d8:c7:c8:ce:0d:63, MTU: 1522
Device MAC: d8:c7:c8:ce:0d:63
Last Update: Thu Sep 27 10:59:37 2012
Time to live: 120, Expires in: 103 Secs
System capabilities : Bridge,Access point
Enabled capabilities: Access point
System name: IAP-105
System description:
  ArubaOS (MODEL: 105), Version 6.1.3.4-3.1.0.0 (35380)
```

```

Auto negotiation: Supported, Enabled
Autoneg capability:
  10Base-T, HD: yes, FD: yes
  100Base-T, HD: yes, FD: yes
  1000Base-T, HD: no, FD: yes
Media attached unit type: 1000BaseTFD - Four-pair Category 5 UTP, full duplex mode (30)
MAC:          7c:d1:c3:c7:e9:72: Blacklist
MAC:          9c:b7:0d:7d:0b:72: Blacklist
MAC:          7c:d1:c3:d1:02:c8: Blacklist

```

The second example shows details for the neighbor port.

The output of the `show lldp neighbor` command includes the following information:

Parameter	Description
Local Intf	Slot, module and port number of a switch port.
Chassis ID	MAC address of the LLDP Peer.
Capability	This column shows the capabilities of the peer to operate as a router, bridge, access point, phone or other network device.
Remote Intf	Remote interface.
Expiry-time	Expiry time.
System Name	Name of the peer system, as supplied by the peer.

The output of the `show lldp neighbor interface gigabitethernet <slot/module/port> detail` command varies, depending upon the type of LLDP peer detected. The output in the example above contains the following information:

Parameter	Description
Interface	Name of the switch port for which you are viewing LLDP neighbor information.
Number of Neighbors	Number of LLDP neighbors seen by the switch port.
Chassis id	MAC address of the neighbor device.
Management address	MAC address of the neighbor's management port.
Interface description	Description of the LLDP neighbor interface.
ID	Interface ID of the LLDP neighbor interface.
MTU	Maximum Transmission Unit size allowed by the neighbor device in bytes.
Device MAC	Shows the MAC address of the IAP connected to the MAS port.
Last Update	Date and time the neighbor device's status changed.
Time to live	Time, in seconds, for which this information is valid.
Expires in	Time, in seconds, before this information is considered invalid.

Parameter	Description
System capabilities	This column shows the capabilities of the peer to operate as a router, bridge, access point, phone or other network device.
Enabled capabilities	This column if the peer has been actively configured to operate as a router, bridge, access point, phone or other network device.
System name	Name of the peer system, as supplied by the peer.
System description	Description of the peer system, as supplied by the peer.
Auto negotiation	Shows if link auto-negotiation is enabled for the peer interface.
Media attached unit type	This parameter displays additional details about an LLDP-MED device attached to the interface. The specific details depend upon the capabilities of the device.
VLAN	VLAN ID assigned to the peer interface.
pvid	Indicates if the VLAN ID is assigned to the peer access port.
MAC	Shows the MAC address of the rogue AP detected by the Instant AP(IAP), which is blacklisted by the MAS.
LLDP-MED	Shows details for LLDP-MED (Media Endpoint Discovery), if applicable.
Device Type	Type of LLDP-MED device connected to the peer interface.
Capability	Capabilities of the LLDP-MED device connected to the peer interface.

## Command History

Release	Modification
ArubaOS 7.0	Command introduced
ArubaOS 7.2	The <code>MAC</code> and <code>Device MAC</code> parameters were introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable Mode

## show lldp statistics

```
show lldp statistics [interface gigabitethernet <slot/module/port>]
```

### Description

This command displays LLDP statistics information.

### Syntax

Parameter	Description
<slot/module/port>	Displays the LLDP statistics information for the specified port number.

### Usage Guidelines

By default, this command displays LLDP statistics for the entire list of LLDP interfaces. Include a slot/module/port number to display statistics only for that one interface.

### Example

The example command below shows LLDP statistics for the Gigabit Ethernet interface **0/0/0**.

```
(host) #show lldp statistics interface gigabitethernet 0/0/0
```

```
LLDP Statistics
```

```
-----  
Interface          Received   Unknow TLVs   Malformed   Transmitted  
-----  
gigabitethernet0/0/0  1249      0              0           1249
```

The output of this command includes the following information:

Parameter	Description
Interface	Name of an LLDP interface
Received	Number of packets received on that interface
Unknown TLVs	Number of LLDP Protocol Data Units (PDUs) with an unknown type-length-value (TLV).
Number of Malformed packets	Number of malformed packets received on that interface
Transmitted	Number of packets transmitted from that interface

### Command History

Release	Modification
ArubaOS 7.0	Command introduced

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable Mode

## show log security

```
show log security{[<lines>][all][member]}
```

### Description

Shows the Mobility Access Switch's security logs.

### Syntax

Parameter	Description
member	Stack member.
<id>	Enter the member id of the stack.
all-members	Displays the log output for all the members of a stack.
all	Shows all the security logs for the Mobility Access Switch.
Lines	Start displaying the log output from the specified number of lines from the end of the log.

### Example

This example shows the **Mobility Access Switch's** security logs.

```
(host) (config) # show log security 10
```

```
Oct 18 11:25:17 :124004: <DEBUG> |authmgr| group "gig_prof" instance "1/0/24" changed  
0.....
```

```
Oct 18 11:25:17 :128008: <ERRS> |12m| BPDU received on gigabitethernet1/0/24, shutting down  
the interface state :3
```

### Command History

Release	Modification
ArubaOS 7.2	Command introduced

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable and Configuration Mode (config)



## show mac-address-table

```
show mac-address-table [{interface gigabitethernet <slot/module/port>}|summary|{vlan<vlan-id>}]|sticky
```

### Syntax

Parameter	Description
interface gigabitethernet <slot/module/port>	Displays the MAC addresses associated with the specified port.
summary	Displays the summary of the MAC addresses learnt.
vlan<vlan-id>	Displays the MAC addresses associated with the specified VLAN.
sticky	Displays the sticky MAC address stored.

### Description

This command displays the MAC addresses stored in the MAC address table.

### Usage Guidelines

The MAC address table is used to forward traffic between ports on the Mobility Access Switch. The table includes addresses learned by the Mobility Access Switch. This command displays the manually entered, dynamically learnt, and those learnt by authentication associated with specific ports and VLANs.

### Example

For example, the following output is displayed:

```
(host) #show mac-address-table
```

```
Total MAC address: 0  
Learnt: 5, Static: 6, Auth: 0
```

```
MAC Address Table
```

```
-----  
Destination Address  Address Type  VLAN  Destination Port  
-----  
00:0b:86:00:00:00    Mgmt         1     vlan 1  
00:0b:86:f0:05:60    Mgmt         1     vlan 1  
00:0b:86:00:00:00    Mgmt         62    vlan 62  
00:0b:86:f0:05:60    Mgmt         62    vlan 62  
00:0b:86:00:00:00    Mgmt        4095   vlan 4095  
00:0b:86:f0:05:60    Mgmt        4095   vlan 4095  
00:00:cc:aa:1c:00    Sticky       1     GE0/0/12  
00:00:cc:aa:1c:01    Sticky       1     GE0/0/12  
00:00:cc:aa:1c:02    Sticky       1     GE0/0/12  
00:00:cc:aa:1c:03    Sticky       1     GE0/0/12  
00:00:cc:aa:1c:04    Sticky       1     GE0/0/12
```

The output of this command includes the following information:

Command	Description
Total MAC address	Total number of MAC addresses in the MAC address table.
Learnt	Number of learned MAC addresses.
Static	Number of static (User-defined) MAC addresses.
Auth	Number of MAC addresses added as a result of authentication.
Destination Address	Destination MAC address
Address Type	Destination address type
VLAN	Associated VLAN
Destination Port	Destination port

## Related Command

Command	Description
<code>clear mac-address-table</code>	Clears the MAC address table.

## Command History

Release	Modification
ArubaOS 7.0	Command introduced
ArubaOS 7.3	The <b>sticky</b> parameter was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable Mode

## show member

<id> usb

### Descriptions

This command displays the USB device information.

### Syntax

Parameter	Description
<id>	Enter the member ID of the stack.
usb	Enter the USB.

### Examples

The following example displays the USB device information.

```
(host) #show member 1 usb
Member-id: 1
-----
USB Device Table
-----
Address  Product      Vendor  ProdID  Serial              Type
-----  -
2        USB DISK     058f    6387    AA04012700011854   Storage
2        Cruzler Edge 0781    556b    200542553313D9F2EC20 Storage
(ArubaS1500-24P) #show member all usb
Member-id: 0
-----
USB Device Table
-----
Address  Product      Vendor  ProdID  Serial              Type
-----  -
2        USB DISK     058f    6387    AA04012700011875   Storage
2        v125w        03f0    3307    AA16194200000000   Storage
Member-id: 1
-----
USB Device Table
-----
Address  Product      Vendor  ProdID  Serial              Type
-----  -
2        USB DISK     058f    6387    AA04012700011854   Storage
2        Cruzler Edge 0781    556b    200542553313D9F2EC20 Storage
Member-id: 2
-----
USB Device Table
-----
Address  Product      Vendor  ProdID  Serial              Type
-----  -
2        USB DISK     090c    1000    AA04012700008216   Storage
```

## Command History

Release	Modification
ArubaOS 7.3	Command introduced.

## Command Information

Platforms	Licensing	Command Mode
All platforms	Base operating system	Enable mode

# show mirroring

show mirroring

## Description

This command displays the mirroring information.

## Syntax

Parameter	Description
Mirroring Profile Name	Displays the list of mirroring profiles.
Mirroring Ratio	Ratio of packets that are mirrored. 0—Does not mirror any packet to the destination. 1—Mirrors all packets to the destination (1:1). This is the default. 100—Mirrors 1 out of 100 packets to the destination. 2047—Mirrors 1 out of 2,047 packets to the destination.
Mirroring Destination	The port on which all the monitored traffic is sent out.
Ingress mirrored ports	Displays the list of ports whose ingress traffic will be mirrored.
Egress mirrored ports	Displays the list of ports whose egress traffic will be mirrored.

## Example

This command displays the mirroring information:

```
(host) (config) #show mirroring
```

```
Mirroring Profile Name : anal
```

```
Mirroring Ratio       : 1
```

```
Mirroring Destination : GE0/0/4
```

```
Ingress mirrored ports : GE0/0/2, GE0/0/23, Pc0 Egress mirrored ports : GE0/0/2
```

## Command History

Release	Modification
ArubaOS 7.1.3	Command introduced

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable Mode

## show mgmt-server type amp

```
show mgmt-server type amp
```

### Description

Issue this command to show information about an AirWave server associated with the Mobility Access Switch.

### Syntax

No Parameters

### Usage Guidelines

When the Mobility Access Switch connects to the AirWave server, it is assigned to the AirWave group and folder specified by the output of this command. After the Mobility Access Switch appears as an associated device on the AirWave server, you must use AirWave to provision the Mobility Access Switch with device-specific information (such as an IP address or port settings) before you allow it to download its new configuration.

### Example:

```
(host) (config) #show mgmt-server type amp
amp-server
-----
Parameter          Value
-----
Host IP             109.0.2.0
Host Name           N/A
AMP Shared Secret   *****
AMP Device Group    MAS_Group_1
AMP Device Folder   Branch
```

The output of this command includes the following information:

Parameter	Description
Host IP	IP address of the AirWave server.
Host Name	Name of the AirWave server.
AMP Shared Secret	Shared secret for the AirWave server.
AMP Device Group	Name of the AirWave group that contains the configuration for the Mobility Access Switch.
AMP Device Folder	Name of the AirWave folder that contains the configuration for the Mobility Access Switch.

### Command History

This command was introduced in ArubaOS 7.3

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable and Configuration mode

# show mld-snooping counters

show mld-snooping counters vlan <id>

## Description

This command displays counters for all VLANs or for the specified VLAN interface.

## Syntax

Parameter	Description
vlan <id>	(Optional) Specify the VLAN interface.

## Example

```
(host) #show mld-snooping counters
```

```
MLD Snooping Counters
-----
Name                Value
----                -
received-total      0005
received-queries    0001
received-vl-reports 0004
received-leaves     0000
received-pim-v6     0000
received-unknown-types 0000
len-errors          0000
checksum-errors     0000
forwarded           0000
```

## Command History

Release	Modification
ArubaOS 7.2	Command introduced

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable

## show mld-snooping groups

show mld-snooping groups vlan <vlan id>

### Description

This command displays the MLD multicast addresses detected on the Mobility Access Switch. You can also view the MLD multicast addresses detected on a VLAN.

### Syntax

Parameter	Description
vlan <id>	(Optional) Specify the VLAN interface.

### Example

```
(host) #show mld-snooping groups
```

```
MLD Snooping Multicast Route Table
-----
VLAN  Group      Port List
----  -
0001  ff03::1  GE0/0/0 GE0/0/4
0001  ff03::2  GE0/0/0 GE0/0/4
0001  ff03::3  GE0/0/0 GE0/0/4
0001  ff03::4  GE0/0/0 GE0/0/4
```

```
(host) #show mld-snooping groups vlan 1
```

```
MLD Snooping Multicast Route Table
-----
VLAN  Group      Port List
----  -
0001  ff03::1  GE0/0/0 GE0/0/4
0001  ff03::2  GE0/0/0 GE0/0/4
0001  ff03::3  GE0/0/0 GE0/0/4
0001  ff03::4  GE0/0/0 GE0/0/4
0001  ff03::5  GE0/0/0 GE0/0/4
```

### Command History

Release	Modification
ArubaOS 7.2	Command introduced.

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable



# show mld-snooping membership

show mld-snooping membership

## Description

This command displays the detected MLD multicast membership information.

## Example

```
(host) #show mld-snooping membership
```

```
MLD Snooping Multicast Membership
-----
VLAN  Group      Port      Expiry    UpTime
----  -
0001  ff03::1    GE0/0/0   00:02:12  00:02:08
0001  ff03::2    GE0/0/0   00:02:13  00:02:07
0001  ff03::3    GE0/0/0   00:02:14  00:02:06
0001  ff03::4    GE0/0/0   00:02:15  00:02:05
0001  ff03::5    GE0/0/0   00:02:16  00:02:04
```

```
(host) #show mld-snooping membership detail
```

Flags: H - IGMP/MLD listener, M - Multicast Router

```
Group:ff03::1 Vlan:0001
  Port: GE0/0/0   Expiry: 00:00:30 Uptime: 00:03:50
        (H) IP: fe80::200:24ff:fef9:7ccf MAC: 00:00:24:f9:7c:cf
Group:ff03::2 Vlan:0001
  Port: GE0/0/0   Expiry: 00:00:31 Uptime: 00:03:49
        (H) IP: fe80::200:24ff:fef9:7ccf MAC: 00:00:24:f9:7c:cf
Group:ff03::3 Vlan:0001
  Port: GE0/0/0   Expiry: 00:00:32 Uptime: 00:03:48
        (H) IP: fe80::200:24ff:fef9:7ccf MAC: 00:00:24:f9:7c:cf
Group:ff03::4 Vlan:0001
  Port: GE0/0/0   Expiry: 00:00:33 Uptime: 00:03:47
        (H) IP: fe80::200:24ff:fef9:7ccf MAC: 00:00:24:f9:7c:cf
Group:ff03::5 Vlan:0001
  Port: GE0/0/0   Expiry: 00:00:34 Uptime: 00:03:46
        (H) IP: fe80::200:24ff:fef9:7ccf MAC: 00:00:24:f9:7c:cf
```

```
(host) #show mld-snooping membership vlan 1
```

```
MLD Snooping Multicast Membership
-----
VLAN  Group      Port      Expiry    UpTime
----  -
0001  ff03::1    GE0/0/0   00:02:12  00:02:08
0001  ff03::2    GE0/0/0   00:02:13  00:02:07
0001  ff03::3    GE0/0/0   00:02:14  00:02:06
0001  ff03::4    GE0/0/0   00:02:15  00:02:05
0001  ff03::5    GE0/0/0   00:02:16  00:02:04
```

## Command History

Release	Modification
ArubaOS 7.2	Command introduced

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable

## show mld-snooping mrouter

show mld-snooping mrouter [detail | vlan <id>]

### Description

This command displays the MLD-snooping mrouter port information. You can also view the MLD snooping mrouter port information in detail or on a per VLAN basis.

### Syntax

Parameter	Description
detail	Displays the mrouter information in detail.
vlan <id>	Specify the VLAN interface.

### Example

```
(host)show mld-snooping mrouter

Flags: D - Dynamic, S - Static, P - PIM, M - IGMP/MLD query

MLD Snooping Multicast Router Ports
-----
VLAN  Elected-Querier  Ports (Flags)  Expiry  UpTime
----  -
0001  fef1::d0d0          GE0/0/4 (DM)  00:04:12  00:00:08

(host)show mld-snooping mrouter detail

Flags: D - Dynamic, S - Static, P - PIM, M - IGMP/MLD query

Vlan:0001 Elected-Querier:fef1::d0d0
  GE0/0/4  (DM) Expiry Time: 00:04:06 Uptime: 00:00:14
          Router IP: fef1::d0d0
          Router MAC: 00:00:00:00:03:00

(host)show mld-snooping mrouter vlan 1

Flags: D - Dynamic, S - Static, P - PIM, M - IGMP/MLD query

MLD Snooping Multicast Router Ports
-----
VLAN  Elected-Querier  Ports (Flags)  Expiry  UpTime
----  -
0001  fef1::d0d0          GE0/0/4 (DM)  00:04:11  00:00:09
```

### Command History

Release	Modification
ArubaOS 7.2	Command introduced

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable

# show mstp-global-profile

## Description

View the MSTP global profile information.

## Example

```
(host) (config) #show mstp-global-profile
```

```
Global MSTP
-----
Parameter                Value
-----                -
MSTP region name         25
MSTP revision             0
Instance bridge priority 28 36864
Instance vlan mapping    4 1
MSTP hello time          2
MSTP forward delay       15
MSTP maximum age         20
MSTP max hops            20
```

The values in the output are detailed in the table below.

Parameter	Value
MSTP region name	The name of the region.
MSTP revision	The revision number.
Instance bridge priority	The instance number followed by its bridge priority value.
Instance vlan mapping	The instance number followed by the VLAN identifiers mapped to that instance.
MSTP hello time	The number of seconds configured for the MSTP Hello Time.
MSTP forward delay	The number of seconds configured for the MSTP Forward Delay.
MSTP maximum age	The time, in second, that the system waits before a refresh.
MSTP max hops	The time, in seconds, for the maximum hops.

## Command History

Release	Modification
ArubaOS 7.0	Command introduced

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable and Configuration Mode (config)

# show neighbor-devices phones

show neighbor-devices phones

## Description

This command displays the neighboring phones in the network and the Voice VLAN associated with the phones.

## Syntax

No parameters.

## Usage Guidelines

Use this command to view the neighboring phones in the network and the Voice VLAN associated with the phones.

## Examples

```
host) #show neighbor-devices phones
Neighbor Phones
-----
Interface  Protocol  Phone MAC          Voice VLAN
-----
GE0/0/6    CDPv2     00:1b:54:c9:e9:fd  -
GE0/0/47   CDPv2     00:1b:54:c9:e9:fd  5
```

The output of this command includes the following information:

Parameter	Description
Interface	The interface in which the phone is discovered.
Protocol	The protocol used to discover the phone.
Phone MAC	MAC address of the discovered phone.
Voice VLAN	The Voice VLAN associated to the discovered phone. In the above output, "-" under the Voice VLAN column denotes that either Voice VLAN is not available or VoIP is not configured to run in auto-discover mode.

## Command History

Release	Modification
ArubaOS 7.1.3	Command introduced

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable Mode

## show netdestination

```
show netdestination [STRING | ipv4 <STRING>]
```

### Description

This command displays a list of IPv4 network destinations.

### Syntax

Parameter	Description
STRING	Name of destination.
ipv4	Show IPv4 network destinations.

### Example

```
(host) #show netdestination Mywhite-list
```

```
Mywhite-list
```

```
-----
```

Position	Type	IP addr	Mask-Len/Range
-----	----	-----	-----
1	host	10.16.22.18	32
2	range	10.16.22.19	10.16.22.30

### Related Commands

Command	Description
<a href="#">netdestination</a>	This command configures an alias for an IPv4 network host, subnetwork, or range of addresses.

### Command History

Release	Modification
ArubaOS 7.0	Command introduced.

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable Mode

## show netservice

show netservice [STRING]

### Description

This command displays a list of IPv4 network protocol services.

### Syntax

Parameter	Description
STRING	Name of protocol service.

### Example

```
(host) #show netservice
```

```
Services
-----
Name          Protocol  Ports    ALG  Type
-----
any           0         0
arp           udp       0        sip
svc-dhcp      udp       67-68
svc-dns       udp       53
```

### Related Commands

Command	Description
<a href="#">netSERVICE</a>	This command configures an alias for network protocols.

### Command History

Release	Modification
ArubaOS 7.0	Command introduced.

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable Mode



## show oam brief

show oam brief

### Description

This command displays the status of OAM on your Mobility Access Switches.

### Syntax

No parameters.

### Example

The `show oam brief` command displays a quick overview of the ports on which OAM is enabled.

```
OAM      Link-fault      Loopback      Link Oper
Interface Mode      Action        Local      Remote  State  State  Remote MAC
-----
GE0/0/1  Active  Syslog      Enable  Disable Up     Up     00:0b:86:6a:4f:04
GE0/0/2  Active  Syslog      Enable  Disable Up     Up     00:0b:86:6a:4f:03
```

### Command History

Release	Modification
ArubaOS 7.1.3	This command was introduced.

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Config mode (config)

# show oam counters

show oam counters

## Description

This command displays a table of OAM counters on your Mobility Access Switches.

## Syntax

No parameters.

## Example

The show oam counters command displays the total PDUs received and transmitted, as well as the number of errors, on OAM-enabled ports.

```
Total PDU   Error PDU   Unknown PDU Total PDU   Transmit
Interface Received      Received      Received      Transmitted Discarded
-----
GE0/0/1          295           0           0           295         0
GE0/0/2          295           0           0           295         0
```

## Command History

Release	Modification
ArubaOS 7.1.3	This command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Config mode (config)

## show poe

show poe [controller]

### Description

This command displays PoE information for the switch or the switch interfaces.

### Syntax

Parameter	Description
controller	Displays PoE pool information for the switch.

### Usage Guidelines

By default, the `show poe` command displays brief PoE information for all interfaces. Include the **controller** parameter to display PoE information for the switch.

### Example

The examples below show some of the information displayed by the `show poe` commands.

```
(host) # show poe
Port      Status  Voltage (mV)  Current (mA)  Power (mW)
-----  -
GE0/0/0   On      55500         74            4100
GE0/0/1   Off     N/A          N/A           N/A
GE0/0/2   On      55800         50            2700
GE0/0/3   Off     N/A          N/A           N/A
GE0/0/4   Off     N/A          N/A           N/A
GE0/0/5   On      55900         80            4400
<Intentionally Truncated>
```

```
(host) # show poe controller
Linecard  PowerBudget (W)  Power Consumption (W)  GuardBand (mW)  PoE Management
-----  -
0         689              7                      11000           Dynamic
```

The output of these commands include the following information:

Parameter	Description
Port	Name of the switch port.
Status	Indicates if PoE is enabled for the port.
Voltage (mV)	Port voltage, in millivolts.
Current (mA)	Port current, in milliamperes.
Power (mW)	Port power, in milliwatts.
Linecard	Specifies the module number.

Parameter	Description
PowerBudget	<p>The switch allocates power to the PoE ports from a set PoE power budget. This parameter shows the cumulative power budget of all ports, in watts. The PowerBudget output for the different Mobility Access Switches are as follows:</p> <ul style="list-style-type: none"> <li>• S1500-12P: 100</li> <li>• S1500-24P/48P: 400</li> <li>• S2500-24P/48P : 400</li> <li>• S3500-24P/48P: 400 with single PSU or 689 with dual PSU</li> <li>• S3500-48PF: 850 with single PSU or 1465 with dual PSU</li> </ul>
Power Consumption	Current switch PoE power consumption, in watts.
GuardBand	The PoE guard band feature provides protection when there is a sudden spike in the power consumed by endpoint devices that could potentially impact other PoE-enabled ports. This parameter shows the amount of power reserved by the switch to prevent other PoE enabled ports from powering off and then on again.
PoE Management	<p>This parameter shows the PoE management mode used by the switch.</p> <ul style="list-style-type: none"> <li>• Static Mode—The power deducted from the total power pool is the maximum power for that interface. This mode ensures that the maximum power specified by you for the interface is always reserved and cannot be shared by other endpoint devices.</li> <li>• Dynamic Mode—The power allocated from the total power pool for each port is the actual power consumed at that port. You can allocate any unused portion of power to the other PDs. This is the default mode.</li> <li>• Class-based Mode—The power allocated for each port from the total power pool is the maximum power available for the class of PD connected to that port.</li> </ul>

## Related Commands

Command	Description
<code>interface-profile poe-profile</code>	This command creates a PoE profile that can be assigned to any interface or interface group.
<code>poe-management-profile</code>	Configures PoE global power management parameters on the Mobility Access Switch.

## Command History

Release	Modification
ArubaOS 7.0	Command introduced

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Configuration Mode

## show poe interface

```
show poe interface [brief][gigabitethernet <slot/module/port>]
```

### Description

This command displays detailed PoE information for one or all port interfaces.

### Syntax

Parameter	Description
interface	Displays PoE pool information for switch interfaces.
brief	Show general PoE status information for all interfaces
gigabitethernet <slot/module/port>	Show detailed PoE status for the specified Gigabit Ethernet slot/module/port.

### Usage Guidelines

By default, this command shows detailed PoE information for all ports. Include the `brief` parameter to show general information for each interface, or include the `interface gigabit <slot/module/port>` parameter to show detailed PoE information for the specified interface only

### Example

The output of the first command in this example shows detailed PoE information for the specified port interface. The second example shows general information for all ports:

```
(host) #show poe interface gigabitethernet 0/0/5
```

```
GE0/0/5: Administratively Enable, Port status: On
Maximum power: 30000 mW, Power consumption: 4400 mW
Port voltage: 56000 mV, Port current: 80 mA
PD class: Class-0, Priority: Low, PSE port status: On
Time-range: Periodic
  Start: daily, 18:00:00 PST
  End: daily, 09:00:00 PST
```

```
(host) #show poe interface
```

```
GE0/0/0
```

```
-----
```

```
GE0/0/0: Administratively Enable, Port status: On
Maximum power: 30000 mW, Power consumption: 4100 mW
Port voltage: 55500 mV, Port current: 74 mA
PD class: Class-3, Priority: High, PSE port status: On
```

```
GE0/0/1
```

```
-----
```

```
GE0/0/1: Administratively Enable, Port status: Off
Maximum power: 30000 mW, Power consumption: 0 mW
Port voltage: 0 mV, Port current: 0 mA
PD class: Class-0, Priority: Low, PSE port status: Off, PD detection in progress
```

```
GE0/0/2
```

```
-----
```

```
GE0/0/2: Administratively Enable, Port status: On
Maximum power: 30000 mW, Power consumption: 2700 mW
Port voltage: 55800 mV, Port current: 48 mA
PD class: Class-0, Priority: Low, PSE port status: On
```

```
<Intentionally Truncated>
```

```
(host) #show poe interface brief
PoE Interface Brief
-----
Interface  Admin  Consumption(mW)  Port Priority  Port Status
-----
GE0/0/0    Enable  4100             High          On
GE0/0/1    Enable  0                Low           Off
GE0/0/2    Enable  2700             Low           On
GE0/0/3    Enable  0                Low           Off
GE0/0/4    Enable  0                Low           Off
GE0/0/5    Enable  4400             Low           On
<Intentionally Truncated>
```

This command includes the following information:

Parameter	Description
Interface	The name and enable/disable status of a port.
Port Status	Shows if PoE has been enabled for the port.
Maximum Power	Shows the maximum power that can be supplied to the ethernet interface in milliwatts. The default value is 30000 mW.
Power consumption	Power consumed by the port, in milliwatts.
Port Voltage (mV)	Port voltage, in millivolts.
Port Current (mA)	Port current, in milliamperes.
Power (mW)	Port power, in milliwatts.
PD Class	Class of powered devices used by the port.
Port Priority	When you have a power shortage in the PoE pool, you can configure PoE port priority to define which PoE ports should be provided with power while disabling power on other ports until enough power is available for all the PoE ports. This parameter shows the current port setting.
PSE Port Status	Shows if the port is currently acting as a PSE (Power sourcing equipment) for a powered device.

## Related Commands

Command	Description
<code>interface-profile poe-profile</code>	This command creates a PoE profile that can be assigned to any interface or interface group.
<code>show poe</code>	This command displays PoE information for the switch or the switch interfaces.

## Command History

Release	Modification
ArubaOS 7.0	Command introduced

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable Mode

## show poe-management-profile

```
show poe-management-profile slot [<slot-number>]
```

### Description

This command displays total PoE pool information for the Mobility Access Switch.

### Syntax

Parameter	Description	Range
slot [<slot-number>]	Stack member ID.	0–7

### Example

This example shows that the device currently uses a dynamic PoE power management.

```
(host) #show poe-management-profile slot 2
```

```
poe-management profile "2"
-----
Parameter                               Value
-----
Power Management Algorithm               dynamic
Guard band for PoE controller           11000
Cisco Pre-Standard compatibility        Enabled
```

The output of this command includes the following information:

Parameter	Description
Power Management Algorithm	This parameter shows the PoE management mode used by the switch.  <b>Static</b> —The power deducted from the total power pool is the maximum power for that interface. This mode ensures that the maximum power specified by you for the interface is always reserved and cannot be shared by other endpoint devices.  <b>Dynamic</b> —The power allocated from the total power pool for each port is the actual power consumed at that port. You can allocate any unused portion of power to the other PDs. This is the default mode.  <b>Class</b> —The power allocated for each port from the total power pool is the maximum power available for the class of PD connected to that port.
Guard band for PoE controller	The PoE guard band feature provides protection when there is a sudden spike in the power consumed by endpoint devices that could potentially impact other PoE-enabled ports. This parameter shows the amount of power reserved by the switch to prevent other PoE enabled ports from powering off and then on again.
Cisco Pre-Standard compatibility	ArubaOS for Mobility Access Switch introduced the functionality to provide PoE compatibility with Cisco® legacy IP phones. By default, this function is disabled.

### Related Commands



Command	Description
<a href="#">poe-management-profile</a>	Configures PoE global power management parameters on the Mobility Access Switch.

## Command History

Release	Modification
ArubaOS 7.0	Command introduced
ArubaOS 7.2.1	The <b>Cisco Pre-Standard compatibility</b> parameter was introduced in the output of this command.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable Mode

## show port-error-recovery

show port-error-recovery

### Description

Displays the list of ports that are detected with port errors and the time at which they will be recovered automatically, if auto-recovery is enabled.

### Syntax

No parameters.

### Example

The following example shows the list of ports that are detected with port errors:

```
(host) #show port-error-recovery
```

```
Layer-2 Interface Error Information
```

```
-----  
Interface      Error              Recovery Time  
-----  
Pc5            Shutdown (Loop Detected)  2012-02-08 16:42:45 (PST)  
GE0/0/42      Shutdown (Loop Detected)  No Auto recovery  
Pc1            Shutdown (Loop Detected)  2012-02-07 16:45:40 (PST)  
Pc2            Shutdown (RA Guard)       2012-02-08 16:42:45 (PST)  
GE0/0/14      Log (Mac Limit Exceeded)  No Auto recovery  
GE0/0/2       Drop (DHCP Trust Error)   2012-02-07 16:45:40 (PST)
```

The output of this command displays the following parameters:

Parameter	Description
Interface	Name of the interface.
Error	The error detected on the interface.
Recovery Time	The time at which the interface will be automatically activated, if auto-recovery option is enabled.

### Command History

Release	Modification
ArubaOS 7.1.3	Command introduced

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable and Configuration Mode (config)

## show port-security

```
show port-security <interface-name>
```

### Description

Displays if the port security features are enabled or disabled on the interface.

### Syntax

Parameter	Description
<interface-name>	Specify the interface for which you need to check the port-security operational state.

### Command History

Release	Modification
ArubaOS 7.1.3	Command introduced

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable and Configuration Mode (config)

## show port stats

show port stats

### Description

This command displays statistics for packets and bytes sent and received on all switch ports.

### Syntax

No parameters.

### Usage Guidelines

This `show port stats` command displays information about packets and bytes sent and received by the port. The `show port status` command display information about the configuration of each port.

### Example

The command below shows a count of packets, bytes, error bytes and CRC errors for all switch ports. The output in the example below has been split into two separate tables to better fit in this document. In the switch command-line interface, this output appears in a single, wide table.

```
(host) #show port stats
Port                               PacketsIn      PacketsOut      BytesIn         BytesOut
gigabitethernet0/0/0               100259         1604100         19550289        204522732
gigabitethernet0/0/1               1604100        100259          204522732       19550289
gigabitethernet0/0/2                0              0               0               0
gigabitethernet0/0/3                0              0               0               0
gigabitethernet0/0/4                0              0               0               0
gigabitethernet0/0/5                0              0               0               0
...

InputErrorBytes      OutputErrorBytes      CRCError
0                    0                      0
0                    0                      0
0                    0                      0
0                    0                      0
0                    0                      0
0                    0                      0
...
```

The output of this command includes the following information:

Parameter	Description
Port	Name of the switch port.
PacketsIn	Number of packets received by the port.
PacketsOut	Number of packets sent by the port.
BytesIn	Number of bytes received by the port.
BytesOut	Number of bytes sent by the port.

Parameter	Description
InputErrorBytes	Number of bytes with errors received by the port.
OutputErrorBytes	Number of bytes with errors sent by the port.
CRCErrors	Number of frames with Cyclic Redundancy Check (CRC) errors.

## Related Commands

Command	Description
<a href="#">show port status</a>	This command displays status information for all the interfaces.

## Command History

Release	Modification
ArubaOS 7.0	Command introduced

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable Mode

# show port status

show port status

## Description

This command displays link status information for all the interfaces.

## Syntax

No parameters.

## Usage Guidelines

Use the `show port status` command to display information about the port configuration. The `show port status` command displays information about packets and bytes sent and received by the port.

## Example

The following command shows the current status of each port on the switch.

```
(host) #show port status
Interface  Admin   Line Protocol  Link  PoE      Trusted  Mode
-----  -
GE0/0/0    Enable  Up              Up    Enable   No       Access
GE0/0/1    Enable  Down            Down  Enable   No       Access
GE0/0/2    Enable  Up              Up    Enable   No       Access
GE0/0/3    Enable  Down            Down  Enable   No       Access
GE0/0/4    Enable  Down            Down  Enable   No       Access
GE0/0/5    Enable  Up              Up    Enable   No       Access
<Intentionally Truncated>
```

The output of this command includes the following information:

Parameter	Description
Interface	Name of the port interface.
Admin	Shows if the port has been administratively enabled or disabled.
Line Protocol	Status of the line protocol on the port.
Link	Status of the link.
PoE	Shows if the port is PoE capable or not.
Trusted	Shows if the port has been configured as a trusted port.
Mode	Shows if the port's switching profile has the port configured in access or tunnel mode.

## Related Commands

Command	Description
<a href="#">show port stats</a>	This command displays statistics for packets and bytes sent and received on all switch ports.

## Command History

Release	Modification
ArubaOS 7.0	Command introduced

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable Mode

# show port trusted

show port trusted

## Description

This command displays the trusted ports.

## Syntax

No Parameters

## Example

The output of this command lists the switch ports that have been configured as a trusted port.

```
(host) #show port trusted
port-channell
gigabitethernet0/0/19
gigabitethernet0/0/20
gigabitethernet0/0/21
gigabitethernet0/0/22
gigabitethernet0/0/23
gigabitethernet0/0/0
gigabitethernet0/0/1
gigabitethernet0/0/2
gigabitethernet0/0/3
gigabitethernet0/0/4
gigabitethernet0/0/5
gigabitethernet0/0/6
<output truncated>
```

## Related Commands

Command	Description
<code>interface gigabitethernettrusted port</code>	Sets the port to trusted mode.

## Command History

Release	Modification
ArubaOS 7.0	Command introduced

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable Mode



# show probe

show probe

## Description

This command displays the probe status of the interfaces where the probe profile is attached.

## Syntax

No parameters.

## Example

The output of the following command displays the probe status of the interfaces where the probe profile is attached.

```
(host) #show probe
```

```
IPV4 PROBE Table
-----
Vlan   Server      Protocol  Port   Probe-State  Sent  Received
-----
vlan1  10.1.10.1  ICMP     N/A    Up           1045  1034
Total Probe host entries: 1
```

## Related Command

Command	Description
<a href="#">probe-profile</a>	Create and configure a probe-profile

## Command History

Release	Modification
ArubaOS 7.4	Command introduced

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable Mode

## show probe-profile

show probe-profile

### Description

This command displays the details of the probe profiles configured on the system.

### Syntax

Parameter	Description
<probe-profile>	Name of the probe-profile for which you want to view the details.

### Example

The following command displays the configuration on a probe-profile named **L3Monitoring**:

```
(host) #show probe-profile L3Monitoring
probe profile "L3Monitoring"
-----
Parameter                               Value
-----
Destination IP                           10.1.10.1
Packet Lost Count                         16
Packet Found Count                       16
Packet Send Frequency (Secs)             11
Protocol                                  icmp
```

The following command displays the list of probe-profiles configured and their references:

```
(host) #show probe-profile
probe profile List
-----
Name           References  Profile Status
-----
default        0             N/A
L3Monitoring   1             N/A
test           0             N/A
Total:3
```

### Related Command

Command	Description
<a href="#">probe-profile</a>	Use this command to configure a probe-profile.

### Command History

Release	Modification
ArubaOS 7.4	Command introduced

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable Mode

## show profile-errors

show profile-errors

### Description

This command displays the errors in the profiles.

### Syntax

No parameters.

### Example

The output of this command lists any profiles with configuration errors, and gives a brief description of the error.

```
(host) #Invalid Profiles
-----
Profile                               Error
-----
time-range-profile "absolute"         End time must be later then current time
time-range-profile "gst"              End time must be later then current time
```

### Command History

Release	Modification
ArubaOS 7.0	Command introduced

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable Mode

## show profile-hierarchy

show profile-hierarchy

### Description

This command reserved for future use.

## show profile-list

```
show profile-list
  aaa
  interface
  interface-group
  interface-profile
  ip
  poe-management-profile
  policer-profile
  qos-profile
  rmon
  time-range-profile
  vlan
  vlan-profile
```

### Description

Use this command to display a list of profiles in the specified category.

### Syntax

Parameter	Description
aaa	Displays AAA configuration.
interface	Select an interface for configuration.
interface-group	Select an interface group to configure.
interface-profile	Displays the list of interface profiles.
ip	Displays the IP address of the interface.
poemanagement member-id 0	Displays the list of PoE (Power over Ethernet) management profiles.
policer-profile	Displays the list of policer profiles.
qos-profile	Displays the list of QoS profiles.
rmon {alarm   alarm-profile   etherstat   event   history }	Displays the remote monitoring parameters.
time-range-profile	Configures a time range profile.
vlan	Displays all the VLANs.
vlan-profile	Displays the details of one of the following VLAN profiles: <ul style="list-style-type: none"><li>igmp-snooping-profile</li><li>mld-snooping-profile</li><li>pvst-profile</li><li>dhcp-snooping-profile</li></ul>

### Example

The output of the command in this example shows a list of policer profiles. The **References** column lists the number of other profiles with references to the policer profile, and the **Profile Status** column indicates whether the profile is predefined. User-defined profiles will not have an entry in the **Profile Status** column.

```
(host) #show profile-list policer-profile
```

## Policer Profile List

```
-----  
Name      References  Profile Status  
-----  
default   0  
Policer1  2  
Total:2
```

## Related Commands

Command	Description
<a href="#">interface-group gigabitethernet</a>	This command applies the same configuration parameters to a group of Gigabit Ethernet interfaces.

## Command History

Release	Modification
ArubaOS 7.0	Command introduced.
ArubaOS 7.1.3	The <b>rmon</b> parameter was introduced.
ArubaOS 7.3	The <b>dhcp-snooping-profile</b> was introduced under <b>vlan-profile</b> .

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable Mode

## show profile-list vlan-profile

```
show profile-list vlan-profile
  igmp-snooping-profile
  mld-snooping-profile
  pvst-profile
  dhcp-snooping-profile
```

### Description

This command displays the list of profiles in the specified category.

### Syntax

Parameter	Description
igmp-snooping-profile	Displays the list of IGMP snooping profiles.
mld-snooping-profile	Displays the list of MLD snooping profiles.
pvst-profile	Displays the list of PVST profiles.
dhcp-snooping-profile	Displays the DHCP snooping information.

### Example

The output of the command in this example shows a list of IGMP snooping profiles. The **References** column lists the number of other profiles with references to the IGMP snooping profile, and the **Profile Status** column indicates whether the profile is predefined. User-defined profiles will not have an entry in the **Profile Status** column.

```
(host) #show profile-list vlan-profile igmp-snooping-profile
igmp-snooping-profile List
-----
Name                               References  Profile Status
----                               -
default                             2
igmp-snooping-factory-initial       1
profile123                           0
Total:3
```

### Related Command

Command	Description
<a href="#">vlan-profile igmp-snooping-profile</a>	This command creates an IGMP snooping profile that can be applied to a VLAN.
<a href="#">vlan-profile mld-snooping-profile</a>	This command creates an MLD snooping profile that can be applied to a VLAN.
<a href="#">vlan-profile pvst-profile</a>	This command creates a PVST profile that can be applied to a VLAN.



## Command History

Release	Modification
ArubaOS 7.0	Command introduced

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Configuration Mode

## show profile-list interface

```
show profile-list interface
  gigabitethernet [page] [start]
  loopback [page] [start]
  port-channel [page] [start]
  tunnel ethernet [page] [start]
  vlan [page] [start]
```

### Description

This command displays the list of profiles in the specified category.

### Syntax

Parameter	Description
gigabitethernet	Displays the list of Gigabit Ethernet interfaces.
page	Number of items to display.
start	Index of first item to display.
loopback	Displays the list of Loopback interfaces.
page	Number of items to display.
start	Index of first item to display.
port-channel	Displays the list of port channels.
page	Number of items to display.
start	Index of first item to display.
tunnel ethernet	Displays the list of tunnel ethernet interfaces.
page	Number of items to display.
start	Index of first item to display.
vlan	Displays the list of VLAN interfaces.
page	Number of items to display.
start	Index of first item to display.

### Example

The output of this command shows a list of Gigabit Ethernet interface profiles. The **References** column lists the number of other profiles with references to the gigabitethernet profile, and the **Profile Status** column indicates whether the profile is predefined. User-defined profiles will not have an entry in the **Profile Status** column.

```
(host) #show profile-list interface gigabitethernet
gigabitethernet List
-----
Name   References  Profile Status
----   -
0/0/0  0
Total:1
```

The following command shows the list of port-channel interfaces, and lists the other profiles with references to that port channel. This example shows that there are two other profiles that reference port-channel

```
(host) #show profile-list interface port-channel
```

```
port-channel List
-----
Name   References  Profile Status
-----
1      2
Total:1
```

## Related Commands

Command	Description
<a href="#">interface gigabitethernet</a>	This command configures a Gigabit Ethernet port on the Mobility Access Switch.
<a href="#">interface loopback</a>	This command configures a loopback interface on the Mobility Access Switch.
<a href="#">interface port-channel</a>	This command configures a port channel on the Mobility Access Switch.
<a href="#">interface tunnel ethernet</a>	This command configures a tunnel ethernet port on the Mobility Access Switch.
<a href="#">interface vlan</a>	This command configures a VLAN interface on the Mobility Access Switch.

## Command History

Release	Modification
ArubaOS 7.0	Command introduced

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable Mode

## show profile-list interface-group

```
show profile-list interface-group gigabitethernet [page][start]
```

### Description

This command displays the list of gGigabit Ethernet interface group profiles.

### Syntax

Parameter	Description
page	Number of items to display.
start	Index of first item to display.

### Example

The output of this command shows a list of Gigabit Ethernet interface-group profiles. The **References** column lists the number of other profiles with references to the gigabitethernet interface-group profile, and the **Profile Status** column indicates whether the interface-group profile is predefined. User-defined profiles will not have an entry in the **Profile Status** column.

```
(host) #show profile-list interface-group gigabitethernet
```

```
gigabitethernet List
-----
Name      References  Profile Status
----      -
default   0
corporate 0
Total:2
```

### Related Commands

Command	Description
<a href="#">interface gigabitethernet</a>	This command configures a Gigabit Ethernet port on the switch.

### Command History

Release	Modification
ArubaOS 7.0	Command introduced

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable Mode

## show profile-list interface-profile

```
show profile-list interface-profile
  dhcp-relay-profile
  enet-link-profile
  gvrp-profile
  igmp-profile
  lacp-profile
  lldp-profile
  mirroring-profile
  mstp-profile
  oam-profile
  ospf-profile
  pim-profile
  poe-profile
  port-security-profile
  pvst-port-profile
  switching-profile
  tunneled-node-profile
  voip-profile
```

### Description

This command displays a list of of interface profiles for the specified profile type.

### Syntax

Parameter	Description
dhcp-relay-profile	Shows all the dhcp relay profiles.
enet-link-profile	Show all Ethernet Link profiles.
gvrp-profile	Shows all the GVRP profiles.
igmp-profile	Shows all the interface IGMP profiles.
lacp-profile	Shows all the LACP profiles.
lldp-profile	Shows all the LLDP Profiles.
mirroring-profile	Shows all the Mirroring profiles.
mstp-profile	Shows all the Interface MSTPs.
oam-profile	Shows all the OAM profiles.
ospf-profile	Shows all the OS{PF profiles.
pim-profile	Shows all the PIM profiles.
poe-profile	Shows all the Power over Ethernet profiles.
port-security-profile	Shows all the Port Security profiles.
pvst-port-profile	Shows all the Interface PVST bridges.
switching profile	Shows all the switching profiles.

Parameter	Description
tunneled-node-profile	Shows all the tunneled node server profiles.
voip-profile	Shows all the VOIP profiles.

## Examples

The output of the command in this example shows a list of Power over Ethernet profiles. The **References** column lists the number of other profiles with references to the PoE profile, and the **Profile Status** column indicates whether the profile is predefined. User-defined profiles will not have an entry in the **Profile Status** column.

```
(host) #show profile-list interface-profile poe-profile
```

```
Power over Ethernet profile List
-----
Name           References  Profile Status
----           -
default        14
poe-factory-initial  1
Total:2
```

The example below shows that the Mobility Access Switch has two LACP profiles. The **References** column lists the number of other profiles with references to the LACP profile, and the **Profile Status** column indicates whether the profile is predefined. User-defined profiles will not have an entry in the **Profile Status** column:

```
(host) #show profile-list interface-profile lacp-profile
```

```
LACP List
-----
Name  References  Profile Status
----  -
profile1  8
Profile2  8
Total:2
```

The example below shows that the tunneled node profile is named **tunnel1**, and that there are three other profiles with references to the tunneled node profile. The **Profile Status** column indicates whether the profile is predefined. (User-defined profiles will not have an entry in the **Profile Status** column.):

```
(host) #show profile-list interface-profile tunneled-node-profile
```

```
Tunneled Node Server profile List
-----
Name           References  Profile Status
----           -
tunnel1        3
```

The output of the following command in this example shows a list of LLDP profiles. The **References** column lists the number of other profiles with references to the LLDP profile, and the **Profile Status** column indicates whether the profile is predefined. User-defined profiles will not have an entry in the **Profile Status** column:

```
(host) #show profile-list interface-profile lldp-profile
```

```
LLDP Profile List
-----
Name           References  Profile Status
----           -
default        0
lldp-factory-initial  1
```

Total:2

The following command displays the name of the current mirroring-profile. The **References** column lists the number of other profiles with references to the mirroring profile, and the Profile Status column indicates whether the profile is predefined. User-defined profiles will not have an entry in the Profile Status column.

```
(host) #show profile-list interface-profile mirroring-profile
```

Mirroring profile List

```
-----  
Name       References  Profile Status  
-----  
profile2   0  
Total:1
```

## Related Commands

Command	Description
<a href="#">show interface-profile</a>	This command displays a list of of interface profiles for the specified profile type.

## Command History

Release	Modification
ArubaOS 7.0	Command introduced

## show profile-list vlan

```
show profile-list vlan [page] [start]
```

### Description

Use this command to display a list of VLAN profiles.

### Syntax

Parameter	Description
page	Number of items to display.
start	Index number of first item to display.

### Example

The output of the command in this example shows a list of VLAN profiles. The **References** column lists the number of other profiles with references to the VLAN profile, and the **Profile Status** column indicates whether the profile is predefined. User-defined profiles will not have an entry in the **Profile Status** column.

```
(host) #show profile-list vlan
VLAN List
-----
Name   References  Profile Status
----  -
1      0
10     0
Total:2
```

### Related Commands

Command	Description
<a href="#">interface vlan</a>	This command creates the VLAN interface for the switch.

### Command History

Release	Modification
ArubaOS 7.0	Command introduced

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable Mode



## show qos-profile trusted

```
show qos-profile trusted [<profile-name> | output modifiers]
```

### Description

Use the show qos-profile trusted command in enable mode to display QoS profile information.

### Example

The example below shows the QoS profile information.

```
(svl_techpubs)(config) #show qos-profile trusted
```

```
Default Trusted QoS Profiles
-----
Name          TC   DP   DSCP (Upd)  Dot1p (Upd)  Token
-----
def-dscp-0    0   0    0 (n)       0 (n)        0t5r
def-dscp-1    0   0    0 (n)       0 (n)        1
def-dscp-2    0   0    0 (n)       0 (n)        2
def-dscp-3    0   0    0 (n)       0 (n)        3
def-dscp-4    0   2    0 (n)       0 (n)        4
def-dscp-5    0   2    0 (n)       0 (n)        5
def-dscp-6    0   2    0 (n)       0 (n)        6
def-dscp-7    0   2    0 (n)       0 (n)        7
```

The output of this command includes the following parameters:

Parameter	Description
Name	Name of QoS profile.
TC	Traffic Classification (0-7)
DP	Drop Precedence (0-2)
DSCP (Upd)	DSCP Rewrite Value (Flag to indicate DSCP value should be rewritten.)
Dot1p (Upd)	Dot1P Rewrite Value (Flag to indicate DSCP value should be rewritten.)
Token	Internal use only.

### Command History

Release	Modification
ArubaOS 7.1	Command introduced.

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable

## show references

```
show references
  aaa
  gvrp
  interface {gigabitethernet|mgmt|port-channel|vlan} [<profile-name>]
  interface-group gigabitethernet <group-name>
  interface-profile {enet-link-profile|lACP-profile|lldp-profile|mstp-profile|poe-
  profile|tunneled-node-profile} <profile-name>
  ip dhcp pool <profile-name> [page] [start]
  ip-profile <profile-name>
  ipv6-profile [page] [start]
  lACP <profile-name>
  lcd-menu [page] [start]
  mstp <profile-name>
  poe-management-profile slot <slot>
  policer-profile <profile-name>
  qos-profile <profile-name>
  rmon
  router
  service
  spanning-tree
  stack-profile
  time-range-profile
  traceoptions <profile-name>
  user-role <role_name>
  vlan <vlan>
  vlan-profile {igmp-snooping-profile|pvst-profile} [<profile-name>]
  web-server [page][start]
```

### Description

This command displays the list of references to the specified interface or profile.

### Syntax

Parameter	Description
interface	Display the list of references to an individual interface.
gigabitethernet <profile-name>	Display references to the specified Gigabit Ethernet interface.
mgmt <profile-name>	Display references to the specified management interface.
port-channel <profile-name>	Display references to the specified port-channel interface.
vlan <profile-name>	Display references to the specified VLAN.
interface-group gigabitethernet <group-name>	Displays the list of references to a Gigabit Ethernet group profile.
interface-profile	Display the list of references to an interface profile.

Parameter	Description
enet-link-profile <profile-name>	Display references to the specified Ethernet link profile.
lacp-profile <profile-name>	Display references to the specified LACP profile.
lldp-profile <profile-name>	Display references to the specified LLDP profile.
mstp-profile <profile-name>	Display references to the specified MSTP profile.
poe-profile <profile-name>	Display references to the specified PoE profile.
tunneled-node-profile <profile-name>	Display references to the specified tunneled node profile.
ip dhcp <pool>	Display references to a dhcp server profile.
ip-profile <profile-name>	Display references to the specified.
ipv6-profile	Display references to the ipv6-profile.
page	Number of items to display.
start	Index of first item to display.
lacp <profile-name>	Display references to the specified.
lcd-menu	Enable or disable LCD menus.
page	Number of items to display.
start	Index of first item to display.
mstp <profile-name>	Display references to the specified MSTP profile.
poemanagement member-id <member-id>	Displays the list of references to the PoE management profile. <b>NOTE:</b> The stack member-ID is always 0, as stacking support is not available in this release.
policer-profile <profile-name>	Display references to the specified policer profile.
qos-profile <profile-name>	Display references to the specified QoS profile.
rmon	Display the references to the specified remote monitoring parameters.
alarm	Display the references to the parameters of alarm entry
alarm-profile	Display the references to the alarm profile
etherstat	Display the references to the parameters of etherstat entry
event	Display the references to the parameters of event entry
history	Display the references to the parameters of history entry

Parameter	Description
router	Display the references to the following qprofiles: <ul style="list-style-type: none"> <li>Global OSPF profile</li> <li>Global PIM profile</li> </ul>
service	Display references to one of the following services: <ul style="list-style-type: none"> <li>DHCP</li> <li>RMON</li> </ul>
spanning-tree	Display references to Spanning Tree.
stack-profile	Display references to stack-profile
time-range-profile	Displays a time-range-profile.
traceoptions <profile-name>	Display references to the specified trace options profile.
user-role <role_name>	Displays the access rights for a particular user role.
vlan <vlan>	Displays references to a vlan.
vlan-profile	Displays vlan profile references.
igmp-snooping profile	Show references to an igmp-snooping-profile.
mld-snooping-profile	Show references to an mld-snooping-profile.
pvst-profile	Show references to a pvst-profile.
web-server	Displays web server configuration.
page	Number of items to display.
start	Index of first item to display.

## Example

The example below shows that the interface port-channel 1 and the Gigabit Ethernet interface group **default** reference the **default** MSTP profile.

```
(host) #show references interface-profile mstp-profile default

References to Interface MSTP "default"
-----
Referrer                               Count
-----                               -
interface port-channel "1" mstp-profile 1
interface-group gigabitethernet "default" mstp-profile 1
Total References:2
```

The output of the command in the example below shows that VLAN 1 and VLAN 7 both reference the IGMP snooping profile **default**.

```
(host) #show references vlan-profile igmp-snooping-profile igmp-snooping-factory-initial
References to igmp-snooping-profile "default"
-----
Referrer                               Count
```

```

-----
vlan "7" igmp-snooping-profile 1
vlan "1" igmp-snooping-profile 1
Total References:2

```

The command below is an example for viewing references

```
(host) show references vlan-profile mld-snooping-profile default
```

```
References to mld-snooping-profile "default"
```

```

-----
Referrer                                Count
-----
vlan "1" mld-snooping-profile          1
vlan "1111" mld-snooping-profile       1
Total References:2

```

The example below shows that the interface-group **default** makes a single reference to the LLDP profile **lldp-factory-initial**.

```
(host) #show references interface-profile lldp-profile lldp-factory-initial
```

```
References to LLDP Profile "lldp-factory-initial"
```

```

-----
Referrer                                Count
-----
interface-group gigabitethernet "default" lldp-profile 1
Total References:1

```

The example below shows that the interface port-channel **1** and the Gigabit Ethernet interface group **default** reference the mirroring profile **profile2**:

```
(host) #show references interface-profile mirroring-profile profile2
```

```
References to Mirroring profile "profile2"
```

```

-----
Referrer                                Count
-----
interface port-channel "1" mirroring-in-profile          1
interface-group gigabitethernet "default" mirroring-in-profile 1
Total References:2

```

The example below shows that the interface port-channel **1** and the Gigabit Ethernet interface groups **corpadm**, **backup** and **branch\_2** all reference the **lacp1** LACP profile.

```
(host) #show references interface-profile lacp-profile lacp1
```

```
References to LACP profile "lacp1"
```

```

-----
Referrer                                Count
-----
interface port-channel "1" lacp-profile                    1
interface-group gigabitethernet "corpadm" lacp-profile    1
interface-group gigabitethernet "backup" lacp-profile     1
interface-group gigabitethernet "branch_2" lacp-profile   1
Total References:4

```

The output of the command in the example below shows that three interfaces reference the tunneled node profile **tunnel1**.

```
(host)#show references interface-profile tunneled-node-profile tunnel1
```

```
References to Tunneled Node Server profile "tunnel1"
```

```

-----
Referrer                                Count
-----
interface gigabitethernet "0/0/6" tunneled-node-profile 1

```

```
interface gigabitethernet "0/0/7" tunneled-node-profile 1
interface gigabitethernet "0/0/8" tunneled-node-profile 1
Total References:3
```

The first example below shows that the port-channel interface 1 and the Gigabit Ethernet interface groups **default**, **mgt** and **corporate** all reference the default switching profile. The second example shows that no interfaces or interface groups reference vlan 16.

```
(host) #show references interface-profile switching-profile default
References to switching profile "default"
-----
Referrer                                     Count
-----
interface port-channel "0" switching-profile 1
interface-group gigabitethernet "default" switching-profile 1
interface-group gigabitethernet "Mgt" switching-profile 1
interface-group gigabitethernet "corporate" switching-profile 1
Total References:4
```

```
(host) #show references vlan 16
References to VLAN "16"
-----
Referrer Count
-----
Total References:0
```

## Command History

Release	Modification
ArubaOS 7.0	Command introduced

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable Mode

## show rights

```
show rights [<name-of-a-role>]
```

### Description

Displays the list of user roles in the roles table with high-level details of role policies. To view role policies of a specific role, specify the role name.

### Syntax

Parameter	Description
name-of-a-role	Enter the role name to view its policy details.

### Example

The output of the **show rights** command shows the list of roles in the roles table.

```
(host) #show rights
RoleTable
-----
Name                ACL  ACL List                                Type
----                -
Employee_1          61
Role1                45
Role3                47
ap-role              49
authenticated        6   allowall-stateless/
default              51
denyall              17   denyall-stateless/
denydhcp             22   denydhcp/
employee             53   mDNS_redirect/
guest                4    http-acl-stateless/,
                    https-acl-stateless/,
                    dhcp-acl-stateless/,
                    icmp-acl-stateless/,
                    dns-acl-stateless/
guest-logon          55
logon                 1    logon-control-stateless/
preauth              15
stateful-dot1x       57
test                 59
```

The following command shows the policy details for the role 'logon'.

```
(host) # show rights logon
Derived Role = 'logon'
  Periodic reauthentication: Disabled
  Deny inter-user traffic: Enabled
  ACL Number = 2/0/3
access-list List
-----
Position  Name                Type      Location
-----  ----
1         logon-control-stateless  stateless
logon-control-stateless
-----
Priority  Source  Destination  Service  Action  TimeRange  Log  Expired  QoS
-----  -
-----  -
-----  -
-----  -
```

```

1      user  any      udp 68  deny
2      any   any      svc-icmp permit
3      any   any      svc-dns  permit
4      any   any      svc-dhcp permit
5      any   any      svc-natt permit

```

```

Policer  Blacklist Mirror IPv4
-----  -

```

```

4
4
4
4
4

```

Expired Policies (due to time constraints) = 0

## Command History

Release	Modification
ArubaOS 7.0	Command introduced.
ArubaOS 7.4	The <b>Deny inter-user traffic</b> status information was added to the output.

## Command Information

Platform	License	Command Mode
Mobility Access Switch	Base operating system	Enable or Configuration mode



## show rmon alarms

```
show rmon alarms {brief | entry <index>}
```

### Description

This command is used to display the alarms on the device either briefly or detailed on alarm entry index basis.

### Example

```
(host)# show rmon alarms brief
```

```
Total: 1 entry
```

```
RMON Alarm Table:
```

```
-----  
RMON Alarm Table  
-----
```

Alarm Index	Variable	Rising Threshold Value	Falling Threshold Value	Owner
1	ifInErrors.8	10	0	config

```
(host) #show rmon alarms entry 1
```

```
Alarm 1 is active, owned by config  
  Monitors ifHCInMulticastPkts.1 every 10 seconds  
  Taking delta sample, last value was 0  
  Rising threshold value is 300, assigned to event 1  
  Falling threshold value is 100, assigned to event 1
```

### Command History

Release	Modification
ArubaOS 7.1.3	Command introduced

### Command Information

Platform	License	Command Mode
Mobility Access Switch	Base operating system	Enable and Configuration Modes

## show rmon alarm-oid

```
show rmon alarm-oid
```

### Description

This command is used to list the alarm-oids supported on a device to use as an alarm variable.

### Example

The following example displays the alarm-oids supported on a device to use as an alarm variable:

```
(host)#show rmon alarm-oid
```

```
Supported OID List
```

```
-----
```

Object Name	Object Identifier
-----	-----
ifOutOctets	1.3.6.1.2.1.2.2.1.16
ifInUcastPkts	1.3.6.1.2.1.2.2.1.11
ifOutUcastPkts	1.3.6.1.2.1.2.2.1.17
ifOutBroadcastPkts	1.3.6.1.2.1.31.1.1.1.5
ifInErrors	1.3.6.1.2.1.2.2.1.14
ifHCInOctets	1.3.6.1.2.1.31.1.1.1.6
ifHCInUcastPkts	1.3.6.1.2.1.31.1.1.1.7
ifHCInMulticastPkts	1.3.6.1.2.1.31.1.1.1.8
ifHCOutMulticastPkts	1.3.6.1.2.1.31.1.1.1.12
ifHCOutBroadcastPkts	1.3.6.1.2.1.31.1.1.1.13

### Command History

Release	Modification
ArubaOS 7.1.3	Command introduced

### Command Information

Platform	License	Command Mode
Mobility Access Switch	Base operating system	Enable and Configuration Mode (config)

## show rmon-config alarm

```
show rmon-config alarm [index]
```

### Description

This command displays all the alarms in the system.

### Example

The following example displays all the alarms in the system:

```
(host) #show rmon-config alarm
```

```
alarm List
-----
Name  References  Profile Status
----  -
1     0
3     0
Total:2
```

```
(host) #show rmon-config alarm 1
```

```
alarm "1"
-----
Parameter                               Value
-----
RMON Alarm Profile                       all
OID to monitor                           ifHCOutBroadcastPkts.8
Owner of this alarm entry                 config
```

### Command History

Release	Modification
ArubaOS 7.1.3	Command introduced

### Command Information

Platform	License	Command Mode
Mobility Access Switch	Base operating system	Enable and Configuration Modes

## show rmon-config alarm-profile

```
show rmon-config alarm-profile [profile-name]
```

### Description

This command displays all the alarm-profiles existing in the system.

### Example

The following example displays all the alarm-profiles existing in the system:

```
(host) #show rmon-config alarm-profile
```

```
alarm profile List
-----
Name  References  Profile Status
----  -
all   1
Total:1
```

```
(host) #show rmon-config alarm-profile all
```

```
alarm profile "all"
-----
Parameter                               Value
-----
Interval at which samples need to be taken 10
Alarm sample type                          delta
Rising threshold against which to compare the value 10
Falling threshold against which to compare the value 0
Rising event index                          1
Falling event index                          1
Initial alarm (rising, falling, or either)  rising-or-falling
```

### Command History

Release	Modification
ArubaOS 7.1.3	Command introduced

### Command Information

Platform	License	Command Mode
Mobility Access Switch	Base operating system	Enable and Configuration Modes

## show rmon-config etherstat

```
show rmon-config etherstat [index]
```

### Description

This command displays all the etherstat entries that exist in the system.

### Example

The following command displays all the etherstat entries that exist in the system.:

```
(host) #show rmon-config etherstat
```

```
Etherstat index List
-----
Name  References  Profile Status
----  -
1     0
2     0
3     0
Total:3
```

```
(host) #show rmon-config etherstat 1
```

```
Etherstat index "1"
-----
Parameter                               Value
-----
OID to monitor                           ifIndex.19
Owner of this etherstat entry            config
```

### Command History

Release	Modification
ArubaOS 7.1.3	Command introduced

### Command Information

Platform	License	Command Mode
Mobility Access Switch	Base operating system	Enable and Configuration Modes

## show rmon-config event

```
show rmon-config event [index]
```

### Description

This command is used to display the configuration done for a specific event index.

### Example

The following example displays the configuration done for an event:

```
(host) #show rmon-config event

Event index List
-----
Name  References  Profile Status
----  -
1     2
Total:1
```

The following example displays the configuration done for a specific event index:

```
(host) #show rmon-config event 1

Event index "1"
-----
Parameter                               Value
-----
Description of the event                 rmon_event
Owner of the event                      config
Type of the event                       log-and-trap
```

### Command History

Release	Modification
ArubaOS 7.1.3	Command introduced

### Command Information

Platform	License	Command Mode
Mobility Access Switch	Base operating system	Enable and Configuration Modes

## show rmon-config history

```
show rmon-config history [index]
```

### Description

This command is used to display all the history entries that exist in the system.

### Example

The following example displays all the history entries that exist in the system:

```
(host) #show rmon-config history
```

```
History index List
-----
Name  References  Profile Status
----  -
1     0
10    0
Total:2
```

The following example displays history entry for a specific index entry:

```
(host) #show rmon-config history 1
```

```
History index "1"
-----
Parameter                               Value
-----
Number of samples                        50
Interval of each sample                  1800
OID to monitor                           ifIndex.455
Owner of this history entry              config
```

### Command History

Release	Modification
ArubaOS 7.1.3	Command introduced

### Command Information

Platform	License	Command Mode
Mobility Access Switch	Base operating system	Enable and Configuration Modes

## show rmon etherstat entry

```
show rmon etherstat entry <index>
```

### Description

Displays the etherstat entries for a particular interface indexed by an etherstat index.

### Example

```
(host) #show rmon etherstat entry 1
```

```
RMON etherstat Entry 1 is Active, and owned by config  
Monitors gigabitethernet0/0/18 from 2-22-2012@03-59-01
```

Statistics:

```
Received 0 octets, 0 packets  
0 broadcast, 0 multicast packets  
0 oversized packets, 0 fragments, 0 jabbers  
0 CRC alignment errors, 0 collisions  
Number of dropped packet events is 0
```

### Command History

Release	Modification
ArubaOS 7.1.3	Command introduced

### Command Information

Platform	License	Command Mode
Mobility Access Switch	Base operating system	Enable and Configuration Mode (config)



## show rmon event-table

```
show rmon event-table
```

### Description

This command is used to display the event-table details.

### Example

The following example lists the event-table details:

```
(host) #show rmon event-table
```

```
RMON Event Table:
```

```
-----  
Event Index  Type                Last Seen          Description        Owner  
-----  
1            log                 -                 rmon_event        config  
2            log and Trap        -                 rmon_event        config  
3            trap                3-8-2012@08-54-34 rmon_event        config
```

### Command History

Release	Modification
ArubaOS 7.1.3	Command introduced

### Command Information

Platform	License	Command Mode
Mobility Access Switch	Base operating system	Enable and Configuration Mode (config)

## show rmon history

```
show rmon history {brief | entry <index>}
```

### Description

This command is used to display the history table either briefly or detailed on history entry index basis.

### Example

The following examples displays the history table either briefly or detailed on history entry index basis.

```
(host)#show rmon history brief
```

```
Total: 1 entry
```

```
RMON History Table
```

```
-----  
History Index  Interface                Octets  Pkts   Bcast Pkts  MCast Pkts  Utilization  
-----  
1              gigabitethernet0/0/1  1323196  19594  0            19554        17
```

```
(host) #show rmon history entry 1
```

```
Entry 1 is active, and owned by config  
  Monitors gigabitethernet0/0/0 every 1800 seconds  
  Buckets requested 50, Buckets granted 50  
  0 sample(s) created
```

### Command History

Release	Modification
ArubaOS 7.1.3	Command introduced

### Command Information

Platform	License	Command Mode
Mobility Access Switch	Base operating system	Enable and Configuration Modes

## show rmon history number

```
show rmon history [entry] [count]
```

### Description

This command is used to display the number of latest samples for this history entry.

### Example

The following example displays the number of latest samples for this history entry:

```
(host) #show rmon history entry 1 count 2
```

```
Entry 1 is active, and owned by config
  Monitors gigabitethernet0/0/1 every 8 seconds
  Requested number of timer intervals 3
  Granted number of timer intervals 3
  3 sample(s) created
```

```
Sample 509:
  Began measuring at 2-22-2012@05-06-52
  Received 1447269 octets, 21438 packets
  0 broadcast, 21398 multicast packets
  0 oversized packets, 0 fragments, 0 jabbers
  0 CRC alignment errors, 0 collisions
  Number of dropped packet events is 0
  Network utilization is estimated at 18
```

```
Sample 508:
  Began measuring at 2-22-2012@05-06-44
  Received 1453462 octets, 21502 packets
  0 broadcast, 21451 multicast packets
  0 oversized packets, 0 fragments, 0 jabbers
  0 CRC alignment errors, 0 collisions
  Number of dropped packet events is 0
  Network utilization is estimated at 18
```

### Command History

Release	Modification
ArubaOS 7.1.3	Command introduced

### Command Information

Platform	License	Command Mode
Mobility Access Switch	Base operating system	Enable and Configuration Mode (config)

## show rmon log-table

```
show rmon log-table
```

### Description

This command is used to display the log-table details.

### Example

The following example displays the log-table details:

```
(host) #show rmon log-table
```

```
RMON Log Table:
```

```
-----  
Log Id  Event Id  Creation Time      Description  
-----  -  
3       2          3-17-2012@20-35-33  Falling threshold log: ifInUcastPkts.455  
2       2          3-17-2012@20-35-33  Falling threshold log: ifHCInOctets.455  
8       3          3-17-2012@20-35-23  Rising threshold log: ifInUcastPkts.455  
1       2          3-17-2012@20-35-13  Falling threshold log: ifInUcastPkts.455  
7       3          3-17-2012@20-35-03  Rising threshold log: ifInUcastPkts.455  
6       3          3-17-2012@20-34-53  Rising threshold log: ifHCInOctets.455  
5       3          3-17-2012@20-32-07  Rising threshold log: ifInUcastPkts.455  
4       3          3-15-2012@21-03-07  Rising threshold log: ifInUcastPkts.455  
3       3          3-15-2012@21-02-27  Rising threshold log: ifInUcastPkts.455  
2       3          3-15-2012@21-01-57  Rising threshold log: ifInUcastPkts.455  
1       3          3-15-2012@21-01-17  Rising threshold log: ifInUcastPkts.455
```

### Command History

Release	Modification
ArubaOS 7.1.3	Command introduced

### Command Information

Platform	License	Command Mode
Mobility Access Switch	Base operating system	Enable and Configuration Modes

## show rmon log-table event

```
show rmon log-table event <event-id> log <log-id>
```

### Description

This command displays the the detailed information of a log entry.

### Example

The following example displays the log-table details based on an event and log index:

```
(host) #show rmon log-table event 1 log 2
Log Id: 2, Event Id: 1
  Created by alarm entry index 2, for OID : ifOutOctets.4
  Alarm value 705, with rising threshold 10
  Alarm sample type delta

(host) #show rmon log-table event 2 log 2
Log Id: 2, Event Id: 2
  Created by alarm entry index 2, for OID : ifOutOctets.4
  Alarm value 0, with falling threshold 0
  Alarm sample type delta
```

### Command History

Release	Modification
ArubaOS 7.1.3	Command introduced

### Command Information

Platform	License	Command Mode
Mobility Access Switch	Base operating system	Enable and Configuration Modes

# show rogue-ap-containment

show rogue-ap-containment

## Description

View the rogue AP containment configuration.

## Example

The example below displays the default rogue AP containment configuration.

```
(host) #show rogue-ap-containment
  rogue-ap-containment "default"
-----
Parameter              Value
-----
Rogue AP Containment   Enabled
Action                  default
Auto Recovery Time     300
```

## Related Command

Command	Description
<a href="#">rogue-ap-containment</a>	Configure the rogue AP containment actions.

## Command History

Release	Modification
ArubaOS 7.4	Command introduced

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable and Configuration Modes (config)

# show router ospf

show router ospf

## Description

View the global OSPF profile configuration.

## Example

The example below displays the OSPF profile named "default" parameters.

```
(host) (config) #show router ospf

Global OSPF profile "default"
-----
Parameter          Value
-----
State               Enabled
Area                0.0.0.0
Area                1.1.1.1
Router-id           2.2.2.2
Redistribute vlan 2
```

## Related Command

Command	Description
<a href="#">router ospf</a>	Configure the global OSPF parameters.
<a href="#">interface-profile ospf-profile</a>	Configures a named OSPF interface profile

## Command History

Release	Modification
ArubaOS 7.1.1	Command introduced

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable and Configuration Modes (config)

## show snmp community

```
show snmp community
```

### Description

Displays the SNMP community string details.

### Syntax

No parameters.

### Example

The output of this command shows the community strings stored on the Mobility Access Switch.

```
(host) # show snmp community
```

```
SNMP COMMUNITIES
-----
COMMUNITY      ACCESS      VERSION
-----
no_auth_user   READ_ONLY  V1, V2C
public READ_ONLY V1
```

### Command History

Release	Modification
ArubaOS 7.0	Command introduced

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable or Configuration Mode



# show snmp context

show snmp context

## Description

Displays the list of context names configured on the Mobility Access Switch.

## Syntax

No parameters.

## Example

The output of this command shows slot details on the Mobility Access Switch.

```
(host) #show snmp context

SNMP Contexts Count: 2

SNMP Contexts
-----
Context Name
-----
""                (Default Context)
V3_context
```

## Command History

Release	Modification
ArubaOS 7.1.3	Command introduced

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable or Configuration Mode

## show snmp engine-id

show snmp engine-id

### Description

Displays the configured SNMP engine ID.

### Syntax

No parameters.

### Example

The output of this command shows the configured SNMP engine ID:

```
(host) #show snmp engine-id
```

```
SNMP engine ID: 000039e7000000a10a115e01 (Factory Default)
```

### Command History

Release	Modification
ArubaOS 7.0	Command introduced

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable or Configuration Mode

## show snmp group-snmp

show snmp group-snmp

### Description

Displays the View Access Group information populated from the snmpd process.

### Syntax

No parameters.

### Example

The output of this command displays the configured View Access groups populated from the snmpd process:

```
host) #show snmp group-snmp
```

```
SNMP Groups Count: 11
```

```
SNMP Groups
```

```
-----  
Group Name      Security Model  Read View  Notify View  Context Name  Context Type  
-----  
gr1              v1-noAuthNoPriv view1      view1        ""            -  
gr1              v2-noAuthNoPriv view1      view1        ""            -  
gr1              v3-authPriv    Not Set    Not Set      ""            -  
gr1              v3-noAuthNoPriv Not Set    Not Set      abcd          exact  
gr2              v1-noAuthNoPriv ALL        Not Set      ""            -  
gr3              v3-authPriv    Not Set    Not Set      ""            -  
ALLPRIV         v1-noAuthNoPriv ALL        ALL          ""            -  
ALLPRIV         v2-noAuthNoPriv ALL        ALL          ""            -  
ALLPRIV         v3-noAuthNoPriv ALL        ALL          ""            -  
AUTHPRIV        v3-authPriv    ALL        ALL          ""            -
```

### Command History

Release	Modification
ArubaOS 7.1.3	Command introduced

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable or Configuration Mode

# show snmp group-trap

show snmp group-trap

## Description

Displays the View Access Group information populated from the trapd process.

## Syntax

No parameters.

## Example

The output of this command displays the configured View Access groups populated from the trapd process:

```
host) #show snmp group-trap
```

```
SNMP Groups Count: 15
```

```
SNMP Groups
```

Group Name	Security Model	Read View	Notify View	Context Name	Context Type
gr1	v1-noAuthNoPriv	view1	view1	""	-
gr1	v2-noAuthNoPriv	view1	view1	""	-
gr1	v3-authPriv	Not Set	Not Set	""	-
gr1	v3-noAuthNoPriv	Not Set	Not Set	abcd	exact
gr2	v1-noAuthNoPriv	ALL	Not Set	""	-
gr3	v3-authPriv	Not Set	Not Set	""	-
abcd	v1-noAuthNoPriv	Not Set	ALL	""	-
abcd	v2-noAuthNoPriv	Not Set	ALL	""	-
public	v1-noAuthNoPriv	Not Set	ALL	""	-
public	v2-noAuthNoPriv	Not Set	ALL	""	-
ALLPRIV	v1-noAuthNoPriv	ALL	ALL	""	-
ALLPRIV	v2-noAuthNoPriv	ALL	ALL	""	-
ALLPRIV	v3-noAuthNoPriv	ALL	ALL	""	-
AUTHPRIV	v3-authPriv	ALL	ALL	""	-

## Command History

Release	Modification
ArubaOS 7.1.3	Command introduced

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable or Configuration Mode

## show snmp inform stats

```
show snmp inform stats
```

### Description

Displays the SNMP inform statistics.

### Syntax

No parameters.

### Example

The output of this command shows the SNMP inform statistics.

```
(host) # show snmp inform stats
```

```
Inform queue size is 250
```

```
SNMP INFORM STATS
```

```
-----  
HOST          PORT  VERSION  INFORMS-INQUEUE  OVERFLOW  TOTAL INFORMS  
-----  
10.13.14.61   4050  V3       0                 FALSE     0  
10.13.14.61   162   V2C      0                 FALSE     0  
10.13.14.61  4050  V2C      0 FALSE 0
```

### Command History

Release	Modification
ArubaOS 7.0	Command introduced

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable or Configuration Mode

## show snmp notify filter profile-name

```
show snmp notify filter profile-name
```

### Description

Displays the SNMP target profile names.

### Syntax

No parameters.

### Example

The output of this command shows the SNMP target profile names.

```
(host) #show snmp notify filter profile-name
```

```
SNMP Target Profile Count: 6
```

```
Profile Name
```

```
-----
```

```
Trap Target Profile Name
```

```
-----
```

```
1.1.1.1_1_162_p  
10.10.10.10_1_162_p  
10.13.34.150_2_4050_p  
10.13.6.66_3_162_p  
10.13.6.70_1_4050_p  
10.13.6.70_2_4050_p
```

The following example displays the SNMP target profile details by a specific profile name:

```
(host) #show snmp notify filter profile-name 10.13.6.70_1_4050_p
```

```
Details for Target Profile:
```

```
10.13.6.70_1_4050_p  
  Target IP: 10.13.6.70, UDP Port: 4050, Version: 1
```

```
  Trap Filter Included:
```

```
    risingAlarm  
    fallingAlarm  
    wlsxStackTopologyChangeTrap
```

```
wlsxStackIfStateChangeTrap
```

### Command History

Release	Modification
ArubaOS 7.1.3	Command introduced

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable or Configuration Mode

# show snmp trap-group

show snmp trap-group

## Description

Displays the list of trap filter groups that can be applied while configuring trap hosts. You can also view the traps associated with a specific trap filter.

## Syntax

No parameters.

## Example

The output of this command shows the list of trap filter groups that can be associated during trap host configuration.

```
(host) #show snmp trap-group
```

```
Trap Group Count: 8
```

```
Trap Group Name
```

```
-----
```

```
Trap Group Name
```

```
-----
```

```
generic  
stacking  
rmon  
ptopo  
system  
snmp  
auth  
vlan
```

The following example displays the details of a specific trap group:

```
(host) #show snmp trap-group rmon
```

```
Supported Traps under group: rmon
```

```
    risingAlarm  
    fallingAlarm
```

## Command History

Release	Modification
ArubaOS 7.1.3	Command introduced

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable or Configuration Mode

# show snmp trap-hosts

show snmp trap-hosts

## Description

Displays the configured SNMP trap hosts.

## Syntax

No parameters.

## Example

The output of this command shows details of a SNMP trap host.

```
(host) # show snmp trap-hosts
```

```
Configured Source IP for Trap: 100.100.100.10
```

```
SNMP TRAP HOSTS
```

```
-----  
HOST          VERSION    SECURITY NAME  PORT  TYPE  TIMEOUT  RETRY  
-----  
10.16.14.1    SNMPv2c   public        162   Trap N/A  N/A
```

## Command History

Release	Modification
ArubaOS 7.0	Command introduced

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable or Configuration Mode



# show snmp trap-list

show snmp trap-list

## Description

Displays the list of SNMP traps.

## Syntax

No parameters.

## Example

The output of this command shows the list of SNMP traps and the status.

```
(host) # show snmp trap-list
```

```
SNMP TRAP LIST
-----
TRAP-NAME                                CONFIGURABLE  ENABLE-STATE
-----
authenticationFailure                    Yes           Enabled
coldStart                                Yes           Enabled
linkDown                                  Yes           Enabled
linkUp                                    Yes           Enabled
warmStart                                 Yes           Enabled
wlsxAPBssidEntryChanged                  Yes           Enabled
wlsxAPEntryChanged                       Yes           Enabled
wlsxAPImpersonation                     Yes           Enabled
wlsxAPInterferenceCleared                Yes           Enabled
wlsxAPInterferenceDetected              Yes           Enabled
wlsxAPRadioAttributesChanged            Yes           Enabled
wlsxAPRadioEntryChanged                  Yes           Enabled
wlsxAccessPointIsDown                   Yes           Enabled
wlsxAccessPointIsUp                     Yes           Enabled
wlsxAdhocNetwork                         Yes           Enabled
wlsxAdhocNetworkBridgeDetected          Yes           Enabled
wlsxAdhocNetworkBridgeDetectedAP       Yes           Enabled
...
...
wlsxFanOK                                Yes           Enabled
wlsxFanTrayInserted                     Yes           Enabled

--More-- (q) quit (u) pageup (/) search (n) repeat
```

## Command History

Release	Modification
ArubaOS 7.0	Command introduced

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable or Configuration Mode

# show snmp trap-queue

show snmp trap-queue

## Description

Displays the list of SNMP traps in queue.

## Syntax

No parameters.

## Example

The output of this command shows the list of generated traps in the Agent.

```
(host) # show snmp trap-queue
```

```
2012-03-20 03:05:33 Switch Cold Started
2012-03-20 03:05:33 Enterprise cold start trap.
2012-03-20 03:05:33 Power supply 1 is missing

2012-03-20 03:05:33 Link 150994944 is up. Admin status is 1; oper status is 1
...
...
```

```
Total traps in the queue : 40
```

```
Total traps generated on the device : 40
```

## Command History

Release	Modification
ArubaOS 7.0	Command introduced

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable or Configuration Mode

## show snmp user-table

show snmp user-table

### Description

Displays the list of SNMP user entries created on the SNMP Agent.

### Syntax

Parameter	Description
auth-prot	Authentication protocol for the user, either HMAC-MD5-98 Digest Authentication Protocol (MD5) or HMAC-SHA-98 Digest Authentication Protocol (SHA), and the password for use with the designated protocol.
priv-prot	Privacy protocol for the user, either Advanced Encryption Standard (AES) or CBC-DES Symmetric Encryption Protocol (DES), and the password for use with the designated protocol.

### Example

The output of this command shows the list of SNMP users.

```
(host) # show snmp user-table
```

```
SNMP USER TABLE
```

```
-----
```

User	Auth-Protocol	Priv-Protocol	Flags	Group
----	-----	-----	-----	-----
V3_user	MD5	AES		gr3
allpriv_user	NONE	NONE		ALLPRIV
version_3	NONE	NONE		ALLPRIV

### Command History

Release	Modification
ArubaOS 7.0	Command introduced

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable or Configuration Mode

## show snmp view

show snmp view

### Description

Displays the View information with the included and excluded OID details.

### Syntax

No parameters.

### Example

The output of this command shows the View information with the included and excluded OID details.

```
(host) # show snmp view
```

```
SNMP Views Count: 5
```

```
SNMP Views
```

```
-----  
View Name  OID Tree          OID Tree Type  Storage Type  OID Mask  
-----  
ALL        iso               included       nonVolatile   FF  
view1      ifTable          included       nonVolatile   FF  
view1      ifName           included       nonVolatile   FF:FF  
view1      ifName.0         excluded       nonVolatile   FF:EF
```

```
view1 ifInMulticastPkts.0 excluded nonVolatile FF:EF
```

### Command History

Release	Modification
ArubaOS 7.1.3	Command introduced

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable or Configuration Mode

# show spanning-tree

show spanning-tree [detail]

## Description

View the spanning tree information or optionally view the details of the set spanning tree.

## Syntax

Parameter	Description
detail	Enter the keyword <b>detail</b> to view all the MSTP or PVST VLAN information.

## Example

The following output is a summary of the current spanning tree.

```
(host) #show spanning-tree

MST 0
Root ID          Address: 0019.0655.3a80, Priority: 4097
Regional Root ID Address: 000b.866c.3200, Priority: 16384
Bridge ID        Address: 000b.866c.3200, Priority: 16384
External root path cost 40000, Internal root path cost 0

Interface  Role      State  Port Id  Cost  Type
-----
GE0/0/1    Desg     FWD    128.2    20000 P2p
GE0/0/2    Loop-Inc BLK    128.3    20000 P2p Bound
GE0/0/22   Root     FWD    128.23   20000 P2p
```

The example below includes more details of the current spanning tree.

```
(host)(config) #show spanning-tree detail

MST 0

vlans mapped      : 3,7
Configuration Digest : 0xED285086D33012C7D2B283FB89730D4D

Root ID          Address: 000b.866a.f240, Priority: 32768
Regional Root ID Address: 000b.866a.f240, Priority: 32768
Bridge ID        Address: 000b.866a.f240, Priority: 32768
External root path cost 0, Internal root path cost 0
Interface  Role  State  Port Id  Cost  Type
-----
GE0/0/23   Desg  FWD    128.24   20000 P2p
GE1/0/22   Desg  FWD    128.167  20000 P2p
GE1/0/23   Bkup  BLK    128.168  20000 P2p
GE2/0/23   Bkup  BLK    128.312  20000 P2p

MST 4

vlans mapped      : 1
Root ID          Address: 000b.866a.f240, Priority: 32768
Bridge ID        Address: 000b.866a.f240, Priority: 32768
root path cost 0, remaining hops 20

Interface  Role  State  Port Id  Cost  Type
-----
GE0/0/23   Desg  FWD    128.24   20000 P2p
```

```
GE1/0/22  Desg  FWD  128.167  20000  P2p
GE1/0/23  Bkup  BLK  128.168  20000  P2p
GE2/0/23  Bkup  BLK  128.312  20000  P2p
(host) (config) #
```

## Command History

Release	Modification
ArubaOS 7.1	Command introduced

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable or Configuration Mode (config)

## show spanning-tree mstp interface all

```
show spanning-tree mstp interface all [detail]
```

### Description

View all the MSTP interfaces. Optionally, view all the detail of the MSTP interface.

### Example 1

```
(host)#show spanning-tree mstp interface all
```

```
GE0/0/23
Instance  Role  State  Port Id  Cost  Type
-----  -
MST 0     Desg  FWD     128.24  20000 P2p
MST 4     Desg  FWD     128.24  20000 P2p

GE1/0/22
Instance  Role  State  Port Id  Cost  Type
-----  -
MST 0     Desg  FWD     128.167 20000 P2p
MST 4     Desg  FWD     128.167 20000 P2p

GE1/0/23
Instance  Role  State  Port Id  Cost  Type
-----  -
MST 0     Bkup  BLK     128.168 20000 P2p
MST 4     Bkup  BLK     128.168 20000 P2p

GE2/0/23
Instance  Role  State  Port Id  Cost  Type
-----  -
MST 0     Bkup  BLK     128.312 20000 P2p
MST 4     Bkup  BLK     128.312 20000 P2p
```

The values in the output above are detailed in the table below.

Column	Description
Instance	The MST instance number.
Role	Master (Mstr), Designated (Desg), Alternate (Altn), Root.
State	Disabled, Forwarding (FWD), or Blocking (BLK).
Port Id	Port ID number.
Cost	The cost value configured.
Type	The link type: P2p (point to point) or non-point to point (shared).

### Example

```
(host)(config) #show spanning-tree detail

MST 0

vlans mapped          : 3,7
Configuration Digest : 0xED285086D33012C7D2B283FB89730D4D
```

```

Root ID          Address: 000b.866a.f240, Priority: 32768
Regional Root ID Address: 000b.866a.f240, Priority: 32768
Bridge ID        Address: 000b.866a.f240, Priority: 32768
External root path cost 0, Internal root path cost 0

```

```

Interface  Role  State  Port Id  Cost  Type
-----
GE0/0/23  Desg  FWD    128.24   20000 P2p
GE1/0/22  Desg  FWD    128.167 20000 P2p
GE1/0/23  Bkup  BLK    128.168 20000 P2p
GE2/0/23  Bkup  BLK    128.312 20000 P2p

```

MST 4

```

vlans mapped      : 1
Root ID          Address: 000b.866a.f240, Priority: 32768
Bridge ID        Address: 000b.866a.f240, Priority: 32768
root path cost 0, remaining hops 20

```

```

Interface  Role  State  Port Id  Cost  Type
-----
GE0/0/23  Desg  FWD    128.24   20000 P2p
GE1/0/22  Desg  FWD    128.167 20000 P2p
GE1/0/23  Bkup  BLK    128.168 20000 P2p
GE2/0/23  Bkup  BLK    128.312 20000 P2p
(host) (config) #

```

## Command History

Release	Modification
ArubaOS 7.0	Command introduced
ArubaOS 7.1	Added <b>spanning-tree</b> keyword to the command.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable and Configuration Mode (config)



# show spanning-tree mstp interface gigabitethernet

```
show spanning-tree mstp interface gigabitethernet <slot/module/port>
```

## Description

Display MSTP interface gigabitethernet settings for the slot/module/port.

## Syntax

Parameter	Description
<slot/module/port>	Enter the slot, module, port to view details.

## Example

```
(host) # show spanning-tree mstp interface gigabitethernet 0/0/1
```

Instance	Role	State	Port Id	Cost	Type
MST 0	Desg	FWD	128.2	20000	P2p

The values in the output above are detailed in the table below.

Column	Description
Instance	The instance number.
Role	Master (Mstr), Designated (Desg), Alternate (Altn).
State	Disabled, Forwarding (FWD), or Blocking (BLK).
Port ID	Port ID number.
Cost	The cost value configured.
Type	The link type: P2p (point to point) or non-point to point (shared).

## Command History

Release	Modification
ArubaOS 7.0	Command introduced
ArubaOS 7.1	Added <b>spanning-tree</b> keyword to the command.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable and Configuration Mode (config)

# show spanning-tree mstp interface port-channel

show spanning-tree mstp interface port-channel <id>

## Description

View MSTP port channel interface information.

## Syntax

Parameter	Description	Range	Default
<id>	Port Channel identification.	0 to 7	—

## Example (partial)

```
(host) #show spanning-tree mstp interface port-channel 1
```

```
Instance  Role  State  Port Id  Cost  Type
-----  -
MST 0    Altn  BLK    128.1442 10000 P2p
MST 1    Desg  FWD    128.1442 20000 P2p
MST 2    Altn  BLK    128.1442 20000 P2p
MST 3    Desg  FWD    128.1442 20000 P2p
MST 4    Altn  BLK    128.1442 20000 P2p
MST 5    Desg  FWD    128.1442 20000 P2p
MST 6    Altn  BLK    128.1442 20000 P2p
...
```

The values in the output above are detailed in the table below.

Column	Description
Instance	The instance number.
Role	Master (Mstr), Designated (Desg), Alternate (Altn).
State	Disabled, Forwarding (FWD), or Blocking (BLK).
Port Id	The Port ID number.
Cost	The cost value configured.
Type	The link type: P2p (point to point) or non-point to point (shared).

## Command History

Release	Modification
ArubaOS 7.0	Command introduced
ArubaOS 7.1	Added <b>spanning-tree</b> keyword to the command.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable and Configuration Mode (config)

## show spanning-tree mstp msti

```
show spanning-tree mstp msti [<msti>] | all] [detail]
```

### Description

Brief description of the command function.

### Syntax

Parameter	Description	Range	Default
<msti>	Enter the MST instance.	0 to 64	0
detail	Enter the keyword <b>detail</b> to display details of the specified instance.	—	—
all	Enter the keyword <b>all</b> to view all of the msti instances.	—	—

### Example

```
(host)#show spanning-tree mstp msti all
```

```
MST 0
Root ID          Address: 000b.866a.f240, Priority: 32768
Regional Root ID Address: 000b.866a.f240, Priority: 32768
Bridge ID        Address: 000b.866a.f240, Priority: 32768
External root path cost 0, Internal root path cost 0
```

```
Interface  Role  State  Port Id  Cost  Type
-----
GE0/0/23   Desg  FWD    128.24   20000 P2p
GE1/0/22   Desg  FWD    128.167  20000 P2p
GE1/0/23   Bkup  BLK    128.168  20000 P2p
GE2/0/23   Bkup  BLK    128.312  20000 P2p
```

```
MST 4
Root ID          Address: 000b.866a.f240, Priority: 32768
Bridge ID        Address: 000b.866a.f240, Priority: 32768
root path cost 0, remaining hops 20
```

```
Interface  Role  State  Port Id  Cost  Type
-----
GE0/0/23   Desg  FWD    128.24   20000 P2p
GE1/0/22   Desg  FWD    128.167  20000 P2p
GE1/0/23   Bkup  BLK    128.168  20000 P2p
GE2/0/23   Bkup  BLK    128.312  20000 P2p
```

```
(host)#
```

The values in the output above are detailed in the table below.

Column	Description
MST 0 / MST 4	Instance identification. MST 0 is the default instance.
Root ID	Root address and Priority.
Regional Root ID	Regional root address and Priority.
Bridge ID	Address and priority of the bridge that attaches to a LAN that is not in the same region.
External root path cost	External root path cost.
Internal root path cost	Internal root path cost.
Interface	Interface type plus slot number/network port/port number in <i>n/n/n</i> format. For example, GE0/0/23 is the interface gigabitethernet with a slot zero (0) on front-panel network port zero (0) at port number three (23). Interface/port numbering starts at 0.
Role	Master (Mstr), Designated (Desg), Alternate (Altn),
State	Disabled, Forwarding (FWD), or Blocking (BLK).
Port Id	The Port ID number.
Cost	The cost value configured.
Type	The link type: P2p (point to point) or non-point to point (shared).
MSTP maximum age	The configured maximum age.
MSTP max hops	The maximum hops.

## Command History

Release	Modification
ArubaOS 7.0	Command introduced
ArubaOS 7.1	Added <b>spanning-tree</b> keyword to the command.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable and Configuration Mode (config)

# show spanning-tree-profile

show spanning-tree-profile

## Description

View which spanning tree is enabled.

## Example

The output below confirms that MSTP is the running spanning tree.

```
(host)#show spanning-tree-profile

spanning-tree
-----
Parameter          Value
-----          -
spanning-tree-mode mstp
```

## Related Command

Command	Description
<a href="#">spanning-tree mode</a>	Set the spanning tree operational mode

## Command History

Release	Modification
ArubaOS 7.1	Command introduced

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable or Configuration Mode (config)

## show spanning-tree vlan

```
show spanning-tree vlan [<id>] | [all]
```

### Description

View the PVST VLAN information for a specified VLAN or all VLANs.

### Syntax

Parameter	Description	Range	Default
vlan <id>	Enter the keyword <b>vlan</b> followed by the VLAN identifier value to view details of the specified VLAN.	1 to 4094	—
all	Enter the keyword <b>all</b> to display all VLANs.	—	—

### Example

The following example displays output for VLAN 1.

```
(host)#show spanning-tree vlan 1

VLAN 1
Root ID          Address: 000b.866a.1cc0, Priority: 32768
Bridge ID       Address: 000b.866a.1cc0, Priority: 32768
Hello Time: 2 sec, Max Age: 20 sec, Forward Delay: 15 sec
We are the root of the spanning tree

Interface  Role  State  Port Id  Cost  Type
-----  ----  -----  -
GE0/0/0    Desg  FWD    128.1    20000 P2p
```

The following example displays detail output for all VLANs. In this particular output, only one VLAN (VLAN 1) is configured.

```
(host)(config) #show spanning-tree vlan all detail

VLAN 1 Bridge ID priority: 32768, Address: 000b.866a.1cc0
We are the root of the spanning tree
Current Root ID priority: 32768, Address: 000b.866a.1cc0
Topology change flag not set, Number of topology changes: 1

(GE0/0/0) of VLAN1 is designated forwarding
Port path cost 20000, Port priority 128, Port identifier 128.1
Designated Root ID priority: 32768, Address: 000b.866a.1cc0
Designated Bridge ID priority: 32768, Address: 000b.866a.1cc0
Number of transitions to forwarding state: 1
Link type is point-to-point by default
BPDU sent: 9, Received: 0
Edge mode: Disabled
Root guard: Disabled
Loop guard: Disabled
```

## Command History

Release	Modification
ArubaOS 7.1	Command introduced

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable or Configuration Mode (config)



## show stacking asp-stats

```
show stacking asp-stats [all {member <id> | all}] | stack <module/port> {member <id> | all}
```

### Description

Displays ASP control packet statistics for a specified interface or all stacking interfaces.

### Syntax

Parameter	Description
all	Enter the keyword <b>all</b> to view all member information in the ArubaStack.
member <id>	Enter the keyword <b>member</b> followed by a member's ID number.
<module/port>	Enter the stacking interface details in module/port format.

### Command History

Release	Modification
ArubaOS 7.1	Command introduced

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable and Configuration Mode (config)

## show stacking generated-preset-profile

show stacking generated-preset-profile

### Description

Generates a preset stack configuration from a dynamic-elected stack configuration.

### Example

```
(host) (config) #show stacking generated-preset-profile

Preset-config Profile Command
-----
stack-profile
member-id 0 serial-number AU0000674 role primary-capable
member-id 1 serial-number AU0000731 role primary-capable
member-id 2 serial-number AU0000660 role line-card
```

### Command History

Release	Modification
ArubaOS 7.1.3	Command introduced

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable and Configuration Mode (config)

## show stacking interface

```
show stacking interface
  brief [member <id>]
  member <id>
  stack <module/port> [member <id> | statistics [member <id>] | transceiver [detail | member <id>]]
  statistics [member <id>]
  transceiver [member <id>]
```

### Description

Display the stacking interface and transceiver information.

### Syntax

Parameter	Description
<code>brief [member &lt;id&gt;]</code>	Displays the summary of all configured stacking interface.
<code>member &lt;id&gt;</code>	Displays the stacking information for a particular stack member.
<code>stack &lt;module/port&gt;</code> <code>  member &lt;id&gt;</code> <code>  statistics [member &lt;id&gt;]</code> <code>  transceiver [detail   member &lt;id&gt;]</code>	Displays the following stacking interface information: <ul style="list-style-type: none"><li>• <b>member &lt;id&gt;</b>: Stacking member.</li><li>• <b>statistics [member &lt;id&gt;]</b>: Displays stacking interface statistics.</li><li>• <b>transceiver [detail   member &lt;id&gt;]</b>: Displays stacking interface transceiver information.</li></ul>
<code>statistics [member &lt;id&gt;]</code>	Displays stacking interface statistics.
<code>transceiver [member &lt;id&gt;]</code>	Displays stacking interface transceiver information.

### Example

```
(host)#show stacking interface stack 1/2 transceiver
Vendor Name           : Molex Inc.
Vendor Serial Number  : 116430722
Vendor Part Number    : 74752-1051
Cable Type            : 10GBASE-DAC-P
Connector Type        : Copper Pigtail
Wave Length           : 0 nm
Cable Length          : 1mRelated Command
```

### Related Command

Command	Description
<a href="#">show stacking topology</a>	View the ArubaStack topology.
<a href="#">show stacking neighbors</a>	View the ArubaStack neighbors.

## Command History

Release	Modification
ArubaOS 7.1	Command introduced
ArubaOS 7.3	Introduced <b>detail</b> sub-parameter under <b>transceiver</b> parameter.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable and Configuration Mode (config)

## show stacking internal

```
show stacking internal [member <id> | all]
```

### Description

View the internal ArubaStack information.

### Syntax

Parameter	Description
member <id>	Enter the keyword <b>member</b> followed by a member's ID number.
all	Enter the keyword <b>all</b> to view all member information in the ArubaStack.

### Example

```
(host)#show stacking internal

Device route table:

Route Table for Device-Id: 0

Target device-id  Interface  Next-hop device-id
-----
2                 stack1/2  2
4                 stack1/3  4

Multicast filter table:

Device-Id: 0

Source device-id  Unblocked-ports
-----
0                 stack1/3
                  stack1/2
2                 None
4                 None
```

### Related Command

Command	Description
<a href="#">show stacking topology</a>	View the ArubaStack topology.
<a href="#">show stacking neighbors</a>	View the ArubaStack neighbors.

### Command History

Release	Modification
ArubaOS 7.1	Command introduced

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable and Configuration Mode (config)

## show stacking location

show stacking location

### Description

Displays the assigned location of ArubaStack members.

### Example

```
(host) (stack-profile) #show stacking location
```

```
Id      Location
--      -
0 *    eng-building
1      eng-building
2      eng-building
```

### Related Commands

Command	Description
<a href="#">stack-profile</a>	Configure a member's location.

### Command History

Release	Modification
ArubaOS 7.1.3	Command introduced

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable and Configuration Mode (config)

## show stacking members

```
show stacking members [member <id> | all]
```

### Description

View the members of an ArubaStack.

### Syntax

Parameter	Description
member <id>	Enter the keyword <b>member</b> followed by a member's ID number.
all	Enter the keyword <b>all</b> to view all member information in the ArubaStack.

### Example

View details of the ArubaStack members.

```
(host)#show stacking members
```

```
Member status: Active, Stack Id: 000b866af2404e339e0a
Stack uptime: 7 minutes 10 seconds
Id      Role      MAC Address      Priority  State      Model          Serial
--      ---      -
0 *    Primary   000b.866a.f240   128      Active     ArubaS3500-24P AU0000674
1      Secondary 000b.866b.0340   128      Active     ArubaS3500-24P AU0000731
2      Linecard  000b.866b.3980   128      Active     ArubaS3500-24P AU0000660
```

The values in the output above are detailed in the table below.

Column	Description
Stack uptime	The amount of time the ArubaStack has been up.
Id	This column contains the ID number of each member of the ArubaStack.
Role	This column list the role of each member; Primary, Secondary or Linecard.
MAC Address	This column contains the MAC address of each member.
Priority	Priority values for each member is listed.
State	The final column displays the state of each member; active or inactive.
Model	The model number of the Mobility Access Switch.
Serial	The serial number of each Mobility Access Switch.

### Related Command

Command	Description
<a href="#">show stacking topology</a>	View the ArubaStack topology.
<a href="#">show stacking neighbors</a>	View the ArubaStack neighbors.



## Command History

Release	Modification
ArubaOS 7.1	Command introduced

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable and Configuration Mode (config)

## show stacking neighbors

```
show stacking neighbors [member <id> | all]
```

### Description

Displays the immediate stacking neighbors statistics.

### Syntax

Parameter	Description
member <id>	Enter the keyword <b>member</b> followed by a member's ID number.
all	Enter the keyword <b>all</b> to view all neighbor information in the ArubaStack.

### Example

The output below displays information on all the neighbors in the ArubaStack.

```
(host)#show stacking neighbors
Neighbor MAC Address  Interface  Adjacency  Neighbor Member-id
-----
00:0b:86:6b:03:40    stack1/2  up         svl_techpubs-1
00:0b:86:6b:39:80    stack1/3  up         svl_techpubs-2
```

### Related Command

Command	Description
<a href="#">show stacking topology</a>	View the ArubaStack topology.
<a href="#">show stacking members</a>	View the ArubaStack members.

### Command History

Release	Modification
ArubaOS 7.1	Command introduced

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable and Configuration Mode (config)

# show stacking topology

show stacking topology

## Description

View the ArubaStack's topology.

## Usage Guidelines

This command displays your ArubaStack's entire topology including member ID, role in the ArubaStack, MAC address, interface and neighbor.

## Example

The following output details a three member ArubaStack topology.

```
(host)#show stacking topology

Member-id  Role      Mac Address      Interface  Neighbor Member-id
-----  ----  -----  -----  -----
0 *        Primary   000b.866a.f240   stack1/2   1
           stack1/3   2
1          Secondary 000b.866b.0340   stack1/3   0
           stack1/2   2
2          Linecard  000b.866b.3980   stack1/2   0
           stack1/3   1
```



The member with the asterisk (\*) indicates that you are logged onto that member (the Primary in the example above).

The values in the output above are detailed in the table below.

Column	Description
Member-id	This column contains the ID number of each member of the ArubaStack.
Role	This column list the role of each member; Primary, Secondary or Linecard.
Mac Address	This column contains the MAC address of each member.
Interface	This column lists the interfaces attached to each member.
Neighbor Member-id	The final column displays each neighbor of each member.

## Related Command

Command	Description
<a href="#">show stacking members</a>	Display the ArubaStack members and ID.
<a href="#">show stacking neighbors</a>	Display the ArubaStack neighbors.

## Command History

Release	Modification
ArubaOS 7.1	Command introduced

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable and Configuration Mode (config)

# show stack-profile

show stack-profile

## Description

View the stack-profile settings.

## Example

### Dynamic-Election Stack

```
(host) (config) # show stack-profile
```

```
stack-profile "default"
-----
Parameter          Value
-----
MAC persistence timeout 30 Minutes
Split Detection      Enabled
Election Priority:
  Member 0           255
  Member 1           200
  Member 2           128
```

### Pre-provisioned Stack

```
stack-profile "default"
-----
Parameter          Value
-----
MAC persistence timeout 15 Minutes
Split Detection      Enabled
Preset-profile:
-----
Member-id      Serial-number  Role
0              BK0000020     Primary-capable
1              BK0000014     Primary-capable
2              BK0000019     Line-card
3              BK0000016     Line-card
```

## Related Command

Command	Description
<a href="#">stack-profile</a>	Configure the stack profile

## Command History

Release	Modification
ArubaOS 7.1	Command introduced

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable and Configuration Mode (config)

## show station-table

```
show station-table [mac | verbose]
```

### Description

This command displays the L2 internal station table on the Mobility Access Switch.

### Syntax

Parameter	Description
mac	Display station that match the MAC address of the station.
verbose	Display user table in detail.

### Usage Guidelines

Issue this command from the command-line interface of the Mobility Access Switch to view the L2 internal station table.

### Example

This example displays the L2 internal station table on the Mobility Access Switch.

```
(host) #show station-table
```

```
Station Entry
-----
MAC                Name           Role           Age (d:h:m)    Auth  Interface  Profile
-----
00:25:45:93:bf:d8 test-user1     emp-fin        00:02:18       Yes   3/0/44     dot1x
04:7d:7b:1e:d1:bf test-user2     emp-eng        00:02:18       Yes   3/0/44     dot1x
```

```
Station Entries: 2
```

The output of this command includes the following information:

Column	Description
MAC	MAC address of the client.
Name	User name of the client.
Role	Client's assigned role.
Age (d:h:m)	Age of the user's current session, in the format <i>days:hours:minutes</i> .
Auth	Authentication method.
Interface	Interface on which the client is connected.
Profile	Profile assigned to the device.

## Command History

Release	Modification
ArubaOS 7.0	Command introduced
ArubaOS 7.3	The <b>Interface</b> output parameters was introduced as part of this command. Following output parameters were deprecated: <ul style="list-style-type: none"><li>• <b>AP name</b></li><li>• <b>Essid</b></li><li>• <b>Phy</b></li><li>• <b>Remote</b></li></ul>

## Command Information

Platforms	Licensing	Command Mode
All platforms	Base operating system	Enable Mode



## show cpuload

```
show cpuload
  current
  member <0-7>
```

### Description

View CPU load on the system.

### Syntax

Parameter	Description
current	Displays the overall CPU load on the system.
member <0-7>	Displays the CPU load on the specified member.

### Example

The example below displays the CPU load on a member:

```
(host) #show cpuload member 0
Member-id: 0
-----
user 0.8%, system 0.7%, idle 98.6%
```

### Command History

Release	Modification
ArubaOS 7.0	Command introduced

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable and Configuration Mode (config)

# show system switchover

show system switchover

## Description

View the synchronization switchover status. This command is only available on the primary.

## Usage Guidelines

Use this command to confirm database synchronization before you execute the [database synchronize](#) command.

## Example

The example below confirms that database synchronization to the secondary is current. That is, a [database synchronize](#) is not required.

```
(host) #show system switchover

Secondary Switchover status
-----
System-state   : synchronized to primary
Configuration  : synchronized to primary
Database       : synchronized to primary
```

## Related Command

Command	Description
<a href="#">system switchover</a>	Gracefully switch the Secondary member to become the Primary member
<a href="#">database synchronize</a>	Synchronize the Primary and Secondary databases

## Command History

Release	Modification
ArubaOS 7.1.1	Command introduced

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable and Configuration Mode (config)

## show time-range

show time-range [STRING | summary]

### Description

This command displays time range information.

### Syntax

Parameter	Description
STRING	Name of protocol service.
summary	Summary of time ranges.

### Example

```
(ArubaS3500) #show time-range
```

```
Time-Range guest, Absolute
```

```
-----  
StartDate  Start-time  EndDate      End-time  Active  
-----  
11/20/2012  0:00          12/20/2012  0:00     Yes
```

```
Time-Range guest1, Periodic
```

```
-----  
StartDay  Start-time  EndDay      End-time  Active  
-----  
weekday   09:00          18:00     Yes
```

### Related Commands

Command	Description
<a href="#">show acl ace-table</a>	This command filters traffic based on the specified time range.

### Command History

Release	Modification
ArubaOS 7.0	Command introduced.

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable Mode

## show time-range-profile

show time-range-profile <profile-name>

### Description

Displays the list of time range configured in the system and rules affected by the time range.

### Syntax

No parameters.

### Example

The output of this command displays the periodic time range details:

```
(host) #show time-range-profile trp2

Time range profile "trp2"
-----
Parameter          Value
-----
Time range mode    periodic
Absolute time-range N/A
Periodic time-range Daily 7:00 Daily 6:00
```

### Command History

Release	Modification
ArubaOS 7.1.1	Command introduced

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable Mode

## show trace

```
show trace
  chassis-manager [file <number> | member <id>]
  dhcp-snooping [file <number> | member <id>]
  igmp [file <number> | member <id>]
  igmp-snooping [file <number> | member <id>]
  interface-manager [file <number> | member <id>]
  layer2-forwarding [file <number> | member <id>]
  lldp [file <number> | member <id>]
  mstp [file <number> | member <id>]
  ospf [file <number> | member <id>]
  pim [file <number> | member <id>]
  rmon [file <number> | member <id>]
  routing [file <number> | member <id>]
  stack-manager [file <number> | member <id>]
  vrrp [file <number> | member <id>]
```

### Description

Displays the content of the trace file.

### Syntax

Parameter	Description
chassis-manager [file <number>   member <id>]	Displays the content of chassis manager trace file.
dhcp-snooping [file <number>   member <id>]	Displays the content of DHCP snooping trace file.
igmp [file <number>   member <id>]	Displays the content of IGMP trace file.
igmp-snooping [file <number>   member <id>]	Displays the content of IGMP snooping trace file.
interface-manager [file <number>   member <id>]	Displays the content of interface manager trace file.
layer2-forwarding [file <number>   member <id>]	Displays the content of Layer-2 forwarding trace file.
lldp [file <number>   member <id>]	Displays the content of LLDP trace file.
mstp [file <number>   member <id>]	Displays the content of MSTP trace file.
ospf [file <number>   member <id>]	Displays the content of OSPF trace file.
pim [file <number>   member <id>]	Displays the content of PIM trace file.
rmon [file <number>   member <id>]	Displays the content of RMON trace file.
routing [file <number>   member <id>]	Displays the content of routing trace file.
stack-manager [file <number>   member <id>]	Displays the content of stack manager trace file.
vrrp [file <number>   member <id>]	Displays the content of VRRP trace file.

### Example

```
(host) #show trace routing file 1
```

```
Sep 13 14:00:59 trace_on: Tracing to "/var/log/traces/l3m.log" startedSep 13 14:00:59
Sep 13 14:01:49 ght_resize: table 100600e8 newsize 11
```

```
Sep 13 14:01:49 ght_resize: table 100600f4 newsize 11
Sep 13 14:01:49 ght_resize: table 10060100 newsize 11
Sep 13 14:01:49 ght_resize: table 100600d0 newsize 11
Sep 13 14:01:49 ght_resize: table 1006002c newsize 11
Sep 13 14:02:03 if_rtup: ADD route for interface vlan160 192.0.2.2/255.255.255.0
Sep 13 14:02:03 if_rtup: ADD route for interface vlan161 192.0.3.2/255.255.255.0
```

## Command History

Release	Modification
ArubaOS 7.0	Command introduced.
ArubaOS 7.3	New parameters <b>dhcp-snooping</b> and <b>vrrp</b> were introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable mode

# show traceoptions

show traceoptions

## Description

View the set trace option flags.

## Example

```
(host) #show traceoptions
```

```
traceoptions
-----
Parameter                               Value
-----
Layer2 Forwarding trace flags
Layer2 Forwarding trace level           debugging
Layer2 Forwarding trace file size (Mb)  10
MSTP trace flags
MSTP trace port                         0
Interface manager trace flags
Interface manager trace level           debug
Chassis manager trace flags
LLDP trace flags
dhcp_snoop trace flags
igmp-snooping trace flags
pim sparse mode trace flags
ospf trace flags
routing trace flags
igmp trace flags
vrrp trace flags
stack-manager trace flags
Stack-manager trace level               informational
rmon trace flags
rmon trace level                       errors
rmon trace file size (Mb)              10
```

## Related Command

Command	Description
<a href="#">traceoptions</a>	Use this command to move into the trace options mode (traceoptions) and set trace option flags and values

## Command History

Release	Modification
ArubaOS 7.0	Command introduced

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable mode

# show trunk

show trunk

## Description

This command displays the list of trunk ports.

## Syntax

No Parameters

## Example

The output of this command shows details of a trunk port.

```
(host) #show trunk
Trunk Port Table
-----
Port      Vlans Allowed  Vlans Active  Native Vlan
-----
GE0/0/0  ALL           1,10         1
```

## Related Command

Command	Description
<a href="#">show vlan</a>	This command displays basic or detailed VLAN information.

## Command History

Release	Modification
ArubaOS 7.0	Command introduced

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable Mode



## show tunneled-node

```
show tunneled-node {config|state}
```

### Description

This command displays the tunneled node configuration and state information.

### Syntax

Parameter	Description
config	Displays the tunneled node configuration.
state	This command displays the state of tunneled nodes on the controller.

### Example

The first command in the examples below shows the configuration of the tunneled-node profile, and the second example shows the state of the tunneled nodes on the controller

```
(host) #show tunneled-node config
Tunneled Node Client: Enabled
Tunneled Node Server: 172.16.50.2
Tunneled Node Loop Prevention: Disabled
```

```
(host) # show tunneled-node state
Tunneled Node State
-----
IP      MAC      Port      state  vlan    tunnel  inactive-time
--      ---      ---      ----  -
172.16.30.2  00:0b:86:6a:23:80  GE0/0/11  complete  0400  4088  0000
172.16.30.2  00:0b:86:6a:23:80  GE0/0/34  complete  0400  4091  0000.
```

The output of this command includes the following information:

Parameter	Description
Tunneled Node Client	Shows if the tunneled node client has been enabled or disabled.
Tunneled Node Server	IP address of the tunneled node server
Tunneled Node Loop Prevention	Shows if tunneled loop prevention has been enabled or disabled.
IP	IP address of the controller interface
MAC	MAC address of the controller interface
Port	Slot/Module/Port number on the switch that connects to the controller
VLAN	Tunneled Node VLAN
inactive-time	Amount of time, in seconds, that the tunneled node has been inactive.

## Related Commands

Command	Description
<a href="#"><u>interface-profile</u></a> <a href="#"><u>tunneled-node-profile</u></a>	This command creates a tunneled node profile that can be applied to any interface.
<a href="#"><u>show interface-profile</u></a> <a href="#"><u>tunneled-node-profile</u></a>	This command displays the name and configuration settings of the current tunneled node profile.

## Command History

Release	Modification
ArubaOS 7.0	Command introduced

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable Mode

## show usb

show usb

### Descriptions

This command displays the USB device information.

### Syntax

No parameters

### Examples

The following example displays the USB device information.

```
(host) #show usb
USB Device Table
-----
Address  Product  Vendor  ProdID  Serial          Type
-----  -
2        USB DISK  058f    6387    AA04012700008278  Storage
```

### Command History

Release	Modification
ArubaOS 7.3	Command introduced.

### Command Information

Platforms	Licensing	Command Mode
All platforms	Base operating system	Enable mode

## show user-table

```
show user-table
  authentication-method
  blacklist
  debug
  devtype
  ip
  mac
  name
  role
  rows
  station
  unique
  verbose
```

### Description

This command displays the L3 internal user table on the Mobility Access Switch.

### Syntax

Parameter	Description
authentication-table	Display clients based on the following authentication method: <ul style="list-style-type: none"><li>• dot1x—802.1X authentication</li><li>• mac—MAC authentication</li><li>• web—Captive Portal authentication</li></ul>
blacklist	Display blacklisted clients.
debug	Display clients that are debugged.
devtype	Display clients that match the device type of the client.
ip	Display clients that match the IP address of the client.
mac	Display clients that match the MAC address of the client.
name	Display clients that match the user name of the client.
role	Display clients that match the role assigned to the client.
rows	Display certain rows.
station	Display station table in debug mode.
unique	Display unique user entries.
verbose	Display user table in detail.

### Usage Guidelines

Issue this command from the command-line interface of the Mobility Access Switch to view the L3 internal user table.

### Example

This example displays the L3 internal user table on the Mobility Access Switch.

```
(host) #show user-table
```

```

Users
-----
IP             MAC             Name            Role            Age (d:h:m)    Auth            Connection
-----
192.0.2.11    04:7d:7b:1e:d1:bf  test-user1     emp-fin         00:02:18      802.1x-Wired   Wired
192.0.2.10    00:25:45:93:bf:d8  test-user2     emp-eng         00:02:18      802.1x-Wired   Wired

Interface  Profile  Vlan
-----
3/0/44     dot1x    1 (3911)
3/0/44     dot1x    1 (3913)

```

User Entries: 2/2

The output of this command includes the following information:

Column	Description
IP	IP address of the client.
MAC	MAC address of the client.
Name	User name of the client.
Role	Client's assigned role.
Age (d:h:m)	Age of the user's current session, in the format <i>days:hours:minutes</i> .
Auth	Authentication method.
Connection	Type of connection.
Interface	Interface on which the client is connected.
Profile	Profile assigned to the device.
Vlan	Initial and final VLAN.

## Command History

Release	Modification
ArubaOS 7.0	Command introduced
ArubaOS 7.3	<p>Following new output parameters were introduced:</p> <ul style="list-style-type: none"> <li>● <b>Connection</b></li> <li>● <b>Interface</b></li> <li>● <b>Vlan</b></li> </ul> <p>Following output parameters were deprecated:</p> <ul style="list-style-type: none"> <li>● <b>VPN link</b></li> <li>● <b>AP name</b></li> <li>● <b>Roaming</b></li> <li>● <b>Essid/Bssid/Phy</b></li> </ul>

## Command Information

Platforms	Licensing	Command Mode
All platforms	Base operating system	Enable Mode

## show vlan

```
show vlan {[<id> detail|extensive] | [detail|extensive|status|summary]}
```

### Description

This command displays basic or detailed VLAN information.

### Syntax

Parameter	Description
<id> detail   extensive	Displays the details of the specified VLAN.
detail	Displays the details of all the VLANs.
extensive	Displays the details such as IGMP-snooping, MSTP instances and MAC aging time for all the VLANs.
status	Displays the status of all the VLANs in a table.
summary	Displays the summary of the VLAN information.

### Example

Issue the `show vlan` command to show the VLAN configuration. The **VLAN** column lists the VLAN ID. The **Description** column provides the VLAN name or number and the **Ports** column shows the VLAN's associated ports. The `show vlan extensive` command in the second example below displays the 802.11q tag, the IGMP-snooping profile associated with the VLAN, and information about MSTP instances and the configured MAC address aging time.

```
(host) #show vlan
```

```
VLAN CONFIGURATION
```

```
-----
```

```
VLAN  Description  Ports
----  -
1     VLAN0001      GE0/0/0-23 Pc1
```

```
(host) #show vlan extensive
```

```
Dot1q tag: 1, Description: VLAN0001
IGMP-snooping profile name: default
IGMP-snooping: Enabled
MSTP instance: 0
MAC aging time: 300
Number of interfaces: 25, Active: 2
VLAN membership:
      GE0/0/0*   Access Trusted   Untagged
      GE0/0/0*   Access Trusted   Tagged...
```

```
...
```

```
<output truncated>
```

```
(host)#show vlan status
```

```
Vlan Status
```

```
-----
```

```
VlanId IPAddress          Adminstate  Operstate  Nat Inside  Mode      AAA Profile
-----  -
1       unassigned/unassigned  Up          Up          Disabled   Regular   N/A
11      2.2.2.1/255.255.255.0  Up          Down        Disabled   Regular   N/A
```

```
(host)#show vlan summary
```

```
Number of tunneled-node VLANs      :2  
Number of operational VLANs       :10
```

## Related Command

Command	Description
<a href="#">vlan</a>	This command creates a VLAN with the specified configuration parameters.
<a href="#">show vlan-config</a>	This command displays the configuration information for the specified VLAN ID.

## Command History

Release	Modification
ArubaOS 7.0	Command introduced
ArubaOS 7.1	Introduced the <code>status</code> and <code>summary</code> parameters.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable Mode



## show vlan-config

show vlan-config <vlan-id>

### Description

This command displays the configuration information for the specified VLAN ID.

### Syntax

Parameter	Description
<vlan-id>	VLAN ID

### Example

The example below shows configuration information for **VLAN 10**.

```
(host) #show vlan-config 10
```

```
VLAN "10"  
-----  
Parameter          Value  
-----  
Description         N/A  
aaa-profile         N/A  
igmp-snooping-profile N/A  
MAC Aging time (Minutes) 5
```

The output of this command includes the following information:

Parameter	Description
Description	Description given to the VLAN
aaa-profile	AAA profile assigned to the VLAN
igmp-snooping-profile	IGMP Snooping profile assigned to the VLAN.
MAC Aging time (minutes)	Number of minutes after which a MAC address will be removed from the MAC address table. The default value is 5 minutes.

### Related Command

Command	Description
<a href="#">interface vlan</a>	This command creates the VLAN interface for the switch.
<a href="#">show vlan</a>	This command displays basic or detailed VLAN information.
<a href="#">vlan</a>	This command creates a VLAN with the specified configuration parameters.

## Command History

Release	Modification
ArubaOS 7.0	Command introduced

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Configuration Mode (config)

## show vlan-profile dhcp-snooping-profile

```
show vlan-profile dhcp-snooping-profile [<profile-name>]
```

### Description

This command displays an DHCP snooping profile and the associated parameters.

### Syntax

Parameter	Description
<profile-name>	Displays the profile with the specified name.

### Usage Guidelines

By default, this command displays the entire list of DHCP snooping profile configurations. Include a profile name to display detailed information for that DHCP snooping profile.

### Example

```
(host) (config) #show dhcp-snooping-database vlan 6
Total DHCP Snoop Entries : 3
Learnt Entries : 1, Static Entries : 2
```

DHCP Snoop Table

```
-----
MAC                IP                BINDING-STATE    LEASE-TIME                VLAN-ID  INTERFACE
---                --                -
00:00:00:60:4a:69  6.6.6.10         Dynamic entry    2013-09-06 10:50:05 (PST)  6
gigabitethernet1/0/2
00:00:11:22:44:55  4.4.4.4         Static entry     No lease time             6
gigabitethernet1/0/2
00:00:11:33:66:77  7.7.7.7         Static entry     No lease time             6
gigabitethernet1/0/11
```

The output of this command includes the following information:

Parameter	Description
MAC	Shows the MAC address.
IP	Shows the IP address.
BINDING-STATE	Shows if the entry is dynamic or static.
LEASE-TIME	Shows the amount of time for which the ip address is allocated to the client.
VLAN-ID	Interval at which startup queries should be sent.
INTERFACE	Periodic interval at which queries are sent.

## Related Command

Command	Description
<a href="#">vlan-profile dhcp-snooping-profile</a>	This command creates a DHCP snooping profile that can be applied to a VLAN.

## Command History

Release	Modification
ArubaOS 7.3	Command introduced

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable Mode

# show vlan-profile igmp-snooping-profile

```
show vlan-profile igmp-snooping-profile [<profile-name>]
```

## Description

This command displays an IGMP snooping profile and the associated parameters.

## Syntax

Parameter	Description
<profile-name>	Displays the profile with the specified name.

## Usage Guidelines

By default, this command displays the entire list of IGMP snooping profile configurations, including the configuration status and the number of references to each profile. Include a profile name to display detailed information for that IGMP snooping profile.

## Example

The first example below shows that the switch has three IGMP snooping profiles. The **References** column lists the number of other profiles with references to the IGMP snooping profiles, and the **Profile Status** column indicates whether the profile is predefined. User-defined profiles will not have an entry in the **Profile Status** column.

```
(host) #show vlan-profile igmp-snooping-profile
igmp-snooping-profile List
-----
Name                               References  Profile Status
----                               -
default                             0
igmp-snooping-factory-initial       1
profile123                           0
Total:3
```

```
(host) #show vlan-profile igmp-snooping-profile igmp-snooping-factory-initial
igmp-snooping-profile "igmp-snooping-factory-initial"
-----
Parameter                           Value
-----
Enable igmp snooping                 Enabled
Enable igmp snooping proxy           Disabled
Enable fast leave                     Disabled
startup-query-count                  2
startup-query-interval (secs)        31
query-interval (secs)                125
query-response-interval (secs)       10
last-member-query-count              2
last-member-query-interval (secs)    1
robustness-variable                  2
```

The output of this command includes the following information:

Parameter	Description
Enable igmp snooping	Shows if the IGMP snooping feature is enabled or disabled within this profile.
Enable igmp snooping proxy	Shows if the IGMP snooping proxy feature is enabled or disabled within this profile.
Enable fast leave	Shows if fast leave is enabled or disabled.
startup-query-count	Number of queries to be sent at startup.
startup-query-interval (secs)	Interval at which startup queries should be sent.
query-interval (secs)	Periodic interval at which queries are sent.
query-response-interval (secs)	Maximum query response time.
last-member-query-count	Number of IGMP queries sent in response to a host leave message.
last-member-query-interval (secs)	Interval at which queries should be sent in response to a host leave message.
robustness-variable	Robustness variable.

## Related Command

Command	Description
<a href="#">vlan-profile igmp-snooping-profile</a>	This command creates an IGMP snooping profile that can be applied to a VLAN.
<a href="#">show igmp-snooping</a>	This command lists IGMP snooping counters, groups, membership, and multicast router information.

## Command History

Release	Modification
ArubaOS 7.0	Command introduced

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable Mode

# show vlan-profile mld-snooping-profile

show vlan-profile mld-snooping-profile <profile-name>

## Description

This command displays a list of the mld-snooping profiles. You can also view the details of a specific mld-snooping profile.

## Syntax

Parameter	Description
<profile-name>	Displays the details of the profile with the specified name.

## Example

```
(host) show vlan-profile mld-snooping-profile
```

```
mld-snooping-profile List
-----
Name      References  Profile Status
----      -
default   2
Total:1
```

```
(host) show vlan-profile mld-snooping-profile default
```

```
mld-snooping-profile "default"
-----
Parameter                               Value
-----
robustness-variable                       2
last-member-query-interval (secs)        10
query-interval (secs)                    125
query-response-interval (secs)           10
Enable fast leave                         Enabled
Enable mld snooping                       Enabled
```

## Command History

Release	Modification
ArubaOS 7.1.3	Command introduced

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable

## show vlan-profile pvst-profile

show vlan-profile pvst-profile <profile name>

### Description

Display the details of the PVST+ profile.

### Syntax

Parameter	Description
<profile name>	Enter the name of the profile that you want to view.

### Example

```
(host) (config) # show vlan-profile pvst-profile techpubs
```

```
pvst-profile "techpubs"
-----
Parameter          Value
-----
Enable PVST+ bridge  Enabled
bridge priority     32768
bridge hello time   5
bridge forward delay 22
bridge maximum age  25
```

### Related Command

Command	Description
<a href="#">vlan-profile pvst-profile</a>	Specify a name for your PVST+ profile.

### Command History

Release	Modification
ArubaOS 7.1	Command introduced

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable or Configuration Mode (config)



## show vrrp

```
show vrrp [<id> statistics]
```

### Descriptions

This command displays the VRRP interface profile state and statistics.

### Syntax

Parameter	Description
<id> statistics	Displays the operational statistics of a specific VRRP instance.

### Examples

The following example displays the VRRP interface profile state:

```
(host) #show vrrp 1
```

```
VRRP Instance Information
```

```
-----  
Virtual RouterId  Admin State  Vrrp State  Interface  VIP        Primary IP  Local IP  
-----  
1                 UP          Master      vlan1      192.0.2.2  192.0.2.1  192.0.2.1
```

The following example displays the operation statistics of VRRP ID 1:

```
(host) #show vrrp 1 statistics
```

```
Virtual Router 1:  
Admin State UP, VR State Master  
Advertisements:  
Sent:                250  Received:                196  
Zero priority sent:  0    Zero priority received:  0  
Lower IP address received  0    Lower Priority received  0  
Advertisements received errors:  
Interval mismatch      0    Invalid TTL              0  
Invalid packet type    0    Authentication failure   0  
Invalid auth type      0    Mismatch auth type       0  
Invalid VRRP IP address 0    Invalid packet length     0
```

### Related Commands

Command	Description
<a href="#">vrrp</a>	This command enables and configures VRRP profile on the Mobility Access Switch.

### Command History

Release	Modification
ArubaOS 7.3	Command introduced.

## Command Information

Platforms	Licensing	Command Mode
All platforms	Base operating system	Enable mode

## show vrrp-config

show vrrp-config [<id>]

### Descriptions

This command displays the VRRP interface profile configuration.

### Syntax

Parameter	Description
<id>	Enter the Virtual Router ID of the VRRP profile.

### Examples

The following example displays the VRRP interface profile configuration:

```
(host) #show vrrp-config 1

Interface VRRP profile "1"
-----
Parameter                Value
-----                -
Master advertise interval 1
Router priority level     100
Virtual router IP address 192.0.2.2
Shutdown the VRRP instance Disabled
Enable pre-emption        Enabled
pre-emption delay         10
Enable vlan Tracking      0
```

### Related Commands

Command	Description
<a href="#">vrrp</a>	This command enables and configures VRRP profile on the Mobility Access Switch.

### Command History

Release	Modification
ArubaOS 7.3	Command introduced.

### Command Information

Platforms	Licensing	Command Mode
All platforms	Base operating system	Enable mode

# show web-server

show web-server

## Description

Displays the configuration of the Mobility Access Switch's web server.

## Syntax

No parameters.

## Example

The output of this command shows the web-server configuration.

```
(host) # show web-server

Web Server Configuration (N/A)
-----
Parameter                               Value
-----
Cipher Suite Strength                   high
SSL/TLS Protocol Config                 sslv3 tlsv1
Switch Certificate                       default
Captive Portal Certificate              default
Management user's WebUI access method  username/password
User session timeout <30-3600> (seconds) 900
Maximum supported concurrent clients <25-400> 25
Enable/Disable Webserver                 Enabled
Enable/Disable Captive portal            Enabled
```

## Command History

This command was available in ArubaOS 3.0

Version	Description
ArubaOS 7.0	Command introduced.
ArubaOS 7.3.1	The output of this command displays the status of <b>Enable/Disable Webserver</b> and <b>Enable/Disable Captive portal</b> .

## Command Information

Platforms	Licensing	Command Mode
All platforms	Base operating system	Configuration or Enable mode

## snmp-server

```
snmp-server
  community <string> view <view-name>
  context <context-name>
  enable trap
  engine-id <engineid>
  group <group-name> {v1 | v2c | [v3 {auth|no-auth|priv}]} [context-prefix <name> context-
  match {exact|prefix}] notify <notify-view-name> read <read-view-name>}
  host <ipaddr> version {1 <security-string>} | {2c <security-string> | {3 <user-name>
  [engine-id <engineid>]} [inform] [interval <seconds>] [retrycount <number>]} udp-port
  <port> all auth generic ptopo rmon snmp stacking system vlan
  inform queue-length <size>
  trap enable|disable|{source <ipaddr>}
  user <name> group <name> {v1 | v2c | {v3[auth-prot {md5|sha} <password>]} [priv-prot
  {AES|DES} <password>]}}
  view <view-name> oid-tree <OID> [excluded | included]
```

### Description

This command configures SNMP parameters.

### Syntax

Parameter	Description	Range	Default
community	Sets the read-only community string.	—	—
view	Restricts the community to the specified MIB view.	—	—
context	Creates a context with the specified context name.	—	—
enable trap	Enables sending of SNMP traps to the configured host.	—	disabled
engine-id	Sets the SNMP server engine ID as a hexadecimal number.	24 characters maximum	—
group	Creates a view access group entry with the specified name.	—	—
v1	Enables the SNMP V1 Security Model.	—	—
v2c	Enables the SNMPv2c Security Model.	—	—
v3	Enables the SNMPv3 Security Model.	—	—
auth	Enables authentication of a packet without encrypting it.	—	—
noauth	Enables no authentication of a packet. This authentication mechanism is used for SNMPv1 and SNMPv2c Security Model.	—	—
priv	Enables the authentication of a packet and then scrambles it.	—	—

Parameter	Description	Range	Default
read-view	Specifies the name of the view that enables only to read the contents of the Agent.  <b>NOTE:</b> You must configure the read-view in the Agent to get an SNMP response.	—	—
notify-view	Specifies the name of the view that enables to specify a notification, inform, or trap.  <b>NOTE:</b> You must configure the notify-view in the Agent to send SNMP trap. You must also ensure to include the trap varbinds in the notify-view along with the trap OID.	—	—
context-prefix	Configures a context prefix with the specified name which is used for the read operation using SNMP v3 Security model.  <b>NOTE:</b> You must configure the context name in the Agent to get an SNMP response.	—	—
context-match	Specifies the type of context match for the SNMP request. <ul style="list-style-type: none"> <li>exact - exactly matches the context name to satisfy the SNMP request.</li> <li>prefix - matches only the context prefix to satisfy the SNMP request.</li> </ul>	exact   prefix	NULL
host	Configures the IP address of the host to which SNMP traps are sent. This host needs to be running a trap receiver to receive and interpret the traps sent by the Mobility Access Switch.	—	—
version	Configures the SNMP version and security string for notification messages. For SNMPv3, the v3 user name must be specified as the security string.  <b>NOTE:</b> You must configure the user name before configuring the host for SNMPv3.	—	—
inform	Sends SNMP inform messages to the configured host.	—	disabled
interval	Estimated round trip time to this host.	—	60 seconds
retrycount	Number of times that SNMP inform messages are attempted to be sent to the host before giving up.	—	3
udp-port	The port number to which notification messages are sent.	—	162
all	Allows the Trap Receiver to receive all the traps.	—	—
auth	Allows the Trap Receiver to receive the authentication traps.	—	—
generic	Allows the Trap Receiver to receive the generic traps.	—	—

Parameter	Description	Range	Default
ptopo	Allows the Trap Receiver to receive the ptopo traps.	—	—
rmon	Allows the Trap Receiver to receive the RMON traps.	—	—
snmp	Allows the Trap Receiver to receive the SNMP traps.	—	—
stacking	Allows the Trap Receiver to receive the stacking traps.	—	—
system	Allows the Trap Receiver to receive the system traps.	—	—
vlan	Allows the Trap Receiver to receive the VLAN traps.	—	—
inform queue-length <size>	Specifies the length for the SNMP inform queue.	100-350	250
trap source <ipaddr>	Source IP address of SNMP traps.	—	disabled
disable	Disables an SNMP trap. You can get a list of valid trap names using the <code>show snmp trap-list</code> command.	—	—
enable	Enables an SNMP trap.	—	—
user	Configures an SNMPv3 user for the specified username.	—	—
auth-prot	Authentication protocol for the user, either HMAC-MD5-98 Digest Authentication Protocol (MD5) or HMAC-SHA-98 Digest Authentication Protocol (SHA), and the password for use with the designated protocol.  <b>NOTE:</b> It is recommended to provide at least eight characters in the password for security.	MD5/SHA	SHA
priv-prot	Privacy protocol for the user, either Advanced Encryption Standard (AES) or CBC-DES Symmetric Encryption Protocol (DES), and the password for use with the designated protocol.  <b>NOTE:</b> It is recommended to provide at least eight characters in the password for security.	AES/DES	DES
view	Creates a view entry with the specified name. The view entry is associated with an OID. This is used for configuring groups.	—	—
oid-tree	Allows to specify an SNMP Object Identifier in ASN.1 Syntax Notation. You can also specify an OID.  <b>NOTE:</b> OID can be in dotted notation, or an object name or wild card masked. You can use the wild card character *, where * indicates any value. For example, if you want to retrieve data only for the second row of a MIB table, then the OID entry must be 1.3.6.1.2.1.31.1.1.1.*.2.	—	—
included	Includes the specified OID tree in the view.	—	—
excluded	Excludes the specified OID tree from the view.	—	—

## Usage Guidelines

Use this command to configure SNMP parameters on the Mobility Access Switch.

## Example

The following command configures an SNMP trap receiver:

```
(host) (config) #snmp-server host 191.168.1.1 version 2c public
```

## Command History

Release	Modification
ArubaOS 7.0	Command introduced

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Configuration Mode



## spanning-tree mode

spanning-tree mode [mstp | pvst]

### Description

Set the spanning tree operational mode.

### Syntax

Parameter	Description
mstp	Enter the keyword <b>mstp</b> to set the spanning tree to MSTP.
pvst	Enter the keyword <b>pvst</b> to set the spanning tree to PVST+.

### Usage Guidelines

Once you set the spanning tree mode, the new spanning tree mode is automatically applied to all configured VLANs, including the default VLAN 1.



---

Use spanning-tree **no mode** to disable running spanning trees.

---

### Example

In the example below, PVST+ is set as the spanning tree mode.

```
(host) (config) #spanning-tree mode ?
mstp                Multiple spanning tree mode
pvst                Per-Vlan rapid spanning tree mode
(host) (config) #spanning-tree mode pvst
```

### Command History

Release	Modification
ArubaOS 7.1	Command introduced

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Configuration Mode (config)

## stack-profile

```
stack-profile
  mac-persistent-timer <value>
  member-id <id> location <locationstring>
  member-id <id> election-priority <priority>
  member-id <id> | serial-number <serial-number> role {primary-capable | line-card}
  split-detection
```

### Description

Configure stacking profile parameters.

### Syntax

Parameter	Description	Range	Default
mac-persistent-timer	Enter the keywords <b>mac-persistent-timer</b> to configure the MAC persistent timer.	—	—
<value>	Enter the value, in minutes, for your MAC persistent timer.	0 to 60 minutes	15 minutes
member-id <id>	Enter the keyword <b>member-id</b> followed by the member ID you want to configure for the election priority.	0 to 7	—
location <locationstring>	Enter the keyword <b>location</b> followed by a description of the ArubaStack's location (location string) such as building number or lab name.	—	—
election-priority <priority>	Enter the keywords <b>election-priority</b> followed by the election priority value.	0 to 255	128
serial-number <serial-number> role <primary-capable   line-card>	Enter the keywords <b>serial-number</b> followed by the serial number of the MAS. Then, enter the keyword <b>role</b> followed by the intended role of the MAS. The role options are <b>primary-capable</b> or <b>line-card</b> .	—	—
split-detection	Enter the keywords split-detection to enable/disable split detection. <b>NOTE:</b> Use this command on a two-member ArubaStack only.	—	enable

### Usage Guidelines

When adding a Mobility Access Switch to an ArubaStack, you may need to manually set the priority value so that the switch enters the ArubaStack as a Line Card (or a Primary or Secondary). The switches priority value is one condition in the election process. The higher the election- priority the better chances that a switch is elected as Primary.

Alternatively, an ArubaStack can be created using the ArubaStack pre-provisioning feature. This allows you to configure the role and member-id of the members before the ArubaStack is created. The members are

configured using their serial numbers. After the serial-number is added, the role is configured; either primary-capable or line-card. Additionally, at least two of the devices in the pre-provisioned ArubaStack must be primary-capable.

The split detect feature, which detects if a split occurs in an ArubaStack, is enabled by default. When your ArubaStack has only two members, best practices recommends that you disable the split detection feature to ensure that the Primary does not transition to a dormant state if the Secondary is powered down.

## Example

The command to disable split detections is:

```
(host) (stack-profile) #no split-detection
```

The following show the steps for adding a single device to a stack profile for a pre-provisioned ArubaStack:

```
(host) (config) # stack-profile
(host) (stack-profile) #member-id 1
(host) (stack-profile) #member-id 1 serial-number AU00006600
(host) (stack-profile) #member-id 1 serial-number AU00006600 role line-card
```

## Related Command

Command	Description
<a href="#">show stack-profile</a>	View the stacking profile.

## Command History

Release	Modification
ArubaOS 7.1	Command introduced
ArubaOS 7.1.3	ArubaStack pre-provisioning and location commands introduced

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable and Configuration Mode (config)

# system switchover

system switchover [force]

## Description

This command *gracefully* toggles the Primary and Secondary roles in the ArubaStack.

## Syntax

Parameter	Description
force	Enter the keyword <b>force</b> to force the switchover without the benefit of a graceful switchover.

## Usage Guidelines

Best practices recommends executing the [database synchronize](#) command before attempting a system switchover. To view the switch over status, use the [show system switchover](#) command to verify synchronization before executing the [database synchronize](#) command.



---

Periodic synchronization is automatically executed every two minutes.

---

This command is successful only when both the Primary and Secondary are configured with the same stack-priority. Once this command is executed:

- the Secondary becomes the new Primary
- the old Primary becomes the new Secondary

## Example

The example below illustrates an attempt to execute the command. The system sends a message warning that the event will be without the benefit of a graceful switch over.

```
(host)#system switchover
```

```
System Not Ready for graceful Switchover, Please try again later or use force option
```

## Command History

Release	Modification
ArubaOS 7.1	Command introduced

## Related Command

Command	Description
<a href="#">database synchronize</a>	Synchronize the database between the Primary and Secondary.
<a href="#">show database synchronize</a>	Display the database synchronization details.
<a href="#">show system switchover</a>	View the switchover (synchronization) status.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable and Configuration Mode (config)

## tar

```
tar clean {crash|flash|logs}| crash | flash | logs [tech-support]
```

### Description

This command archives a directory.

### Syntax

Parameter	Description
clean	Removes a tar file
crash	Removes crash_member_<member_ID>.tar
flash	Removes flash.tar.gz
logs	Removes logs.tar
crash	Archives the crash directory to crash_member_<member_ID>.tar. A crash directory must exist.
flash	Archives and compresses the /flash directory to flash.tar.gz.
logs	Archives the logs directory to log.tar. Optionally, technical support information can be included.

### Usage Guidelines

This command creates archive files in Unix tar file format.

### Example

The following command creates the log.tar file with technical support information:

```
tar logs tech-support
```

### Command History

Release	Modification
ArubaOS 7.1	Command introduced

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable and Configuration Mode (config)

## time-range

```
time-range <name> absolute [end <mm/dd/yyyy> <hh:mm>] | [start <mm/dd/yyyy> <hh:mm>]
time-range <name> periodic
Daily <hh:mm> to <hh:mm>
Friday <hh:mm> to <hh:mm>
Monday <hh:mm> to <hh:mm>
Saturday <hh:mm> to <hh:mm>
Sunday <hh:mm> to <hh:mm>
Thursday <hh:mm> to <hh:mm>
Tuesday <hh:mm> to <hh:mm>
Wednesday <hh:mm> to <hh:mm>
Weekday <hh:mm> to <hh:mm>
Weekend <hh:mm> to <hh:mm>
no ...
```

### Description

This command filters traffic based on the specified time range.

### Syntax

Parameter	Description
<name>	Name of this time range. You can reference this name in other commands.
absolute	Specifies an absolute time range, with a specific start and/or end time and date.
periodic	Specifies a recurring time range. Specify the start and end time and Daily, Weekday, Weekend, or the day of the week.
no	Negates any configured parameter.

### Usage Guidelines

You can use time ranges when configuring session ACLs. Once you configure a time range, you can use it in multiple session ACLs.

### Example

The following command configures a time range for daytime working hours:

```
(host) (config) #time-range working-hours periodic
weekday 7:30 to 18:00
```

### Related Commands

Command	Description
<a href="#">show time-range</a>	This command displays time range information.

### Command History

Version	Modification
ArubaOS 7.0	Command introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Configuration Mode



## time-range-profile

```
time-range-profile <profile-name>
mode absolute
absolute [start-date <mm/dd/yyyy> start-time <hh:mm> end-date <mm/dd/yyyy> end-time <hh:mm>]
time-range-profile <profile-name>
mode periodic
periodic [start-day
<Daily|Weekend|Weekday|Monday|Tuesday|Wednesday|Thursday|Friday|Saturday|Sunday> start-time
<hh:mm> end-day
<Daily|Weekend|Weekday|Monday|Tuesday|Wednesday|Thursday|Friday|Saturday|Sunday> end-time
<hh:mm>]
no ...
```

### Description

This command configures time ranges.

### Syntax

Parameter	Description
absolute	Specifies an absolute time range, with a specific start and/or end time and date.
clone	Copy data from another time range profile.
mode	Specifies the time range profile mode (absolute   periodic).
periodic	Specifies a recurring time range. Specify the start and end time and Daily, Weekday, Weekend, or the day of the week.
no	Negates any configured parameter.

### Example

The following command configures a time range for daytime working hours:

```
(host) (config) #time-range-profile sample
(host) (config) #mode periodic
(host) (config) #periodic start-day daily start-time 7:00 end-day daily end-time 18:00
```

### Command History

Release	Modification
ArubaOS 7.1.1	Command introduced

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Configuration mode

# traceoptions

```
traceoptions
  chassis-manager
  dhcp-snoop
  igmp
  igmp-snooping
  interface-manager
  layer2-forwarding
  lldp
  mstp
  no
  ospf
  pim
  rmon
  routing
  stack-manager
  vrrp
```

## Description

Use this command to move into the trace options mode (traceoptions) and set trace option flags and values.

## Syntax

Parameter	Description
<code>chassis-manager flags</code>	Enter the keyword <b>flags</b> and enable any of the following chassis manager trace options: <ul style="list-style-type: none"><li>• all</li><li>• association</li><li>• debug</li><li>• environment-monitoring</li><li>• fru</li><li>• interface</li><li>• interface-statistics</li><li>• ipc</li><li>• poe-configuration</li><li>• poe-statistics</li><li>• statistics-sync</li><li>• system-statistics</li></ul>
<code>dhcp-snoop</code>	Enter the keyword <b>flags</b> and enable any of the following DHCP snoop trace options: <ul style="list-style-type: none"><li>• all</li><li>• cfg</li><li>• debug</li><li>• errors</li><li>• receive</li><li>• timer</li></ul>
<code>igmp</code>	Enter the keyword <b>flags</b> and enable any of the following IGMP trace options: <ul style="list-style-type: none"><li>• all</li><li>• debug</li><li>• leave</li><li>• query</li><li>• report</li></ul>

Parameter	Description
igmp-snooping	<p>Enter the keyword <b>flags</b> and enable any of the following IGMP snooping trace options:</p> <ul style="list-style-type: none"> <li>● all</li> <li>● config</li> <li>● errors</li> <li>● receive</li> <li>● transmit</li> </ul>
interface-manager	<p>Enter the keyword <b>flags</b> and enable any of the following interface manager trace options:</p> <ul style="list-style-type: none"> <li>● all</li> <li>● configuration</li> <li>● dhcp-client</li> <li>● ethernet</li> <li>● infrastructure</li> <li>● lacp</li> <li>● loopback</li> <li>● mgmt</li> <li>● oam</li> <li>● oam-pdu</li> <li>● port-channel</li> <li>● port-mirroring</li> <li>● system-information</li> <li>● tunnel</li> <li>● vlan</li> </ul> <p>Enter the keyword <b>level</b> and enable any of the following interface manager tracing levels:</p> <ul style="list-style-type: none"> <li>● debug</li> <li>● error</li> <li>● verbose</li> </ul>

Parameter	Description
layer2-forwarding	<p>Enter the keyword <b>flags</b> and enable any of the following Layer2-forwarding trace options:</p> <ul style="list-style-type: none"> <li>● all</li> <li>● config</li> <li>● fdb</li> <li>● gvrp</li> <li>● hsl</li> <li>● interface</li> <li>● ipc</li> <li>● learning</li> <li>● nexthop</li> <li>● port-loop-protect</li> <li>● sysinfo</li> <li>● task</li> <li>● timer</li> <li>● tunneled-node</li> <li>● vlan</li> <li>● vlan-assignment</li> <li>● vlan-port</li> </ul> <p>Enter the keyword <b>level</b> and enable any of the following Layer2-forwarding tracing levels:</p> <ul style="list-style-type: none"> <li>● debugging</li> <li>● errors</li> <li>● informational</li> </ul> <p>Enter the keyword <b>size</b> and specify the size of the Layer2 forwarding trace file.</p>
lldp	<p>Enter the keyword <b>flags</b> and enable any of the following LLDP trace options:</p> <ul style="list-style-type: none"> <li>● all</li> <li>● debug</li> <li>● errors</li> <li>● receive</li> <li>● system-state</li> <li>● transmit</li> </ul>
mstp	<p>Enter the keyword <b>flags</b> and enable any of the following MSTP trace options:</p> <ul style="list-style-type: none"> <li>● all</li> <li>● config</li> <li>● debug</li> <li>● port-information</li> <li>● received-bpdu-all</li> <li>● role-selection</li> <li>● sent-bpdu-all</li> <li>● state-machine-changes</li> <li>● system</li> <li>● topology-change</li> </ul> <p>Enter the keyword <b>port</b> followed by the port number to set MSTP traces on the specified port.</p>
no	Deletes the specified command.

Parameter	Description
ospf	<p>Enter the keyword <b>flags</b> and enable any of the following OSPF trace options:</p> <ul style="list-style-type: none"> <li>● all</li> <li>● cnf</li> <li>● db</li> <li>● dd</li> <li>● debug</li> <li>● dr-elect</li> <li>● flood</li> <li>● hello</li> <li>● lsa</li> <li>● lsr</li> <li>● lsu</li> <li>● msm</li> <li>● pkt-all</li> <li>● spf</li> <li>● state</li> </ul>
pim	<p>Enter the keyword <b>flags</b> and enable any of the following PIM trace options:</p> <ul style="list-style-type: none"> <li>● adjacency</li> <li>● all</li> <li>● debug</li> <li>● jp-asserts</li> <li>● register</li> <li>● route</li> <li>● state</li> </ul>
rmon	<p>Enter the keyword <b>flags</b> and enable any of the following remote monitoring trace options:</p> <ul style="list-style-type: none"> <li>● alarm</li> <li>● all</li> <li>● cli</li> <li>● event</li> <li>● history</li> <li>● ifstat</li> <li>● log</li> <li>● snmp</li> </ul> <p>Enter the keyword <b>level</b> and enable any of the following remote monitoring tracing levels:</p> <ul style="list-style-type: none"> <li>● debugging</li> <li>● errors</li> <li>● informational</li> </ul> <p>Enter the keyword <b>size</b> and specify the size of the remote monitoring trace file.</p>
routing	<p>Enter the keyword <b>flags</b> and enable any of the following routing trace options:</p> <ul style="list-style-type: none"> <li>● all</li> <li>● arp</li> <li>● configuration</li> <li>● event</li> <li>● interface</li> <li>● route</li> </ul>

Parameter	Description
stack-manager	<p>Enter the keyword <b>flags</b> and enable any of the following stack manager trace options:</p> <ul style="list-style-type: none"> <li>• adjacency</li> <li>• all</li> <li>• asp</li> <li>• configuration</li> <li>• primary-election</li> <li>• route</li> <li>• system</li> <li>• webui</li> </ul> <p>Enter the keyword <b>level</b> and enable any of the following stack manager tracing levels:</p> <ul style="list-style-type: none"> <li>• alert</li> <li>• critical</li> <li>• debugging</li> <li>• emergency</li> <li>• errors</li> <li>• informational</li> <li>• notice</li> <li>• warning</li> </ul>
vrrp	<p>Enter the keyword <b>flags</b> and enable any of the following VRRP trace options:</p> <ul style="list-style-type: none"> <li>• all</li> <li>• debug</li> <li>• receive</li> <li>• state</li> <li>• transmit</li> </ul>

## Usage Guidelines

You must be in the trace options mode to set trace option flags and values.

## Example

From the configuration mode execute the **traceoptions** command to move into the trace options mode.

```
(host) (config) #traceoptions
```

The following example sets the Layer 2 forwarding level to debugging :

```
(host) (traceoptions) #layer2-forwarding level debugging
```

## Related Command

Command	Description
<a href="#">show traceoptions</a>	View all the trace options flags.

## Command History

Release	Modification
ArubaOS 7.0	Command introduced
ArubaOS 7.3	New parameters <b>dhcp-snoop</b> and <b>vrrp</b> parameters were introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Configuration mode

## traceoptions interface-manager

```
traceoptions interface-manager
```

```
  flags [all|configuration|dhcp-client|ethernet|infrastructure|lACP|loopback|mgmt|port-  
channel|port-mirroring|system-information|tunnel|vlan]  
  level {debug|error|verbose}
```

### Description

Enable chassis manager trace options.

### Syntax

Parameter	Description
flags	Enter the keyword <b>flags</b> to set the interface manager trace flags.
all	Enter the keyword <b>all</b> to set all interface manager debug tracing.
configuration	Enter the keyword <b>configuration</b> to enable configuration debug tracing.
dhcp-client	Enter the keyword <b>dhcp-client</b> to enable DHCP client debug tracing.
ethernet	Enter the keyword <b>ethernet</b> to enable ethernet debug tracing.
infrastructure	Enter the keyword <b>infrastructure</b> to enable infrastructure debug tracing.
lACP	Enter the keyword <b>lACP</b> to enable LACP debug tracing.
loopback	Enter the keyword <b>loopback</b> to loopback debug tracing.
mgmt	Enter the keyword <b>mgmt</b> to enable management debug tracing.
port-channel	Enter the keyword <b>port-channel</b> to enable port channel debug tracing.
port-mirroring	Enter the keyword <b>port-mirroring</b> to enable port mirroring debug tracing.
system-information	Enter the keyword <b>system-information</b> to enable system debug message tracing.
tunnel	Enter the keyword <b>tunnel</b> to enable tunnel interface debug tracing.
vlan	Enter the keyword <b>vlan</b> to enable VLAN interface debug tracing.
level	Enter the keyword <b>level</b> to set the interface manager trace level.
debug	Enter the keyword <b>debug</b> to set the interface manager to trace debug messages.
error	Enter the keyword <b>error</b> to set the interface manager to trace debug messages.
verbose	Enter the keyword <b>verbose</b> to display user-friendly debug messages.



## Usage Guidelines

This trace option command allows you to specify the trace flag(s) you want for the Interface Manager modules.

## Example

The following example sets the interface manager to enable debug tunnel interface tracing:

```
(host) (traceoptions) #interface-manager tunnel
```

## Related Command

Command	Description
<a href="#">show traceoptions</a>	View the currently set trace flags.

## Command History

Release	Modification
ArubaOS 7.0	Command introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Configuration Mode (config)

# tracpath

tracpath <global-address>

## Description

Traces the path of an IPv6 host.

## Syntax

Parameter	Description
<global-address>	The IPv6 global address of the host.

## Usage Guidelines

Use this command to identify points of failure in your IPv6 network.

## Example

The following command traces the path of the specified IPv6 host.

```
(host) #tracpath 2005:d81f:f9f0:1001::14
```

## Command History

Release	Modification
ArubaOS 7.1	Command introduced

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable and Configuration Mode (config)

# traceroute

traceroute <ipaddr>

## Description

Trace the route to the specified IP address.

## Syntax

Parameter	Description
<ipaddr>	The destination IP address.

## Usage Guidelines

Use this command to identify points of failure in your network.

## Example

The following command traces the route to the device identified by the IP address 10.1.2.3.

```
(host) (config) #traceroute 10.1.2.3
```

## Command History

Release	Modification
ArubaOS 7.0	Command introduced

## Command Information

Platforms	Licensing	Command Mode
All Platforms	Base operating system	Enable

## user-role

```
user-role <name>
  access-list {eth|mac|stateless} <acl> [position <number>]
  captive-portal <captive-portal-profile>
  deny-inter-user-traffic
  no ...
  policer-profile <name> [per-user]
  qos-profile <name>
  reauthentication-interval <minutes>
  vlan VLAN ID
  voip-profile <name>
```

### Description

This command configures a user role.

### Syntax

Parameter	Description	Range	Default
<name>	Name of the User Role.	—	—
access-list	Type of access control list (ACL) to be applied: <b>eth:</b> Ethertype ACL, configured with the <code>ip access-list eth</code> command. <b>mac:</b> MAC ACL, configured with the <code>ip access-list mac</code> command. <b>stateless:</b> Stateless ACL, configured with the <code>ip access-list stateless</code> command.	—	—
<acl>	Name of the configured ACL.	—	—
captive-portal <captive-portal-profile>	Name of the captive portal profile to be applied to the user-role	—	—

Parameter	Description	Range	Default
<code>deny-inter-user-traffic</code>	Enable Deny Inter-user Traffic on a role to deny the traffic between users with the same role. You can enable this option on a maximum of 7 user-roles.	—	—
<code>policer-profile &lt;name&gt;</code>	Name of the policer profile to be configured under this role.	—	—
<code>per-user</code>	Option to assign policer profile where granular rate limiting is required, that is per-user. <b>NOTE:</b> The default is per-role.	—	—
<code>qos-profile &lt;name&gt;</code>	Name of the QoS profile to be configured under this role.	—	—
<code>reauthentication-interval</code>	Time interval in minutes after which the client is required to reauthenticate.	0-4096	0 (disabled)
<code>vlan VLAN ID</code>	Identifies the VLAN ID to which the user role is mapped.	—	—
<code>voip-profile &lt;name&gt;</code>	Name of the VoIP profile to be configured under this role.	—	—

## Usage Guidelines

Every client in a user-centric network is associated with a user role. Clients start in an initial role. From the initial role, clients can be placed into other user roles as they pass authentication.

## Example

The following command configures a user role:

```
(host) (config) #user-role new-user
access-list stateless stl_acl
```

## Command History

Release	Modification
ArubaOS 7.0	Command introduced.
ArubaOS 7.2	The <b>per-user</b> parameter for policer-profile was introduced.
ArubaOS 7.4	The <b>deny-inter-user-traffic</b> parameter was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Configuration

# vlan

```
vlan <id>
  aaa-profile <profile-name>
  clone <source>
  description <name>
  igmp-snooping-profile <profile-name>
  mac-address-table static <mac-address> {gigabitethernet <slot/module/port>|port-channel<0-7>}
  mac-aging-time <minutes>
  no {...}
  pvst-profile <profile-name>
  exit
```

## Description

This command creates a VLAN with the specified configuration parameters.

## Syntax

Parameter	Description	Range	Default
<id>	Identification number for the VLAN.	2-4094	—

Parameter	Description	Range	Default
aaa-profile <profile-name>	<p>Assigns a AAA profile to a VLAN to enable role-based access for wired clients connected to an untrusted VLAN or port on the Mobility Access Switch. This parameter applies to wired clients only. Note that this profile will only take effect if the VLAN and/or the port on the switch is untrusted. If both the port and the VLAN are trusted, no AAA profile is assigned.</p>	—	—
clone <source>	<p>Copies VLAN configuration information from another VLAN ID.</p>	—	—



Parameter	Description	Range	Default
<code>description &lt;name&gt;</code>	Specifies a description/name for the VLAN.	1-32 characters; cannot begin with a numeric character	VLAN 000x, where x is the ID number.
<code>igmp-snooping-profile &lt;profile-name&gt;</code>	Applies the specified IGMP snooping profile to the VLAN.	—	—
<code>mac-aging-time &lt;minutes&gt;</code>	Specifies the MAC aging time in minutes.	—	5 minutes
<code>mac-address-table static &lt;mac-address&gt; {gigabitethernet &lt;slog/module/port&gt; port-channel&lt;0-7&gt;}</code>	Adds the specified MAC address to the MAC address table.	—	—
<code>no {...}</code>	Removes the specified configuration parameter.	—	—
<code>pvst-profile &lt;profile-name&gt;</code>	Applies the specified PVST profile to the VLAN.	—	—

## Usage Guidelines

Use the `interface vlan` command to configure the VLAN interface, including an IP address.

To enable role-based access for wired clients connected to an untrusted VLAN and/or port on the switch, you must use the `aaa-profile` parameter to specify the wired AAA profile you would like to apply to that VLAN. If you do not specify a per-VLAN AAA profile, traffic from clients connected to an untrusted wired port or VLAN will use the global AAA profile, if configured.

## Example

```
vlan 101
  aaa-profile AAA_General
  description General
  igmp-snooping-profile IGMP_General
  mac-address-table static 1a:2b:3c:4d:5e:6f:7g:8h gigabitethernet 0/0/2
  mac-aging-time 30
  exit
```

## Related Commands

Command	Description
<a href="#">show vlan</a>	Displays VLAN information.

## Command History

Release	Modification
ArubaOS 7.0	Command was introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Config mode

## vlan-profile dhcp-snooping-profile

vlan-profile dhcp-snooping-profile <profile-name>

### Description

This command creates a DHCP snooping profile that can be applied to a VLAN.

### Syntax

Parameter	Description	Range	Default
<profile-name>	Identification name for the IGMP snooping profile.		

### Usage Guidelines

Use this command to create a dhcp-snooping profile.

### Example

The following example enables and configures DHCP Snooping on a VLAN:

```
(host) ("vlan 6")# vlan-profile dhcp-snooping-profile DHCP
(host) (dhcp-snooping-profile "DHCP")# enable
```

The following example attaches DHCP Snooping profile on the VLAN:

```
(host) ("vlan 6")# dhcp-snooping-profile DHCP
```

### Related Commands

Command	Description
<a href="#">show vlan-profile dhcp-snooping-profile</a>	This command displays an DHCP snooping profile and the associated parameters.

### Command History

Release	Modification
ArubaOS 7.3	Command introduced

### Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Configuration mode

## vlan-profile igmp-snooping-profile

```
vlan-profile igmp-snooping-profile {igmp-snooping-factory-initial |default|<profile-name>}
  clone <source>
  fast-leave
  last-member-query-count <1-5>
  last-member-query-interval <1-25 seconds>
  no {...}
  query-interval <1-18000 seconds>
  query-response-interval <1-25 seconds>
  robustness-variable <1-7>
  snooping [v3]
  snooping-proxy [v3]
  startup-query-count <1-10>
  startup-query-interval <1-18000 seconds>
```

### Description

This command creates an IGMP snooping profile that can be applied to a VLAN.

### Syntax

Parameter	Description	Range	Default
<profile-name>	Identification name for the IGMP snooping profile.		
clone <source>	Copies IGMP snooping configuration information from another IGMP snooping profile.		
fast-leave	Enables fast leave.		Disabled
last-member-query-count <1-5>	Specifies the number of IGMP queries in response to host leave message.	1-5	2
last-member-query-interval <1-25 seconds>	Specifies the IGMP query interval in response to host leave message.	1-25 seconds	1
no {...}	Disables the specified configuration parameters.		
query-interval <1-18000 seconds>	Specifies the periodic interval at which queries are sent.	1-18000 seconds	125
query-response-interval <1-25 seconds>	Specifies the maximum query response time.	1-25 seconds	10
robustness-variable <1-7>	Specifies the expected IGMP packet loss on a congested network.	1-7	2
snooping [v3]	Enables IGMPv2 Snooping. Specifying the v3 keyword enables IGMPv3 Snooping.		IGMPv2 Snooping Enabled

Parameter	Description	Range	Default
snooping-proxy [v3]	Enables IGMPv2 Snooping proxy. Specifying the v3 keyword enables IGMPv3 Snooping proxy.		Disabled
startup-query-count <1-10>	Specifies the number of queries to be sent at startup.	1-10	2
startup-query-interval <1-18000 seconds>	Specifies the interval at which startup queries should be sent.	1-18000 seconds	31

## Usage Guidelines

Use this command to create an igmp-snooping profile. Creating an IGMP snooping profile does not apply the configuration to any VLAN. To apply the IGMP snooping profile, use the `vlan` command.

## Example

The following example creates an IGMP snooping profile:

```
vlan-profile igmp-snooping-profile IGMP_General
  fast-leave
  last-member-query-count 3
  last-member-query-interval 20
  query-interval 15000
  query-response-interval 20
  robustness-variable 5
  snooping
  snooping-proxy
  startup-query-count 7
  startup-query-interval 15000
```

## Related Commands

Command	Description
<a href="#">show vlan-profile igmp-snooping-profile</a>	Displays the IGMP snooping profile information.

## Command History

Release	Modification
ArubaOS 7.0	Command introduced
ArubaOS 7.4	The <b>v3</b> parameter was added to <b>snooping</b> and <b>snooping-proxy</b> commands.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Configuration mode

## vlan-profile mld-snooping-profile

```
vlan-profile mld-snooping-profile <profile-name>
  clone
  fast-leave
  last-member-query-interval
  no
  query-interval
  query-response-interval
  robustness-variable
  snooping
```

### Description

Use this command to configure an MLD-Snooping profile.

### Syntax

Parameter	Description	Range	Default
clone	Copies data from another mld-snooping-profile.	n/a	n/a
fast-leave	Enables or disables fast leave.	n/a	n/a
last-member-query-interval	MLD query interval in response to host leave message.	1-25	secs
no	Delete command.	-	-
query-interval	Periodic interval at which queries are sent.	1-18000	-
query-response-interval	Maximum query response time (1-25)secs	(1-25)	secs
robustness-variable	Expected MLD packet loss on a congested network.	1-7	
snooping	Enable or disable MLD snooping.	n/a	enabled

### Usage Guidelines

To configure an MLD-Snooping profile, use the following commands in the configuration mode:

```
(host) (config) #vlan-profile mld-snooping-profile default
(host) (mld-snooping-profile "default") #snooping
(host) (mld-snooping-profile "default") #
```

### Example

To display an MLD-Snooping profile, use the following command in the configuration mode:

```
(host) #show vlan-profile mld-snooping-profile default

mld-snooping-profile "default"
-----
Parameter                Value
-----
robustness-variable       2
last-member-query-interval (secs)  1
query-interval (secs)      125
query-response-interval (secs)  10
Enable fast leave         Disabled
```

Enable mld snooping

Enabled

## Command History

Release	Modification
ArubaOS 7.4	This command is introduced.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Enable

## vlan-profile pvst-profile

```
vlan-profile pvst-profile <name>
  bridge-priority
  clone
  enable
  forward-delay
  hello-time
  max-age
  no
```

### Description

Creates a PVST+ profile and allows you to enable or disable the PVST+ bridge and configure the root bridge priority, forward delay time, time interval for generating PVST+ BPDUs, and the refresh time

### Syntax

Parameter	Description	Range	Default
<name>	Name of the PVST+ profile.	—	—
bridge-priority <value>	The root bridge priority. Enter the bridge priority value in increments of 4096. <b>Valid values:</b> 0, 4096, 8192, 12288, 16384, 20480, 24576, 28672, 32768, 36864, 40960, 45056, 49152, 53248, 57344, and 61440. All other values are rejected.	0 to 61440	32768
clone	Creates a copy of the PVST+ profile with the same configuration.	—	—
enable	Enables or disables the PVST+ bridge.	—	—
forward-delay	The amount of time, in seconds, before the port transitions to forwarding. During this delay time, data packets are not forwarded	4-30	15
hello-time	Sets the time interval, in seconds, between generation of PVST+ BPDUs (Bridge Protocol Data Units).	1-10	2
max-age	Sets the time interval for the PVST+ bridge to maintain configuration information before refreshing that information	6-40	20

### Usage Guidelines

This command enters you into the PVST+ profile configuration mode. The prompt changes to include the PVST+ profile name. You can then enable or disable the PVST+ bridge, set the root bridge priority, forward delay time, time interval for generating PVST+ BPDUs, and the refresh time.

### Example

The following is a sample PVST+ profile configuration:

```
(host) (config) #vlan-profile pvst-profile techpubs
(host) (pvst-profile "techpubs") #enable
(host) (pvst-profile "techpubs") #bridge-priority 12288
(host) (pvst-profile "techpubs") #forward-delay 22
```



```
(host) (pvst-profile "techpubs") #hello-time 5
(host) (pvst-profile "techpubs") #max-age 25
```

## Related Command

Command	Description
<a href="#">show vlan-profile pvst-profile</a>	Display the parameters and values of the pvst-profile

## Command History

Release	Modification
ArubaOS 7.1	Command introduced

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Configuration Mode (config)

## vrrp

```
vrrp <id>  
  advertise <interval>  
  clone <source>  
  ip <address>  
  no  
  preempt  
  preemption delay <seconds>  
  priority <level>  
  shutdown  
  tracking vlan <vlanId>
```

### Description

Issue this command to enable and configure a VRRP profile on the Mobility Access Switch.

### Syntax

Parameter	Description	Range	Default
vrrp <id>	Unique virtual router ID of the VRRP profile.	1—255	—
advertise <interval>	Specifies the VRRP advertisement interval (in seconds) after which the master Mobility Access Switch sends VRRP advertisement packets to the peers in the group.	1—3600	1
clone <source>	Copy configuration from another VRRP instance.	—	—
ip <address>	Virtual router IP address of the master and backup Mobility Access Switch. This IP address must be different from the VLAN interface IP address on which the virtual router is configured.	—	—
no	Deletes or negates previously entered VRRP configuration or parameter.	—	—
preempt	Enables preemption for the VRRP profile. If you enable preemption, VRRP determines the state of the backup Mobility Access Switch when it becomes the master. For example, if Switch A is the master and fails, VRRP selects Switch B (next in the order of priority). If Switch C comes online with a higher priority than Switch B, VRRP selects Switch C as the new master, although Switch B has not failed. When disabled, VRRP switches only if the original master recovers or the new master fails. This is the default behavior.	Enabled	—
preemption delay <seconds>	Delay in seconds, the backup should wait for before transitioning to master.	0—3600	0

Parameter	Description	Range	Default
priority <level>	Sets the VRRP router priority level. A priority of 255 indicates that the Mobility Access Switch has stopped participating in the VRRP group. The switch with highest configured priority always wins the election for master in preemptive mode of operation. For example, a switch with a priority level of 254 wins the election, but a switch with priority level 255 stops participating in the VRRP group.	1–255	100
shutdown	Terminates the participation of the master Mobility Access Switch in the VRRP group. The priority of the switch is set to 255 indicating that the switch has stopped participating in the VRRP group.	–	–
tracking vlan <vlanId>	Tracks the up-link layer-3 VLAN interface transitions. When the up-link layer-3 VLAN interface of the master Mobility Access Switch fails, the role of the master is transitioned to the backup Mobility Access Switch.	–	–

## Usage Guidelines

By default, VRRP is disabled on the Mobility Access Switch. You can enable VRRP by issuing the **vrrp <id>** command in the CLI.

### Example:

```
(host) (config) #vrrp 1
(host) (Interface VRRP profile "1") #advertise 10
(host) (Interface VRRP profile "1") #ip 192.0.2.2
(host) (Interface VRRP profile "1") #preempt
(host) (Interface VRRP profile "1") #preemption delay 10
(host) (Interface VRRP profile "1") #priority 200
```

## Related Commands

Command	Description
<a href="#">show vrrp</a>	This command displays the VRRP interface profile state and statistics.
<a href="#">show vrrp-config</a>	This command displays the VRRP interface profile configuration.

## Command History

Release	Modification
ArubaOS 7.3	Command introduced.

## Command Information

Platforms	Licensing	Command Mode
All platforms	Base operating system	Configuration mode

## web-server

```
web-server
  captive-portal-cert <name>
  captive-portal-ports
  ciphers {high|low|medium}
  mgmt-auth [certificate] [username/password]
  mgmt-ui-ports
  no ...
  session-timeout <session-timeout>
  ssl-protocol [sslv2] [sslv3] [tlsv1]
  switch-cert <name>
  web-max-clients <web-max-clients>
```

### Description

This command configures the Mobility Access Switch's web server.

### Syntax

Parameter	Description	Range	Default
captive-portal-cert	Specifies the name of the server certificate associated with captive portal. Use the <b>show crypto-local pki ServerCert</b> command to see the server certificates installed in the Mobility Access Switch.	—	default
captive-portal-ports	Disable or re-enable the ports for Captive Portal.	—	enabled
ciphers	Configures the strength of the cipher suite: <b>high</b> : encryption keys larger than 128 bits <b>low</b> : 56 or 64 bit encryption keys <b>medium</b> : 128 bit encryption keys <b>NOTE</b> : This command is not available in FIPS software images because ciphers are pre-configured only to acceptable values.	high, low, medium	high
mgmt-auth	Specifies the authentication method for the management user; you can choose to use either username/password or certificates, or both username/password and certificates.	username/ password, certificate	username/ password
mgmt-ui-ports	Disable or re-enable the ports for WebUI	—	enabled
no	Negates any configured parameter.	—	—
session-timeout <session-timeout>	Specifies the amount of time after which the WebUI session times out and requires login for continued access.	30-3600 seconds	900 seconds

Parameter	Description	Range	Default
ssl-protocol	Specifies the Secure Sockets Layer (SSL) or Transport Layer Security (TLS) protocol version used for securing communication with the web server: <b>SSLv3</b> <b>TLSv1</b>	sslv3, tlsv1	sslv3, tlsv1
switch-cert	Specifies the name of the server certificate associated with WebUI access. Use the <b>show crypto-local pki ServerCert</b> command to see the server certificates installed in the Mobility Access Switch.	—	default
web-max-clients <web-max-client>	Configures the web server's maximum number of supported concurrent clients.	25-320	25

## Usage Guidelines

There is a default server certificate installed in the Mobility Access Switch, However this certificate does not guarantee security in production networks. Best practices are to replace the default certificate with a custom certificate issued for your site by a trusted Certificate Authority (CA). After importing the signed certificate into the Mobility Access Switch, use the **web-server** command to specify the certificate for captive portal or WebUI access. If you need to specify a different certificate for captive portal or WebUI access, use the **no** command to revert back to the default certificate before you specify the new certificate (see the Example section).

You can use client certificates to authenticate management users. If you specify certificate authentication, you need to configure certificate authentication for the management user with the **mgmt-user webui-cacert** command.

## Example

The following commands configure WebUI access with client certificates only, and specify the server certificate for the Mobility Access Switch:

```
(host) (config) #web-server mgmt-auth certificate
  switch-cert ServerCert1
  mgmt-user webui-cacert serial 11111111 web-admin root
```

To specify a different server certificate, use the **no** command to revert back to the default certificate *before* you specify the new certificate:

```
(host) (config) #web-server mgmt-auth certificate
  switch-cert ServerCert1
  no switch-cert
  switch-cert ServerCert2
```

## Command History

Version	Modification
ArubaOS 7.0	Command introduced
ArubaOS 7.3.1	The <b>mgmt-ui-ports</b> and <b>captive-portal-ports</b> parameters were introduced.

## Command Information

Platforms	Licensing	Command Mode
All platforms	Base operating system	Configuration mode

# whoami

whoami

## Description

This command displays information about the current user logged into the controller.

## Syntax

No parameters.

## Usage Guidelines

Use this command to display the name and role of the user who is logged into the controller for this session.

## Example

The following command displays information about the user logged into the controller:

```
(host) #whoami
```

## Command History

This command was available in ArubaOS 7.0.

## Command Information

Platforms	Licensing	Command Mode
Mobility Access Switch	Base operating system	Configuration and Enable modes

## write

```
write {erase [all] | memory | terminal}
```

### Description

This command saves the running configuration to memory or displays the running configuration on the screen. This command can also be used to erase the running configuration and return the controller to factory defaults.

### Syntax

Parameter	Description
erase	Erases the running system configuration file. Rebooting the controller resets it to the factory default configuration. If you specify all, the configuration and all data in the controller databases (including the license, WMS, and internal databases) are erased.
memory	Saves the current system configuration to memory. Any configuration changes made during this session will be made permanent.
terminal	Displays the current system configuration.

### Usage Guidelines

Configuration changes made using the CLI affect only the current session. You must save your changes for them to be retained across system reboots. Changes are lost if the system reboots before saving the changes. To save your configuration changes, use the `write memory` command.

If you use the `write erase` command, the license key management database on the controller is not affected. If you use the `write erase all` command, all databases on the controller are deleted, including the license key management database.

If you reset the controller to the factory default configuration, perform the Initial Setup as described in the Aruba Quick Start Guide.

If you use the `write terminal` command, all of the commands used to configure the controller appear on the terminal. If paging is enabled, there is a pause mechanism that stops the output from printing continuously to the terminal. To navigate through the output, use any of the commands displayed at the bottom of the output, as described in below. If paging is disabled, the output prints continuously to the terminal.

Parameter	Description
Q	Erases the running system configuration file. Rebooting the controller resets it to the factory default configuration. If you specify all, the configuration and all data in the controller databases (including the license, WMS, and internal databases) are erased.
U	Saves the current system configuration to memory. Any configuration changes made during this session will be made permanent.
spacebar	Displays the current system configuration.
/	Enter a text string for your search.
N	Repeat the text string for your search.



## Example

The following command saves your changes so they are retained after a reboot:

```
(host) #write memory
```

The following command deletes the running configuration and databases and returns the controller to the factory default settings:

```
(host) #write erase
```

## Command History

Release	Modification
ArubaOS 7.0	Command introduced

## Command Information

Platforms	Licensing	Command Mode
All Platforms	Base operating system	Enable