Exploring New Ansible Features

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Agenda

Network fact gathering

Ansible collections

Cisco Genie parsers

Network Fact Gathering

Ansible 2.8 and earlier
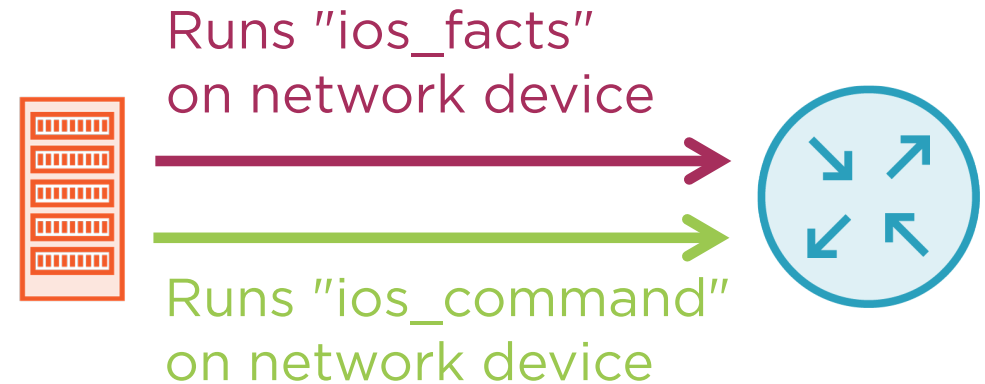
```
- hosts: routers
  gather_facts: true
  tasks:
    - ios_command:
        commands: "show version"
```
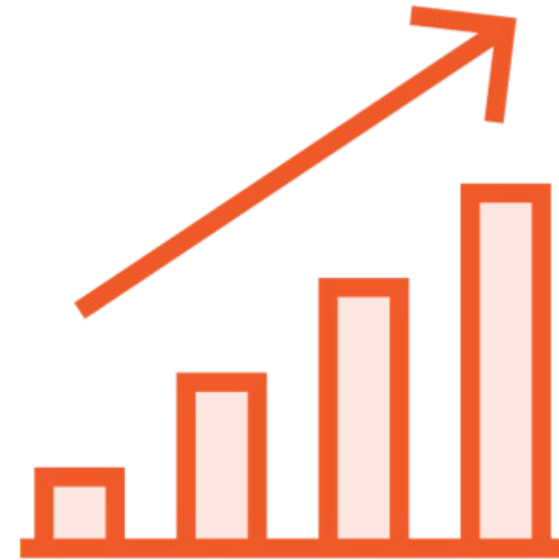
Runs "setup"
on localhost

Runs "ios_command"
on network device

Ansible 2.9 and later

```
- hosts: routers
  gather_facts: true
  tasks:
    - ios_command:
        commands: "show version"
```

Runs "ios_facts"
on network device

Runs "ios_command"
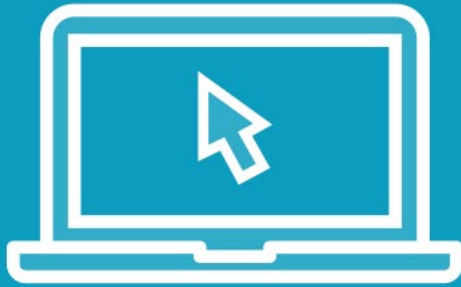on network device

Performance Issues
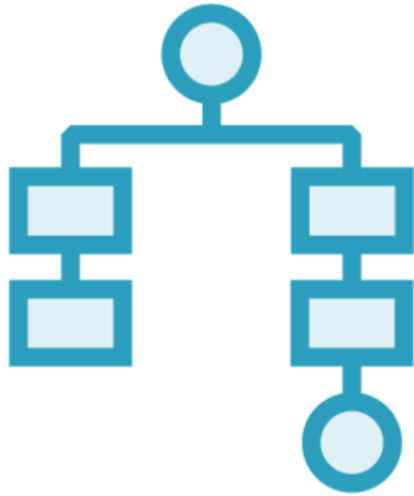
Memory utilization
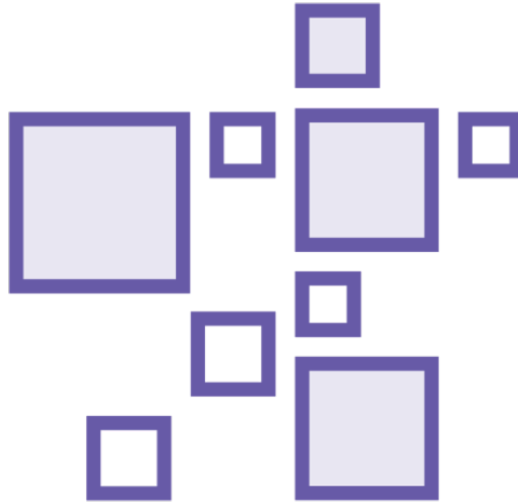is increasing fast!

Demo

Default fact gathering on Cisco IOS-XE

Ansible Collections

Hierarchical package

Variable size/scope

Uses ansible-galaxy

```
- hosts: routers
  tasks:
    - ios_command:
        commands: "show version"
```

◄ **Classic playbook, no collections**

```
- hosts: routers
  tasks:
    - cisco.ios.ios_command:
        commands: "show version"
```

◄ **Refactored using collections**
◄ **Fully-qualified collection name (FQCN)**

```
- hosts: routers
  collections:
    - cisco.ios
  tasks:
    - ios_command:
        commands: "show version"



- hosts: all
  collections:
    - geerlingguy.k8s
  roles:
    - kubernetes
```

◄ Alternative: relative naming

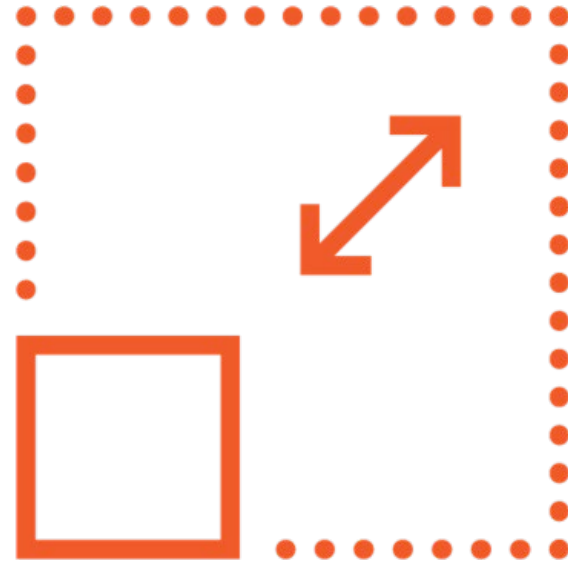◄ No change to tasks
◄ Beware namespace conflicts!

◄ Community collections too
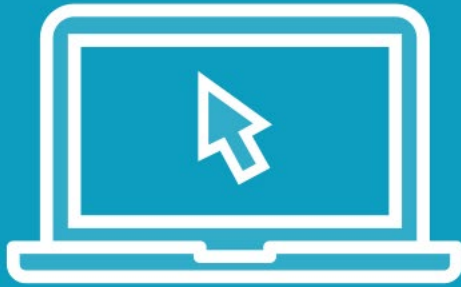

◄ May have roles, not just modules
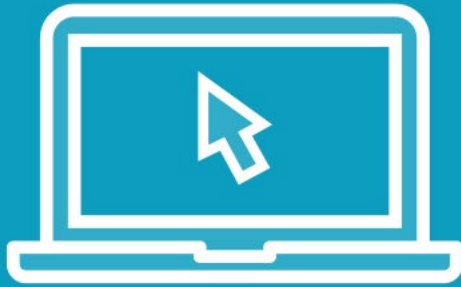
Improve Modularity

Demo

Galaxy collections and basic refactoring
- ios_command

Demo

More refactoring examples

- ios_config

- netconf_config/netconf_rpc

Introducing Cisco Genie

**Python and
open source**

Many great parsers

Can "learn" networks

```yaml
# collection clay584.genie installed
# Written by Clay Curtis

- hosts: routers
  tasks:
    - ios_command:
        commands: "show version"
      register: ver_output

    - set_fact:
        ver_data: "{{
          ver_output.stdout[0] |
          clay584.genie.parse_genie(
            command='show version',
            os='iosxe')
        }}"
```
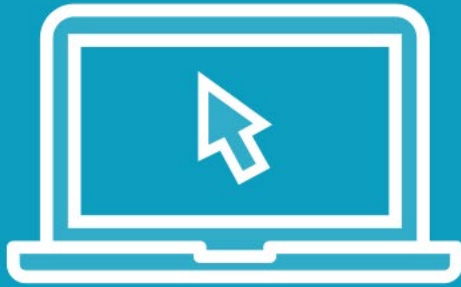
◄ Collect CLI command output

◄ Utilize a filter within the collection

◄ Tell Genie the source command

◄ Tell Genie what network OS

Demo

Parsing VRF data with Genie

New Features in Review

Automatic fact gathering

Modularity with collections

Genie integration

Check out "Automating Networks with Python" at Pluralsight!