Network management

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Playbooks

- Playbook
    - Play1
        - task1
            - module
        - task2
            - module
    - Play2
        - task1
            - module
        - task2
            - module

Run playbook vs ad-hoc

```
ansible-playbook get_ips.yaml

ansible network-devices -m “raw” -a “show ip int br” -u cisco --ask-pass
                        |-------------task----------------|
        |--------------------play--------------------------------|
```

Playbook example

```
---
- name: Play1. Get ips
  hosts: routers
  tasks:
    - name: Task1. Get interfaces
      ios_command:
        commands:
          - show ip int br
- name: Play2. Get version
  hosts: all
  tasks:
    ...
```

Getting info from playbook

- ansible-playbook <playbook> -v
- Modules:
  - debug
  - copy

Ansible variables

Can be defined in multiple places:

- Command line
- Inventory file
- Separate group_vars files
- Separate host_vars files
- Plays
- Tasks
- ...

More: docs.ansible.com/ansible/latest/user_guide/playbooks_variables.html

Ansible variables in inventory file

Best practice: only connection related variables

```
[routers]
192.168.56.106 ansible_network_os=ios ansible_connection=network_cli

[routers:vars]
ansible_user=cisco
```

Ansible variables folders

```
.
├── ansible.cfg
├── group_vars
│   ├── all.yaml
│   └── routers.yaml
├── host_vars
│   └── 192.168.56.106.yaml
└── hosts
```

```
---
syslog_servers:
  - 192.168.56.110
  - 10.1.1.10
admin_networks:
  - 192.168.56.0 0.0.0.255
  - 10.0.0.0 0.255.255.255
mgmt_int: lo0
```

Ansible variables

{{ ansible_network_os }} -> “ios”

```
-  name: Task1. Show variable
   debug: var=ansible_network_os
-  name: Task2. Show message
   debug:
     msg: “Task is executed on {{ inventory_hostname }}”
```

Ansible variables

```
tasks:
  - name: Collect output
    ios_command:
      commands:
        - show ip int br
        - show ip ro
    register: router_output

  - name: Show output
    debug:
      var: router_output
```

```
- name: Save output
  copy:
    dest: {{ inventory_hostname }}.txt
    content: “{{ router_output.stdout }}”

- name: Send device specific command
  ios_command:
    commands:
      - {{ show_command }}
```

How to check what commands are executed

EEM is build-in scripting tool

EEM applet example:

```
event manager applet show_me_commands
 event cli pattern ".*" sync no skip no
 action 1.0 syslog msg "$_cli_msg"
end
```