Linux RedHat Certified Engineer (RHCE - EX294)

Manage Variables, Facts and Additional Features

Tags

- Tags are the reference or aliases to a task
- Instead of running an entire Ansible playbook, use tags to target a specific tasks you need to run

```
# vim httpbytags.yml
---
- name: Setup Apache server
  hosts: localhost
  tasks:
  - name: Install httpd
    yum:
     name: httpd
     state: present
    tags: i-httpd

  - name: Start httpd
    service:
     name: httpd
     state: started
    tags: s-httpd
```

```
# anisble-playbook httpbytags.yml -t i-httpd
```

```
# anisble-playbook httpbytags.yml -t s-httpd
```

- To list all tags in a playbook
  ```
  # anisble-playbook httpbytags.yml --list-tags
  ```
- To run a task using tag
  ```
  # anisble-playbook httpbytags.yml -t i-httpd
  ```
- To skip a task using tag
  ```
  # anisble-playbook httpbytags.yml --skip-tags i-httpd
  ```
- Wait a second…
- We can use "tasks option" to start a playbook at a specific task
  ```
  # anisble-playbook yamlfile.yml --start-at-task 'Task name'
  # anisble-playbook http.yml --start-at-task 'Intall httpd'
  ```

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Variables

- Variables are like containers that hold the defined value which can be used repetitively

IMPORTANT Things to Remember about Variables!

- Name can include letters, numbers and underscore
- Name should always start with a letter
- Cannot have a spaces, dots (.) or hypen (-) in variable name
- Variables can be defined inside of inventory files as well

Variables

Example

1

```
---
- name: Install some package
  hosts: all
  vars:
   sespackage: sesquipedalianism

  tasks:
  - name: Package install
    yum:
     name: “{{ sespackage }}”
     state: present

  - name: Start service
    service:
     name: “{{ sespackage }}”
     state: started
```

```
---
- name: Package installation
  hosts: all
  vars:
   pack: httpd

  tasks:
  - name: Install package
    yum:
     name: “{{ pack }}”
     state: present

  - name: Start service
    service:
     name: “{{ pack }}”
     state: started
```

Variables

Examples

2

```
---
- name: Copy file to remote clients
  hosts: all
  vars:
   srcfile: /home/iafzal/somefile
  tasks:

  - name: Copying file
    become: true
    copy:
     src: “{{ srcfile }}”
     dest: /tmp
     owner: iafzal
     group: iafzal
     mode: 0644
```

3

```
---
- name: Create a file
  hosts: localhost
  vars:
   file_name: kramer

  tasks:
  - name: Create file in /tmp
    file:
     state: touch
     path: /tmp”{{ file_name }}”.txt
```

4

```
---
 - name: Print Hello world
   hosts: all
   vars:
     say: Hello World!

   tasks:
   - name: Ansible Variable Basic Usage
       debug:
       msg: "{{ say }}"
```

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Variables in Inventory File

Example

```
[webservers]
client1.xyz.com
client2.xyz.com

[abc:vars]
fooserver=foo.abc.example.com
ntpserver=ntp.abc.example.com
proxyserver=proxy.abc.example.com


server1 ansible_host=201.0.113.111
server2 ansible_host=201.0.113.112
server3 ansible_host=201.0.113.113
server4 ansible_host=abc.example.com
```

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Ansible Vault

- Ansible can automate tasks for teams such as:
    - Hardware
    - Operating systems
    - Virtualization
    - Database or Storage
    - Applications/Software etc.

- Oftentimes you have to share Ansible code with these groups over the network and anything you share over network has a risk to end up in wrong hands

- It is best practice to use **Ansible vault** feature which will password protect your code

Ansible Vault

- yaml file with ansible-vault

```
# ansible-vault create httpbyvault.yml

---
- name: Install httpd package
  hosts: localhost

  tasks:
  - name: Install package
    yum
      name: httpd
      state: present
```

```
# ansible-playbook httpbyvault.yml = ERROR!
```

- To run a vaulted yml file
  ```
  # ansible-playbook httpbyvault.yml --ask-vault-pass
  ```

- To view a vaulted yml file
  ```
  # ansible-vault view httpbyvault.yml
  ```

- To edit an existing vaulted yml file
  ```
  # ansible-vault edit httpbyvault.yml
  ```

- To get a list of options
  ```
  # ansible-vault --help
  ```

- `httpbyvault.yml` file was created with ansible-vault, what about exiting files???

  ```
  # vim testbyvault.yml

  # ansible-vault encrypt testbyvault.yml
  ```

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Encrypt Strings within a Playbook

- Strings/words can be encrypted within a playbook

```
# ansible-vault encrypt_string httpd
# ansible-vault create/encrypt outputbystring.yml

---
- name: Test encrypted output
  hosts: localhost
  vars:
          secret: !vault |
                  $ANSIBLE_VAULT;1.1;AES256
                  343430663635356335383138383833363616161633163326638303737383537316563633865653166
                  3237613536323465326636623465343866646332633362630a636533303762636630313830303531
                  66613766666130346135623436356138303262656162353330623535346135613566333439663230
                  3265333738653532310a353632373565386138373832656336393861323030643263323535326230
                  3164

  tasks:
          - name: Print encrypted string
            debug:
                    var: secret
```

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