



Using Tags in Ansible

By: Er. Vikas Nehra (M. Tech, B. Tech), Experience: 15 + Years

Session - 20 Agenda:

1. Ansible Tags

Ansible Tags:

If you have a large playbook, it may be useful to run only specific parts of it instead of running the entire playbook. You can do this with Ansible tags. Using tags to execute or skip selected tasks is a two-step process:

1. Add tags to your tasks, either individually or with tag inheritance from a block, play, role, or import.
 2. Select or skip tags when you run your playbook.
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Let's understand it with the help of a playbook to configure the Apache web server on the managed nodes (this playbook has several tasks in it).

\$ vim apache.yml

- name: Apache Web Server Configuration Playbook

hosts: node1

become: true

tasks:

- name: Installing Apache Latest Packages

yum:

name: httpd

state: latest

- name: Starting & Enabling Apache HTTPD Service

service:

name: httpd

state: started

enabled: true

- name: Setting Up Apache Web Server

copy:

content: "Nehra Classes Are Awesome."

dest: /var/www/html/index.html

- name: Restarting Apache HTTPD Service

service:

name: httpd

state: restarted

- name: Allowing HTTP Traffic in the Firewall.

firewalld:

service: http

permanent: yes

state: enabled

- name: Reload the Firewall Service

service:

name: firewalld

state: reloaded

...

Let's check and execute the playbook to configure the Apache Web Server on node1.

\$ ansible-playbook apache.yml

Here you can see that the playbook is returning an error because of missing firewalld module, this module can be manually installed using below command.

\$ ansible-galaxy collection install ansible.posix



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Now, again execute the playbook and check.

\$ ansible-playbook apache.yml

This time you can see that the playbook executes successfully and creates the Apache web server on node1. Now, we can execute curl command to check the working of the Apache web server, which will show us the details present on the index.html page.

\$ curl node1

Using Tags in Ansible Playbooks:

To use the tags in the Ansible playbooks we have to assign the tags to the tasks first which we want to manage using the tags. And this can be done either individually or with tag inheritance from a block, play, role, or import.

Let's assign the tags to all the tasks present in the above playbook.

\$ vim apache_tags.yml

- name: Apache Web Server Configuration Playbook With Tags

hosts: node3

become: true

tasks:

- name: Installing Apache Latest Packages

yum:

name: httpd

state: latest

tags: pack_tag

- name: Starting & Enabling Apache HTTPD Service

service:

name: httpd

state: started

enabled: true

tags: serv_tag

- name: Setting Up Apache Web Server

copy:

content: "Nehra Classes Are Awesome."

dest: /var/www/html/index.html

tags: index_tag

- name: Restarting Apache HTTPD Service

service:

name: httpd

state: restarted

tags: restart_tag

- name: Allowing HTTP Traffic in the Firewall.

firewalld:

service: http

permanent: yes

state: enabled

tags: firewall_tag

- name: Reload the Firewall Service

service:

name: firewalld

state: reloaded

tags: firewall_tag

...

Note: We can add same tag to multiple tasks as well as multiple tags to the same task using lists format.



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Select Tags (Executes Selected Tags Only):

Only selected tags are executed and all other remaining tags are ignored when we mention the tag name while executing the ansible playbook.

Let's check the httpd package availability first the managed node using the ansible ad-hoc command.

```
$ ansible node3 -m command -a 'rpm -qi httpd'
```

Let's now only execute the first task to install the Apache httpd package and skip all the other tasks in the above playbook.

```
$ ansible-playbook apache_tags.yml --tags="pack_tag"
```

Verify the same using ansible ad-hoc command.

```
$ ansible node3 -m command -a 'rpm -qi httpd'
```

Let's check the httpd service status on the managed node using ansible ad-hoc command.

```
$ ansible node3 -m command -a 'systemctl status httpd'
```

Let's now only execute the first & second task only and skip all the other tasks in the above playbook.

```
$ ansible-playbook apache_tags.yml --tags="pack_tag,serv_tag"
```

Verify the same using ansible ad-hoc command.

```
$ ansible node3 -m command -a 'systemctl status httpd'
```

Skip Tags (Skips Selected Tags Only):

Only selected tags are skipped and all other remaining tags are executed when we mention the tag name while executing the ansible playbook.

Suppose we want to skip the first two tasks (package installation and starting the service).

```
$ ansible-playbook apache_tags.yml --skip-tags="pack_tag,serv_tag"
```

Let's skip both the firewall related tasks.

```
$ ansible-playbook apache_tags.yml --skip-tags="firewall_tag"
```

Always Tag (Mandatory Tag):

This tag executes the task every time irrespective of what have we mentioned in the command while executing the ansible playbook.

e.g. Suppose we want to restart the apache service every time when we execute the ansible playbook, we can mention always keyword in the tags section against this task as shown below.

```
- name: Restarting Apache HTTPD Service
```

```
  service:
```

```
    name: httpd
```

```
    state: restarted
```

```
  tags: always
```

Let's execute the playbook and verify the same.

```
$ ansible-playbook apache_tags.yml --tags="pack_tag"
```

Here you can see that the above command is executing two tasks one for the package installation and other to restart the httpd service. This is happening because of the always tag, which is there in the restart httpd service section.



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Assigning Multiple Tags:

We can assign multiple tags to the same task using lists format.

- name: Restarting Apache HTTPD Service

service:

name: httpd

state: restarted

tags:

- restart_tag

- service_tag

This is useful in case if we want to run the particular task with some other task(s), so we use different tag names for the same task in such cases.

Thanks

Nehra Classes
Igniting The Minds