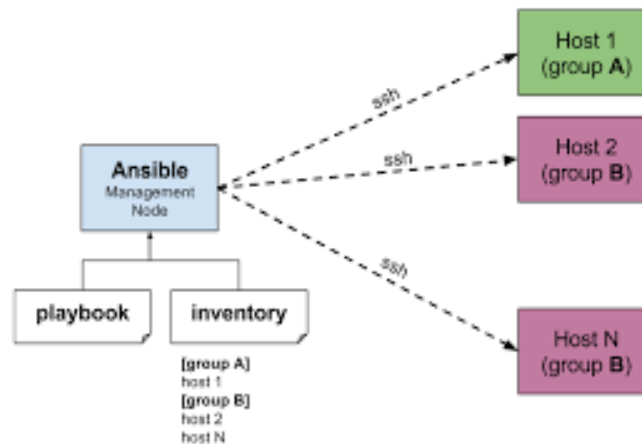


# ANSIBLE

## What is Ansible

Ansible is a popular tool for automating and managing cloud and on-premises infrastructure, Ansible is a flexible, powerful tool for automating infrastructure management, configuration, networking, and deployment tasks.

## How Ansible Work



## Playbook

Actions like INSTALL, UNINSTALL, UPDATE

## Inventory

Environments like DEV, PROD, TEST and the IP address of HOST

## ANSIBLE SETUP

**Follow the steps:**

### Master Server

1. `yum install python-pip -y` -----> Install python dependency for Ansible
2. `amazon-linux-extras install ansible2 -y` ----> Install Ansible
3. `ansible --version` ----> check the Version
4. `ssh-keygen` -----> generate key
5. `passwd root` -----> set Password for root user
6. `vi /etc/ssh/sshd_config` ---> change the permissions  
PermitRootLogin yes  
PasswordAuthentication yes
7. `systemctl restart ssh` ----- > restart the configs

### Node Server

- 1 `passwd root` -----> set Password for root user
- 2 `vi /etc/ssh/sshd_config` ---> change the permissions in config  
PermitRootLogin yes  
PasswordAuthentication yes
3. `systemctl restart ssh` ----- > restart the configs

### Connect the MASTER To NODE server ---- SSH

`ssh-copy-id root@IP address of Node server` ---> execute in Master server

### Set the environment to the NODE server

`etc/ansible/host` ----> inventory config file

[dev]

IP address of node server

### To check the ansible setup

`ansible all -m ping`

## To the HOSTS in Environment

ansible all --list-hosts -----→ all servers

ansible dev --list-hosts -----→ all the servers of dev environment

ansible all[0:9] --list-hosts -----→ top 10 servers

## What is Ansible Playbook

Ansible Playbook is a script file - written in YAML format - that defines the tasks required to configure servers. Ansible executes the listed tasks on the target machine sequentially.

Playbooks are mainly divided into sections like

**TARGET SECTION:** defines host server

**VARIABLE SECTION:** defines variables

**TASK SECTION:** action you are performing

**name. yaml or name.yml -----→ Name of the Playbook**

---

- hosts: environment\_name -----→ (dev, test, prod)

connection: ssh

tasks:

- name: mention the task that you are doing

- action: yum name=git state=present

...

## Execute the playbook

ansible-playbook name.yaml

## To check the playbook

ansible-playbook name.yaml --check

## States in Ansible

Install = present

Uninstall =absent

Start = started

Stop = stopped

Restart = restarted

## Modules in Ansible Playbook

- yum
- action
- command
- service

## Variables in Ansible Playbook

---

```
- hosts: environment_name -----> (dev, test, prod)
  connection: ssh
  vars:
    variable_name: git
  tasks:
    - name: mention the task that you are doing
      action: yum name={{ variable_name }} state=present
```

...

## Loops in Ansible playbook

---

```
- hosts: environment_name -----> (dev, test, prod)
  connection: ssh
  tasks:
    - name: mention the task that you are doing
      user: name={{item}} state=present
```

```
with_items:
```

- abc
- xyz

...

## Create a File and add the data

---

- hosts: environment\_name -----→ (dev, test, prod)  
connection: ssh  
tasks:
  - name: create a file  
file: path="book" state=touch
  - name: add some data  
copy: dest="book" content= | Hi welcome to the class

...

## Download File from online

---

- hosts: environment\_name -----→ (dev, test, prod)  
connection: ssh  
tasks:
  - name: download file  
get\_url: url="https://media.geeksforgeeks.org" dest="root"

...

## To Skip the tasks

```
ansible-playbook name.yml --skip-tags=" tag_name"
```

```
ansible-playbook name.yml --skip-tags=" tag_name1,tag_name2"
```

ansible-playbook name.yml tags="tag\_name" --> only this task will execute

## When condition in Ansible playbook

---

- hosts: environment\_name -----> (dev, test, prod)

connection: ssh

tasks:

- name: install httpd in redhat

action: yum name=httpd state=present

when: ansible\_os\_family == "RedHat"

- name: install httpd in ubuntu

action: yum name=apache2 state=present

when: ansible\_os\_family == "Ubuntu"

...

## Change Owners and permissions

---

- hosts: environment\_name -----> (dev, test, prod)

connection: ssh

tasks:

- name: create a user

user: name=TCS state=present

- name: create a group

group: name=Wipro state=present

- name: create a file

file: path="office" state=present owner=TCS group=Wipro  
mode=777

...

## Encrypt

ansible-vault encrypt name.yml -----→ to encrypt the file

ansible-vault view name.yml -----→ to view the data

ansible-vault decrypt name.yml -----→ to decrypt the file

ansible-vault rekey name.yml ---→ to change password

ansible-vault create file\_name -----→ It will create new file and encrypt it

## To print msg

---

- hosts: environment\_name -----→ (dev, test, prod)  
connection: ssh

tasks:

- debug:  
msg: "welcome"

...

## Commands

- ansible\_os\_family
- ansible\_kernel
- ansible\_processor\_cores
- ansible\_default\_ipv4
- ansible\_memory\_mb.real
- ansible\_memory\_mb.real.free
- ansible\_memory\_mb.real.used

## To store and print

---

- hosts: environment\_name -----→ (dev, test, prod)

connection: ssh

tasks:

- name: to know git version

command: git -v

register: xyz

- name:

debug:

msg: "{{xyz.stdout}}"

...

## **ANSIBLE GALAXY**

Ansible Galaxy is a website and command-line tool for sharing and managing collections of playbooks.

- ansible-galaxy search playbook\_name
- ansible-galaxy install playbook\_name

## **What is Ansible Tower**

Ansible Tower is a commercial, web-based graphical user interface (GUI) and automation platform that provides enhanced user experience for managing Ansible automation at scale.