**1.what is ansible?**

* Ansible is a configuration management tool and easy to manage server. It is a radically simple IT automation engine that automates cloud provisioning, configuration management, application deployment, intra-service orchestration, and many other IT needs.

**2.difference between ansible, chef, puppet?**

|  |  |
| --- | --- |
| **Ansible** | **Puppet/Chef** |
| Ansible is a configuration management tool for push/pull request process to distribute configuration and it is an agentless tool | Chef and Puppet are a powerful enterprise-grade configuration management tool. Both Chef and Puppet help development and operations teams manage applications and infrastructure. Puppet supports push process and chef supports pull process only. |
| It’s running system is based on single active node. | It’s running system is based on master-slave architecture |
| It uses SSH running system to configure nodes which you want to. | Because of its master-slave configuration only Puppet/chef clients can configure client machine and puppet server for Master machine |
| For client system configuration Ansible do not need any proper machine VM and it is faster to set up. | Puppet/chef need a certificate signing for client machine configuration because of it’s master slave configuration. It is a hectic process also. |
| Uses YAML Language | Uses DSL language |
| Highly secured tool | Not so highly secured tool |

**3.prerequisites for ansible?**

* Supported OS such as read hat, CENTOS or Ubuntu
* 2 GB min RAM
* 20 GB hard disk
* 64-bit support kernel and runtime system
* Run EC2 instance from Centos or Linux OS
* Install EPEL repository in master
* Ansible
  + --> SSH keys should be generated in master (ssh-keygen).
  + --> cd ~/.ssh
  + --> cat id\_rsa.pub and copy the key
* Ansible Client
  + --> cd ~/.ssh
  + --> vi authorized\_keys and paste the key you copied from master.
* Go back to master and do ssh to all your clients.
* Host/inventory file:
  + /etc/ansible/hosts -> contains all client IP/DNS names as group
  + called inventory file
  + all client host as group
* To test the ansible inventory
  + ansible -m ping all

**4.what is playbook?**

* Playbooks is program where ansible script is written and it is written in YMAL language. In Playbook, there are different main components.
  + Hosts: details for host group to perform tasks
  + Tasks: required roles, perform different operation goes in tasks
  + Handlers: it is executed at the end if it is called by task.

**5.what is role?**

* Roles provide a framework for fully independent, or interdependent collections of variables, tasks, files, templates, and modules. the role is the primary mechanism for breaking a playbook into multiple files. This simplifies writing complex playbooks, and it makes them easier to reuse.

6.**difference between playbook and role?**

* Playbook is a program file which contains all the tasks that need to perform along with roles and other components whereas roles provide a framework independent collection of variables, tasks, templated and modules that is used in playbook

**7.what is inventory file?**

* It defines list of the hosts that uses are going to manage. The default inventory file is /etc/ansible/hosts/ansible.cfg

**8.what is module?**

* A Module is the executable plugins that get the real job done. A module can be invoked command line or can be included in an Ansible playbook. For example, in following command “$ ansible -i inventory all -m ping” , ping is module to ping all the hosts defined in the inventory.

**9.what type of playbook or role you have worked?**

* I have worked in define type playbook where define multiple tasks to run. I have worked in DB and task roles.

**10.How to replace a line or word in a file using ansible playbook?**

* **Replace a word in file:**

- name: replacing a word with lineinfile

replace:

path: /tmp/file1

regexp: 'Apple'

replace: "Orange"

tags: replaceword

**// replacing multiple word in file**

- name: Ansible replace multiple words example

replace:

path: /Users/mdtutorials2/Documents/Ansible/intext.txt

regexp: "{{ item }}"

replace: "dog"

with\_items:

- 'cat'

- 'tiger'

- 'lion'

* Replace a line in file

- name: replacing a line in file

become: yes

become\_user: root

tags: replaceline

lineinfile:

path: /tmp/file1

# The String to Search

regexp: "'Welcome to Devops class "

# The String to Replace

line: " Welcome to replace of Java class from Devops class."

state: present

backup: yes

register: file2out

or

- name: replacing a line in file

replace:

path: /tmp/file1

regexp: 'Welcome to Devops class.'

replace: "Welcome to replace of Java class from Devops class."

tags: replaceline

**11.How to clone a git repo in ansible?**

* Following command to clone the git repo
  + - name: Clone bitbucket repo
  + git:
  + repo: git@bitbucket.org:your-repo.git
  + dest: <path>
  + version: master
  + accept\_hostkey: yes
  + key\_file: /home/<username>/.ssh/id\_rsa
  + become\_user: <username>

12.**Disable selinux , firewalls?**

* - name: Disable SELinux

selinux:

state: disabled

* - name: Disable firewalls

firewalls:

state: disabled

**13.Create docker container in ansible ?**

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- hosts: Centos

tasks:

- name: install packages

yum: name={{ item }} state=installed

with\_items:

- python3-pip

- python3-setuptools

tags: install

- name: docker-py

pip:

name: docker

executable: pip3

state: latest

tags: docker

- name: Create default containers

docker\_container:

name: docker

image: centos

state: present

tags: centos

**14.Kernel upgrade using ansible ?**

- name: install kernel updates using yum

yum:

name: "\*"

state: latest

tags:upgradekernal

**15. EC2,S3 creation in ansible ?**

* **Create Ec2 instance:** required boto3

- name: launching Rehat ec2

ec2:

key\_name: Pratik

instance\_type: t2.micro

image: ami-0a54aef4ef3b5f881

region: us-east-2

wait: yes

group: OhioSecurityGroup

count: 1

vpc\_subnet\_id: default

assign\_public\_ip: yes

tags: createec2

* **S3 Bucket**

- name: create a s3 bucket

s3\_bucket:

name: pratikansiblebucket

state: present

tags: s3bucket

**16.Set password less authentication using ansible?**

* Go to ansible host file from /etc/ansible/hosts
* Add slave private ip in hosts
* Run command ssh-keygen in Master server
* Open id\_rsa.pub and copy the key from it
* Paste into slave server
* Finally, ssh to slave server using private ip from master( ssh <slave server private ip>

**17.User and group creation?**

* Create a group and user

- name: create a group

group:

name: somegroup

state: present

- name: create a user

group:

name: username

state: present

**18.Check user exist or not and if no user create a user?**

- hosts: Dev

tasks:

- name: check user exist or not, if not create one

action: shell /usr/bin/getent passwd pratiksha | /usr/bin/wc -l | tr -d ''

register: userexist

- debug:

var=userexist

- name: creating an user, if not exist

user: name=pratiksha state=present

when:

- userexist['stdout'] == "0"

**19.Create a docker image using ansible ?**

* name: Create Container
* docker\_container:
* name: "{{ name }}"
* image: "{{ image }}"
* ports:
* "{{ src\_port }}:{{ dest\_port }}"
* volumes:
* "{{ src\_vol }}:{{ dest\_vol }}"
* privileged: "{{ privileged }}"

**20.Verify file exists or not?**

* name: check that file is exist or not

stat:

path: /tmp/file2

register: p

- debug:

msg: "file exist......."

when: p.stat.exists == True

tags: chkfile

**21.Copy a file from URl using ansible ?**

- hosts: Dev

tasks:

- name: Download a file from URL

get\_url:

url: <https://github.com/ansible/ansible->

examples/blob/master/mongodb/playbooks/testsharding.yml

dest: /tmp/urlFile/

mode: '0440'

register: copyfile

tags: copyfile

- debug:

Var: copyfile

**22.Copy a file using ansible?**

- name: copy a file

copy:

src: /etc/ansible/backfirstplaybook.yml

dest: /tmp/file11.yml

tags: copyfile

**23.Check package version if package version is less than desired then upgrade the package?**

---

- hosts: Dev

vars:

package: httpd

tasks:

- name: check package version

command: "{{package}} -v"

register: package

- debug:

var: package.stdout\_lines

tags: package

**24.Create a security group and open ports?**

* tasks:
  + - name: Create a security group
  + ec2\_group:
  + name: ohioecuritygroup
  + description: creating new security group
  + region: us-east1c
  + aws\_access\_key: "{{ aws\_access\_key }}"
  + aws\_secret\_key: "{{ aws\_secret\_key }}"
  + rules:
  + - proto: tcp
  + from\_port: 22
  + to\_port: 22
  + cidr\_ip: 0.0.0.0/0
  + - proto: httpd
  + from\_port: 80
  + to\_port: 80
  + cidr\_ip: 0.0.0.0/0

**25.Create Ami using ansible?**

* You can do via creating roles playbook as well but I just did in simple defining in main playbook.yml
  + - name: Create the AMI
  + ec2\_ami:
  + instance\_id: i-xxxxxxxx
  + wait: yes
  + name: centosec2Ami
  + register: image

**26.Check server status and restart the server?**

- name: httpd server and restart

command: systemctl status httpd

register: result

ignore\_errors: yes

- name: showing report

debug:

msg: "service status"

- name: httpd server and restart

command: systemctl restart httpd

- name: showing restarted report

debug:

msg: "service restarted"

tags: services

**27.Create a snapshot using ansible?**

* In roles, I created awssnapshotplaybook.yml
* Under playbook I have below tasks
  + - name : Create snapshot on volume
  + ec2\_snapshot:
  + Instance\_id: i-12345678
  + device\_name: /dev/xvd1
  + ec2\_url: ec2\_url
  + snapshot\_tags:
  + Name: ec2snapshot
  + id\_instance: i-12345678
  + volume: /dev/xvd1
* In main playbook
  + tasks:
  + - include: roles/ awssnapshotplaybook.yml

**28.auto addition of client in inventory file**

{

"all": {

"hosts": ["address"],

"vars": {},

},

"\_meta": {

"hostvars": {

"address": {

"variable\_name": "value",

}

},

},

"group\_name": ["address"]

}

**29.How can i change my default inventory file(example: /root/host)..?**

* Default inventory file is located in /etc/ansible/host
  + Vi host
  + 100dd command to delete all line in inventory file
  + [Dev]
  + 173.84.115.166
  + [Centos]
  + 173.84.115.166
  + Save and Exit

**30.How can i use static inventory file ?**

* A static inventory file is a plain text file in which list of hostname/ip address declared by grouping them. Usually we declared a host group in square bracket and then host ip addresses that we called a default inventory file such as

[Dev]

18.2.33.220

* However, you can create own static inventory file as well like I did in below example
  + mkdir staticinven
  + cd statciinven
  + vi staticinvenfile
  + [Dev]
  + 173.84.115.166
  + [Centos]
  + 173.84.115.166
  + Save and Exit
  + Ansible command: ansible {host-pattern} -i /path/of/inventory/file --list-hosts
  + In my case: ansible all -i /etc/ansible/ statciinven / statciinvenfile --list-hosts

**31.How can i run my ansible command only on 5 servers in a group {for example if u have 10 servers in a group}..?**

* In Host file create a group
* Add all 5 servers IP that you want to run
* Then use any command that you want to run with that group for example, “ansible -m user -a "name=pratik state=present" 5devserver”

**32.How can we overwrite the host group defined in a playbook ?**

* Create a playbook
* Inside playbook after “---“, in next line, add following line
  + hosts: ‘{{ host }}’
* so we define a variable called “host”
* then ansible-playbook firtplaybook.yml --extra-vars "host=<hostname>"
* here is my playbook

---

- hosts: '{{ host }}'

tasks:

- name: checking a file

command: ls -l /tmp/file1

register: lsot

- debug:

msg="host is {{ ansible\_fqdn }}"

- debug:

var=lsot.stdout\_lines

tags: cond

**33.How can i lock my playbook ?**

* Ansible-vault encrypt firstplaybook.yml
* Password:xxxxxx
* Confirmpassword:xxxxx
* To decrypt the playbook: ansible-vault decrypt firstplaybook.ym
* Password:xxxxxx
* Confirmpassword:xxxxx

**34.How can i run my locked playbook ?**

* Ansible-playbook firstplaybook.yml –ask-vault-pass