Ansible Notes

Disadvantages of Shell Scripting :

> No Idempotency

> No Error handling

> Hard to understand

> Not scalable

> Imperative type of programming

> Homogenous --> Means only works for one distro

Configuration Management

> server should be ready with application

> Install system packages

> Install application dependencies

> Download the code

> Create users, permissions or directories

> Create systemctl services

Ex: Ansible, Chef, puppet

push vs pull : It is a architecture style of programming

We can consider way of election campaign: Gathering people [pull] and doing campaign through internet(push)

The server where ansible is installed is called as master and remaining servers working for it are called as remote servers.

Adhoc Commands :

ansible -i <ipaddress>, all -e ansible_user=ec2-user -e ansible_password=Devops321 -m ping --> To check server reachability

ansible -i <ipaddress>, all -e ansible_user=ec2-user -e ansible_password=Devops321 -m dnf -a "name=nginx state=installed" -b --> To install nginx

Red color --> Failure

Yellow --> Changed and success

Green --> success

ansible -i <ipaddress>, all -e ansible_user=ec2-user -e ansible_password=Devops321 -m service -a “name=nginx state=started” -b --> To start nginx services

-> In linux, we have commands and same way in ansible we have modules/collections.

Adhoc --> Manual way

playbooks --> [Like shell script] Keeping all your modules in a single file with yaml syntax run that file

XML vs JSON vs YAML

XML :

[]--> list

{}-> Map

<students>

<Name>Charan</Name>

<subject>Computers</subject>

<address>

<add1>Somajiguda</add1>

<add2>gandhi street</add2>

<city>banglore</city>

</address>

<student>

</student>

</students>

Json:

{

“name”: “charan”,

“dob”: 29-19-1029,

“address”: [

{

“add1”: “D-202”,

“add2”: “Gandhi nagar”,

“city”: “banglore”

},

{

“add1”: “D-212”,

“add2”: “charan nagar”,

“city”: “banglore”

}

]

}

yaml :

name: charan

Dob: 40-4-3434

Addresses:

- address-1: f-23

  address-2: gandhi nagar

  city : banglore

- address-1: f-23

  address-2: gandhi nagar

  city : banglore

gender: male

inventory: List of hosts

$ ansible -i inventory.ini web/all --list-hosts --> To get ip of list hosts in web **list/all**

$ ansible-playbook -i inventory.ini -e ansible_user=ec2-user -e ansible_password=DevOps321 1.ping.yaml --> To run ping.yaml file

Variables

We can define variablee in different levels.

> 1. variables at playlevel

2. variables at task level

3. variables from file

4. variables from prompt

5. variables as args

$ ansbible-playbook -i inventory.ini -e ansible_user=ec2-user -e ansible_password=DevOps321 9-vars-args.yaml -e "PERSON=RAMESH WISHES=Morning"

DataTypes

Interview question: How can you run a command and take the output into a variable ? We can use "register" keyword for the same.

Functions/filters:

> filter= data manipulation/ transformation

Loops

Conditions

we use when keyword to define conditions in ansible

shell vs command module

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what is Ansible Roles ?

> Role is a proper structure of variables, tasks, templates, handlers etc. Using Roles we can re-use the code.

tasks / ==> we will mention all tasks here

handlers/ ==> We will mention all notifiers here

templates/ ==> we will mention all templates here

files/ ==> we will mention all files here

vars/ ==> variables related to roles here

defaults ==> low priority variables are here

meta/ ==> Dependencies are here

what are handlers in ansible ?

Handlers are notifiers in ansible, usually when there is a change in config we can notify some task to restart.

Ansible Vault :

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ansible-vault create <file-name>.yaml

ansible-playbook db.yml --ask-vault-pass

Ansible Tags:

Ansible Dynamic inventory:

To Define number of servers to be connected, we can use something called forks in ansible

By default ansible connects to 5 servers at a time