Local PC Environment

Update Package Lists:

dmahfuzd@DESKTOP-OFAE9ET:~$ sudo apt update

Install Ansible:

dmahfuzd@DESKTOP-OFAE9ET:~$ sudo apt install ansible

Check the Ansible Version:

dmahfuzd@DESKTOP-OFAE9ET:~$ ansible --version

sshpass tool install

sshpass is a tool that allows automation scripts to provide passwords when connecting to SSH servers.

For Ubuntu/Debian:

dmahfuzd@DESKTOP-OFAE9ET:~$ sudo apt-get install sshpass

dmahfuzd@DESKTOP-OFAE9ET:~$ sudo yum install sshpass

SSH Key Authentication

dmahfuzd@DESKTOP-OFAE9ET:~$ cd ~/.ssh

dmahfuzd@DESKTOP-OFAE9ET:~/.ssh$ pwd

/home/dmahfuzd/.ssh

dmahfuzd@DESKTOP-OFAE9ET:~$ ssh-keygen

dmahfuzd@DESKTOP-OFAE9ET:~$ ls

id\_rsa id\_rsa.pub known\_hosts known\_hosts.old

dmahfuzd@DESKTOP-OFAE9ET:~$ chmod 700 ~/.ssh

dmahfuzd@DESKTOP-OFAE9ET:~$ chmod 600 ~/.ssh/id\_rsa

dmahfuzd@DESKTOP-OFAE9ET:~$ chmod 644 ~/.ssh/id\_rsa.pub

dmahfuzd@DESKTOP-OFAE9ET:~/.ssh$ ssh-copy-id -i /home/dmahfuzd/.ssh/id\_rsa.pub eai@172.8.9.40

sudo configuration ansible agent node

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[eai@kmaster ~]$ sudo visudo

username ALL=(ALL) NOPASSWD: ALL

eai ALL=(ALL) NOPASSWD: ALL

Install python ansible ad hoc commands

dmahfuzd@DESKTOP-OFAE9ET:~/.ssh$ ansible all -i 172.8.9.40,172.8.9.41 -u eai -b --ask-become-pass -m yum -a 'name=python3-setuptools state=present'

dmahfuzd@DESKTOP-OFAE9ET:/mnt/d/DevOps/Ansible$ ansible -i /mnt/d/DevOps/Ansible/Production/Inventory/inventory.yaml kubernetesnodes -u eai -m command -a "cat /etc/os-release"

dmahfuzd@DESKTOP-OFAE9ET:/mnt/d/DevOps/Ansible$ ansible -i /mnt/d/DevOps/Ansible/Production/Inventory/inventory.yaml kubernetesnodes -u eai -m command -a "free -m"

Building an inventory

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Inventories organize managed nodes in centralized files that provide Ansible with system information and network locations. Using an inventory file, Ansible can manage a large number of hosts with a single command. Inventories also help you use Ansible more efficiently by reducing the number of command-line options you need to specify. For example, inventories usually contain the SSH user so you do not need to include the -u flag when running Ansible commands.

Inventory files can be in INI or YAML format.

dmahfuzd@DESKTOP-OFAE9ET:/mnt/d/DevOps/Ansible/Inventory$ pwd

/mnt/d/DevOps/Ansible/Inventory

dmahfuzd@DESKTOP-OFAE9ET:/mnt/d/DevOps/Ansible/Inventory$ ls

inventory.ini inventory.yaml

In inventory.yaml file add following agent information

kubernetesnodes:

hosts:

kmaster:

ansible\_host: 172.8.9.41

kworker:

ansible\_host: 172.8.9.40

dmahfuzd@DESKTOP-OFAE9ET:/mnt/d/DevOps/Ansible/Inventory$ ansible-inventory -i /mnt/d/DevOps/Ansible/Inventory/inventory.yaml --list

dmahfuzd@DESKTOP-OFAE9ET:/mnt/d/DevOps/Ansible/Inventory$ ansible kubernetesnodes -u eai -m ping -i /mnt/d/DevOps/Ansible/Inventory/inventory.yaml

dmahfuzd@DESKTOP-OFAE9ET:/mnt/d/DevOps/Ansible/Inventory$ ansible kubernetesnodes -u eai -b --ask-become-pass -m ping -i /mnt/d/DevOps/Ansible/Inventory/inventory.yaml

ansible kubernetesnodes -u eai -m -b --ask-become-pass -a "cat /etc/os-release" -i /mnt/d/DevOps/Ansible/Inventory/inventory.yaml

Playbook

dmahfuzd@DESKTOP-OFAE9ET:/mnt/d/DevOps/Ansible/Inventory$ ansible-playbook -i /mnt/d/DevOps/Ansible/Inventory/inventory.yaml -u eai -b --ask-become-pass /mnt/d/DevOps/Ansible/Playbook/playbook.yaml

Kubernetes

kubernetesnodes

dmahfuzd@DESKTOP-OFAE9ET:/mnt/d/DevOps/Ansible/Inventory$ ansible-playbook -i /mnt/d/DevOps/Ansible/Inventory/inventory.yaml -l kubernetesnodes -u eai -b --ask-become-pass /mnt/d/DevOps/Ansible/Playbook/Kubernetes/bootstrap.yaml

kubernetesmaster

dmahfuzd@DESKTOP-OFAE9ET:/mnt/d/DevOps/Ansible/Inventory$ ansible-playbook -i /mnt/d/DevOps/Ansible/Inventory/inventory.yaml -l kubernetesmaster -u eai -b --ask-become-pass /mnt/d/DevOps/Ansible/Playbook/Kubernetes/bootstrap\_kmaster.yaml

kubernetesworker

dmahfuzd@DESKTOP-OFAE9ET:/mnt/d/DevOps/Ansible/Inventory$ ansible-playbook -i /mnt/d/DevOps/Ansible/Inventory/inventory.yaml -l kubernetesworker -u eai -b --ask-become-pass /mnt/d/DevOps/Ansible/Playbook/Kubernetes/bootstrap\_kworker.yaml

**Vagrant Machine Setup**

1. Run vagrant script
2. dmahfuzd@DESKTOP-OFAE9ET:/mnt/d/DevOps/Ansible/Testing$ ssh root@172.16.16.100
3. [root@kmaster ~]# visudo

Add following file in visudo file

eai ALL=(ALL:ALL) ALL

eai ALL=(ALL) NOPASSWD: ALL

**Kubernetes playbook for kubernetes**

Kubernetesnodes: boostrap.yaml

dmahfuzd@DESKTOP-OFAE9ET:/mnt/d/DevOps/Ansible/Testing/Inventory$ ansible-playbook -i /mnt/d/DevOps/Ansible/Testing/Inventory/inventory.yaml -u eai -b --ask-become-pass /mnt/d/DevOps/Ansible/Testing/Playbook/Kubernetes/bootstrap.yaml

Check kubeadm, kubelet, kubectl version

dmahfuzd@DESKTOP-OFAE9ET:/mnt/d/DevOps/Ansible/Testing$ ansible kubernetesnodes -i /mnt/d/DevOps/Ansible/Testing/Inventory/inventory.yaml -u eai -m command -a "kubeadm

version"

dmahfuzd@DESKTOP-OFAE9ET:/mnt/d/DevOps/Ansible/Testing$ ansible kubernetesnodes -i /mnt/d/DevOps/Ansible/Testing/Inventory/inventory.yaml -u eai -m command -a "kubelet

--version"

dmahfuzd@DESKTOP-OFAE9ET:/mnt/d/DevOps/Ansible/Testing$ ansible kubernetesnodes -i /mnt/d/DevOps/Ansible/Testing/Inventory/inventory.yaml -u eai -m command -a "kubectl

version --client"

kubernetesmaster: bootstrap\_kmaster.yaml

ansible-playbook -i /mnt/d/DevOps/Ansible/Testing/Inventory/inventory.yaml -u eai -b --ask-become-pass /mnt/d/DevOps/Ansible/Testing/Playbook/Kubernetes/bootstrap\_kmaster.yaml