**Setting up master VM**

Create a Ubuntu 18 VM

sudo apt update

sudo apt install openjdk-8-jdk openjdk-8-jre

java -version

<https://tecadmin.net/install-oracle-java-8-ubuntu-via-ppa/>

**Installing Jenkins**

sudo apt update

wget -q -O - https://pkg.jenkins.io/debian/jenkins.io.key | sudo apt-key add –

sudo sh -c 'echo deb http://pkg.jenkins.io/debian-stable binary/ > /etc/apt/sources.list.d/jenkins.list'

sudo apt update

sudo apt install jenkins

sudo ufw allow 8080

sudo ufw status

sudo systemctl start jenkins

sudo systemctl status jenkins

sudo cat /var/lib/jenkins/secrets/initialAdminPassword

<https://linuxize.com/post/how-to-install-jenkins-on-ubuntu-18-04/>

**Installing Ansible**

1. sudo apt update
2. sudo apt-add-repository ppa:ansible/ansible
3. sudo apt update
4. sudo apt install ansible
5. ansible --version
6. sudo nano /etc/ansible/hosts

[myremote]

remote1 ansible\_host=10.0.0.6

[myremote:vars]

ansible\_python\_interpreter=/usr/bin/python3

ansible-inventory --list -y

ssh-keygen -f ~/.ssh/myansiblehost -t rsa -b 1024

ssh-copy-id -i ~/.ssh/myansiblehost.pub omspandey@10.0.0.6

ansible all -m ping -u omspandey -k

<https://www.digitalocean.com/community/tutorials/how-to-install-and-configure-ansible-on-ubuntu-18-04>

<https://appfleet.com/blog/how-to-install-and-configure-ansible-on-ubuntu-part-1/>

<https://appfleet.com/blog/install-and-setup-docker-using-ansible-on-ubuntu-18-04-part-2/>

**Setting up Docker on remote system using Ansible**

mkdir nginx && cd $\_

touch main.yml && nano main.yml

---

- name: Install nginx

hosts: myremote

become: true

tasks:

- name: Install nginx

yum:

name: nginx

state: present

- name: Start NGiNX

service:

name: nginx

state: started

ansible-playbook main.yml -k --limit=remote1

$ mkdir docker\_server && cd $\_

$ mkdir vars && cd $\_ && touch default.yml

$ cd .. && touch main.yml

$ nano vars/default.yml

----------------

---

containers: 2

container\_name: docker\_ubuntu

container\_image: ubuntu:18.04

container\_command: sleep 1d

nano main.yml

-------------

---

- name: Install docker

hosts: myremote

become: yes

vars\_files:

- vars/default.yml

tasks:

- name: Install aptitude using apt

apt: name=aptitude state=latest update\_cache=yes force\_apt\_get=yes

- name: Install required system packages

apt: name={{ item }} state=latest update\_cache=yes

loop: [ 'apt-transport-https', 'ca-certificates', 'curl', 'software-properties-common', 'python3-pip', 'virtualenv', 'python3-setuptools']

- name: Add Docker GPG apt Key

apt\_key:

url: https://download.docker.com/linux/ubuntu/gpg

state: present

- name: Add Docker Repository

apt\_repository:

repo: deb https://download.docker.com/linux/ubuntu bionic stable

state: present

- name: Update apt and install docker-ce

apt: update\_cache=yes name=docker-ce state=latest

- name: Install Docker Module for Python

pip:

name: docker

- name: Pull default Docker image

docker\_image:

name: "{{ container\_image }}"

source: pull

- name: Create default containers

docker\_container:

name: "{{ container\_name }}{{ item }}"

image: "{{ container\_image }}"

command: "{{ container\_command }}"

state: present

with\_sequence: count={{ containers }}

ansible-playbook main.yml -k --limit=remote1

$ ssh omspandey@10.0.0.6

$ sudo docker ps -a

ansible remote1 -m shell -a 'whoami' -k

<https://www.ansible.com/blog/getting-started-writing-your-first-playbook>

<https://www.tutorialspoint.com/ansible/ansible_playbooks.htm>

**Jenkins Pipeline for Pulling Custom Image from Docker hub and creating container in child VM**

Install Ansible plugin on Jenkins

Capture ssh key registered with client system

cd .ssh

cat myansiblehost

Source Code Mgnt

* Git
  + Repository URL (where yml file is stored)

Build

* Invoke ansible playbook
  + Main.yml
    - Inline content

[myremote]

remote1 ansible\_host=10.0.0.6

[myremote:vars]

ansible\_python\_interpreter=/usr/bin/python3

Credentials

Add – SSH username with private key

UserName, Private Key (Enter Directly)- Put ssh key captured above, Passphrase

<https://medium.com/appgambit/ansible-playbook-with-jenkins-pipeline-2846d4442a31>