# Configuration Management Using Ansible

## Project

Basic Setup

============

launch Instance

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

-> ubuntu

-> t2.micro

-> ppk key

-> Jenkins security group(all tcp, ssh, http, https, 8080)

-> config storage - 25gb , gp3

In putty,

==========

1) Update & install Ansible

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

sudo apt update -y &&

sudo apt install software-properties-common -y &&

sudo add-apt-repository --yes --update ppa:ansible/ansible &&

sudo apt install ansible -y

2) Set Up Ansible Project Structure

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

I. Create folders

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

mkdir -p ~/ansible\_project/roles/{tomcat,maven}/tasks &&

cd ~/ansible\_project

II. Create ansible.cfg

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

vi ansible.cfg

paste this:

===========

[defaults]

inventory = hosts

host\_key\_checking = False

gathering = smart

roles\_path = ./roles

III. Create hosts file

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

vi hosts

paste this:

===========

[web]

localhost ansible\_connection=local

IV. Create main.yml playbook

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

vi main.yml

paste this:

===========

---

- name: Install Tomcat and Maven

hosts: web

become: true

roles:

- tomcat

- maven

3) Create Tomcat Role

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

Create file:

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

vi roles/tomcat/tasks/main.yml

paste this:

============

---

- name: Install default JDK

apt:

name: default-jdk

state: present

update\_cache: yes

- name: Create tomcat user

user:

name: tomcat

shell: /bin/false

- name: Download Tomcat

get\_url:

url: https://archive.apache.org/dist/tomcat/tomcat-8/v8.5.99/bin/apache-tomcat-8.5.99.tar.gz

dest: /tmp/apache-tomcat.tar.gz

- name: Create Tomcat directory

file:

path: /opt/tomcat

state: directory

- name: Extract Tomcat

unarchive:

src: /tmp/apache-tomcat.tar.gz

dest: /opt/tomcat

remote\_src: yes

extra\_opts: [--strip-components=1]

- name: Set permissions for Tomcat

file:

path: /opt/tomcat

owner: tomcat

group: tomcat

recurse: yes

- name: Create systemd service for Tomcat

copy:

dest: /etc/systemd/system/tomcat.service

content: |

[Unit]

Description=Tomcat

After=network.target

[Service]

Type=forking

ExecStart=/opt/tomcat/bin/startup.sh

ExecStop=/opt/tomcat/bin/shutdown.sh

User=tomcat

Group=tomcat

Restart=always

[Install]

WantedBy=multi-user.target

- name: Reload systemd

systemd:

daemon\_reload: yes

- name: Enable and start Tomcat

systemd:

name: tomcat

state: started

enabled: yes

4) Create Maven Role

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

vi roles/maven/tasks/main.yml

paste this:

============

---

- name: Install wget and JDK

apt:

name:

- wget

- default-jdk

state: present

update\_cache: yes

- name: Download Maven

get\_url:

url: https://archive.apache.org/dist/maven/maven-3/3.8.8/binaries/apache-maven-3.8.8-bin.tar.gz

dest: /tmp/maven.tar.gz

- name: Extract Maven

unarchive:

src: /tmp/maven.tar.gz

dest: /opt/

remote\_src: yes

- name: Create symlink for Maven

file:

src: /opt/apache-maven-3.8.8

dest: /opt/maven

state: link

force: yes

- name: Set Maven environment variables system-wide

copy:

dest: /etc/profile.d/maven.sh

content: |

export M2\_HOME=/opt/maven

export PATH=$M2\_HOME/bin:$PATH

mode: '0755'

- name: Source environment variables now

shell: source /etc/profile.d/maven.sh

args:

executable: /bin/bash

5) Now Run the Playbook

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

ansible-playbook main.yml --syntax-check

ansible-playbook main.yml

6) refresh the environment manually (just once)

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

source /etc/profile.d/maven.sh

7) now test(output)

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

mvn -version

8) now browse(output)

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

http://<your-ec2-public-ip>:8080