To deploy an application using ansible playbook we need to have below things as prerequisites

1. Ansible
2. Git
3. Tomcat

1. Ansible

Installation procedure of Ansible:

To begin exploring Ansible as a means of managing our various servers, we need to install the Ansible software on at least one machine.

For this deployment we need 3 servers. One for host machine and 2 are node servers

To install ansible in host machine(which is enough)

- sudo yum install -y https://dl.fedoraproject.org/pub/epel/epel-release-latest-6.noarch.rpm
- sudo yum-config-manager --enable epel
- yum repolist
- yum install ansible -y
- sudo amazon-linux-extras install ansible2
- ansible –version

Configure hosts file with 3 server ip's

- sudo -i
- cd etc/ansible/
- vi hosts

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[all:vars]

ansible_user=ec2-user

ansible_ssh_private_key_file=./ansible.pem

ansible_python_interpreter=/usr/bin/python2.7

[server]

Serverip_host

[node]

Serverip_node1

Serverip_node2

- ansible -m ping -u all
  Now we have host server and node servers running, next we need tomcat to be running in order to run our application.

  To install tomcat we need to follow the below steps
  1. Install Git
  2. Clone tomcat software from Git
  3. Remove the unnecessary files in tomcat folder
  4. Modify context.xml file
  5. Start tomcat service

2. To Install Git

- Create a YML file under /etc/ansible folder in host machine
- Add the below code in YML file(Please follow the indentation)
  - hosts: 172.31.16.196
  - become: yes
  - gather_facts: False
  - tasks:
  - name: Installing git
    - yum:
    - name: git
      - state: present

- Run the YML file using ansible playbook using the command below
- Ansible-playbook git_installation.yml

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- Check the git is installed in the machine using the command git –version

3. **Clone the s/w from the git using the below command to install Tomcat**

- Git clone https://github.com/srishma1/tomcat_latest_2806.git
- Remove the unnecessary files in tomcat folder using rm -rf apache
- Modify context.xml file
- It should be in cd/apache-tomcat-8.5.42/webapps/manager/META-INF/
- cd ../../
- cd tomcat
- In Main.xml file change the src and dest locations accordingly
- Run - Ansible-playbook tomcat_setup.xml
- Or ansible-playbook -I ../tomcat_setup.yml
- Start the tomcat service by going to ec2 instance and add :8080 port and run ec2 url

Now we have tomcat installed we can deploy the application on tomcat

Steps to deploy

- Go to ansible folder cd/etc/ansible
- Create a yml file vi end_end_deployment.yml for example
- Enter the following in yml file

```
---
- hosts: nodes
become: yes
tasks:
- name: get the source code
git:
repo: 'https://github.com/srishma1/spring3-mvc-maven-xml-hello-world.git'
---we have to give the repo of the application you are going to deploy, above url is sample war file
dest: /home/mylogin/hello
```


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```
tags: git_download

- name: packing the maven build

shell: " mvn clean package "

args:

chdir: /home/mylogin/hello

- name: copy artifacts to tomcat

copy:

src: /home/mylogin/hello/target/spring3-mvc-maven-xml-hello-world-1.2.war

dest: /opt/apache-tomcat-8.5.40/webapps/

remote_src: true
```

- Lastly run – ansible-playbook end_end_deployment.yml
- View the application running on tomcat server in 8080 port

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