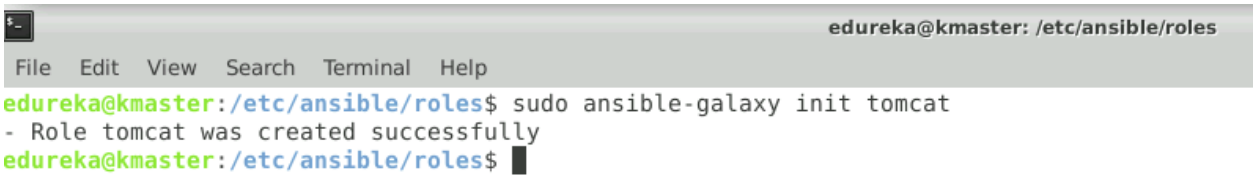
1. Go to the master machine of ansible and create the tomcat role.

   Syntax: cd /etc/ansible/role/

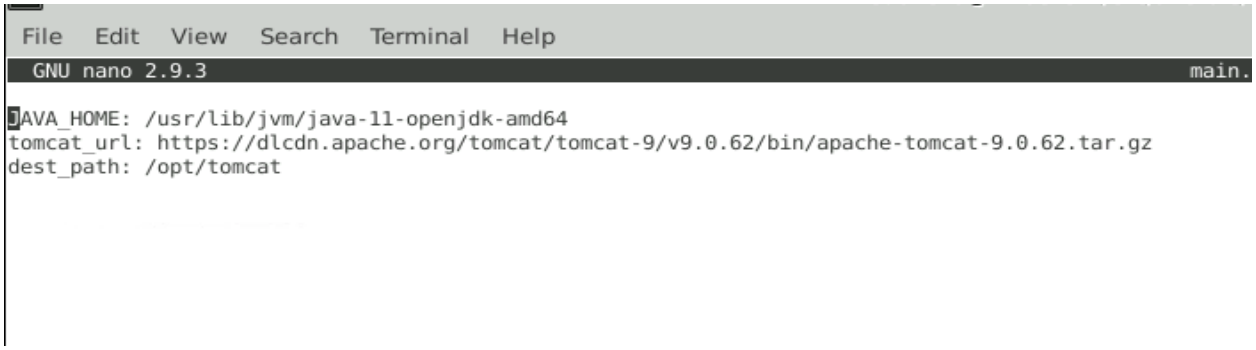


2. Go to the task directory of tomcat role and create the mail.yml as below.

   Syntax: sudo vi /etc/ansible/role/tomcat/tasks/main.yml

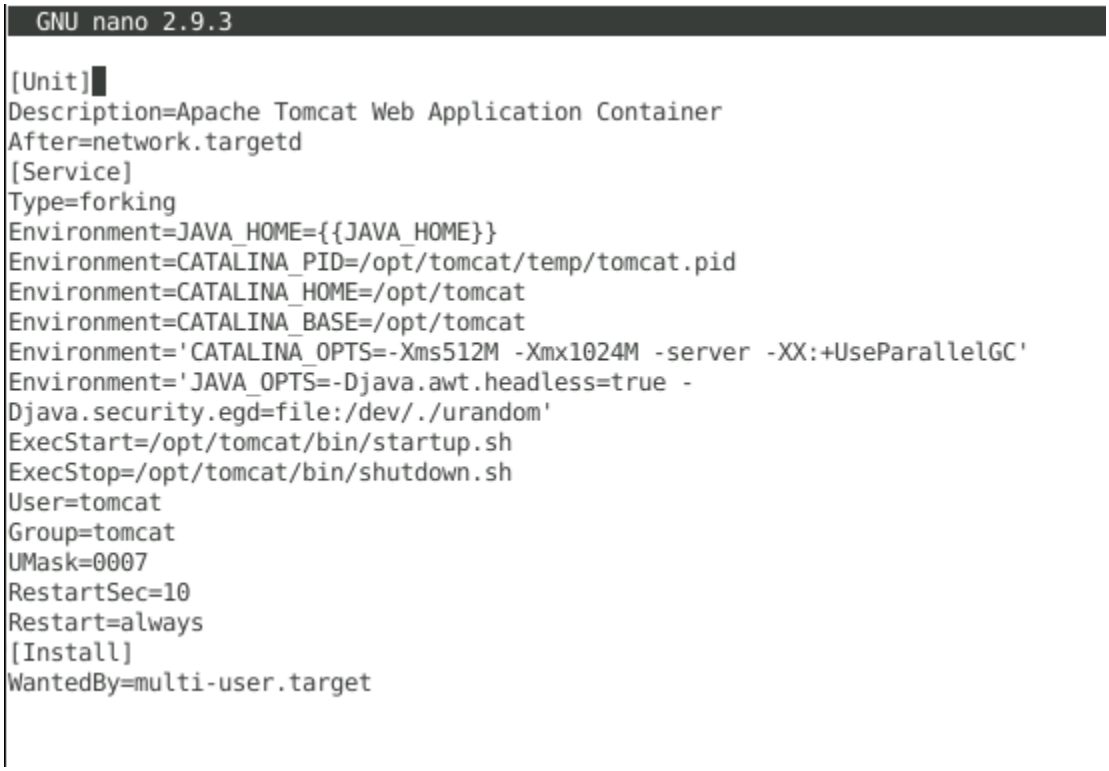
3. Go to the vars directory of the tomcat role and create the main.yml as below.

   Syntax: sudo vi /etc/ansible/role/tomcat/vars/main.yml



4. Go to the template directory and create the tomcat.server.j2.yml file as below.

   Syntax: sudo vi /etc/ansible/role/tomcat/templates/tomcat.server.j2.yml



5. Go to the handlers directory and create the main.yml file as below.
   Syntax: sudo vi /etc/ansible/role/tomcat/templates/tomcat.server.j2.yml

```
File  Edit  View  Search  Terminal  Help
 GNU nano 2.9.3

- name: start tomcat
  service:
   daemon_reload: yes
   name: tomcat
   state: started
   enabled: yes
```

==========

Apache maven

1. Create the maven role inside the master machine.

   Syntax: cd /etc/ansible/role/

```
Applications  edureka@kmaster: /etc/...
                                  edureka@kmaster: /etc/ansible/roles
File  Edit  View  Search  Terminal  Help
edureka@kmaster:/etc/ansible/roles$ sudo ansible-galaxy init maven
- Role maven was created successfully
edureka@kmaster:/etc/ansible/roles$
```

2. Create the main.yml file inside tasks in the maven role.

   syntax: nano /etc/ansible/roles/maven/tasks/main.yml

```
edureka@kmaster: /etc/ansible
File  Edit  View  Search  Terminal  Help
 GNU nano 2.9.3                                    maven.yml

- hosts: all
  become: true
  become_user: root
  tasks:
  - name: install pacakges
    apt: name={{item}} state=present
    loop:
      - default-jdk
      - python3-pip
  - name: donwload and extract maven
    unarchive:
     src:  {{maven_url}}
     dest: /opt
     remote_src: yes
  - name: install maven
    command: "update-alternatives --install /usr/bin/mvn maven /opt/apache-maven-3.8.5/bin/mvn 1001"
```

3. Create the main.yml file inside tasks in the maven role.
   syntax: sudo nano /etc/ansible/roles/maven/vars/main.yml

```
edureka@kmaster: /etc/ansible
File  Edit  View  Search  Terminal  Help
 GNU nano 2.9.3                              roles/maven/vars/main.yml

maven_url: https://dlcdn.apache.org/maven/maven-3/3.8.5/binaries/apache-maven-3.8.5-bin.tar.gz
```

4. Create the project.yml file and call the both roles i.e. tomcat and maven.
   syntax: sudo nano /etc/ansible/role/project.yml

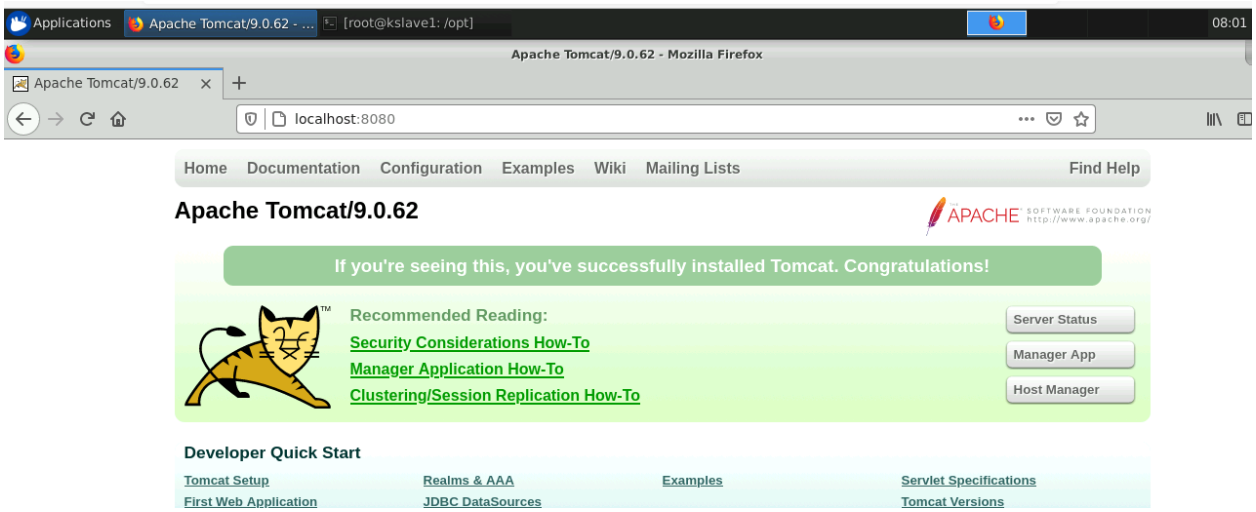
```
Applications  edureka@kmaster: /etc/...  edureka@kmaster: /etc/...
edureka@kmaster: /etc/ansible
File  Edit  View  Search  Terminal  Help
 GNU nano 2.9.3                                    project.yml

- hosts: all
  become: true
  become_user: root
  roles:
    - tomcat
    - maven
```

5. Execute the project.yml file with the below command and see the execution process.

```
edureka@kmaster:/etc/ansible$ ansible-playbook project.yml

PLAY [all] *********************************************************************************************************************************************************

TASK [Gathering Facts] *********************************************************************************************************************************************
[DEPRECATION WARNING]: Distribution Ubuntu 18.04 on host 172.31.25.53 should use /usr/bin/python3, but is using /usr/bin/python for backward
compatibility with prior Ansible releases. A future Ansible release will default to using the discovered platform python for this host. See
https://docs.ansible.com/ansible/2.9/reference_appendices/interpreter_discovery.html for more information. This feature will be removed in version
2.12. Deprecation warnings can be disabled by setting deprecation_warnings=False in ansible.cfg.
ok: [172.31.25.53]

TASK [tomcat : install java] ***************************************************************************************************************************************
ok: [172.31.25.53]

TASK [add tomcat group] ********************************************************************************************************************************************
ok: [172.31.25.53]

TASK [add tomcat user] *********************************************************************************************************************************************
ok: [172.31.25.53]

TASK [tomcat : unarchieve the file] ********************************************************************************************************************************
changed: [172.31.25.53]

TASK [tomcat : change the group ownership] *************************************************************************************************************************
changed: [172.31.25.53]

TASK [copy the tomcat service file] ********************************************************************************************************************************
ok: [172.31.25.53]



TASK [add tomcat user] *********************************************************************************************************************************************
ok: [172.31.25.53]

TASK [tomcat : unarchieve the file] ********************************************************************************************************************************
changed: [172.31.25.53]

TASK [tomcat : change the group ownership] *************************************************************************************************************************
changed: [172.31.25.53]

TASK [copy the tomcat service file] ********************************************************************************************************************************
ok: [172.31.25.53]

TASK [maven : install pacakges] ************************************************************************************************************************************
ok: [172.31.25.53] => (item=default-jdk)
ok: [172.31.25.53] => (item=python3-pip)

TASK [donwload and extract maven] **********************************************************************************************************************************
ok: [172.31.25.53]

TASK [install maven] ***********************************************************************************************************************************************
changed: [172.31.25.53]

PLAY RECAP *********************************************************************************************************************************************************
172.31.25.53               : ok=10   changed=3    unreachable=0    failed=0    skipped=0    rescued=0    ignored=0
```

6. Go to the worker node to verify the tomcat and maven installation. http://localhost:8080

```
edureka@kslave1:~$ mvn --version
Apache Maven 3.8.5 (3599d3414f046de2324203b78ddcf9b5e4388aa0)
Maven home: /opt/apache-maven-3.8.5
Java version: 1.8.0_201, vendor: Oracle Corporation, runtime: /usr/lib/jvm/java-8-oracle/jre
Default locale: en, platform encoding: UTF-8
OS name: "linux", version: "5.4.0-1025-aws", arch: "amd64", family: "unix"
edureka@kslave1:~$
```


Applications
Apache Tomcat/9.0.62 - ...
[root@kslave1: /opt]
08:01
Apache Tomcat/9.0.62 - Mozilla Firefox
Apache Tomcat/9.0.62
localhost:8080
Home
Documentation
Configuration
Examples
Wiki
Mailing Lists
Find Help
Apache Tomcat/9.0.62
APACHE SOFTWARE FOUNDATION http://www.apache.org/
If you're seeing this, you've successfully installed Tomcat. Congratulations!
Recommended Reading:
Security Considerations How-To
Manager Application How-To
Clustering/Session Replication How-To
Server Status
Manager App
Host Manager
Developer Quick Start
Tomcat Setup
Realms & AAA
Examples
Servlet Specifications
First Web Application
JDBC DataSources
Tomcat Versions

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END