**Ansible Exercise**

**Problem**: a user wants to install tomcat using ansible.

**Write Down all the steps needed to install tomcat from a repository**

**Steps**:

* Update system packages
* Install JDK
* Create user and group for tomcat
* Create tomcat directory
* Download tomcat using unarchive
* Change ownership of tomcat directory
* Create service file
* Reload systemd to read configurations again
* Enable and start tomcat service
* Connect to tomcat service

**Convert the same into an ansible playbook**

---

- name: Install Tomcat to host

  hosts: all

  become: yes

  vars:

    download\_url: https://dlcdn.apache.org/tomcat/tomcat-10/v10.0.27/bin/apache-tomcat-10.0.27.tar.gz

  tasks:

   - name: Update packages

     apt:

      upgrade: yes

      update\_cache: yes

   - name: Download Open JDK

     apt:

      name: default-jdk

      update\_cache: yes

      state: present

   - name: Check if Java is Installed

     shell:

      java -version

   - name: Create Group

     group:

      name: tomcat

      state: present

   - name: Create User

     user:

        name: tomcat

        state: present

   - name: Create a Directory /opt/tomcat

     file:

      path: /opt/tomcat

      state: directory

      mode: 0755

      owner: tomcat

      group: tomcat

   - name: Download Tomcat using unarchive

     unarchive:

      src: "{{download\_url}}"

      dest: /opt/tomcat

      remote\_src: yes

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

   - name: Change ownership of tomcat directory

     file:

      path: /opt/tomcat

      owner: tomcat

      group: tomcat

      mode: "u+rwx,g+rx,o=rx"

      recurse: yes

      state: directory

   - name: Creating a service file

     copy:

      content: |-

        [Unit]

        Description=Tomcat Service

        Requires=network.target

        After=network.target

        [Service]

        Type=forking

        User=tomcat

        Group=tomcat

        Environment="JAVA\_HOME=/usr/lib/jvm/java-1.11.0-openjdk-amd64"

        Environment="JAVA\_OPTS=-Djava.security.egd=file:///dev/urandom"

        Environment="CATALINA\_PID=/opt/tomcat/logs/tomcat.pid"

        Environment="CATALINA\_BASE=/opt/tomcat"

        Environment="CATALINA\_HOME=/opt/tomcat"

        Environment="CATALINA\_OPTS=-Xms512M -Xmx1024M -server -XX:+UseParallelGC"

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

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

        Restart=always

        RestartSec=10

        [Install]

        WantedBy=multi-user.target

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

   - name: Reload the SystemD to re-read configurations

     systemd:

        daemon-reload: yes

   - name: Enable the tomcat service and start

     systemd:

        name: tomcat

        enabled: yes

        state: started

   - name: Connect to Tomcat server on port 8080 and check status 200 - Try 5 times

     tags: test

     uri:

       url: http://localhost:8080

     register: result

     until: "result.status == 200"

     retries: 5

     delay: 10

**Console Output**







