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Module 5 Case study: Ansible

**Install Tomcat9 using ansible role:**

**$ cat tasks/main.yml**

---

- name: install default jdk

apt:

name: default-jdk

update\_cache: yes

state: present

- name: add tomcat group

group:

name: tomcat

state: present

- name: add tomcat user

user:

name: tomcat

home: /opt/tomcat

shell: /bin/false

group: tomcat

- name: download tomcat tar file

uri:

url: https://dlcdn.apache.org/tomcat/tomcat-9/v9.0.87/bin/apache-tomcat-9.0.87.tar.gz

dest: /tmp

creates: /tmp/apache-tomcat-9.0.87.tar.gz

- name: create tomcat directory

file:

path: /opt/tomcat

state: directory

- name: untar files

shell: "tar xzvf /tmp/apache-tomcat-9\*tar.gz -C /opt/tomcat --strip-components=1"

- name: update group permissions

file:

path: /opt/tomcat

group: tomcat

mode: g+w

recurse: true

- name: update conf permissions

file:

path: /opt/tomcat/conf

mode: g+r

recurse: true

- name: update conf exec permissions

file:

path: /opt/tomcat/conf

mode: g+x

- name: change owner

file:

path: "/opt/tomcat/{{ item }}"

group: tomcat

recurse: true

loop:

- "webapps/"

- "work/"

- "temp/"

- "logs/"

- name: copy tomcat service file

copy:

src: tomcat.service

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

notify:

- Restart Daemon

- Start Tomcat

**$ cat handlers/main.yml**

---

- name: Restart Daemon

ansible.builtin.systemd:

daemon\_reload: true

- name: Start Tomcat

service:

name: tomcat

state: started

enabled: true

**$ cat files/tomcat.service**

[Unit]

Description=Apache Tomcat Web Application Container

After=network.target

[Service]

Type=forking

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

Environment=CATALINA\_PID=/opt/tomcat/temp/tomcat.pid

Environment=CATALINA\_HOME=/opt/tomcat

Environment=CATALINA\_BASE=/opt/tomcat

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

Environment='JAVA\_OPTS=-Djava.awt.headless=true -Djava.security.egd=file:/dev/./urandom'

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

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

User=tomcat

Group=tomcat

UMask=0007

RestartSec=10

Restart=always

[Install]

WantedBy=multi-user.target

**Directory file structure**

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├── install.yml

├── maven

│ ├── README.md

│ ├── defaults

│ │ └── main.yml

│ ├── handlers

│ │ └── main.yml

│ ├── meta

│ │ └── main.yml

│ ├── tasks

│ │ └── main.yml

│ ├── tests

│ │ ├── inventory

│ │ └── test.yml

│ └── vars

│ └── main.yml

└── tomcat

├── README.md

├── defaults

│ └── main.yml

├── files

│ └── tomcat.service

├── handlers

│ └── main.yml

├── meta

│ └── main.yml

├── tasks

│ └── main.yml

├── tests

│ ├── inventory

│ └── test.yml

└── vars

└── main.yml

15 directories, 18 files

**Install Maven using Ansible role:**

**$ cat tasks/main.yml**

---

- name: install python software properties

apt:

name: python3-software-properties

update\_cache: yes

state: present

- name: install default jdk

apt:

name: default-jdk

update\_cache: yes

state: present

- name: download maven tar file

uri:

url: https://dlcdn.apache.org/maven/maven-3/3.9.6/binaries/apache-maven-3.9.6-bin.tar.gz

dest: /opt

creates: /opt/apache-maven-3.9.6-bin.tar.gz

- name: unarchive tar file

unarchive:

src: /opt/apache-maven-3.9.6-bin.tar.gz

dest: /opt

remote\_src: yes

- name: update maven alternatives

community.general.alternatives:

name: maven

path: /opt/apache-maven-3.9.6/bin/mvn

link: /usr/bin/mvn

priority: 1001







