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**Lesson 5 Lesson-End Project**

**Installing Apache Tomcat Using Ansible Playbook on Ubuntu**

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| **Project Agenda:** To install Apache Tomcat using Ansible playbook    **Description:** Apache Tomcat is often used as an application server for strictly web-based applications. It executes Java servlets and renders web pages that include JSP coding.    **Tools required:** Ansible    **Prerequisites:** You must have ansible installed in the lab to proceed.    **Expected Deliverables:**  Write a playbook to install Tomcat  Check the status of Tomcat |

**Steps to be followed:**

1. Installing Ansible
2. Configuring Ansible
3. Establishing Connectivitybetween Ansible controller and node machine
4. Creating Apache Playbook
5. Executing the Playbook
6. Confirming the installation

**Step 1: Installing Ansible**

1. Use the below command to check and find the dependencies of the packages you want and install any that are needed:

***sudo apt-get install -f***

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1. Use the below command to update package repositories and get the latest package information:

***sudo apt-get install software-properties-common***

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1. Run these commands to update the list of available software again and install Ansible. It also pulls down **Ansible PPA's** signing key and **adds** it to your system:

***sudo apt-add-repository ppa:ansible/ansible***

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1. Use the following command to download package information from all the configured sources:

***sudo apt-get update***

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1. Use the following command to install Ansible:

***sudo apt-get install ansible***

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**Step 2:** **Configuring Ansible**

1. Add the host localhost in the ansible host file /etc/ansible/hosts:

***sudo vi /etc/ansible/hosts***



1. When the file opens, add the below two lines of the code at the end of the file:

***[webservers]***

***localhost:42006***

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**Step 3: Establishing connectivity between Ansible controller and node machine**

1. Execute the below command to validate the host inventory file:

***ansible all -m ping***

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**Step 4: Creating Apache Playbook**

1. Use the following command to create and open a yml file:

***sudo nano tomcat-playbook.yml***



1. Add the following code in the yml file:

**- hosts: webservers**

**become: true**

**tasks:**

**- name: update**

**apt: update\_cache=yes**

**ignore\_errors: yes**

**- name: Installating JDK.**

**apt: name=default-jdk state=latest**

**- name: Adding Group and user for Tomcat.**

**shell: groupadd tomcat && useradd -s /bin/false -g tomcat -d /opt/tomcat tomcat**

**- name: Installating curl.**

**apt: name=curl state=latest**

**- name: Downloading Apache Tomcat tar.**

**shell: wget https://dlcdn.apache.org/tomcat/tomcat-9/v9.0.54/bin/apache-tomcat-9.0.54.tar.gz**

**args:**

**chdir: /tmp**

**- name: Creating Apache Tomcat home directory.**

**command: mkdir /opt/tomcat**

**- name: Extracting Apache Tomcat.**

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

**- name: Updating permission.**

**command: "{{ item }}"**

**with\_items:**

**- chown -R tomcat:tomcat /opt/tomcat**

**- chmod -R g+r /opt/tomcat/conf**

**- chmod g+x /opt/tomcat/conf**

**- name: Creating service for Apache tomcat.**

**file:**

**path: /etc/systemd/system/tomcat.service**

**state: touch**

**mode: u+rwx,g-rwx,o-x**

**- name: download foo.conf**

**get\_url:**

**url: https://raw.githubusercontent.com/aftab70/Apache\_Tomcat/master/tomcat\_services**

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

**- name: Deamon reload.**

**command: systemctl daemon-reload**

**- name: Starting Apache Tomcat service.**

**service: name=tomcat state=started**

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1. Use **Ctrl + X** to exit, **Y** for yes, and then press **enter** to save the file

**Step 5: Executing the Playbook**

1. Use the below command to run the Playbook:

***ansible-playbook tomcat-playbook.yml***

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**Step 6: Confirming the installation**

1. Use the below command to check the status of the Tomcat:

***sudo service tomcat status***

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1. Apache Tomcat has been successfully installed.