Instruction Manual: Installing Apache Tomcat 9 and JDK on Linux

1. Prerequisites

- Linux system (Ubuntu, Debian, CentOS, etc.)
- Root or sudo access
- Internet connection

2. Download Java Development Kit (JDK)

Tomcat requires Java to run. We will install OpenJDK 17.

```
$> wget https://download.oracle.com/java/17/archive/jdk-17.0.12_linux-x64_bin.tar.gz
$> tar xzf jdk-17.0.12_linux-x64_bin.tar.gz
$> mv jdk-17.0.12_linux-x64_bin.tar.gz  jdk
```

```
Verify installation:
./jdk/bin/java -version
```

3. Create a Tomcat User (Recommended)

```
sudo useradd -m -U -d /opt/tomcat -s /bin/false tomcat
```

4. Download Apache Tomcat 9

```
cd /tmp
wget https://dlcdn.apache.org/tomcat/tomcat-9/v9.0.111/bin/apache-tomcat-
9.0.111.tar.gz
```

5. Extract and Move Files

```
sudo mkdir /opt/tomcat
sudo tar -xvzf apache-tomcat-9.0.95.tar.gz -C /opt/tomcat
```

6. Set Permissions

```
sudo chown -R tomcat:tomcat /opt/tomcat
sudo chmod -R 775 /opt/tomcat
```

7. Create a Systemd Service File

```
sudo vi /etc/systemd/system/tomcat.service
```

```
[Unit]
Description=Apache Tomcat 9 Web pplication Container
After=network.target

[Service]
Type=forking
User=tomcat
Group=tomcat
Environment="JAVA_HOME=/home/centos/jvm"
Environment="CATALINA_PID=/opt/tomcat/tomcat.pid"
Environment="CATALINA_HOME=/opt/tomcat"
Environment="CATALINA_BASE=/opt/tomcat"
ExecStart=/opt/tomcat/bin/startup.sh
ExecStop=/opt/tomcat/bin/shutdown.sh
Restart=on-failure

[Install]
WantedBy=multi-user.target
```

8. Reload and Start Tomcat

```
sudo systemctl daemon-reload
sudo systemctl start tomcat
sudo systemctl enable tomcat
```

9. Check Tomcat Status

```
sudo systemctl status tomcat
```

10. Configure Firewall (Optional)

```
sudo ufw allow 8080/tcp
sudo ufw reload
```

11. Access Tomcat

Open a browser and visit: http://<your-server-ip>:8080

12. Add Tomcat Admin User (Optional)

```
sudo nano /opt/tomcat/conf/tomcat-users.xml

<role rolename="manager-gui"/>
<role rolename="admin-gui"/> <user username="admin" password="YourStrongPassword"
roles="manager-gui,admin-gui"/> sudo systemctl restart tomcat

Access:
http://<your-server-ip>:8080/manager/html
```