

# **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 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 application 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
```