# ****Installing Apache Tomcat from an RPM Package Offline****

## ****Objective****

This guide provides step-by-step instructions on how to install Apache Tomcat from an RPM package on a server without an internet connection.

## ****1. Download the Tomcat RPM Package****

* **Download Location**: On a machine with internet access, download the appropriate Apache Tomcat RPM package from the [official Apache Tomcat download page](https://tomcat.apache.org/download-90.cgi) or another trusted repository.
* **Example Package Name**: tomcat-9.x.x.rpm (Make sure to choose the version that is compatible with your server).

## ****2. Transfer the RPM Package to Your Server****

* **Using USB Drive**:
  + Copy the RPM file from your local machine to a USB drive.
  + Plug the USB drive into the server and copy the RPM file to a desired directory on the server (e.g., /home/user/).
* **Using SCP (Secure Copy)**:
  + Open a terminal on your local machine.
  + Use the scp command to transfer the RPM file to the server:
  + scp /path/to/tomcat-package.rpm user@your-server:/path/to/destination
  + Replace /path/to/tomcat-package.rpm with the actual path of your RPM file on your local machine and /path/to/destination with the directory on the server where you want to store it.

## ****3. Install the RPM Package****

* **SSH into the Server**:
  + Log into the server using SSH:
  + ssh user@your-server
* **Navigate to the RPM File Location**:
  + Change to the directory where the RPM file is stored:
  + cd /path/to/destination
* **Install the RPM Package**:
  + Install the Tomcat RPM package using the rpm command:
  + sudo rpm -ivh tomcat-package.rpm
  + Wait for the installation process to complete. It may take a few moments.

## ****4. Verify Installation****

* **Check Tomcat Version**:
  + After installation, verify that Tomcat is installed by checking its version:
  + /opt/tomcat/bin/version.sh
  + If Tomcat is installed properly, this command will display the version of Tomcat installed.

## ****5. Start Tomcat****

* **Start Tomcat Service**:
  + To start Tomcat, use the following command:
  + sudo /opt/tomcat/bin/startup.sh
  + Tomcat will now start, and you should see messages indicating that it is running.

## ****6. Access Tomcat in the Browser****

* **Open the Browser**:
  + Open a web browser on any machine in the same network as the server.
* **Navigate to Tomcat**:
  + In the browser's address bar, type:
  + http://<your-server-ip>:8080
  + Replace <your-server-ip> with the actual IP address of your server.
  + If everything is configured correctly, the Tomcat home page should appear in the browser.

## ****7. (Optional) Set Tomcat to Start on Boot****

If you want Tomcat to start automatically when the server boots up, follow these steps:

* **Create Systemd Service File for Tomcat**:
  1. Open a new systemd service file:
  2. sudo nano /etc/systemd/system/tomcat.service
  3. Add the following configuration to the file:
  4. [Unit]
  5. Description=Tomcat 9
  6. After=network.target
  7. [Service]
  8. Type=forking
  9. ExecStart=/opt/tomcat/bin/startup.sh
  10. ExecStop=/opt/tomcat/bin/shutdown.sh
  11. User=tomcat
  12. Group=tomcat
  13. UMask=0007
  14. RestartSec=10
  15. Restart=always
  16. [Install]
  17. WantedBy=multi-user.target
  18. Save the file and exit.
* **Enable and Start the Tomcat Service**:
  1. Run the following commands to enable Tomcat to start on boot and start the service immediately:
  2. sudo systemctl daemon-reload
  3. sudo systemctl enable tomcat
  4. sudo systemctl start tomcat

## ****8. Verify Tomcat is Running as a Service****

* **Check the Service Status**:
  + To verify that Tomcat is running as a service, use:
  + sudo systemctl status tomcat
  + You should see the status as **active (running)** if Tomcat is running properly.

## ****Troubleshooting****

* If Tomcat does not start or is not accessible, check the Tomcat logs for errors. The logs are located in the logs directory under the Tomcat installation folder:
* /opt/tomcat/logs/catalina.out

The logs will provide insights into any issues during startup.

### ****Conclusion****

You have now successfully installed Apache Tomcat from an RPM package on your server and configured it to run on boot. You can access it through your web browser by navigating to http://<your-server-ip>:8080.