

# Deploying Spring Boot Application on External Server

In this document, we try to explain how to deploy a Spring Boot application on an external tomcat server. We are going to use Apache Tomcat 8 (i.e. apache-tomcat-8.5.75) for the deployment, with spring boot 2.7.4 release. We use .war file to deploy.

we need to be done for deploying the Spring Boot Application on External Server

1. Packaging the application as a war file.
2. Prevent the Spring Boot from using the embedded Tomcat Server.

Steps to be follow to deploy the Spring Boot application on an external tomcat.

## Steps:

1. Add dependency in **pom.xml** to exclude embedded tomcat so that we can further deploy our war file on external tomcat.

```
<dependency>
  <groupId>org.springframework.boot</groupId>
  <artifactId>spring-boot-starter-tomcat</artifactId>
  <scope>provided</scope>
</dependency>
```

2. Define Spring Main class by extending Spring Boot Servlet Initializer class and override configure() method.

```
1 package com.example.security.SpringSmartVehicle;
2
3 import org.springframework.boot.SpringApplication;
4
5
6
7
8 @SpringBootApplication
9 public class SpringVehicleApplication extends SpringBootServletInitializer {
10
11     @Override
12     protected SpringApplicationBuilder configure(SpringApplicationBuilder application) {
13         return application.sources(SpringVehicleApplication.class);
14     }
15
16     public static void main(String[] args) {
17         SpringApplication.run(SpringVehicleApplication.class, args);
18     }
19
20 }
21
22
```

3. Mention war as packaging and build the .war file application using maven build command.

```
<groupId>com.Spring.Vehicle</groupId>
<artifactId>com.Spring.Vehicle</artifactId>
<version>0.0.1-SNAPSHOT</version>
<name>SpringVehicle</name>
<description>Demo project for Spring Boot</description>
<properties>
  <java.version>1.8</java.version>
  <packaging>war</packaging>
</properties>
```








4. War file is located in the target folder.

classes	1/4/2023 6:07 PM	File folder	
com.Spring.Vehicle-0.0.1-SNAPSHOT	1/4/2023 6:12 PM	File folder	
generated-sources	1/4/2023 6:11 PM	File folder	
generated-test-sources	1/4/2023 6:11 PM	File folder	
log	1/6/2023 10:15 AM	File folder	
m2e-wtp	1/4/2023 6:05 PM	File folder	
maven-archiver	1/4/2023 6:13 PM	File folder	
maven-status	1/4/2023 6:11 PM	File folder	
surefire-reports	1/4/2023 6:11 PM	File folder	
test-classes	1/4/2023 6:07 PM	File folder	
com.Spring.Vehicle-0.0.1-SNAPSHOT	1/5/2023 12:36 PM	WAR File	65,759 KB
com.Spring.Vehicle-0.0.1-SNAPSHOT.war...	1/5/2023 12:36 PM	ORIGINAL File	59,661 KB








5. Download the tomcat 8.5 and extract it.

bin	1/4/2023 6:27 PM	File folder	
conf	1/4/2023 6:16 PM	File folder	
lib	9/22/2022 11:53 AM	File folder	
logs	1/4/2023 6:16 PM	File folder	
temp	9/22/2022 11:53 AM	File folder	
webapps	1/4/2023 6:27 PM	File folder	
work	1/4/2023 6:16 PM	File folder	
BUILDING	8/8/2022 7:26 AM	Text Document	21 KB
CONTRIBUTING	8/8/2022 7:26 AM	Markdown Source...	7 KB
LICENSE	8/8/2022 7:26 AM	File	57 KB
NOTICE	8/8/2022 7:26 AM	File	2 KB
README	8/8/2022 7:26 AM	Markdown Source...	4 KB
RELEASE-NOTES	8/8/2022 7:26 AM	File	8 KB
RUNNING	8/8/2022 7:26 AM	Text Document	17 KB

- Keep the war file in webapps folder.

 com.Spring.Vehicle-0.0.1-SNAPSHOT	1/4/2023 6:27 PM	File folder	
 docs	9/22/2022 11:54 AM	File folder	
 examples	9/22/2022 11:55 AM	File folder	
 host-manager	9/22/2022 11:55 AM	File folder	
 manager	9/22/2022 11:55 AM	File folder	
 ROOT	9/22/2022 11:56 AM	File folder	
 com.Spring.Vehicle-0.0.1-SNAPSHOT	1/4/2023 6:24 PM	WAR File	65,759 KB

- Run the startup.bat file in bin folder.

 setclasspath	8/8/2022 7:26 AM	Windows Batch File	4 KB
 setclasspath	8/8/2022 7:26 AM	Shell Script	4 KB
 shutdown	8/8/2022 7:26 AM	Windows Batch File	2 KB
 shutdown	8/8/2022 7:26 AM	Shell Script	2 KB
 startup	8/8/2022 7:26 AM	Windows Batch File	2 KB
 startup	8/8/2022 7:26 AM	Shell Script	2 KB
 tcnative-1.dll	8/8/2022 7:26 AM	Application exten...	2,552 KB

- Configure the tomcat-user file, add the users to manage the deployment.

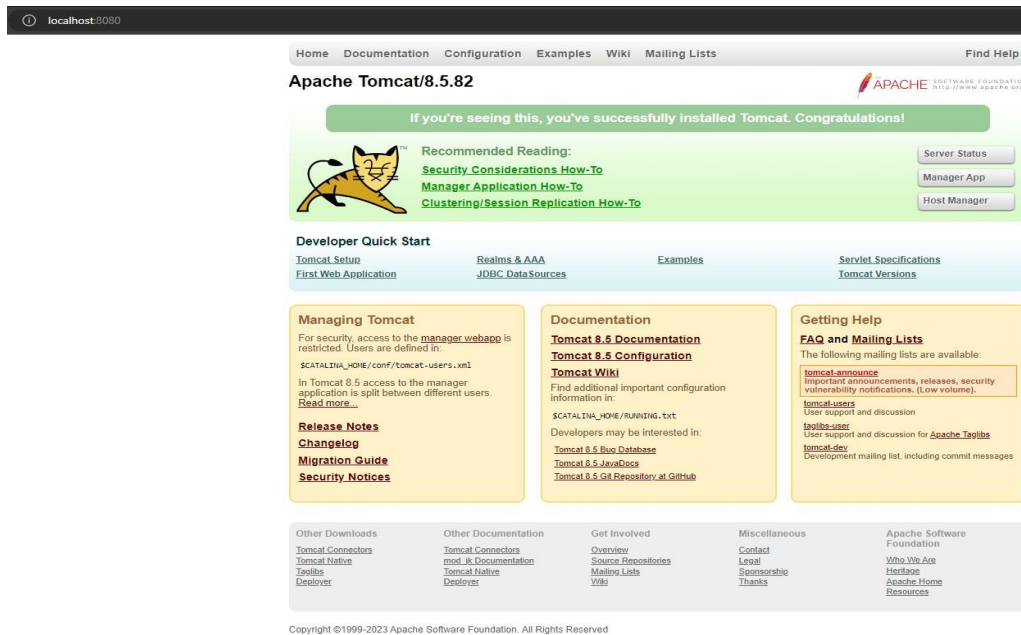
The users below are wrapped in a comment and are therefore ignored. If you wish to configure one or more of these users for use with the manager web application, do not forget to remove the `<!-- ... -->` that surrounds them. You will also need to set the passwords to something appropriate.

->

```
<user username="admin" password="admin" roles="manager-gui"/>
<user username="robot" password="robot" roles="manager-script"/>
```

9. Start tomcat server using command startup.bat, this will start tomcat server and also run the .war file present in webapps folder.

10. Open browser and type localhost:8080 to open Apache Tomcat/8.5.82 dashboard.



11. Click on manage apps and start the spring application on tomcat server.

Applications					
Path	Version	Display Name	Running	Sessions	Commands
/	None specified	Welcome to Tomcat	true	0	Start Stop Reload Undeploy Expire sessions with idle 30 minutes
/servlet-snoop	None specified		true	0	Start Stop Reload Undeploy Expire sessions with idle 30 minutes
/docs	None specified	Tomcat Documentation	true	0	Start Stop Reload Undeploy Expire sessions with idle 30 minutes
/examples	None specified	Servlet and JSP Examples	true	0	Start Stop Reload Undeploy Expire sessions with idle 30 minutes
/host-manager	None specified	Tomcat Host Manager Application	true	0	Start Stop Reload Undeploy Expire sessions with idle 30 minutes
/manager	None specified	Tomcat Manager Application	true	1	Start Stop Reload Undeploy Expire sessions with idle 30 minutes

12. Click on the application URL [Home](#) (i.e. war file name in webapps), mention application home URL [Home](#)

**Finally, the application is deployed on External Tomcat server.**

## Prerequisites to be followed to deploy in tomcat.

- Mention the external tomcat dependencies in pom.xml and mention `<scope>provided</scope>` this will stop internal tomcat during execution.
- Build the .war file with all necessary dependencies use `<finalName>Smartvehicle</finalName>` inside build tag to build .war file with custom name.
- The URL here `com.Spring.Vehicle-0.0.1-SNAPSHOT` is the .war file name.





