

## Table of Contents

Deploy war file on localhost Tomcat server .....	2
Creating war file for deployment.....	2
Use Maven to create war file.....	2
Build Process Finishes .....	2
Move war file to Tomcat server .....	2
Edit system environment variables.....	3
Open system environment page.....	3
Create system variable CATALINA_HOME .....	4
Locate the Tomcat installation folder on your machine.....	5
Look inside the webapps folder .....	5
Copy / move your war file into webapps.....	5
Rename file to something simpler .....	6
Important Tomcat server files on your local computer .....	6
Examine the apache-tomcat bin folder .....	6
Open Window's command line interface .....	7
Run batch file to startup Tomcat .....	7
Java window pops up with Tomcat status .....	8
Look inside the webapps folder .....	8
Look inside your project's folder .....	8
Postman or your front end can be used to send in requests.....	8
Stopping the Tomcat server.....	9
Tomcat Applications Overview .....	10
Tomcat Manager Application.....	10
Tomcat Root Application .....	10
Manager application password.....	11
CATALINA_HOME user file .....	11
Edit tomcat-users.xml .....	12
Access Tomcat Manger Application.....	12

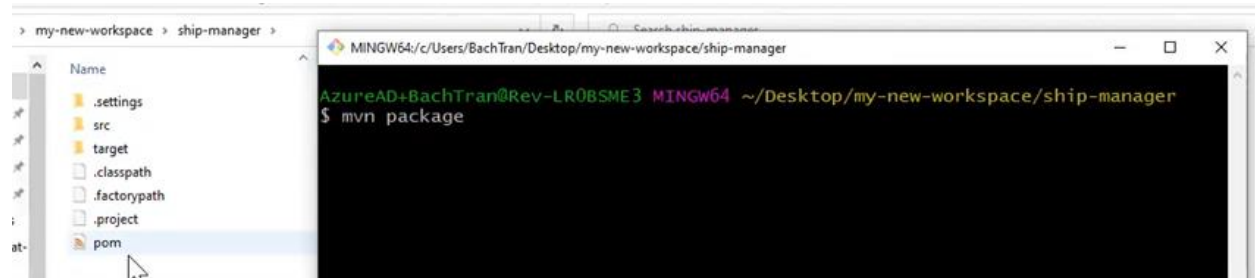
# Deploy war file on localhost Tomcat server

Creating war file for deployment

Use Maven to create war file

Run maven from inside project folder with web component backend

```
mvn package
```

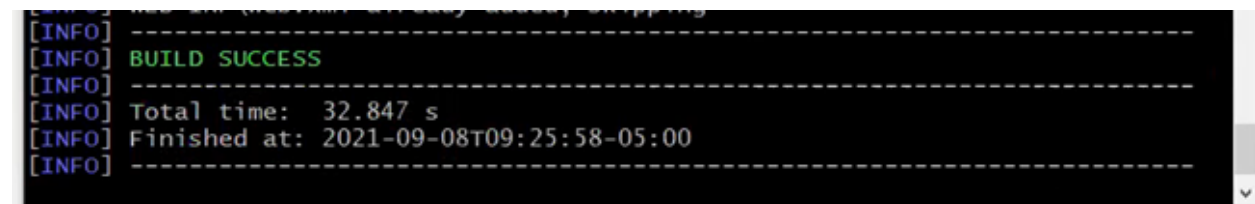


Build Process Finishes

The build process builds the war file in the projects target directory with a name similar to:

project-name\target

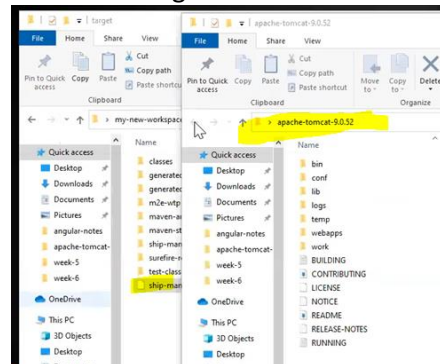
project-name-0.0.1.SNAPSHOT.war



Move war file to Tomcat server

Will need to move war file

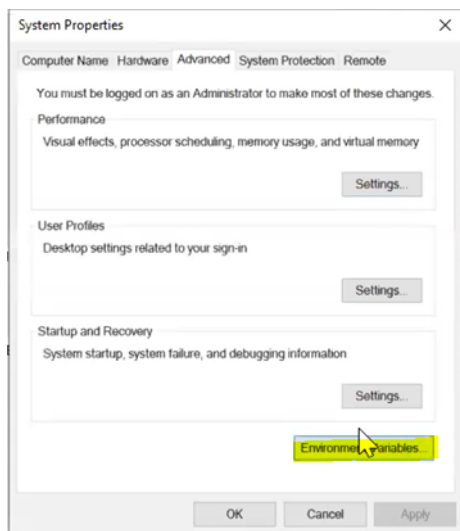
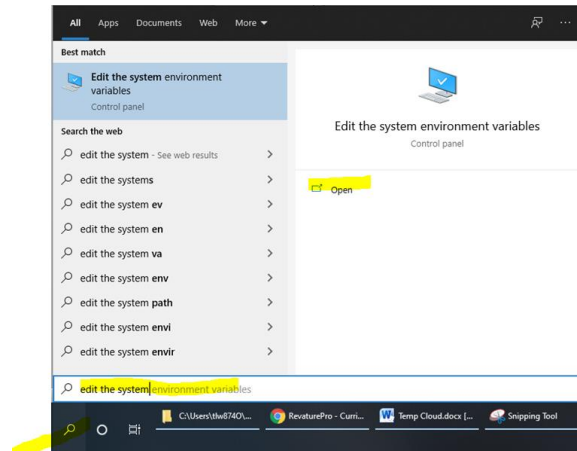
But first configure Tomcat environment variables



Edit system environment variables

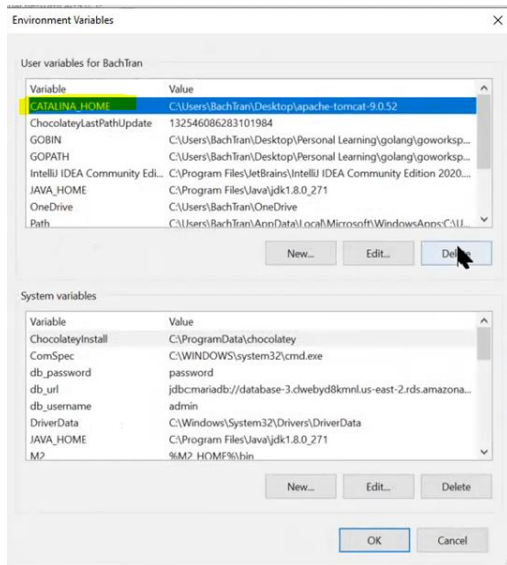
Open system environment page

Windows search

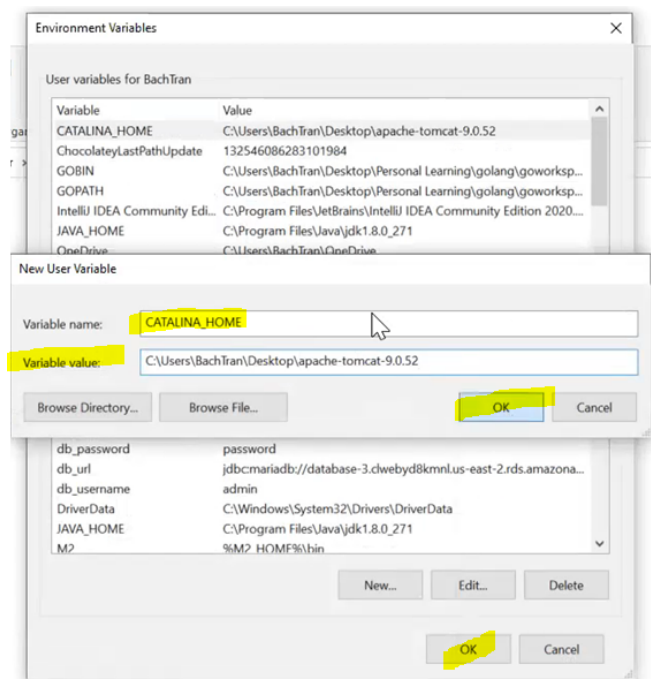


## Create system variable CATALINA\_HOME

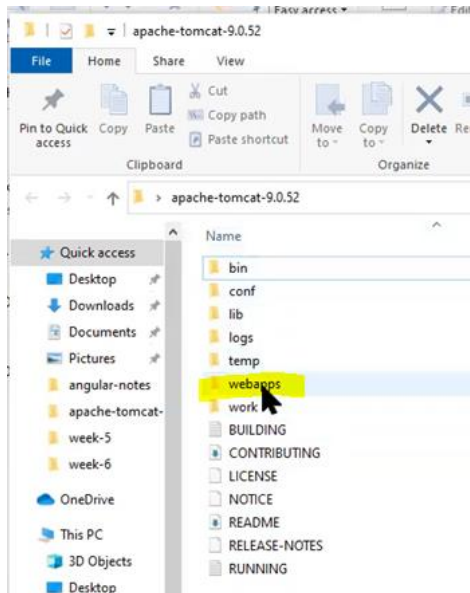
If CATALINA\_HOME is not already defined, create the variable



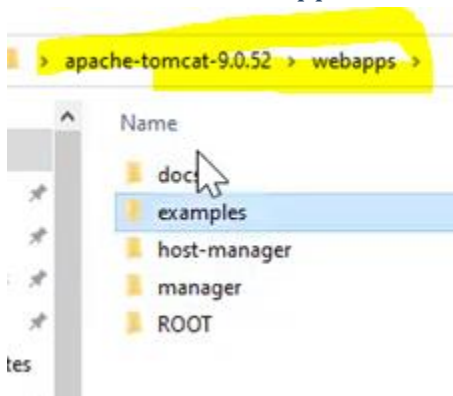
The value for CATALINA\_HOME is the location of the Tomcat installation directory on your machine.



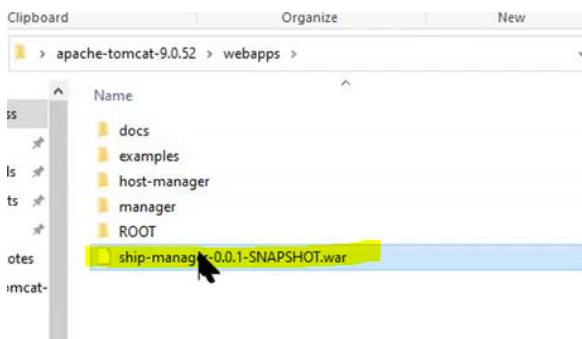
Locate the Tomcat installation folder on your machine  
Tomcat installation directory webapps folder



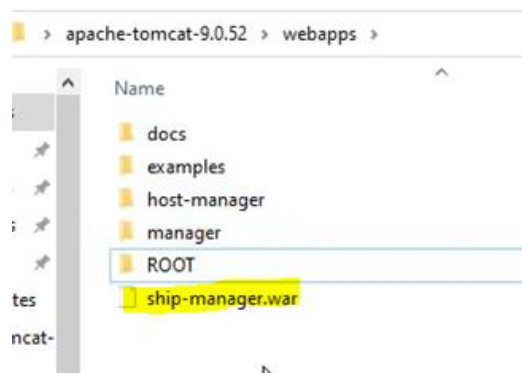
Look inside the webapps folder



Copy / move your war file into webapps  
project-name\target  
project-name-0.0.1.SNAPSHOT.war



Rename file to something simpler  
Tomcat will use the name to make a directory



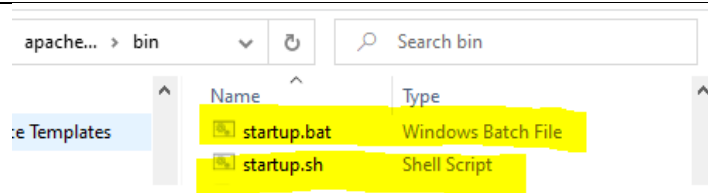
Important Tomcat server files on your local computer

*Examine the apache-tomcat bin folder*

These two files are used to start the Tomcat server in the destination environment

startup.bat is used on Windows environment

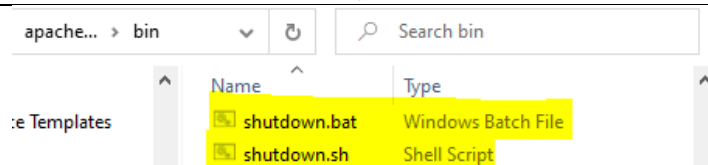
startup.sh is used on Unix / Linux environment like AWS EC2



These two files are used to stop the Tomcat server in the destination environment

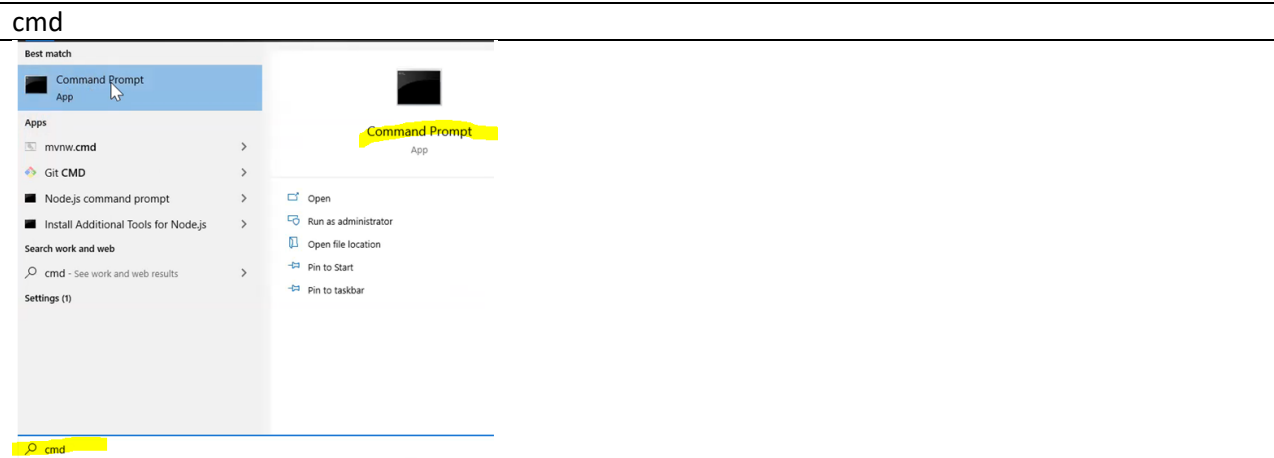
shutdown.bat is used on Windows environment

shutdown.sh is used on Unix / Linux environment like AWS EC2

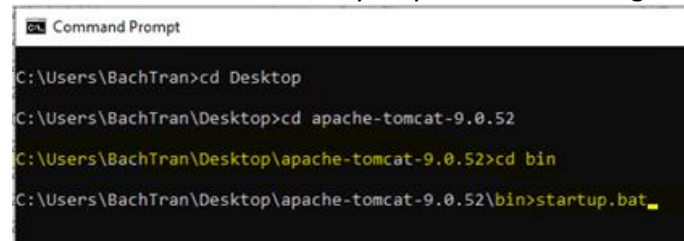


## Open Window's command line interface

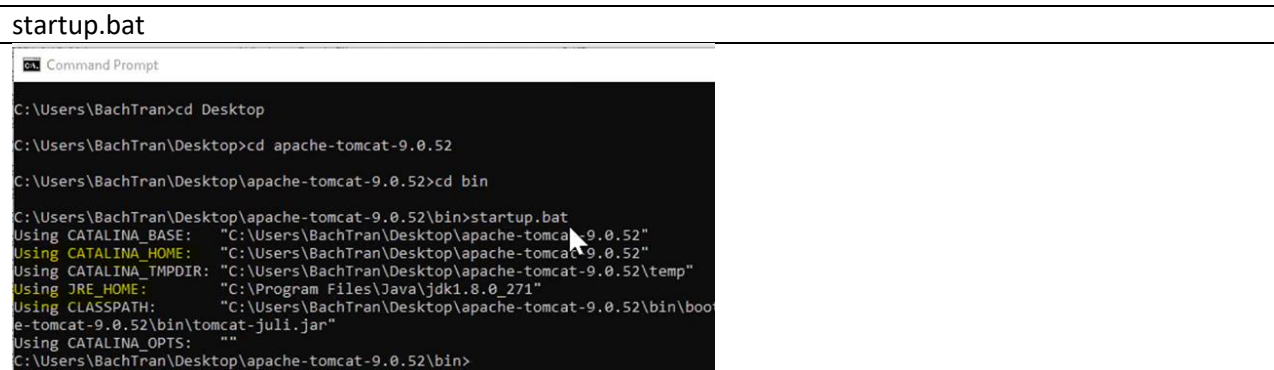
### Windows search



Move to Tomcat bin directory on your machine using the cd command.



## Run batch file to startup Tomcat

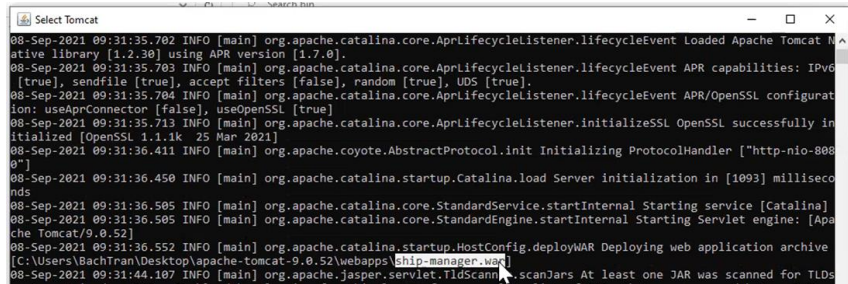


CATALINA\_HOME and JRE\_HOME should be defined in your system environment variables

## Java window pops up with Tomcat status

Look for your project's war file

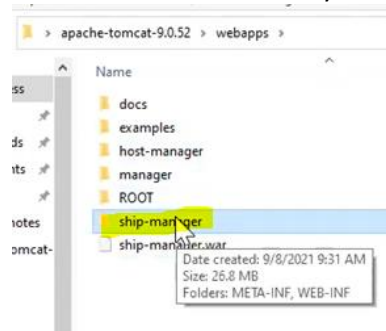
Do not close the Java window as long as you want to use your program



```
08-Sep-2021 09:31:35.702 INFO [main] org.apache.catalina.core.AprLifecycleListener.lifecycleEvent Loaded Apache Tomcat Native library [1.2.30] using APR version [1.7.0].
08-Sep-2021 09:31:35.703 INFO [main] org.apache.catalina.core.AprLifecycleListener.lifecycleEvent APR capabilities: IPv6 [true], sendfile [true], accept filters [false], random [true], UDS [true].
08-Sep-2021 09:31:35.704 INFO [main] org.apache.catalina.core.AprLifecycleListener.lifecycleEvent APR/OpenSSL configuration: useAprConnector [false], useOpenSSL [true]
08-Sep-2021 09:31:35.713 INFO [main] org.apache.catalina.core.AprLifecycleListener.initializeSSL OpenSSL successfully initialized [OpenSSL 1.1.1k 25 Mar 2021]
08-Sep-2021 09:31:36.411 INFO [main] org.apache.coyote.AbstractProtocol.init Initializing ProtocolHandler ["http-nio-8080"]
08-Sep-2021 09:31:36.450 INFO [main] org.apache.catalina.startup.Catalina.load Server initialization in [1093] milliseconds
08-Sep-2021 09:31:36.505 INFO [main] org.apache.catalina.core.StandardService.startInternal Starting service [Catalina]
08-Sep-2021 09:31:36.505 INFO [main] org.apache.catalina.core.StandardEngine.startInternal Starting Servlet engine: [Apache Tomcat/9.0.52]
08-Sep-2021 09:31:36.552 INFO [main] org.apache.catalina.startup.HostConfig.deployWAR Deploying web application archive [C:\Users\BachTran\Desktop\apache-tomcat-9.0.52\webapps\ship-manager.war]
08-Sep-2021 09:31:44.107 INFO [main] org.apache.jasper.servlet.TldScanner.scanJars At least one JAR was scanned for TLDs...
```

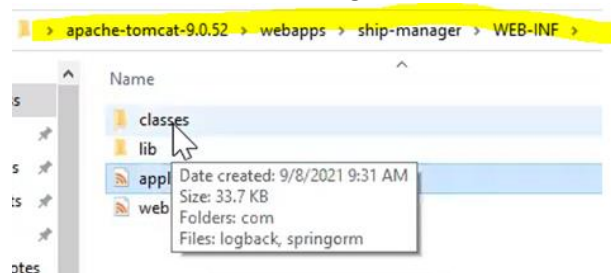
## Look inside the webapps folder

Tomcat created a directory for our war file.



## Look inside your project's folder

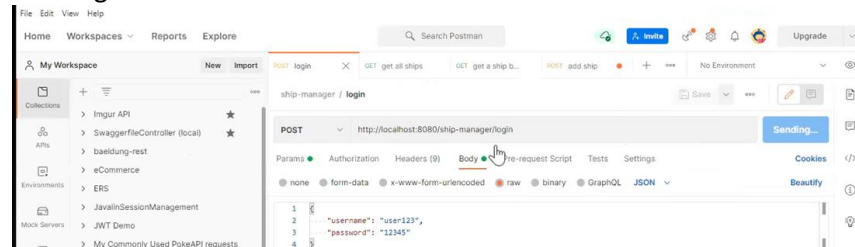
Tomcat created the following



Postman or your front end can be used to send in requests

If the request hangs then try shutting down the server and restarting.

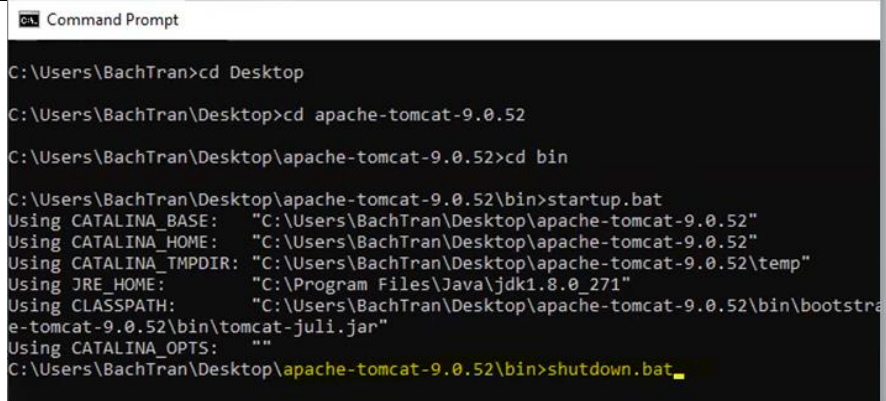
You might have to control-c in the Java window.





### *Stopping the Tomcat server*

To shut down the server, in the Windows command prompt window in the Tomcat bin directory, type in shutdown.bat



```
Command Prompt

C:\Users\BachTran>cd Desktop

C:\Users\BachTran\Desktop>cd apache-tomcat-9.0.52

C:\Users\BachTran\Desktop\apache-tomcat-9.0.52>cd bin

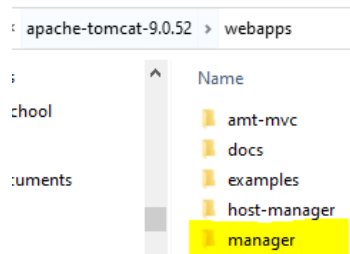
C:\Users\BachTran\Desktop\apache-tomcat-9.0.52\bin>startup.bat
Using CATALINA_BASE:   "C:\Users\BachTran\Desktop\apache-tomcat-9.0.52"
Using CATALINA_HOME:   "C:\Users\BachTran\Desktop\apache-tomcat-9.0.52"
Using CATALINA_TMPDIR: "C:\Users\BachTran\Desktop\apache-tomcat-9.0.52\temp"
Using JRE_HOME:        "C:\Program Files\Java\jdk1.8.0_271"
Using CLASSPATH:       "C:\Users\BachTran\Desktop\apache-tomcat-9.0.52\bin\bootstrap.jar;C:\Users\BachTran\Desktop\apache-tomcat-9.0.52\bin\tomcat-juli.jar"
Using CATALINA_OPTS:   ""

C:\Users\BachTran\Desktop\apache-tomcat-9.0.52\bin>shutdown.bat
```

This will close the Java popup window.

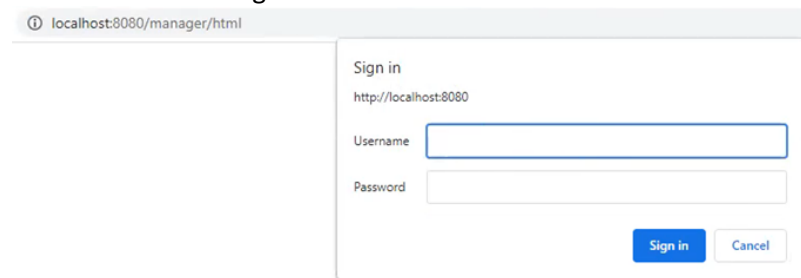
# Tomcat Applications Overview

## Tomcat Manager Application



<http://localhost:8080/manager>

First time need to login

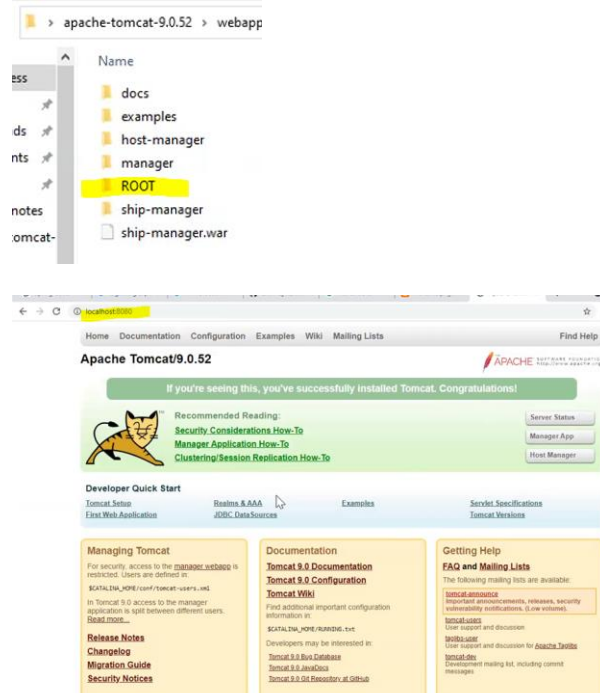


Overview of password needed follows

## Tomcat Root Application

<http://localhost:8080>


Brings up the ROOT application



## Manager application password

### Apache Tomcat/9.0.52

If you're seeing this,



Recommended Reading:  
[Security Considerations](#)  
[Manager Application](#)  
[Clustering/Session Replication](#)

**Developer Quick Start**  
[Tomcat Setup](#) [Realms & AAA](#)  
[First Web Application](#) [JDBC DataSources](#)

**Managing Tomcat**  
For security, access to the **manager webapp** is restricted. Users are defined in:  
`$CATALINA_HOME/conf/tomcat-users.xml`  
In Tomcat 9.0 access to the manager application is split between different users.  
[Read more...](#)


[Release Notes](#)  
[Changelog](#)  
[Migration Guide](#)  
[Security Notices](#)

## CATALINA\_HOME user file

### tomcat-users.xml

### Apache Tomcat/9.0.52

If you're seeing this, you've successfully installed Apache Tomcat/9.0.52



Recommended Reading:  
[Security Considerations How-To](#)  
[Manager Application How-To](#)  
[Clustering/Session Replication How-To](#)

**Developer Quick Start**  
[Tomcat Setup](#) [Realms & AAA](#) [Examples](#)  
[First Web Application](#) [JDBC DataSources](#)

**Managing Tomcat**  
For security, access to the **manager webapp** is restricted. Users are defined in:  
`$CATALINA_HOME/conf/tomcat-users.xml`  
In Tomcat 9.0 access to the manager application is split between different users.  
[Read more...](#)

**Documentation**  
[Tomcat 9.0 Documentation](#)  
[Tomcat 9.0 Configuration](#)  
[Tomcat Wiki](#)  
Find additional important configuration information in:  
`$CATALINA_HOME/RUNNING.txt`

[Release Notes](#)

File Home Share View  
Pin to Quick access Copy Paste Cut Copy path Move to Copy to Delete  
Clipboard Paste shortcut Organize

apache-tomcat-9.0.52 > conf

Quick access  
Desktop Downloads Documents Pictures Pictures angular-notes apache-tomcat- week-5 week-6 OneDrive This PC

Name  
Catalina catalina.policy catalina context jaspic-providers jaspic-providers.xsd logging server tomcat-users tomcat-users.xsd web

## Edit tomcat-users.xml

Open tomcat-users.xml using VS Code, text pad or some other editor.

```
20 xsi:schemaLocation="http://tomcat.apache.org/xml tomcat-users.xsd"
21 version="1.0">
22 <!--
23 By default, no user is included in the "manager-gui" role required
24 to operate the "/manager/html" web application. If you wish to use this app,
25 you must define such a user - the username and password are arbitrary.
26
27 Built-in Tomcat manager roles:
28 - manager-gui - allows access to the HTML GUI and the status pages
29 - manager-script - allows access to the HTTP API and the status pages
```

Example of how to define a gui admin

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

Copy line outside of comments and enter a password.

```
42 <user username="admin" password="password12345" roles="manager-gui"/>
```

## Access Tomcat Manger Application

You should now have access to the manager.

NO need to bounce the server from the command line.

http://localhost:8080/manager/html

The screenshot shows the Tomcat Web Application Manager interface in a web browser. The browser's address bar shows the URL `localhost:8080/manager/html`. The page features the Tomcat logo on the left and the Apache Software Foundation logo on the right. Below the logos, the title "Tomcat Web Application Manager" is displayed. A message box shows "Message: OK". The main content area is divided into sections: "Manager" with links for "List Applications", "HTML Manager Help", "Manager Help", and "Server Status"; and "Applications" which contains a table of running 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
/docs	None specified	Tomcat Documentation	true	0	Start   Stop   Reload   Undeploy Expire sessions with idle > 30 minutes