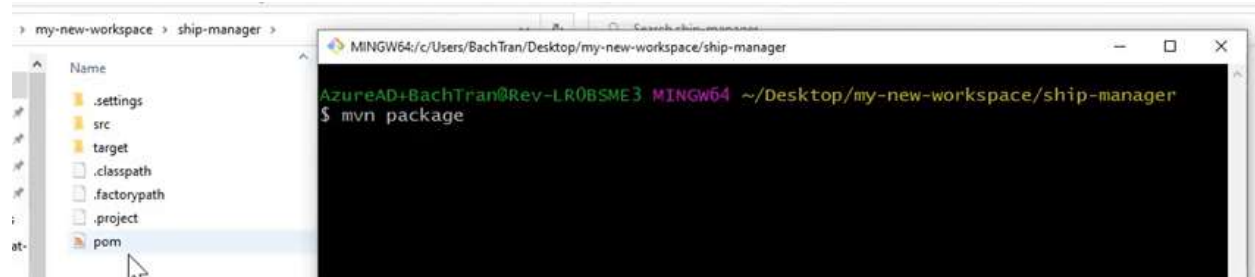


# Create a war file

## Deploy war file on localhost Tomcat server

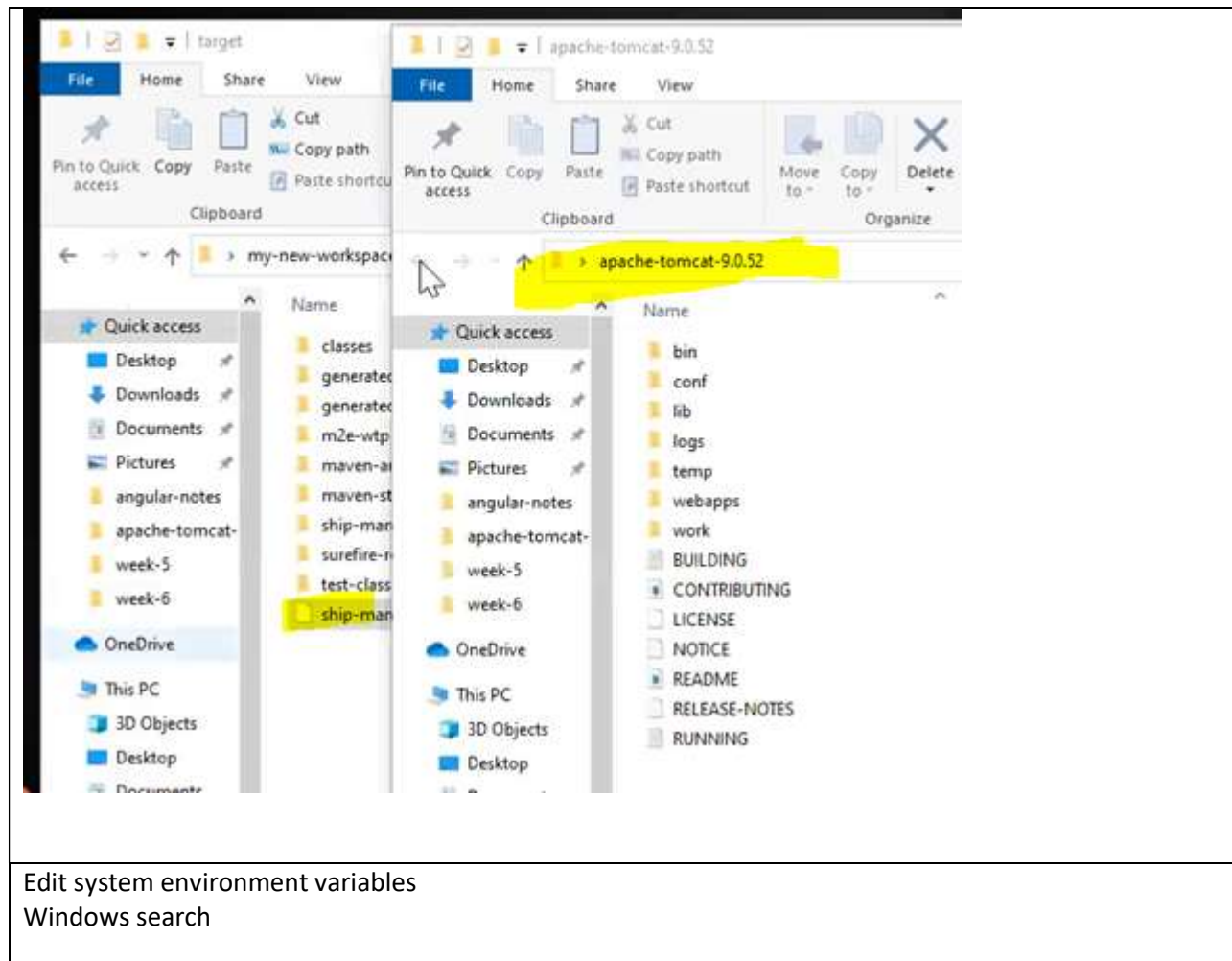
Creating war file for deployment

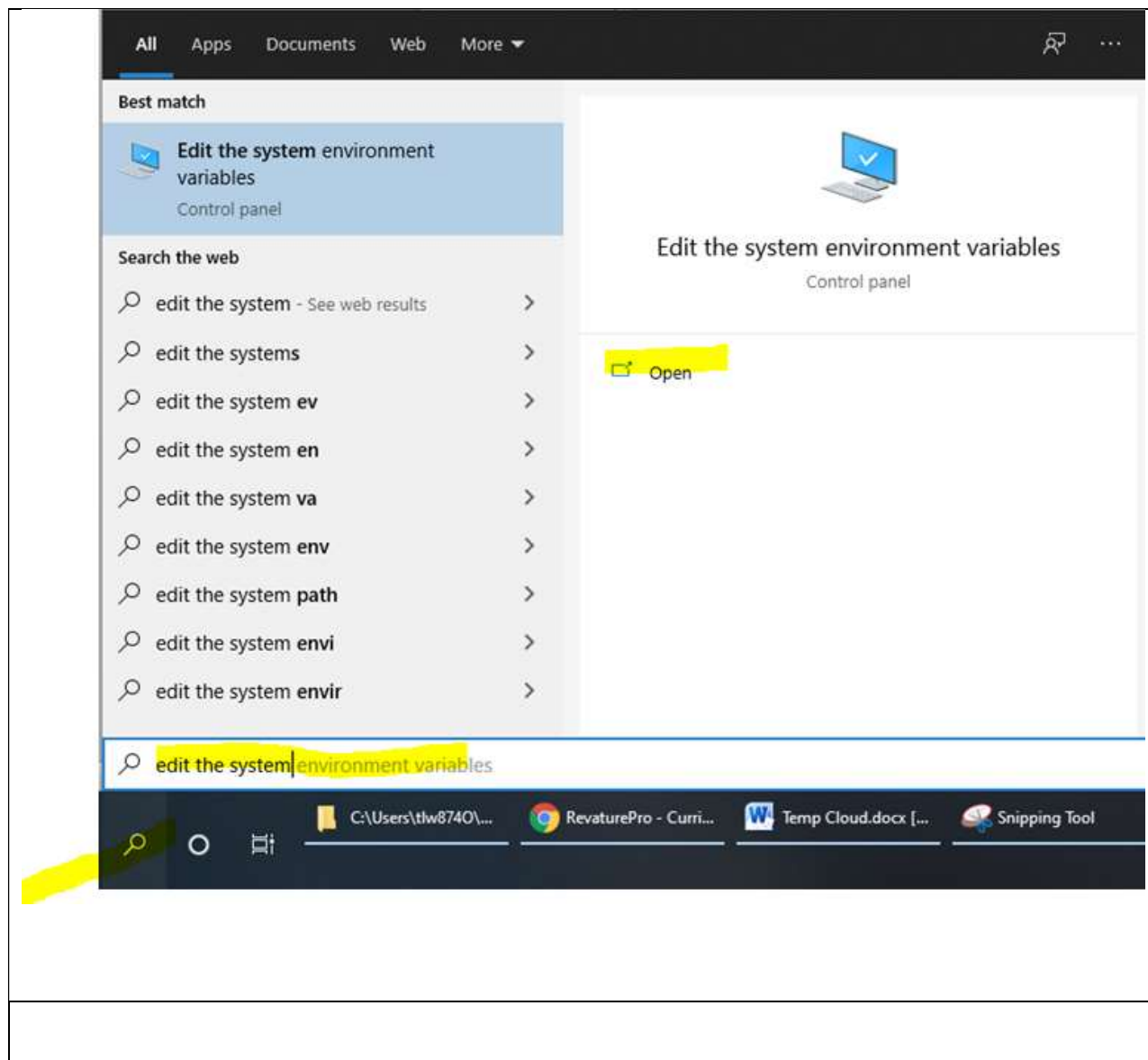
Run maven from inside project folder with web component backend  
mvn package

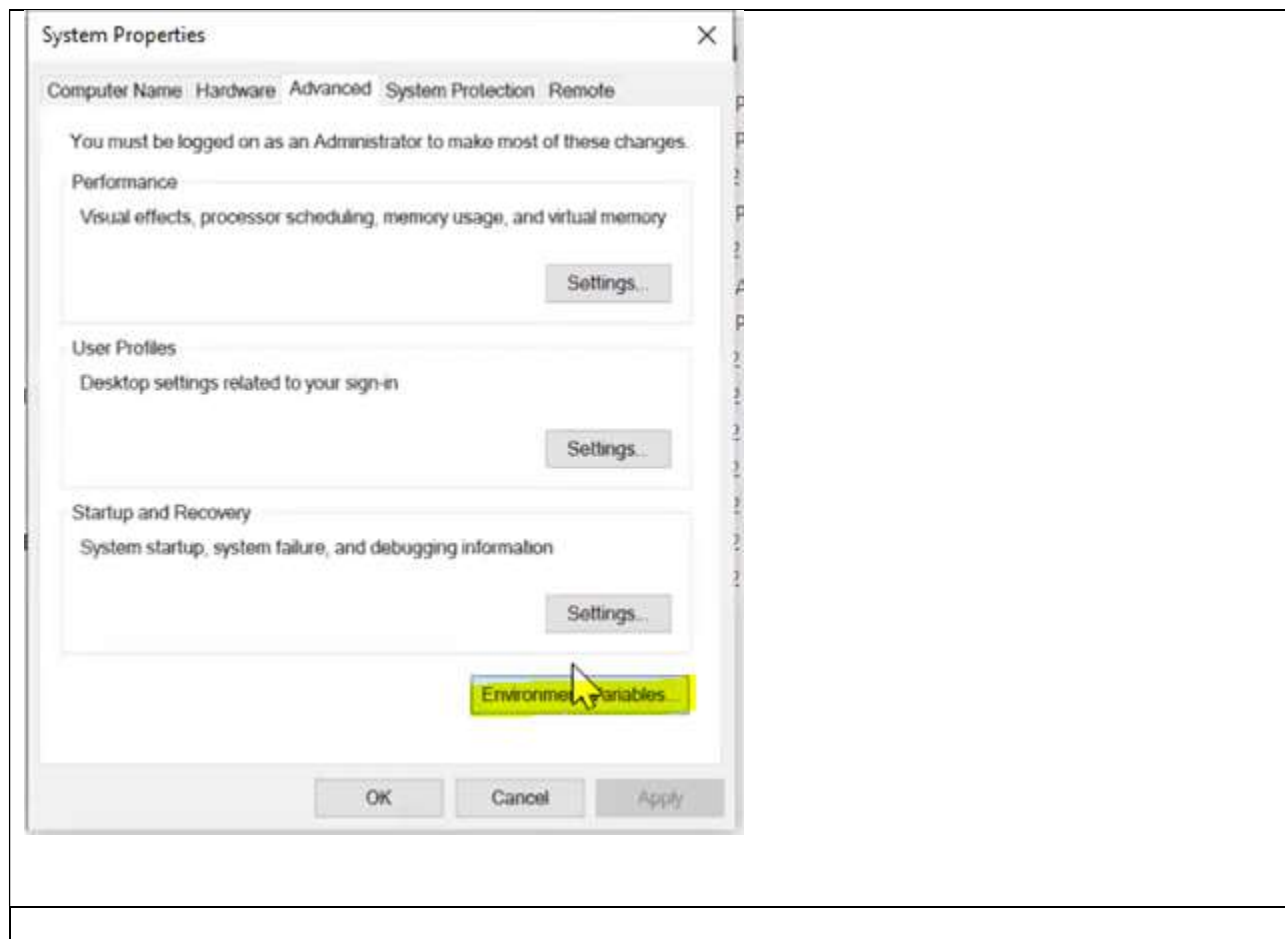


The build process builds the war file in the projects target directory with a name similar to:  
project-name\target  
project-name-0.0.1.SNAPSHOT.war

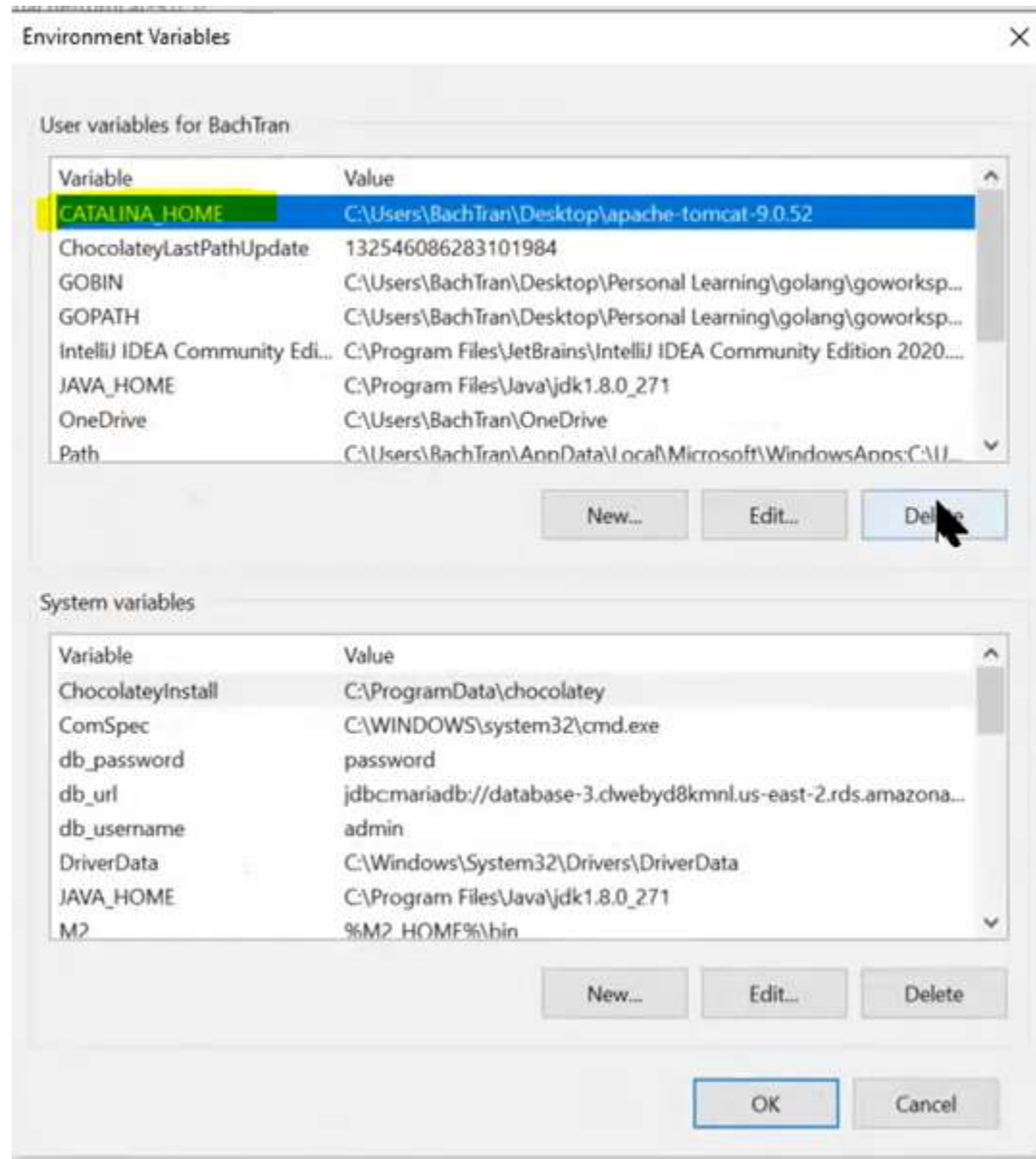
Will need to move war file  
But first configure Tomcat environment variables



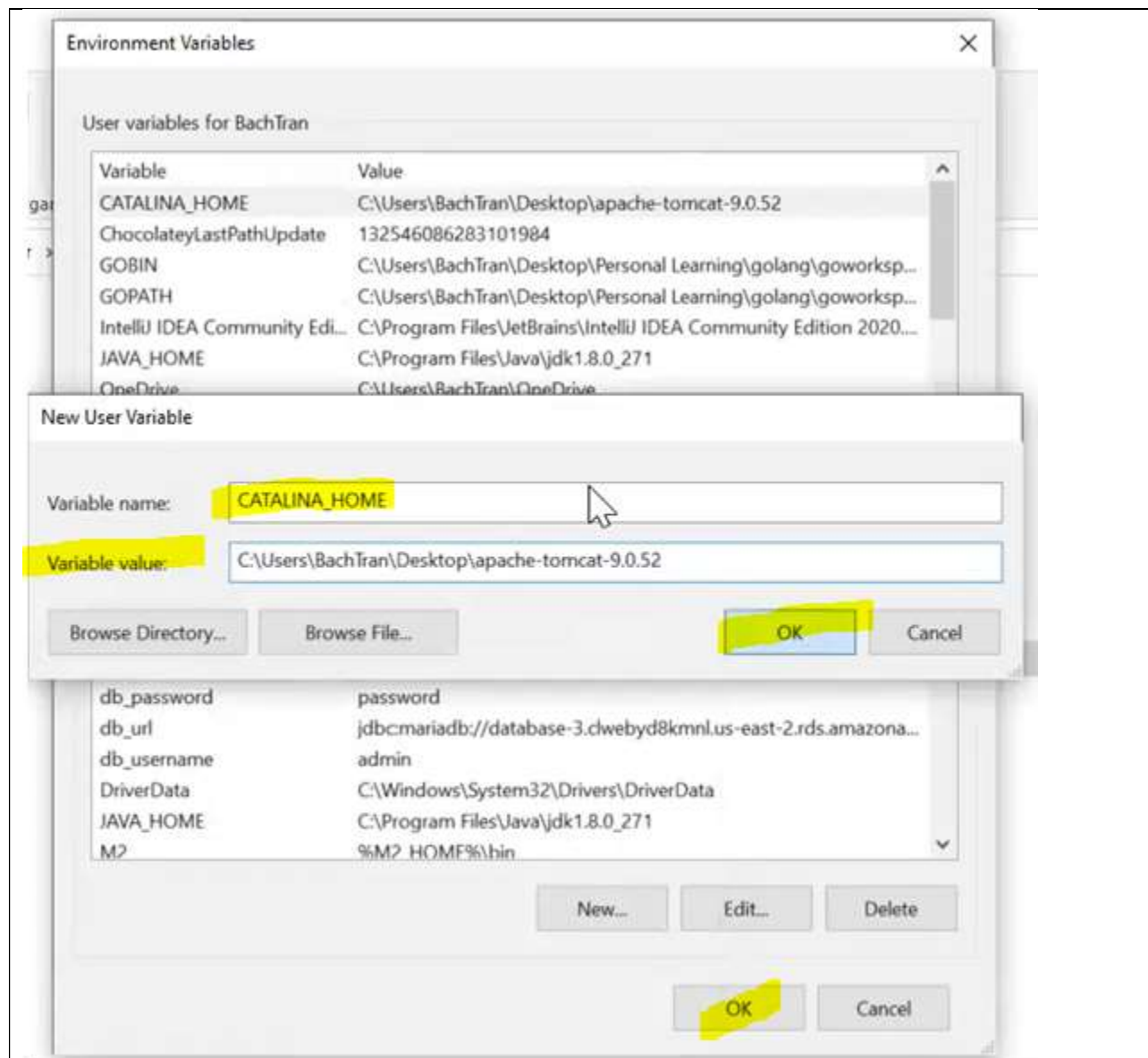




Verify or create CATALINA\_HOME

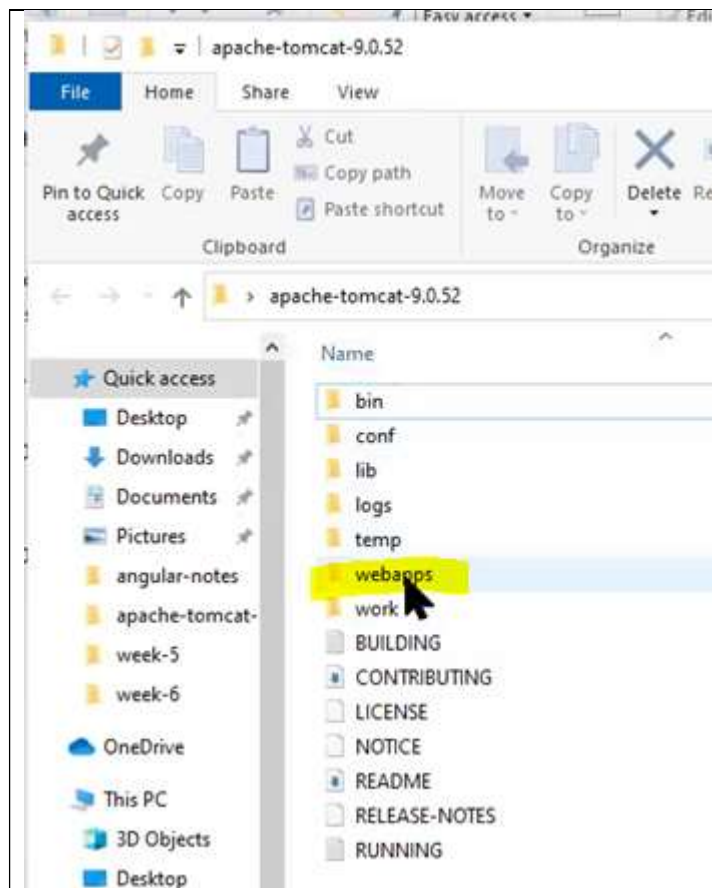


Value is the location of the Tomcat installation directory on your machine.

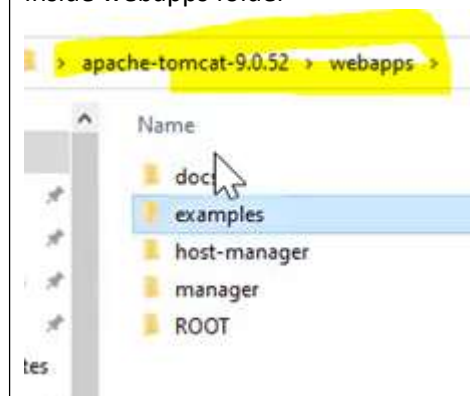


Only variable needed.

Tomcat installation directory webapps folder

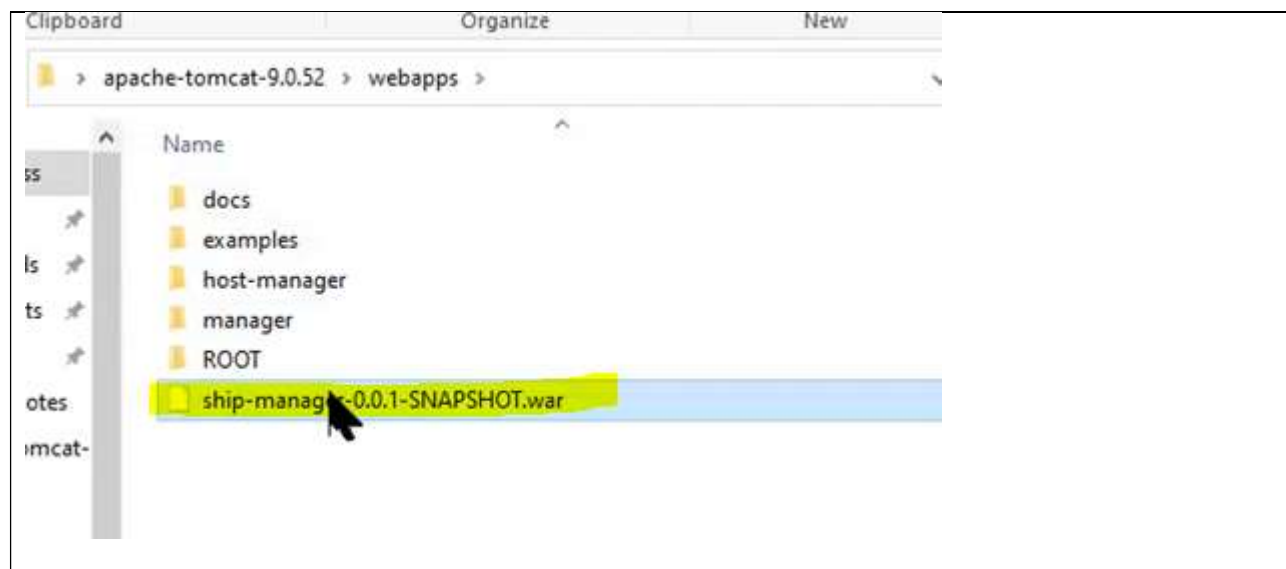


Inside webapps folder

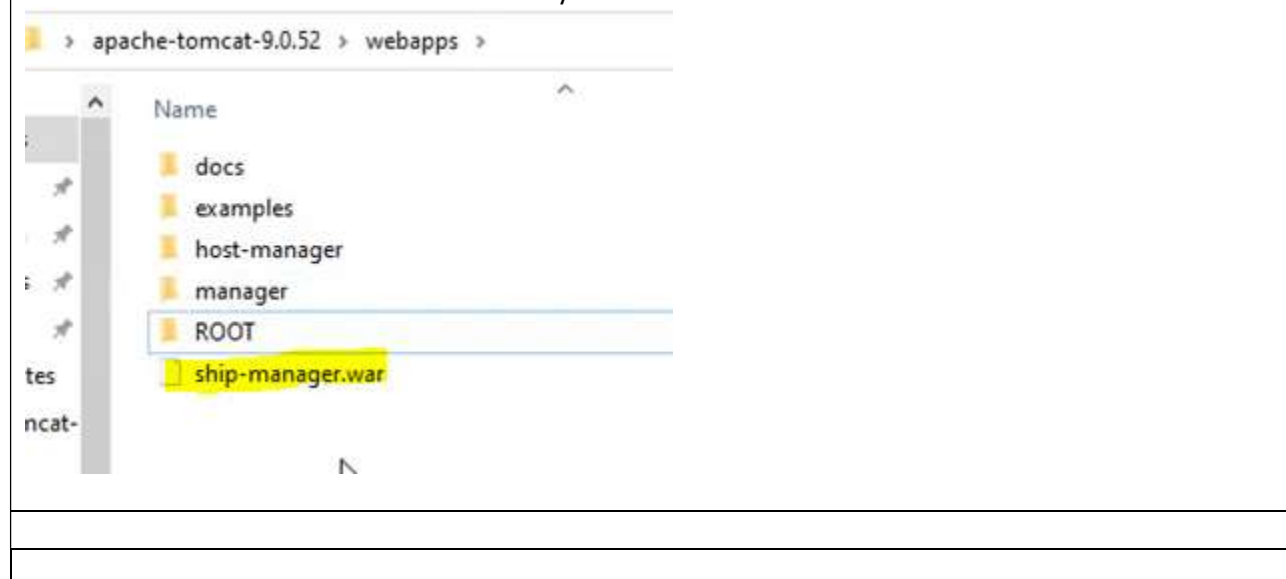


project-name\target  
project-name-0.0.1.SNAPSHOT.war

Copy / move your war file into webapps



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

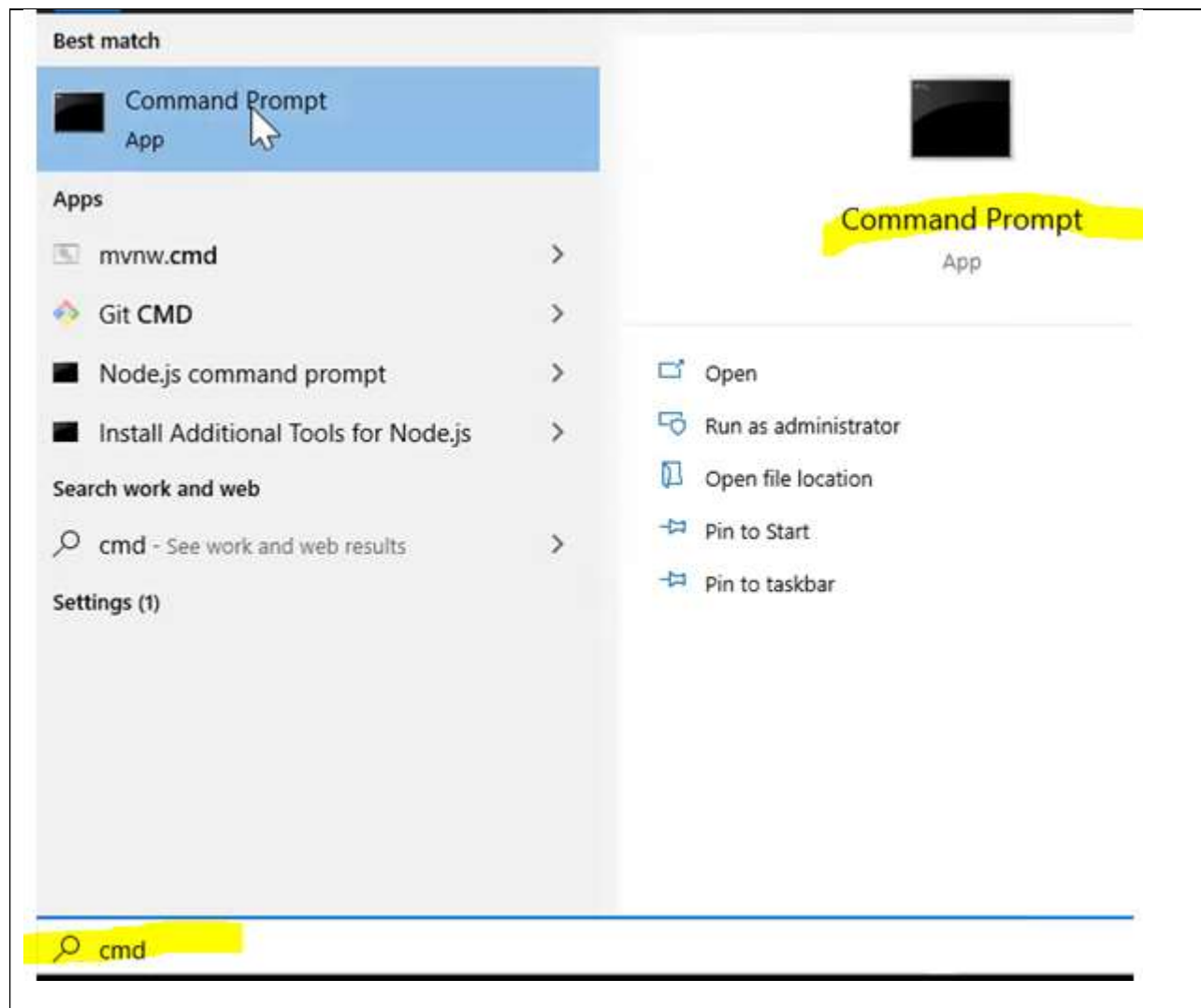




> apache-tomcat-9.0.52 > bin			Search bin
	Name	Date modified	Type
ss	ciphers	7/31/2021 6:12 AM	SH Source File
ds	commons-daemon	7/31/2021 6:12 AM	Executable Jar File
nts	configtest	7/31/2021 6:12 AM	Windows Batch File
notes	configtest	7/31/2021 6:12 AM	SH Source File
omcat-	daemon	7/31/2021 6:12 AM	SH Source File
	digest	7/31/2021 6:12 AM	Windows Batch File
	digest	7/31/2021 6:12 AM	SH Source File
	makebase	7/31/2021 6:12 AM	Windows Batch File
	makebase	7/31/2021 6:12 AM	SH Source File
	mylogfile	9/7/2021 11:11 PM	Text Document
	service	7/31/2021 6:12 AM	Windows Batch File
	setclasspath	7/31/2021 6:12 AM	Windows Batch File
	setclasspath	7/31/2021 6:12 AM	SH Source File
ts	shutdown	7/31/2021 6:12 AM	Windows Batch File
	shutdown	7/31/2021 6:12 AM	SH Source File
nts	startup	7/31/2021 6:12 AM	Windows Batch File
ds	startup	7/31/2021 6:12 AM	SH Source File
	tomcat9.0.52.dll	7/31/2021 6:12 AM	Application Extension

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

Run batch file by opening Windows command line interface



cd into Tomcat bin directory on your machine.

```
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
```

Run startup.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>
```

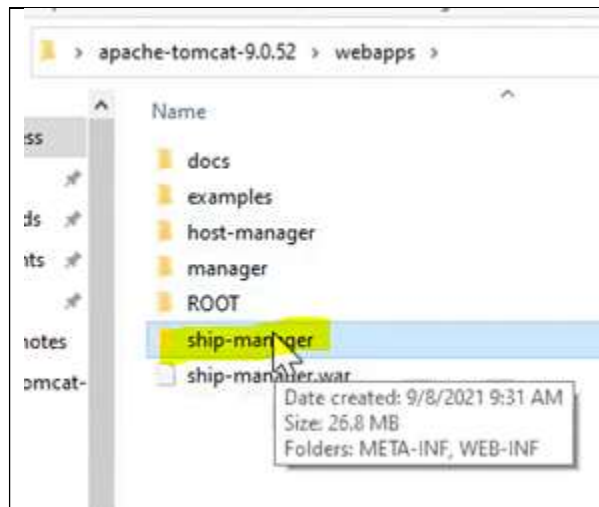
Status

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

Java window pops up with Tomcat status

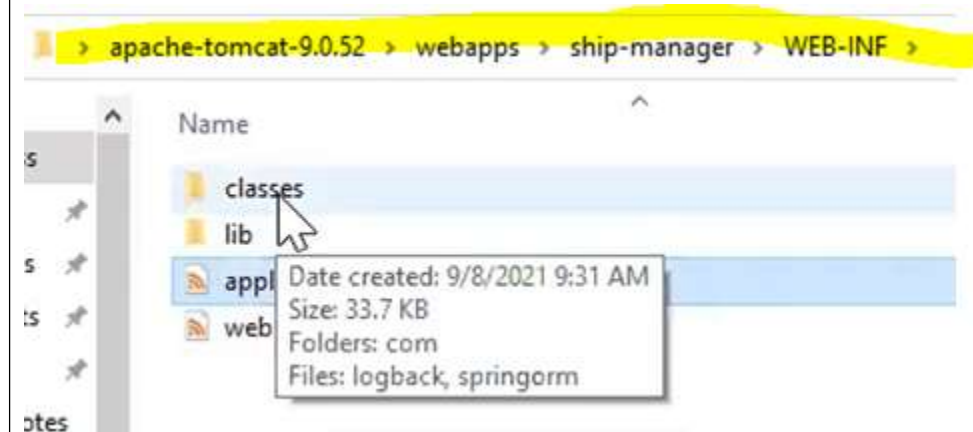
```
Tomcat
08-Sep-2021 09:31:35.703 INFO [main] org.apache.catalina.core.AprLifecycleListener.lifecycleEvent APR capabilities: APR/native library [1.2.30] using APR version [1.7.0].
08-Sep-2021 09:31:35.703 INFO [main] org.apache.catalina.core.AprLifecycleListener.lifecycleEvent APR capabilities: IPV6 [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...
```

```
Select Tomcat
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...
```

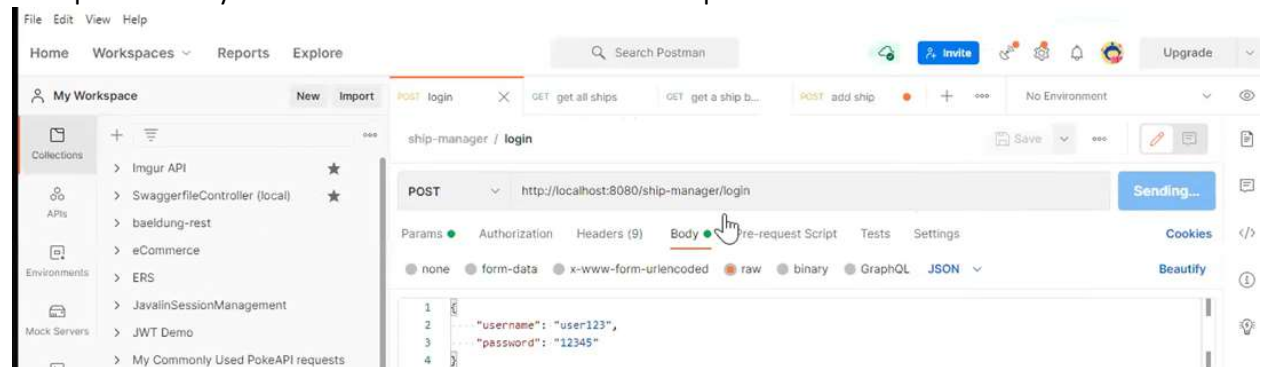


Tomcat created a directory for our war file.

Directories created



Now 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.

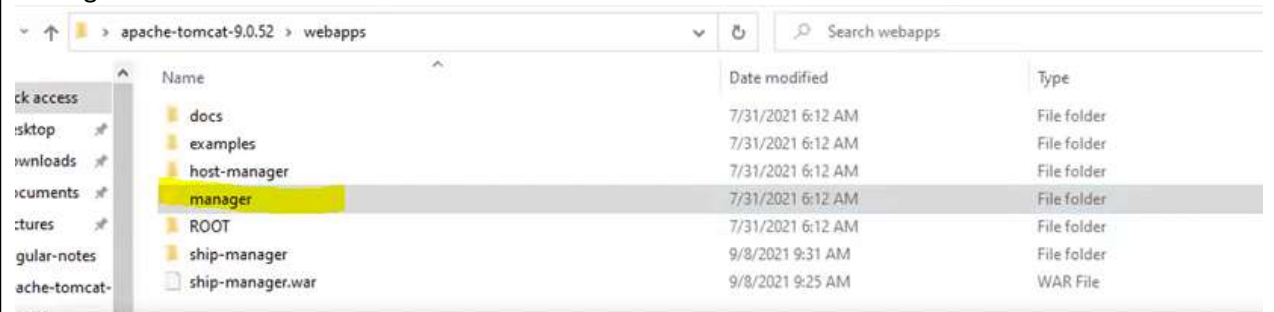
To shut down the server, in the Windows command prompt window in the Tomcat bin directory, type in shutdown.bat

```
Command Prompt

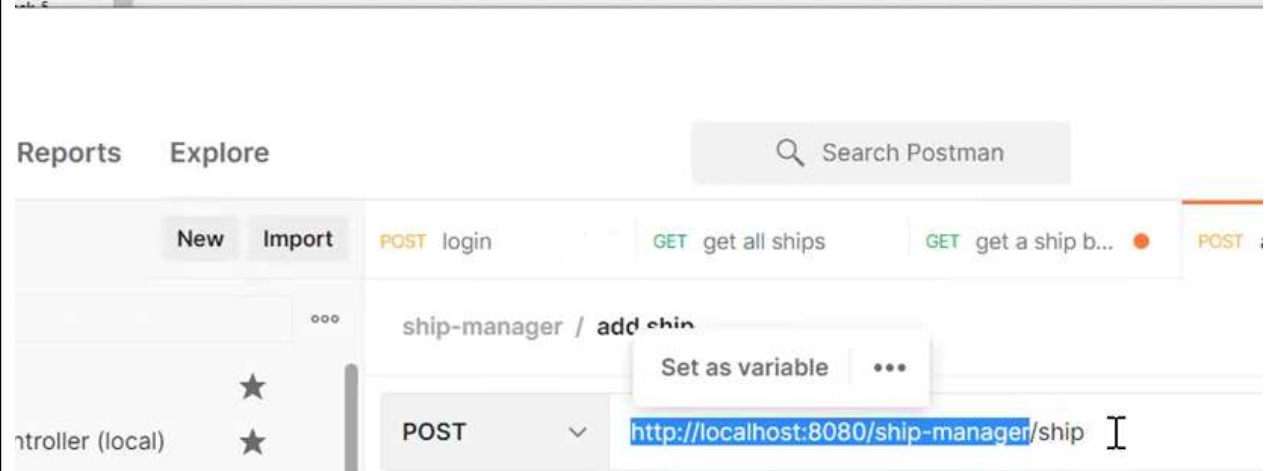
C:\Users\BachTran>cd Desktop
C:\Users\BachTran\Desktop>cd apache-tomcat-9.0.52
C:\Users\BachTran\Desktop\apache-tomcat-9.0.52>cd bin
C:\Users\BachTran\Desktop\apache-tomcat-9.0.52\bin>startup.bat
Using CATALINA_BASE:  "C:\Users\BachTran\Desktop\apache-tomcat-9.0.52"
Using CATALINA_HOME:  "C:\Users\BachTran\Desktop\apache-tomcat-9.0.52"
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
```

# Tomcat applications

## Manager



Name	Date modified	Type
docs	7/31/2021 6:12 AM	File folder
examples	7/31/2021 6:12 AM	File folder
host-manager	7/31/2021 6:12 AM	File folder
manager	7/31/2021 6:12 AM	File folder
ROOT	7/31/2021 6:12 AM	File folder
ship-manager	9/8/2021 9:31 AM	File folder
ship-manager.war	9/8/2021 9:25 AM	WAR File



Reports Explore Search Postman

New Import POST login GET get all ships GET get a ship b... POST

ship-manager / add ship

Set as variable

controller (local) POST http://localhost:8080/ship-manager/ship

http://localhost:8080/manager  
First time need to login



localhost:8080/manager/html

Sign in

http://localhost:8080

Username

Password

Sign in

Cancel

Overview of password needed follows

http://localhost:8080

Brings up the ROOT application

> apache-tomcat-9.0.52 > webapp

ESS

ds

nts

notes

omcat-

Name

docs

examples

host-manager

manager

ROOT


ship-manager

ship-manager.war


← → ↻ ⓘ localhost:8080

Home Documentation Configuration Examples Wiki Mailing Lists Find Help

Apache Tomcat/9.0.52



If you're seeing this, you've successfully installed Tomcat. Congratulations!



Recommended Reading:

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

Server Status

Manager App

Host Manager

Developer Quick Start

[Tomcat Setup](#)  
[First Web Application](#)

[Realms & AAA](#)  
[JDBC Data Sources](#)

[Examples](#)

[Servlet Specifications](#)  
[Tomcat Versions](#)

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](#)

Documentation

[Tomcat 9.0 Documentation](#)  
[Tomcat 9.0 Configuration](#)  
[Tomcat Wiki](#)  
Find additional important configuration information in:  
`$CATALINA_HOME/RUNNING.txt`  
Developers may be interested in:  
[Tomcat 9.0 Byo Database](#)  
[Tomcat 9.0 JavaDocs](#)  
[Tomcat 9.0 Git Repository at GitHub](#)

Getting Help

[FAQ and Mailing Lists](#)  
The following mailing lists are available:  

[tomcat-announce](#)  
Important announcements, releases, security vulnerability notifications. (Low volume).

[tomcat-users](#)  
User support and discussion

[taglibs-user](#)  
User support and discussion for [Apache Taglibs](#)

[tomcat-dev](#)  
Development mailing list, including commit messages

# Apache Tomcat/9.0.52

If you're seeing this,



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

## Developer Quick Start

[Tomcat Setup](#)

[First Web Application](#)

[Realms & Authentication](#)

[JDBC Data Sources](#)

## Managing Tomcat

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In Tomcat 9.0 access to the manager application is split between different users.  
[Read more...](#)

[Release Notes](#)

[Changelog](#)

[Migration Guide](#)

[Security Notices](#)



## Apache Tomcat/9.0.52

The screenshot shows the Apache Tomcat 9.0.52 web interface on the left and a Windows File Explorer window on the right. The web interface has a green banner that says "If you're seeing this, you've successfully installed Apache Tomcat". Below this, there are links for "Recommended Reading" (Security Considerations How-To, Manager Application How-To, Clustering/Session Replication How-To) and "Developer Quick Start" (Tomcat Setup, First Web Application, Realms & AAA, JDBC Data Sources). There are also sections for "Managing Tomcat" and "Documentation". The File Explorer window shows the "conf" directory of the "apache-tomcat-9.0.52" folder. The "tomcat-users.xml" file is highlighted in the "Name" list.

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"/>
```

NOW should have access to the manager.



NO need to bounce the server from the command line.

http://localhost:8080/manager/html

Spring CORS - xLightning Expie - xTRNG-000011: x210712ywa/tra: xGmaven build li: xmaven15.png: xmanager x

localhost:8080/manager/html

Update



Tomcat Web Application Manager

Message:OK

Manager

[List Applications](#)[HTML Manager Help](#)[Manager Help](#)[Server Status](#)

Applications

Path	Version	Display Name	Running	Sessions	Commands
/	None specified	Welcome to Tomcat	true	0	<div>StartStopReloadUndeploy</div> <div>Expire sessions with idle ≥ 30 minutes</div>
/docs	None specified	Tomcat Documentation	true	0	<div>StartStopReloadUndeploy</div> <div>Expire sessions with idle ≥ 30 minutes</div>
					<div>StartStopReloadUndeploy</div>