Java and Apache Tomcat Installation Guide

submitted to

Mr. Khalid Been Badruzzaman Biplob

Lecturer

Dept. of Software Engineering

Daffodil International University

submitted by

Zihadul Islam

ID:171-35-1906

Sarkar Shahriar

ID:171-35-2008

Abu Sufiyan Sheble

ID: 171-35-1911

Table of Contents

[Installation Process of Java 3](#_Toc531913920)

[Set Java jdk path 5](#_Toc531913921)

[In system properties windows click environment variables 6](#_Toc531913922)

[Update System path 8](#_Toc531913923)

[Test your configuration 9](#_Toc531913924)

[Installing Apache Tomcat 9 10](#_Toc531913925)

[Configuring Apache Tomcat 9 12](#_Toc531913926)

[Setup tomcat user accounts 12](#_Toc531913927)

[Project structure 16](#_Toc531913928)

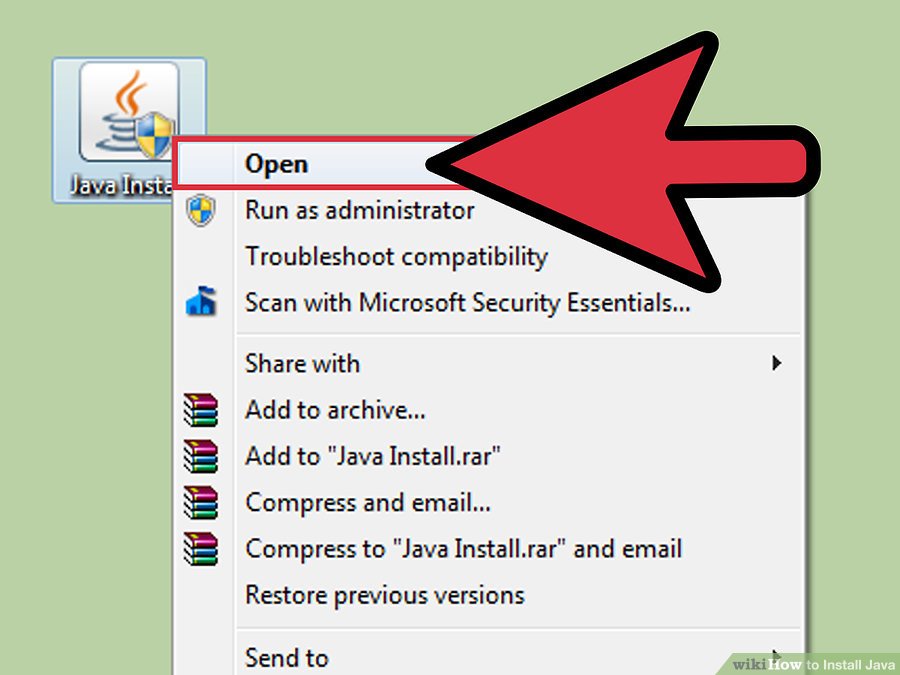
# Installation Process of Java

First of all you need to download Java 8 or above version from Oracle site.





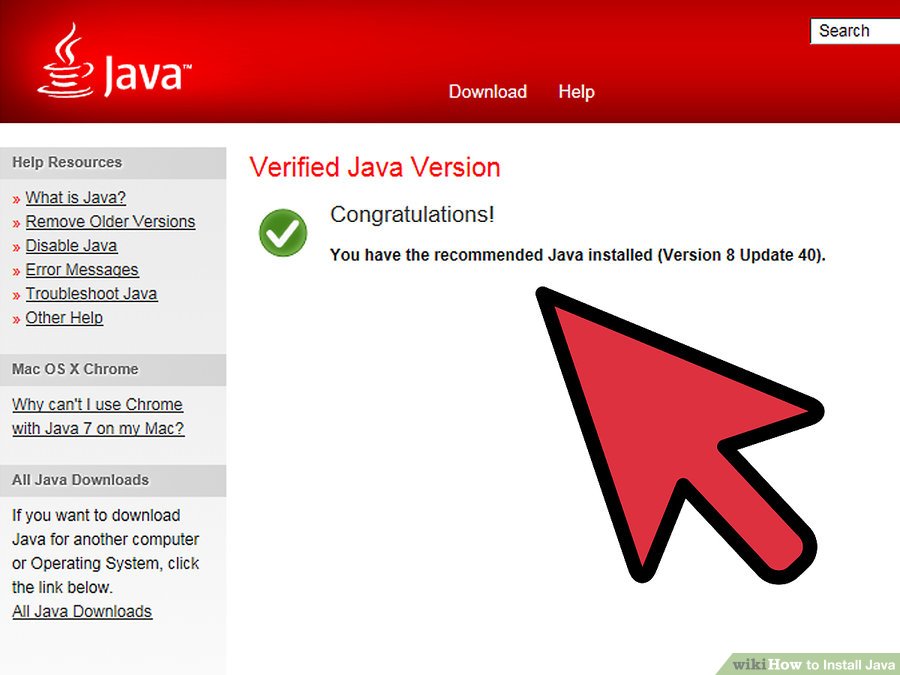
When the file is successfully downloaded you need to run the program. Right click on the program and click open.



Then it will automatically start installation.

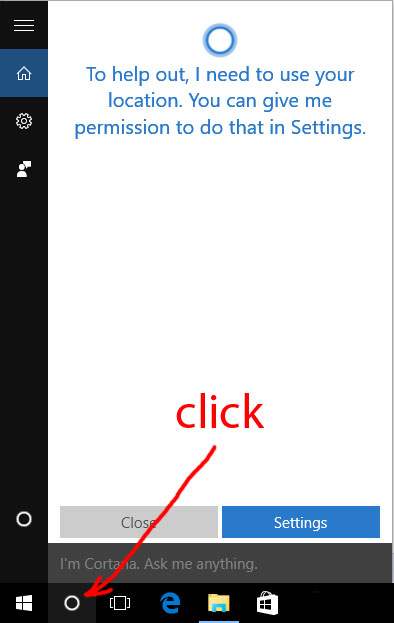


After successful installation you will get a success message.

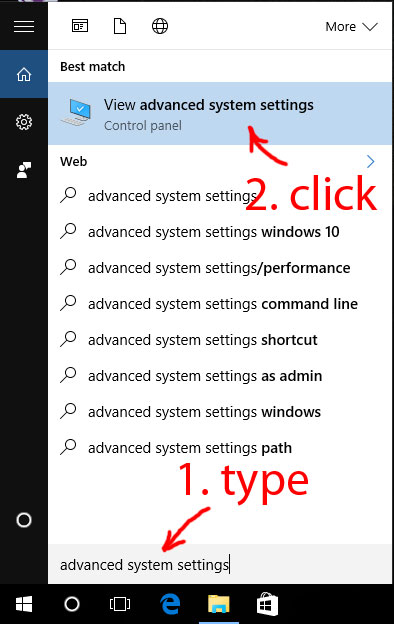


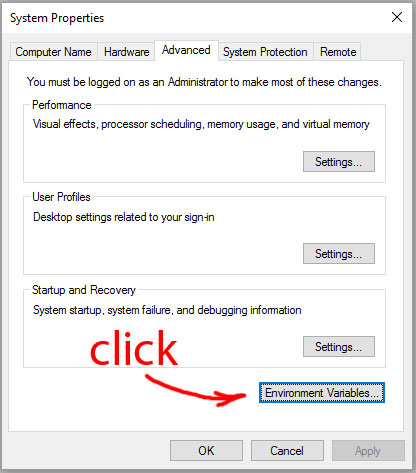
# Set Java jdk path

Open ‘windows search’ you’ll find it next to the windows logo

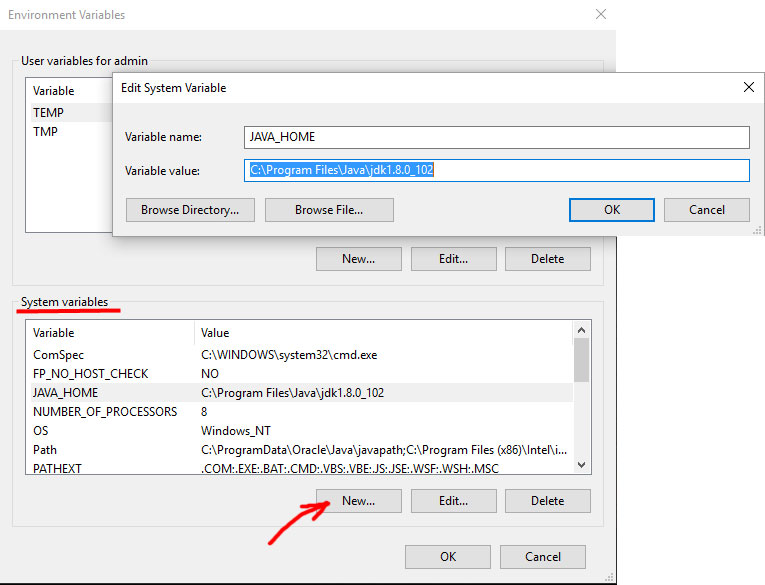


## In system properties windows click environment variables



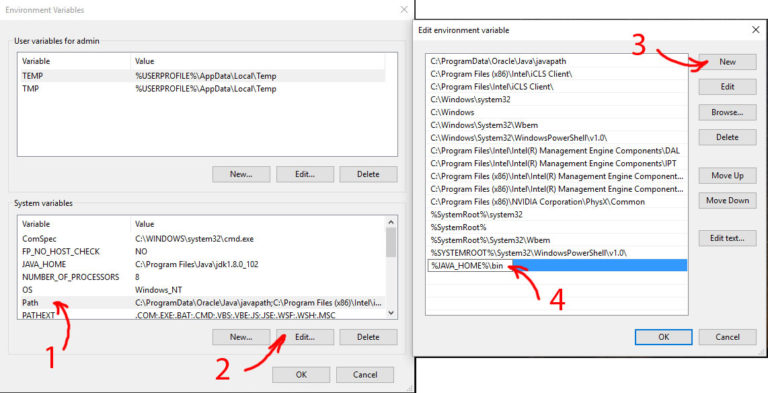


Under Environment variables click the “New” button and enter java home as variable name and the path to your java jdk directory under “variable value”.



## Update System path

* In “Environment variables” window under “System variables” select path
* Click on edit
* In “Edit Environment variable” window click “New”
* Type in %JAVA\_HOME%\bin



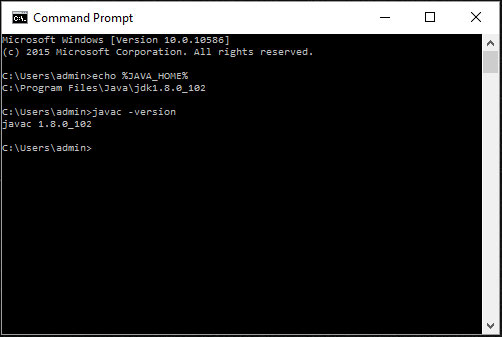
## Test your configuration

Open a new command prompt and type echo %JAVA\_HOME%

This will print out the directory JAVA\_HOME

Now type javac –version.

This will print out the version of the java compiler if the Path variable is set correctly



# Installing Apache Tomcat 9

After installing JAVA on the system, now it’s time to download latest version of Apache Tomcat (i.e. **9.0.12**) is the most recent stable version at the time of writing this ReadMe file. Go to the following site to download Tomcat server

<https://tomcat.apache.org/download-90.cgi>

Now download the latest version of Apache Tomcat 9, using following [wget command](https://www.tecmint.com/10-wget-command-examples-in-linux/" \t "_blank) and setup it as shown.

# cd /usr/local

# wget http://www-us.apache.org/dist/tomcat/tomcat-9/v9.0.12/bin/apache-tomcat-9.0.12.tar.gz

# tar -xvf apache-tomcat-9.0.12.tar.gz

# mv apache-tomcat-9.0.12 tomcat9

Before starting the Tomcat Service, configure **CATALINA\_HOME** environment variable in your system using following command.

# echo "export CATALINA\_HOME="/usr/local/tomcat9"" >> ~/.bashrc

# source ~/.bashrc

Now we all set to start the tomcat web server using the scripts provided by the tomcat package.

# cd /usr/local/tomcat9/bin

# ./startup.sh

Sample output:

Using CATALINA\_BASE: /usr/local/tomcat9

Using CATALINA\_HOME: /usr/local/tomcat9

Using CATALINA\_TMPDIR: /usr/local/tomcat9/temp

Using JRE\_HOME: /usr

Using CLASSPATH: /usr/local/tomcat9/bin/bootstrap.jar:/usr/local/tomcat9/bin/tomcat-juli.jar

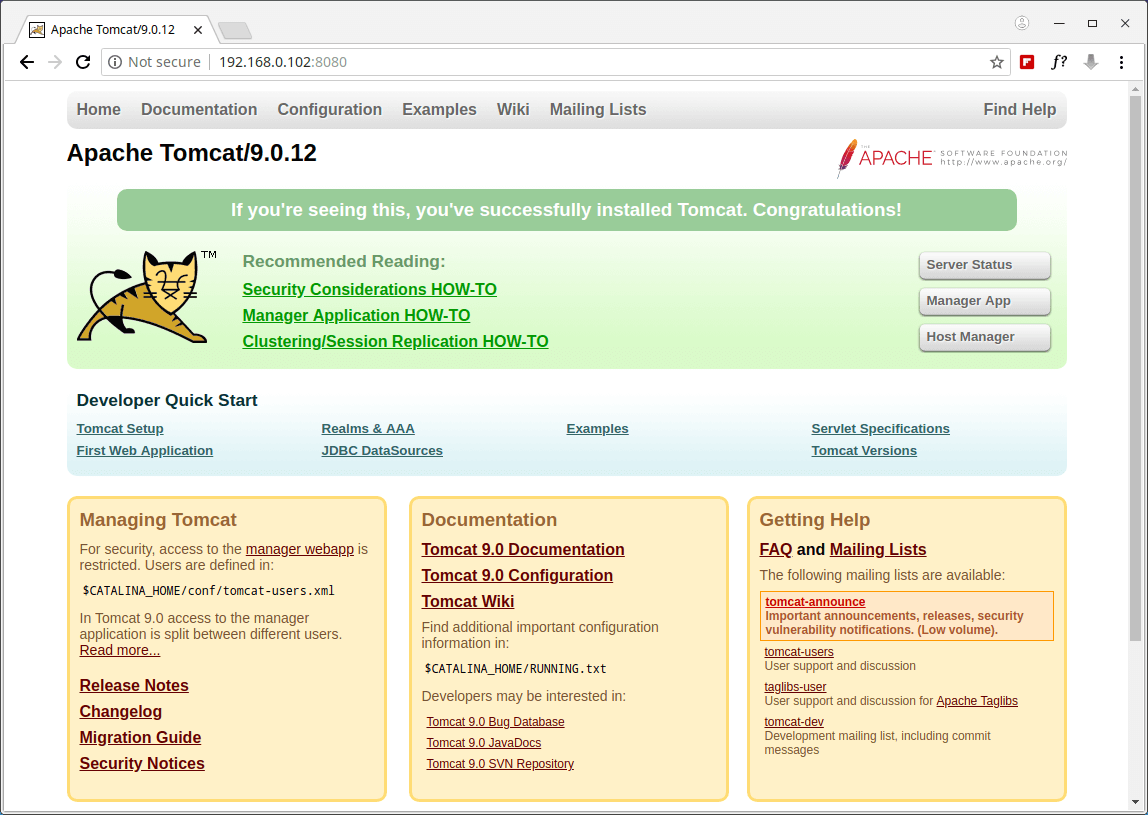
Tomcat started.

Now to open Tomcat from your browser, go to your IP or domain with the **8080** port (because Tomcat will always run on the **8080** port) as an example: mydomain.com:8080, replace mydomain.com with your IP or domain.

http://Your-IP-Address:8080

OR

http://Your-Domain.com:8080



The default directory for Tomcat files will be in **/usr/local/tomcat9**, you can view the configuration files inside the **conf** folder, the main page that you seen above, when you open your website on the 8080 port is in **/usr/local/tomcat9/webapps/ROOT/**.

# Configuring Apache Tomcat 9

By default you only able to access default Tomcat page, to access **admin** and other sections like **Server Status**, **Manager App** and **Host Manager**. You need to configure user accounts for admins and managers.

To do so, you need to edit ‘**tomcat-users.xml**‘ file located under **/usr/local/tomcat9/conf** directory.

## Setup tomcat user accounts

For example, to assign the **manager-gui** role to a user named ‘**tecmint**‘ with a password ‘**t$cm1n1**‘, add the following line of code to the config file inside the section.

# vi /usr/local/tomcat9/conf/tomcat-users.xml

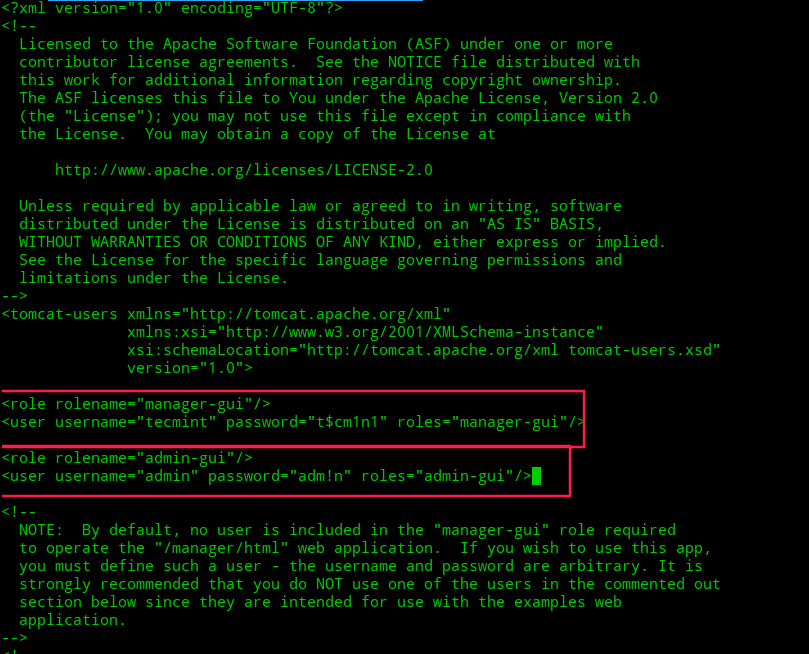
<role rolename="manager-gui"/>

<user username="**tecmint**" password="**t$cm1n1**" roles="manager-gui"/>

Similarly, you can also add ‘**admin-gui**‘ role to a admin user named ‘**admin**‘ with a password ‘**adm!n**‘ as shown below.

<role rolename="admin-gui"/>

<user username="admin" password="adm!n" roles="admin-gui"/>

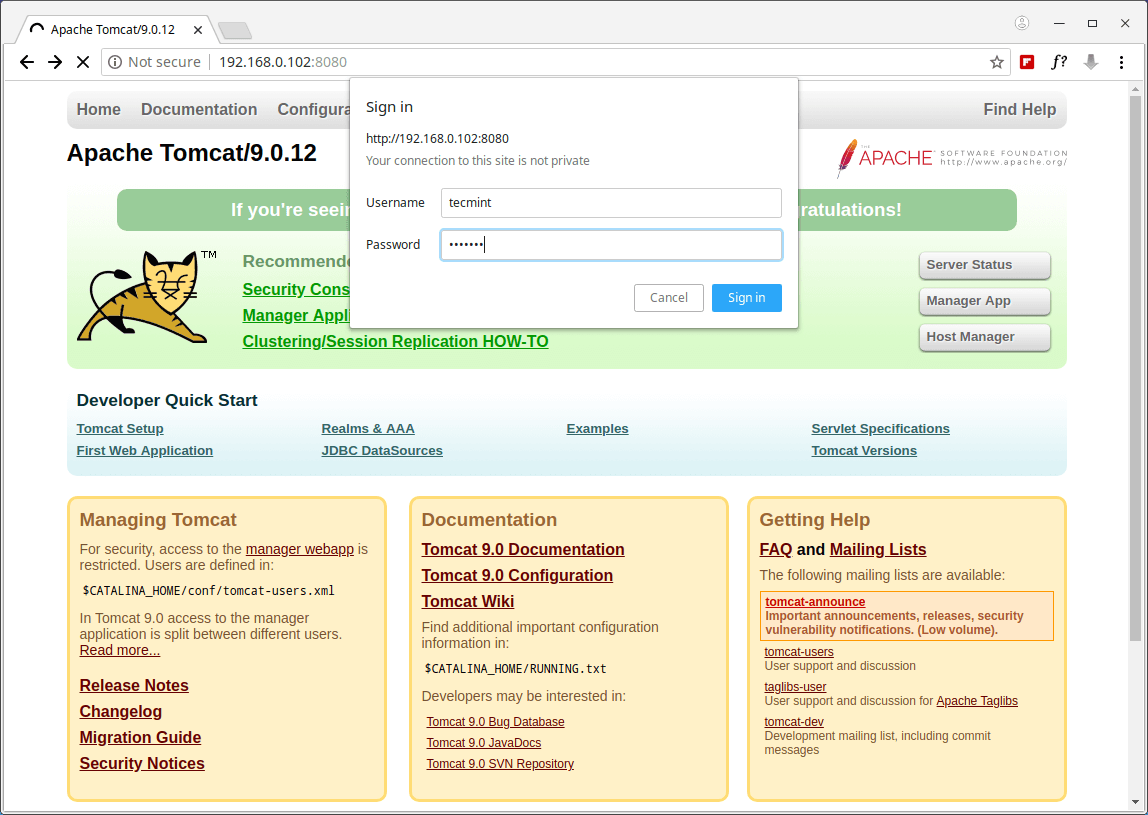


After setting up the admin and managers roles, restart the Tomcat and then try to access the admin section.

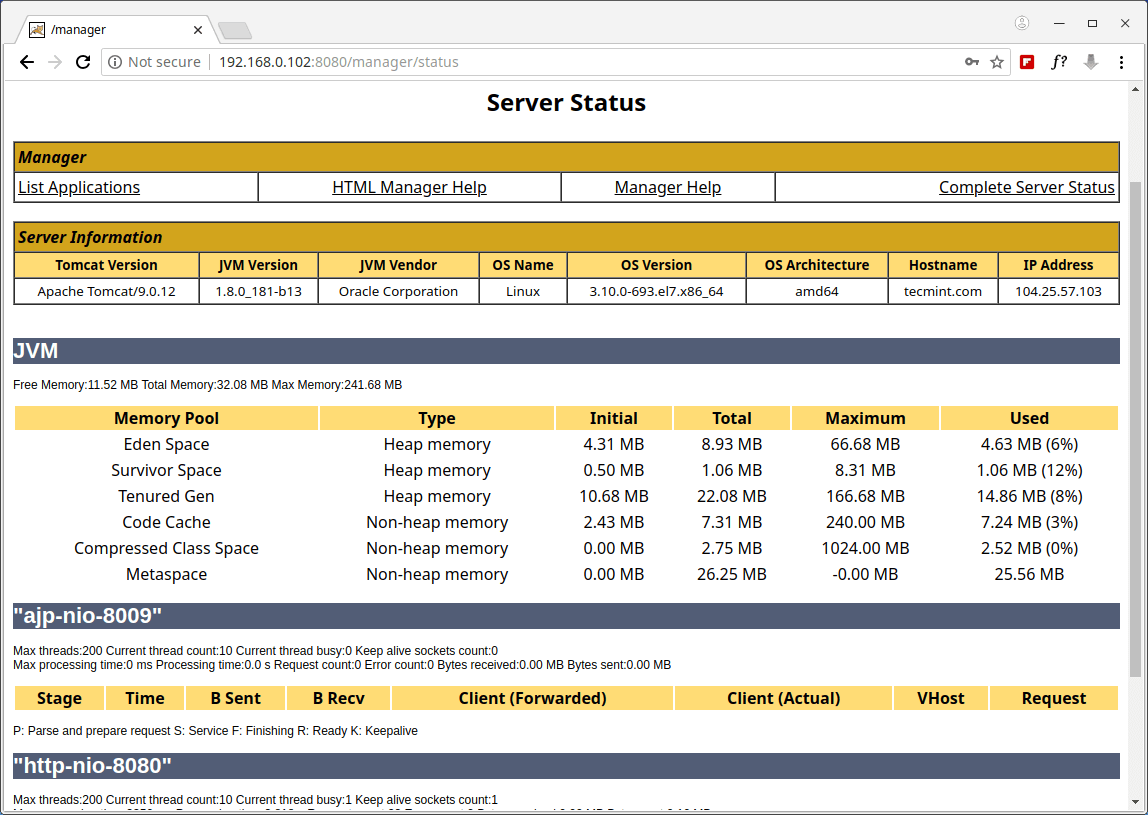
./shutdown.sh

./startup.sh

Now click on ‘**Server Status**‘ tab, it will prompt you to enter user credentials, enter username and password that you’ve added above in config file.



Once, you enter user credentials, you will find a page similar to below.



# Project structure

+---build

¦ +---empty

¦ +---generated-sources

¦ ¦ +---ap-source-output

¦ +---web

¦ +---assets

¦ ¦ +---css

¦ ¦ +---demo

¦ ¦ +---img

¦ ¦ +---js

¦ ¦ ¦ +---core

¦ ¦ ¦ +---plugins

¦ ¦ +---matcss

¦ ¦ +---scss

¦ +---META-INF

¦ +---WEB-INF

¦ +---classes

¦ ¦ +---com

¦ ¦ +---FilesPack

¦ +---lib

+---dist

+---lib

¦ +---CopyLibs

¦ +---javaee-endorsed-api-7.0

+---nbproject

¦ +---private

+---src

¦ +---conf

¦ +---java

¦ +---com

¦ +---FilesPack

+---test

+---web

+---assets

¦ +---css

¦ +---demo

¦ +---img

¦ +---js

¦ ¦ +---core

¦ ¦ +---plugins

¦ +---matcss

¦ +---scss

+---META-INF

+---WEB-INF