

Glassfish setup

JAVA

Java was not installed initially

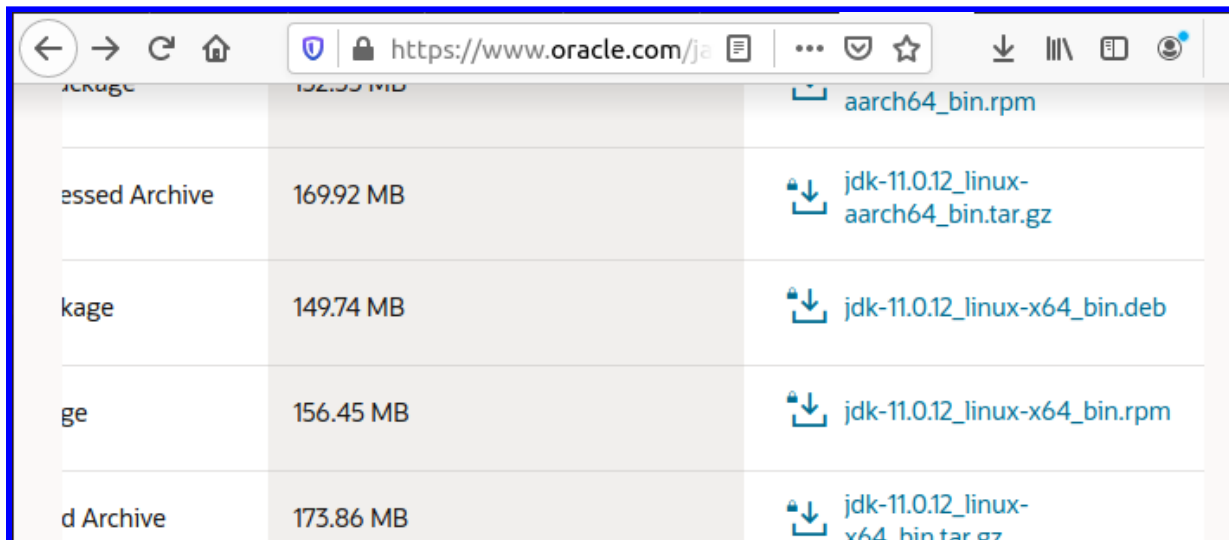
```
bibek@bibek-lfTechnology:~$ java --version

Command 'java' not found, but can be installed with:

sudo apt install openjdk-11-jre-headless # version 11.0.11+9-0ubuntu2~20.04, o
r
sudo apt install default-jre             # version 2:1.11-72
sudo apt install openjdk-16-jre-headless # version 16.0.1+9-1~20.04
sudo apt install openjdk-8-jre-headless  # version 8u292-b10-0ubuntu1~20.04
sudo apt install openjdk-13-jre-headless # version 13.0.7+5-0ubuntu1~20.04
sudo apt install openjdk-17-jre-headless # version 17+35-1~20.04
```

To install **oracle-jdk-11**

Download the debian package from oracle website



Package	122.55 MB	aarch64_bin.rpm
Compressed Archive	169.92 MB	jdk-11.0.12_linux-aarch64_bin.tar.gz
Package	149.74 MB	jdk-11.0.12_linux-x64_bin.deb
Package	156.45 MB	jdk-11.0.12_linux-x64_bin.rpm
Compressed Archive	173.86 MB	jdk-11.0.12_linux-x64_bin.tar.gz

sudo dpkg -i <debian-package-name>

```
bibek@bibek-lfTechnology:~/Downloads$ sudo dpkg -i jdk-11.0.12_linux-x64_bin.de
b
[sudo] password for bibek:
Selecting previously unselected package jdk-11.0.12.
(Reading database ... 175544 files and directories currently installed.)
Preparing to unpack jdk-11.0.12_linux-x64_bin.deb ...
Unpacking jdk-11.0.12 (11.0.12-1) ...
Setting up jdk-11.0.12 (11.0.12-1) ...
```

After successful installation, few more steps for auto-mode and setting the java and javac path

sudo update-alternatives --install /usr/bin/java java /usr/lib/jvm/jdk-11.0.12/bin/java 1

```
bibek@bibek-lfTechnology:~/Downloads$ sudo update-alternatives --install /usr/bin/java java /usr/lib/jvm/jdk-11.0.12/bin/java 1
update-alternatives: using /usr/lib/jvm/jdk-11.0.12/bin/java to provide /usr/bin/java (java) in auto mode
```

sudo update-alternatives --install /usr/bin/javac javac /usr/lib/jvm/jdk-11.0.12/bin/javac 1

```
bibek@bibek-lfTechnology:~/Downloads$ sudo update-alternatives --install /usr/bin/javac javac /usr/lib/jvm/jdk-11.0.12/bin/javac 1
update-alternatives: using /usr/lib/jvm/jdk-11.0.12/bin/javac to provide /usr/bin/javac (javac) in auto mode
```

To view the java and javac version

java --version

javac --version

```
bibek@bibek-lfTechnology:~/Downloads$ java --version
java 11.0.12 2021-07-20 LTS
Java(TM) SE Runtime Environment 18.9 (build 11.0.12+8-LTS-237)
Java HotSpot(TM) 64-Bit Server VM 18.9 (build 11.0.12+8-LTS-237, mixed mode)
bibek@bibek-lfTechnology:~/Downloads$ javac --version
javac 11.0.12
```

To set config of java

sudo update-alternatives --config java

To set environments

sudo gedit /etc/environments

And paste the path of JAVA_HOME to its path

```
1 PATH="/usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin:/sbin:/bin:/usr/games:/usr/local/games:/snap/bin"
2 JAVA_HOME="/usr/lib/jvm/jdk-11.0.12"
```

Save and exit

To refresh the environment

source /etc/environment

Now we can echo the home path of java

```
bibek@bibek-lfTechnology:~/Downloads$ echo $JAVA_HOME
/usr/lib/jvm/jdk-11.0.12
```

GlassFish

To install glassfish6

Download the zip file of glassfish6.2.2

wget https://github.com/eclipse-ee4j/glassfish/releases/download/6.2.2/glassfish-6.2.2.zip

We can view the zip file using “ls” command

And then unzip it

unzip glassfish-6.2.2.zip

```
bibek@bibek-lfTechnology:~$ wget https://github.com/eclipse-ee4j/glassfish/releases/download/6.2.2/glassfish-6.2.2.zip
--2021-11-13 21:35:38-- https://github.com/eclipse-ee4j/glassfish/releases/download/6.2.2/glassfish-6.2.2.zip
Resolving github.com (github.com)... 20.205.243.166
Connecting to github.com (github.com)|20.205.243.166|:443... connected.
HTTP request sent, awaiting response... 302 Found
Location: https://github-releases.githubusercontent.com/148886237/ac9792e0-2716-4X-Amz-Credential=AKIAIWNJYAX4CSVEH53A%2F20211113%2Fus-east-1%2Fs3%2Faws4_request&nature=1a0ac327d191de249a98000d3914b50e6eaf3f8fa6e4994c0240da2464ac5490&X-Amz-Signature=1a0ac327d191de249a98000d3914b50e6eaf3f8fa6e4994c0240da2464a
response-content-disposition=attachment%3B%20filename%3Dglassfish-6.2.2.zip&response-content-disposition=attachment%3B%20filename%3Dglassfish-6.2.2.zip
--2021-11-13 21:35:44-- https://github-releases.githubusercontent.com/148886237/S4-HMAC-SHA256&X-Amz-Credential=AKIAIWNJYAX4CSVEH53A%2F20211113%2Fus-east-1%2Fs3%2Faws4_request&nature=1a0ac327d191de249a98000d3914b50e6eaf3f8fa6e4994c0240da2464a
s=300&X-Amz-Signature=1a0ac327d191de249a98000d3914b50e6eaf3f8fa6e4994c0240da2464a
_id=148886237&response-content-disposition=attachment%3B%20filename%3Dglassfish-6.2.2.zip
am
Resolving github-releases.githubusercontent.com (github-releases.githubusercontent.com)... 154, ...
Connecting to github-releases.githubusercontent.com (github-releases.githubusercontent.com)|154.154.154.154|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 118186239 (113M) [application/octet-stream]
Saving to: 'glassfish-6.2.2.zip'

glassfish-6.2.2.zip      100%[=====]

2021-11-13 21:36:53 (1.64 MB/s) - 'glassfish-6.2.2.zip' saved [118186239/118186239]

bibek@bibek-lfTechnology:~$ ls
Desktop  Documents  Downloads  glassfish-6.2.2.zip  Music  Pictures  Public  Temp
bibek@bibek-lfTechnology:~$ unzip glassfish-6.2.2.zip
Archive: glassfish-6.2.2.zip
  creating: glassfish6/
  creating: glassfish6/glassfish/
```

We can see glassfish6 directory now using “ls” command

Go to the bin directory glassfish6/bin and start the domain to use glassfish

cd glassfish6/bin

And run the asadmin script

./asadmin start-domain

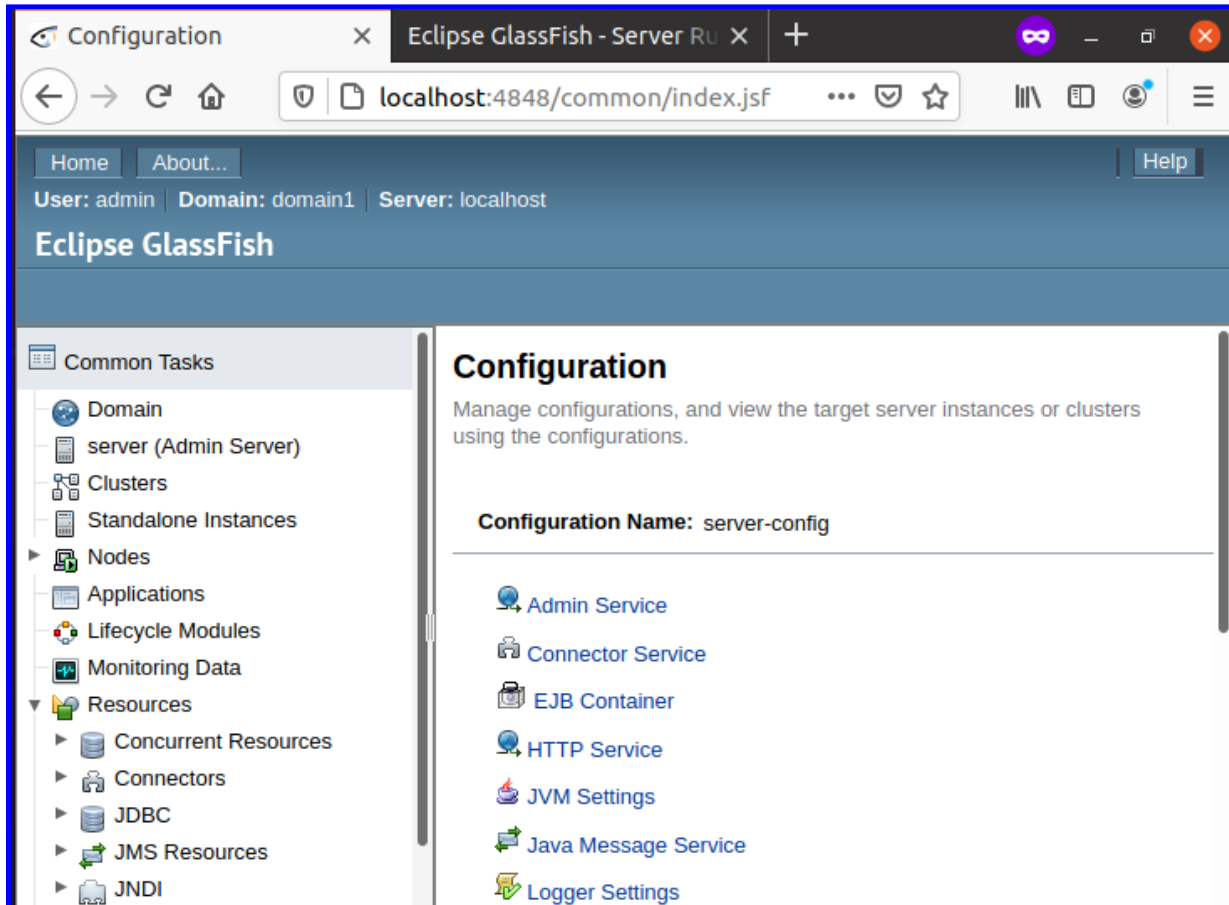
```

bibek@bibek-lfTechnology:~$ ls
Desktop Documents Downloads glassfish6 glassfish-6.2.2.zip Music Pictures
bibek@bibek-lfTechnology:~$ cd glassfish6/
bibek@bibek-lfTechnology:~/glassfish6$ ls
bin glassfish javadb META-INF mq README.txt
bibek@bibek-lfTechnology:~/glassfish6$ cd bin/
bibek@bibek-lfTechnology:~/glassfish6/bin$ ls
asadmin asadmin.bat debug-asadmin debug-asadmin.bat
bibek@bibek-lfTechnology:~/glassfish6/bin$ ./asadmin start-domain
Waiting for domain1 to start .....
Successfully started the domain : domain1
domain Location: /home/bibek/glassfish6/glassfish/domains/domain1
Log File: /home/bibek/glassfish6/glassfish/domains/domain1/logs/server.log
Admin Port: 4848
Command start-domain executed successfully.

```

After successful start message

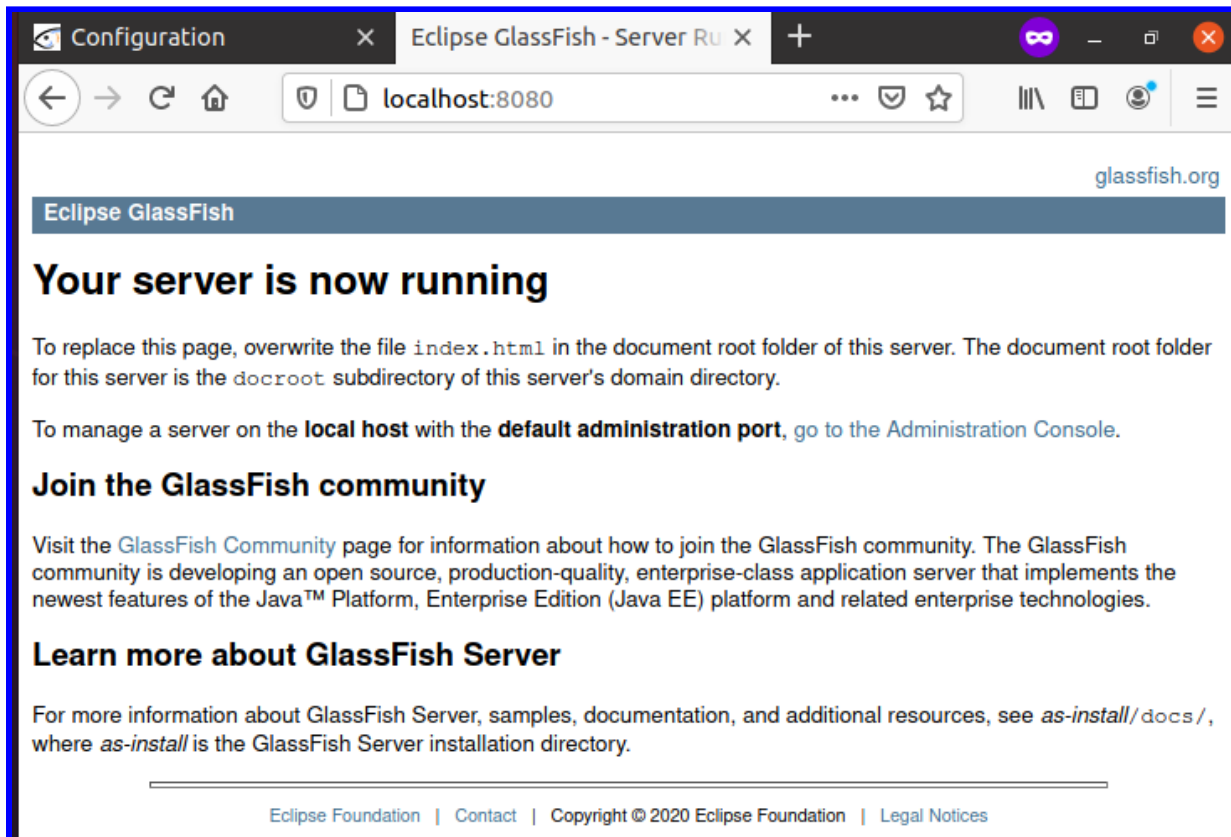
We can check the glassfish page on localhost at admin port (default:4848) in browser



Note: wait for sometime if it has not get started

To change http listener port to 8088

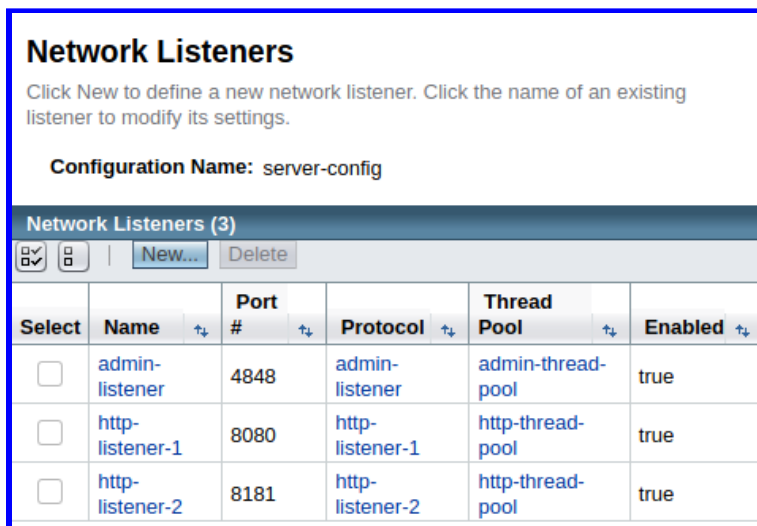
The default http listener port of glassfish is 8080



To change the listener port

Go to admin panel

Click on server-config (at bottom) >> Network Listeners



We can see here the default http listener 1 port is 8080

Click on http-listener-1, change the port to 8088 and click on save (top-right-corner)

Edit Network Listener [Save] [Cancel]

Modify an existing network listener.
[Load Defaults]

Configuration Name: server-config

Name: http-listener-1
Protocol: http-listener-1
Status: ☒
Security: ☐
JK Listener: ☐
If selected, listener is an Apache mod-jk listener
Port: * 8088
The port on which the network listener is listening
Address: 0.0.0.0
The IP address on which the network listener is listening

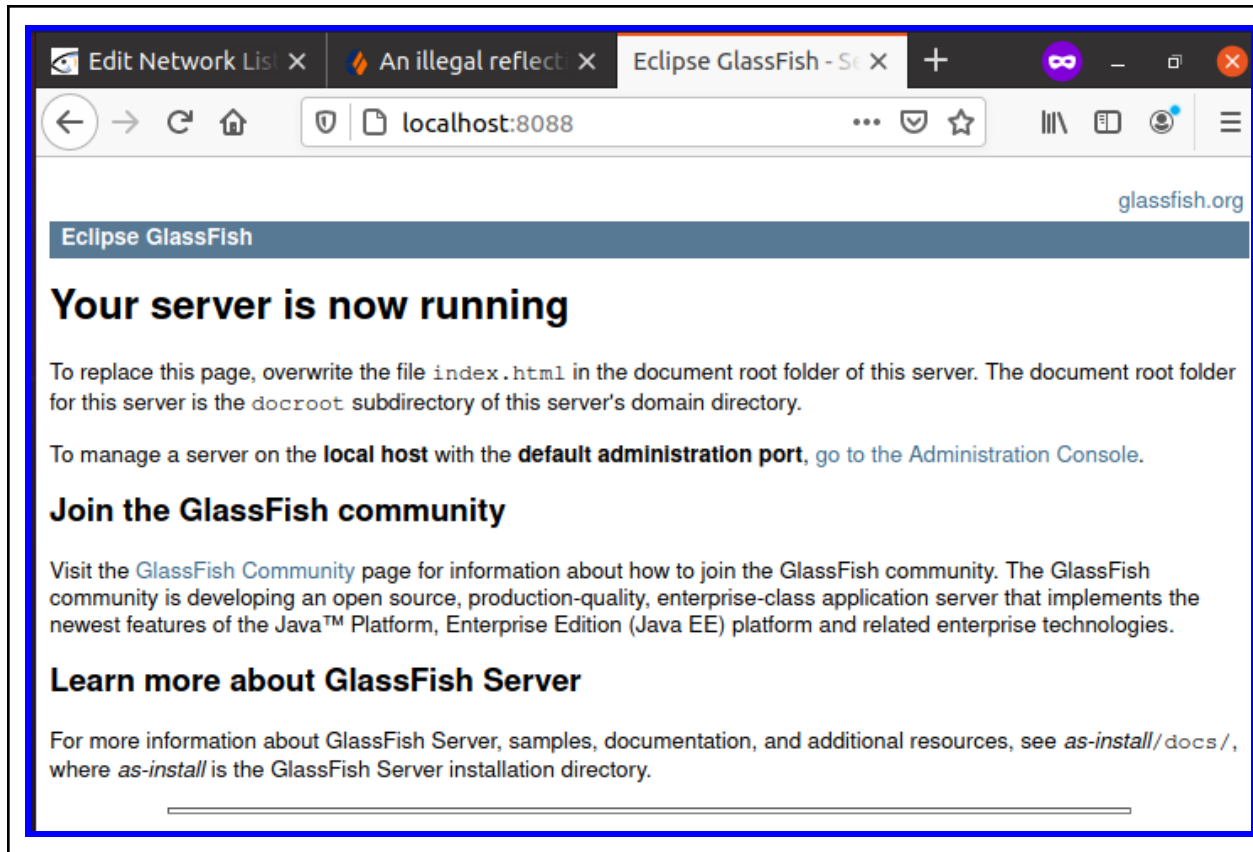
You can open the HTTP listener 1 on port 8088 of localhost.

- If it does not opens then stop the glassfish and again start it from the bin directory

./asadmin stop-domain

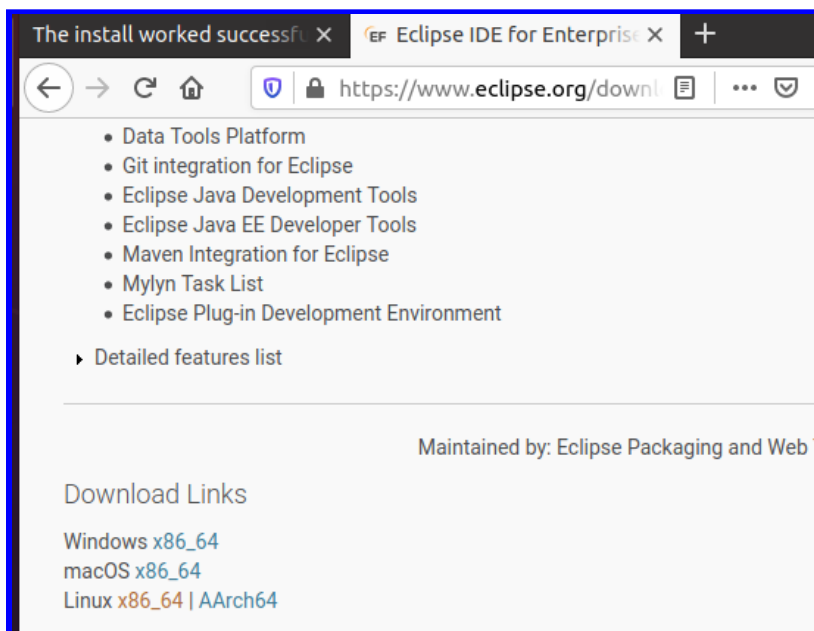
./asadmin start-domain

```
bibek@bibek-Technology:~/glassfish6/bin$ ./asadmin stop-domain
Waiting for the domain to stop .....
Command stop-domain executed successfully.
bibek@bibek-Technology:~/glassfish6/bin$ ./asadmin start-domain
Waiting for domain1 to start .....
Successfully started the domain : domain1
domain Location: /home/bibek/glassfish6/glassfish/domains/domain1
Log File: /home/bibek/glassfish6/glassfish/domains/domain1/logs/server.log
Admin Port: 4848
Command start-domain executed successfully.
bibek@bibek-Technology:~/glassfish6/bin$
```



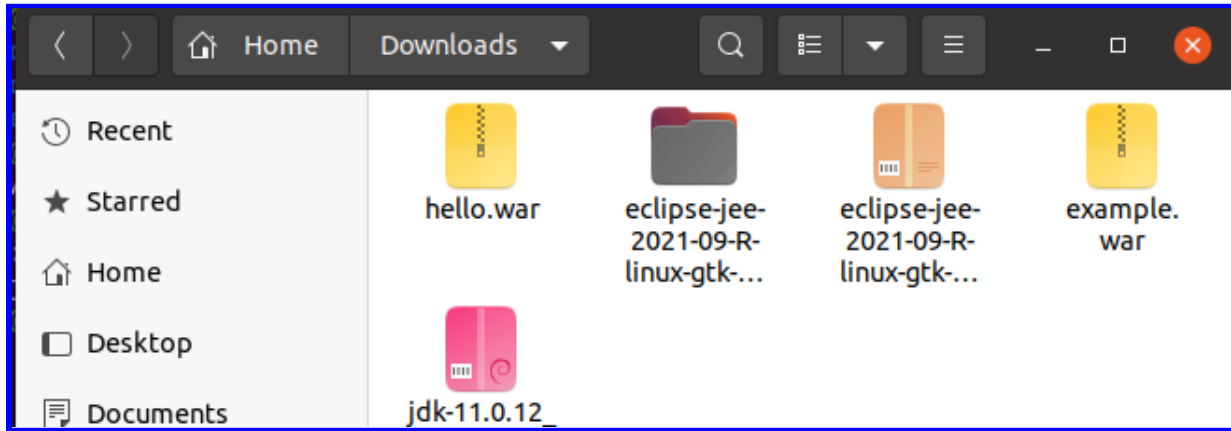
To create servlet install **Java EE - Eclipse** for using **maven project**

Downloaded the eclipse IDE from official page for linux

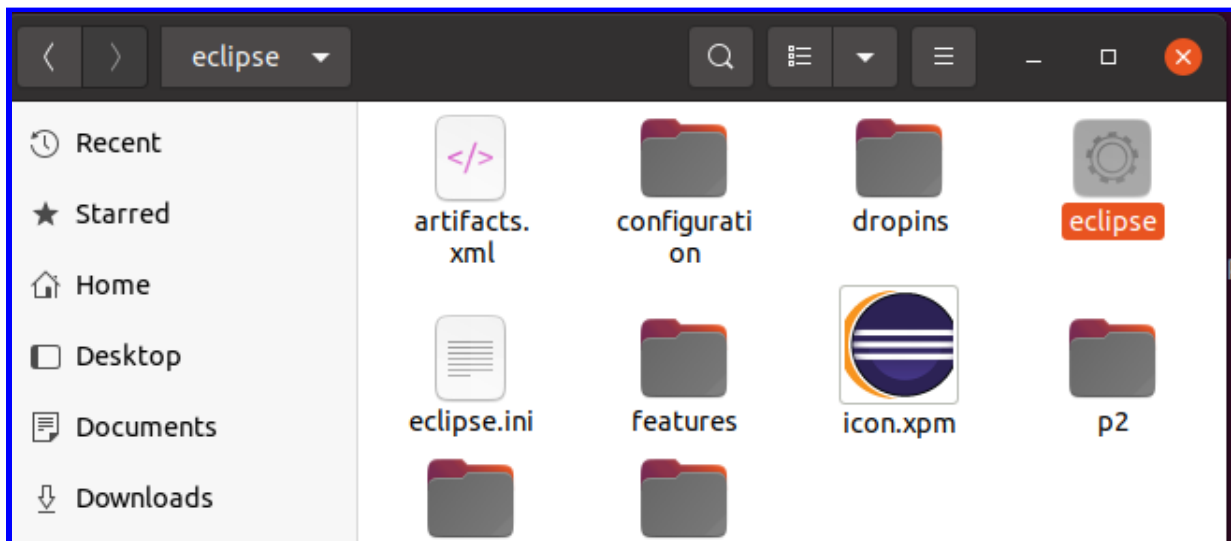


Extracted it and we can directly use it as I have done below

- We can do it either by gui directly or with the command
 - **sudo tar -xzf <zip-filename>**

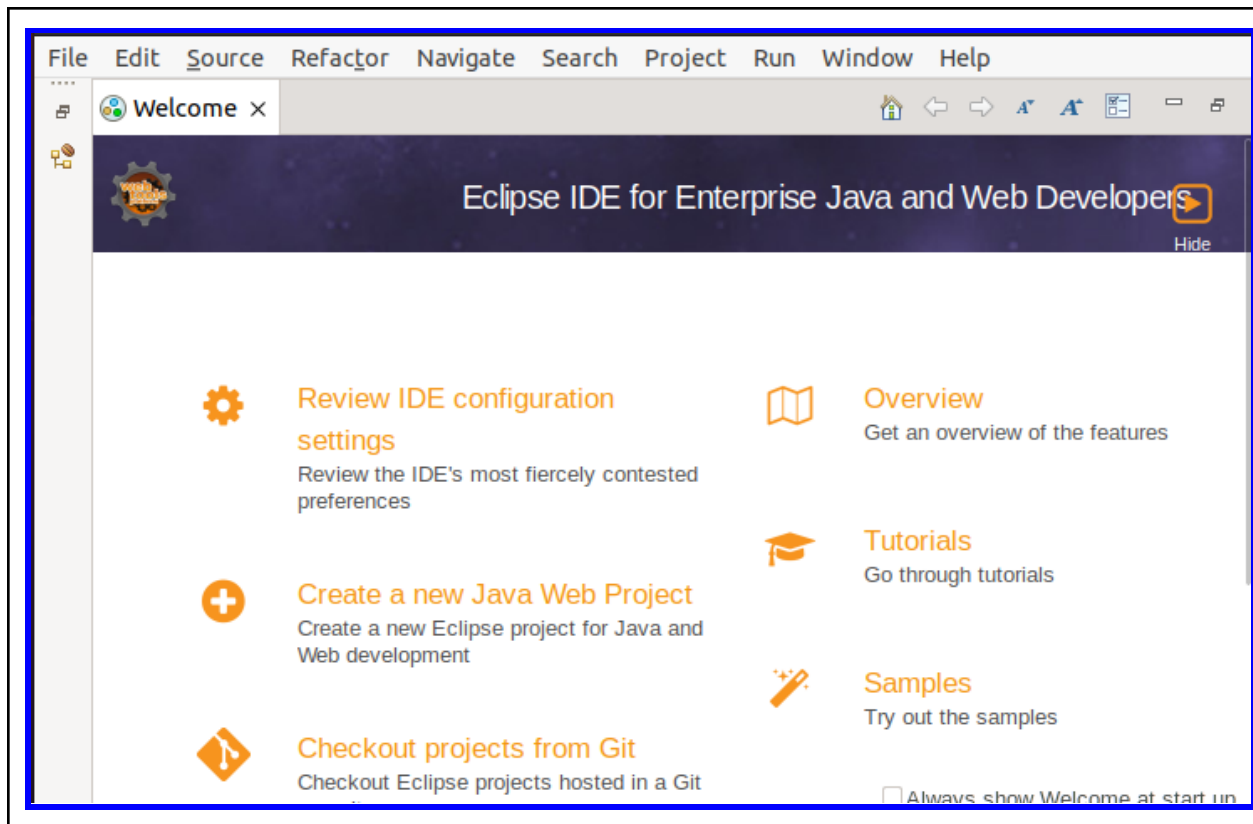


We can go inside this directory >> eclipse and open the eclipse file

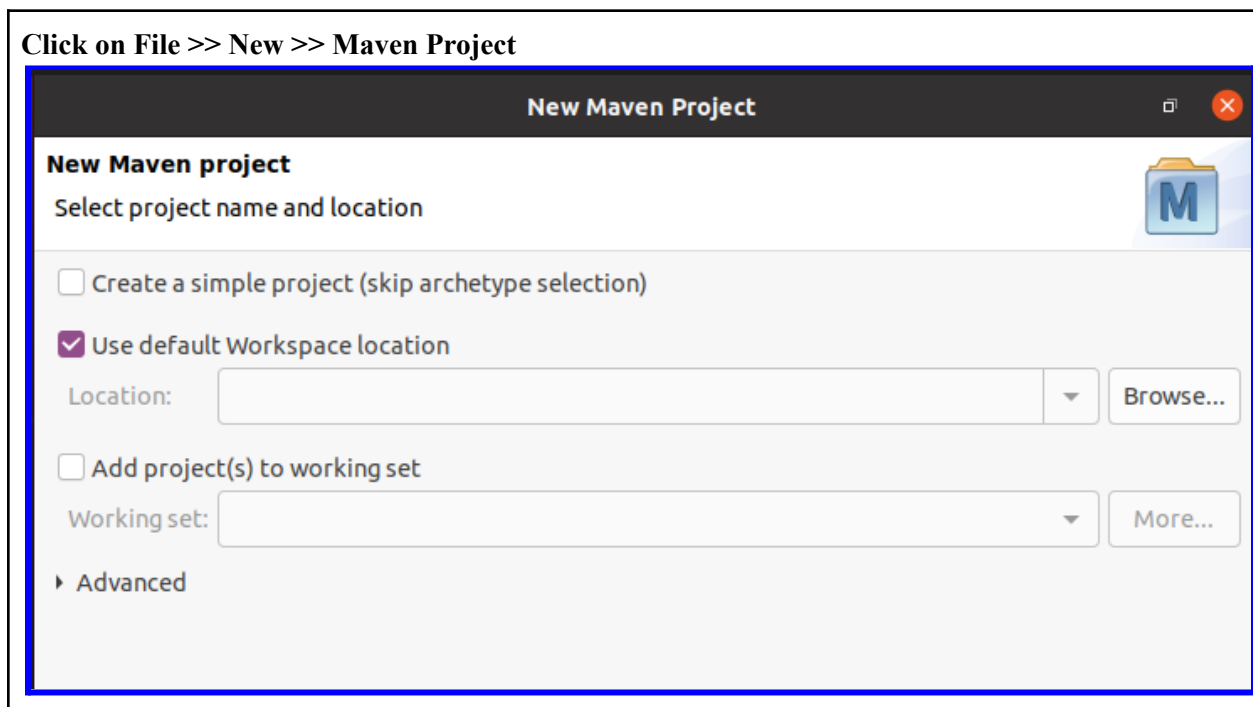


Now eclipse IDE will configure its workspace and we can continue working

At first we can get welcome page like this



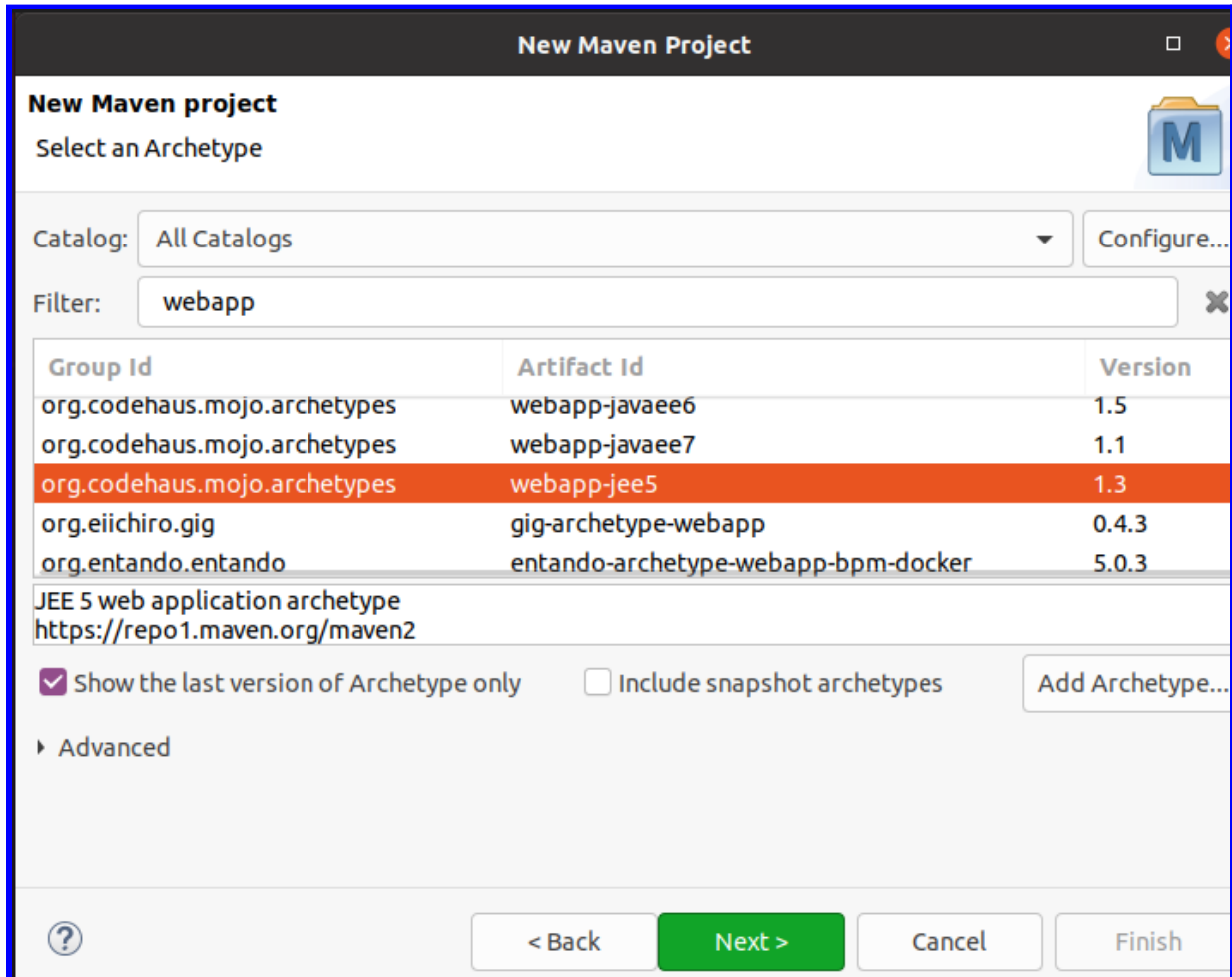
Create new maven project



optional -- we can change the default workspace if we want

Click on Next (bottom)

Filter for webapp-jee5



New Maven Project

Select an Archetype

Catalog: All Catalogs Configure...

Filter: webapp X

Group Id	Artifact Id	Version
org.codehaus.mojo.archetypes	webapp-javaee6	1.5
org.codehaus.mojo.archetypes	webapp-javaee7	1.1
org.codehaus.mojo.archetypes	webapp-jee5	1.3
org.eiichiro.gig	gig-archetype-webapp	0.4.3
org.entando.entando	entando-archetype-webapp-bpm-docker	5.0.3

JEE 5 web application archetype
<https://repo1.maven.org/maven2>

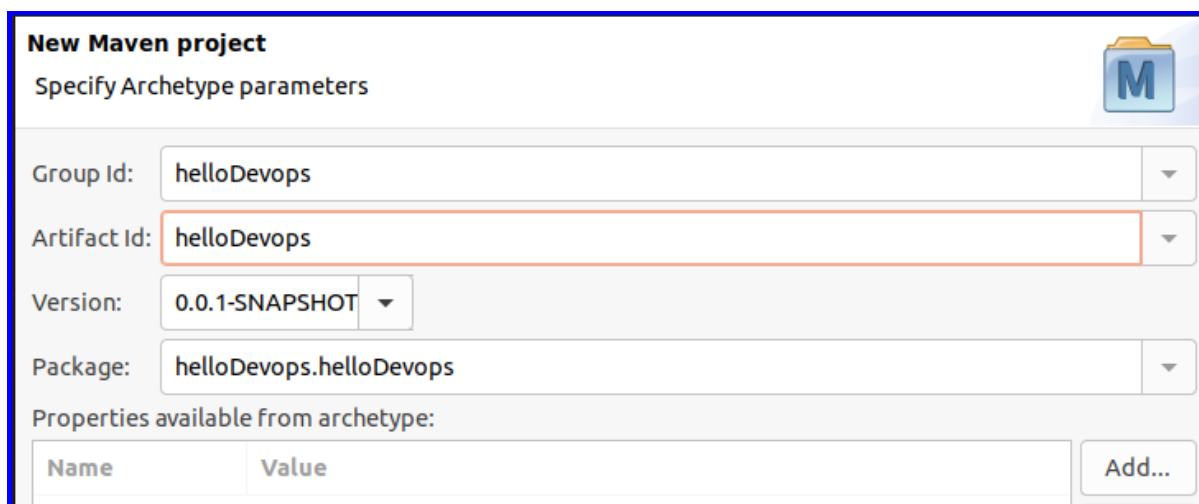
☒ Show the last version of Archetype only ☐ Include snapshot archetypes Add Archetype...

Advanced

? < Back Next > Cancel Finish

Select it and click next

Give the group Id and Artifact ID



New Maven project

Specify Archetype parameters

Group Id: helloDevops

Artifact Id: helloDevops

Version: 0.0.1-SNAPSHOT

Package: helloDevops.helloDevops

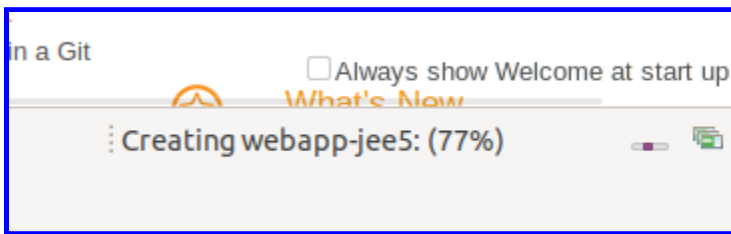
Properties available from archetype:

Name	Value
------	-------

Add...

Click on finish

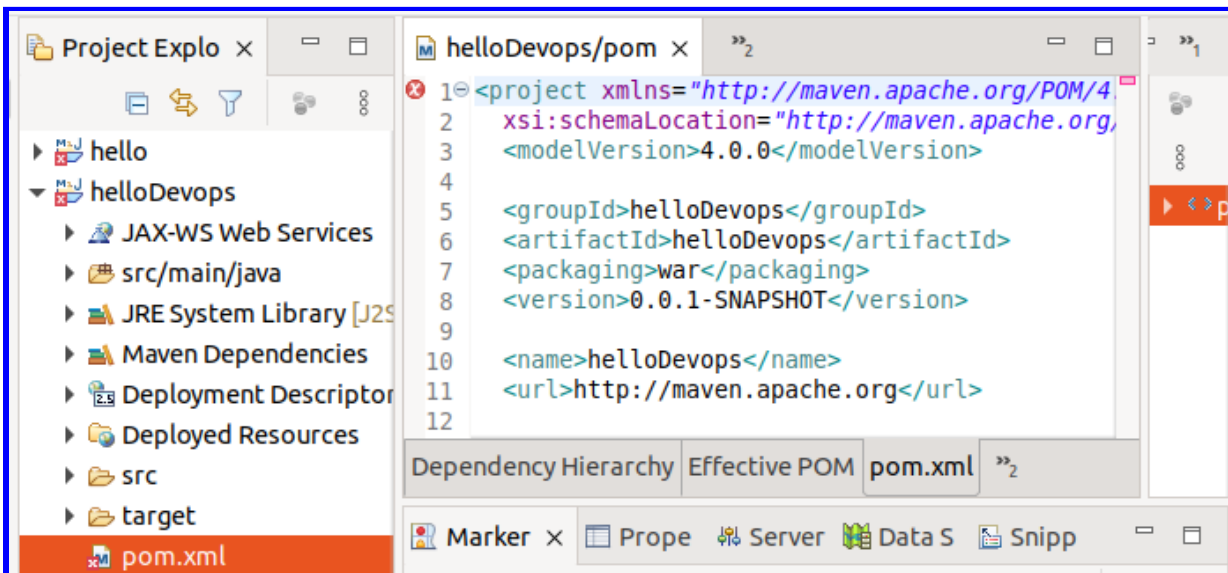
You can see something like this at bottom



When it finishes we can now proceed

Clicking on pom.xml file

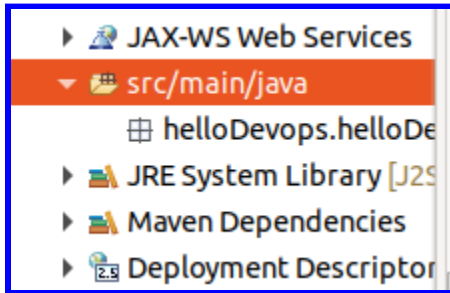
We can view the code



If we scroll down we can see javax.servlet dependencies too



To add servlet class right click on src/main/java directory



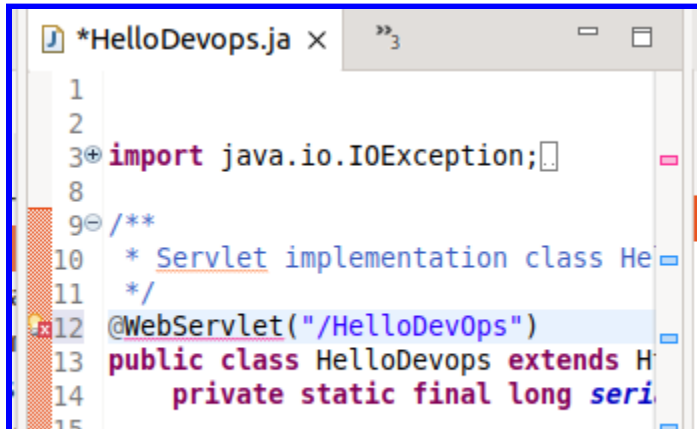
Follow for New >> Servlet and give the class name

A screenshot of the 'Create Servlet' dialog box. The title bar says 'Create Servlet'. The main text says 'Specify class file destination.' and there is a blue 'S' icon. The form contains the following fields:

- Project: A dropdown menu showing 'helloDevops'.
- Source folder: A text field containing '/helloDevops/src/main/java' with a 'Browse...' button to its right.
- Java package: An empty text field with a 'Browse...' button to its right.
- Class name: A text field containing 'HelloDevops'.
- Superclass: A text field containing 'javax.servlet.http.HttpServlet' with a 'Browse...' button to its right.
- A checkbox labeled 'Use an existing Servlet class or JSP' which is currently unchecked.
- Below the checkbox, there is another 'Class name' text field containing 'HelloDevops' and a 'Browse...' button.

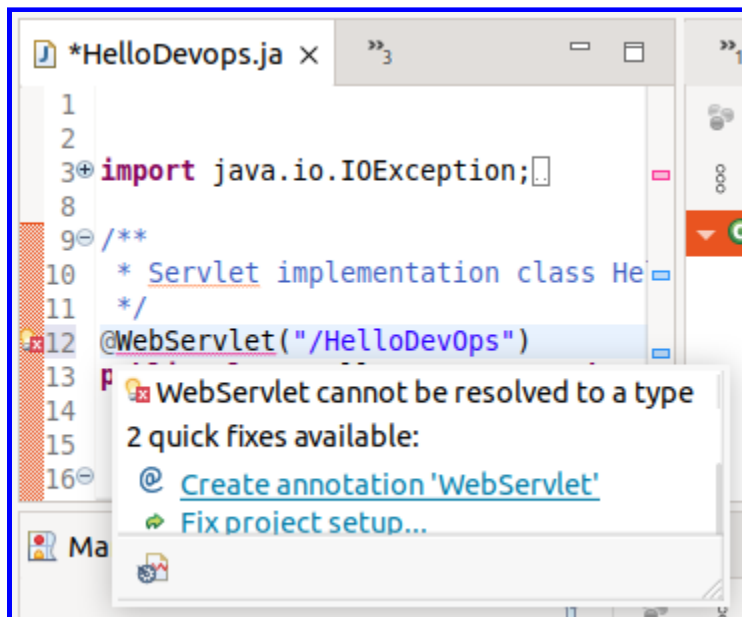
At the bottom, there is a row of buttons: a help icon (?), '< Back', 'Next >', 'Cancel', and a green 'Finish' button.

In HelloDevops.java add @WebServlet line above public class



```
1
2
3+ import java.io.IOException;
8
9- /**
10  * Servlet implementation class HelloDevOps
11  */
12 @WebServlet("/HelloDevOps")
13 public class HelloDevops extends HttpServlet {
14     private static final long serialVersionUID = 1L;
15 }
```

Hover over WebServlet and **create annotation**

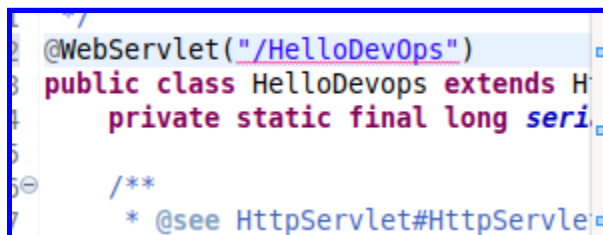


```
1
2
3+ import java.io.IOException;
8
9- /**
10  * Servlet implementation class HelloDevOps
11  */
12 @WebServlet("/HelloDevOps")
13 public class HelloDevops extends HttpServlet {
14     private static final long serialVersionUID = 1L;
15 }
```

WebServlet cannot be resolved to a type
2 quick fixes available:
@ [Create annotation 'WebServlet'](#)
[Fix project setup...](#)

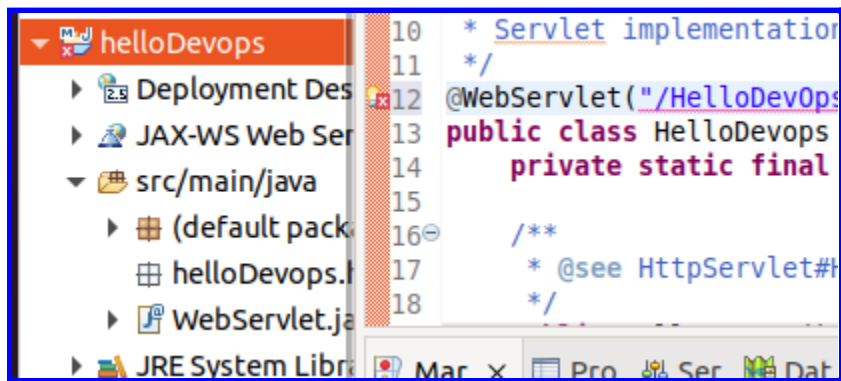
Click on finish when you get another page

Now we can see the error has gone



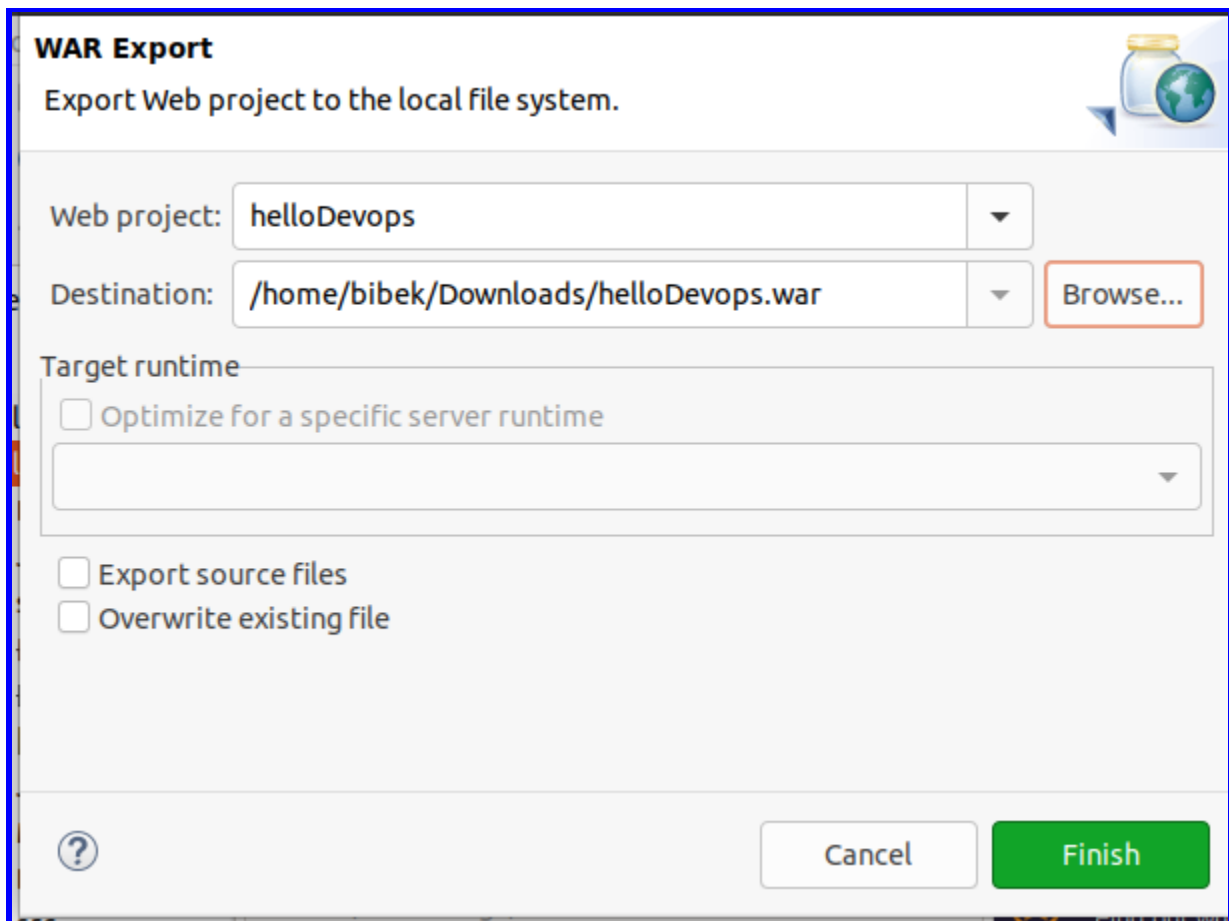
```
1
2 @WebServlet("/HelloDevOps")
3 public class HelloDevops extends HttpServlet {
4     private static final long serialVersionUID = 1L;
5
6     /**
7      * @see HttpServlet#HttpServlet()
8      */
9 }
```

Now we can generate the war file from the main project



Right click on it >> export >> war file

Browse the destination

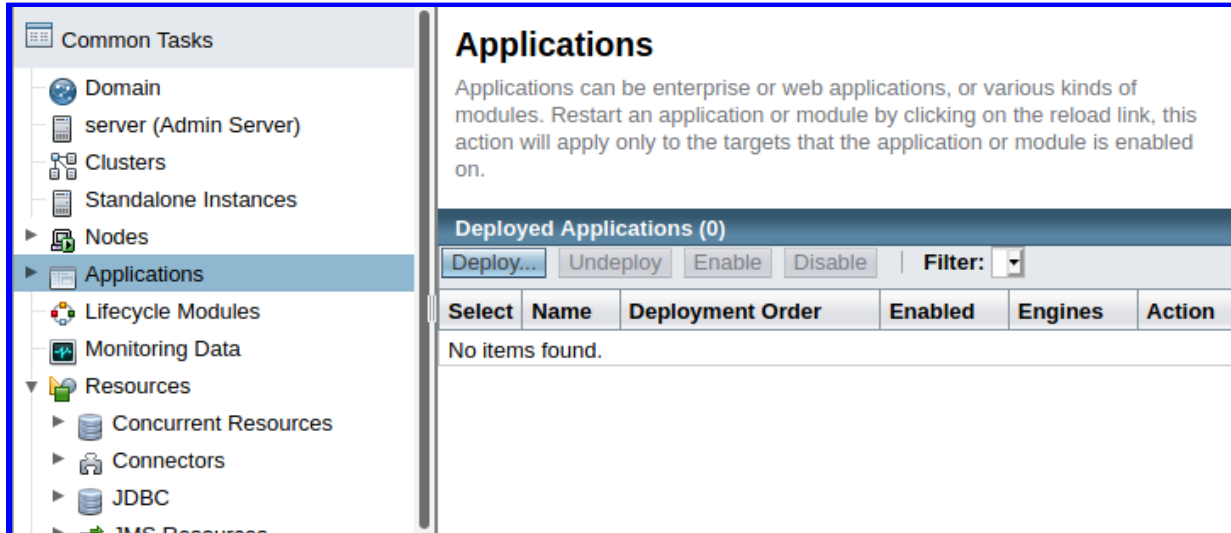


And finish

Deploy WAR file to GlassFish Server

Browse the admin panel of glassfish to deploy the application

Go to applications >> deploy >> packaged file to be uploaded >> browse the file from the destination >> ok



Applications

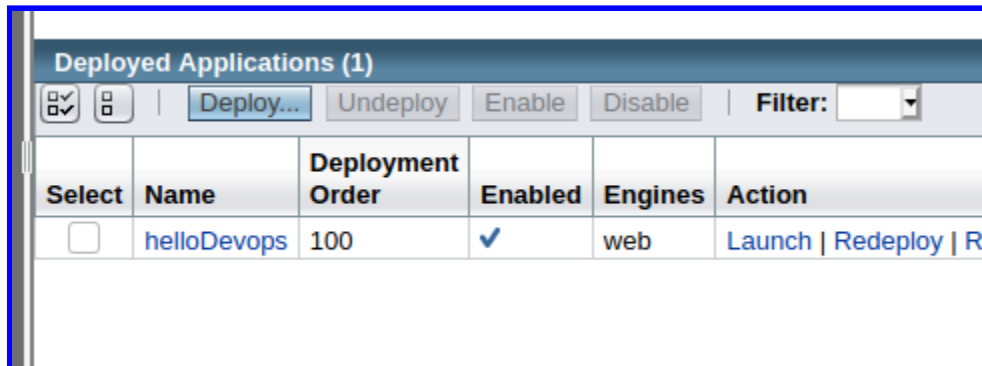
Applications can be enterprise or web applications, or various kinds of modules. Restart an application or module by clicking on the reload link, this action will apply only to the targets that the application or module is enabled on.

Deployed Applications (0)

Deploy... Undeploy Enable Disable Filter:

Select	Name	Deployment Order	Enabled	Engines	Action
No items found.					

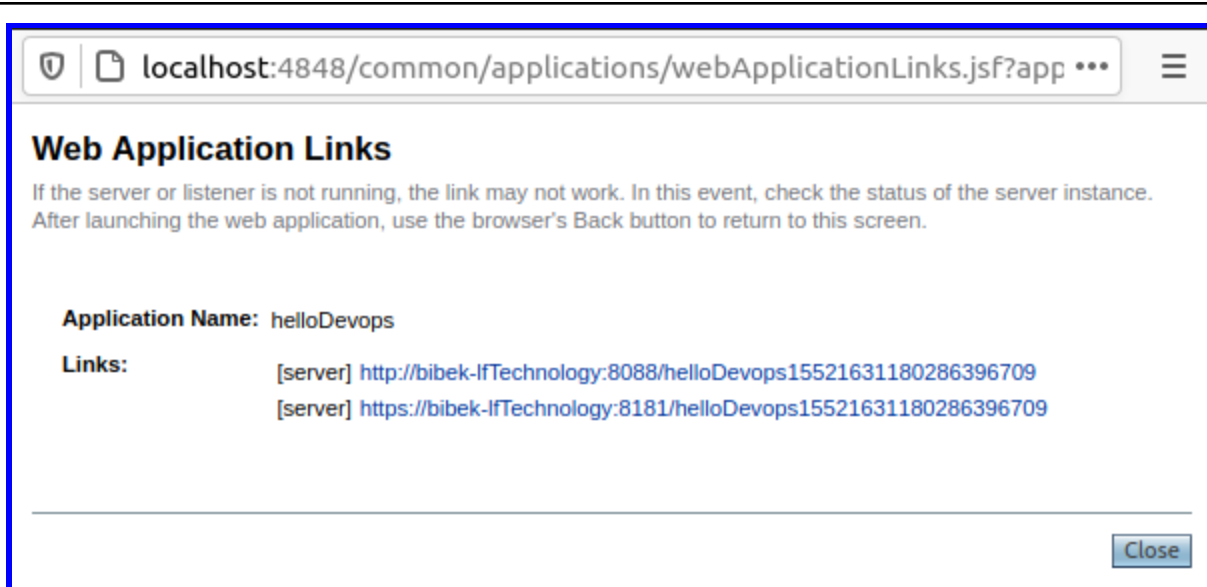
Then click on launch



Deployed Applications (1)

☒ ☐ | Deploy... Undeploy Enable Disable Filter:

Select	Name	Deployment Order	Enabled	Engines	Action
<input type="checkbox"/>	helloDevops	100	✓	web	Launch Redeploy Reload



Clicking on the first server we can get the deployed web page



In this way a maven servlet application can be deployed to the glassfish