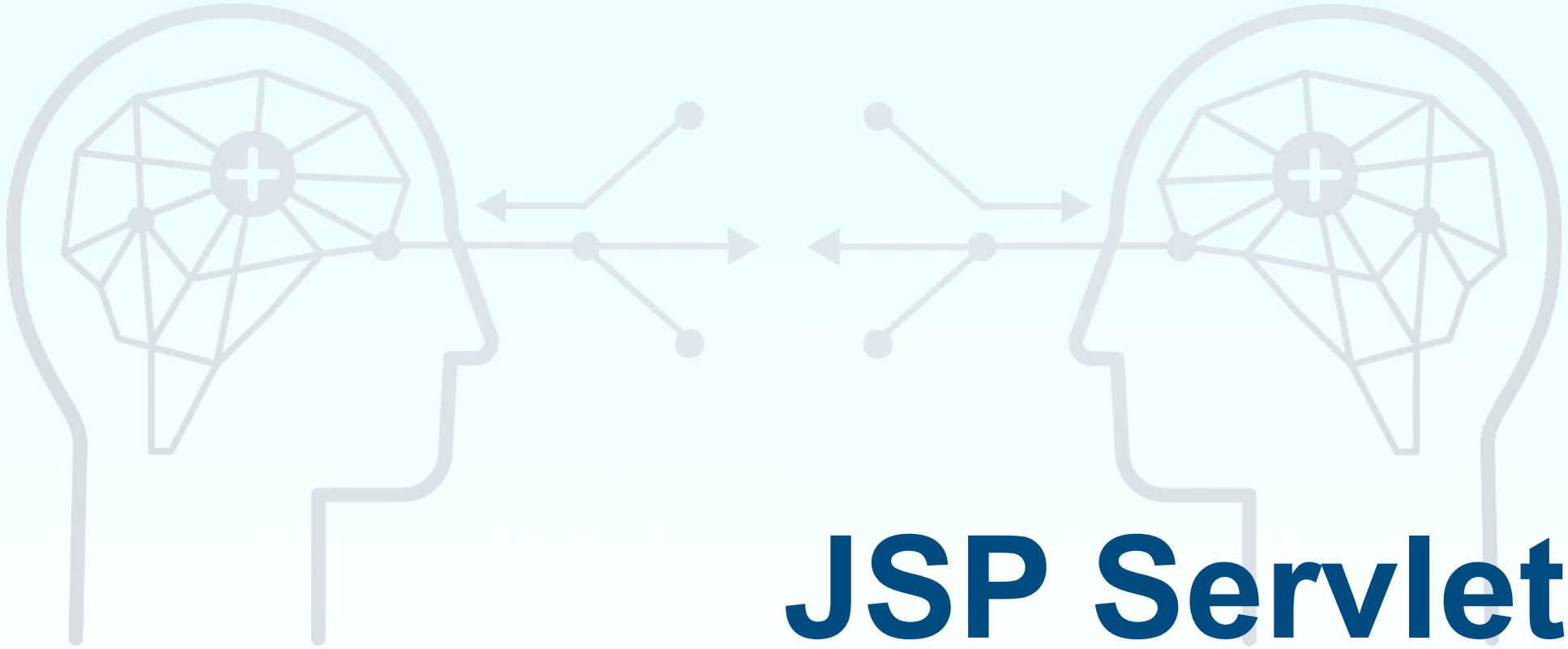
[한국폴리텍대학 성남캠퍼스 인공지능소프트웨어과]

JSP Servlet

2023. 5

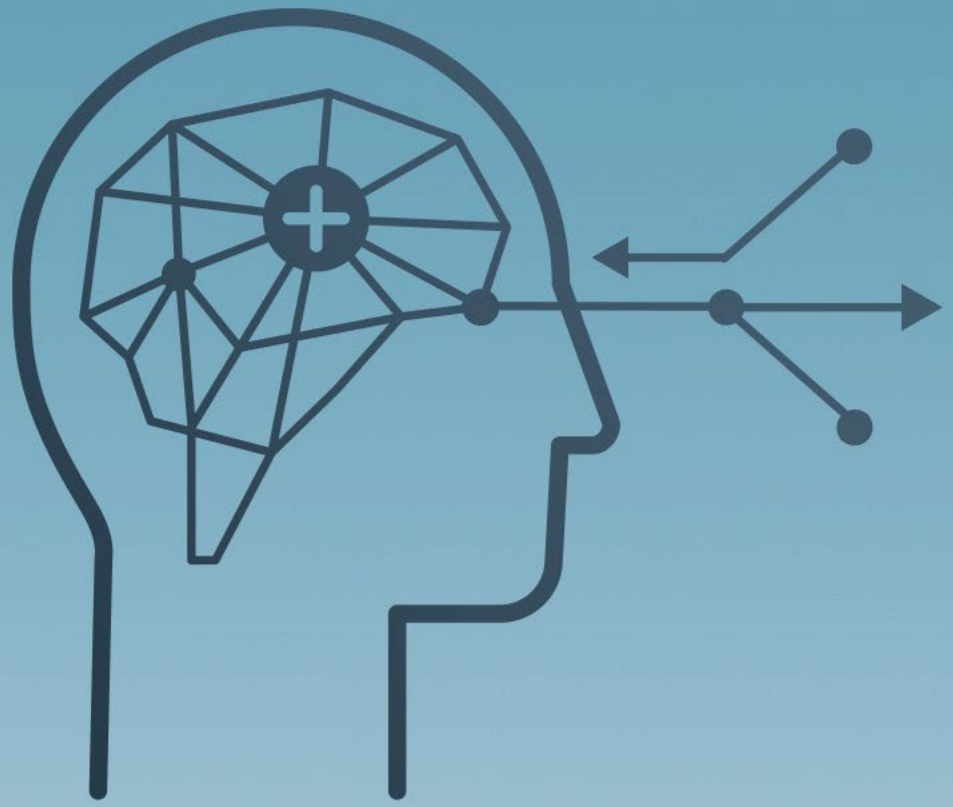
김 형 오



JSP Servlet

DEEP
LEARNING

MACHINE LEARNING BASED
ON ARTIFICIAL NEURAL NETWORKS



DEEP
LEARNING

MACHINE LEARNING BASED
ON ARTIFICIAL NEURAL NETWORKS

목차

A table of Contents

Part 1,

JSP 개발 환경

참고문헌

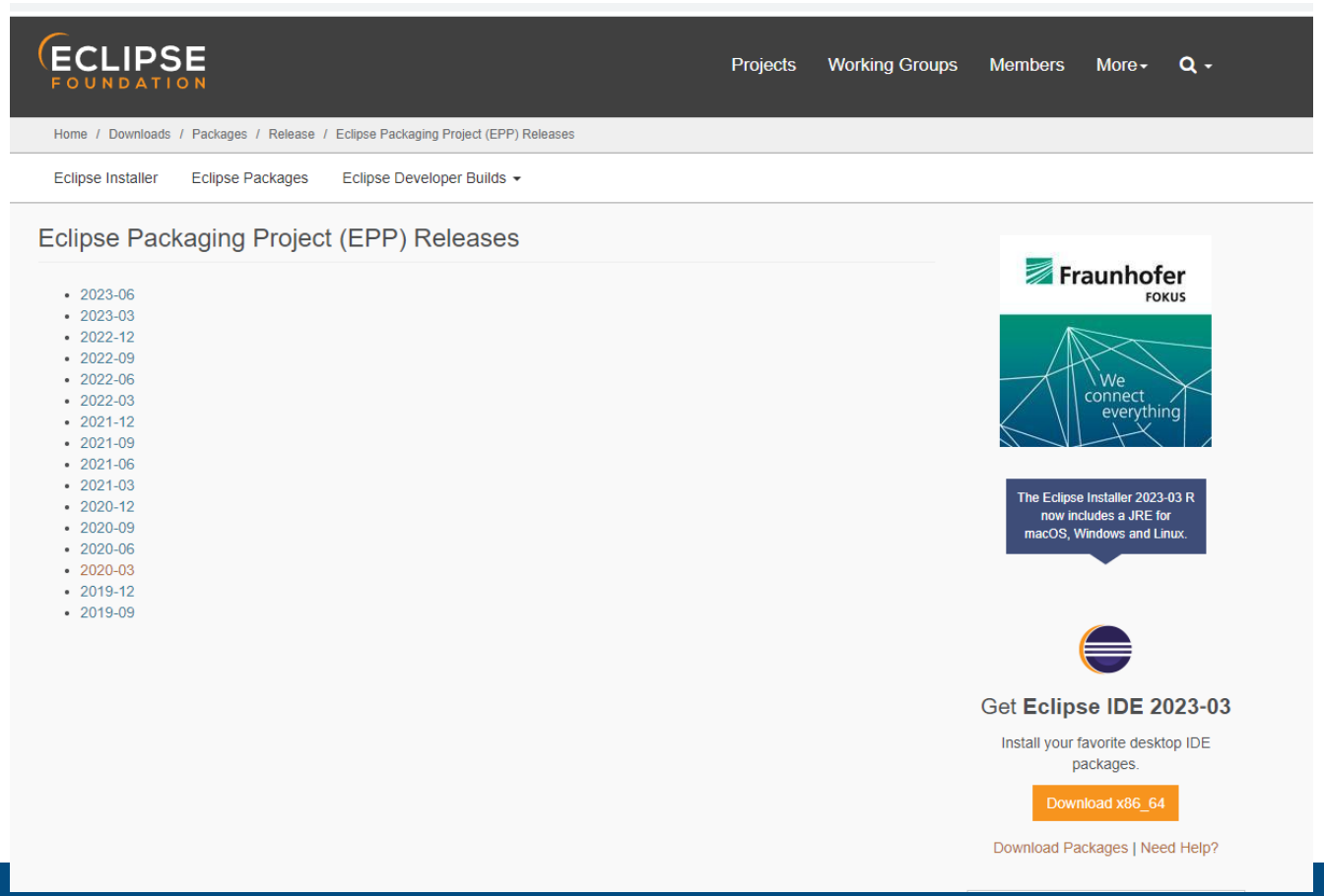
한빛미디어, IT CookBook, 쉽게 배우는 JSP 웹 프로그래밍

Part 1

이클립스

- eclipse-jee-2021-03-R-win32-x86_64

  https://www.eclipse.org/downloads/packages/release

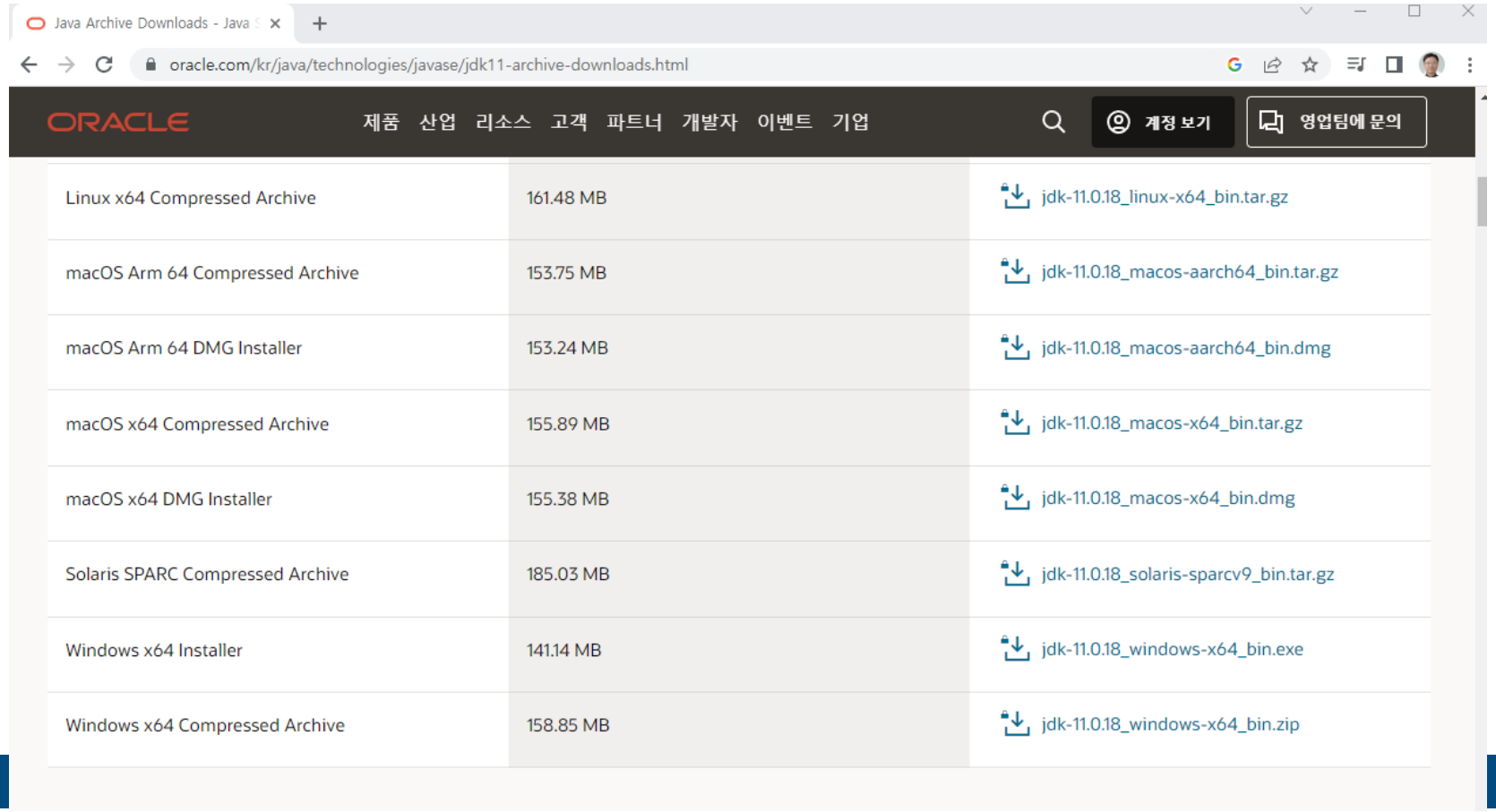


Part 1

JDK

jdk-11.0.18_windows-x64_bin

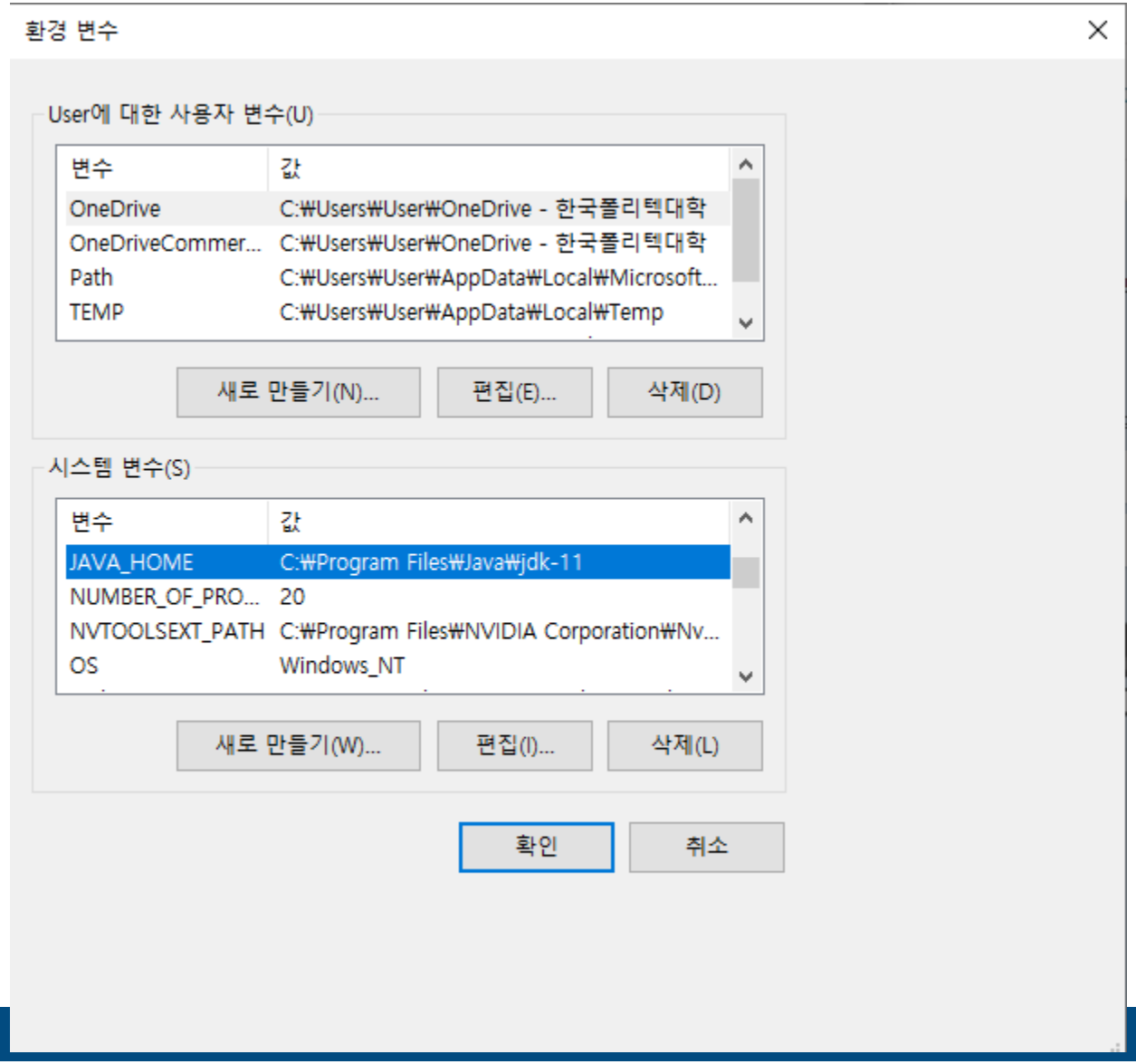
https://www.oracle.com/kr/java/technologies/javase/jdk11-archive-downloads.html



Linux x64 Compressed Archive	161.48 MB	jdk-11.0.18_linux-x64_bin.tar.gz
macOS Arm 64 Compressed Archive	153.75 MB	jdk-11.0.18_macos-aarch64_bin.tar.gz
macOS Arm 64 DMG Installer	153.24 MB	jdk-11.0.18_macos-aarch64_bin.dmg
macOS x64 Compressed Archive	155.89 MB	jdk-11.0.18_macos-x64_bin.tar.gz
macOS x64 DMG Installer	155.38 MB	jdk-11.0.18_macos-x64_bin.dmg
Solaris SPARC Compressed Archive	185.03 MB	jdk-11.0.18_solaris-sparcv9_bin.tar.gz
Windows x64 Installer	141.14 MB	jdk-11.0.18_windows-x64_bin.exe
Windows x64 Compressed Archive	158.85 MB	jdk-11.0.18_windows-x64_bin.zip

Part 1

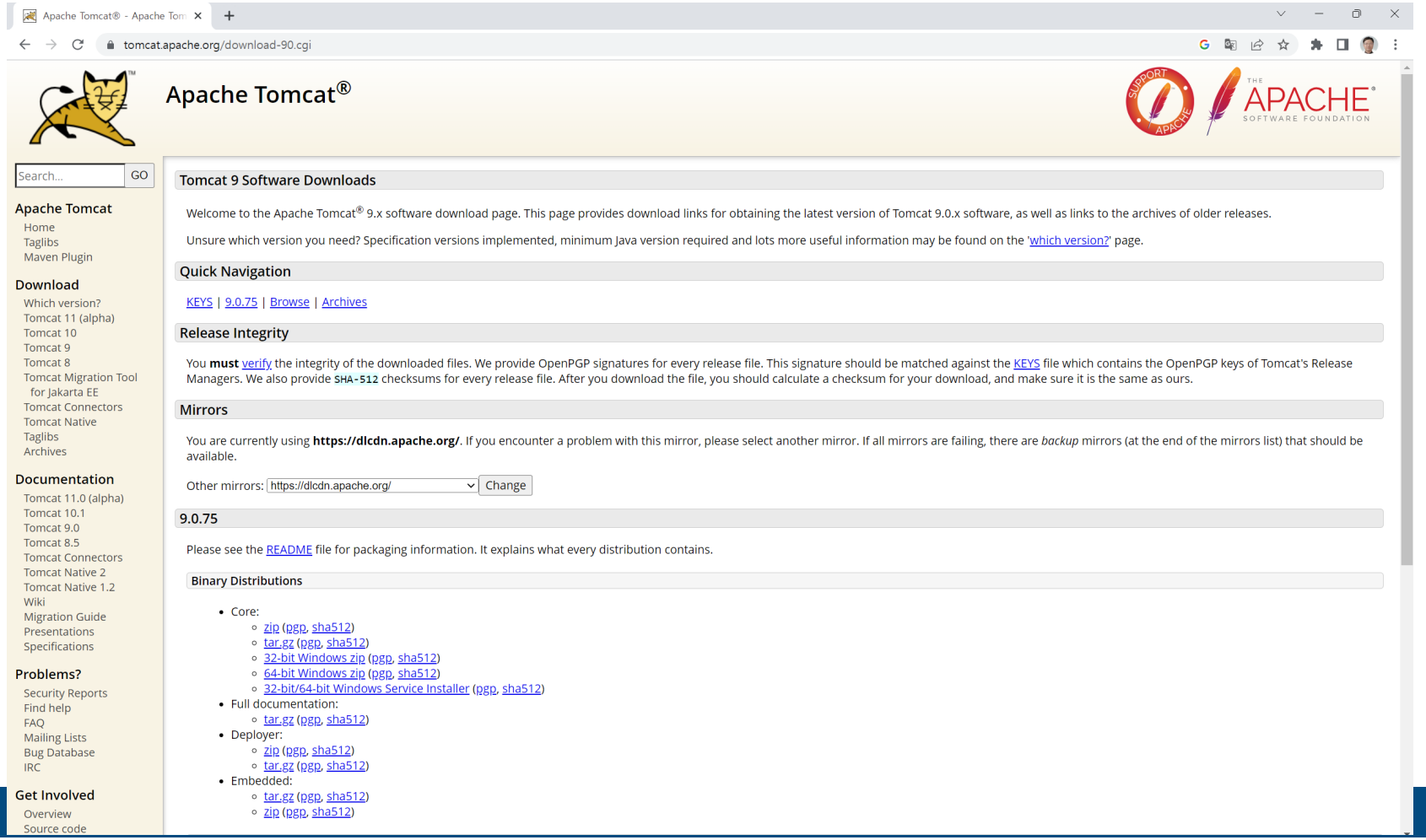
Java_HOME설정



Part 1

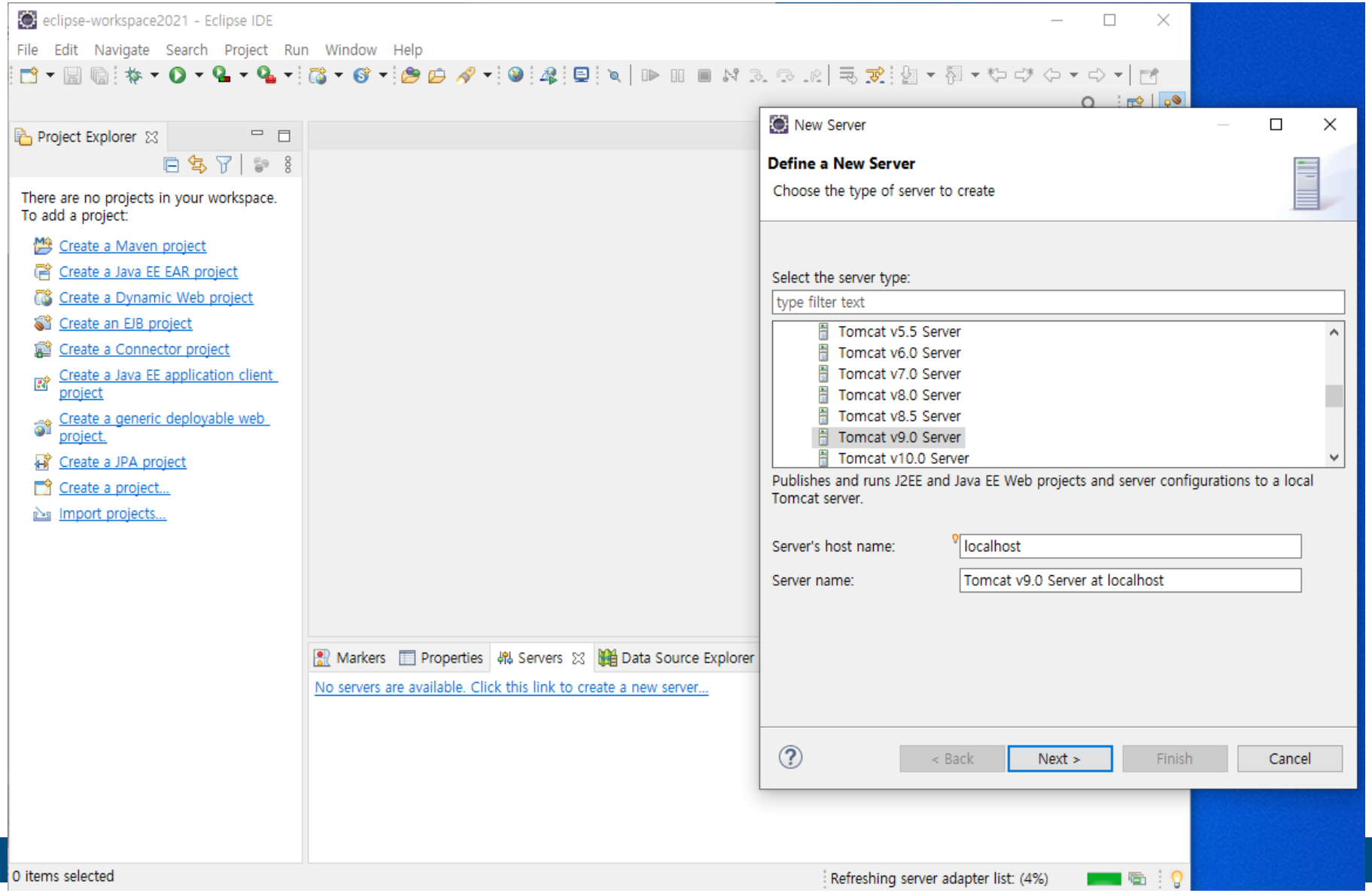
Apache-Tomcat

apache-tomcat-9.0.73-windows-x64
https://tomcat.apache.org/download-90.cgi



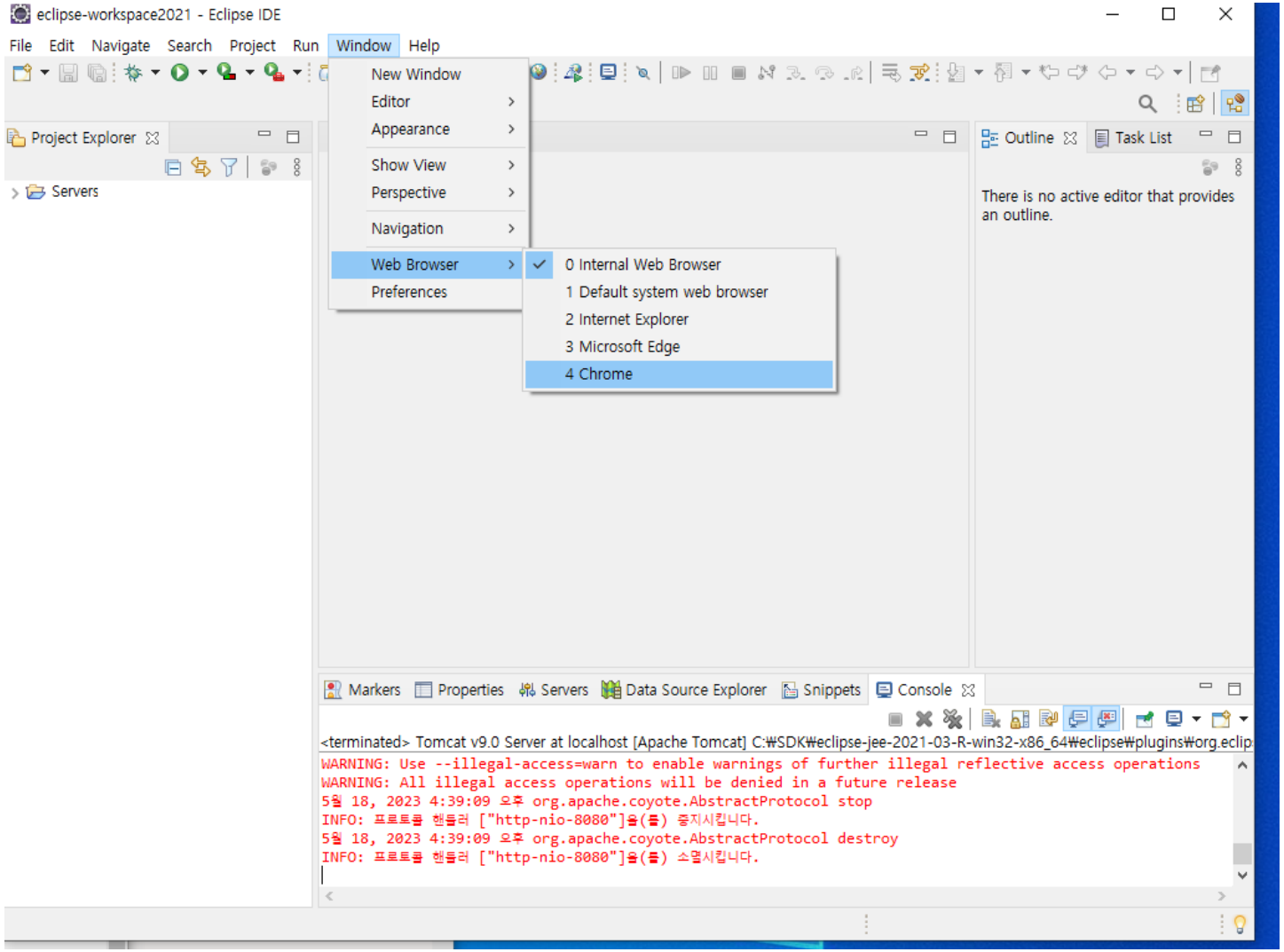
Part 1

Apache-Tomcat 설정



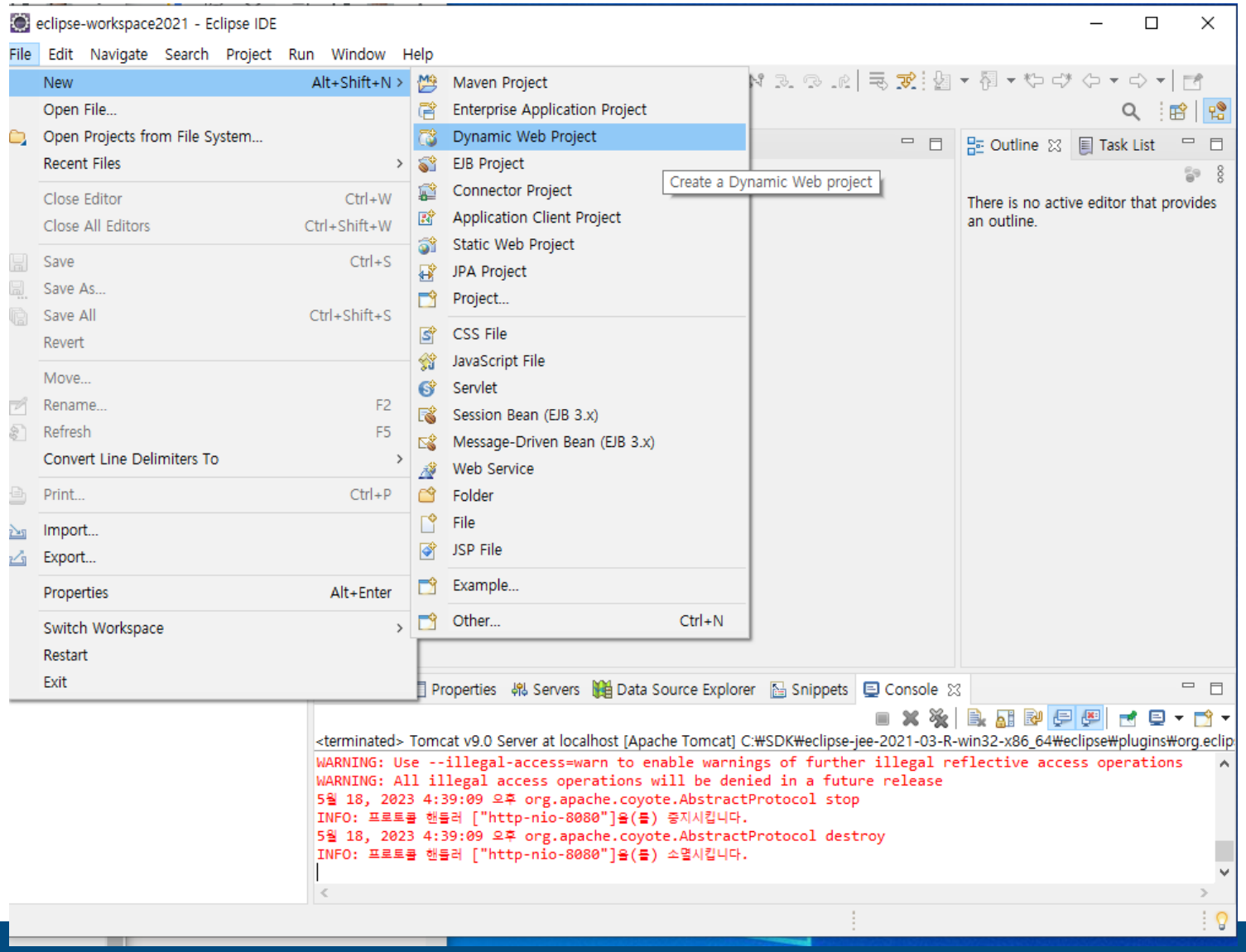
Part 1

Web Browser 설정



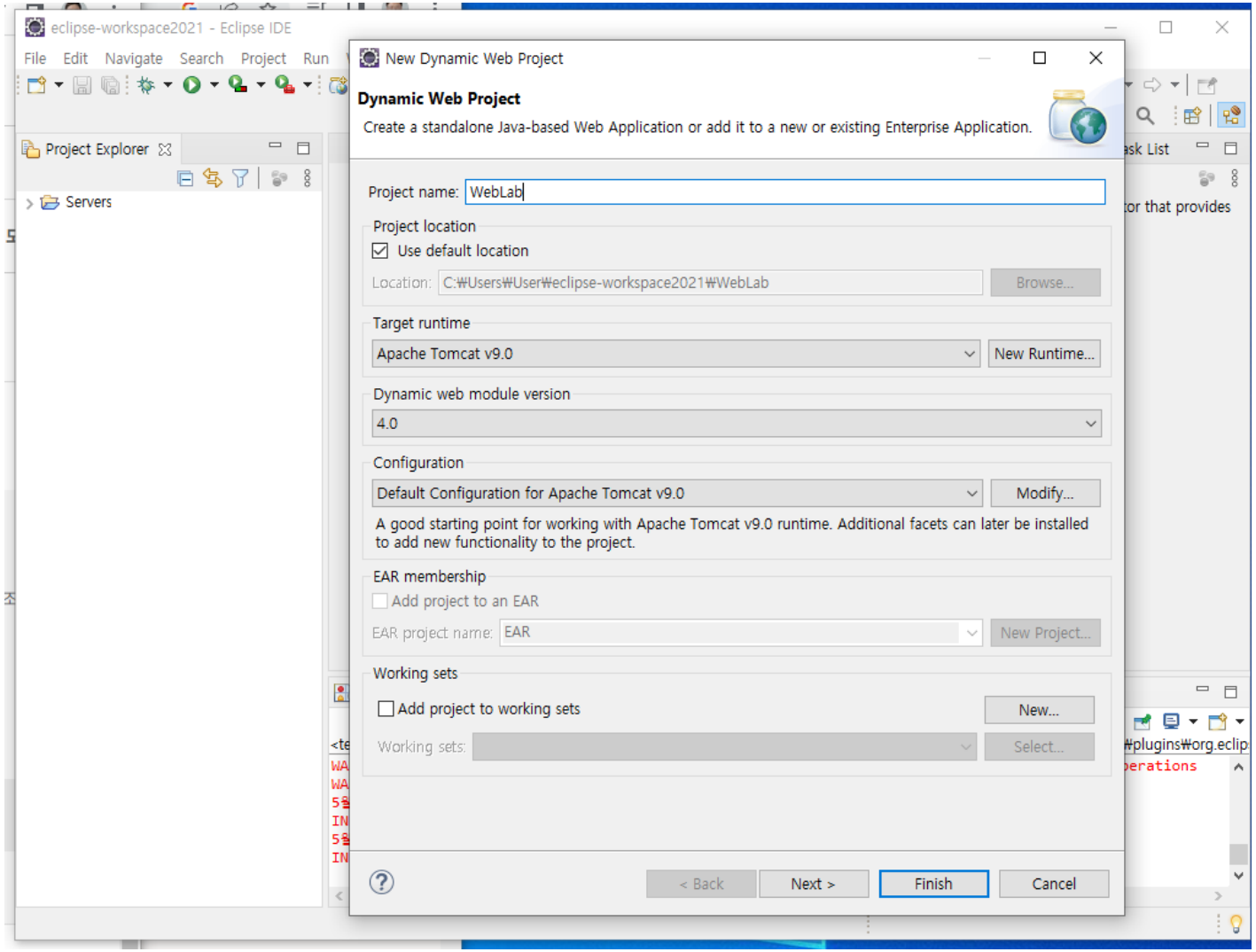
Part 1

New Project



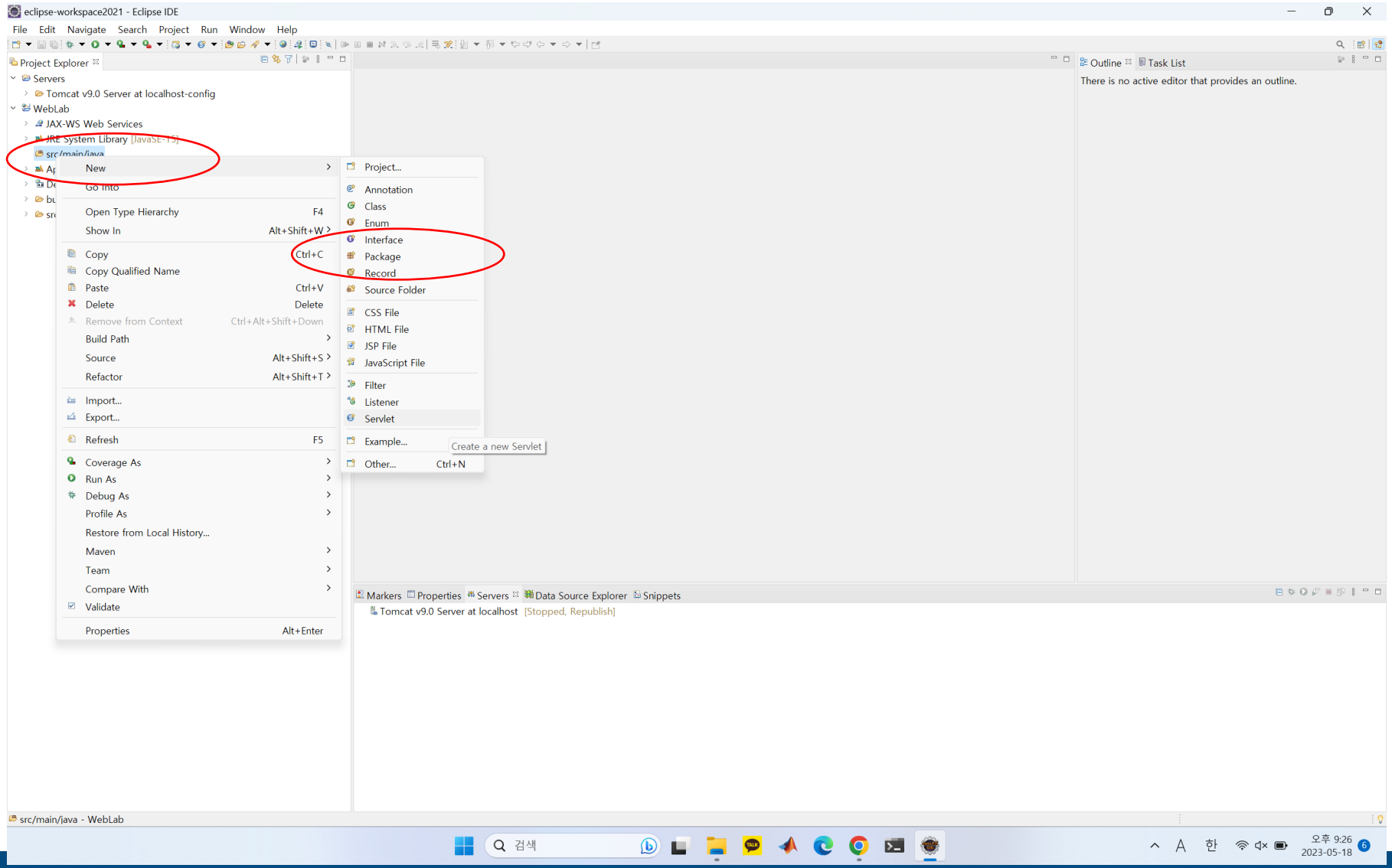
Part 1

New Project



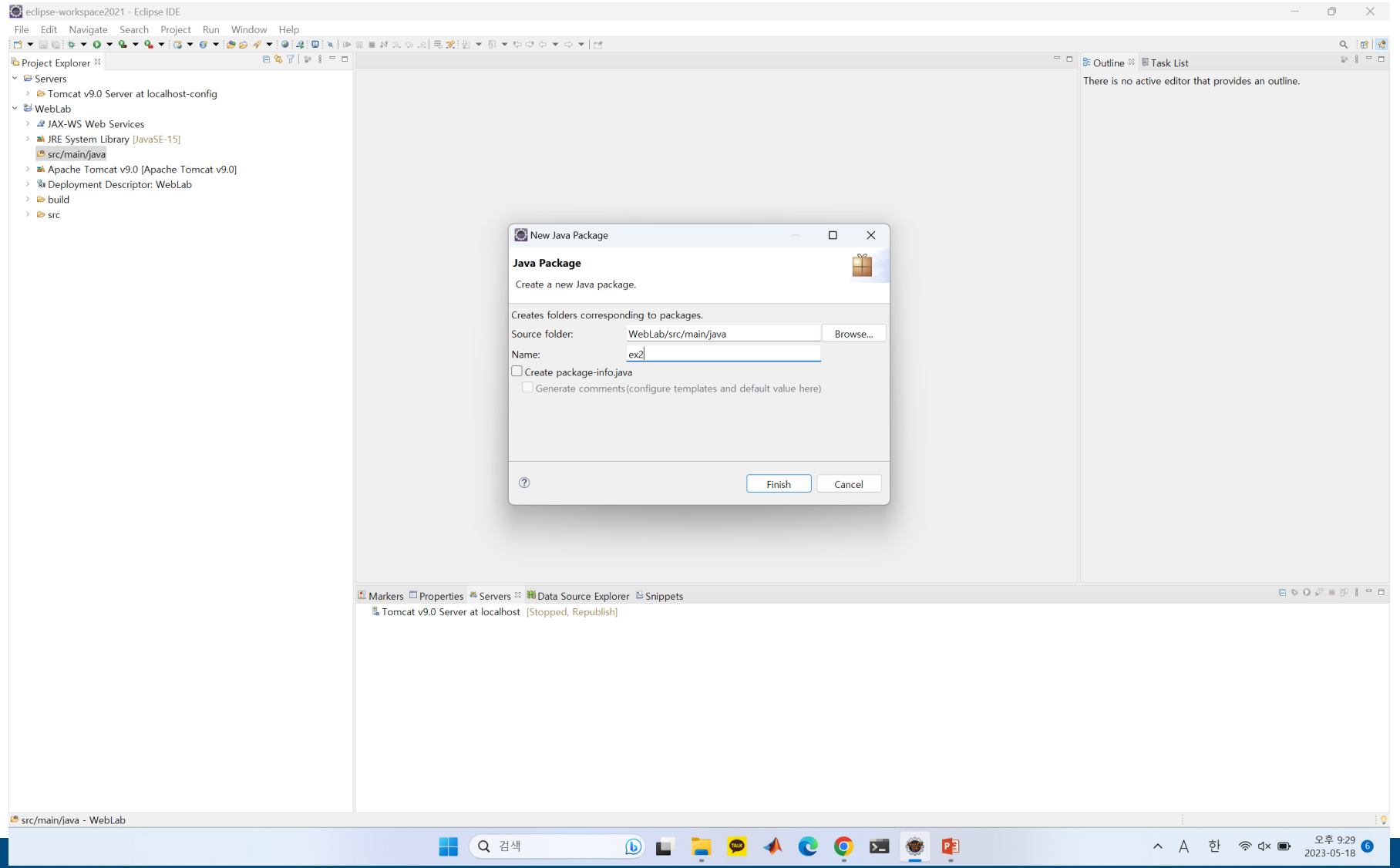
Part 1

New package



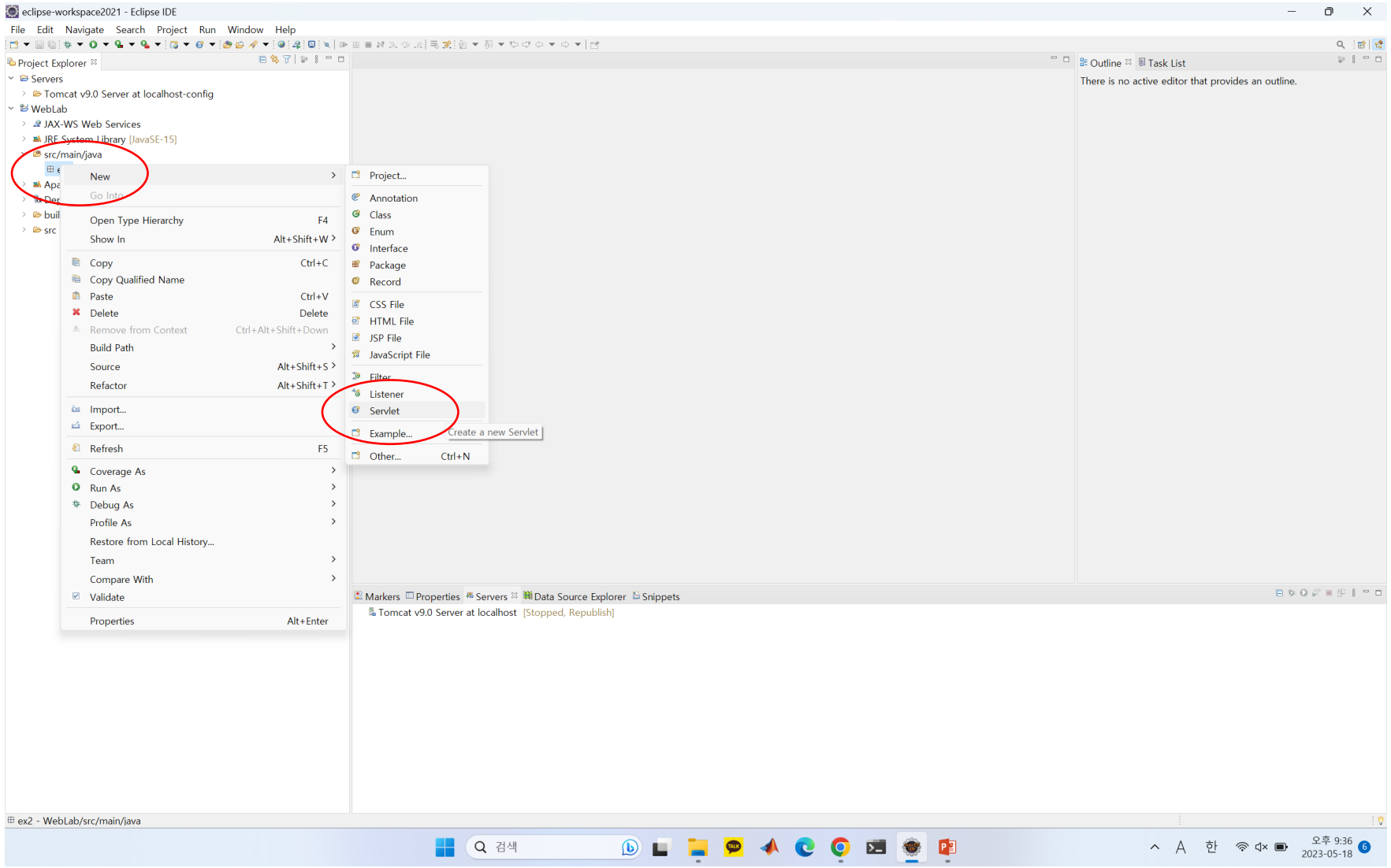
Part 1

New package



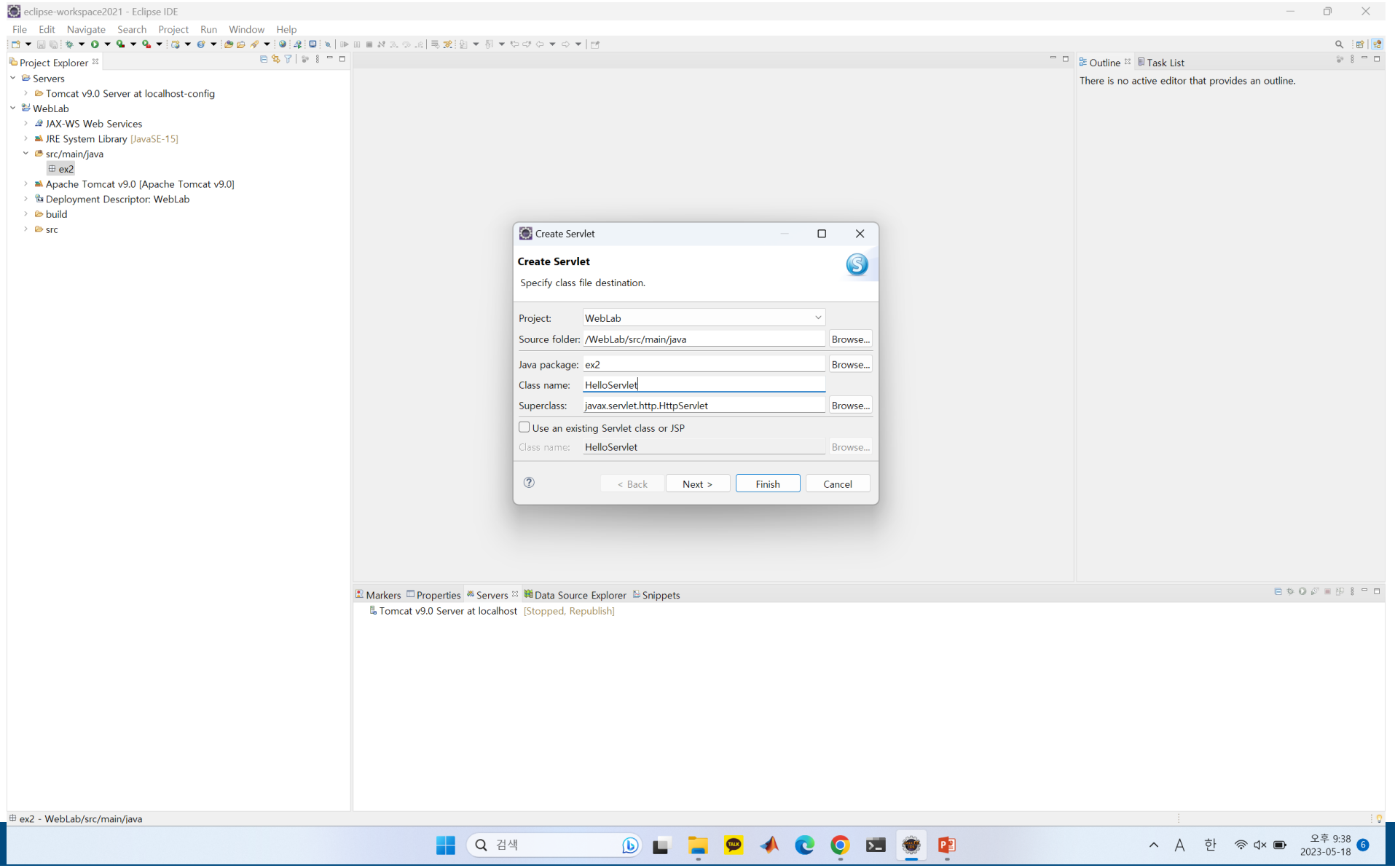
Part 1

New servlet



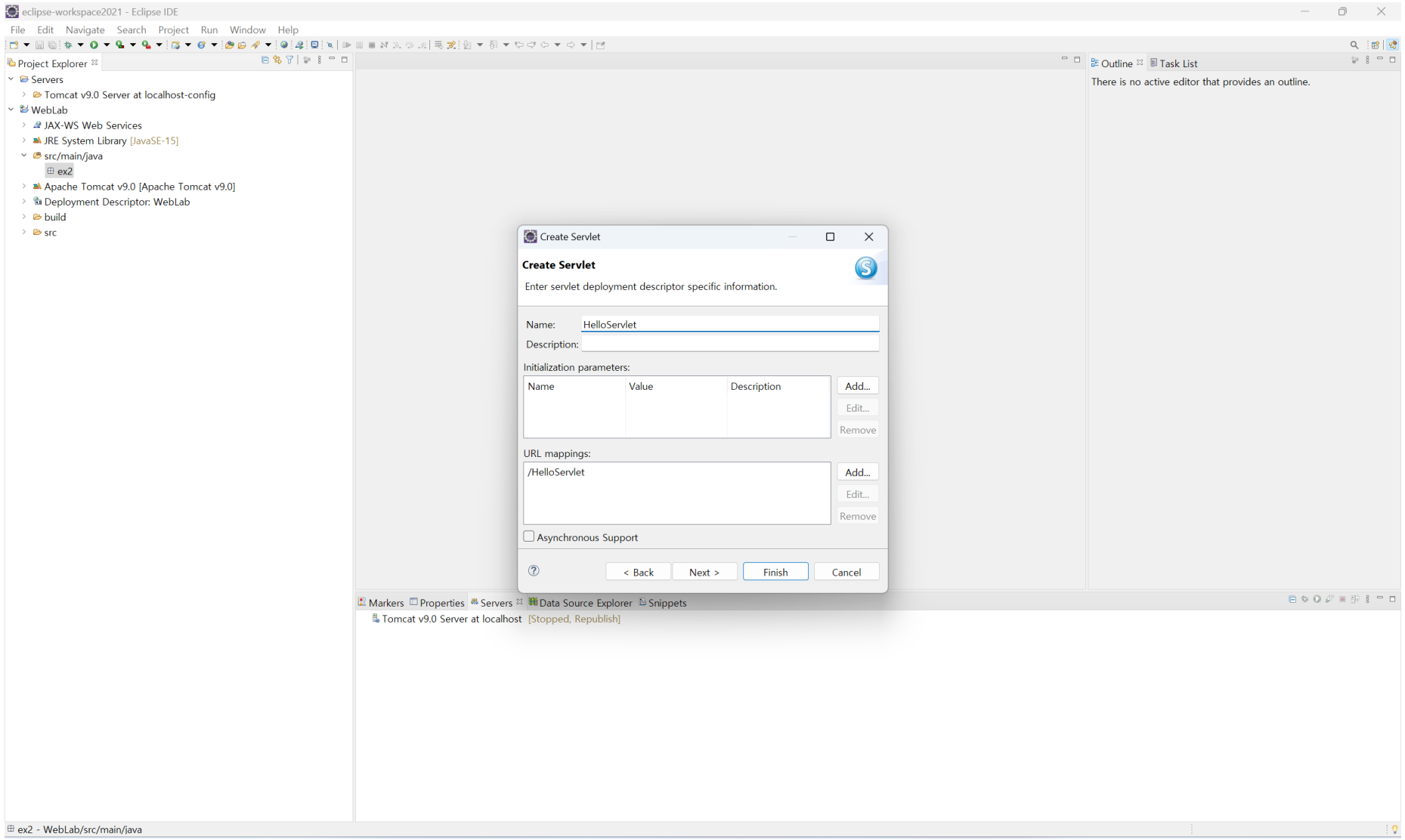
Part 1

New servlet



Part 1

New servlet



Part 1

New servlet

HelloServlet.java

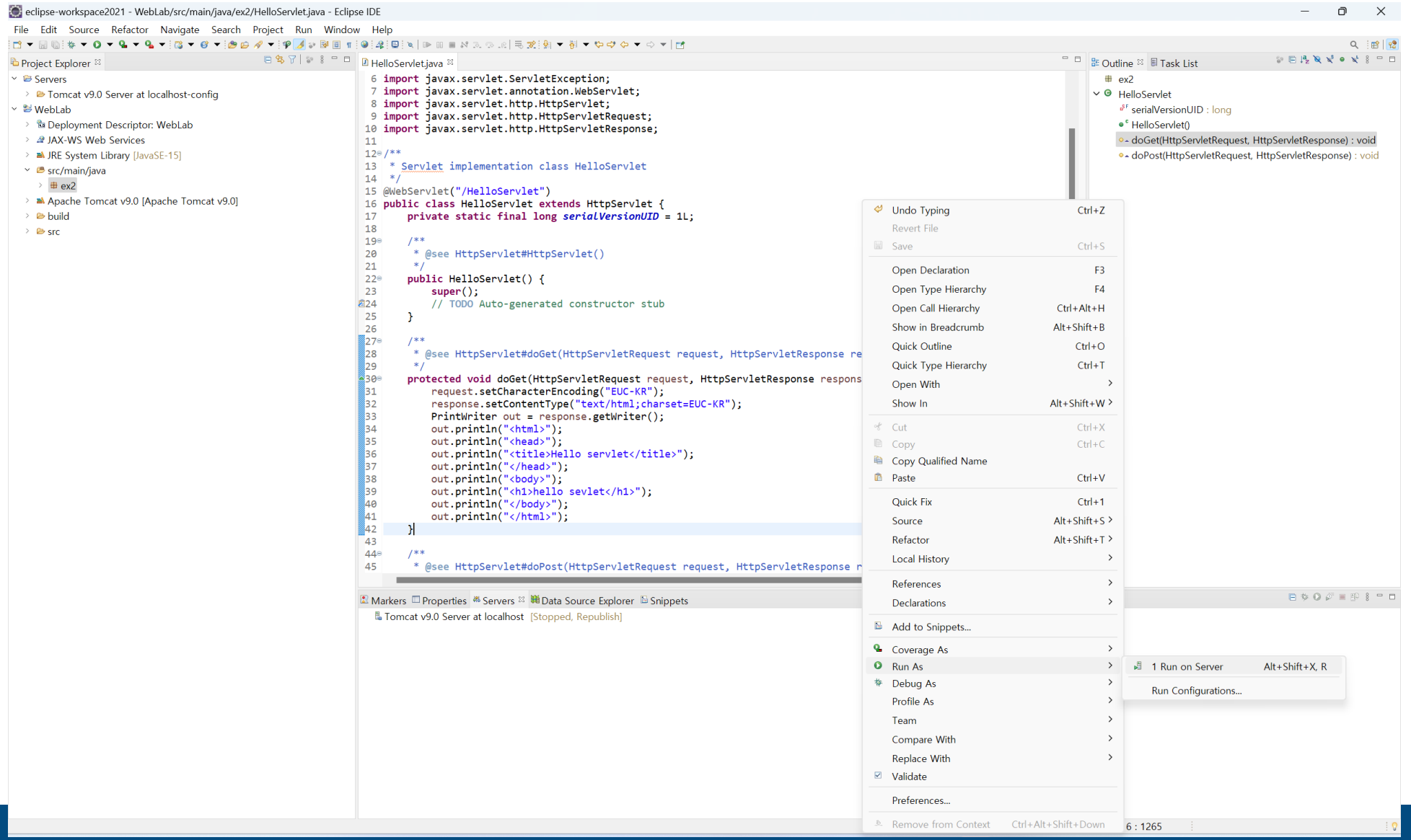
```
6  import javax.servlet.ServletException;
7  import javax.servlet.annotation.WebServlet;
8  import javax.servlet.http.HttpServlet;
9  import javax.servlet.http.HttpServletRequest;
10 import javax.servlet.http.HttpServletResponse;
11
12 /**
13  * Servlet implementation class HelloServlet
14  */
15 @WebServlet("/HelloServlet")
16 public class HelloServlet extends HttpServlet {
17     private static final long serialVersionUID = 1L;
18
19     /**
20      * @see HttpServlet#HttpServlet()
21      */
22     public HelloServlet() {
23         super();
24         // TODO Auto-generated constructor stub
25     }
26
27     /**
28      * @see HttpServlet#doGet(HttpServletRequest request, HttpServletResponse response)
29      */
30     protected void doGet(HttpServletRequest request, HttpServletResponse response) throws ServletException, IOExce
31         request.setCharacterEncoding("EUC-KR");
32         response.setContentType("text/html;charset=EUC-KR");
33         PrintWriter out = response.getWriter();
34         out.println("<html>");
35         out.println("<head>");
36         out.println("<title>Hello servlet</title>");
37         out.println("</head>");
38         out.println("<body>");
39         out.println("<h1>hello sevlet</h1>");
40         out.println("</body>");
41         out.println("</html>");
42     }
43
44     /**
45      * @see HttpServlet#doPost(HttpServletRequest request, HttpServletResponse response)
```

New servlet

```
request.setCharacterEncoding("EUC-KR");
response.setContentType("text/html;charset=EUC-KR");
PrintWriter out = response.getWriter();
out.println("<html>");
out.println("<head>");
out.println("<title>Hello servlet</title>");
out.println("</head>");
out.println("<body>");
out.println("<h1>hello sevlet</h1>");
out.println("</body>");
out.println("</html>");
```

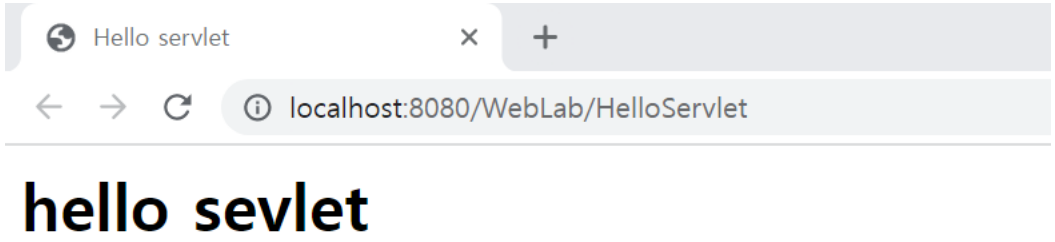
Part 1

Run


eclipse-workspace2021 - WebLab/src/main/java/ex2/HelloServlet.java - Eclipse IDE
File Edit Source Refactor Navigate Search Project Run Window Help
Project Explorer
Servers
Tomcat v9.0 Server at localhost-config
WebLab
Deployment Descriptor: WebLab
JAX-WS Web Services
JRE System Library [JavaSE-15]
src/main/java
ex2
Apache Tomcat v9.0 [Apache Tomcat v9.0]
build
src
HelloServlet.java
import javax.servlet.ServletException;
import javax.servlet.annotation.WebServlet;
import javax.servlet.http.HttpServlet;
import javax.servlet.http.HttpServletRequest;
import javax.servlet.http.HttpServletResponse;
/**
* Servlet implementation class HelloServlet
*/
@WebServlet("/HelloServlet")
public class HelloServlet extends HttpServlet {
private static final long serialVersionUID = 1L;
/**
* @see HttpServlet#HttpServlet()
*/
public HelloServlet() {
super();
// TODO Auto-generated constructor stub
}
/**
* @see HttpServlet#doGet(HttpServletRequest request, HttpServletResponse re
*/
protected void doGet(HttpServletRequest request, HttpServletResponse respons
request.setCharacterEncoding("EUC-KR");
response.setContentType("text/html;charset=EUC-KR");
PrintWriter out = response.getWriter();
out.println("<html>");
out.println("<head>");
out.println("<title>Hello servlet</title>");
out.println("</head>");
out.println("<body>");
out.println("<h1>hello sevlet</h1>");
out.println("</body>");
out.println("</html>");
}
/**
* @see HttpServlet#doPost(HttpServletRequest request, HttpServletResponse r
Outline
Task List
ex2
HelloServlet
serialVersionUID : long
HelloServlet()
doGet(HttpServletRequest, HttpServletResponse) : void
doPost(HttpServletRequest, HttpServletResponse) : void
Undo Typing Ctrl+Z
Revert File
Save Ctrl+S
Open Declaration F3
Open Type Hierarchy F4
Open Call Hierarchy Ctrl+Alt+H
Show in Breadcrumb Alt+Shift+B
Quick Outline Ctrl+O
Quick Type Hierarchy Ctrl+T
Open With
Show In Alt+Shift+W
Cut Ctrl+X
Copy Ctrl+C
Copy Qualified Name
Paste Ctrl+V
Quick Fix Ctrl+1
Source Alt+Shift+S
Refactor Alt+Shift+T
Local History
References
Declarations
Add to Snippets...
Coverage As
Run As
Debug As
Profile As
Team
Compare With
Replace With
Validate
Preferences...
Remove from Context Ctrl+Alt+Shift+Down
1 Run on Server Alt+Shift+X, R
Run Configurations...
Markers Properties Servers Data Source Explorer Snippets
Tomcat v9.0 Server at localhost [Stopped, Republish]
6 : 1265

Part 1

실행결과


Hello servlet
localhost:8080/WebLab/HelloServlet
hello sevlet

Part 2,

Request분석

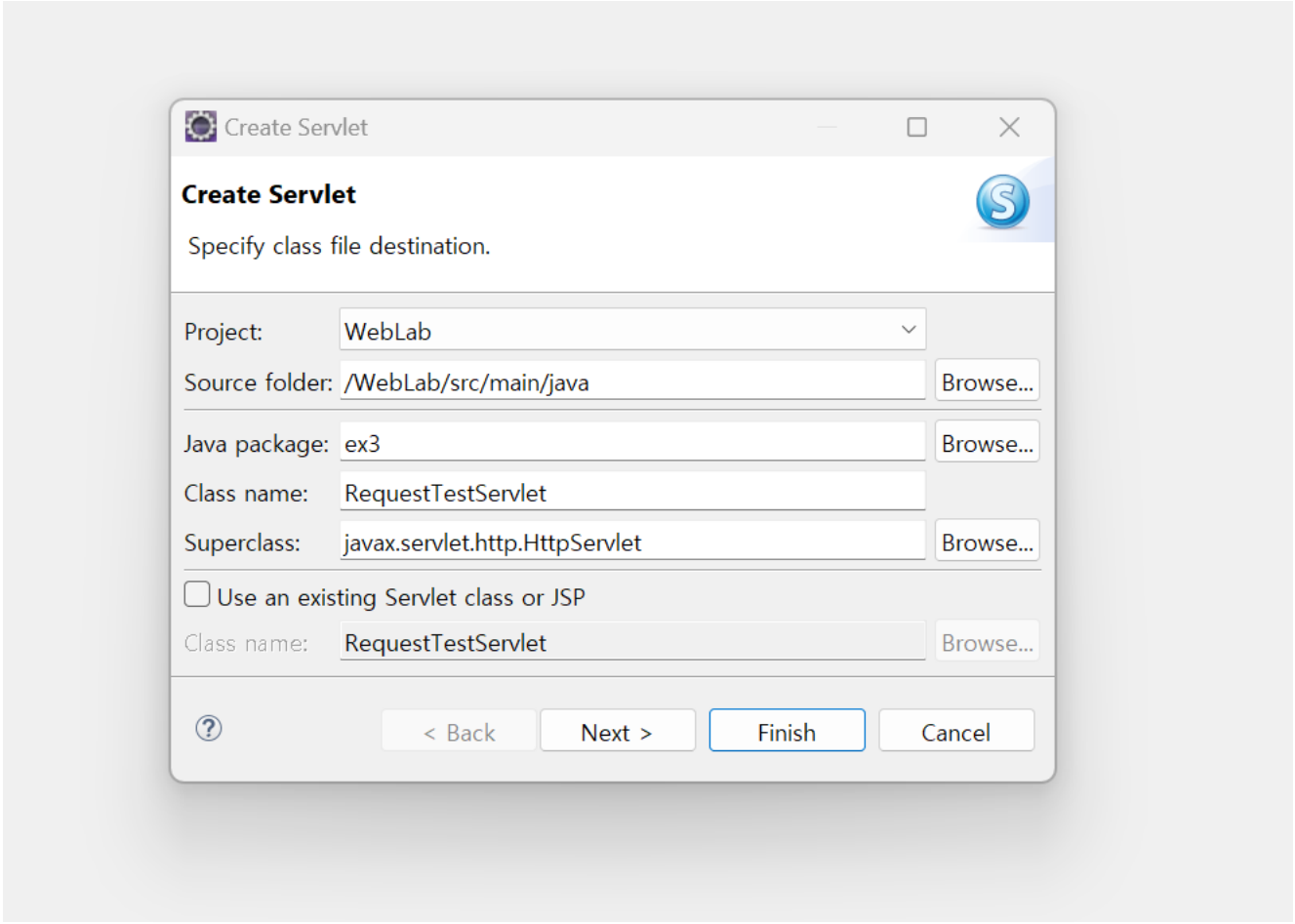
참고문헌

Request 분석


localhost:8080/WebLab/Request
localhost:8080/WebLab/RequestTestServlet
Request Test
method =GET
query =null
uri =/WebLab/RequestTestServlet
url =http://localhost:8080/WebLab/RequestTestServlet

Part 2

Request 분석



Request 분석

```
protected void doGet(HttpServletRequest request, HttpServletResponse
response) throws ServletException, IOException {
String method = request.getMethod();
String query = request.getQueryString();
String uri = request.getRequestURI();
String url = request.getRequestURL().toString();

PrintWriter out = response.getWriter();
out.println("<h1>Request Test</h1>");
out.println("method ="+method+"<br/>");
out.println("query ="+query+"<br/>");
out.println("uri ="+uri+"<br/>");
out.println("url ="+url+"<br/>");
}
```

Part 2

Request 분석

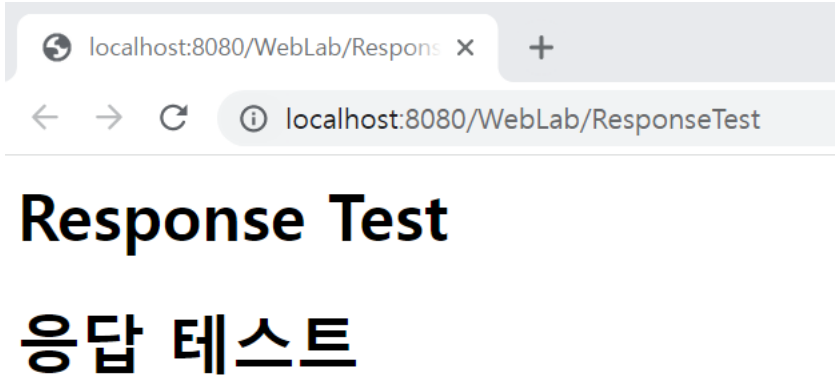
Part 3,

Response분석

참고문헌

Part 3

Response 분석



Response 분석

```
protected void doGet(HttpServletRequest request, HttpServletResponse response) throws
ServletException, IOException {
response.setContentType("text/html;charset=EUC-KR");
response.setHeader("chache-control","no-cache");
response.setHeader("expires","0");

PrintWriter out = response.getWriter();
out.println("<h1>Response Test</h1>");
out.println("<h1>응답 테스트</h1>");
}
```

Response 분석 – Redirect

Servlet1st.Java

```
protected void doGet(HttpServletRequest request, HttpServletResponse response)
throws ServletException, IOException {
PrintWriter out = response.getWriter();
out.println("<h1> I am One Servlet</h1>");

response.sendRedirect("Servlet2nd");
}
```

Servlet2nd.Java

```
protected void doGet(HttpServletRequest request, HttpServletResponse response)
throws ServletException, IOException {
PrintWriter out = response.getWriter();
out.println("<h1>TwoServlet</h1>");
}
```

Response 분석 – Forward

Servlet1st.Java

```
protected void doGet(HttpServletRequest request, HttpServletResponse response)
throws ServletException, IOException {
PrintWriter out = response.getWriter();
out.println("<h1> I am One Servlet</h1>");

RequestDispatcher rd = request.getRequestDispatcher("Servlet2nd");
rd.forward(request, response);
}
```

Servlet2nd.Java

```
protected void doGet(HttpServletRequest request, HttpServletResponse response)
throws ServletException, IOException {
PrintWriter out = response.getWriter();
out.println("<h1>TwoServlet</h1>");
}
```

Response 분석 – Include

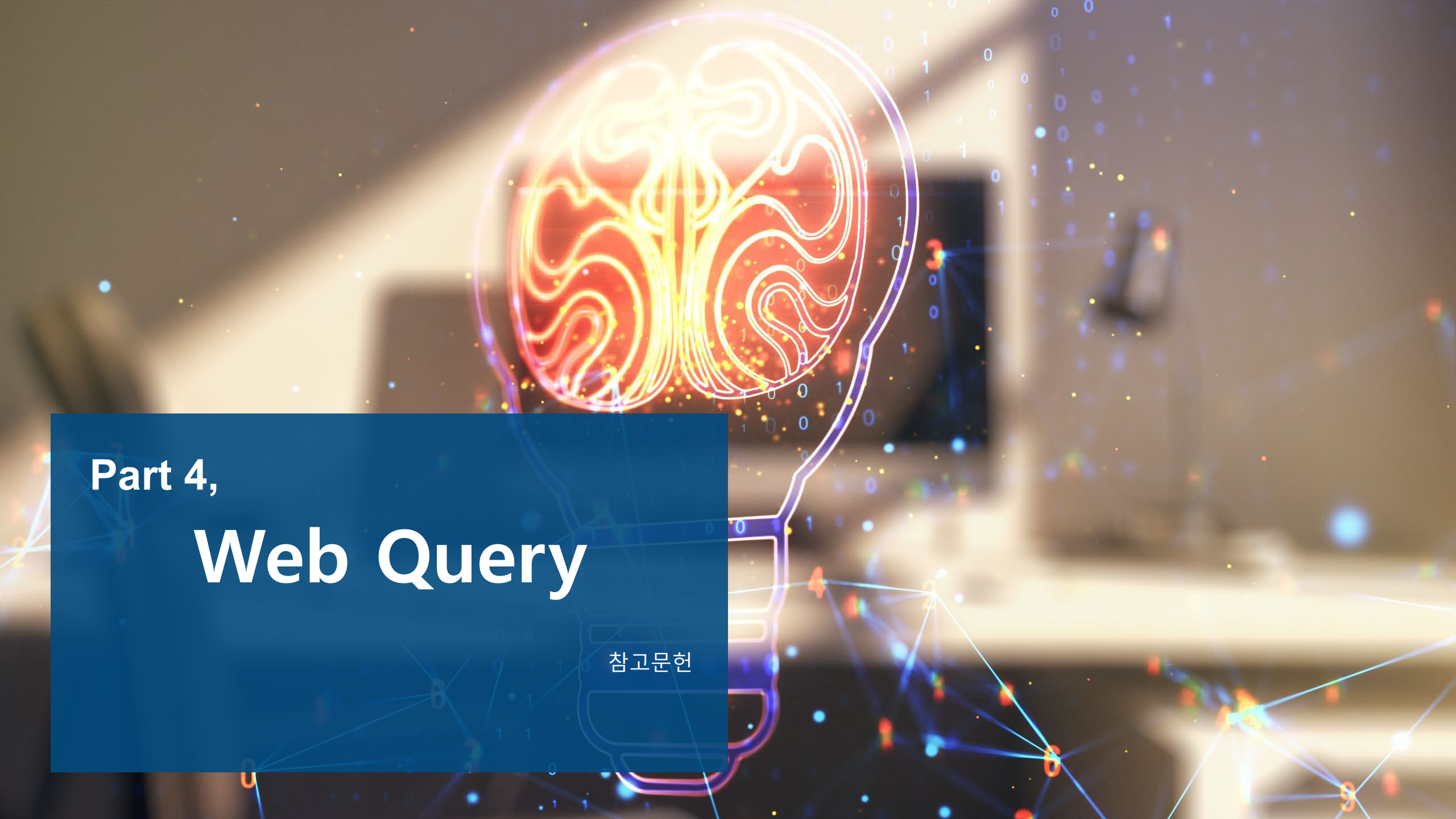
Servlet1st.Java

```
protected void doGet(HttpServletRequest request, HttpServletResponse response)
throws ServletException, IOException {
PrintWriter out = response.getWriter();
out.println("<h1> I am One Servlet</h1>");

RequestDispatcher rd = request.getRequestDispatcher("Servlet2nd");
rd.include(request, response);
}
```

Servlet2nd.Java

```
protected void doGet(HttpServletRequest request, HttpServletResponse response)
throws ServletException, IOException {
PrintWriter out = response.getWriter();
out.println("<h1>TwoServlet</h1>");
}
```



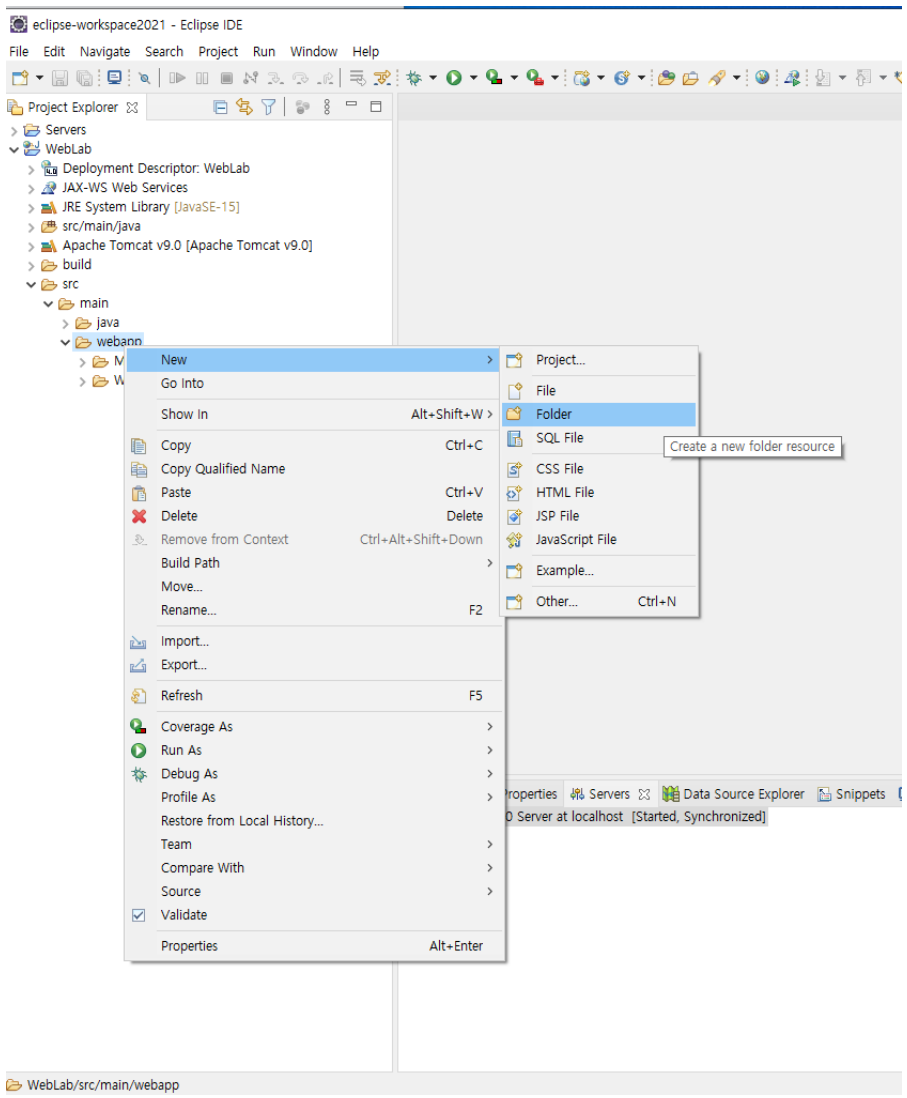
Part 4,

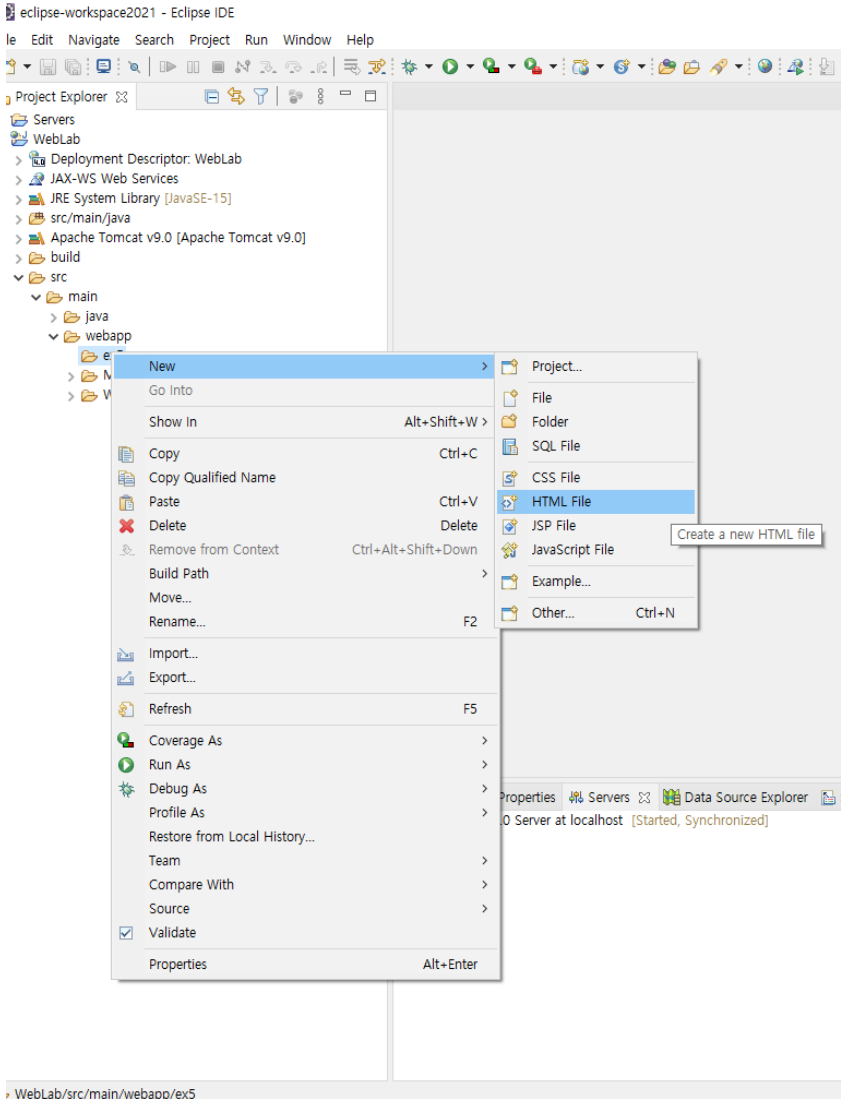
Web Query

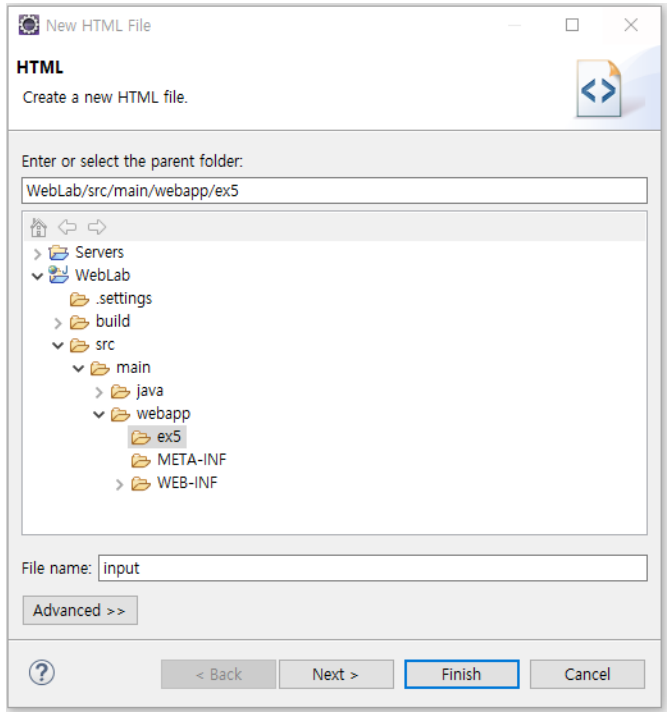
참고문헌

Part 4

Input HTML







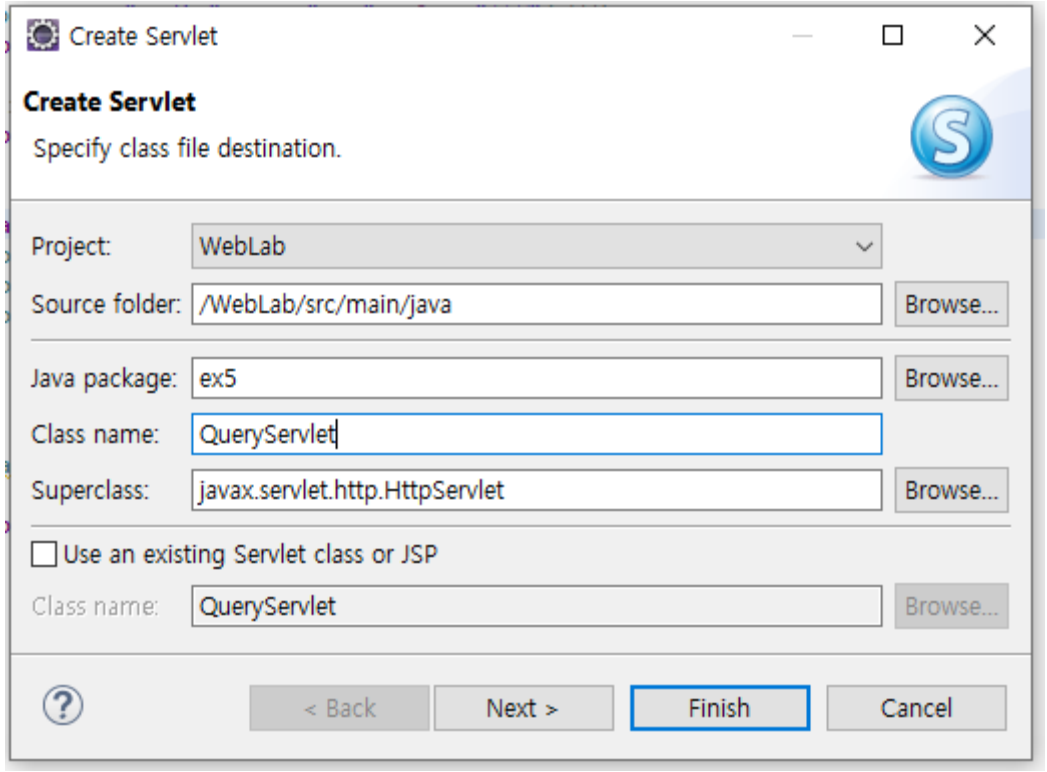
Part 4

Input HTML

```
<!DOCTYPE html>
<html>
<head>
<meta charset=“utf-8”>
<title>Insert title here</title>
</head>
<body>
<form method="get" action="/WebLab/QueryServlet">
name : <input type="text" name="name"/><br/>
password : <input type="password" name="password"/><br/>
성별 : <input type="radio" name="sex" value="남성"/>남성
<input type="radio" name="sex" value="여성"/>여성
<br/>
관심사항 : <input type="checkbox" name="favor" value="정치"/>정치
<input type="checkbox" name="favor" value="경제"/>경제
<br/>
직업
<select name="job">
<option>학생
<option>주부
<option>회사원
</select>
<br/>
자기소개
<textarea name="comments" rows="10" cols="35"></textarea>
</textarea>
<br/>
<input type="submit" value="전송"/>
</form>
</body>
</html>
```

Part 4

QueryServlet



Part 4

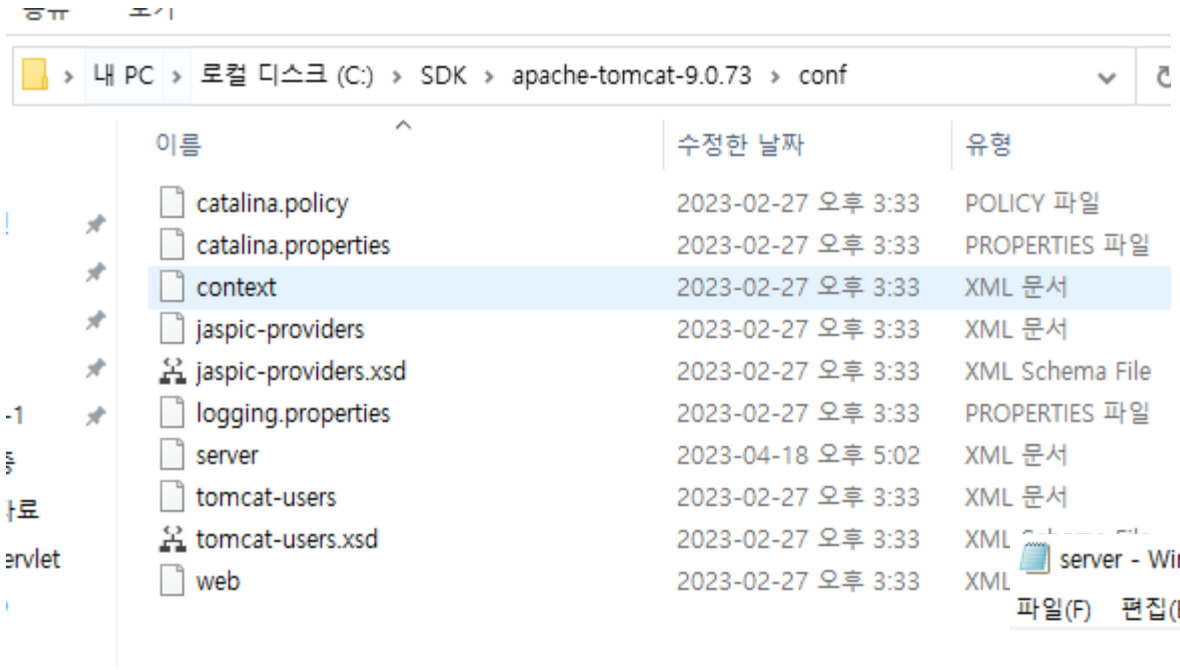
QueryServlet

```
protected void doGet(HttpServletRequest request, HttpServletResponse response) throws
ServletException, IOException {
request.setCharacterEncoding("euc-kr");
response.setContentType("text/html;charset=EUC-KR");

PrintWriter out = response.getWriter();
out.println("<h1>Query Test</h1>");
out.println("name :"+request.getParameter("name")+"<br/>");
out.println("password :"+request.getParameter("password")+"<br/>");
out.println("sex :"+request.getParameter("sex")+"<br/>");
out.println("관심사항 : ");
String favors[] = request.getParameterValues("favor");
for(String favor: favors) {
out.println(favor+",");
}
out.println("<br/>");
out.println("job :"+request.getParameter("job")+"<br/>");
out.println("comments: "+request.getParameter("comments"));
}
```

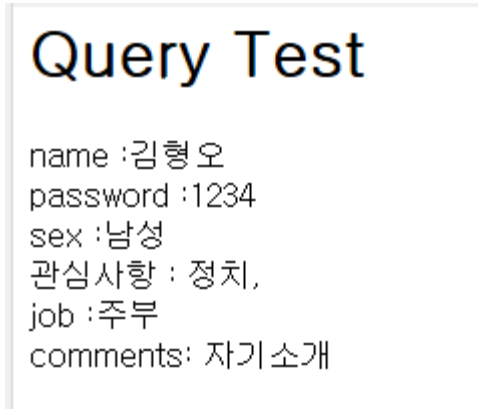
Part 4

Server.xml



Part 4

결과


Query Test
name :김형오
password :1234
sex :남성
관심사항 : 정치,
job :주부
comments: 자기소개

Part 5,

Servlet 설정

참고문헌

Error_code HTML

error_code.html

```
<!DOCTYPE html>
<html>
<head>
<meta charset="EUC-KR">
<title>Insert title here</title>
</head>
<body>
<h1>This Page is Error Code</h1>
</body>
</html>
```

error_page.html

```
<!DOCTYPE html>
<html>
<head>
<meta charset="EUC-KR">
<title>Insert title here</title>
</head>
<body>
<h1>This Page is Error Page</h1>
</body>
</html>
```

Part 5

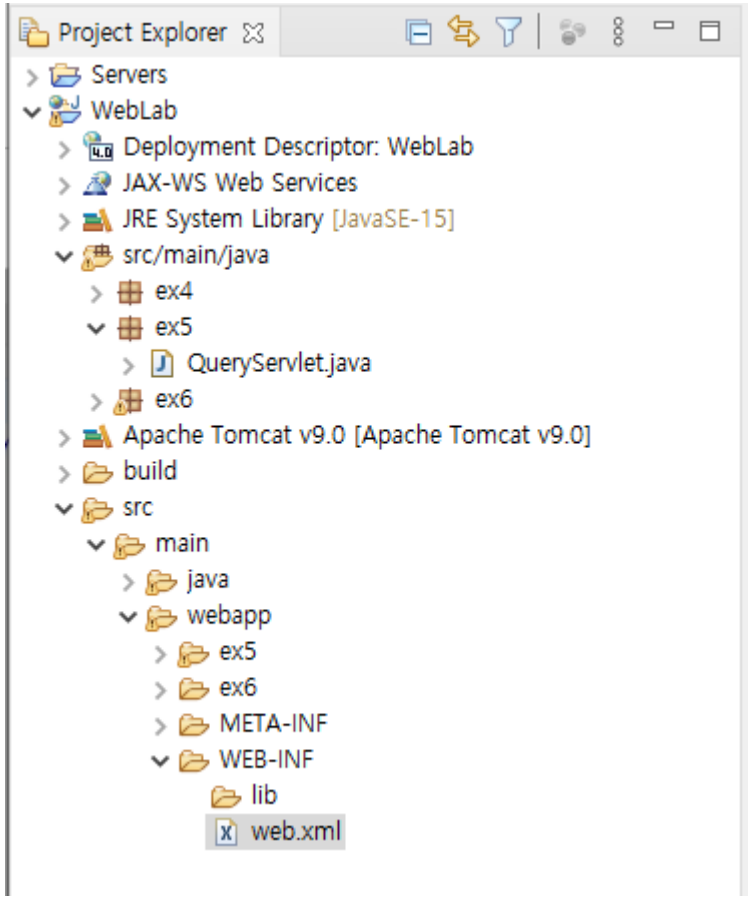
MyServlet.java

MyServlet.java

```
1  package ex6;
2
3  import java.io.IOException;
9
10 /**
11  * Servlet implementation class MyServlet
12  */
13 //@WebServlet("/MyServlet")
14 public class MyServlet extends HttpServlet {
15     private static final long serialVersionUID = 1L;
16
17     /**
18      * @see HttpServlet#HttpServlet()
19      */
20     public MyServlet() {
21         super();
22         // TODO Auto-generated constructor stub
23     }
24
25     /**
26      * @see HttpServlet#doGet(HttpServletRequest request, HttpServletResponse response)
27      */
28     protected void doGet(HttpServletRequest request, HttpServletResponse response) throws ServletEx
29         String data=null;
30         data.indexOf(0);
31     }
32
33     /**
34      * @see HttpServlet#doPost(HttpServletRequest request, HttpServletResponse response)
35      */
36     protected void doPost(HttpServletRequest request, HttpServletResponse response) throws ServletE
37         // TODO Auto-generated method stub
38         doGet(request, response);
39     }
40
41 }
42
```

Part 5

Web.xml



MyServlet.java | web.xml | Error_page.html

```xml
<?xml version="1.0" encoding="UTF-8"?>
<web-app xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns
  <display-name>WebLab</display-name>
  <welcome-file-list>
    <welcome-file>index.html</welcome-file>
    <welcome-file>index.htm</welcome-file>
    <welcome-file>index.jsp</welcome-file>
    <welcome-file>default.html</welcome-file>
    <welcome-file>default.htm</welcome-file>
    <welcome-file>default.jsp</welcome-file>
  </welcome-file-list>
  <error-page>
    <error-code>404</error-code>
    <location>/ex6/Error_page.html</location>
  </error-page>
  <error-page>
    <exception-type>java.lang.RuntimeException</exception-type>
    <location>/ex6/error_code.html</location>
  </error-page>
  <servlet>
    <servlet-name>MyServlet</servlet-name>
    <servlet-class>ex6.MyServlet</servlet-class>
    <init-param>
        <param-name>param1</param-name>
        <param-value>param1.data</param-value>
    </init-param>
    <init-param>
        <param-name>param2</param-name>
        <param-value>param2.data</param-value>
    </init-param>
  </servlet>
  <servlet-mapping>
    <servlet-name>MyServlet</servlet-name>
    <url-pattern>/test</url-pattern>
  </servlet-mapping>
</web-app>
```

Part 5

Annotation

web.xml | MyServlet.java | http://localhost:8080/WebLab/url1

```
 6 import javax.servlet.ServletException;
 8 import javax.servlet.annotation.WebInitParam;
 9 import javax.servlet.http.HttpServlet;
10 import javax.servlet.http.HttpServletRequest;
11 import javax.servlet.http.HttpServletResponse;
12
13 /**
14  * Servlet implementation class MyServlet
15  */
16 @WebServlet(
17         urlPatterns = {
18                 "/url1",
19                 "/url2"
20         },
21         initParams = {
22                 @WebInitParam(name="param1", value="param1.data"),
23                 @WebInitParam(name="param2", value="param2.data")
24         }
25         )
26 public class MyServlet extends HttpServlet {
27     private static final long serialVersionUID = 1L;
28
29     /**
30      * @see HttpServlet#HttpServlet()
31      */
32     public MyServlet() {
33         super();
34         // TODO Auto-generated constructor stub
35     }
36
37     /**
38      * @see HttpServlet#doGet(HttpServletRequest request, HttpServletResponse response)
39      */
40     protected void doGet(HttpServletRequest request, HttpServletResponse response) throws ServletEx
41         PrintWriter out = response.getWriter();
42         out.println("<h1>param test</h1>");
43         String param1 = getInitParameter("param1");
44         String param2 = getInitParameter("param2");
45         out.println("param : "+param1+","+param2);
46     }
47
48     /**
49      * @see HttpServlet#doPost(HttpServletRequest request, HttpServletResponse response)
50      */
```

경청해주셔서 감사합니다.