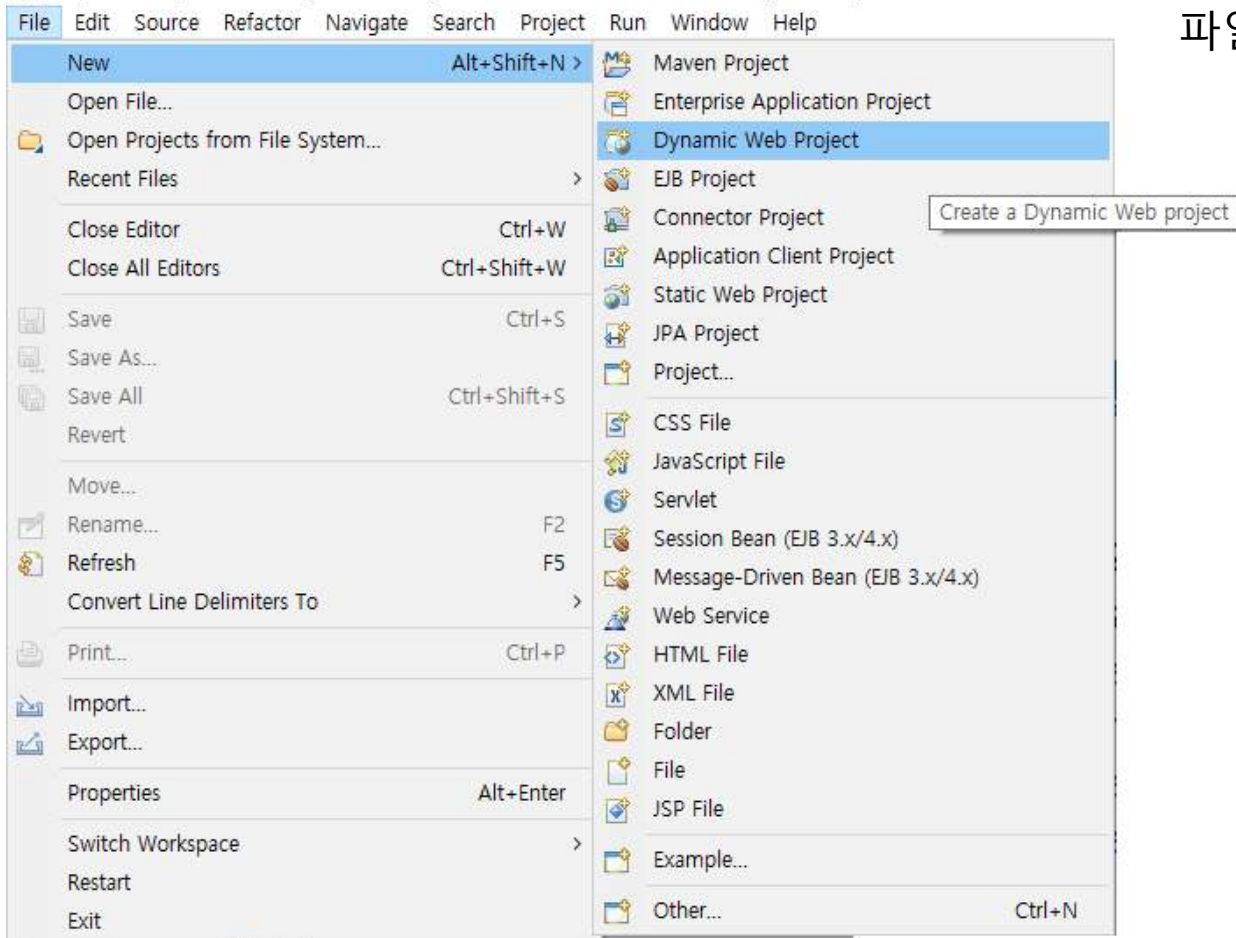


게시판 만들기

eclipse-workspace - testProject/src/main/java/controller/TestFrontController.java - Eclipse IDE



파일 => New => Dynamic Web Project를 선택

New Dynamic Web Project

Dynamic Web Project

Create a standalone Java-based Web Application or add it to a new or existing Enterprise Application.

Project name: board

Project location

☒ Use default location

Location: C:\Users\whk002\workspace\board Browse...

Target runtime

Apache Tomcat v9.0 New Runtime...

Dynamic web module version

4.0

Configuration

Default Configuration for Apache Tomcat v9.0 Modify...

A good starting point for working with Apache Tomcat v9.0 runtime. Additional facets can later be installed to add new functionality to the project.

EAR membership

☐ Add project to an EAR

EAR project name: EAR New Project...

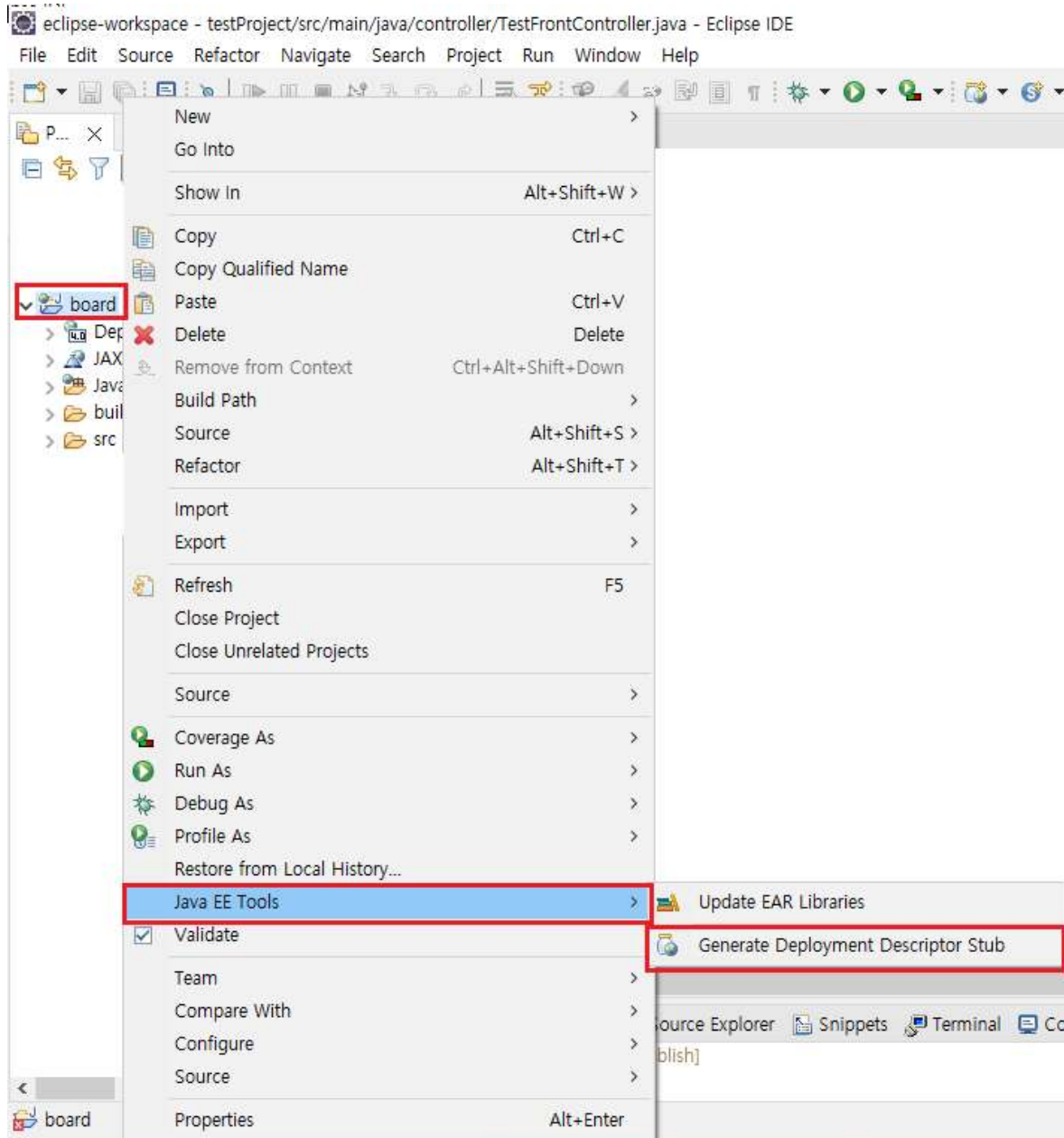
Working sets

☐ Add project to working sets New...

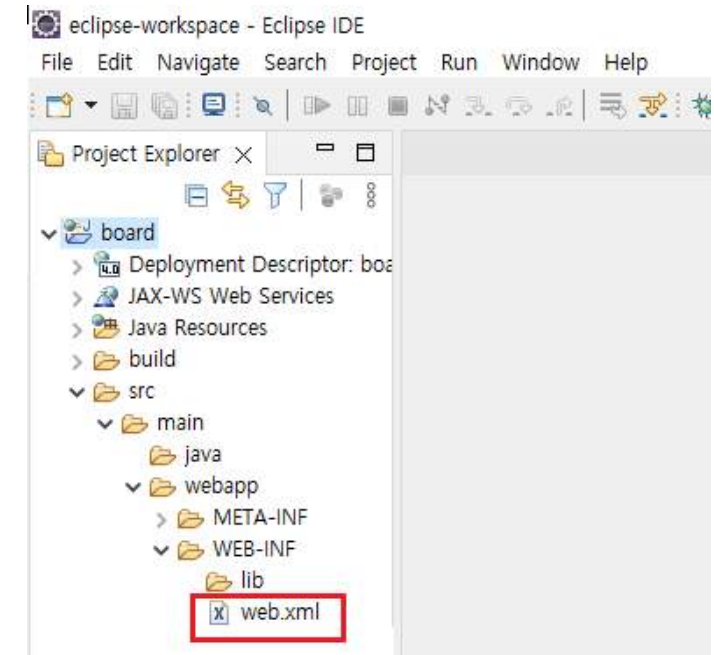
Working sets: Select...

< Back Next > Finish Cancel

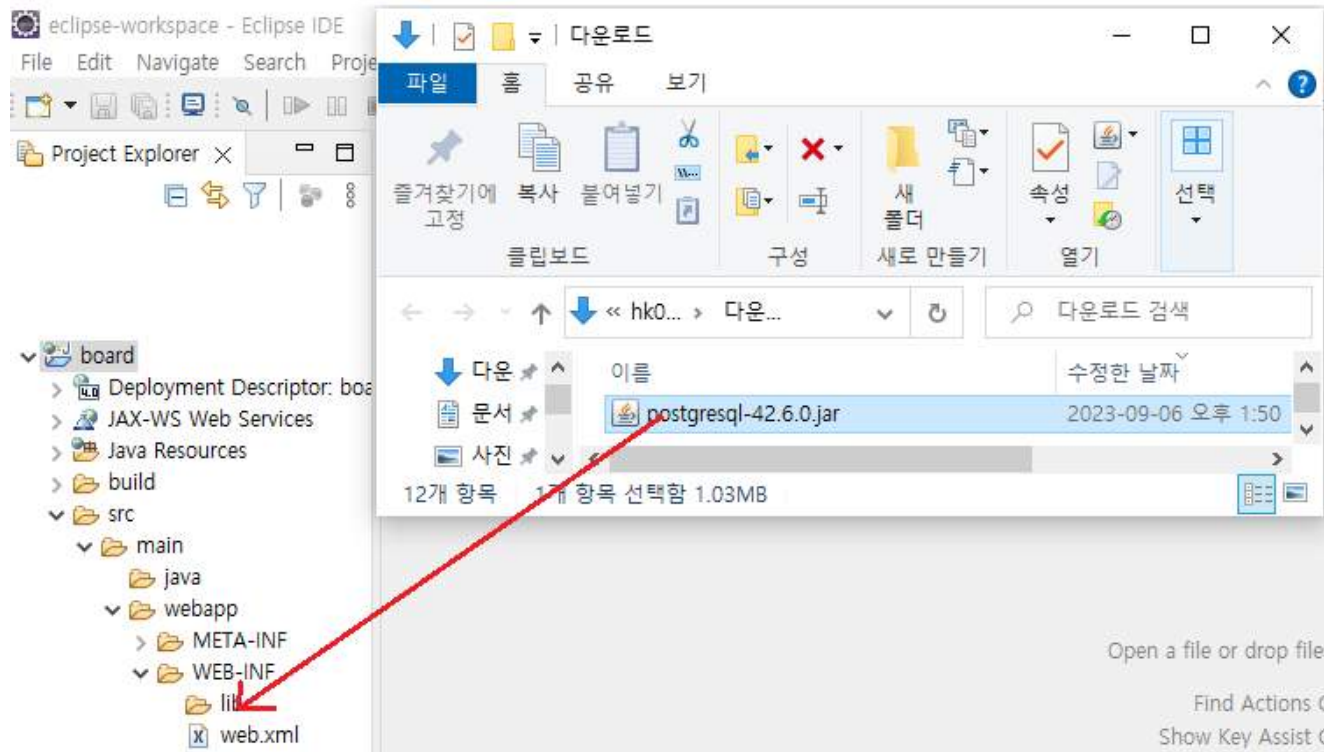
Project name에 "board"라는 이름을 주고 [Finish]를 클릭



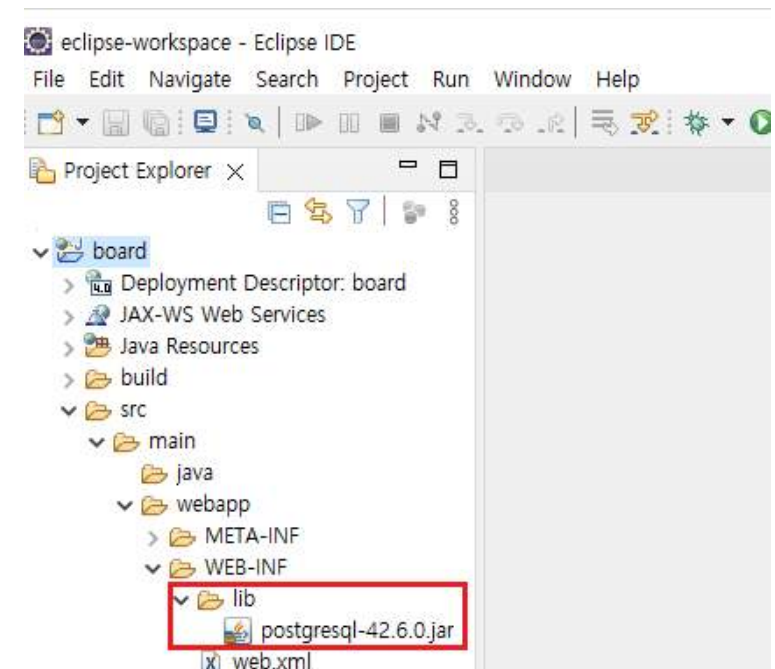
프로젝트명에서 마우스 오른쪽키를 눌러 팝업메뉴가 나오도록 한다.



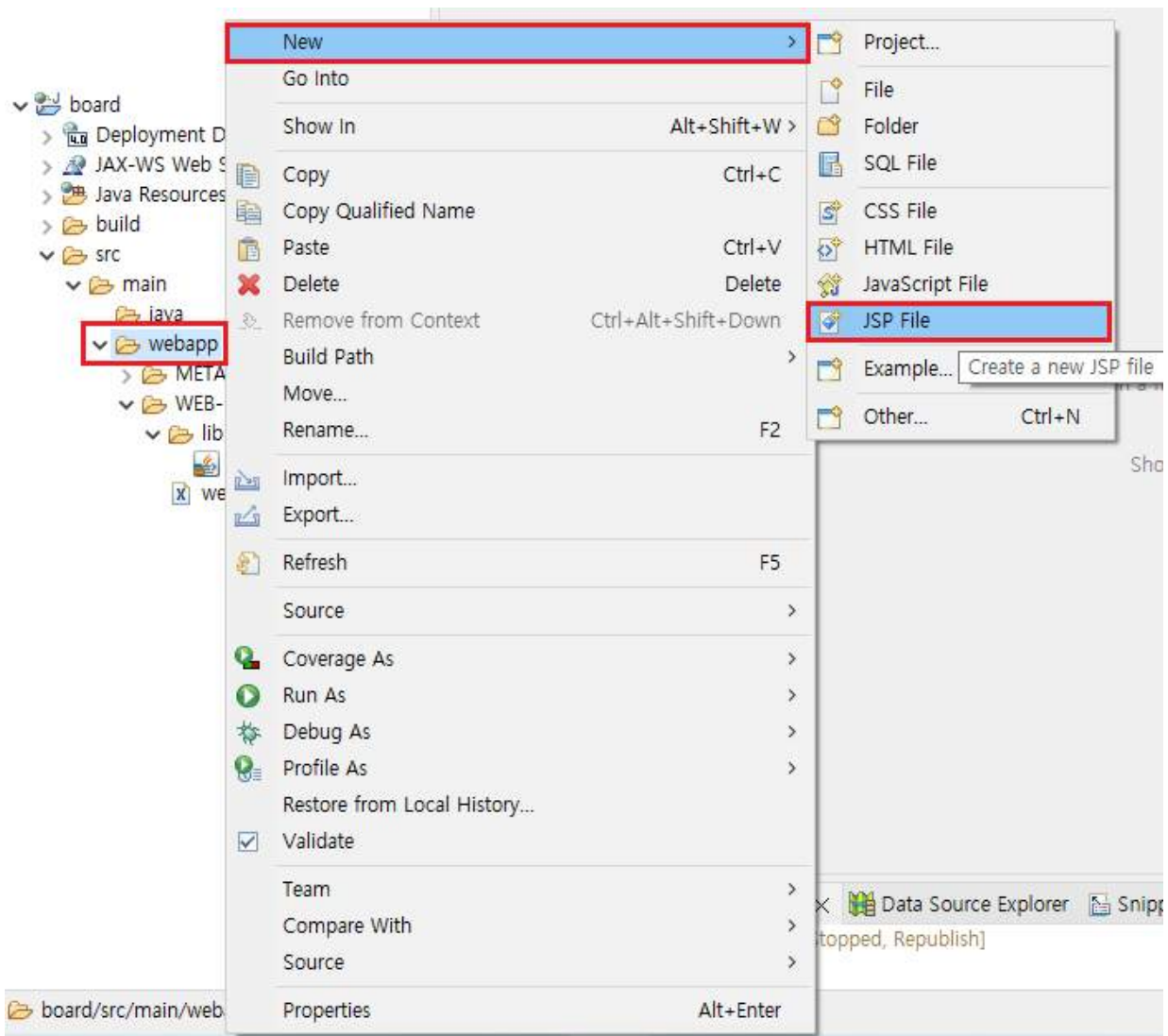
WEB-INF밑에 web.xml파일이 만들어졌는지 확인한다.

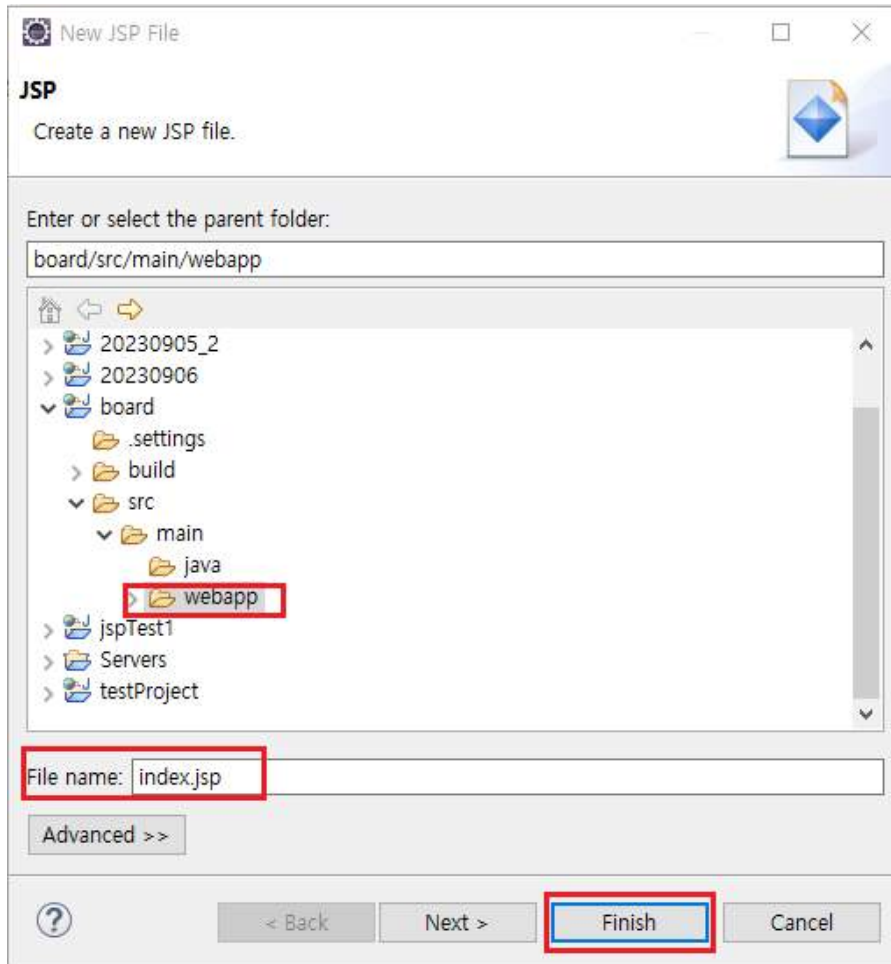


Postgresql-xx.xx.x.jar 파일을 다운받아 WEB-INF폴더 밑에 있는 lib폴더에 드래그하여 파일을 복사한다.



Postgresql-xx.xx.x.jar 파일이 복사되었는지 확인



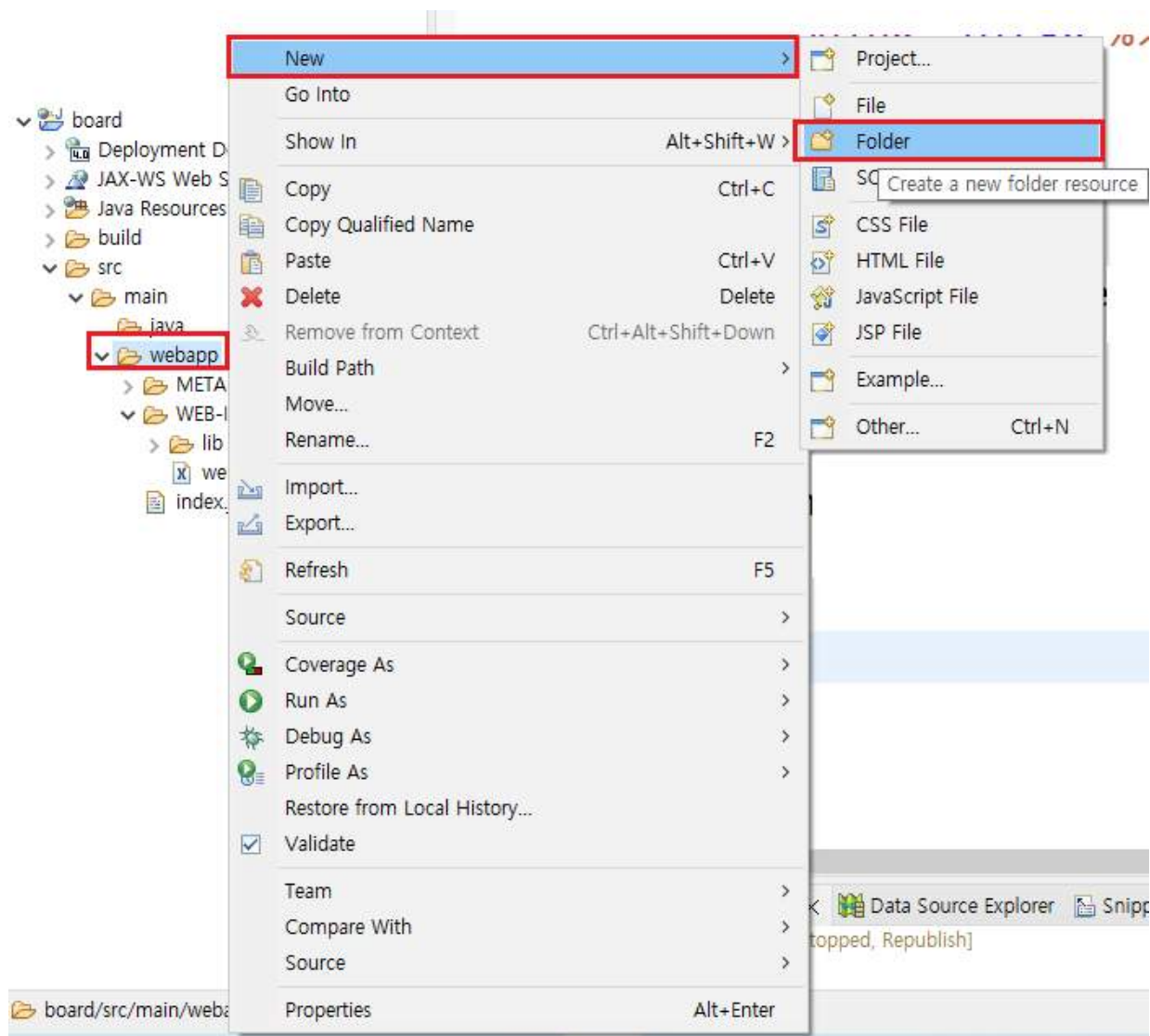


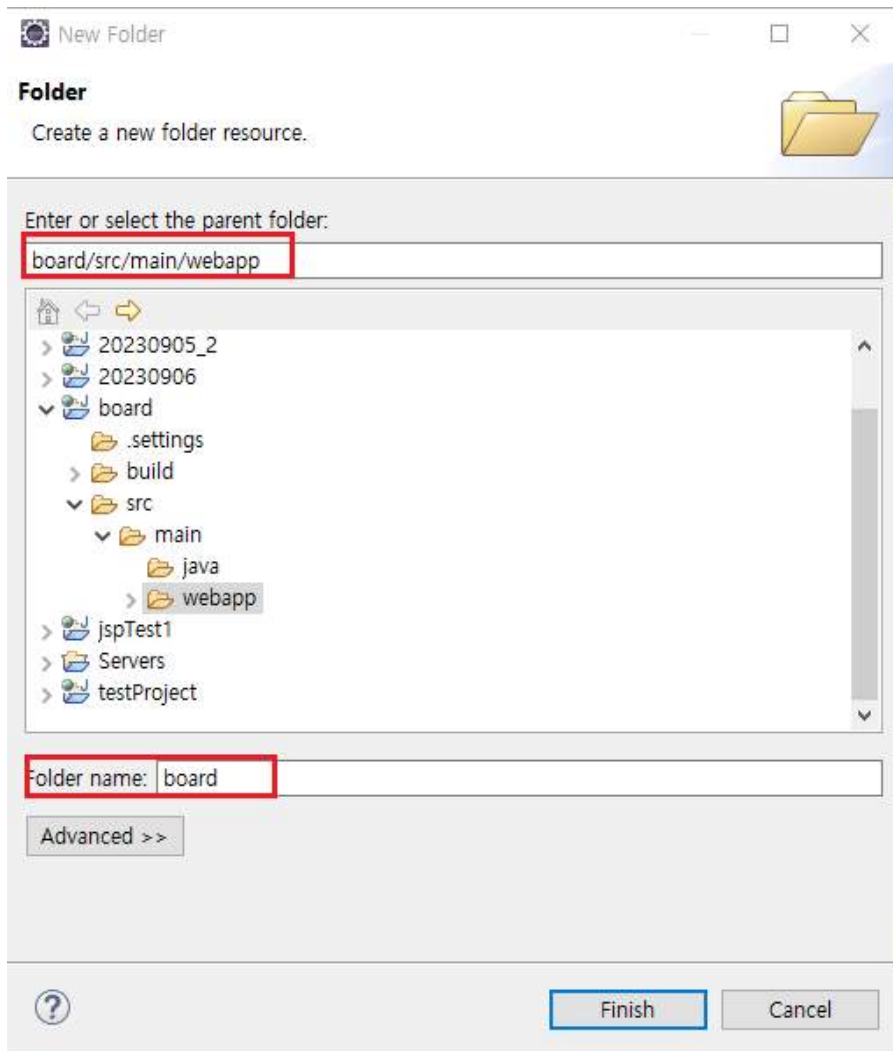
index.jsp파일을 만들어준다.

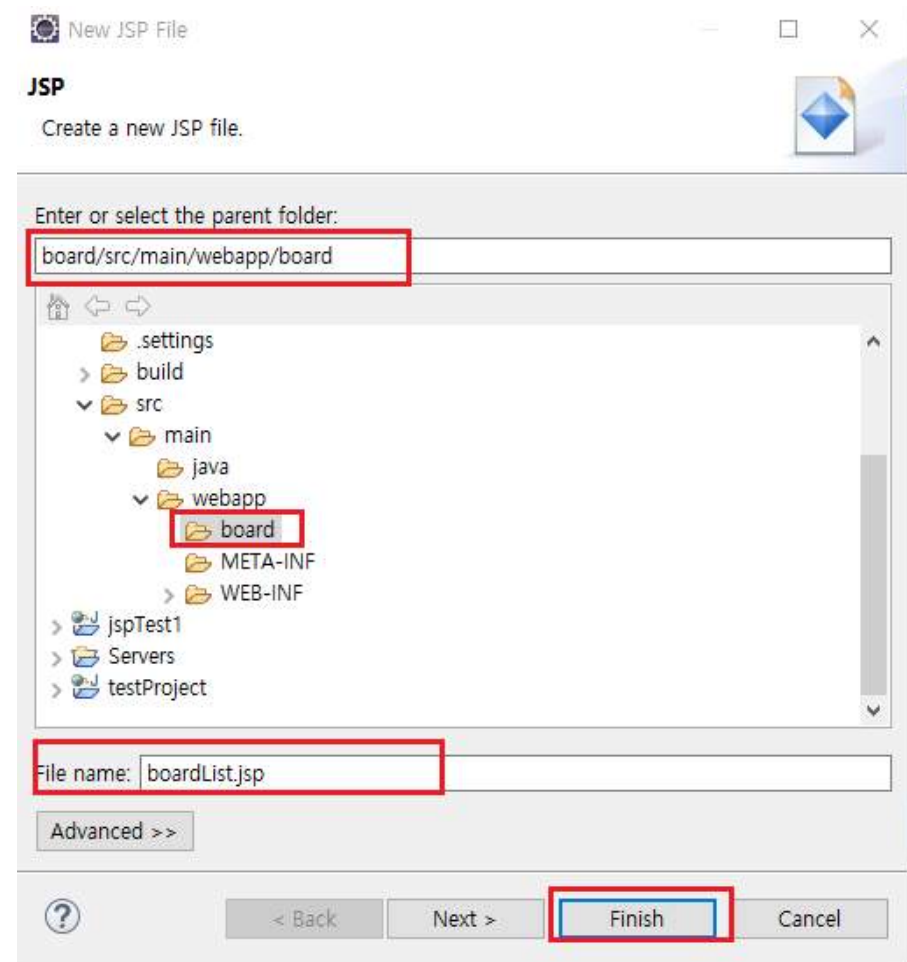
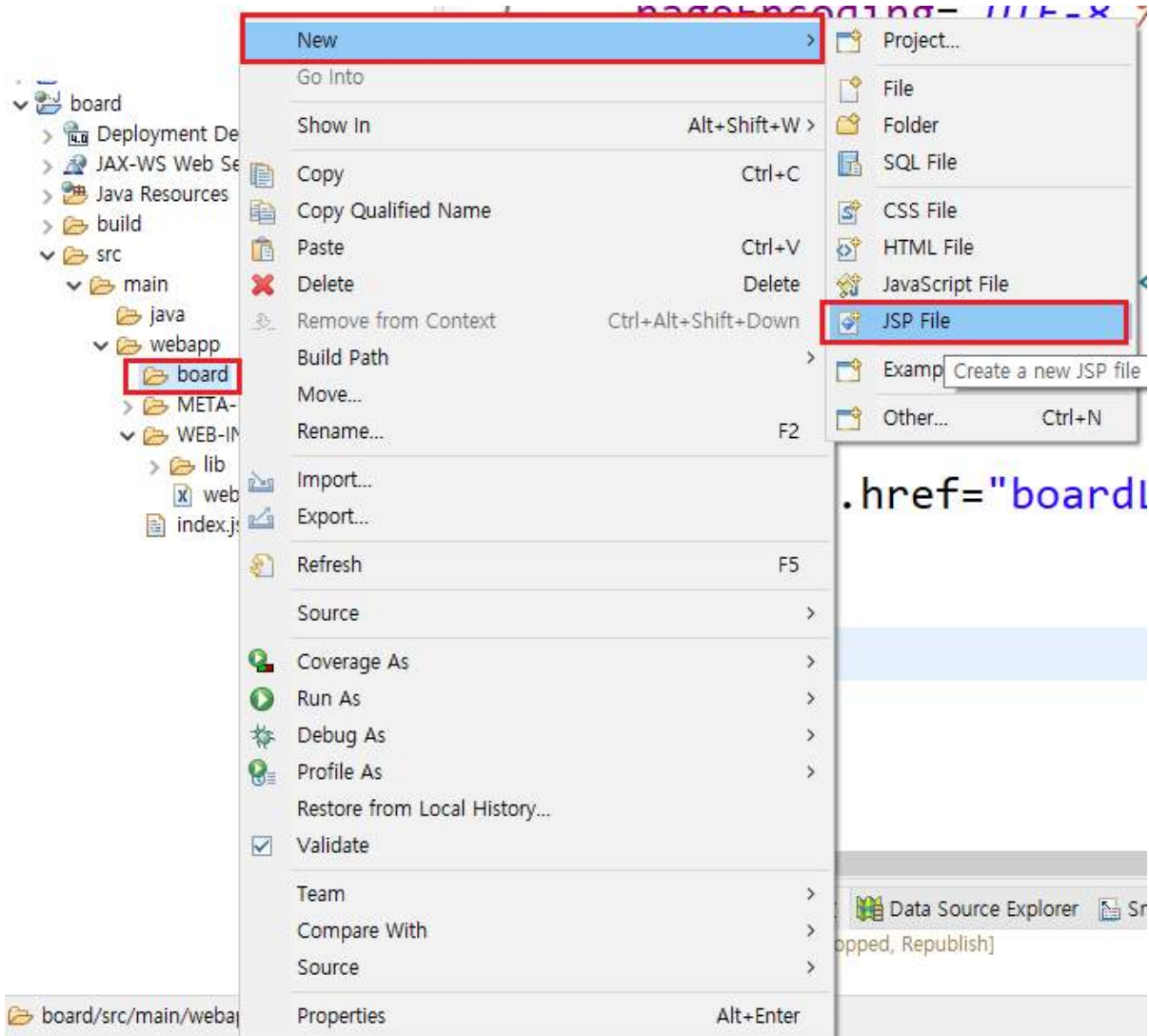
index.jsp파일을 만들어주면 첫 페이지로 자동으로 열리게 된다.

Index.jsp파일에 첫페이지가 될 주소를 적어준다.

```
<!DOCTYPE html>
<html>
<head>
<meta charset= "UTF-8">
<title>Insert title here</title>
</head>
  <body>
    <script>
      location.href="boardList.naver"
    </script>
  </body>
</html>
```





먼저 게시물 쓰기가 있어야 한다.

게시판 리스트 페이지가 필요하므로 board/boardList.jsp 파일을 생성시킨다.

```
<!DOCTYPE html>
<html>
<head>
<meta charset= "UTF-8">
<title>Insert title here</title>
</head>
  <body>
    게시물 목록<br />
  </body>
</html>
```


New Java Class

Java Class
Create a new Java class.

Source folder: board/src/main/java Browse...

Package: controller Browse...

☐ Enclosing type: Browse...

Name: BoardFrontController

Modifiers: ☒ public ☐ package ☐ private ☐ protected
☐ abstract ☐ final ☐ static
☒ none ☐ sealed ☐ non-sealed ☐ final

Superclass: java.lang.Object Browse...

Interfaces: Add... Remove

Which method stubs would you like to create?
☐ public static void main(String[] args)
☐ Constructors from superclass
☒ Inherited abstract methods

Do you want to add comments? (Configure templates and default value [here](#))
☐ Generate comments

? < Back Next > Finish Cancel

리스트 페이지가 열리도록하기 위해 FrontController를 만들어주어야 한다.

java resource에서 BoardFrontController클래스 파일을 만들어준다.

패키지는 controller로 하도록 하겠다.

```
package controller;
```

```
public class BoardFrontController {
```

```
}
```

extends HttpServlet **implements** javax.servlet.Servlet를 클래스에 상속을 시켜야한다.

```
public class BoardFrontController extends HttpServlet  
    implements Servlet{
```

```
}
```

상속을 시킨 후 ctrl + shift + o를 눌러서 import를 시킨다.

Ctrl + space키를 눌러

@Override

```
protected void doGet(HttpServletRequest request, HttpServletResponse response)  
throws ServletException, IOException {
```

```
}
```

@Override

```
protected void doPost(HttpServletRequest request, HttpServletResponse response)  
throws ServletException, IOException {
```

```
}
```

를 추가한다. 그리고 ctrl + shift + o를 눌러서 import를 시킨다.

먼저 boardList.jsp 파일이 웹브라우저에서 열리도록 컨트롤러에 코드를 작성한다. 처음 페이지는 get방식이므로 doGet메서드에 작성을 한다.

먼저 주소를 찾기 위해 URI와 contextPath를 불러온 후 뒤 주소만 가져오기 위해 substring을 사용해서 가지고 온다.

```
protected void doGet(HttpServletRequest request,  
                     HttpServletResponse response) throws ServletException,  
                     IOException {
```

```
    String requestURI = request.getRequestURI();  
    String contextPath = request.getContextPath();  
    String command = requestURI.substring(contextPath.length());
```

```
}
```

주소를 가지고 온후 주소가 /boardList.board인지 확인 할수 있게 조건문을 사용한다.

```
protected void doGet(HttpServletRequest request,  
                     HttpServletResponse response) throws  
ServletException, IOException {
```

```
...
```

```
if(command.equals("/boardList.naver")) {
```

```
    RequestDispatcher dispatcher =  
        request.getRequestDispatcher("/board/boardList.jsp");  
    dispatcher.forward(request, response);
```

```
}
```

```
}
```

WEB-INF밑에 있는 web.xml에 servlet을 추가한다.

... 상략

```
</welcome-file-list>
```

```
<servlet>
```

```
<servlet-name>board</servlet-name>
```

```
<servlet-class>controller.BoardFrontController</servlet-class>
```

```
</servlet>
```

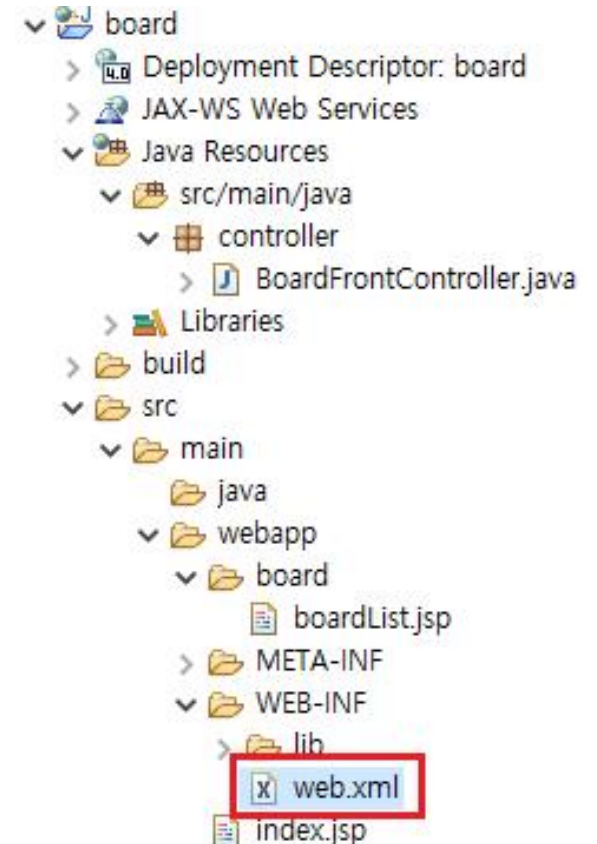
```
<servlet-mapping>
```

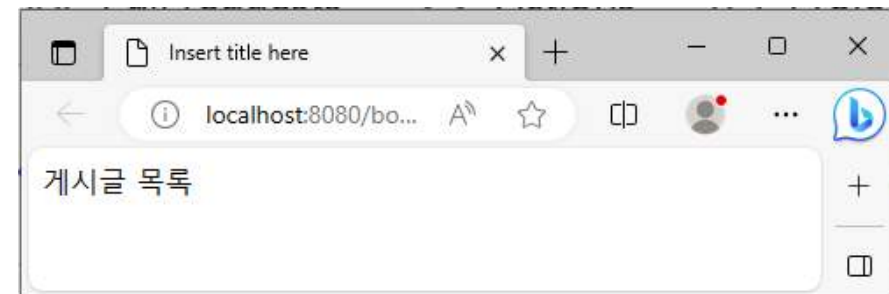
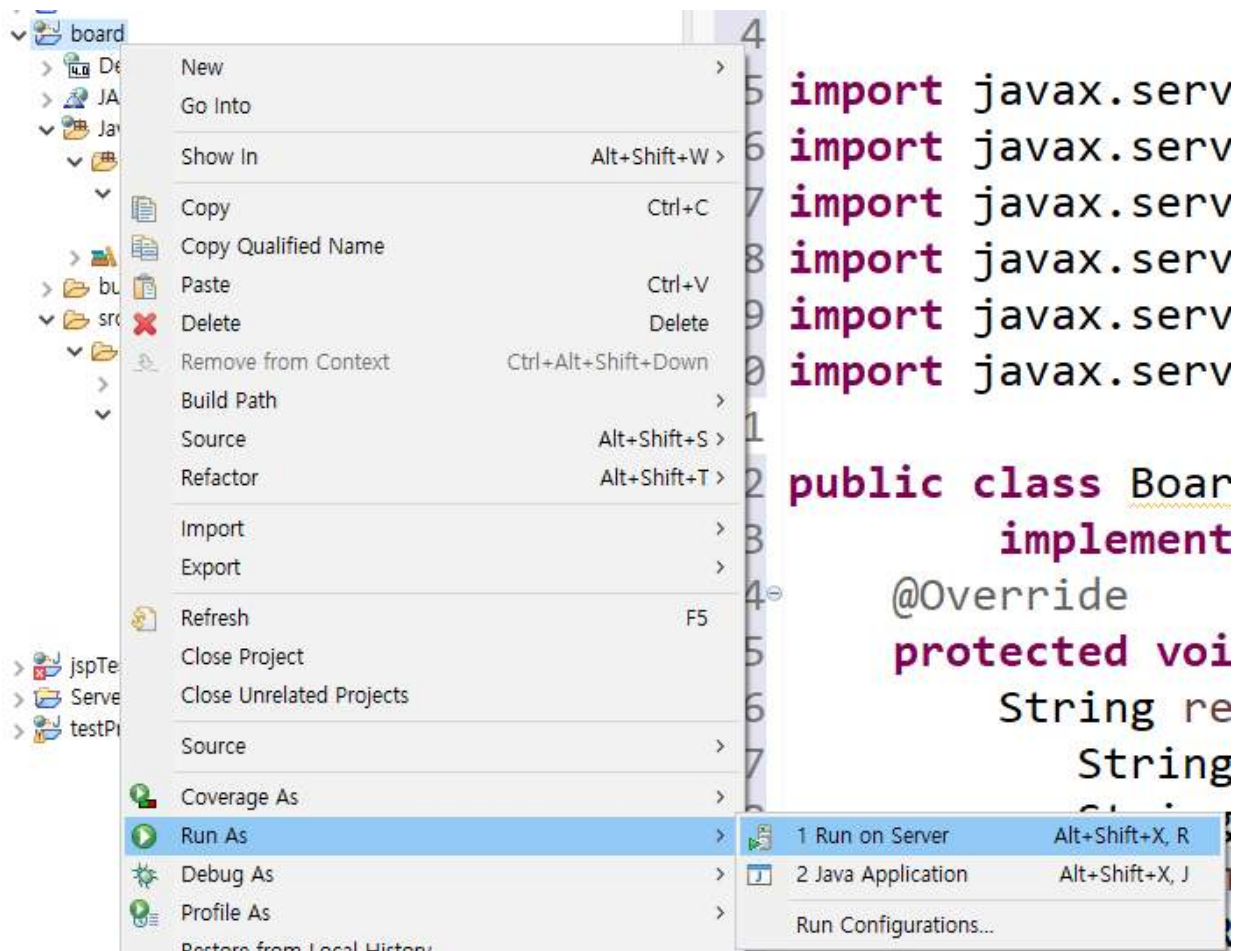
```
<servlet-name>board</servlet-name>
```

```
<url-pattern>*.naver</url-pattern>
```

```
</servlet-mapping>
```

```
</web-app>
```





boardList.jsp에 글쓰기 링크가 있다.

```
<!DOCTYPE html>
```

```
<html>
```

```
<head>
```

```
<meta charset= "UTF-8">
```

```
<title>Insert title here</title>
```

```
</head>
```

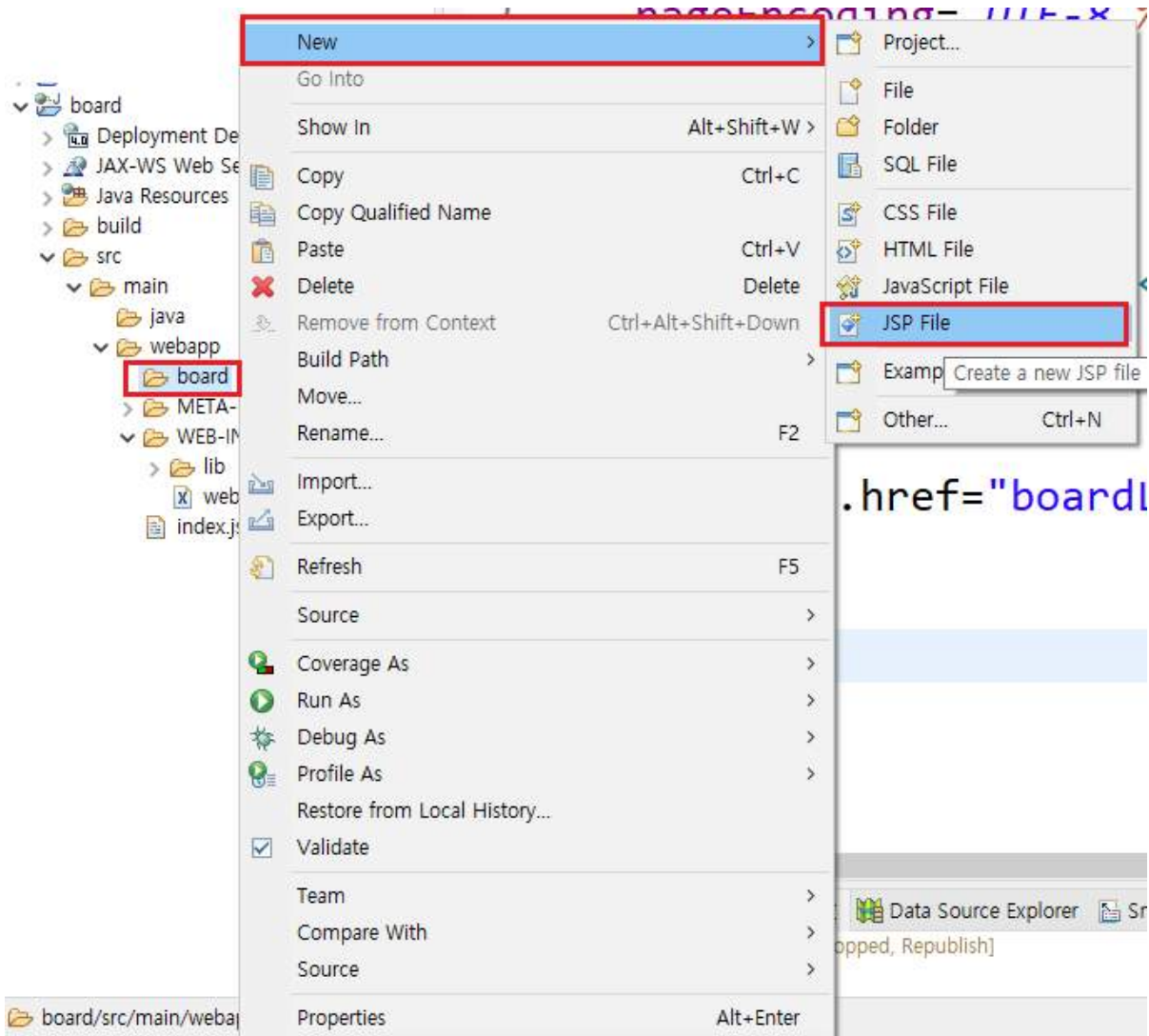
```
<body>
```

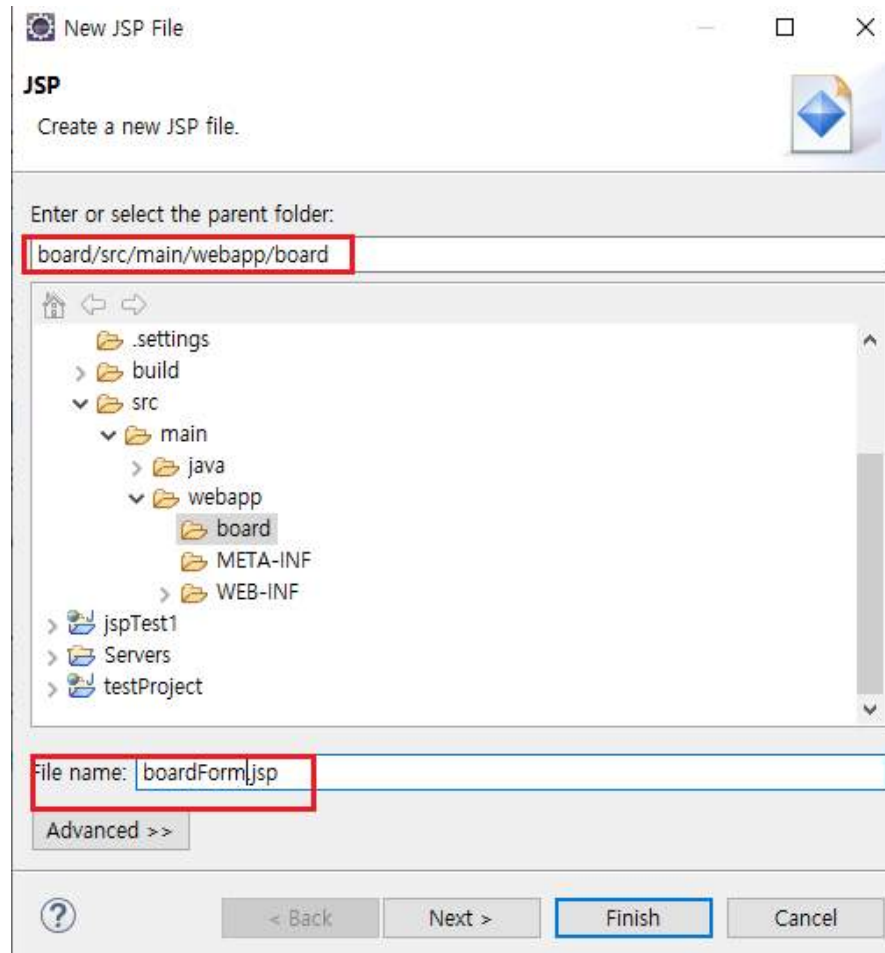
```
게시글 목록<br />
```

```
<a href="boardWrite.naver">글쓰기</a>
```

```
</body>
```

```
</html>
```





먼저 "boardWrite.naver"주소에서 열릴 boardForm.jsp파일을 만들어야 할 것이다.

Webapps 밑에boardFrom.jsp를 만든다.

```
<form action= "#" method= "#">
```

```
    <table>
```

```
        <caption>게시글 쓰기</caption>
```

```
        <tr><td>글쓴이</td>
```

```
            <td><input type= "text" name= "boardWriter"> </td>
```

```
        </tr>
```

```
        <tr><td>제목</td>
```

```
            <td><input type= "text" name= "boardSubject"> </td>
```

```
        </tr>
```

```
        <tr><td>내용</td>
```

```
            <td><textarea rows= "6" cols= "40" name= "boardContent"> </textarea> </td>
```

```
        </tr>
```

```
        <tr><th colspan=2>
```

```
            <input type= "submit" value= "게시글 등록">
```

```
        </th> </tr>
```

```
    </table>
```

```
</form>
```


다시 BoardFrontController 를 열어서 내용을 추가한다.

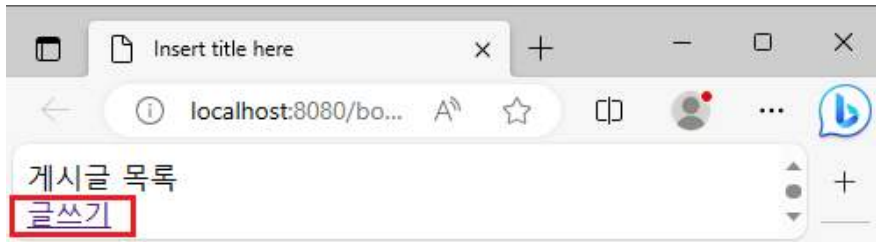


```
8 import javax.servlet.http.HttpServlet;
9 import javax.servlet.http.HttpServletRequest;
10 import javax.servlet.http.HttpServletResponse;
11
12 public class BoardFrontController extends HttpServlet
13     implements Servlet{
14     @Override
15     protected void doGet(HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException {
16         String requestURI = request.getRequestURI();
17         String contextPath = request.getContextPath();
18         String command = requestURI.substring(contextPath.length());
19         if(command.equals("/boardList.naver")) {
20             RequestDispatcher dispatcher =
21                 request.getRequestDispatcher("/board/boardList.jsp");
22             dispatcher.forward(request, response);
23         }
24     }
25
26     @Override
27     protected void doPost(HttpServletRequest req, HttpServletResponse resp) throws ServletException, IOException {
28         // TODO Auto-generated method stub
29         super.doPost(req, resp);
30     }
31 }
```

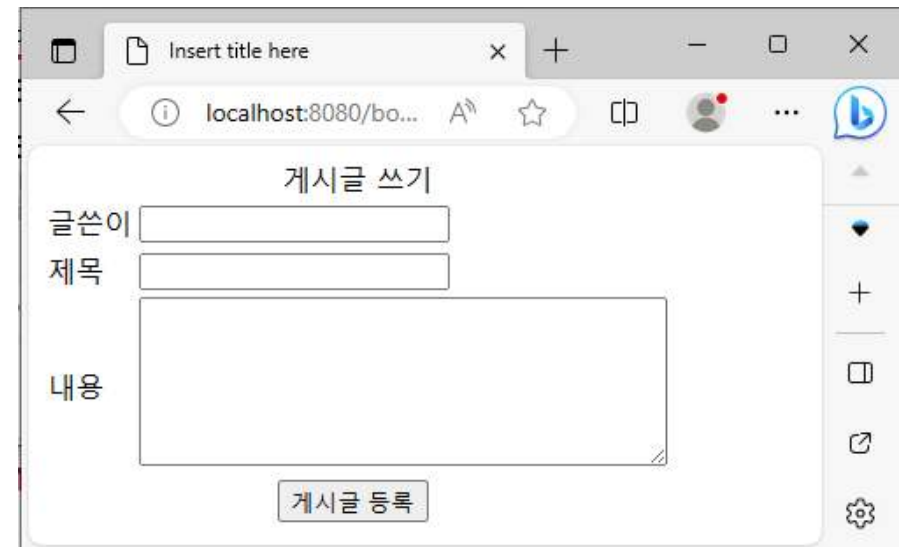
FrontController에서 boardForm.jsp파일을 웹브라우저에 전송하는 코드를 작성해준다.

```
public class BoardFrontController extends HttpServlet
    implements javax.servlet.Servlet{
@Override
    protected void doGet(HttpServletRequest request,
        HttpServletResponse response) throws.
        ServletException, IOException {
    ...
    if(){
    ...
    }else if(command.equals("/boardWrite.naver")){
        RequestDispatcher dispatcher =
            request.getRequestDispatcher("/board/boardForm.jsp");
        dispatcher.forward(request, response);
    }
}
```

현 페이지를 새로 고침(F5)해서 다음처럼 나오는지 확인



글쓰기(boardWrite.naver)를 클릭하면 다음페이지가 열리는 지 확인 해보자



먼저 "boardWrite.naver"주소에서 열릴 boardForm.jsp파일을 만들어야 할 것이다.

Webapps 밑에boardFrom.jsp를 만든다.

```
<form action= "boardRegist.naver" method= "post">
    <table>
        <caption>게시글 쓰기</caption>
        <tr><td>글쓴이</td>
            <td><input type= "text" name= "boardWriter"> </td>
        </tr>
        <tr><td>제목</td>
            <td><input type= "text" name= "boardSubject"> </td>
        </tr>
        <tr><td>내용</td>
            <td><textarea rows= "6" cols= "40" name= "boardContent"> </textarea> </td>
        </tr>
        <tr><th colspan=2>
            <input type= "submit" value= "게시글 등록">
        </th> </tr>
    </table>
</form>
```

다시 BoardFrontController 를 열어서 내용을 추가한다.



```
8 import javax.servlet.http.HttpServlet;
9 import javax.servlet.http.HttpServletRequest;
10 import javax.servlet.http.HttpServletResponse;
11
12 public class BoardFrontController extends HttpServlet
13     implements Servlet{
14     @Override
15     protected void doGet(HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException {
16         String requestURI = request.getRequestURI();
17         String contextPath = request.getContextPath();
18         String command = requestURI.substring(contextPath.length());
19         if(command.equals("/boardList.naver")) {
20             RequestDispatcher dispatcher =
21                 request.getRequestDispatcher("/board/boardList.jsp");
22             dispatcher.forward(request, response);
23         }
24     }
25
26     @Override
27     protected void doPost(HttpServletRequest req, HttpServletResponse resp) throws ServletException, IOException {
28         // TODO Auto-generated method stub
29         super.doPost(req, resp);
30     }
31 }
```

post방식이므로 doPost메서드에 작성을 한다.
먼저 주소를 찾기 위해 URI와 contextPath를 불러온 후 뒤 주소만 가져
오기 위해 substring을 사용해서 가지고 온다.

```
protected void doPost(HttpServletRequest request,  
                     HttpServletResponse response) throws ServletException,  
                     IOException {
```

```
    String requestURI = request.getRequestURI();  
    String contextPath = request.getContextPath();  
    String command = requestURI.substring(contextPath.length());
```

```
}
```

FrontController에 의해 boardForm.jsp가 웹브라우저에 열리면 자료항목에 자료를 작성을 하고 submit을 하게 된다.

Submit이 된 데이터는 서버단에서 저장이 된 후 목록페이지로 넘어가게 된다.

일단 boardForm.jsp에서 submit을 하면 *boardRegist.board*로 전송이 되고 다시 목록 페이지가 열려야 하므로 *boardRegist.board*

에서 목록 페이지로 가게 FrontController에 작성을 한다,

protected void doPost(HttpServletRequest request,

HttpServletResponse response) **throws** ServletException,

IOException {

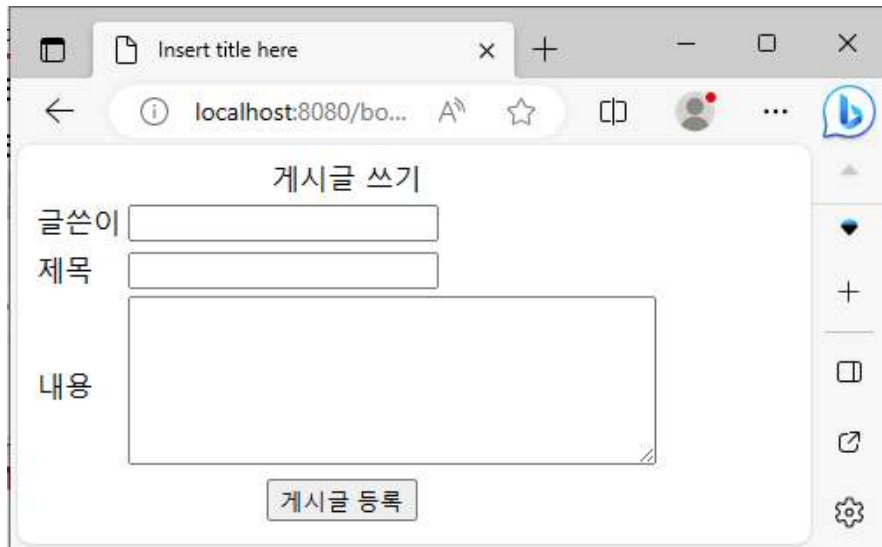
... 중략

```
        if(command.equals("/boardRegist.naver")){  
            response.sendRedirect("boardList.naver");  
        }
```

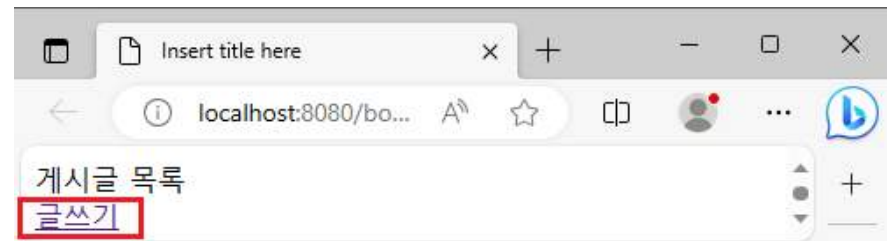
```
}
```

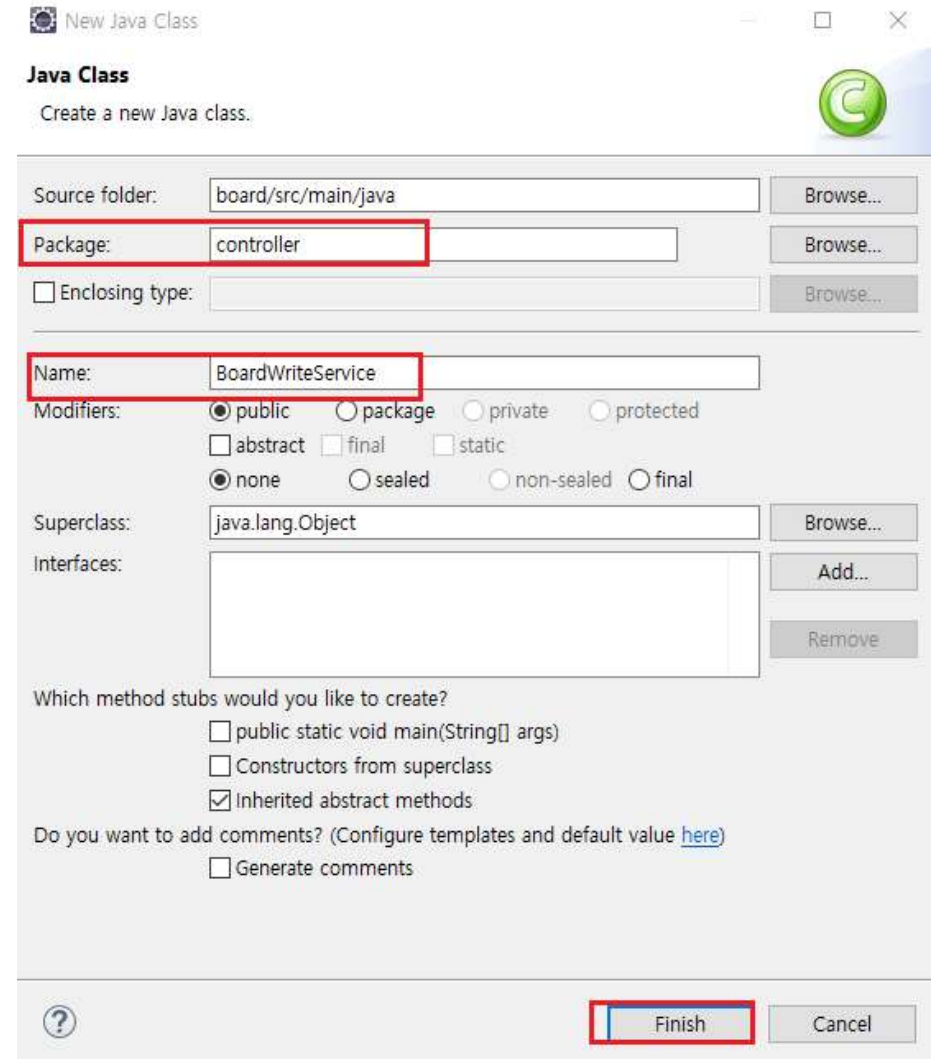
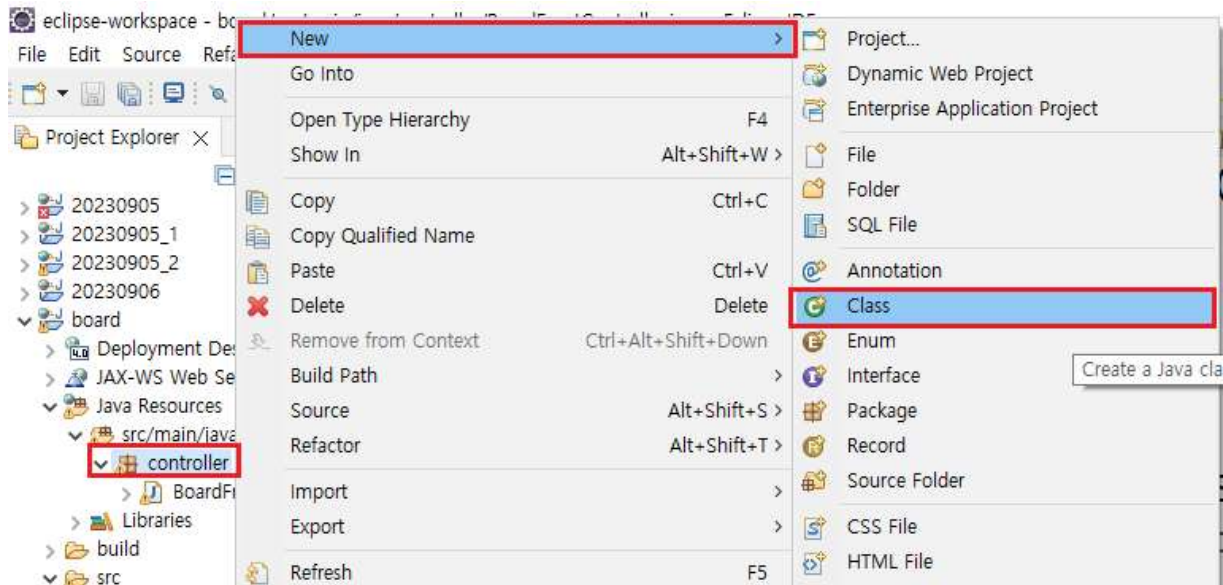
이때는 페이지 이동이므로 response.sendRedirect()를 이용하여 목록 페이지로 이동이 되게 만든다.

현 페이지를 새로 고침(F5) 한 후 게시글 등록을 클릭



The screenshot shows a web browser window with a single tab titled 'Insert title here'. The address bar shows 'localhost:8080/bo...'. The page content is a form titled '게시글 쓰기' (Write Post). The form has three input fields: '글쓴이' (Author) with a text input, '제목' (Title) with a text input, and '내용' (Content) with a large text area. At the bottom right of the form is a button labeled '게시글 등록' (Register Post). The browser's right sidebar contains icons for home, search, and settings.





목록 페이지로 이동이 되는 것을 확인되었다면 전송된 데이터를 저장하기 위한 page-controller를 만들어준다.

Page-controller의 이름은 BoardWriteService라고 만들고 패키지는 controller로 하자.

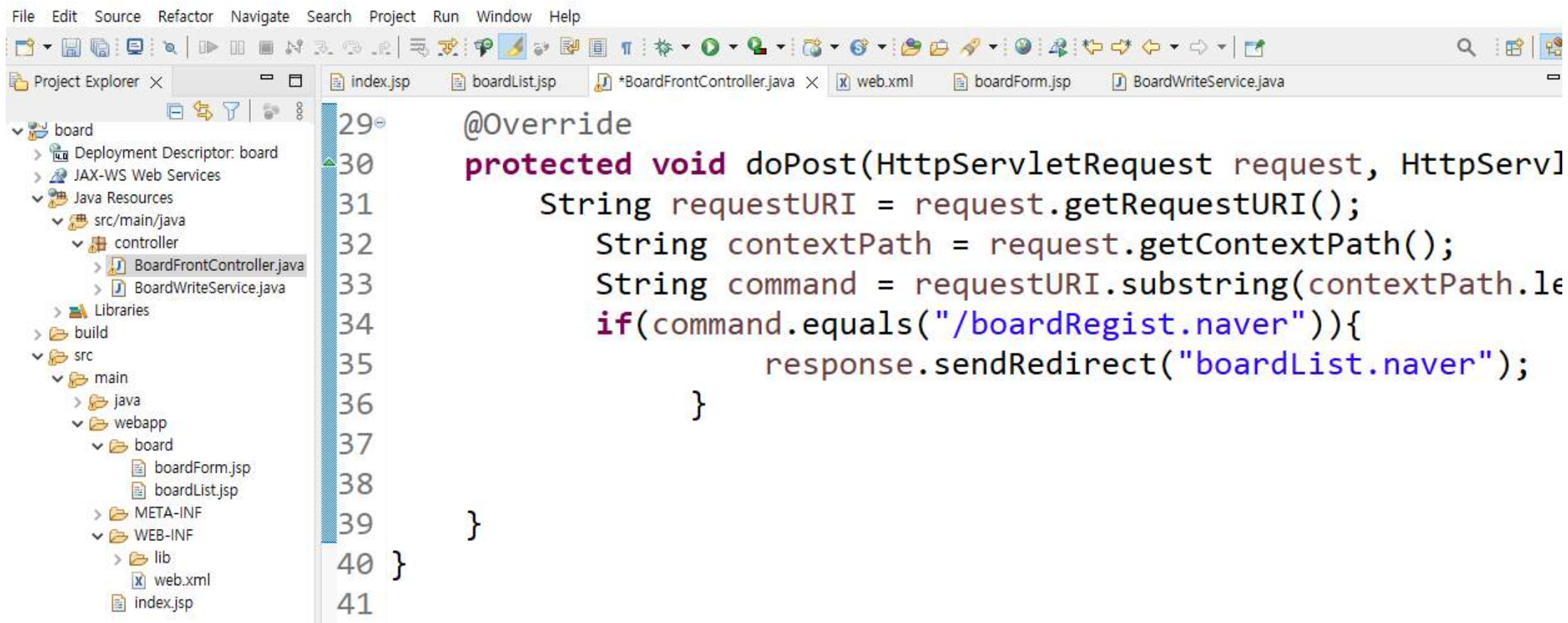
```
package controller;
```

```
public class BoardWriteService {  
}
```

Front-controller로 부터 데이터를 전달 받기 위한 메서드를 작성한다,

```
public class BoardWriteService {  
    public void execute(HttpServletRequest request) {  
  
    }  
}
```

다시 BoardFrontController 를 열어서 내용을 추가한다.



The screenshot shows an IDE window with the following components:

- Project Explorer (Left):** Displays the project structure. The 'board' package is expanded, showing 'src/main/java/controller'. Inside the controller package, 'BoardFrontController.java' is selected.
- Editor (Right):** Shows the code for 'BoardFrontController.java'. The code is as follows:

```
29 @Override
30 protected void doPost(HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException {
31     String requestURI = request.getRequestURI();
32     String contextPath = request.getContextPath();
33     String command = requestURI.substring(contextPath.length());
34     if(command.equals("/boardRegist.naver")){
35         response.sendRedirect("boardList.naver");
36     }
37 }
38
39 }
40 }
41
```

이제 Front-controller에서 데이터를 전달할 수 있게
BoardWriteController객체를 생성하고 메서드를 실행시켜준다.

```
protected void doPost(HttpServletRequest request,
    HttpServletResponse response)
    throws ServletException, IOException {
...   중략
    if(command.equals("/boardRegist.naver")) {
        BoardWriteService action = new BoardWriteService();
        action.execute(request);

        response.sendRedirect("boardList.board");
    }
}
```

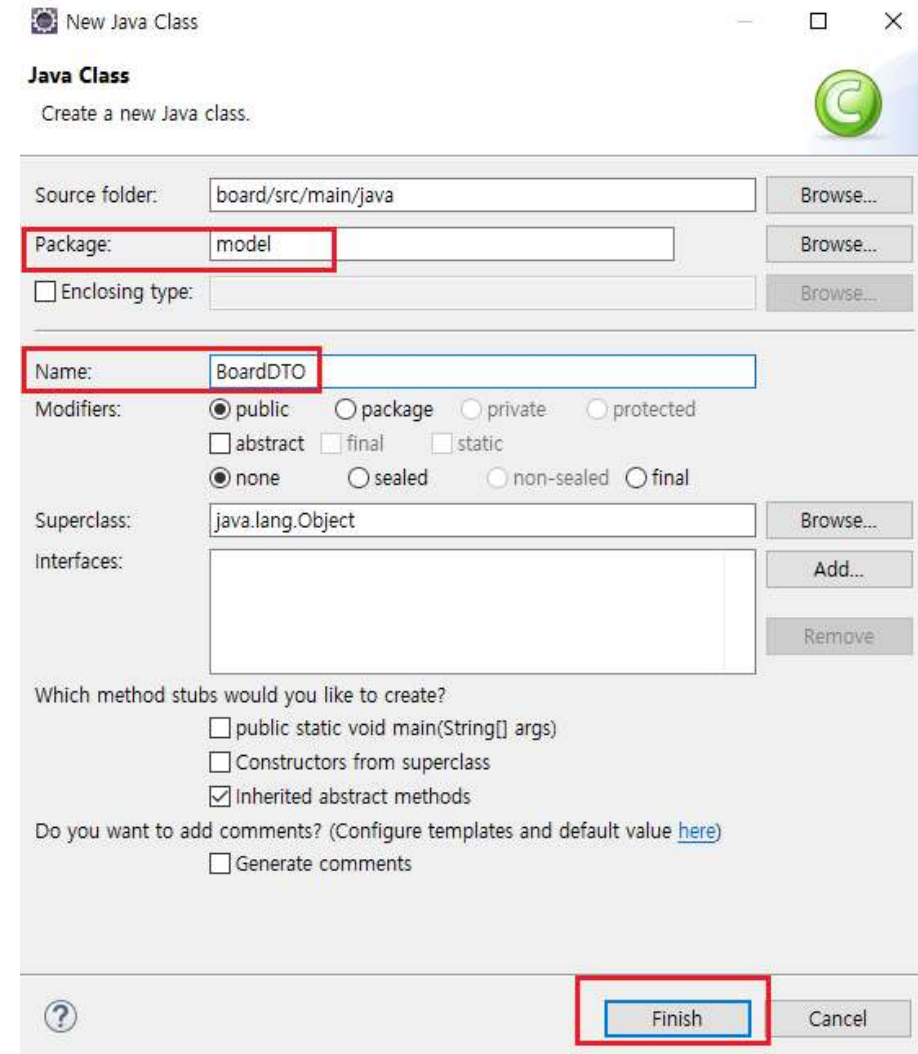
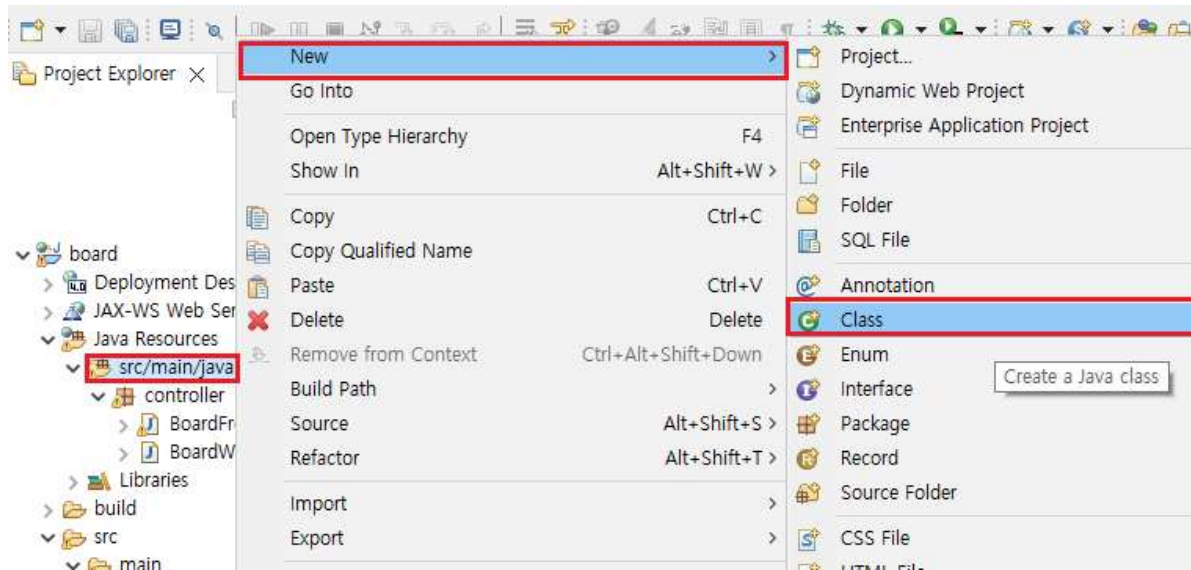
다시 BoardWriteService.java 를 열어 boardForm.jsp로 부터 전송된 내용을 request로 부터 받도록 하자.



```
1 package controller;
2
3 import javax.servlet.http.HttpServletRequest;
4
5 public class BoardWriteService {
6     public void execute(HttpServletRequest request) {
7
8     }
9 }
10
```

BoardWriteService에 전달된 값을 받을 수 있게 변수를 정의하고 각 변수에는 boardForm.jsp의 input으로 부터 전송된 값을 request.getParameter() 메서드를 이용하여 받는다.

```
public class BoardWriteService {  
    public void execute(HttpServletRequest request) {  
        try {  
            request.setCharacterEncoding("utf-8");  
        } catch (UnsupportedEncodingException e) {}  
  
        /// request.getParameter("input의 name을 적어준다.")  
        String boardWriter = request.getParameter("boardWriter");  
        String boardSubject = request.getParameter("boardSubject");  
        String boardContent = request.getParameter("boardContent");  
    }  
}
```

각 변수에 저장된 값은 디비에 전송하기 위해 먼저 DTO에 저장을 해야하므로 DTO를 만든다.

```
package model;
```

```
public class BoardDTO {  
    Integer boardNum;  
    String boardWriter;  
    String boardSubject;  
    String boardContent;  
    // getter/setter 만든다.  
}
```


DTO를 만들었다면 BoardWriteService에서 DTO를 객체 생성후 변수에 저장되어 있는 값을 DTO에 저장한다.

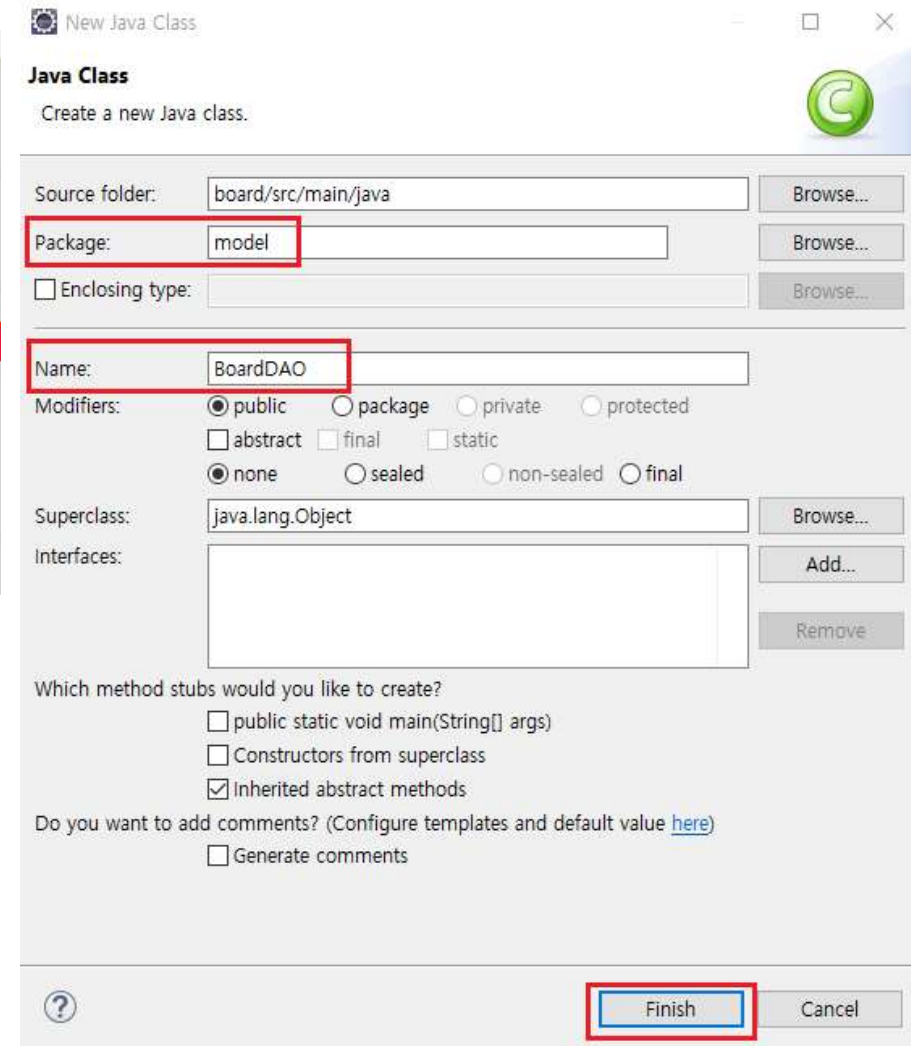
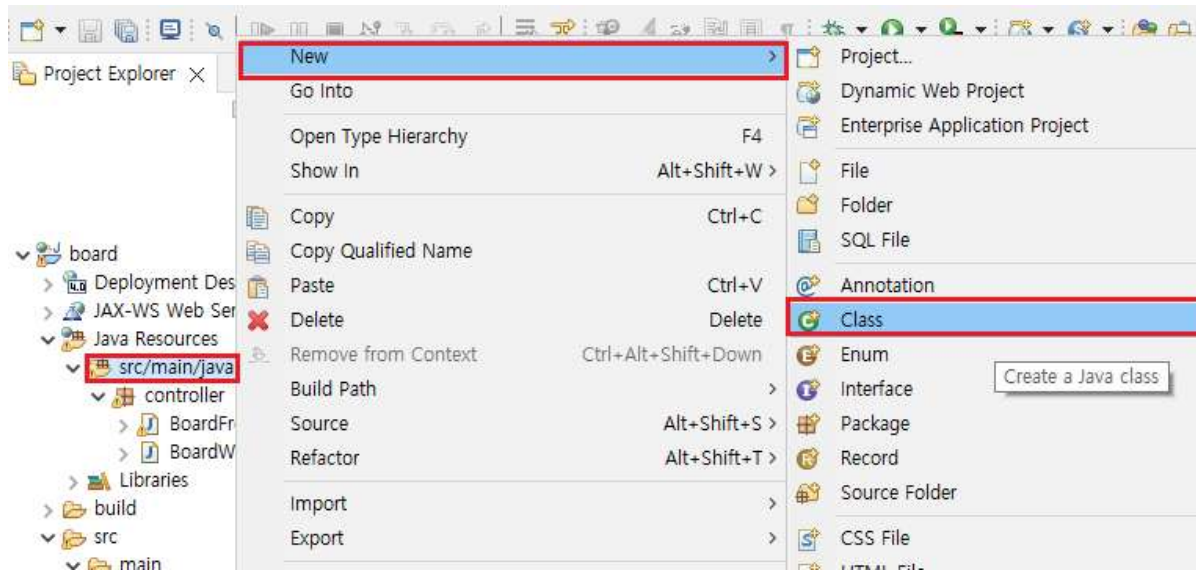
```
public class BoardWriteService {  
    public void execute(HttpServletRequest request) {
```

...중략

```
        BoardDTO dto = new BoardDTO();  
        dto.setBoardContent(boardContent);  
        dto.setBoardSubject(boardSubject);  
        dto.setBoardWriter(boardWriter);
```

```
    }
```

```
}
```



DTO에 있는 값을 DAO로 전달해야 한다,
전달 받을 DAO를 만든다. 그리고 데이터베이스 정보를 적어준다.

```
package model.DAO;
public class BoardDAO{
    String jdbcURL;
    String jdbcDriver;
    Connection con;
    PreparedStatement pstmt;
    ResultSet rs;
    public BoardDAO() {
        jdbcDriver = "org.postgresql.Driver";
        jdbcURL = "jdbc:postgresql://localhost:5432/hkshopping";
    }
    public Connection getConnection() {
        Connection conn = null;
        try {
            Class.forName(jdbcDriver);
            conn = DriverManager.getConnection(jdbcURL,"postgres","1234");
        }catch(Exception e) {e.printStackTrace();}
        return conn;
    }
}
```

그리고 데이터를 BoardWriteService에서 DTO로 전달 받은 값을 저장하기 위한 메서드를 추가한다.

```
public class BoardDAO{
```

```
... 중략
```

```
    public void boardInsert(BoardDTO dto) {  
        con = getConnection();  
        String sql = " insert into board(WRITER,SUBJECT, CONTENTS)"  
            + " values(?,?,?)";  
        try {  
            pstmt= con.prepareStatement(sql);  
            pstmt.setString(1, dto.getBoardWriter());  
            pstmt.setString(2, dto.getBoardSubject());  
            pstmt.setString(3, dto.getBoardContent());  
            int i = pstmt.executeUpdate();  
            System.out.println(i + " 개 행이(가) 삽입되었습니다.");  
        } catch (SQLException e) {e.printStackTrace();  
        } finally {  
            if(pstmt != null) try{pstmt.close();}catch(Exception e) {}  
            if(con != null) try{con.close();}catch(Exception e) {}  
        }  
    }  
}
```

DAO객체를 생성한 후 boardInsert를 통해 DTO를 전달해준다.

```
public class BoardWriteService {  
    public void execute(HttpServletRequest request) {  
  
        ...  
        BoardDTO dto = new BoardDTO();  
        dto.setBoardContent(boardContent);  
        dto.setBoardSubject(boardSubject);  
        dto.setBoardWriter(boardWriter);  
  
        BoardDAO dao = new BoardDAO();  
        dao.boardInsert(dto);  
    }  
}
```

게시글 쓰기

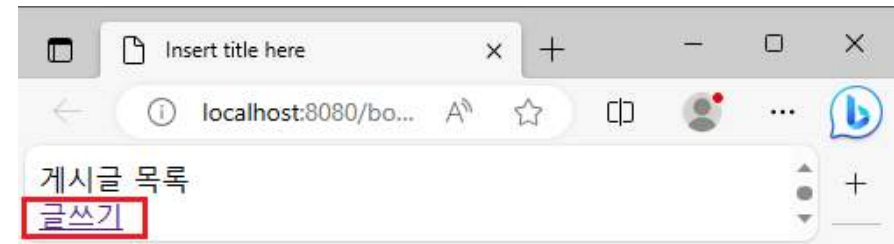
글쓴이 이승무

제목 제목

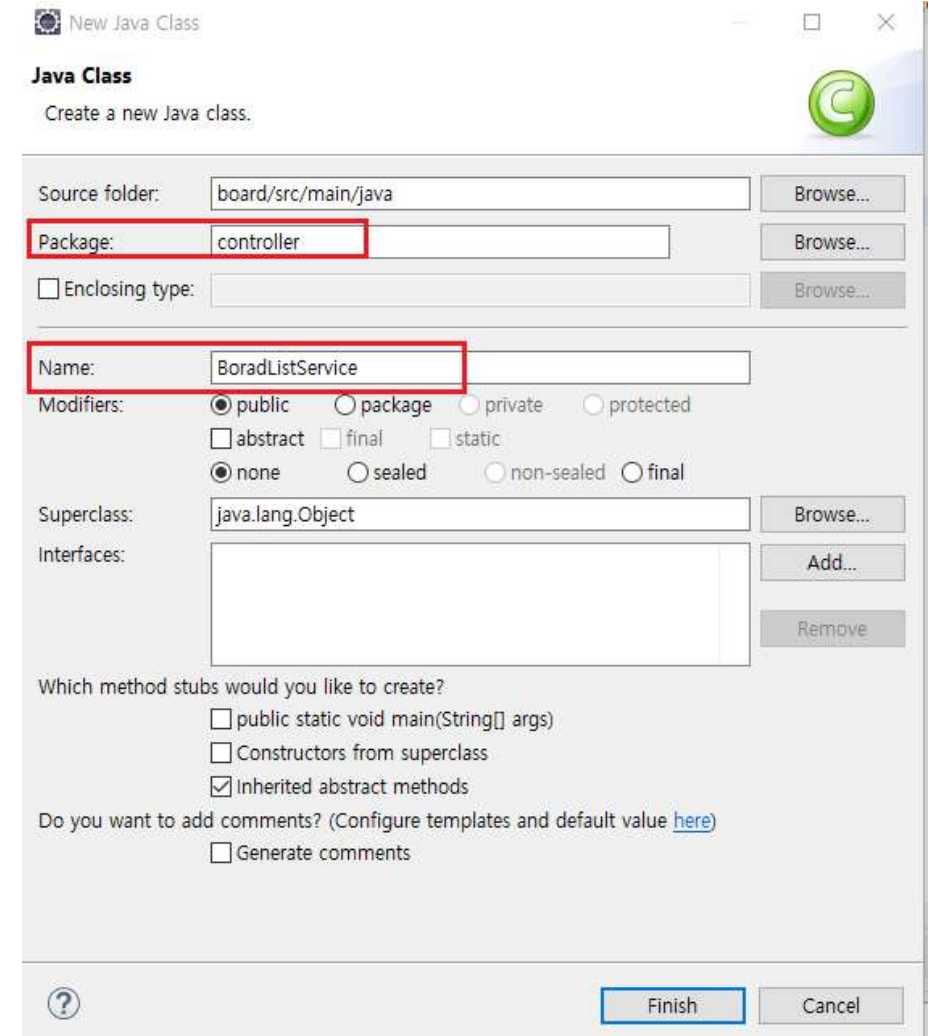
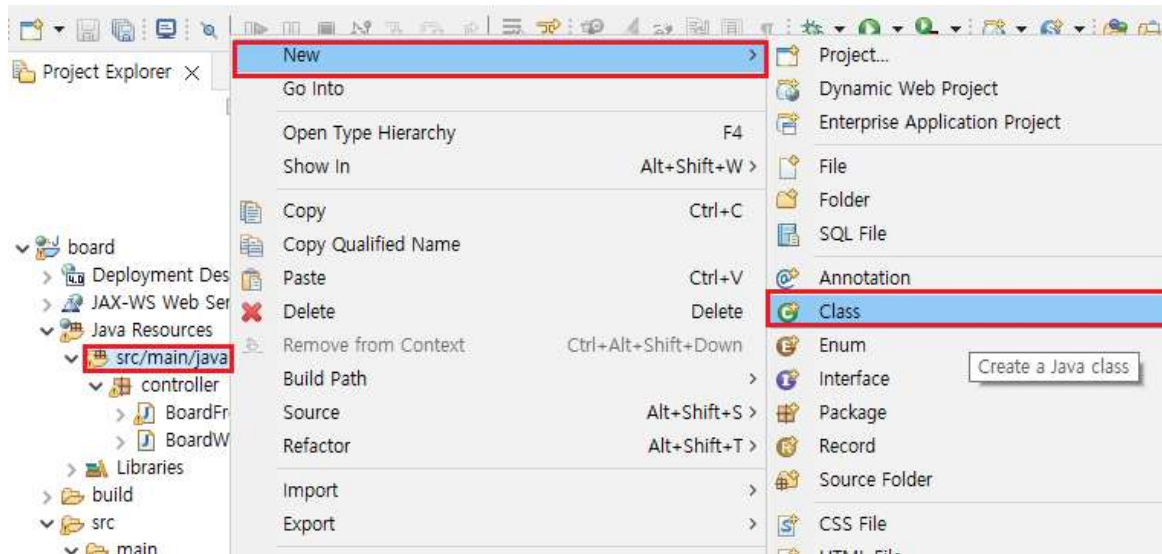
내용

게시글 등록

게시글 등록을 누르면 게시글이 디비에 저장
이 된 후 게시글 목록 페이지로 이동한다.

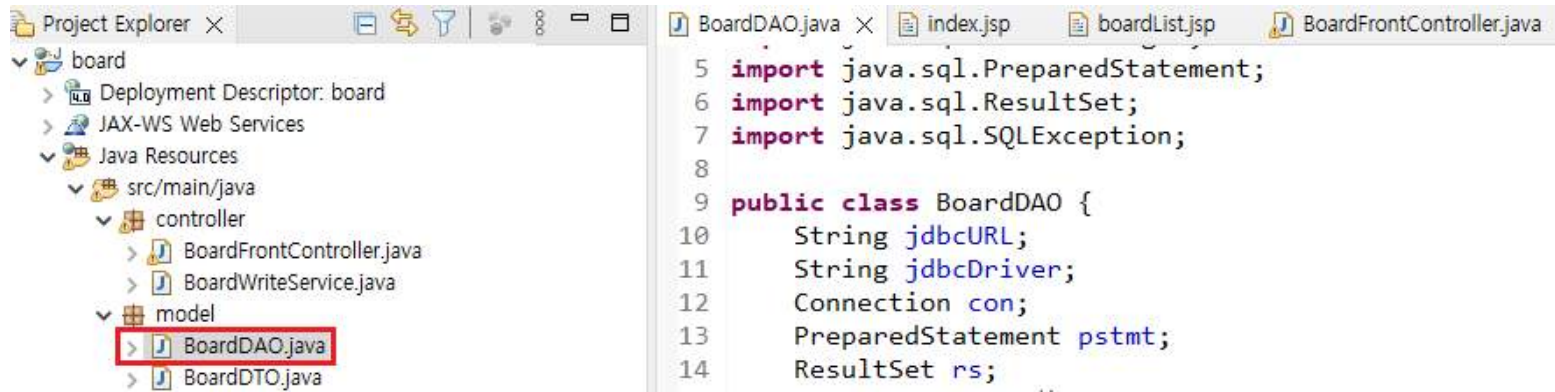


게시글 목록 페이지에서는 입력한 리스트가 출력이
되어야 한다.
그러기 위해서는 DB로부터 데이터를 가지고 와야
할 것이다.



```
public class BoradListService {  
    public void execute(HttpServletRequest request) {  
        BoardDAO dao = new BoardDAO();  
    }  
}
```


DAO 를 열어서 리스트를 가지고 오도록 메서드를 추가한다.



...상략

```
public class BoardDAO {
```

... 중략

```
    public List<BoardDTO> selectAll() {  
        List<BoardDTO> list = new ArrayList<BoardDTO>();  
        con = getConnection();  
        String sql="select num,writer,subject,contents"  
            + " from board"  
            + " order by num desc";
```

//// 다음 슬라이드에 있는 내용 추가

```
        return list;
```

```
    }
```

```
}
```

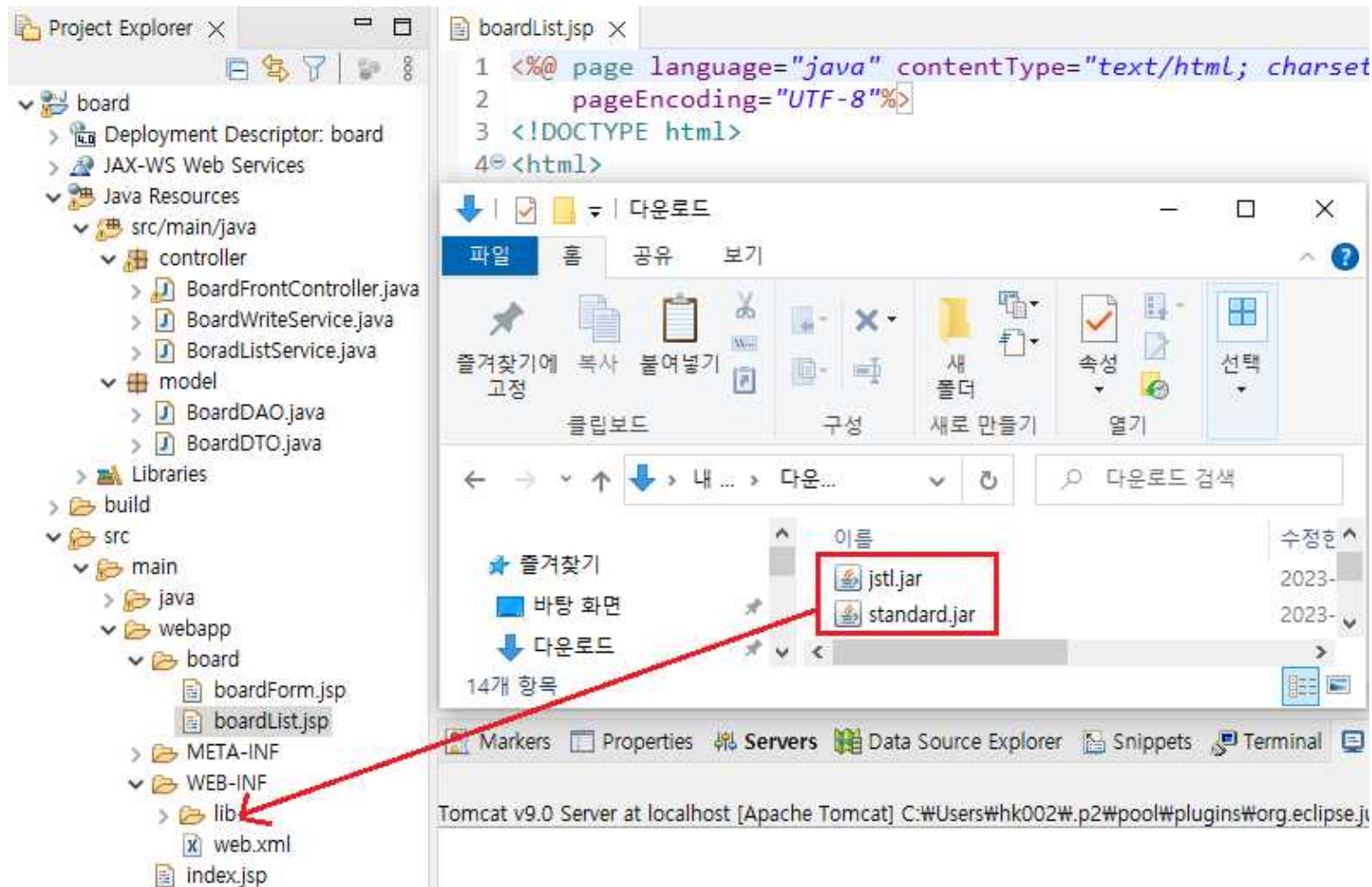
```
try {  
    pstmt = con.prepareStatement(sql);  
    rs = pstmt.executeQuery();// 출력될 모든 레코드를갖지고 옮  
    while(rs.next()) {  
        BoardDTO dto = new BoardDTO();  
        dto.setBoardContent(rs.getString("contents"));  
        dto.setBoardNum(rs.getInt("NUM"));  
        dto.setBoardSubject(rs.getString("SUBJECT"));  
        dto.setBoardWriter(rs.getString("WRITER"));  
        list.add(dto);  
    }  
} catch (Exception e) {  
    e.printStackTrace();  
}
```

```
public class BoradListService {  
    public void execute(HttpServletRequest request) {  
        BoardDAO dao = new BoardDAO();  
        ///// 추가  
        List<BoardDTO> list = dao.selectAll();  
        request.setAttribute("lists", list);  
    }  
}
```

BoardFrontController에 boardList.naver에 아래 내용을 추가한다.

```
public class BoardFrontController extends  
HttpServlet implements Servlet {  
... 중략  
    if(command.equals("/boardList.naver")) {  
        //// 추가  
        BoradListService action = new BoradListService();  
        action.execute(request);  
        ///  
        RequestDispatcher dispatcher =  
            request.getRequestDispatcher("/board/boardList.jsp");  
        dispatcher.forward(request, response);  
    }  
... 하략  
}
```

“스크립트릿” 대신 “jstl”을 사용하기 위해선
Jstl.jar와 standard.jar파일을 WEB-INF/lib폴더에 복사한다.



boardList.jsp에서 BoradListServicer에서 전달된 List에 있는 값을 출력하자.

```
<%@ page language="java" contentType="text/html; charset=UTF-8" pageEncoding="UTF-8"%>
<%@ taglib prefix="c" uri="http://java.sun.com/jsp/jstl/core" %>
<!DOCTYPE html>
...
<body>
게시글 목록<br />
<table border= 1 width= "600px">
<thead>
<tr><th>글번호</th><th>글쓴이</th><th>제목</th></tr>
</thead>
<tbody>
<c:forEach items= "${lists }" var= "dto">
<tr><td><a href="boardDetail.naver?num=${dto.boardNum }">${dto.boardNum }</a></td>
<td>${dto.boardWriter }</td>
<td><a href="boardDetail.naver?num=${dto.boardNum }">${dto.boardSubject }</a></td></tr>
</c:forEach>
</tbody>
</table><br />
<a href= "boardWrite.naver">글쓰기</a>
</body>
```