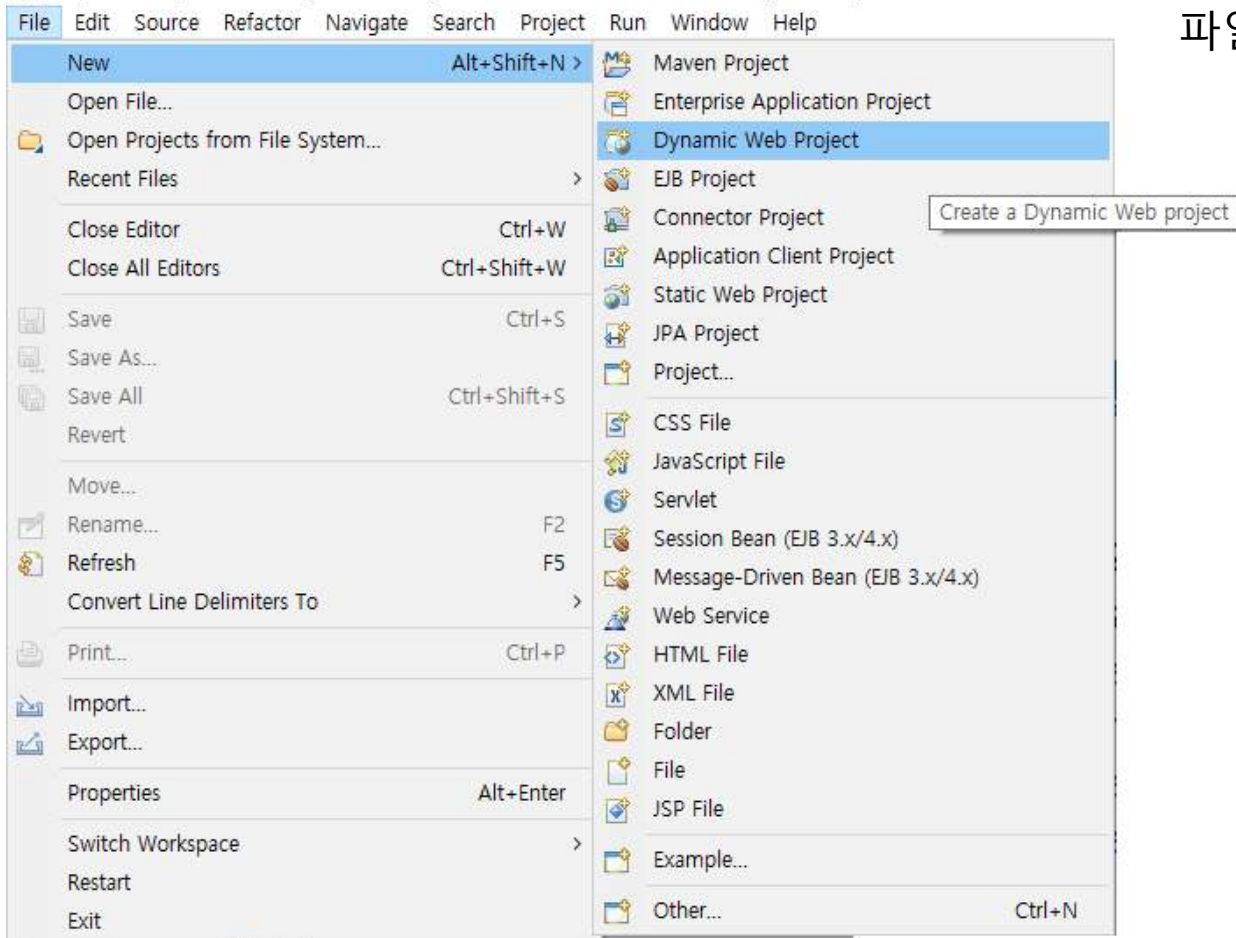


게시판 만들기

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...

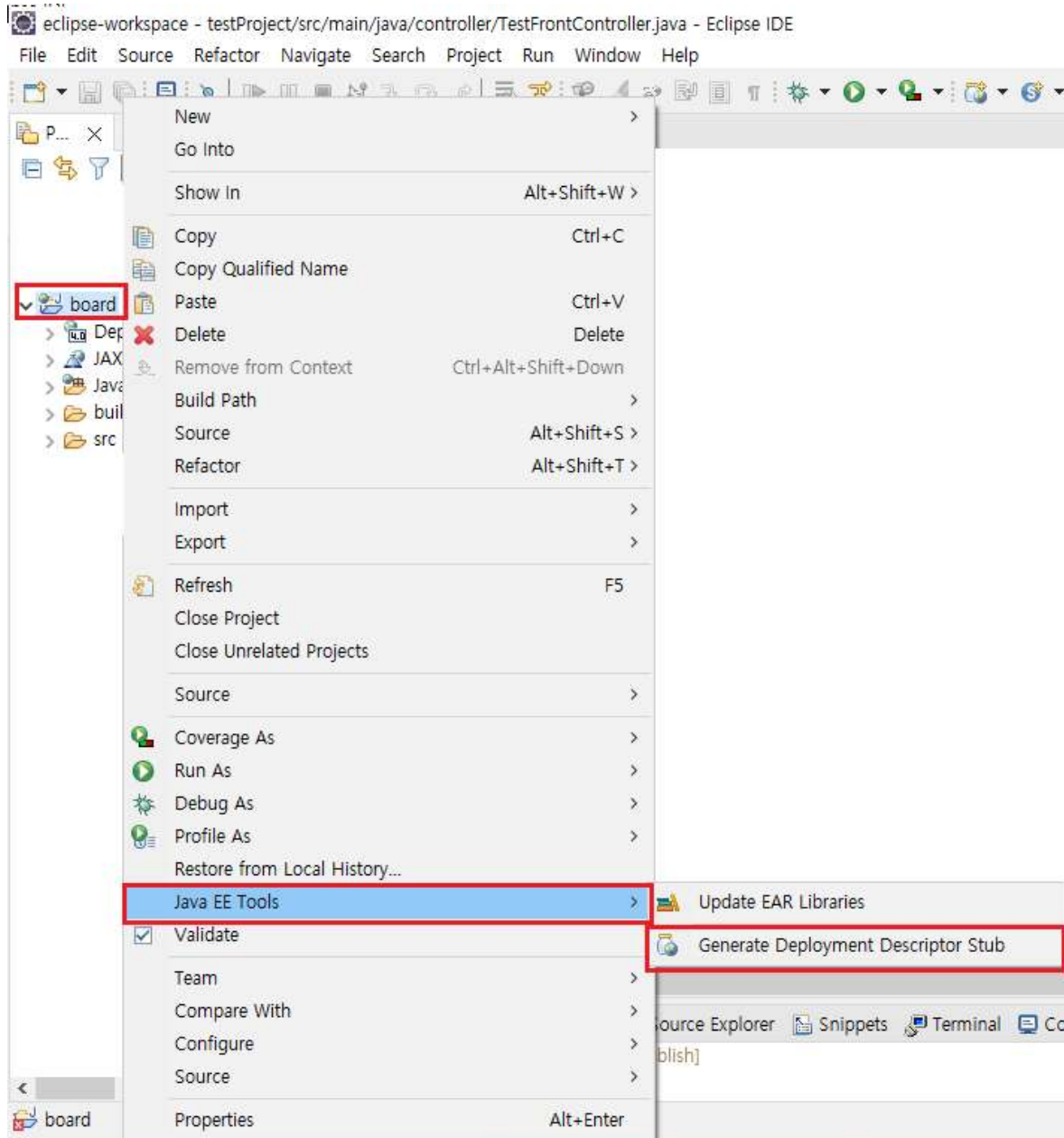
Working sets

☐ Add project to working sets New...

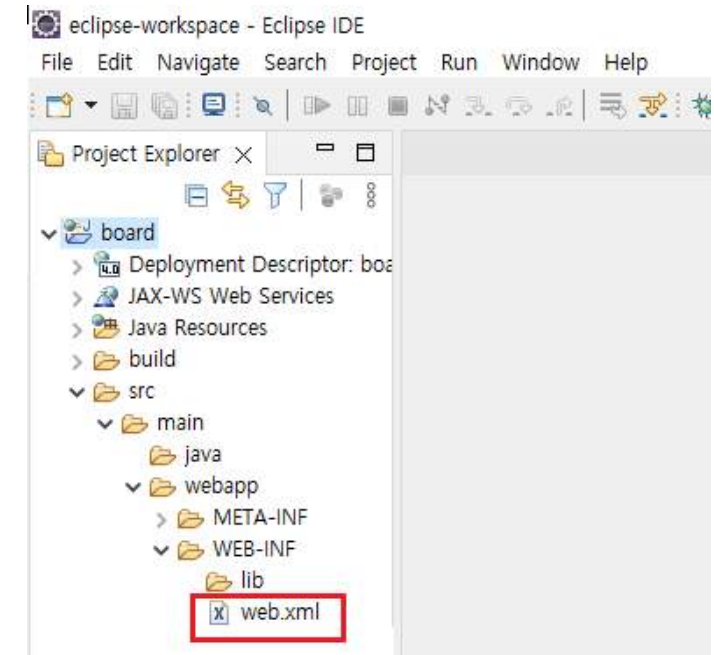
Working sets: Select...

< Back Next > Finish Cancel

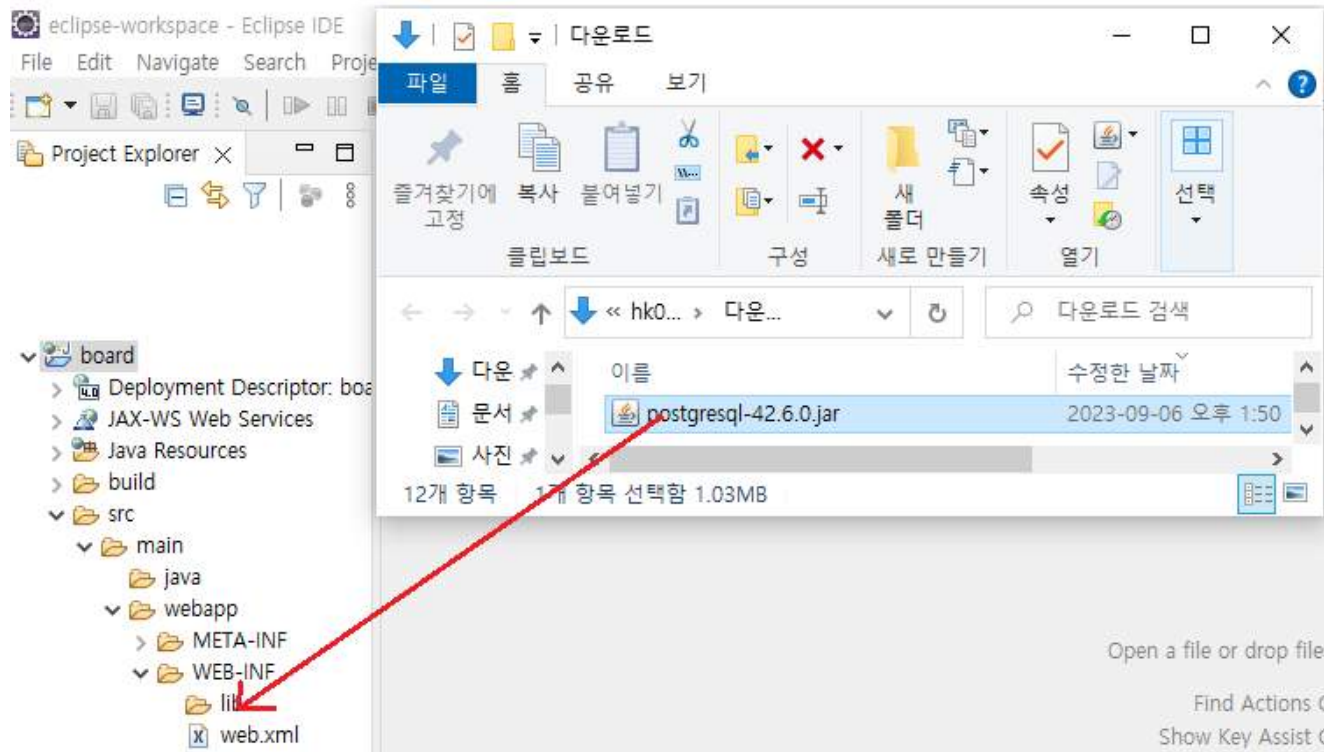
Project name에 "board"라는 이름을 주고 [Finish]를 클릭



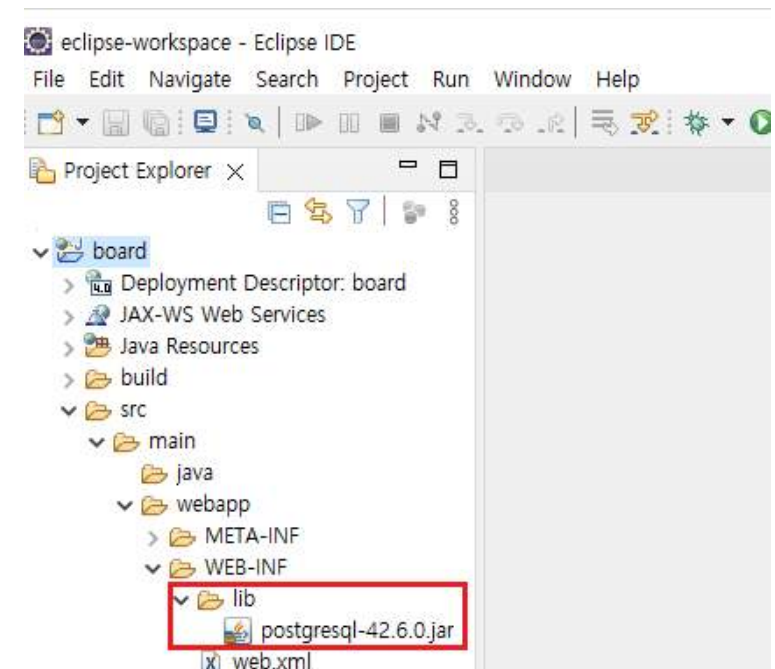
프로젝트명에서 마우스 오른쪽키를 눌러 팝업메뉴가 나오도록 한다.



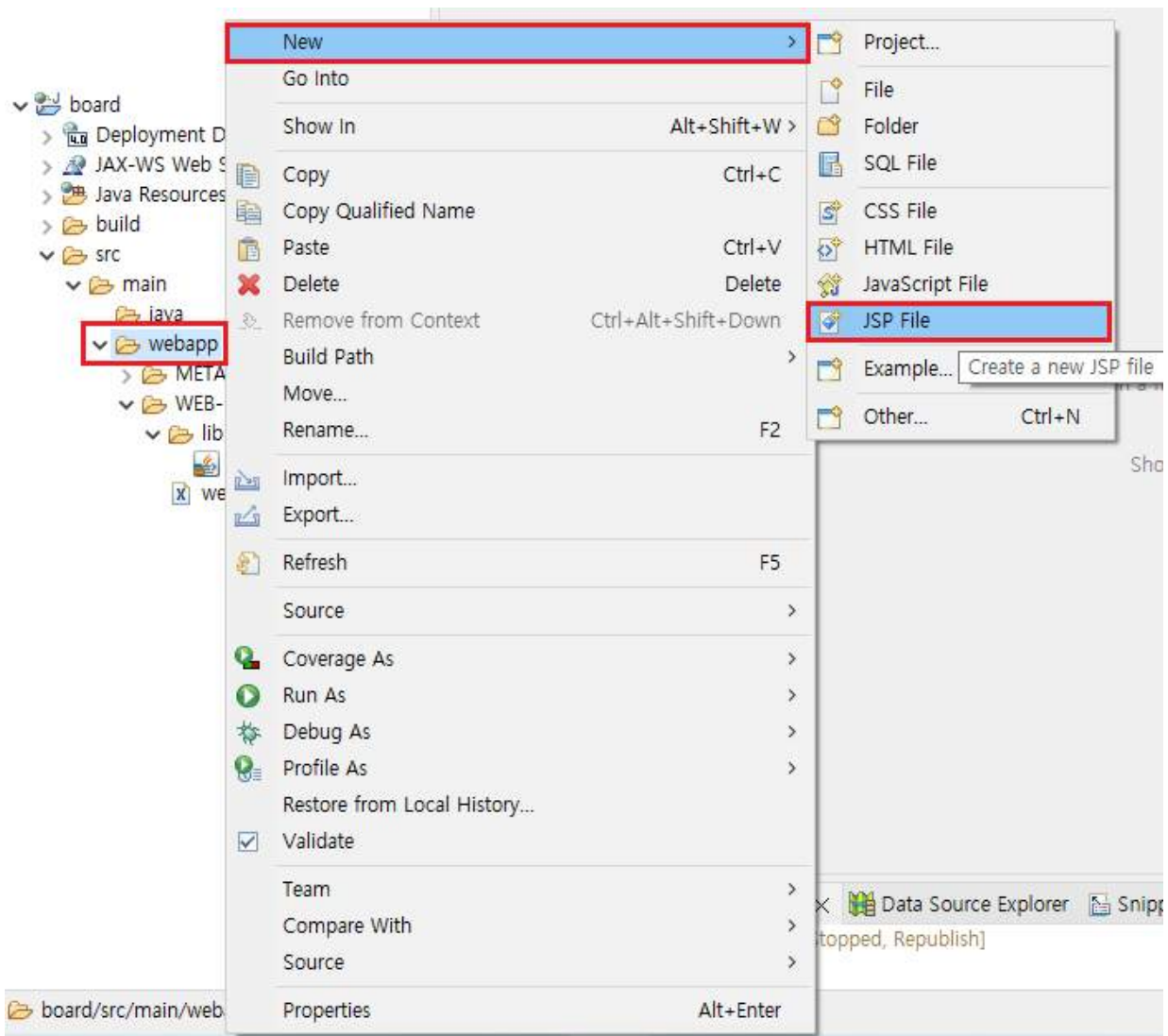
WEB-INF밑에 web.xml파일이 만들어졌는지 확인한다.

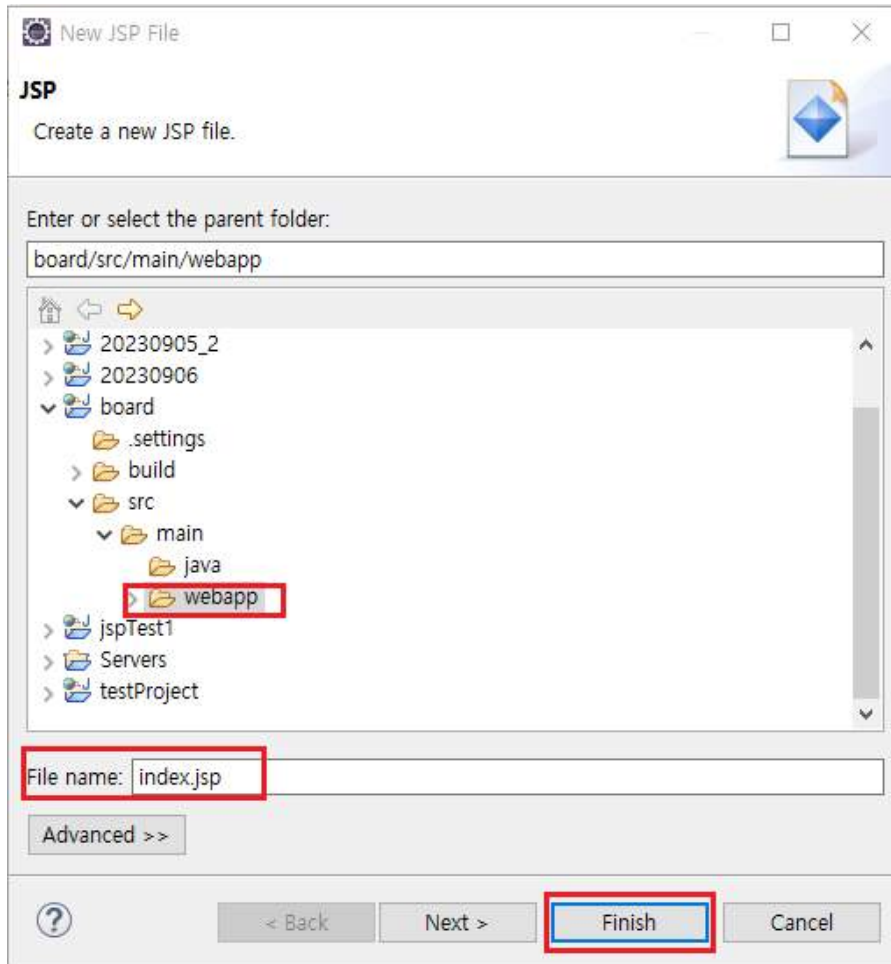


Postgresql-xx.xx.x.jar 파일을 다운받아 WEB-INF폴더 밑에 있는 lib폴더에 드래그하여 파일을 복사한다.



Postgresql-xx.xx.x.jar 파일이 복사되었는지 확인



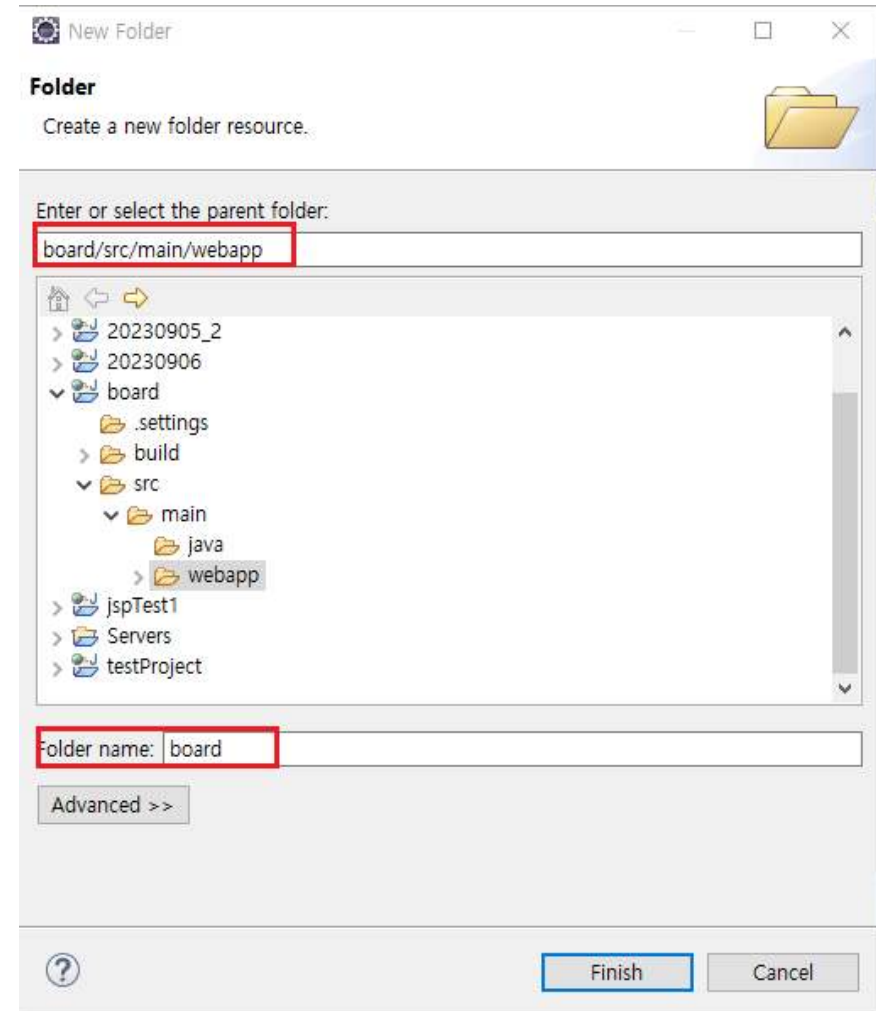
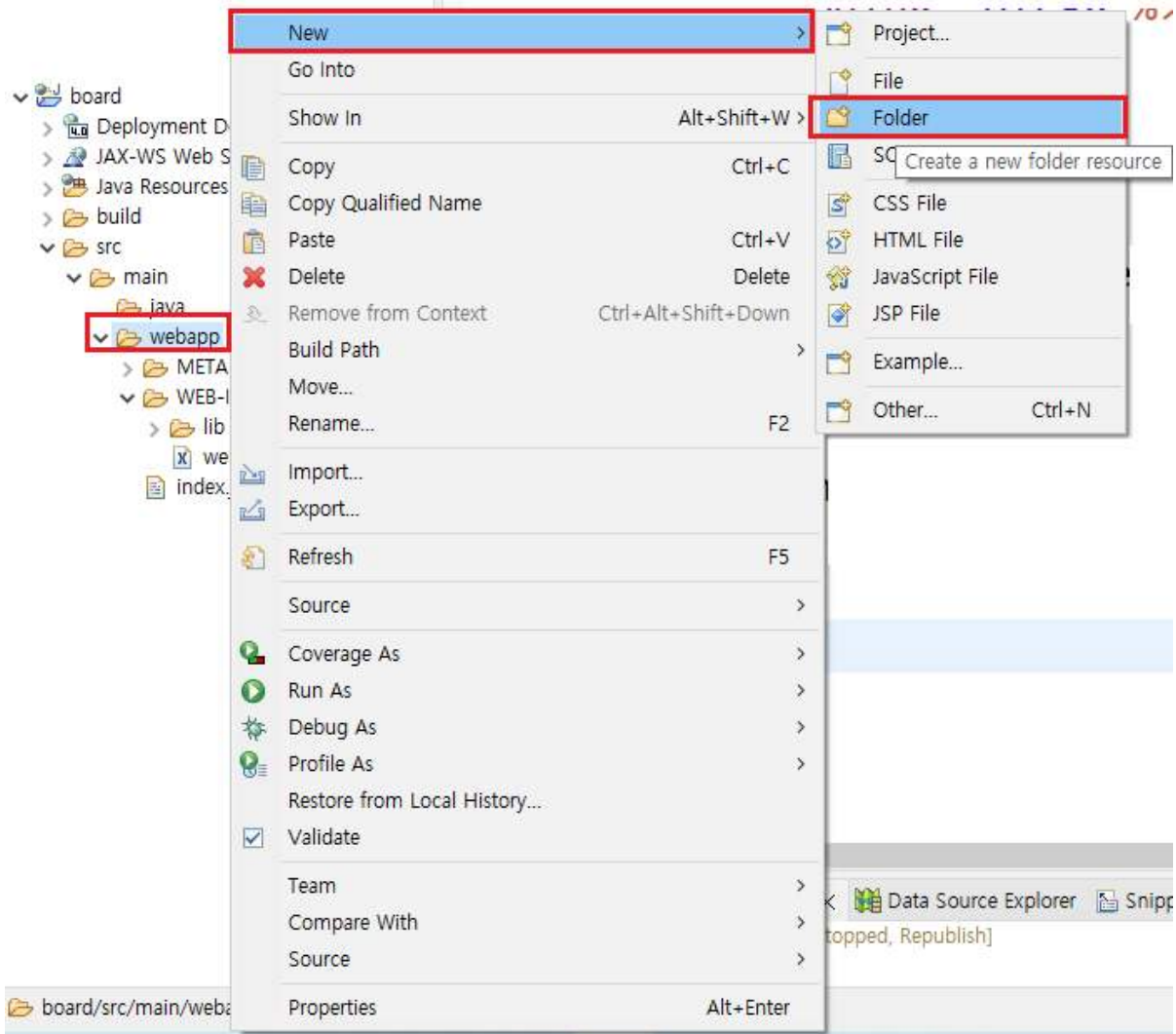


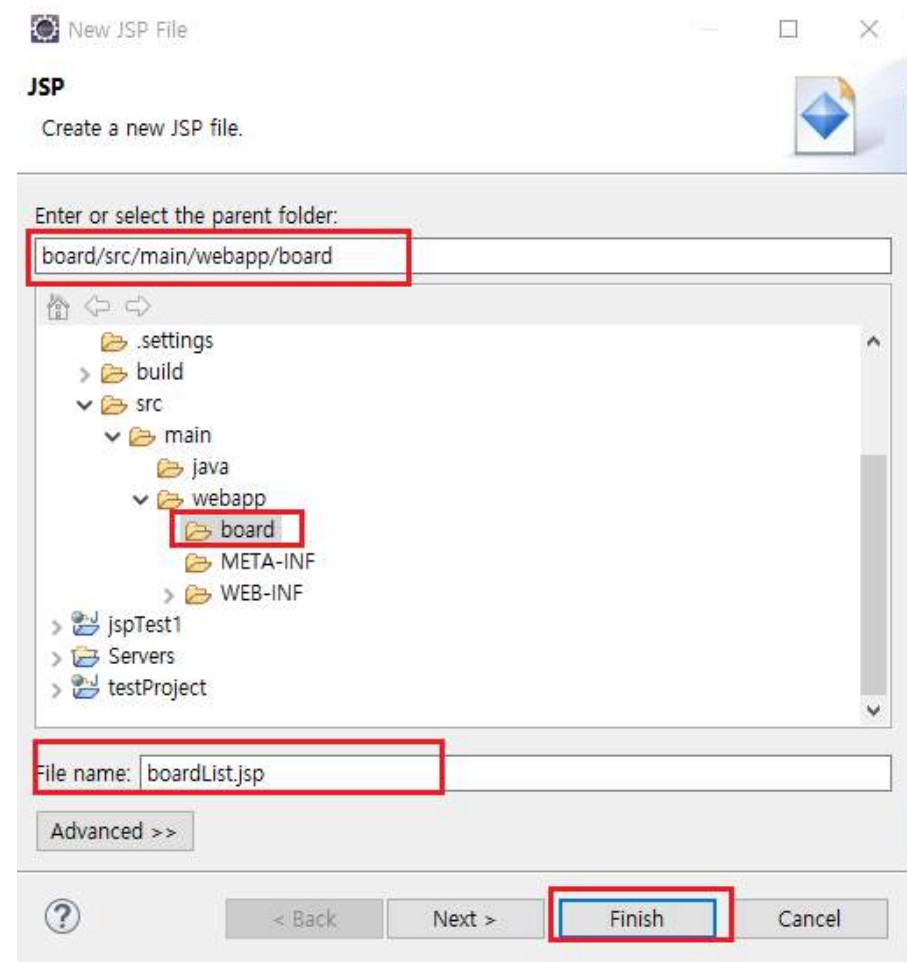
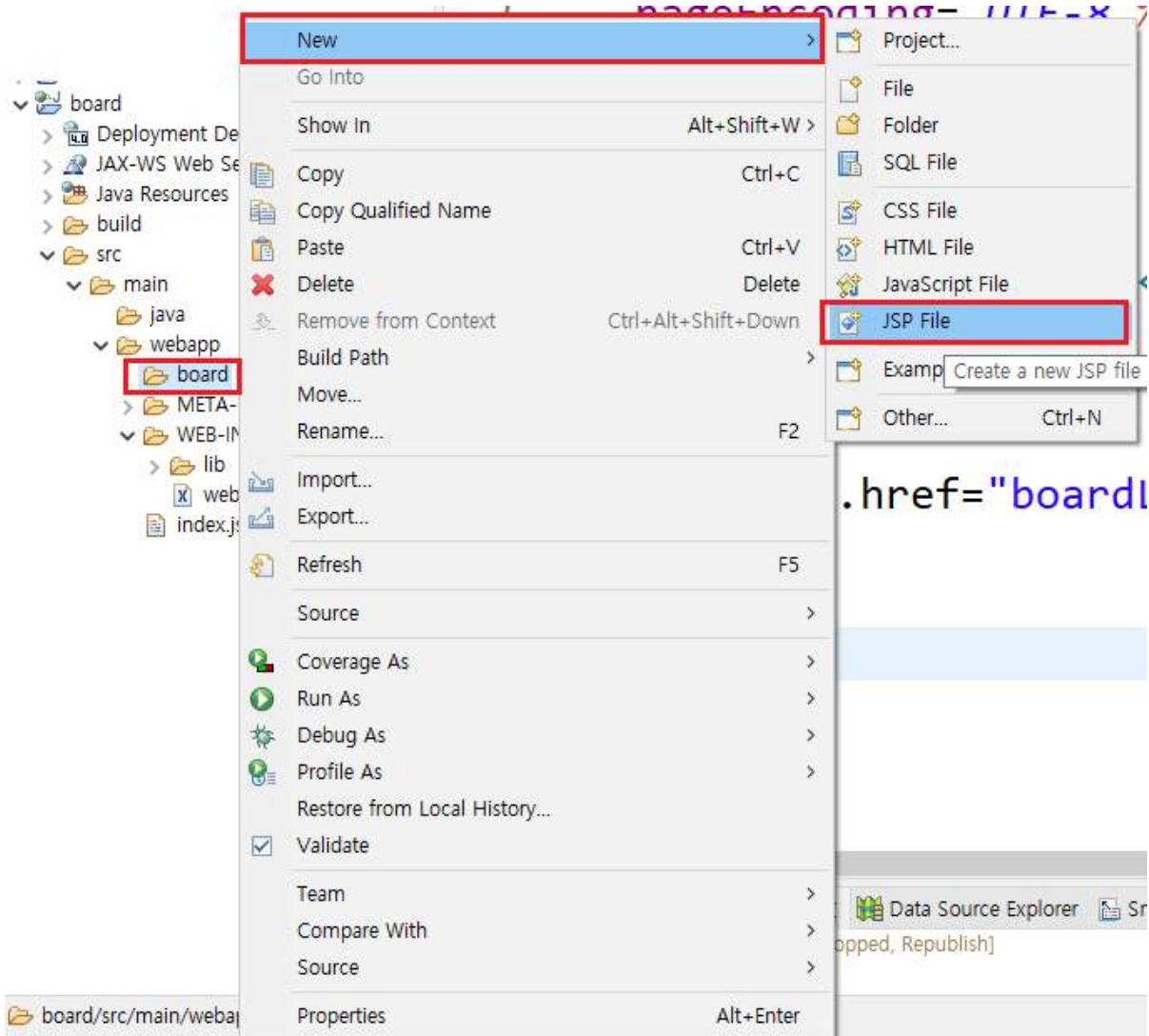
index.jsp파일을 만들어준다.

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 controller.board로 하도록 하겠다.

```
package controller.board;
```

```
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>
```

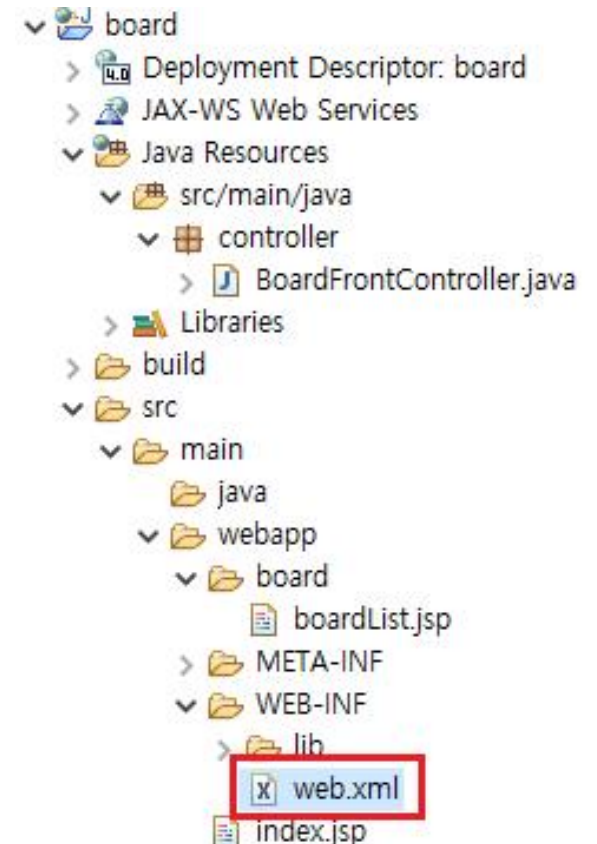
```
<servlet-mapping>
```

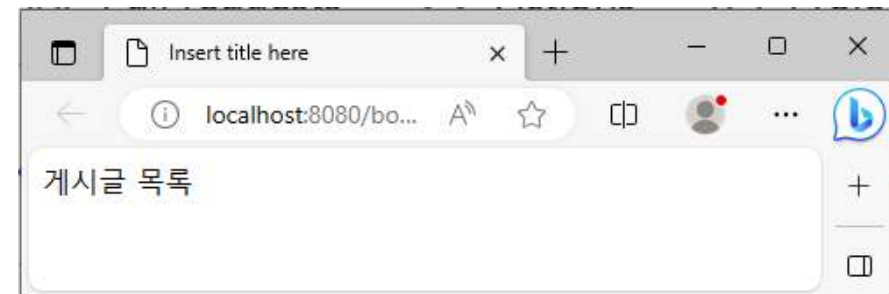
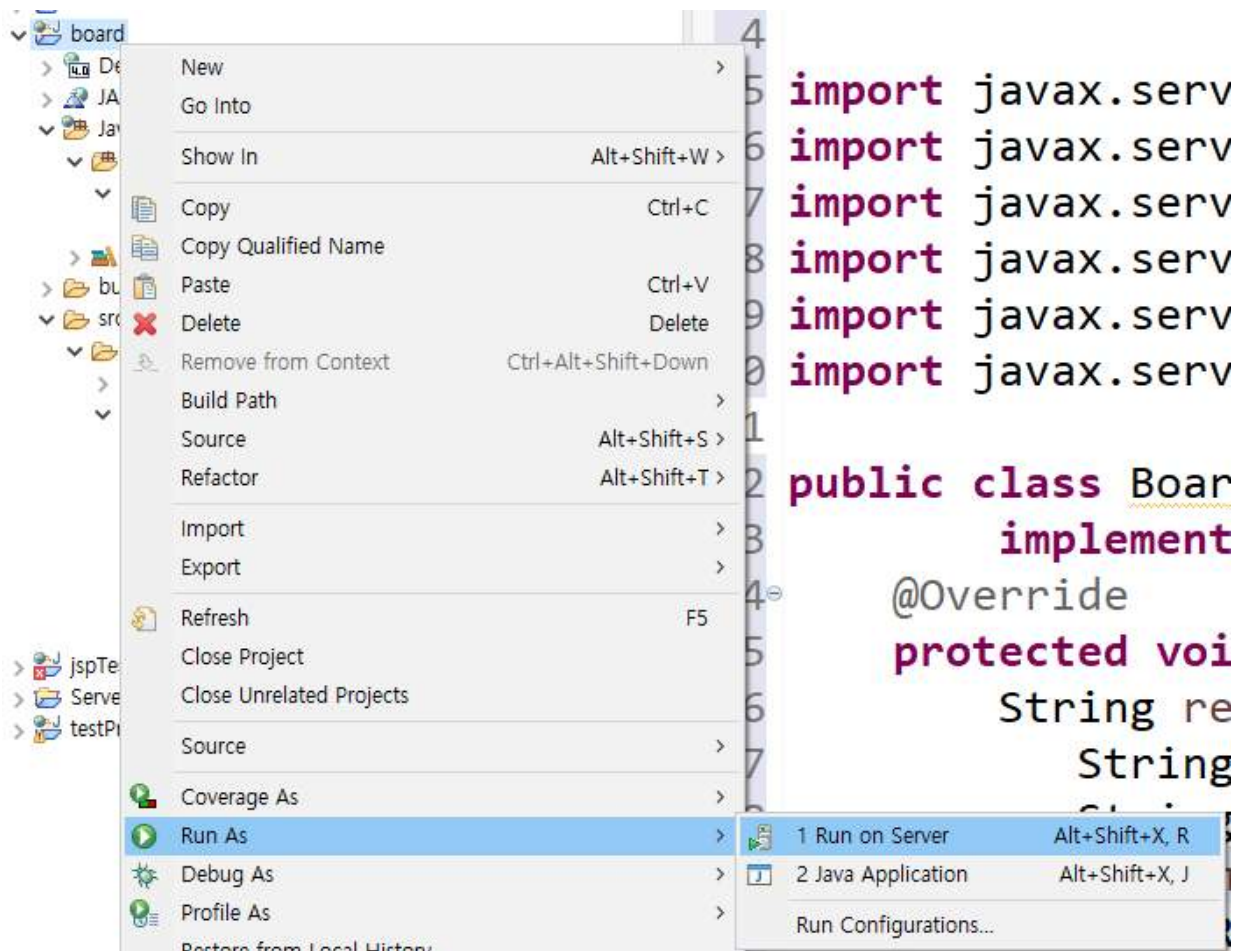
```
<servlet-name>board</servlet-name>
```

```
<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>
```

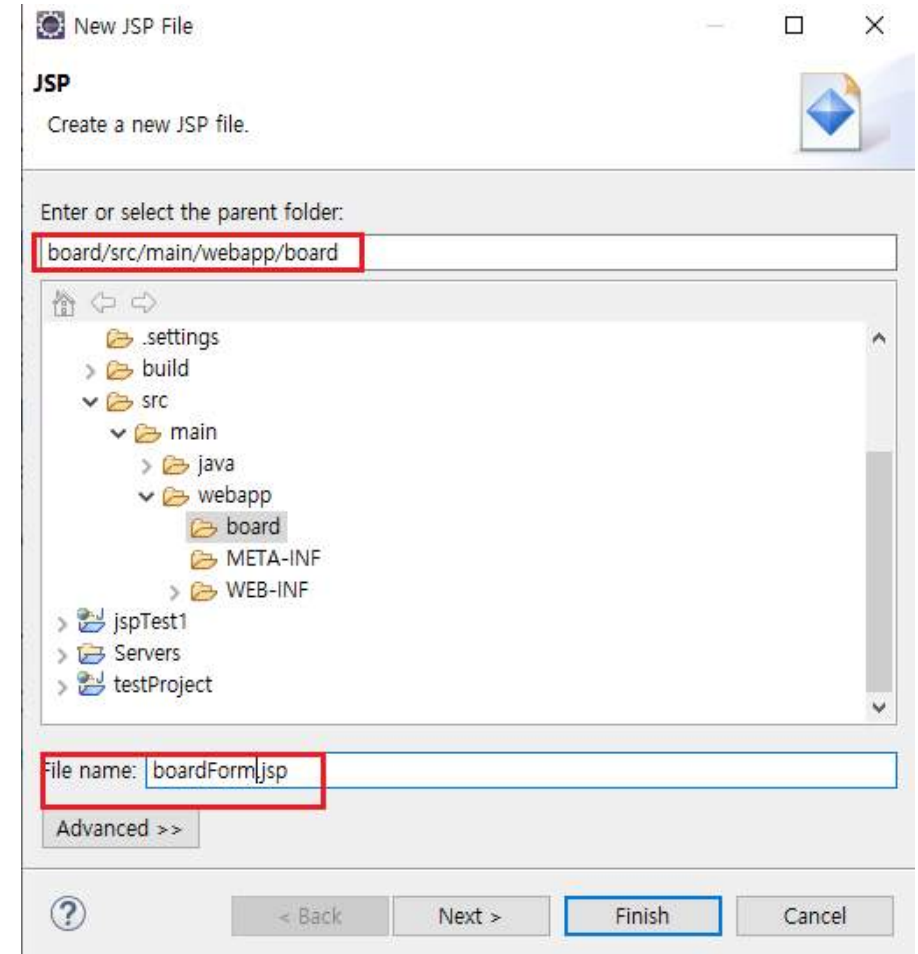
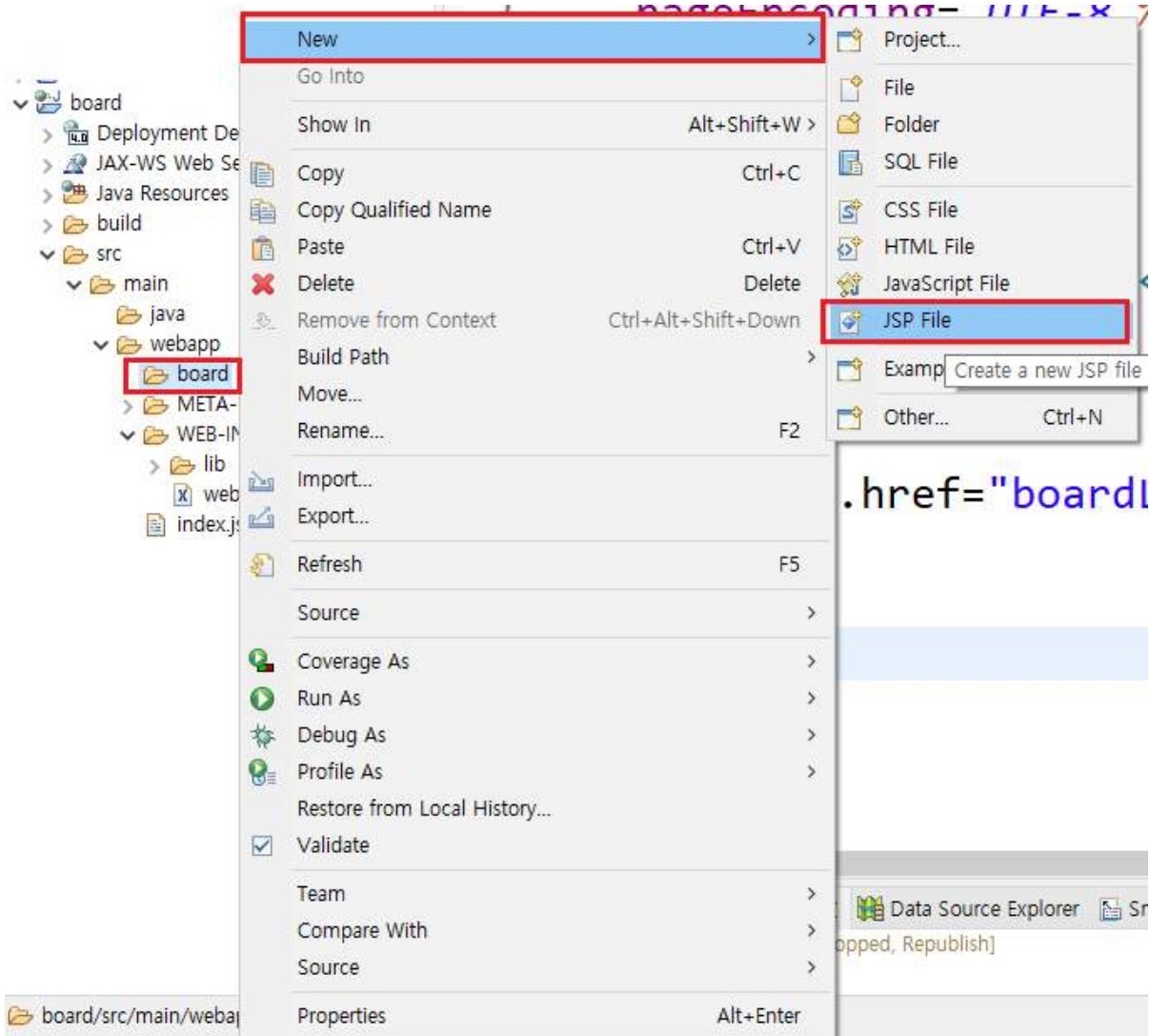
```
<body>
```

```
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.

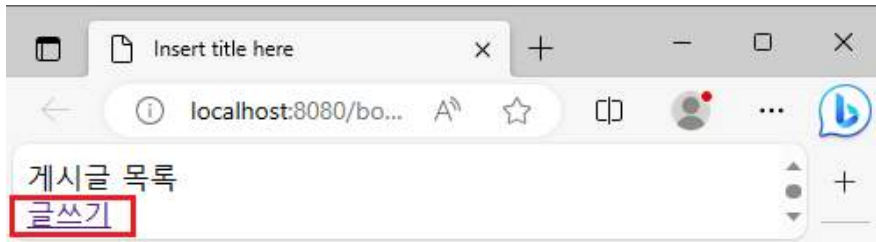


```
8 import javax.servlet.http.HttpServlet;
9 import javax.servlet.http.HttpServletRequest;
10 import javax.servlet.http.HttpServletResponse;
11
12 public class BoardFrontController extends HttpServlet
13     implements Servlet{
14     @Override
15     protected void doGet(HttpServletRequest request, 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 }
```

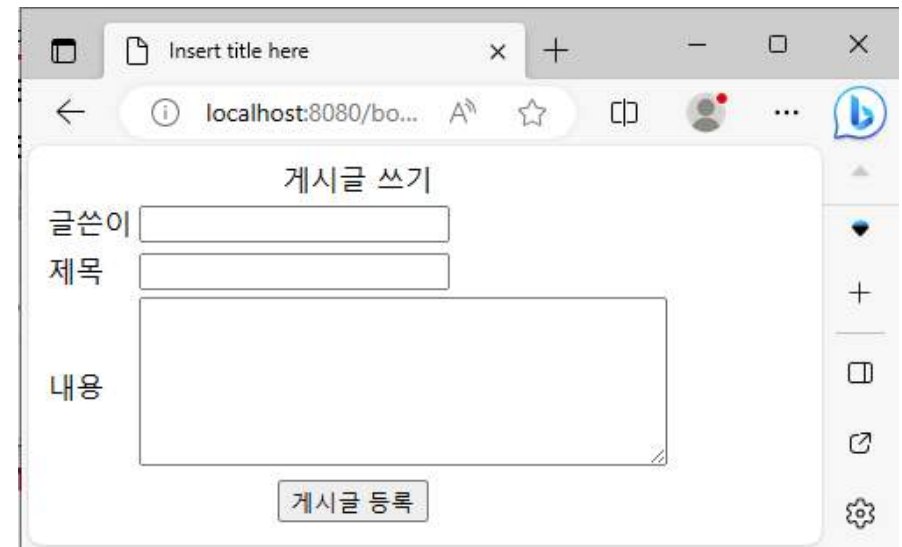

FrontController에서 boardForm.jsp파일을 웹브라우저에 전송하는 코드를 작성해준다.

```
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.



```
1 import javax.servlet.http.HttpServlet;
2 import javax.servlet.http.HttpServletRequest;
3 import javax.servlet.http.HttpServletResponse;
4
5 public class BoardFrontController extends HttpServlet
6     implements Servlet{
7
8     @Override
9     protected void doGet(HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException {
10         String requestURI = request.getRequestURI();
11         String contextPath = request.getContextPath();
12         String command = requestURI.substring(contextPath.length());
13         if(command.equals("/boardList.naver")) {
14             RequestDispatcher dispatcher =
15                 request.getRequestDispatcher("/board/boardList.jsp");
16             dispatcher.forward(request, response);
17         }
18     }
19
20     @Override
21     protected void doPost(HttpServletRequest req, HttpServletResponse resp) throws ServletException, IOException {
22         // TODO Auto-generated method stub
23         super.doPost(req, resp);
24     }
25 }
```

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 {

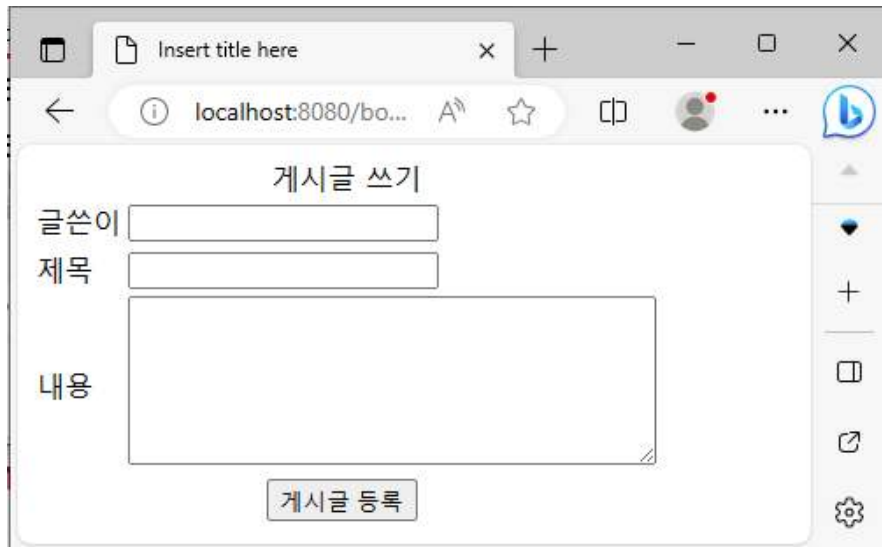
... 중략

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

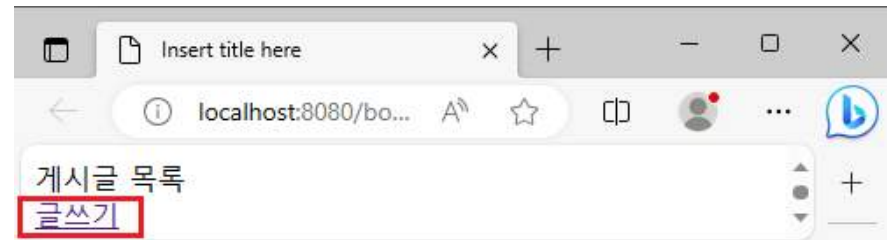
```
}
```

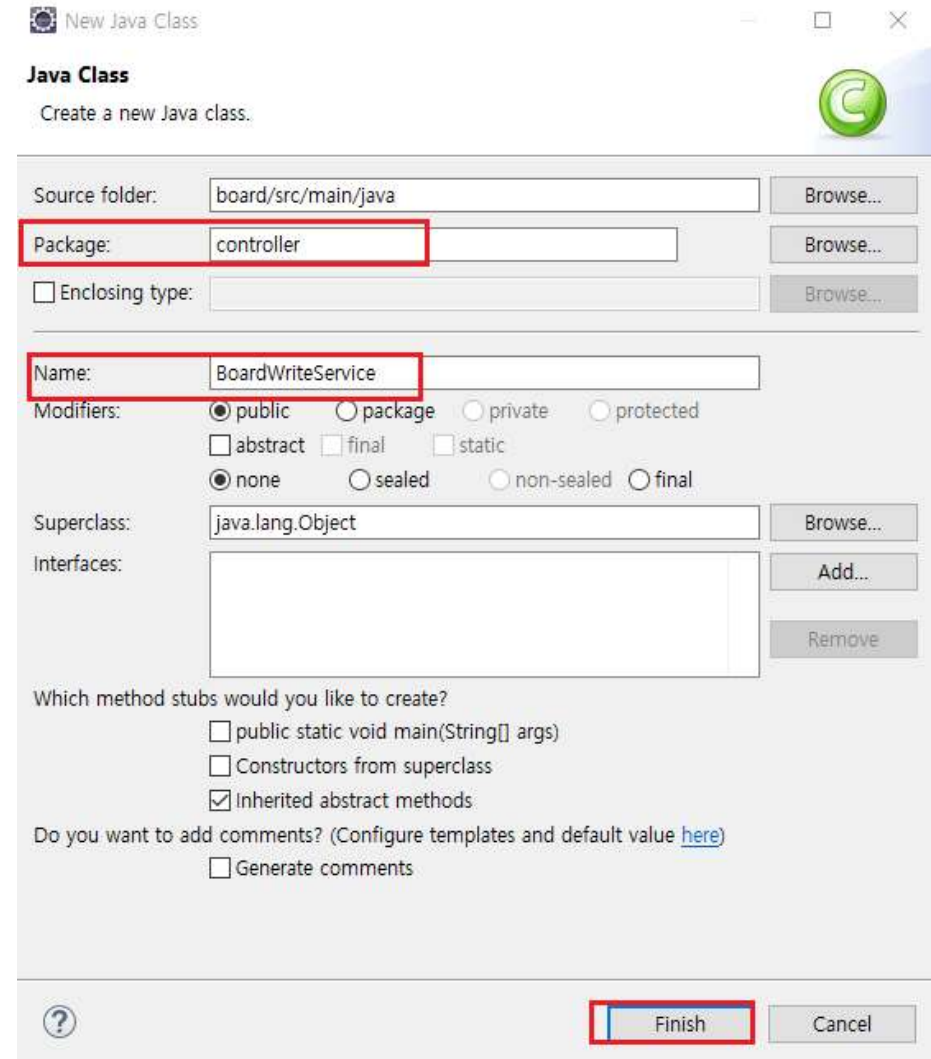
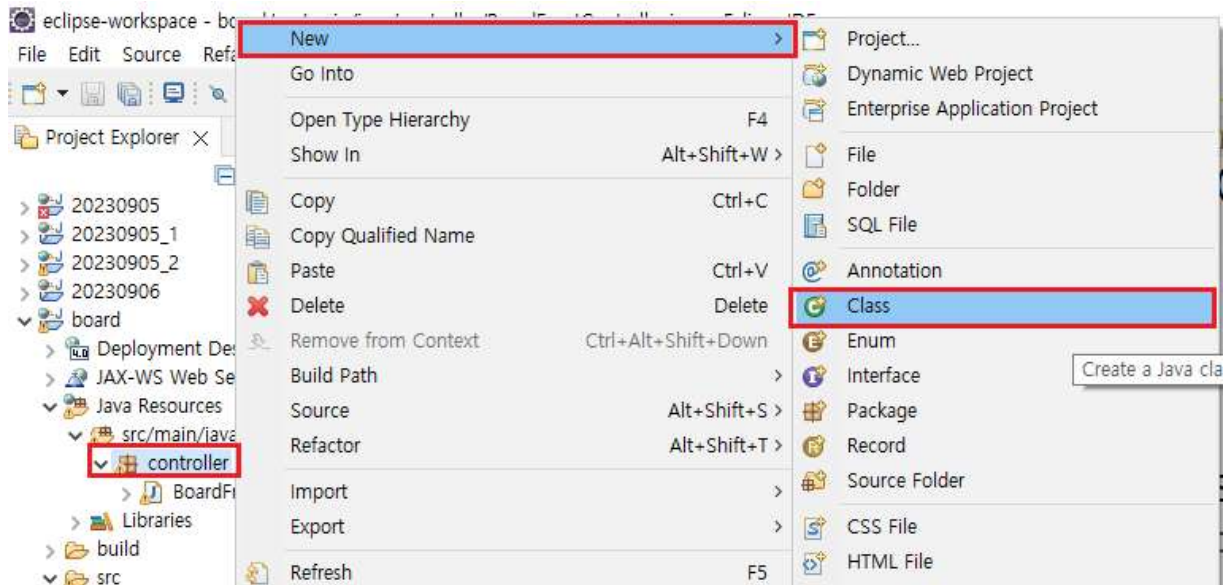
이때는 페이지 이동이므로 response.sendRedirect()를 이용하여 목록 페이지로 이동이 되게 만든다.

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 displays 'localhost:8080/bo...'. The main content area is titled '게시글 쓰기' (Write Post). It contains 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). A vertical sidebar on the right contains icons for a home page, a plus sign, a list, a share icon, and a settings gear.





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

Page-controller의 이름은 BoardWriteService라고 만들고 패키지는 controller로 하자.

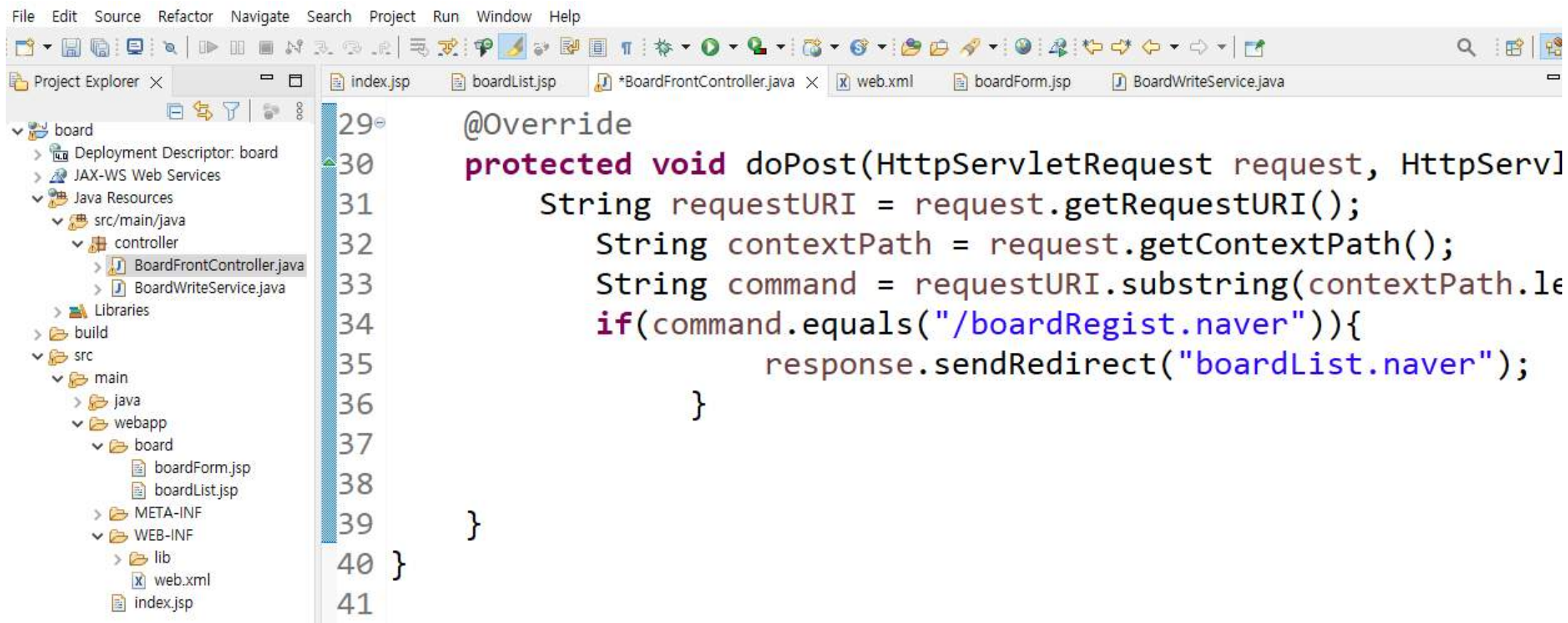
```
package controller;
```

```
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.



The screenshot shows an IDE with the Project Explorer on the left and the code editor on the right. The Project Explorer shows the following structure:

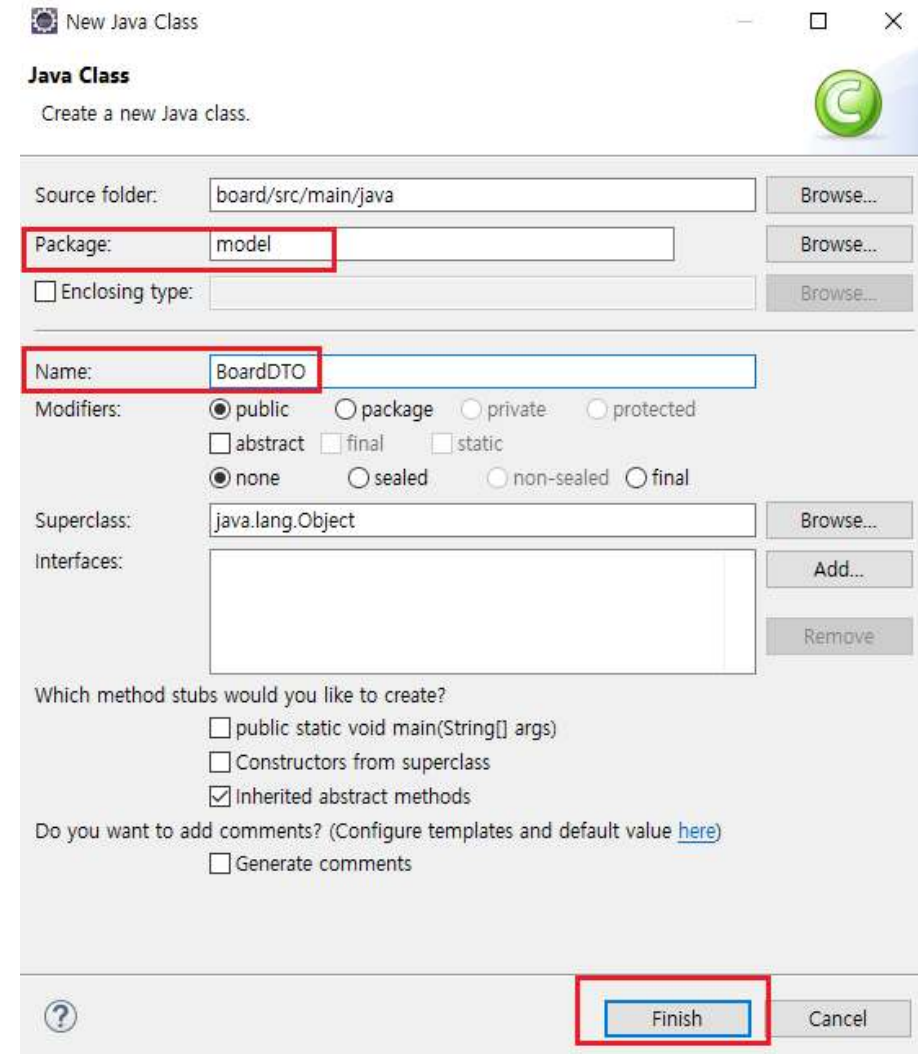
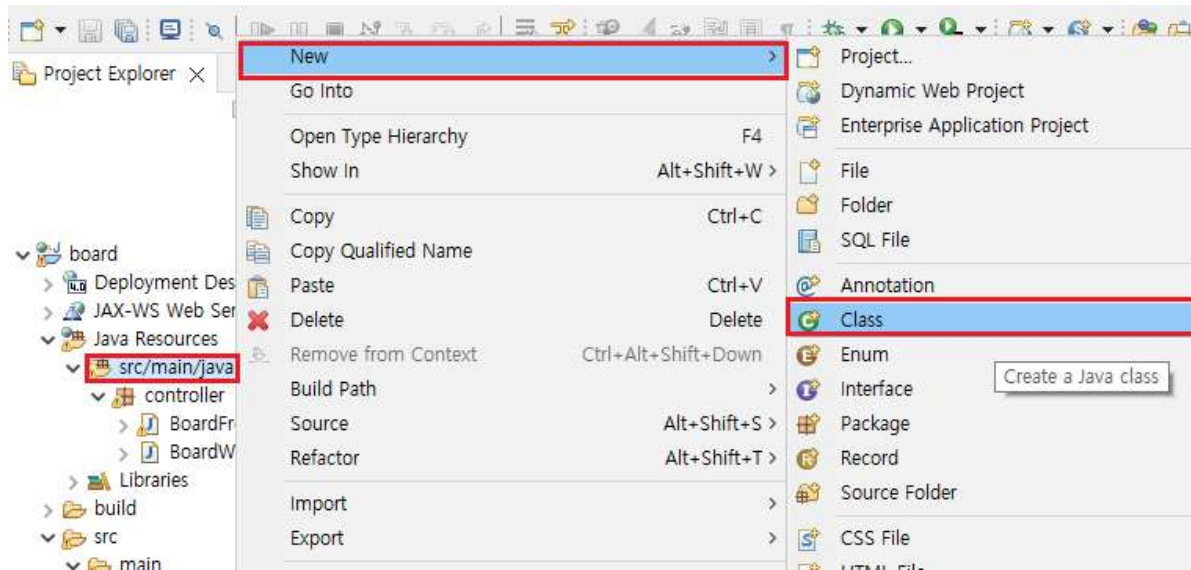
- board
 - Deployment Descriptor: board
 - JAX-WS Web Services
 - Java Resources
 - src/main/java
 - controller
 - BoardFrontController.java
 - BoardWriteService.java**
 - Libraries
 - build
 - src
 - main
 - java
 - webapp
 - board
 - boardForm.jsp
 - boardList.jsp
 - META-INF
 - WEB-INF
 - lib
 - web.xml
 - index.jsp

The code editor shows the following code for BoardWriteService.java:

```
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.

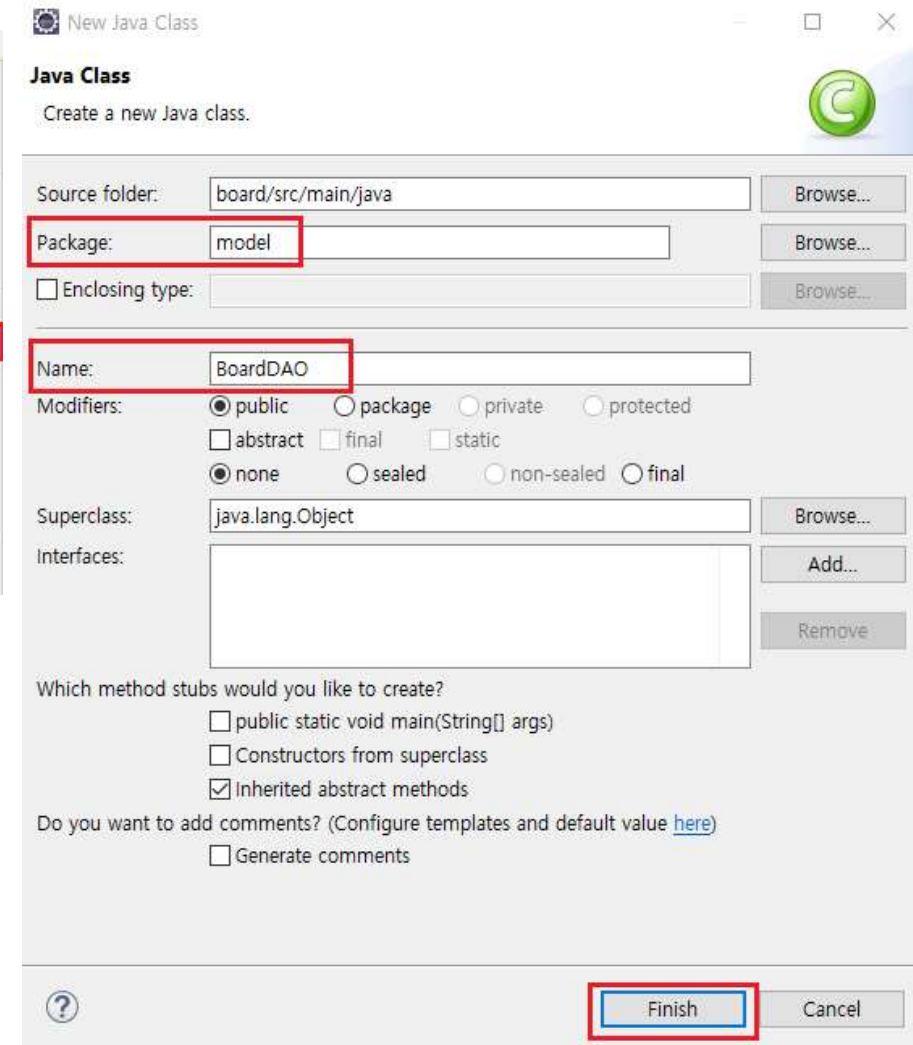
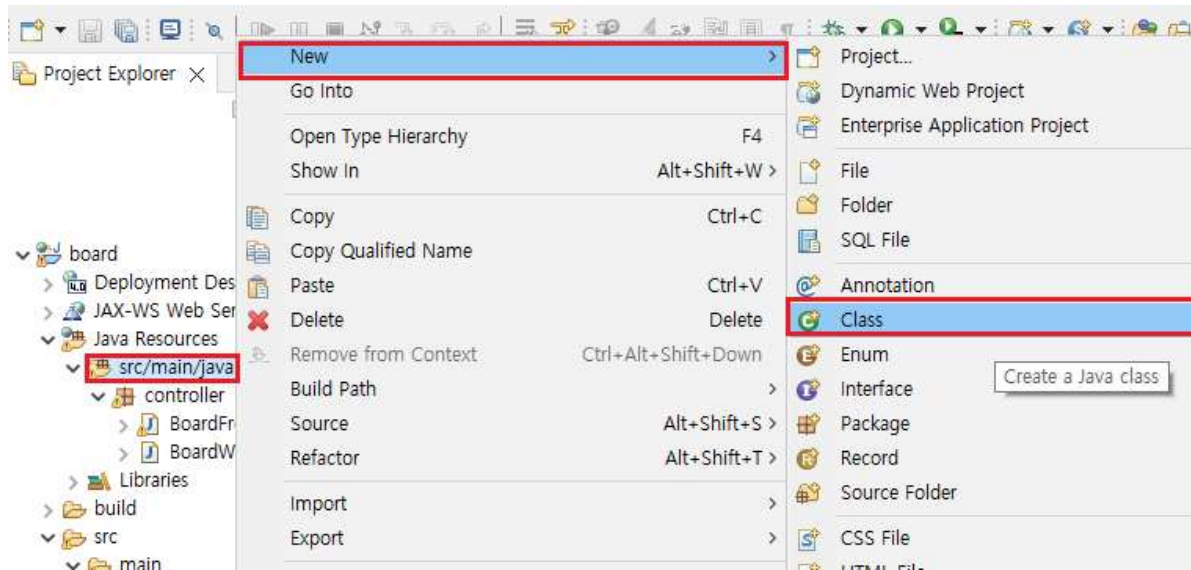
```
public class BoardWriteService {  
    public void execute(HttpServletRequest request) {
```

...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

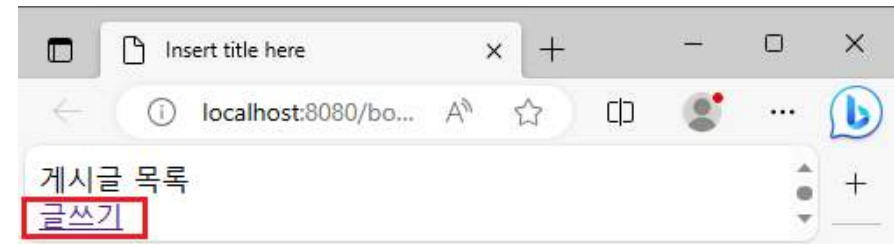
글쓴이 이승무

제목 제목

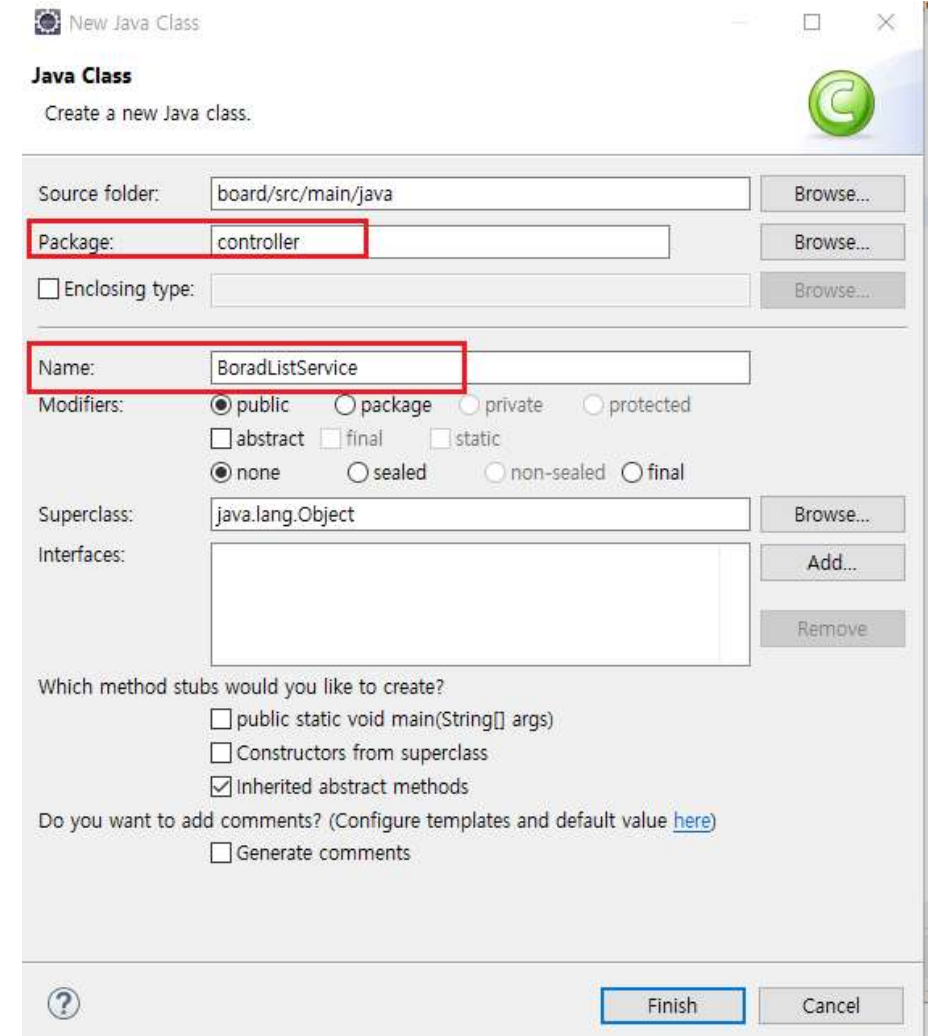
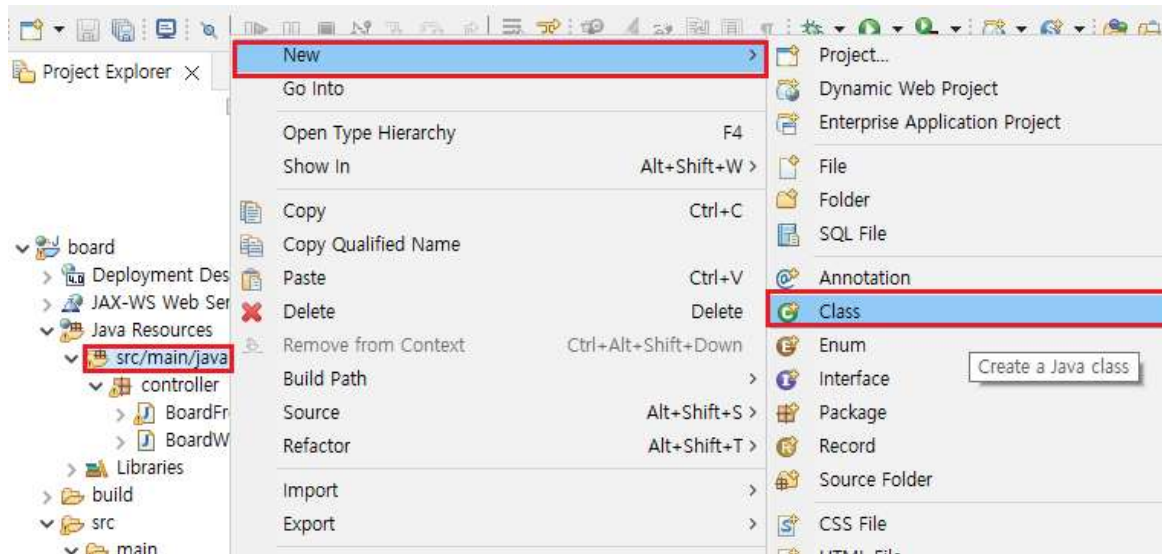
내용

게시글 등록

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

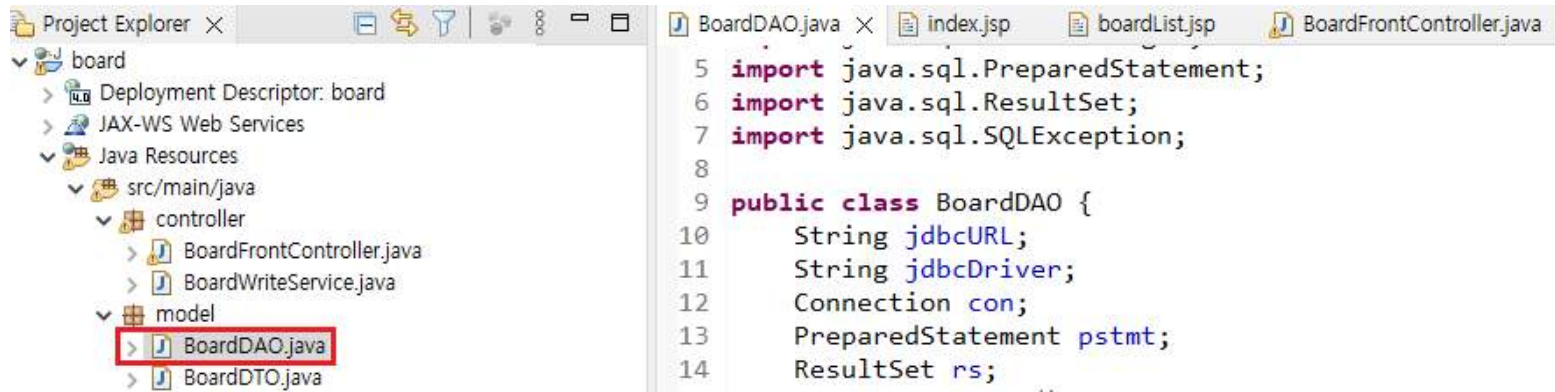


게시글 목록 페이지에서는 입력한 리스트가 출력이
되어야 한다.
그러기 위해서는 DB로부터 데이터를 가지고 와야
할 것이다.



```
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 녹색 내용을 추가

```
        return list;
```

```
    }
```

```
}
```



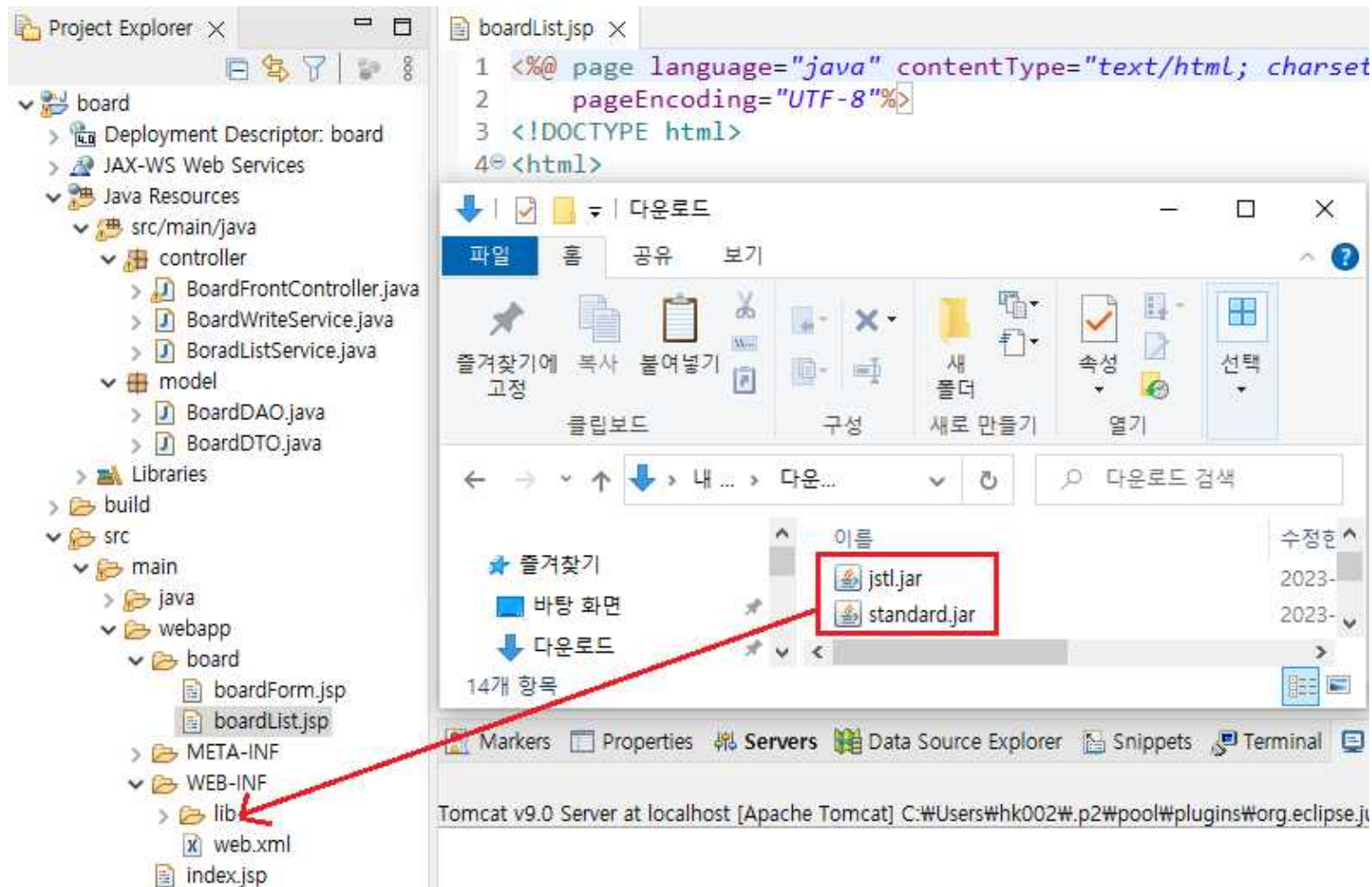
```
try {  
    pstmt = con.prepareStatement(sql);  
    rs = pstmt.executeQuery();// 출력될 모든 레코드를갖지고 옮  
    while(rs.next()) {  
        BoardDTO dto = new BoardDTO();  
        dto.setBoardContent(rs.getString("contents"));  
        dto.setBoardNum(rs.getInt("NUM"));  
        dto.setBoardSubject(rs.getString("SUBJECT"));  
        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.

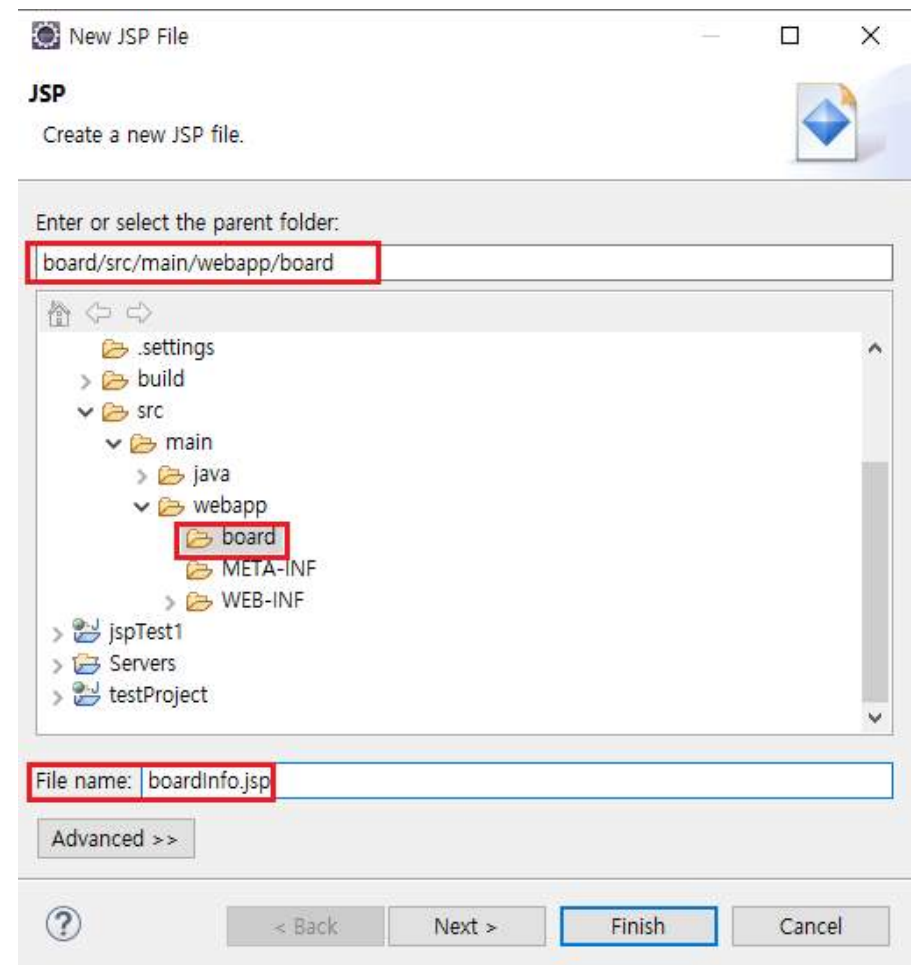
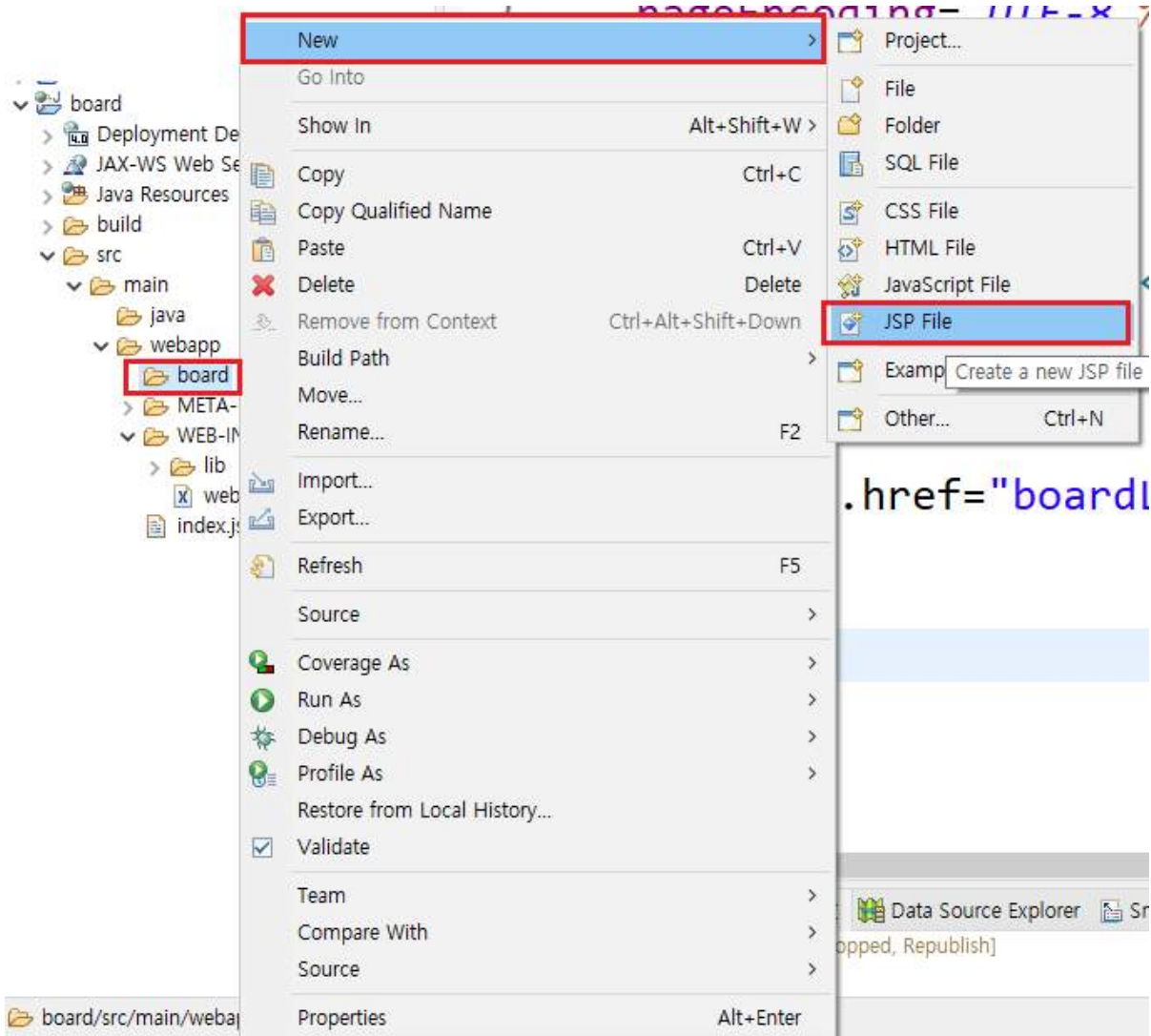


boardList.jsp에서 BoradListServicer에서 전달된 List에 있는 값을 출력하자.

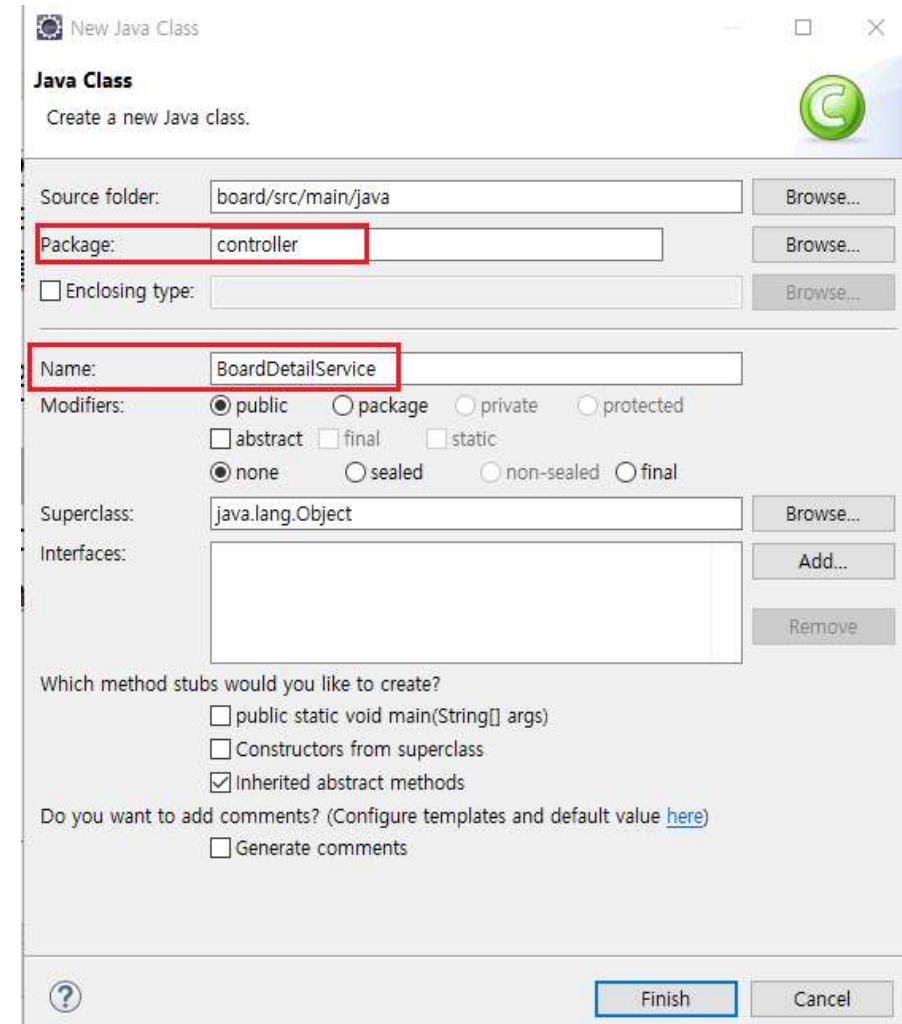
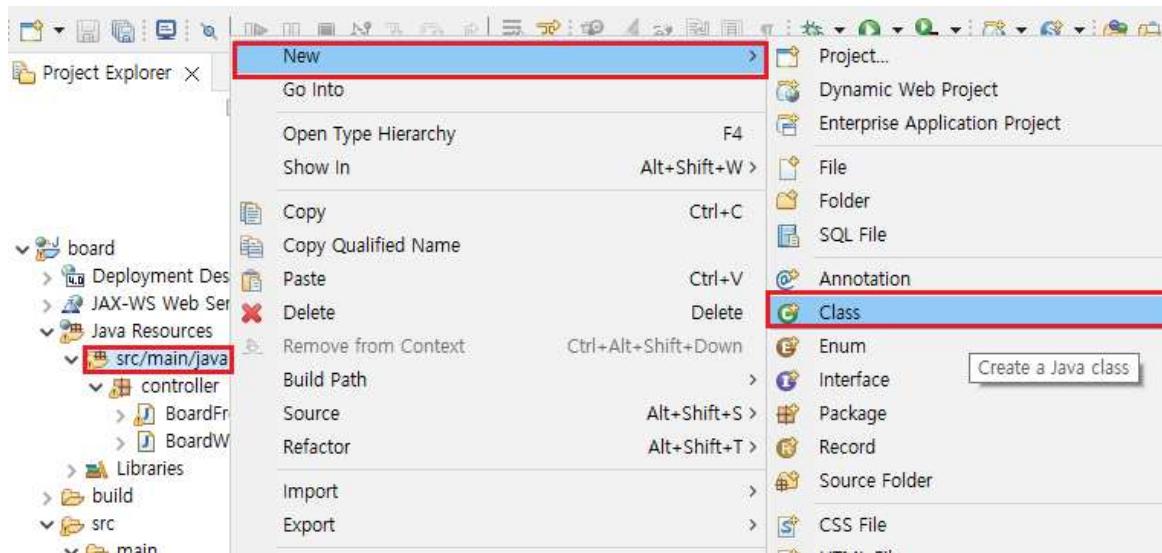
```
<%@ page language="java" contentType="text/html; charset=UTF-8" pageEncoding="UTF-8"%>
<%@ taglib prefix="c" uri="http://java.sun.com/jsp/jstl/core" %>
<!DOCTYPE html>
...
<body>
게시글 목록<br />
<table border= 1 width= "600px">
<thead>
<tr><th>글번호</th><th>글쓴이</th><th>제목</th></tr>
</thead>
<tbody>
<c:forEach 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>
```

BoardFrontController에서 boardDetail.board 주소에서 보여줄 /board/boardInfo.jsp 파일을 전송할 수 있게 한다.

```
public class BoardFrontController extends HttpServlet
    implements Servlet {
    protected void doGet(HttpServletRequest request,
        HttpServletResponse response){
        ...중략
        else if(command.equals("/boardDetail.naver")) {
            RequestDispatcher dispatcher =
            request.getRequestDispatcher("/board/boardInfo.jsp");
            dispatcher.forward(request, response);
        }
    }
    ... 중략
}
```



```
<%@ page language="java" contentType="text/html; charset=UTF-8"
    pageEncoding="UTF-8"%>
<!DOCTYPE html>
<html>
<head>
<meta charset="UTF-8">
<title>Insert title here</title>
</head>
<body>
상세페이지 <br />
글번호 : 0<br />
글쓴이 : 0<br />
제목 : 0<br />
내용 : 0<br />
수정 | 삭제 | 게시물 리스트
</body>
</html>
```

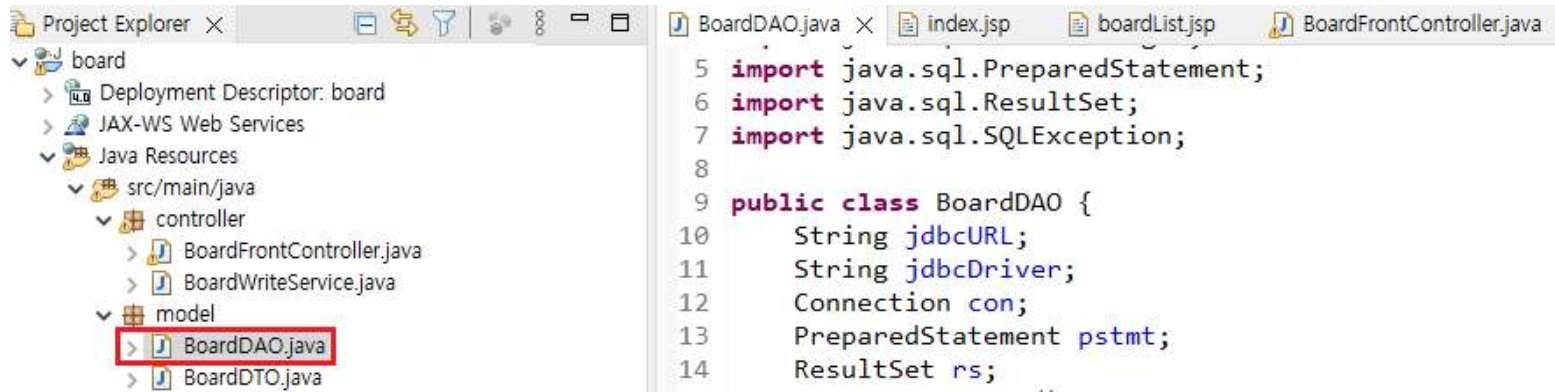
BoardFrontController의 boardDetail.naver에 데이터를 가지고 올 수 있게 page-controller가 있어야 한다.

BoardDetailController를 만들어 상세정보를 가지고 오도록한다.

쿼리스트링으로 받아온 num값을 이용해서 상세정보를 가지고 오자.

```
public class BoardDetailService {  
    public void execute(HttpServletRequest request) {  
        String num = request.getParameter("num");  
        BoardDAO dao = new BoardDAO();  
    }  
}
```

DAO 를 열어서 리스트를 가지고 오도록 메서드를 추가한다.



```
public class BoardDAO {
```

...중략

```
public BoardDTO selectOne(String num) {
```

```
    BoardDTO dto = new BoardDTO();
```

```
    con = getConnection();
```

```
    String sql = "select NUM, WRITER, SUBJECT, CONTENTS"
```

```
        + " from board "
```

```
        + " where NUM = ?";
```

//// 다음 슬라이드에 있는 녹색 내용을 추가

```
    return dto;
```

```
}
```

```
}
```

```
try {  
    pstmt = con.prepareStatement(sql);  
    pstmt.setInt(1, Integer.parseInt(num));  
    rs = pstmt.executeQuery();  
    if(rs.next()) {  
        dto.setBoardContent(rs.getString("CONTENTS"));  
        dto.setBoardNum(rs.getInt("NUM"));  
        dto.setBoardSubject(rs.getString("SUBJECT"));  
        dto.setBoardWriter(rs.getString("WRITER"));  
    }  
} catch (Exception e) {  
    e.printStackTrace();  
}  
finally {  
    if(rs != null) try{rs.close();}catch(Exception e) {}  
    if(pstmt != null) try{pstmt.close();}catch(Exception e) {}  
    if(con != null) try{con.close();}catch(Exception e) {}  
}
```

```
public class BoardDetailService {  
    public void execute(HttpServletRequest request) {  
        String num = request.getParameter("num");  
        BoardDAO dao = new BoardDAO();  
  
        //// 추가  
        BoardDTO dto = dao.selectOne(num);  
        request.setAttribute("dto", dto);  
    }  
}
```

```

public class BoardFrontController extends HttpServlet
    implements Servlet {
    protected void doGet(HttpServletRequest request,
        HttpServletResponse response){
        ...중략
        else if(command.equals("/boardDetail.naver")) {
            //// 추가
            BoardDetailService action =
                new BoardDetailService();
            action.execute(request);
            RequestDispatcher dispatcher =
                request.getRequestDispatcher("/board/boardInfo.jsp");
            dispatcher.forward(request, response);
        }
    }
    ... 중략
}

```

/board/boardInfo.jsp에 수정페이지로 가도록 링크를 만들어준다.

<body>

상세페이지

글번호 : \${dto.boardNum}

글쓴이 : \${dto.boardWriter }

제목 : \${dto.boardSubject }

내용 : \${dto.boardContent }

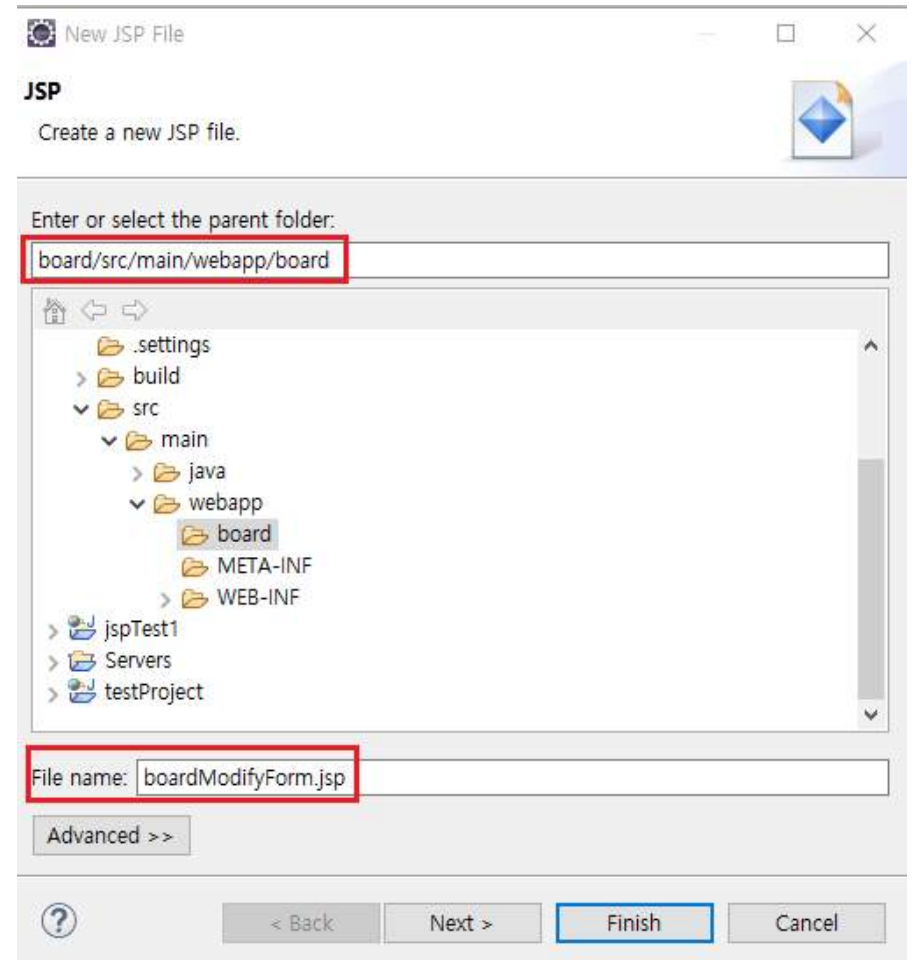
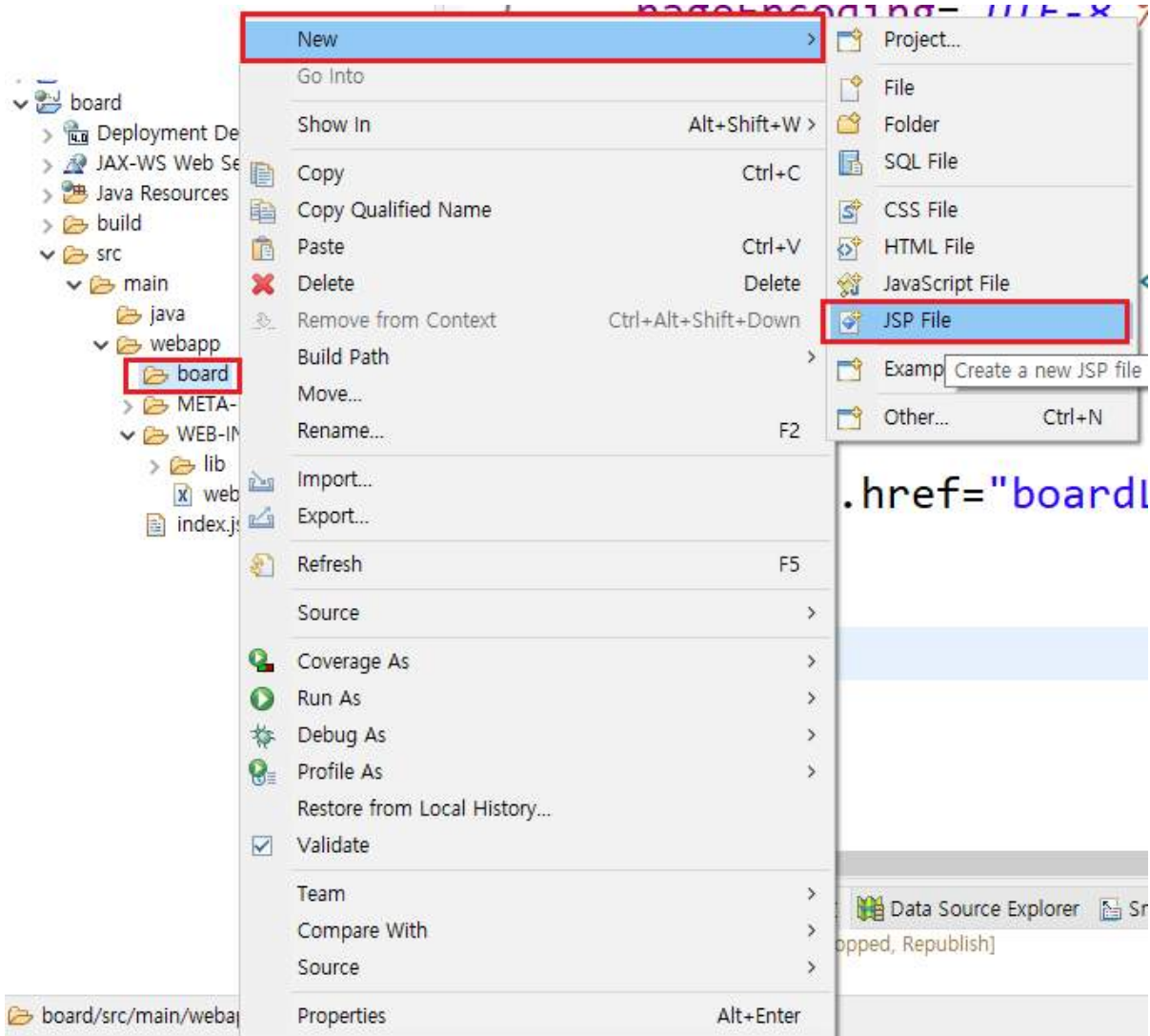
수정

| 삭제 | 게시물 리스트

</body>

수정하기 위한 주소 *boardUpdate.naver*에서 *boardModifyForm.jsp*파일이 열리도록 *Front-Controller*에 작성하자.

```
public class BoardFrontController extends HttpServlet implements Servlet {  
    protected void doGet(HttpServletRequest request,  
        HttpServletResponse response){  
        ...중략  
        else if(command.equals("/boardUpdate.naver")) {  
            RequestDispatcher dispatcher =  
            request.getRequestDispatcher("/board/boardModifyForm.jsp");  
            dispatcher.forward(request, response);  
        }  
    }  
    ... 중략  
}
```



boardModifyForm.jsp 페이지를 만든다.

```
<form action= "boardModify.naver" method= "post">
  <input type= "hidden" name= "boardNum" value= ""/>
  <table>
    <caption>게시글 수정</caption>
    <tr> <td>글쓴이</td>
      <td><input type= "text" name= "boardWriter" value= ""> </td>
    </tr>
    <tr> <td>제목</td>
      <td><input type= "text" name= "boardSubject" value= ""> </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 수정 완료" />
      <input type= "button" value= "뒤로가기" onclick= "javascript:history.back()" />
    </th> </tr>
  </table>
</form>
```

```

public class BoardFrontController extends HttpServlet implements Servlet {
    protected void doGet(HttpServletRequest request,
        HttpServletResponse response){
        ...중략
        else if(command.equals("/boardUpdate.naver")) {
            BoardDetailService action = new BoardDetailService();
            action.execute(request);

            RequestDispatcher dispatcher =
            Request.getRequestDispatcher("/board/boardModifyForm.jsp");
            dispatcher.forward(request, response);
        }
    }
    ... 중략
}

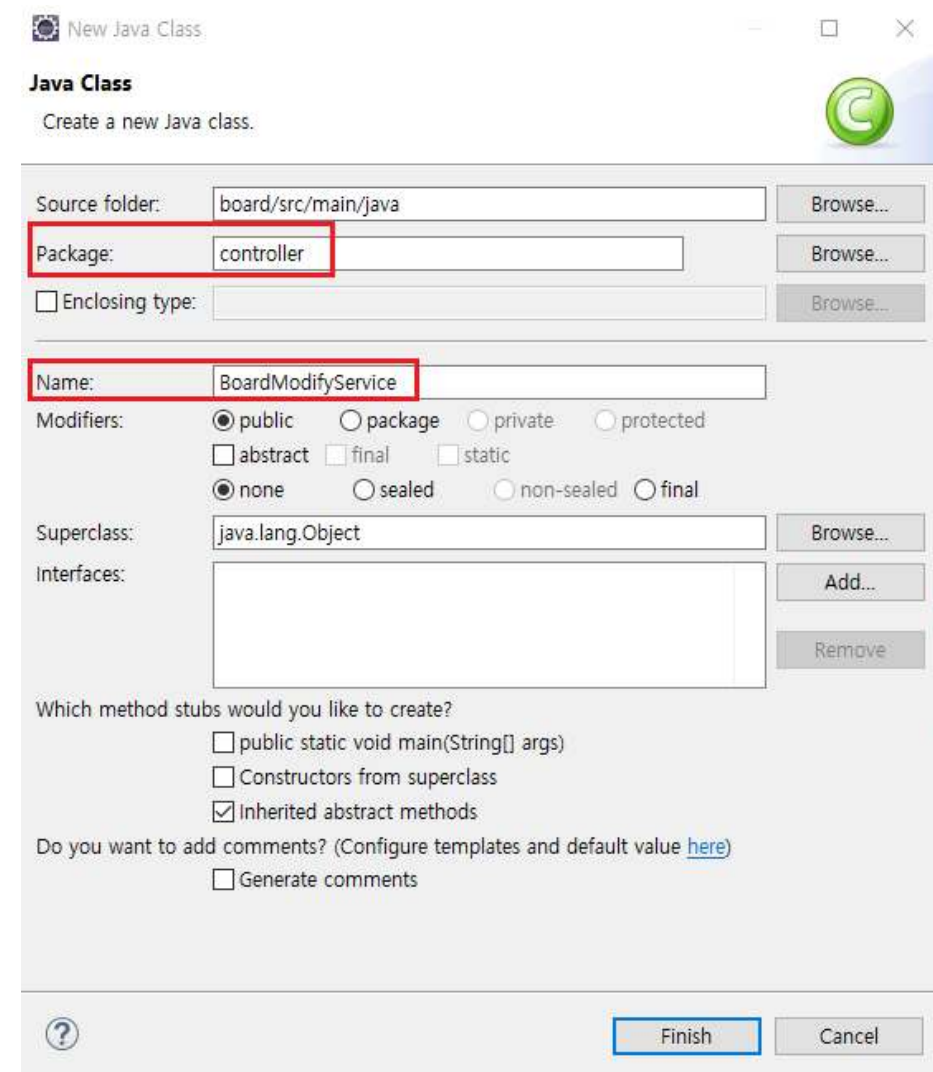
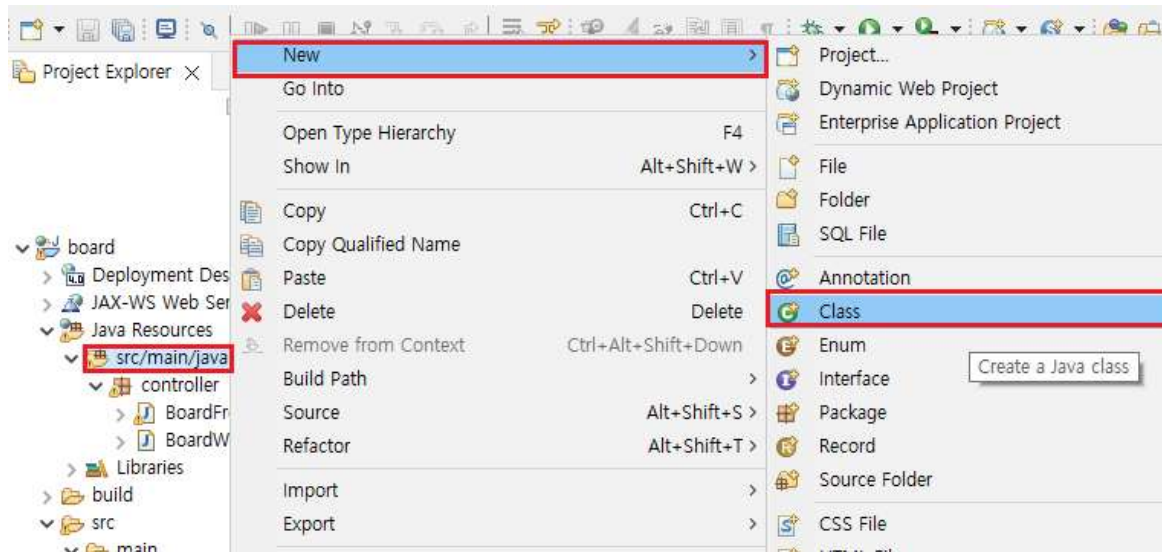
```

boardModifyForm.jsp 페이지를 만든다.

```
<form action= "boardModify.naver" method= "post">
  <input type= "hidden" name= "boardNum" value= "${dto.boardNum}"/>
  <table>
    <caption>게시글 수정</caption>
    <tr>
      <td>글쓴이</td>
      <td><input type= "text" name= "boardWriter" value= "${dto.boardWriter}"/></td>
    </tr>
    <tr>
      <td>제목</td>
      <td><input type= "text" name= "boardSubject" value= "${dto.boardSubject}"/></td>
    </tr>
    <tr>
      <td>내용</td>
      <td><textarea rows= "6" cols= "40" name= "boardContent"> ${dto.boardContent}</textarea></td>
    </tr>
    <tr>
      <th colspan= 2>
        <input type= "submit" value= "게시글 수정 완료" />
        <input type= "button" value= "뒤로가기" onclick= "javascript:history.back()" />
      </th>
    </tr>
  </table>
</form>
```

Front-Controller에서 수정완료를 위한 주소를 작성한다,
수정이 완료가 되면 다시 상세페이지로 이동할 수 있게 만든다.

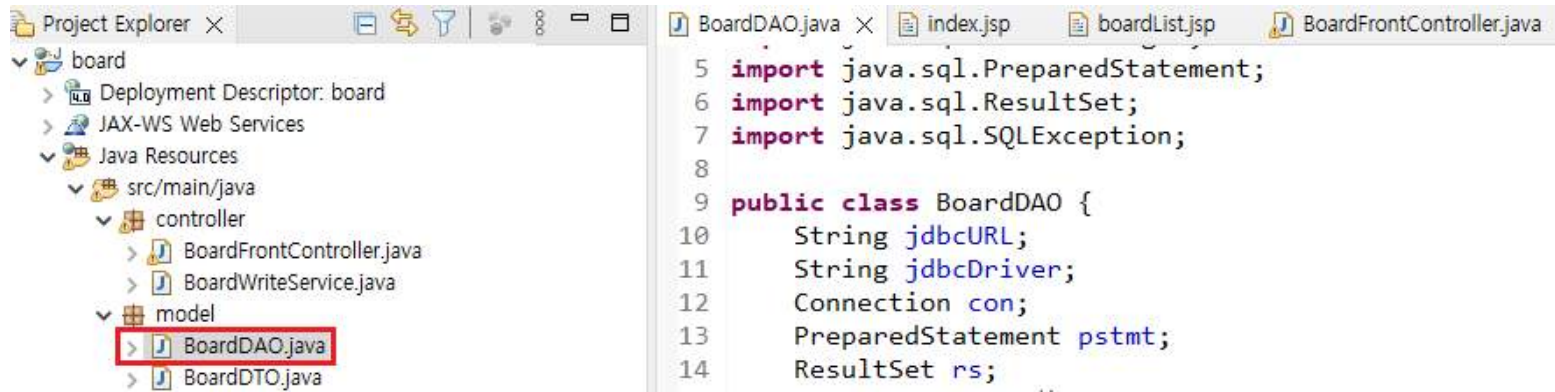
```
public class BoardFrontController extends HttpServlet implements Servlet {  
    protected void doPost(HttpServletRequest request,  
        HttpServletResponse response){  
        ...중략  
        else if(command.equals("/boardModify.naver")) {  
            response.sendRedirect("boardDetail.naver?num=" +  
                request.getParameter("boardNum"));  
        }  
    }  
    ... 중략  
}
```



데이터베이스에서 수정할 수 있게 page-controller를 만들어 준다.
BoardModifyService를 만든다.

```
public class BoardModifyService {  
    public void execute(HttpServletRequest request) {  
        try {  
            request.setCharacterEncoding("utf-8");  
        }catch(Exception e) {}  
        BoardDTO dto = new BoardDTO();  
        dto.setBoardContent(request.getParameter("boardContent"));  
        dto.setBoardNum( Integer.parseInt(request.getParameter("boardNum")));  
        dto.setBoardSubject(request.getParameter("boardSubject"));  
        dto.setBoardWriter(request.getParameter("boardWriter"));  
        BoardDAO dao = new BoardDAO();  
    }  
}
```


DAO 를 열어서 리스트를 가지고 오도록 메서드를 추가한다.



```

public void boardUpdate(BoardDTO dto) {
    con = getConnection();
    String sql = "update board"
        + " set WRITER = ? , SUBJECT = ?, CONTENTS = ? "
        + " where num = ?";

    try {
        pstmt = con.prepareStatement(sql);
        pstmt.setString(1, dto.getBoardWriter());
        pstmt.setString(2, dto.getBoardSubject());
        pstmt.setString(3, dto.getBoardContent());
        pstmt.setInt(4, dto.getBoardNum());
        int i = pstmt.executeUpdate();
        System.out.println(i + "개 행이(가) 수정되었습니다.");
    }catch(Exception e) {e.printStackTrace();}
    finally {
        if(pstmt != null) try{pstmt.close();}catch(Exception e) {}
        if(con != null) try{con.close();}catch(Exception e) {}
    }
}

```

```
public class BoardModifyService {  
    public void execute(HttpServletRequest request) {  
        try {  
            request.setCharacterEncoding("utf-8");  
        } catch (Exception e) {}  
        BoardDTO dto = new BoardDTO();  
        ...  
        BoardDAO dao = new BoardDAO();  
        /// 추가  
        dao.boardUpdate(dto);  
    }  
}
```

Front-Comntroller 에 추가한다.

```
public class BoardFrontController extends HttpServlet implements Servlet {  
    protected void doPost(HttpServletRequest request,  
        HttpServletResponse response){  
        ...중략  
        else if(command.equals("/boardModify.naver")) {  
            BoardModifyService action = new  
                BoardModifyService();  
            action.execute(request);  
            response.sendRedirect("boardDetail.naver?num="+  
                request.getParameter("boardNum"));  
        }  
    }  
    ... 중략  
}
```

/board/boardInfo.jsp에 삭제를 할 수 있게 링크를 만들어준다.

```
<body>
```

```
상세페이지 <br />
```

```
글번호 : ${dto.boardNum}<br />
```

```
글쓴이 : ${dto.boardWriter }<br />
```

```
제목 : ${dto.boardSubject }<br />
```

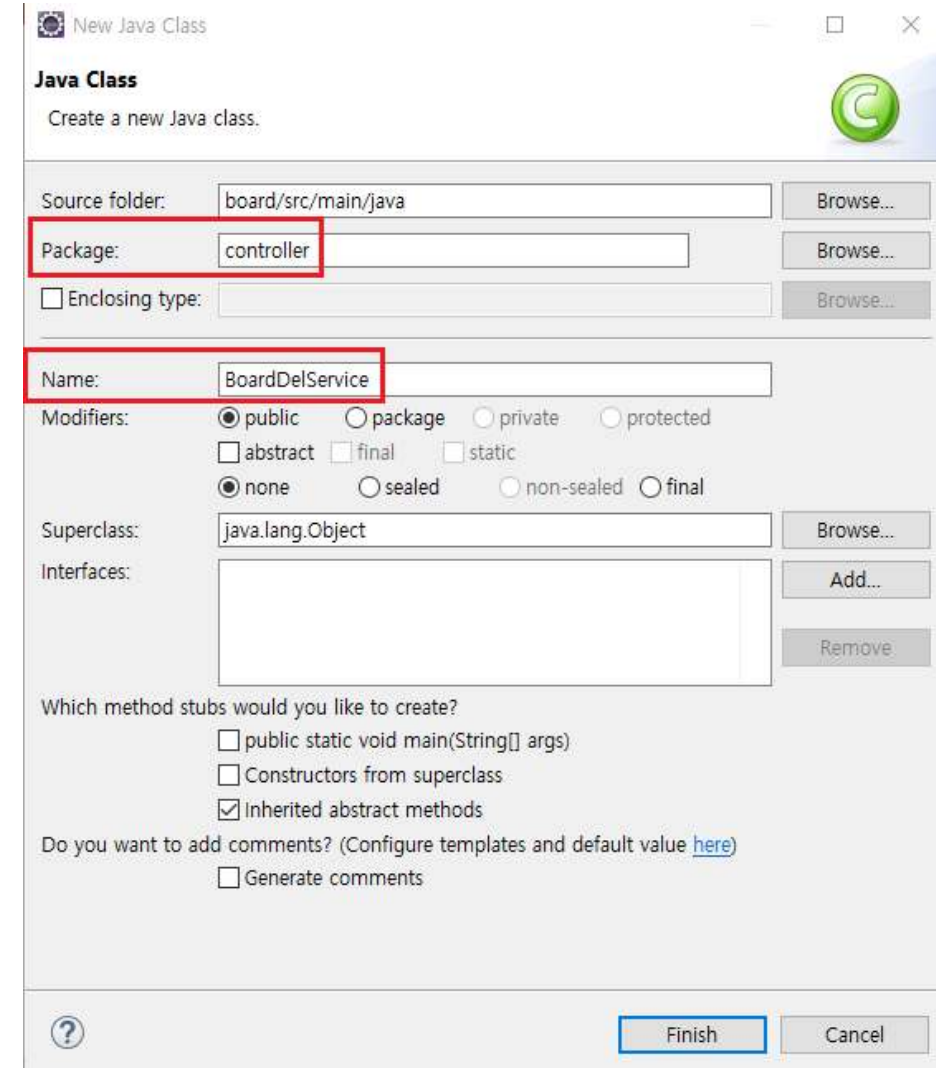
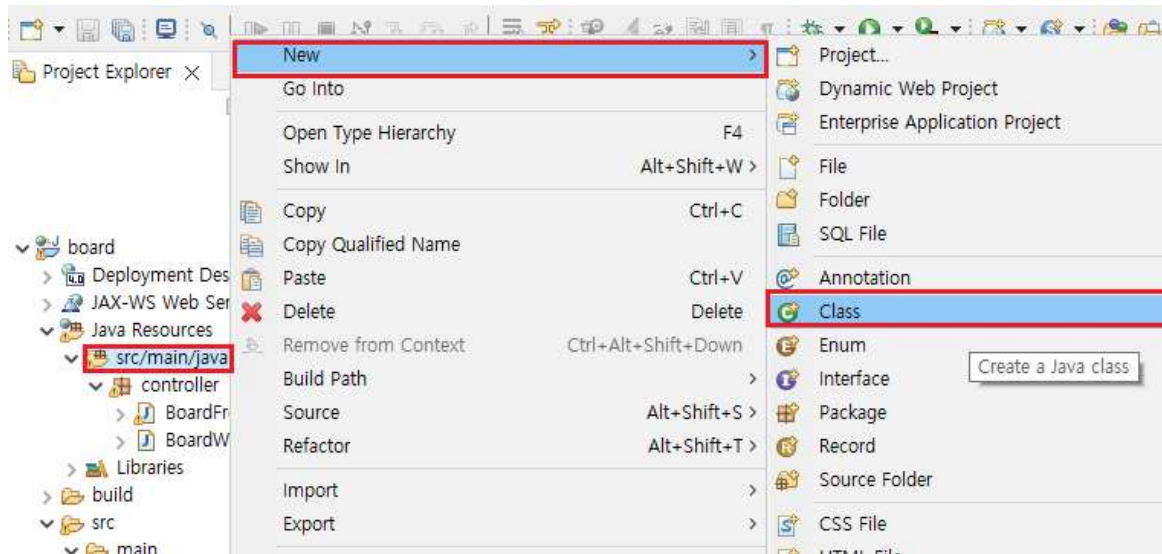
```
내용 : ${dto.boardContent }<br />
```

```
<a href= "boardUpdate.naver?num=${dto.boardNum}">수정</a>
```

```
| <a href= "boardDel.naver?num=${dto.boardNum}">삭제</a>
```

```
| 게시글 리스트
```

```
</body>
```



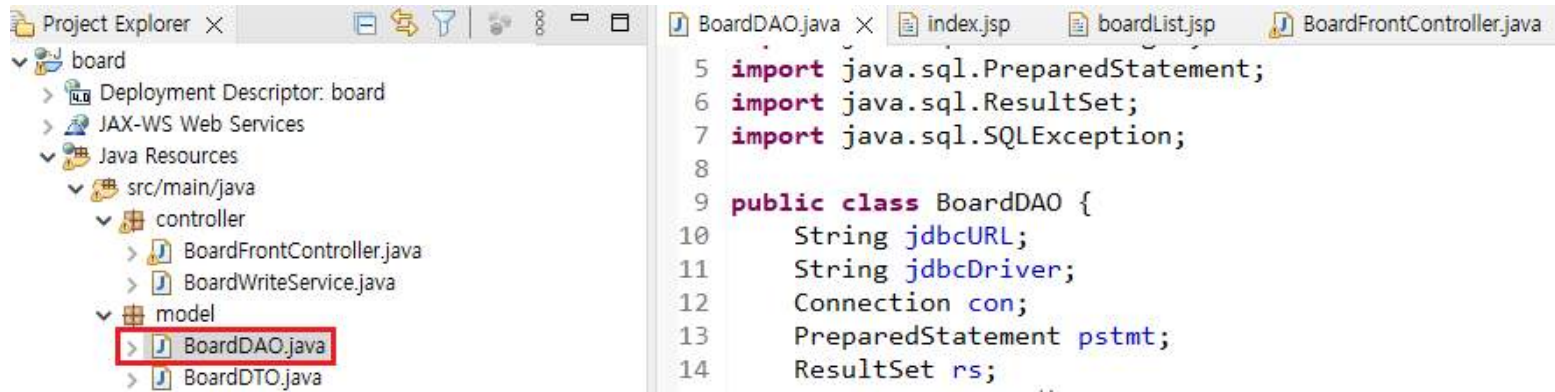
Front-Controller에서 삭제가 되면 목록 페이지로 이동하도록한다.

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

데이터베이스에서 삭제가 되도록 page-controller를 만들어준다.

```
public class BoardDelService {  
    public void execute(HttpServletRequest request) {  
        String num = request.getParameter("num");  
        BoardDAO dao = new BoardDAO();  
    }  
}
```

DAO 를 열어서 리스트를 가지고 오도록 메서드를 추가한다.



DAO에 메서드를 추가해준다.

```
public void boardDel(String num) {  
    con = getConnection();  
    String sql = "delete from board where num = ?";  
    try {  
        pstmt = con.prepareStatement(sql);  
        pstmt.setInt(1, Integer.parseInt(num));  
        int i = pstmt.executeUpdate();  
        System.out.println(i + " 개 행이(가) 삭제되었습니다.");  
    }catch(Exception e) {e.printStackTrace();}  
    } finally {  
        if(pstmt != null) try{pstmt.close();}catch(Exception e) {}  
        if(con != null) try{con.close();}catch(Exception e) {}  
    }  
}
```

page-controller메서드를 호출할 수 있게 추가해준다.

```
public class BoardDelService {  
    public void execute(HttpServletRequest request) {  
        String num = request.getParameter("num");  
        BoardDAO dao = new BoardDAO();  
        /// 추가  
        dao.boardDel(num);  
    }  
}
```

Front-Controller에서 BoardDelController의 메서드를 추가한다.

```
else if(command.equals("/boardDel.naver")) {  
    //// 추가  
    BoardDelService action = new BoardDelService();  
    action.execute(request);  
    ////  
  
    response.sendRedirect("boardList.naver");  
}
```