[ 13 ] MVC 게시판

BDeleteService

BReplyViewService

BWriteService

BListService

BModifyViewService

BReplyService

BContentService

BModifyService

1. 프로젝트 설계

로직실행

Dispatcher

BController

클라이언트

요청 지시

DB

DAO

DTO

content\_view.jsp

list.jsp

w.jsp

reply\_view.jsp

write\_view.jsp

w.jsp

modify\_view.jsp

**적절한 응답을 뿌려준다**

1. DB(DataBase) 생성

**DROP** **TABLE** MVC\_BOARD;

**DROP** SEQUENCE MVC\_BOARD\_SEQ;

**CREATE** SEQUENCE MVC\_BOARD\_SEQ

START **WITH** 1

INCREMENT **BY** 1

MINVALUE 1

MAXVALUE 999999

NOCYCLE

NOCACHE;

**CREATE** **TABLE** MVC\_BOARD(

bId NUMBER(6) **PRIMARY** **KEY**,

bName VARCHAR2(50) **NOT** **NULL**,

bTitle VARCHAR2(100) **NOT** **NULL**,

bContent VARCHAR2(1000),

bDate **DATE** **DEFAULT** SYSDATE **NOT** **NULL**,

bHit NUMBER(6) **DEFAULT** 0 **NOT** **NULL**,

bGroup NUMBER(6) **NOT** **NULL**,

bStep NUMBER(3) **NOT** **NULL**,

bIndent NUMBER(3) **NOT** **NULL**,

bIp VARCHAR2(20) **NOT** **NULL**

);

-- 더미데이터(원글)

**INSERT** **INTO** MVC\_BOARD (bId, bName, BTITLE, BCONTENT, BGROUP, BSTEP, BINDENT, BIP)

**VALUES** (MVC\_BOARD\_SEQ.NEXTVAL, 'HONG', 'TITLE','CONTENT',

MVC\_BOARD\_SEQ.CURRVAL, 0,0, '192.168.10.151');

**SELECT** \* **FROM** MVC\_BOARD;

-- 더미데이터(위의 1번글에 대한 첫번째 답변글)

**INSERT** **INTO** MVC\_BOARD (BID, BNAME, BTITLE, BCONTENT, BGROUP, BSTEP, BINDENT, BIP)

**VALUES** (MVC\_BOARD\_SEQ.NEXTVAL, 'KIM','T1','C1',

1, 1, 1, '127.0.0.1');

**SELECT** \* **FROM** MVC\_BOARD **ORDER** **BY** BGROUP **DESC**, BSTEP;

-- 더미데이터 (위의 1번글에 대한 두번째 답변글)

-- 답변글 추가전 STEP a 수행

**UPDATE** MVC\_BOARD **SET** BSTEP = BSTEP+1

**WHERE** BGROUP = 1 **AND** BSTEP>0;

**SELECT** \* **FROM** MVC\_BOARD **ORDER** **BY** BGROUP **DESC**, BSTEP;

**INSERT** **INTO** MVC\_BOARD (BID, BNAME, BTITLE, BCONTENT, BGROUP, BSTEP, BINDENT, BIP)

**VALUES** (MVC\_BOARD\_SEQ.NEXTVAL, 'PARK','T2','C2',

1, 1, 1, '192.168.10.151');

**COMMIT**;

-- 글목록(startRow부터 endRow까지)

**SELECT** \* **FROM**

(**SELECT** ROWNUM RN, A.\* **FROM**

(**SELECT** \* **FROM** MVC\_BOARD **ORDER** **BY** BGROUP **DESC**, BSTEP) A)

**WHERE** RN **BETWEEN** 2 **AND** 3;

-- 글갯수

**SELECT** COUNT(\*) cnt **FROM** MVC\_BOARD;

-- 글쓰기(원글)

**INSERT** **INTO** MVC\_BOARD (bId, bName, BTITLE, BCONTENT, BGROUP, BSTEP, BINDENT, BIP)

**VALUES** (MVC\_BOARD\_SEQ.NEXTVAL, 'HONG', 'TITLE','CONTENT',

MVC\_BOARD\_SEQ.CURRVAL, 0,0, '192.168.10.151');

-- bHit 하나 올리기(1번글 조회수 하나 올리기)

**UPDATE** MVC\_BOARD **SET** BHIT = BHIT+1 **WHERE** BID=1;

-- bId로 글 dto보기

**SELECT** \* **FROM** MVC\_BOARD **WHERE** BID=1;

-- 글 수정하기(bId, bName, bTitle, bContent, bIp, bDATE)

**UPDATE** MVC\_BOARD

**SET** BNAME='LEE',

BTITLE = 'TITLE2',

BCONTENT = '본문2',

BIP = '192.168.10.151',

BDATE = SYSDATE

**WHERE** BID=1;

-- 글 삭제하기(bId로 삭제하기)

**DELETE** **FROM** MVC\_BOARD **WHERE** BID=3;

-- 답변글 추가전 STEP a 수행

**UPDATE** MVC\_BOARD **SET** BSTEP = BSTEP+1

**WHERE** BGROUP = 1 **AND** BSTEP>0;

-- 답변글 쓰기

**INSERT** **INTO** MVC\_BOARD (BID, BNAME, BTITLE, BCONTENT, BGROUP, BSTEP, BINDENT, BIP)

**VALUES** (MVC\_BOARD\_SEQ.NEXTVAL, 'PARK','T2','C2',

1, 1, 1, '192.168.10.151');

**SELECT** \* **FROM** MVC\_BOARD **ORDER** **BY** BGROUP **DESC**, BSTEP;

commit;

1. DTO & DAO

**public** **class** BDto {

**private** **int** bid;

**private** String bname;

**private** String btitle;

**private** String bcontent;

**private** Timestamp bdate;

**private** **int** bhit;

**private** **int** bgroup;

**private** **int** bstep;

**private** **int** bindent;

**private** String bip;

}

**package** com.tj.ex.dao;

**import** java.sql.Connection;

**import** java.sql.PreparedStatement;

**import** java.sql.ResultSet;

**import** java.sql.SQLException;

**import** java.sql.Timestamp;

**import** java.util.ArrayList;

**import** javax.naming.Context;

**import** javax.naming.InitialContext;

**import** javax.naming.NamingException;

**import** javax.sql.DataSource;

**import** com.tj.ex.dto.BoardDto;

**public** **class** BoardDao {

**public** **static** **final** **int** ***FAIL*** = 0;

**public** **static** **final** **int** ***SUCCESS*** = 1;

**private** DataSource ds;

**public** BoardDao() {

**try** {

Context ctx = **new** InitialContext();

ds =

(DataSource) ctx.lookup("java:comp/env/jdbc/Oracle11g");

} **catch** (NamingException e) {

System.***out***.println(e.getMessage());

}

}

// 글목록

**public** ArrayList<BoardDto> list(**int** startRow, **int** endRow){

ArrayList<BoardDto> dtos = **new** ArrayList<BoardDto>();

Connection conn = **null**;

PreparedStatement pstmt = **null**;

ResultSet rs = **null**;

String sql = "SELECT \* FROM " +

" (SELECT ROWNUM RN, A.\* FROM " +

" (SELECT \* FROM MVC\_BOARD ORDER BY BGROUP DESC, BSTEP) A)" +

" WHERE RN BETWEEN ? AND ?";

**try** {

conn = ds.getConnection();

pstmt = conn.prepareStatement(sql);

pstmt.setInt(1, startRow);

pstmt.setInt(2, endRow);

rs = pstmt.executeQuery();

**while**(rs.next()) {

**int** bid = rs.getInt("bid");

String bname = rs.getString("bname");

String btitle = rs.getString("btitle");

String bcontent= rs.getString("bcontent");

Timestamp bdate= rs.getTimestamp("bdate");

**int** bhit = rs.getInt("bhit");

**int** bgroup = rs.getInt("bgroup");

**int** bstep = rs.getInt("bstep");

**int** bindent = rs.getInt("bindent");

String bip = rs.getString("bip");

dtos.add(**new** BoardDto(bid, bname, btitle, bcontent,

bdate, bhit, bgroup, bstep, bindent, bip));

}

} **catch** (SQLException e) {

System.***out***.println(e.getMessage());

}**finally** {

**try** {

**if**(rs !=**null**) rs.close();

**if**(pstmt!=**null**) pstmt.close();

**if**(conn !=**null**) conn.close();

} **catch** (SQLException e) {System.***out***.println(e.getMessage());}

}

**return** dtos;

}

// 글갯수

**public** **int** getBoardTotCnt() {

**int** cnt = 0;

Connection conn = **null**;

PreparedStatement pstmt = **null**;

ResultSet rs = **null**;

String sql = "SELECT COUNT(\*) cnt FROM MVC\_BOARD";

**try** {

conn = ds.getConnection();

pstmt = conn.prepareStatement(sql);

rs = pstmt.executeQuery();

rs.next();

cnt = rs.getInt("cnt");

} **catch** (SQLException e) {

System.***out***.println(e.getMessage());

}**finally** {

**try** {

**if**(rs !=**null**) rs.close();

**if**(pstmt!=**null**) pstmt.close();

**if**(conn !=**null**) conn.close();

} **catch** (SQLException e) {System.***out***.println(e.getMessage());}

}

**return** cnt;

}

// 글쓰기(원글쓰기)

**public** **int** write(String bname, String btitle, String bcontent, String bip) {

**int** result = ***FAIL***;

Connection conn = **null**;

PreparedStatement pstmt = **null**;

String sql = "INSERT INTO MVC\_BOARD"

+ " (bId, bName, BTITLE, BCONTENT, BGROUP, BSTEP, BINDENT, BIP)"

+ " VALUES (MVC\_BOARD\_SEQ.NEXTVAL, ?, ?, ?, "

+ " MVC\_BOARD\_SEQ.CURRVAL, 0, 0, ?)";

**try** {

conn = ds.getConnection();

pstmt = conn.prepareStatement(sql);

pstmt.setString(1, bname);

pstmt.setString(2, btitle);

pstmt.setString(3, bcontent);

pstmt.setString(4, bip);

result = pstmt.executeUpdate();

System.***out***.println(result==***SUCCESS***? "원글쓰기성공":"원글쓰기실패");

} **catch** (SQLException e) {

System.***out***.println(e.getMessage());

}**finally** {

**try** {

**if**(pstmt!=**null**) pstmt.close();

**if**(conn !=**null**) conn.close();

} **catch** (SQLException e) {System.***out***.println(e.getMessage());}

}

**return** result;

}

// 조회수올리기

**private** **void** hitUp(**int** bid) {

Connection conn = **null**;

PreparedStatement pstmt = **null**;

String sql = "UPDATE MVC\_BOARD SET BHIT = BHIT+1 WHERE BID=?";

**try** {

conn = ds.getConnection();

pstmt = conn.prepareStatement(sql);

pstmt.setInt(1, bid);

pstmt.executeUpdate();

} **catch** (SQLException e) {

System.***out***.println(e.getMessage());

}**finally** {

**try** {

**if**(pstmt!=**null**) pstmt.close();

**if**(conn !=**null**) conn.close();

} **catch** (SQLException e) {System.***out***.println(e.getMessage());}

}

}

// 글 상세보기(조회수 up + bid로 dto리턴)

**public** BoardDto contentView(**int** bid) {

hitUp(bid);

BoardDto dto = **null**;

Connection conn = **null**;

PreparedStatement pstmt = **null**;

ResultSet rs = **null**;

String sql = "SELECT \* FROM MVC\_BOARD WHERE BID=?";

**try** {

conn = ds.getConnection();

pstmt = conn.prepareStatement(sql);

pstmt.setInt(1, bid);

rs = pstmt.executeQuery();

**if**(rs.next()) {

String bname = rs.getString("bname");

String btitle = rs.getString("btitle");

String bcontent= rs.getString("bcontent");

Timestamp bdate= rs.getTimestamp("bdate");

**int** bhit = rs.getInt("bhit");

**int** bgroup = rs.getInt("bgroup");

**int** bstep = rs.getInt("bstep");

**int** bindent = rs.getInt("bindent");

String bip = rs.getString("bip");

dto = **new** BoardDto(bid, bname, btitle, bcontent, bdate, bhit,

bgroup, bstep, bindent, bip);

}

} **catch** (SQLException e) {

System.***out***.println(e.getMessage());

}**finally** {

**try** {

**if**(rs !=**null**) rs.close();

**if**(pstmt!=**null**) pstmt.close();

**if**(conn !=**null**) conn.close();

} **catch** (SQLException e) {System.***out***.println(e.getMessage());}

}

**return** dto;

}

// 답변글 view + 수정 view (bid로 dto리턴)

**public** BoardDto modifyView\_replyView(**int** bid) {

BoardDto dto = **null**;

Connection conn = **null**;

PreparedStatement pstmt = **null**;

ResultSet rs = **null**;

String sql = "SELECT \* FROM MVC\_BOARD WHERE BID=?";

**try** {

conn = ds.getConnection();

pstmt = conn.prepareStatement(sql);

pstmt.setInt(1, bid);

rs = pstmt.executeQuery();

**if**(rs.next()) {

String bname = rs.getString("bname");

String btitle = rs.getString("btitle");

String bcontent= rs.getString("bcontent");

Timestamp bdate= rs.getTimestamp("bdate");

**int** bhit = rs.getInt("bhit");

**int** bgroup = rs.getInt("bgroup");

**int** bstep = rs.getInt("bstep");

**int** bindent = rs.getInt("bindent");

String bip = rs.getString("bip");

dto = **new** BoardDto(bid, bname, btitle, bcontent, bdate, bhit,

bgroup, bstep, bindent, bip);

}

} **catch** (SQLException e) {

System.***out***.println(e.getMessage());

}**finally** {

**try** {

**if**(rs !=**null**) rs.close();

**if**(pstmt!=**null**) pstmt.close();

**if**(conn !=**null**) conn.close();

} **catch** (SQLException e) {System.***out***.println(e.getMessage());}

}

**return** dto;

}

// 글 수정하기(bname, btitle, bcontent, bip, bid)

**public** **int** modify(**int** bid, String bname, String btitle, String bcontent,

String bip) {

**int** result = ***FAIL***;

Connection conn = **null**;

PreparedStatement pstmt = **null**;

String sql = "UPDATE MVC\_BOARD "

+ "SET BNAME=?, "

+ "BTITLE = ?, "

+ "BCONTENT = ?, "

+ "BIP = ?, "

+ "BDATE = SYSDATE "

+ "WHERE BID=?";

**try** {

conn = ds.getConnection();

pstmt = conn.prepareStatement(sql);

pstmt.setString(1, bname);

pstmt.setString(2, btitle);

pstmt.setString(3, bcontent);

pstmt.setString(4, bip);

pstmt.setInt(5, bid);

result = pstmt.executeUpdate();

System.***out***.println(result==***SUCCESS***? "글수정성공":"글수정실패");

} **catch** (SQLException e) {

System.***out***.println(e.getMessage());

}**finally** {

**try** {

**if**(pstmt!=**null**) pstmt.close();

**if**(conn !=**null**) conn.close();

} **catch** (SQLException e) {System.***out***.println(e.getMessage());}

}

**return** result;

}

// 글 삭제하기(bid로 글 삭제하기)

**public** **int** delete(**int** bid) {

**int** result = ***FAIL***;

Connection conn = **null**;

PreparedStatement pstmt = **null**;

String sql = "DELETE FROM MVC\_BOARD WHERE BID=?";

**try** {

conn = ds.getConnection();

pstmt = conn.prepareStatement(sql);

pstmt.setInt(1, bid);

result = pstmt.executeUpdate();

System.***out***.println(result==***SUCCESS***? "글삭제성공":"글삭제실패");

} **catch** (SQLException e) {

System.***out***.println(e.getMessage());

}**finally** {

**try** {

**if**(pstmt!=**null**) pstmt.close();

**if**(conn !=**null**) conn.close();

} **catch** (SQLException e) {System.***out***.println(e.getMessage());}

}

**return** result;

}

// step a

**private** **void** preReplyStepA(**int** bgroup, **int** bstep) {

Connection conn = **null**;

PreparedStatement pstmt = **null**;

String sql = "UPDATE MVC\_BOARD SET BSTEP = BSTEP+1 "

+ " WHERE BGROUP = ? AND BSTEP>?";

**try** {

conn = ds.getConnection();

pstmt = conn.prepareStatement(sql);

pstmt.setInt(1, bgroup);

pstmt.setInt(2, bstep);

pstmt.executeUpdate();

} **catch** (SQLException e) {

System.***out***.println(e.getMessage());

}**finally** {

**try** {

**if**(pstmt!=**null**) pstmt.close();

**if**(conn !=**null**) conn.close();

} **catch** (SQLException e) {System.***out***.println(e.getMessage());}

}

}

// 답변글 쓰기

**public** **int** reply(String bname, String btitle, String bcontent, String bip,

**int** bgroup, **int** bstep, **int** bindent) {

preReplyStepA(bgroup, bstep); // 답변글 저장전 step A 먼저 실행

// bgroup, bstep, bindent 원글정보

// bname, btitle, bcontent, bip 답변글 정보

**int** result = ***FAIL***;

Connection conn = **null**;

PreparedStatement pstmt = **null**;

String sql = "INSERT INTO MVC\_BOARD "

+ "(BID, BNAME, BTITLE, BCONTENT, BGROUP, BSTEP, BINDENT, BIP) "

+ " VALUES (MVC\_BOARD\_SEQ.NEXTVAL, ?, ?, ?, ?, ?, ?, ?)";

**try** {

conn = ds.getConnection();

pstmt = conn.prepareStatement(sql);

pstmt.setString(1, bname);

pstmt.setString(2, btitle);

pstmt.setString(3, bcontent);

pstmt.setInt(4, bgroup);

pstmt.setInt(5, bstep+1);

pstmt.setInt(6, bindent+1);

pstmt.setString(7, bip);

result = pstmt.executeUpdate();

System.***out***.println(result==***SUCCESS***? "답변쓰기성공":"답변쓰기실패");

} **catch** (SQLException e) {

System.***out***.println(e.getMessage());

}**finally** {

**try** {

**if**(pstmt!=**null**) pstmt.close();

**if**(conn !=**null**) conn.close();

} **catch** (SQLException e) {System.***out***.println(e.getMessage());}

}

**return** result;

}

}

1. 프로젝트 생성
   1. MVC 프로젝트 생성
   2. 한글처리

<!-- Processes application requests -->

<servlet>

<servlet-name>appServlet</servlet-name>

<servlet-class>org.springframework.web.servlet.DispatcherServlet</servlet-class>

<init-param>

<param-name>contextConfigLocation</param-name>

<param-value>/WEB-INF/spring/appServlet/servlet-context.xml</param-value>

</init-param>

<load-on-startup>1</load-on-startup>

</servlet>

<servlet-mapping>

<servlet-name>appServlet</servlet-name>

<url-pattern>\*.do</url-pattern>

</servlet-mapping>

<!-- 한글처리 filter -->

<filter>

<filter-name>encodingFilter</filter-name>

<filter-class>org.springframework.web.filter.CharacterEncodingFilter</filter-class>

<init-param>

<param-name>encoding</param-name>

<param-value>UTF-8</param-value>

</init-param>

<init-param>

<param-name>forceEncoding</param-name>

<param-value>true</param-value>

</init-param>

</filter>

<filter-mapping>

<filter-name>encodingFilter</filter-name>

<url-pattern>/\*</url-pattern>

</filter-mapping>

1. 패키지, 인터페이스, 클래스 제작
   1. com.ch.ch13.service
      1. BService.java

**public** **interface** BService {

**public void** execute(Model model);

}

* + 1. BContentService.java
    2. BDeleteService.java
    3. BListService.java
    4. BModifyService.java
    5. BModifyViewService.java
    6. BReplyService.java
    7. BReplyViewService.java
    8. BWRiteService.java
  1. com.ch.mvcboard.controller
     1. BController.java
  2. com.ch.mvcboard.dao
     1. BDao.java
  3. com.ch.mvcboard.dto
     1. BDto.java

1. Controller 제작
   1. 클라이언트의 요청에 따른 전체적인 작업을 지휘하는 Controller를 만들어 본다.
   2. JSPl의 MVC model2 방식을 기억하면서 작업을 진행한다.(Client → Dispatcher → Controller)
2. 리스트 페이지 만들기

private BService service;

@RequestMapping(value="list", method=RequestMethod.***GET***)

**public** String list(String pageNum, Model model) {

// list.do

model.addAttribute("pageNum", pageNum);

service = **new** BListService();

service.execute(model);

**return** "mvcboard/list";

}

@RequestMapping(value="list", method=RequestMethod.***POST***)

**public** String list\_post(String pageNum, Model model) {

// list.do

model.addAttribute("pageNum", pageNum);

service = **new** BListService();

service.execute(model);

**return** "mvcboard/list";

} ↓

**package** com.tj.ex12board.service;

**import** java.util.ArrayList;

**import** java.util.Map;

**import** org.springframework.ui.Model;

**import** com.tj.ex12board.dao.BoardDao;

**import** com.tj.ex12board.dto.BoardDto;

**public** **class** BListService **implements** BService {

@Override

**public** **void** execute(Model model) {

Map<String, Object> map = model.asMap(); // model을 map으로 전환

String pageNum = (String)map.get("pageNum");

**if**(pageNum==**null**) {

pageNum="1";

}

**int** currentPage = Integer.*parseInt*(pageNum);

**final** **int** PAGESIZE=10, BLOCKSIZE=10;

**int** startRow = (currentPage-1)\*PAGESIZE +1;

**int** endRow = startRow + PAGESIZE -1;

BoardDao bDao = **new** BoardDao();

ArrayList<BoardDto> list = bDao.list(startRow, endRow);

**int** orderNum = startRow;// 출력순번(정순)

**int** totCnt = bDao.getBoardTotCnt(); // 글 갯수

**int** inverseNum = totCnt - startRow +1; // 출력순서역번(역순)

model.addAttribute("list", list);

model.addAttribute("orderNum", orderNum);

model.addAttribute("totCnt", totCnt);

model.addAttribute("inverseNum", inverseNum);

**int** pageCnt = (**int**)Math.*ceil*((**double**)totCnt/PAGESIZE);

**int** startPage = ((currentPage-1)/BLOCKSIZE)\*BLOCKSIZE+1;

**int** endPage = startPage + BLOCKSIZE -1;

**if**(endPage>pageCnt) {

endPage = pageCnt;

}

model.addAttribute("pageCnt", pageCnt);

model.addAttribute("startPage", startPage);

model.addAttribute("endPage", endPage);

model.addAttribute("BLOCKSIZE", BLOCKSIZE);

model.addAttribute("pageNum", pageNum);

}

}

↓

(list.jsp)

<%@ page language=*"java"* contentType=*"text/html; charset=UTF-8"*

pageEncoding=*"UTF-8"*%>

<%@ taglib prefix=*"c"* uri=*"http://java.sun.com/jsp/jstl/core"* %>

<%@ taglib prefix=*"fmt"* uri=*"http://java.sun.com/jsp/jstl/fmt"* %>

<c:set var=*"conPath"* value=*"*${pageContext.request.contextPath }*"*/>

<!DOCTYPE html>

<html>

<head>

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

<title>Insert title here</title>

<link href=*"*${conPath }*/css/style.css"* rel=*"stylesheet"*>

<script src=*"https://code.jquery.com/jquery-3.3.1.min.js"*></script>

<script>

/\* $(document).ready(function(){

$('tr').click(function(){

var bid = Number($(this).children(0).eq(2).html());

if(!isNaN(bid)){

alert(bid+' 상세보기 페이지로 간다');

location.href = '${conPath }/content\_view.do?bid='+bid+'&pageNum=${pageNum}';

}

});

}); \*/

**function** trClicked(bid){

location.href = '${conPath }/content\_view.do?bid='+bid+'&pageNum=${pageNum}';

}

</script>

</head>

<body>

<c:set var=*"SUCCESS"* value=*"1"*/>

<c:set var=*"FAIL"* value=*"0"*/>

<c:if test=*"*${writeResult == SUCCESS }*"*>

<script>alert("글쓰기 성공");</script>

</c:if>

<c:if test=*"*${writeResult == FAIL }*"*>

<script>alert("글쓰기 실패");</script>

</c:if>

<c:if test=*"*${modifyResult == SUCCESS }*"*>

<script>alert("글수정 성공");</script>

</c:if>

<c:if test=*"*${modifyResult == FAIL }*"*>

<script>alert("글수정 실패");</script>

</c:if>

<c:if test=*"*${deleteResult == SUCCESS }*"*>

<script>alert("글삭제 성공");</script>

</c:if>

<c:if test=*"*${deleteResult == FAIL }*"*>

<script>alert("글삭제 실패");</script>

</c:if>

<c:if test=*"*${replyResult == SUCCESS }*"*>

<script>alert("답변달기 성공");</script>

</c:if>

<c:if test=*"*${replyResult == FAIL }*"*>

<script>alert("답변달기 실패");</script>

</c:if>

<table>

<tr><td><a href=*"*${conPath }*/write\_view.do"*>글쓰기</a>

</table>

<table>

<tr><th>순번</th><th>역순</th><th>글번호</th><th>작성자</th><th>글제목</th>

<th>작성일</th><th>조회수</th>

</tr>

<c:if test=*"*${totCnt == 0 }*"*>

<tr><td colspan=*"7"*>글이 없습니다</td></tr>

</c:if>

<c:if test=*"*${totCnt != 0 }*"*>

<c:set var=*"oNum"* value=*"*${orderNum }*"*/><!-- 증가할 정순번호 변수 -->

<c:set var=*"iNum"* value=*"*${inverseNum }*"*/><!-- 감소할 역순번호 변수 -->

<c:forEach var=*"dto"* items=*"*${list }*"*>

<tr onclick=*"trClicked('*${dto.bid}*')"*><td>${oNum }</td>

<td>${iNum }</td>

<td>${dto.bid }</td>

<td>${dto.bname }</td>

<td class=*"left"*>

<c:forEach var=*"i"* begin=*"1"* end=*"*${dto.bindent }*"*>

<c:if test=*"*${i == dto.bindent }*"*>

└─

</c:if>

<c:if test=*"*${i != dto.bindent }*"*>

&nbsp; &nbsp; &nbsp;

</c:if>

</c:forEach>

<%-- <a href="${conPath }/content\_view.do?bid=${dto.bid}&pageNum=${pageNum}"> --%>

${dto.btitle }<!-- </a> -->

</td>

<td><fmt:formatDate value=*"*${dto.bdate }*"* pattern=*"yyyy/MM/dd(E)"*/></td>

<td>${dto.bhit }</td>

</tr>

<c:set var=*"oNum"* value=*"*${oNum+1 }*"*/><!-- 증가할 정순번호 변수 -->

<c:set var=*"iNum"* value=*"*${iNum-1 }*"*/><!-- 감소할 역순번호 변수 -->

</c:forEach>

</c:if>

</table>

<div class=*"paging"*>

<c:if test=*"*${startPage > BLOCKSIZE }*"*>

<a href=*"*${conPath }*/list.do?pageNum=*${startPage-1}*"*> 이전 </a>

</c:if>

<c:forEach var=*"i"* begin=*"*${startPage }*"* end=*"*${endPage }*"*>

<c:if test=*"*${i == pageNum }*"*>

[ <b>${i }</b> ]

</c:if>

<c:if test=*"*${i != pageNum }*"*>

[ <a href=*"*${conPath }*/list.do?pageNum=*${i}*"*>${i }</a> ]

</c:if>

</c:forEach>

<c:if test=*"*${endPage < pageCnt }*"*>

<a href=*"*${conPath }*/list.do?pageNum=*${endPage+1}*"*> 다음 </a>

</c:if>

</div>

</body>

</html>

1. 글 작성 페이지 만들기(스프링의 JDBC 기법을 사용하지 않은 내용)

@RequestMapping(value="write\_view", method=RequestMethod.***GET***)

**public** String write\_view() {

writable = 1;

**return** "mvcboard/write\_view";

}

(write\_view.jsp)

<%@ page language=*"java"* contentType=*"text/html; charset=UTF-8"*

pageEncoding=*"UTF-8"*%>

<%@ taglib prefix=*"c"* uri=*"http://java.sun.com/jsp/jstl/core"* %>

<c:set var=*"conPath"* value=*"*${pageContext.request.contextPath }*"*/>

<!DOCTYPE html>

<html>

<head>

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

<title>Insert title here</title>

<link href=*"*${conPath }*/css/style.css"* rel=*"stylesheet"*>

</head>

<body>

<form action=*"*${conPath }*/write.do"* method=*"post"*>

<table>

<caption>글쓰기</caption>

<tr><th>작성자</th>

<td><input type=*"text"* name=*"bname"* required=*"required"* size=*"30"*></td>

</tr>

<tr><th>제목</th>

<td><input type=*"text"* name=*"btitle"* required=*"required"* size=*"30"*></td>

</tr>

<tr><th>본문</th>

<td><textarea rows=*"5"* cols=*"32"* name=*"bcontent"*></textarea></td>

</tr>

<tr><td colspan=*"2"*>

<input type=*"submit"* value=*"글쓰기"*>

<input type=*"reset"* value=*"취소"*>

<input type=*"button"* value=*"목록"*

onclick=*"location.href='*${conPath}*/list.do'"*>

</table>

</form>

</body>

</html>

**private** **int** writable;

@RequestMapping(value="write", method=RequestMethod.***POST***)

**public** String write(@ModelAttribute("bDto") BoardDto boardDto,

HttpServletRequest request, Model model) {

**if**(writable==1) {

model.addAttribute("request", request);

service = **new** BWriteService();

service.execute(model);

writable = 0;

}

**return** "forward:list.do";

}

↓

**package** com.tj.ex12board.service;

**import** java.util.Map;

**import** javax.servlet.http.HttpServletRequest;

**import** org.springframework.ui.Model;

**import** com.tj.ex12board.dao.BoardDao;

**import** com.tj.ex12board.dto.BoardDto;

**public** **class** BWriteService **implements** BService {

@Override

**public** **void** execute(Model model) {

Map<String, Object> map = model.asMap();

BoardDto bDto = (BoardDto)map.get("bDto");

HttpServletRequest request = (HttpServletRequest)map.get("request");

String bname = bDto.getBname();

String btitle = bDto.getBtitle();

String bcontent = bDto.getBcontent();

String bip = request.getRemoteAddr();

BoardDao bDao = **new** BoardDao();

**int** result = bDao.write(bname, btitle, bcontent, bip);

model.addAttribute("writeResult", result);

}

}

1. 글 내용 페이지 만들기

@RequestMapping(value="content\_view", method=RequestMethod.***GET***)

**public** String content\_view(**int** bid, Model model) {

model.addAttribute("bid", bid);

service = **new** BContentService();

service.execute(model);

**return** "mvcboard/content\_view";

} ↓

**package** com.tj.ex12board.service;

**import** java.util.Map;

**import** org.springframework.ui.Model;

**import** com.tj.ex12board.dao.BoardDao;

**import** com.tj.ex12board.dto.BoardDto;

**public** **class** BContentService **implements** BService {

@Override

**public** **void** execute(Model model) {

Map<String, Object> map = model.asMap();

**int** bid = (Integer)map.get("bid");

BoardDao bDao = **new** BoardDao();

BoardDto bDto = bDao.contentView(bid);

model.addAttribute("content\_view", bDto);

}

} ↓

(content\_view.jsp)

<%@ page language=*"java"* contentType=*"text/html; charset=UTF-8"*

pageEncoding=*"UTF-8"*%>

<%@ taglib prefix=*"c"* uri=*"http://java.sun.com/jsp/jstl/core"* %>

<%@ taglib prefix=*"fmt"* uri=*"http://java.sun.com/jsp/jstl/fmt"* %>

<c:set var=*"conPath"* value=*"*${pageContext.request.contextPath }*"*/>

<!DOCTYPE html>

<html>

<head>

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

<title>Insert title here</title>

<link href=*"*${conPath }*/css/style.css"* rel=*"stylesheet"*>

</head>

<body>

<table>

<caption>${content\_view.bid }글 상세보기</caption>

<tr><th>글번호</th><td>${content\_view.bid }</td></tr>

<tr><th>작성자</th><td>${content\_view.bname}</td></tr>

<tr><th>제 목</th><td>${content\_view.btitle}</td></tr>

<tr><th>본문</th><td><pre>${content\_view.bcontent}</pre></td></tr>

<tr><th>작성일</th>

<td><fmt:formatDate value=*"*${content\_view.bdate}*"* pattern=*"yy/MM/dd(E)"*/></td>

</tr>

<tr><th>조회수</th><td>${content\_view.bhit}</td></tr>

<tr><th>작성한곳ip</th><td>${content\_view.bip }</td></tr>

<tr><td colspan=*"2"*>

<button onclick=*"location='*${conPath}*/modify\_view.do?bid=*${param.bid }*&pageNum=*${param.pageNum }*'"*>수정</button>

<button onclick=*"location='*${conPath}*/delete.do?bid=*${param.bid }*&pageNum=*${param.pageNum }*'"*>삭제</button>

<button onclick=*"location='*${conPath}*/reply\_view.do?bid=*${param.bid }*&pageNum=*${param.pageNum }*'"*>답변</button>

<button onclick=*"location='*${conPath}*/list.do?pageNum=*${param.pageNum }*'"*>목록</button>

</td>

</tr>

</table>

</body>

</html>

1. 글 수정 페이지 만들기

@RequestMapping(value="modify\_view", method=RequestMethod.***GET***)

**public** String modify\_view(**int** bid, Model model) {

model.addAttribute("bid", bid);

service = **new** BModifyViewService();

service.execute(model);

**return** "mvcboard/modify\_view";

}

↓

**package** com.tj.ex12board.service;

**import** java.util.Map;

**import** org.springframework.ui.Model;

**import** com.tj.ex12board.dao.BoardDao;

**import** com.tj.ex12board.dto.BoardDto;

**public** **class** BModifyViewService **implements** BService{

@Override

**public** **void** execute(Model model) {

Map<String, Object> map = model.asMap();

**int** bid = (Integer)map.get("bid");

BoardDao bDao = **new** BoardDao();

BoardDto bDto = bDao.modifyView\_replyView(bid);

model.addAttribute("modify\_view", bDto);

}

} ↓

(modify\_view.jsp)

<%@ page language=*"java"* contentType=*"text/html; charset=UTF-8"*

pageEncoding=*"UTF-8"*%>

<%@ taglib prefix=*"c"* uri=*"http://java.sun.com/jsp/jstl/core"* %>

<c:set var=*"conPath"* value=*"*${pageContext.request.contextPath }*"*/>

<!DOCTYPE html>

<html>

<head>

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

<title>Insert title here</title>

<link href=*"*${conPath }*/css/style.css"* rel=*"stylesheet"*>

</head>

<body>

<form action=*"*${conPath }*/modify.do"* method=*"post"*>

<input type=*"hidden"* name=*"pageNum"* value=*"*${param.pageNum }*"*>

<input type=*"hidden"* name=*"bid"* value=*"*${modify\_view.bid }*"*>

<table>

<caption>${modify\_view.bid }번 글 수정</caption>

<tr><th>작성자</th>

<td><input type=*"text"* name=*"bname"* required=*"required"* size=*"30"*

value=*"*${modify\_view.bname }*"*></td>

</tr>

<tr><th>제목</th>

<td><input type=*"text"* name=*"btitle"* required=*"required"* size=*"30"*

value=*"*${modify\_view.btitle }*"*></td>

</tr>

<tr><th>본문</th>

<td><textarea rows=*"5"* cols=*"32"*

name=*"bcontent"*>${modify\_view.bcontent }</textarea></td>

</tr>

<tr><td colspan=*"2"*>

<input type=*"submit"* value=*"수정"*>

<input type=*"button"* value=*"목록"*

onclick=*"location='*${conPath}*/list.do?pageNum=*${param.pageNum }*'"*>

<input type=*"reset"* value=*"취소"*

onclick="history.back()">

</td>

</tr>

</table>

</form>

</body>

</html>

@RequestMapping(value="modify", method=RequestMethod.***POST***)

**public** String modify(@ModelAttribute("bDto") BoardDto boardDto,

HttpServletRequest request, Model model) {

model.addAttribute("request", request);

service = **new** BModifyService();

service.execute(model);

**return** "forward:list.do";

} ↓

**package** com.tj.ex12board.service;

**import** java.util.Map;

**import** javax.servlet.http.HttpServletRequest;

**import** org.springframework.ui.Model;

**import** com.tj.ex12board.dao.BoardDao;

**import** com.tj.ex12board.dto.BoardDto;

**public** **class** BModifyService **implements** BService {

@Override

**public** **void** execute(Model model) {

Map<String, Object> map = model.asMap();

HttpServletRequest request = (HttpServletRequest)map.get("request");

BoardDto bDto = (BoardDto)map.get("bDto");

**int** bid = bDto.getBid();

String bname = bDto.getBname();

String btitle = bDto.getBtitle();

String bcontent = bDto.getBcontent();

String bip = request.getRemoteAddr();

BoardDao bDao = **new** BoardDao();

**int** result = bDao.modify(bid, bname, btitle, bcontent, bip);

model.addAttribute("modifyResult", result);

}

}

1. 글 삭제 페이지 만들기

@RequestMapping(value="delete", method=RequestMethod.***GET***)

**public** String delete(**int** bid, Model model) {

model.addAttribute("bid", bid);

service = **new** BDeleteService();

service.execute(model);

**return** "forward:list.do";

}

↓

**package** com.tj.ex12board.service;

**import** java.util.Map;

**import** org.springframework.ui.Model;

**import** com.tj.ex12board.dao.BoardDao;

**public** **class** BDeleteService **implements** BService {

@Override

**public** **void** execute(Model model) {

Map<String, Object> map = model.asMap();

**int** bid = (Integer)map.get("bid");

BoardDao bDao = **new** BoardDao();

**int** result = bDao.delete(bid);

model.addAttribute("deleteResult", result);

}

}

1. 글 답변 페이지 만들기

@RequestMapping(value="reply\_view", method=RequestMethod.***GET***)

**public** String reply\_view(**int** bid, Model model) {

model.addAttribute("bid", bid);

service = **new** BReplyViewService();

service.execute(model);

**return** "mvcboard/reply\_view";

}

↓

**package** com.tj.ex12board.service;

**import** java.util.Map;

**import** org.springframework.ui.Model;

**import** com.tj.ex12board.dao.BoardDao;

**import** com.tj.ex12board.dto.BoardDto;

**public** **class** BReplyViewService **implements** BService {

@Override

**public** **void** execute(Model model) {

Map<String, Object> map = model.asMap();

**int** bid = (Integer)map.get("bid");

BoardDao bDao = **new** BoardDao();

BoardDto bDto = bDao.modifyView\_replyView(bid);

model.addAttribute("reply\_view", bDto);

}

}

↓

(reply\_view.jsp)

<%@ page language=*"java"* contentType=*"text/html; charset=UTF-8"*

pageEncoding=*"UTF-8"*%>

<%@ taglib prefix=*"c"* uri=*"http://java.sun.com/jsp/jstl/core"* %>

<c:set var=*"conPath"* value=*"*${pageContext.request.contextPath }*"*/>

<!DOCTYPE html>

<html>

<head>

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

<title>Insert title here</title>

<link href=*"*${conPath }*/css/style.css"* rel=*"stylesheet"*>

</head>

<body>

<!-- 넘어온 파라미터 : pageNum, bid -->

<!-- requestScope.reply\_view (dto) -->

<form action=*"*${conPath }*/reply.do"* method=*"post"*>

<input type=*"hidden"* name=*"pageNum"* value=*"*${param.pageNum }*"*>

<input type=*"hidden"* name=*"bgroup"* value=*"*${reply\_view.bgroup }*"*>

<input type=*"hidden"* name=*"bstep"* value=*"*${reply\_view.bstep }*"*>

<input type=*"hidden"* name=*"bindent"* value=*"*${reply\_view.bindent }*"*>

<table>

<caption>${reply\_view.bid }번 글의 답변 쓰기</caption>

<tr><th>작성자</th>

<td><input type=*"text"* name=*"bname"* required=*"required"* size=*"30"*></td>

</tr>

<tr><th>제목</th>

<td><input type=*"text"* name=*"btitle"* size=*"30"* required=*"required"*

value=*"[답]*${reply\_view.btitle.substring(0,1) }*"*></td>

</tr>

<tr><th>본문</th>

<td><textarea rows=*"5"* cols=*"32"* name=*"bcontent"*></textarea></td>

</tr>

<tr><td colspan=*"2"*>

<input type=*"submit"* value=*"답변저장"*>

<input type=*"reset"* value=*"취소"*>

<input type=*"reset"* value=*"이전"* onclick="history.go(-1)">

<input type=*"button"* value=*"목록"*

onclick=*"location='*${conPath}*/list.do?pageNum=*${param.pageNum}*'"*>

</table>

</form>

</body>

</html>

@RequestMapping(value="reply", method=RequestMethod.***POST***)

**public** String reply(BoardDto boardDto,

HttpServletRequest request, Model model) {

model.addAttribute("request", request);

service = **new** BReplyService();

service.execute(model);

**return** "forward:list.do";

} ↓

**package** com.tj.ex12board.service;

**import** java.util.Map;

**import** javax.servlet.http.HttpServletRequest;

**import** org.springframework.ui.Model;

**import** com.tj.ex12board.dao.BoardDao;

**import** com.tj.ex12board.dto.BoardDto;

**public** **class** BReplyService **implements** BService {

@Override

**public** **void** execute(Model model) {

Map<String, Object> map = model.asMap();

HttpServletRequest request = (HttpServletRequest)map.get("request");

BoardDto bDto = (BoardDto)map.get("boardDto");

String bname = bDto.getBname();

String btitle = bDto.getBtitle();

String bcontent = bDto.getBcontent();

String bip = request.getRemoteAddr();

**int** bgroup = bDto.getBgroup();

**int** bstep = bDto.getBstep();

**int** bindent = bDto.getBindent();

BoardDao bDao = **new** BoardDao();

**int** result = bDao.reply(bname, btitle, bcontent, bip, bgroup, bstep, bindent);

model.addAttribute("replyResult", result);

}

}

(index.jsp)

<body>

<jsp:forward page=*"list.do"*/>

</body>

(insert100.jsp)

<%@page import=*"com.tj.ch13board.dao.BDao"*%>

<%@ page language=*"java"* contentType=*"text/html; charset=UTF-8"*

pageEncoding=*"UTF-8"*%>

<!DOCTYPE html PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN" "http://www.w3.org/TR/html4/loose.dtd">

<html>

<head>

<meta http-equiv=*"Content-Type"* content=*"text/html; charset=UTF-8"*>

<title>Insert title here</title>

</head>

<body>

<% BDao bDao = **new** BDao();

**for**(**int** i=0 ; i<100 ; i++){

**int** result = bDao.write("홍길"+i, "제목 "+i, "본\n문\n"+i,"127.0.0.1");

System.out.println(result>0? i+"삽입성공" : i+"삽입실패");

}

response.sendRedirect(request.getContextPath()+"/list.do");

%>

</body>

</html>

(style.css)

@charset *"UTF-8"*;

**body** {

background-color: *#ffff9b*;

font-size: *9pt*;

}

**table**{ border: *pink* *solid* *2px*; margin: *10px* *auto*;}

**tr** {background-color: *#FFE271*; }

**tr***:HOVER* {

background-color: *orange*;

cursor: *pointer*;

}

**td,** **th** { text-align: *center*; padding: *5px*;}

**caption** { font-size: *25px*; text-align: *center*;}

**h2** {text-align: *cetner*; width:*300px*; color:*red*; margin: *0* *auto*;}

**a** {text-decoration: *none*;}

**table**{width:*100%*;}

*.left* {text-align: *left*;} /\*글 제목 왼쪽 정렬\*/

**div***.paging* {text-align: *center*;} /\*페이지 숫자는 가운데 정렬\*/

**b** {color:*red*;}