

# 게시판

# 게시판

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## ❖ 게시판 테이블 정의

```
CREATE TABLE BOARD (  
    BOARD_ID    NUMBER PRIMARY KEY,  
    TITLE       VARCHAR2(256) NOT NULL,  
    WRITER      VARCHAR2(50) NOT NULL,  
    PASSWORD    VARCHAR2(20) NOT NULL,  
    READ_CNT    NUMBER,  
    CONTENT     CLOB,  
    REG_DATE    DATE,  
    UPDATE_DATE DATE  
);
```

## ❖ 시퀀스 정의

```
CREATE SEQUENCE board_SEQ;
```

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## ❖ 첨부 파일 테이블 정의

```
CREATE TABLE ATTACHMENT(  
    ATTACHMENT_ID NUMBER PRIMARY KEY,  
    FILE_NAME      VARCHAR2(256),  
    LOCATION       VARCHAR2(1024),  
    BOARD_ID       NUMBER,  
    REG_DATE       DATE,  
    CONSTRAINT F_attachment_BOARD FOREIGN KEY(BOARD_ID)  
        REFERENCES board(BOARD_ID)  
);
```

## ❖ 시퀀스 정의

```
CREATE SEQUENCE attachment_SEQ;
```

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## ❖ 모델 : Attachment

```
@Data
@NoArgsConstructor
public class Attachment {
    private long      attachmentId;
    private long      boardId;      // 게시글 ID
    private String    fileName;     // 원본 파일명
    private String    location;     // 서버에서 파일명
    private Date      regDate;      // 등록일

    public Attachment(String fileName, String location) {
        this.fileName = fileName;
        this.location = location;
    }
}
```

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## ❖ 모델 : Board

```
@Data
public class Board {
    private long        boardId;
    @NotEmpty(message="제목은 필수항목입니다.")
    private String      title;
    @NotEmpty(message="작성자는 필수항목입니다.")
    private String      writer;
    @NotEmpty(message="비밀번호는 필수항목입니다.")
    private String      password;
    private String      content;
    private int         readCnt;
    private List<Attachment> attachList;    // 첨부 파일 목록
    private Date        regDate;
    private Date        updateDate;
}
```

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## ❖ 매퍼 : resources/mapper/board-mapper.xml

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE mapper PUBLIC "-//mybatis.org//DTD Mapper 3.0//EN"
    "http://mybatis.org/dtd/mybatis-3-mapper.dtd">

<mapper namespace="edu.iot.common.dao.BoardDao">
</mapper>
```

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## ❖ 매퍼 : resources/mapper/attachment-mapper.xml

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE mapper PUBLIC "-//mybatis.org//DTD Mapper 3.0//EN"
    "http://mybatis.org/dtd/mybatis-3-mapper.dtd">

<mapper namespace="edu.iot.common.dao.AttachmentDao">
</mapper>
```

---

## ❖ BoardDao

```
public interface BoardDao extends CrudDao<Board, Long>{  
  
}
```



---

## ❖ AttachmentDao

```
public interface AttachmentDao {  
  
}
```

---

## ❖ BoardService

```
public interface BoardService {  
  
}
```

---

## ❖ BoardServiceImpl

```
@Service
public class BoardServiceImpl implements BoardService{
    @Autowired
    BoardDao dao;

    @Autowired
    AttachmentDao attachmentDao;
}
```

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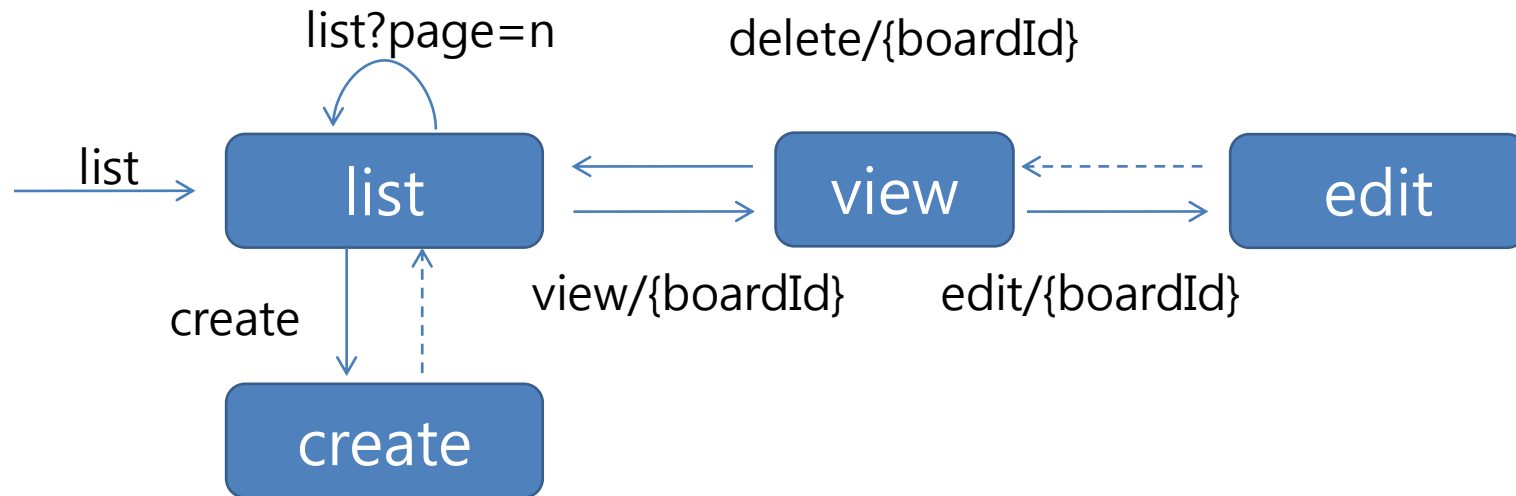
## ❖ 컨트롤러 : BoardController

```
@Controller
@RequestMapping("/board")
@Slf4j
public class BoardController {
    @Autowired
    BoardService service;

}
```

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## ❖ 스토리보드



# 게시판

## - 목록 보기 -

# 게시판

## ❖ 게시물 목록 : /board/list

### 게시글 목록

(총 5건 / [+](#) 추가)

| No | 제목      | 작성자 | 조회수 | 등록일        |
|----|---------|-----|-----|------------|
| 6  | afasdfa | go  | 1   | 2018-04-08 |
| 5  | AAA     | go  | 11  | 2018-04-08 |
| 4  | abc     | go  | 0   | 2018-04-08 |
| 3  | 파일 첨부   | go  | 13  | 2018-04-08 |
| 2  | 제목 수정   | go  | 22  | 2018-04-08 |

## ❖ board-mapper.xml

```
<select id="count"    resultType="int">
    SELECT count(*)
    FROM board
</select>

<!-- 목록용으로 content 컬럼은 제외 -->
<select id="getPage"  parameterType="map"
        resultType="Board">
    SELECT  board_id, title, writer, read_cnt, reg_date
    FROM (
        SELECT  ROW_NUMBER() OVER (ORDER BY reg_date DESC) AS SEQ,
                board_id, title, writer, read_cnt, reg_date
        FROM board
    )
    WHERE SEQ BETWEEN #{start} AND #{end}
    ORDER BY board_id DESC
</select>
```



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## ❖ BoardService

```
public interface BoardService {  
    Map<String, Object> getPage(int page) throws Exception;  
}
```

## ❖ BoardServiceImpl

```
@Override  
public Map<String, Object> getPage(int page) throws Exception {  
    Map<String, Object> map = new HashMap<>();  
  
    int total = dao.count();  
    Pagination pagination = new Pagination(page, total);  
    map.put("pagination", pagination);  
    map.put("list", dao.getPage(pagination.getPageMap())) ;  
    return map;  
}
```

## ❖ BoardController

```
@RequestMapping("/list")
public void list(
    @RequestParam(value="page", defaultValue="1") int page,
    Model model) throws Exception {

    model.addAttribute("today", Util.getToday());
    model.addAllAttributes(service.getPage(page));

}
```

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## ❖ 게시물 목록 : 뷰 board/list.jsp

```
<%@ taglib tagdir="/WEB-INF/tags/util" prefix="iot"%>

<h2 class="mt-5 mb-4">게시글 목록</h2>

<div class="text-right">
    (총 ${pagination.total}건 /
    <a href="create"><i class="fa fa-plus"></i> 추가</a>)
</div>

<table class="table table-stripped">
    <thead>
        <tr>
            <th style="width:60px">No</th>
            <th>제목</th>
            <th style="width:100px">작성자</th>
            <th style="width:90px">조회수</th>
            <th style="width:120px">등록일</th>
        </tr>
    </thead>
```

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## ❖ 게시물 목록 : 뷰 board/list.jsp

```
<tbody>
  <c:forEach var="board" items="${list}" varStatus="status">
    <tr>
      <td>${board.boardId}</td>
      <td>
        <a href="view/${board.boardId}">${board.title}</a></td>
      <td>${board.writer}</td>
      <td>${board.readCnt}</td>
      <td>
        <fmt:formatDate value="${board.regDate}"
          pattern="yyyy-MM-dd"/>
      </td>
    </tr>
  </c:forEach>
</tbody>
</table>

<iot:pagination />
```

# 게시판 - 글쓰기 -

# 게시글 작성

제목

작성자 : admin

비밀번호

파일첨부 **파일 선택** 선택된 파일 없음

File ▾ Edit ▾ View ▾ Format ▾

↶ ↷ Formats ▾ **B** *I* [List Icons] [Link Icon] [Image Icon]

POWERED BY TINYMCE

↶ 확인

↶ 돌아가기

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## ❖ board-mapper.xml

```
<insert id="insert" parameterType="Board"
    keyColumn = "board_id" keyProperty="boardId">
    insert into board
    (board_id, title, writer, password, read_cnt, content,
     reg_date, update_date)
    values(board_SEQ.NEXTVAL, #{title}, #{writer}, #{password}, 0,
           #{content}, sysdate, sysdate)
</insert>
```

- useGeneratedKeys : 시퀀스를 이용한 자동 ID 배정 값(board\_id)을 추출하여 파라미터 객체(Board)의 키 프로퍼티(boardId)에 설정
- keyColumn : 키 컬럼명
- keyProperty : 키 컬럼 대응 파라미터 객체 프로퍼티명

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## ❖ attachment-mapper.xml

```
<insert id="insert" parameterType="Attachment">
    insert into attachment
    (attachment_id, file_name, location, board_id, reg_date)
    values (attachment_SEQ.NEXTVAL,
           #{fileName}, #{location}, #{boardId}, sysdate)
</insert>
```

## ❖ AttachmentDao

```
public interface AttachmentDao {
    void insert(Attachment attachment) throws Exception;
}
```



# 게시판

---

## ❖ BoardService

```
public interface BoardService {  
    :  
    public void create(Board board) throws Exception;  
}
```

## ❖ BoardServiceImpl

```
@Override  
public void create(Board board) throws Exception {  
    dao.insert(board);  
  
    for(Attachment attachment : board.getAttachList()) {  
        attachment.setBoardId(board.getBoardId());  
        attachmentDao.insert(attachment);  
    }  
}
```

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---

## ❖ BoardController

```
@RequestMapping(value="/create", method=RequestMethod.GET)
public void createForm(Board board){
}
```

# 게시판

---

## ❖ 뷰 board/create.jsp

```
<%@ page language="java" contentType="text/html; charset=UTF-8"
    pageEncoding="UTF-8"%>
<%@ taglib uri="http://java.sun.com/jsp/jstl/core" prefix="c"%>
<%@ taglib uri="http://java.sun.com/jsp/jstl/fmt" prefix="fmt"%>
<%@ taglib prefix="form"
    uri="http://www.springframework.org/tags/form" %>

<script
src="${context}/resources/bower_components/tinymce/tinymce.min.js">
</script>
<script>
$(function(){
    tinymce.init({
        selector:'textarea',
        height : "300"
    });
})
</script>
```

# 게시판

---

## ❖ 뷰 board/create.jsp

```
<h2 class="mt-5 mb-4">게시글 작성</h2>

<form:form commandName="board"  enctype="multipart/form-data">
  <input type="hidden" name="writer" value="${USER.userId}" />
  <div class="md-form">
    <label>제목</label>
    <form:input path="title" class="form-control"/>
    <form:errors path="title"/>
  </div>

  <div class="mb-3">
    <label>작성자 : ${USER.userId}</label>
  </div>

  <div class="md-form">
    <label>비밀번호</label>
    <form:password path="password" class="form-control"/>
    <form:errors path="password"/>
  </div>
```

# 게시판

---

## ❖ 뷰 board/create.jsp

```
<div>
  <label>파일첨부</label>
  <input type="file" name="files" multiple="multiple">
</div>

<form:textarea path="content"/>

<div class="text-center mt-3">
  <button type="submit" class="btn btn-primary btn-md">
    <i class="fa fa-undo mr-2"></i> 확인</button>
  <a href="list" class="btn btn-primary btn-md">
    <i class="fa fa-undo mr-2"></i> 돌아가기</a>
</div>

</form:form>
```

## ❖ BoardController

```
@RequestMapping(value="/create", method=RequestMethod.POST)
public String createSubmit(
    @Valid Board board, BindingResult result,
    MultipartHttpServletRequest request) throws Exception {

    if(result.hasErrors()) return "board/create";

    List<Attachment> list = upload(request);
    board.setAttachList(list);

    service.create(board);

    return "redirect:list";
}
```

## ❖ BoardController

```
// 다일 파일 업로드 처리
Attachment upload(MultipartFile file) throws Exception{
    String fname = file.getOriginalFilename();
    long timestamp = System.currentTimeMillis();
    String location = timestamp + "_" + fname;
    File dest = new File("c:/temp/upload/" + location);
    file.transferTo(dest);
    return new Attachment(fname, location);
}
```

## ❖ BoardController

```
// 다중 업로드 파일 처리
// 업로드된 정보를 가지는 Attachment의 리스트 생성/반환
private List<Attachment> upload(
    MultipartHttpServletRequest request) throws Exception{
    List<Attachment> list = new ArrayList<>();

    List<MultipartFile> files = request.getFiles("files");
    for(MultipartFile file : files) {
        Attachment attachment = upload(file);
        list.add(attachment);
    }

    return list;
}
```



# 게시판 - 글 보기 -

---

## 게시글 보기

|      |   |
|------|---|
| 제목   | 세 번째 갤러리  |
| 작성자  | admin   |
| 조회수  | 8   |
| 첨부파일 | <a href="#">batman.jpg</a><br><a href="#">gundam.jpg</a><br><a href="#">gundam2.jpg</a> |
| 작성일  | 2018-10-13  |
| 수정일  | 2018-10-13  |

dddd

[✎ 수정](#) [🗑 삭제](#) [↶ 돌아가기](#)

# 게시판

---

## ❖ board-mapper.xml

```
<!-- 게시글 조회수 증가 : 게시글 보기 할 때마다 호출 -->
<update id="increaseReadCnt" parameterType="long">
    UPDATE board SET
        read_cnt = read_cnt + 1
    WHERE board_id=#{boardId}
</update>

<select id="findById" parameterType="long" resultType="Board">
    SELECT * FROM board
    WHERE board_id=#{boardId}
</select>
```

## ❖ BoardDao

```
public interface BoardDao extends CrudDao<Board, Long>{
    void increaseReadCnt(long boardId) throws Exception;
}
```

# 게시판

---

## ❖ attachment-mapper.xml

```
<select id="getList"  
    parameterType="long" resultType="Attachment">  
    SELECT * FROM attachment  
    WHERE board_id=#{boardId}  
</select>
```

## ❖ AttachmentDao

```
public interface AttachmentDao {  
    void insert(Attachment attachment) throws Exception;  
    List<Attachment> getList(long boardId) throws Exception;  
}
```

# 게시판

---

## ❖ BoardService

```
public interface BoardService {  
    :  
    public Board findById(long boardId) throws Exception;  
}
```

## ❖ BoardServiceImpl

```
@Override  
public Board findById(long boardId) throws Exception {  
    dao.increaseReadCnt(boardId);    // 조회수 증대  
    Board board = dao.findById(boardId);  
    board.setAttachList(attachmentDao.getList(boardId));  
    return board;  
}
```

## ❖ BoardController

```
@RequestMapping(value="/view/{boardId}", method=RequestMethod.GET)
public String view(@PathVariable int boardId, Model model)
    throws Exception {

    Board board = service.findById(boardId);
    model.addAttribute("board", board);

    return "board/view";
}
```

# 게시판

---

## ❖ 뷰 board/view.jsp

```
<%@ page language="java" contentType="text/html; charset=UTF-8"
    pageEncoding="UTF-8"%>
<%@ taglib uri="http://java.sun.com/jsp/jstl/core" prefix="c"%>
<%@ taglib uri="http://java.sun.com/jsp/jstl/fmt" prefix="fmt"%>
<h2 class="mt-5 mb-4">게시글 보기</h2>

<div class="row">
    <div class="col-md-2">제목</div>
    <div class="col-md-10">${board.title}</div>
</div>

<div class="row">
    <div class="col-md-2">작성자</div>
    <div class="col-md-10">${board.writer}</div>
</div>

<div class="row">
    <div class="col-md-2">조회수</div>
    <div class="col-md-10">${board.readCnt}</div>
</div>
```

# 게시판

---

## ❖ 뷰 board/view.jsp

```
<div class="row">
  <div class="col-md-2">첨부파일</div>
  <div class="col-md-10">
    <c:forEach var="file" items="${board.attachList}">
      <div>
        <a href="../download/${file.attachmentId}">
          <i class="fa fa-download"></i> ${file.fileName}
        </a>
      </div>
    </c:forEach>
  </div>
</div>
```



# 게시판

## ❖ 뷰 board/view.jsp

```
<div class="row">
  <div class="col-md-2">작성일</div>
  <div class="col-md-10">
    <fmt:formatDate value="${board.regDate}"
      pattern="yyyy-MM-dd"/>
  </div>
</div>
<div class="row">
  <div class="col-md-2">수정일</div>
  <div class="col-md-10">
    <fmt:formatDate value="${board.updateDate}"
      pattern="yyyy-MM-dd"/>
  </div>
</div>

<hr/>
<div>
  ${board.content}
</div>
```

# 게시판

---

## ❖ 뷰 board/view.jsp

```
<div class="text-center">
  <c:if test="${USER.userId == board.writer }">
    <a href="../edit/${board.boardId}" class="mr-4">
      <i class="fa fa-edit mr-2"></i> 수정</a>
    <a href="../delete/${board.boardId}" class="mr-4">
      <i class="fa fa-trash mr-2"></i> 삭제</a>
    </c:if>
    <a href="javascript:history.back()">
      <i class="fa fa-undo mr-2"></i> 돌아가기</a>
  </div>
```

# 게시판

## - 첨부파일 다운로드 -

# 게시판

---

## ❖ attachment-mapper.xml

```
<select id="findById"
    parameterType="long" resultType="Attachment">
    SELECT * FROM attachment
    WHERE attachment_id=#{attachmentId}
</select>
```

## ❖ AttachmentDao

```
public interface AttachmentDao {
    :

    Attachment findById(long attachmentId) throws Exception;
}
```

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---

## ❖ BoardService

```
public interface BoardService {  
    :  
    public Attachment getAttachment(long attachmentId)  
        throws Exception;  
}
```

## ❖ BoardServiceImpl

```
@Override  
public Attachment getAttachment(long attachmentId)  
    throws Exception {  
    return attachmentDao.findById(attachmentId);  
}
```

## ❖ BoardController

```
@Autowired
ServletContext context;
:
@RequestMapping(value="/download/{attachmentId}",
                  method=RequestMethod.GET)
public String download(@PathVariable long attachmentId,
                      Model model) throws Exception {

    Attachment attachment = service.getAttachment(attachmentId);
    String path = "c:/temp/upload/" + attachment.getLocation();
    String fileName = attachment.getFileName();
    String type = context.getMimeType(path);
    model.addAttribute("path", path);
    model.addAttribute("fileName", fileName);
    model.addAttribute("type", type);

    return "download";
}
```

# 게시판 - 글 수정 -

# 게시글 수정

제목

파일 첨부

작성자 : go

비밀번호

첨부파일

 batman.jpg 

 batman.jpg 

파일첨부 **파일 선택** 선택된 파일 없음

|   |           |                   |  |
|---|-----------|-------------------|--|
| File ▾  | Edit ▾    | View ▾            | Format ▾   |
|   | Formats ▾ | <b>B</b> <i>I</i> |       |
| 파일 첨부 테스트   |           |                   |  |

✓ 확인

↶ 돌아가기



## ❖ BoardController

```
@RequestMapping(value="/edit/{boardId}", method=RequestMethod.GET)
public String editForm(@PathVariable int boardId, Model model)
    throws Exception {
    Board board = service.findById(boardId);
    model.addAttribute("board", board);
    return "board/edit";
}
```

## ❖ board/edit.jsp

```
<%@ page language="java" contentType="text/html; charset=UTF-8"
    pageEncoding="UTF-8"%>
<%@ taglib uri="http://java.sun.com/jsp/jstl/core" prefix="c"%>
<%@ taglib uri="http://java.sun.com/jsp/jstl/fmt" prefix="fmt"%>
<%@ taglib prefix="form"
uri="http://www.springframework.org/tags/form" %>

<script
src="${context}/resources/bower_components/tinymce/tinymce.min.js">
</script>
<script>
$(function(){
    tinymce.init({
        selector:'textarea',
        height : "300"
    });
})
</script>
```

# 게시판

---

## ❖ board/edit.jsp

```
<h2 class="mt-5 mb-4">게시글 수정</h2>
```

```
<form:form commandName="board" enctype="multipart/form-data">
```

```
  <form:hidden path="boardId"/>
```

```
  <form:hidden path="writer"/>
```

```
  <div class="md-form">
```

```
    <label>제목</label>
```

```
    <form:input path="title" class="form-control"
                required="required"/>
```

```
    <form:errors path="title"/>
```

```
  </div>
```

```
  <div class="mb-3">
```

```
    <label>작성자 : ${board.writer}</label>
```

```
  </div>
```

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## ❖ board/edit.jsp

```
<div class="md-form">
  <label>비밀번호</label>
  <form:password path="password" class="form-control"
    required="required"/>
  <form:errors/>
</div>

<div class="row">
  <div class="col-md-2">첨부파일</div>
  <div class="col-md-10">
    <c:forEach var="file" items="${board.attachList}">
      <div>
        <i class="fa fa-file"></i> ${file.fileName}
        <a href="#" data-target="${file.attachmentId}">
          <i class="fa fa-trash"></i> </a>
      </div>
    </c:forEach>
  </div>
</div>
```

## ❖ board/edit.jsp

```
<div>
  <label>파일첨부</label>
  <input type="file" name="files" multiple="multiple">
</div>
  <form:textarea path="content"/>
<div class="text-center mt-3">
  <button type="submit" class="btn btn-primary btn-md">
    <i class="fa fa-check mr-2"></i> 확인</button>
  <a href="javascript:history.back()"
    class="btn btn-primary btn-md">
    <i class="fa fa-undo mr-2"></i> 돌아가기</a>
  </div>
</form:form>
```

# 게시판

---

## ❖ board-mapper.xml

```
<!-- 게시물 수정 , 비밀번호를 아는 경우에 수정 가능 -->
<update id="update" parameterType="Board">
    UPDATE board SET
        title = #{title},
        content = #{content},
        update_date = sysdate
    WHERE board_id=#{boardId} and password=#{password}
</update>
```

# 게시판

---

## ❖ BoardService

```
public interface BoardService {  
    :  
    public void update(Board board) throws Exception;  
}
```

## ❖ BoardServiceImpl

```
@Override  
public void update(Board board) throws Exception {  
    dao.update(board);  
  
    for(Attachment attachment : board.getAttachList()) {  
        attachment.setBoardId(board.getBoardId());  
        attachmentDao.insert(attachment);  
    }  
  
}
```

---

## ❖ BoardController

```
@RequestMapping(value="/edit/{boardId}", method=RequestMethod.POST)
public String editSubmit(@Valid Board board, BindingResult result,
    MultipartHttpServletRequest request) throws Exception {
    if(result.hasErrors()) return "board/edit";

    List<Attachment> list = upload(request);
    board.setAttachList(list);

    service.update(board);

    return "redirect:/board/list";
}
```



# 게시판

## - 첨부 파일 삭제 -

# 게시판 - 글 삭제 -

# 게시판

---

## ❖ board-mapper.xml

```
<!-- 게시물 삭제 , 비밀번호를 아는 경우에 수정 가능 -->
<delete id="delete" parameterType="Board">
    DELETE FROM board
    WHERE board_id=#{boardId} and password=#{password}
</delete>
```

## ❖ BoardDao

```
public interface BoardDao extends CrudDao<Board, Integer>{

    void increaseReadCnt(long boardId) throws Exception;
    void delete (Board board) throws Exception;
}
```



# 게시판

---

## ❖ 서비스 : BoardServiceImpl

```
@Transactional
@Override
// 일반 상용자에 의한 삭제
public void delete(Board board) throws Exception {
    // 첨부파일 먼저 삭제 - 어떤 문제 ???
    attachmentDao.deleteByBoardId(board.getBoardId());
    dao.delete(board);
}
}
```