# 9장. 게시판

## 컴퓨터정보과
## 김진숙

# 이번 장에서 공부할 것

- 최대한 부가기능 없이 간단하게 구현
  - 간단한 **회원관리** 프로그램 작성
  - 간단한 **게시판** 프로그램 작성
- 학습내용
  - 게시판 프로그램 구성과 준비 작업
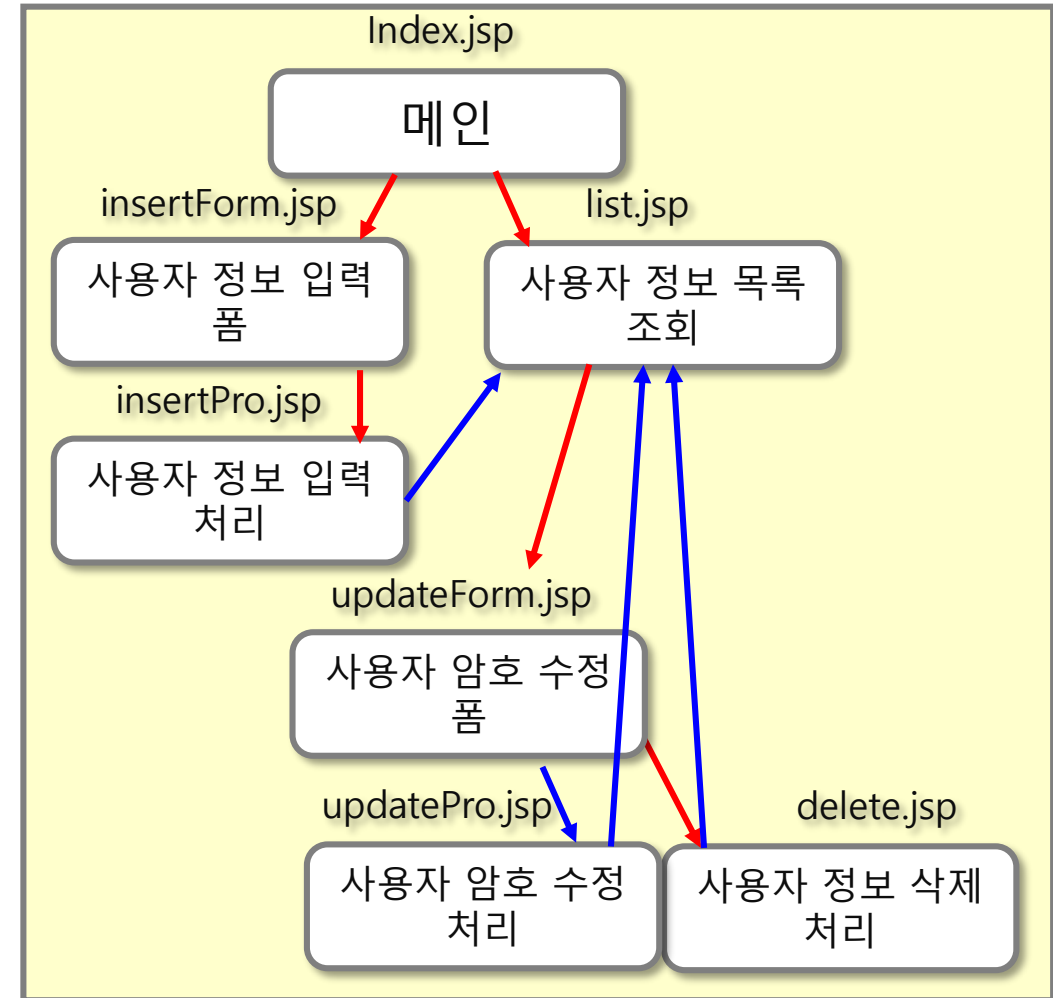  - 게시글 리스트
  - 새 글쓰기
  - 글 내용 보기
  - 글 수정
  - 글 삭제

# 실습1 – 로그인 사용자 관리

• mariadb 서버에 테이블 작성

```sql
CREATE TABLE login(
    id VARCHAR(10),
    name VARCHAR(20),
    pwd VARCHAR(20)
);

INSERT INTO login(id, name, pwd) VALUES('gildong', '홍길동', '1111');
INSERT INTO login(id, name, pwd) VALUES('minwoo', '김민우', '2222');
INSERT INTO login(id, name, pwd) VALUES('sohee', '송소희', '3333');

COMMIT;

SELECT * FROM login;
```

# [실습] 로그인 사용자 관리 프로그램 작성하기

- 사용자 목록 조회
- 사용자 정보 등록
- 사용자 정보 변경
- 사용자 정보 삭제

- LOGIN 테이블 데이터 추출하기
  - list.jsp

```jsp
1  <%@ page language="java" contentType="text/html; charset=UTF-8"
2      pageEncoding="UTF-8"%>
3  <%@page import="java.sql.*"%>
4
5  <%
6      //연결 정보와 SQL
7      String url = "jdbc:mariadb://localhost:3306/jinsookdb";
8      String user = "jinsook";
9      String passwd = "1111";
10
11     //1. DB 연동 드라이버 로드
12     Class.forName("org.mariadb.jdbc.Driver");
13
14     //2. 연결 객체 생성
15     Connection con = DriverManager.getConnection(url, user, passwd);
16
17     //3. 생성된 연결을 통해 SQL문 실행 의뢰 준비
18     String sql = "SELECT * FROM LOGIN";
19     Statement st = con.createStatement();
20
21     //4. SQL 실행
22     ResultSet rs = st.executeQuery(sql);
23  %>
```

```html
29 <html>
30 <head>
31   <meta charset="UTF-8">
32   <title>Insert title here</title>
33   <link rel="stylesheet" href="https://maxcdn.bootstrapcdn.com/bootstrap/4.4.1/css/bootstrap.min.css">
34   <script src="https://ajax.googleapis.com/ajax/libs/jquery/3.4.1/jquery.min.js"></script>
35   <script src="https://cdnjs.cloudflare.com/ajax/libs/popper.js/1.16.0/umd/popper.min.js"></script>
36   <script src="https://maxcdn.bootstrapcdn.com/bootstrap/4.4.1/js/bootstrap.min.js"></script>
37 </head>
38 <body>
39   <div class="container"><br>
40   <h1 class="text-center font-weight-bold">로그인 정보</h1>
41   <br>
42   <table class="table table-hover">
43     <tr>
44       <th>아이디</th>
45       <th>이름</th>
46       <th>비밀번호</th>
47     </tr>
48 <%
49   //5. 결과집합 처리
50   while (rs.next()){
51     String id = rs.getString("ID");
52     String name = rs.getString("NAME");
53     String pwd = rs.getString("PWD");
54 %>
55     <tr>
56       <td><%=id %></td>
57       <td><%=name %></td>
58       <td><%=pwd %></td>
59     </tr>
60 <%}
61   //6. 연결 해제
62   con.close();
63   st.close();
64   rs.close();
65 %>
66   </table>
67   </div>
68 </body>
69 </html>
```

- LOGIN 테이블 데이터 삽입하기
  - insertForm.jsp

```jsp
1  <%@ page language="java" contentType="text/html; charset=UTF-8"
2      pageEncoding="UTF-8"%>
3  <!DOCTYPE html>
4  <html>
5  <head>
6    <meta charset="UTF-8">
7    <title>사용자 입력</title>
8    <link rel="stylesheet" href="https://maxcdn.bootstrapcdn.com/bootstrap/4.4.1/css/bootstrap.min.css">
9    <script src="https://ajax.googleapis.com/ajax/libs/jquery/3.4.1/jquery.min.js"></script>
10   <script src="https://cdnjs.cloudflare.com/ajax/libs/popper.js/1.16.0/umd/popper.min.js"></script>
11   <script src="https://maxcdn.bootstrapcdn.com/bootstrap/4.4.1/js/bootstrap.min.js"></script>
12
13 </head>
14 <body>
15   <div class="container">
16     <br>
17     <h2 class="text-center font-weight-bold">사용자 입력</h2>
18     <hr/>
19
20     <form action="insertPro.jsp">
21       <div class="form-group">
22         <label for="id">ID:</label>
23         <input type="text" class="form-control" id="id" name="id">
24       </div>
25       <div class="form-group">
26         <label for="name">NAME:</label>
27         <input type="text" class="form-control" id="name" name="name">
28       </div>
29       <div class="form-group">
30         <label for="pwd">PASSWORD:</label>
31         <input type="password" class="form-control" id="pwd" name="pwd">
32       </div>
33       <br>
34       <div class="text-center">
35         <button  type="submit" class="btn btn-secondary">등록</button>
36       </div>
37     </form>
38
39   </div>
40 </body>
41 </html>
```

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- insertPro.jsp

```jsp
1  <%@ page language="java" contentType="text/html; charset=UTF-8"
2      pageEncoding="UTF-8"
3      import ="java.sql.*" %>
4  <%   request.setCharacterEncoding("utf-8");
5
6      //1. DB 연동 드라이버 로드
7      Class.forName("org.mariadb.jdbc.Driver");
8
9      //2. 연결 객체 생성
10     String url = "jdbc:mariadb://localhost:3306/jinsookdb";
11     String user = "JSKIM";
12     String passwd = "1111";
13     Connection con = DriverManager.getConnection(url, user, passwd);
14
15     //3. 생성된 연결을 통해 SQL문 실행 의뢰 준비
16     String sql = "INSERT INTO LOGIN VALUES(?,?,?)";
17
18     PreparedStatement pstmt = con.prepareStatement(sql);
19     pstmt.setString(1, request.getParameter("id"));
20     pstmt.setString(2, request.getParameter("name"));
21     pstmt.setString(3, request.getParameter("pwd"));
22
23     //4. SQL 실행
24     int i = pstmt.executeUpdate();
25
26     //5. 객체 해제
27     pstmt.close();
28     con.close();
29  %>
```

**각자의 연결정보로 작성할 것**

- 메인 화면 작성
  - index.jsp

```jsp
1  <%@ page language="java" contentType="text/html; charset=UTF-8"
2      pageEncoding="UTF-8"%>
3  <!DOCTYPE html>
4  <html>
5  <head>
6    <meta charset="UTF-8">
7    <title>DB 연동</title>
8    <link rel="stylesheet" href="https://maxcdn.bootstrapcdn.com/bootstrap/4.4.1/css/bootstrap.min.css">
9    <script src="https://ajax.googleapis.com/ajax/libs/jquery/3.4.1/jquery.min.js"></script>
10   <script src="https://cdnjs.cloudflare.com/ajax/libs/popper.js/1.16.0/umd/popper.min.js"></script>
11   <script src="https://maxcdn.bootstrapcdn.com/bootstrap/4.4.1/js/bootstrap.min.js"></script>
12 </head>
13 <body>
14   <br><br><br>
15      <div class="text-center">
16         <button  type="button" class="btn btn-primary" onclick="location.href='list.jsp'">게시글 보기</button>  &n
17         <button  type="button" class="btn btn-primary" onclick="location.href='insertForm.jsp'">게시글 입력하기</button>
18      </div>
19 </body>
20 </html>
```

- list.jsp 파일 변경하기
  - updateForm.jsp 로 이동

```
49  <%
50     //5. 결과집합 처리
51     while (rs.next()){
52        String id = rs.getString("ID");
53        String name = rs.getString("NAME");
54        String pwd = rs.getString("PWD");
55  %>
56     <tr>
57        <td><a href="updateForm.jsp?id=<%=id %>"><%=id %></td>
58        <td><%=name %></td>
59        <td><%=pwd %></td>
60     </tr>
61  <%}
```

**updateForm.jsp 파일로 이동하면서 id데이터도 QueryString으로 함께 전송**

- LOGIN 테이블 데이터 변경하기
  - updateForm.jsp

```java
1  <%@ page language="java" contentType="text/html; charset=UTF-8"
2      pageEncoding="UTF-8"
3      import="java.sql.*" %>
4  <% String id = request.getParameter("id");        QueryString으로 보낸 id 데이터를 받아오기
5
6      //1. jdbc driver를 로드한다.
7      Class.forName("org.mariadb.jdbc.Driver");
8
9      //2. db와의 연결(connection)을 생성한다.
10     String url ="jdbc:mariadb://localhost:3306/jinsookdb";
11     String user ="jinsook";
12     String pwd ="1111";
13     Connection con = DriverManager.getConnection(url, user, pwd);
14
15     //3. 연결 후 그 통로를 통해 sql문을 실행한다.
16     String sql = "select * from login where id=?";
17     PreparedStatement pstmt=con.prepareStatement(sql);
18     pstmt.setString(1, id);
19
20     //4. SQL 실행
21     ResultSet rs = pstmt.executeQuery();
22
23     //5. 반환된 데이터 출력
24     rs.next();
25     String name=rs.getString("name");
26     String pwd2=rs.getString("pwd");
27
28     //6. 객체 해지
29     rs.close();
30     pstmt.close();
31     con.close();
32  %>
```

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# • updateForm.jsp

```
33  <!DOCTYPE html>
34  <html>
35  <head>
36    <meta charset="UTF-8">
37    <title>멤버 정보 변경</title>
38    <link rel="stylesheet" href="https://maxcdn.bootstrapcdn.com/bootstrap/4.4.1/css/bootstrap.min.css">
39    <script src="https://ajax.googleapis.com/ajax/libs/jquery/3.4.1/jquery.min.js"></script>
40    <script src="https://cdnjs.cloudflare.com/ajax/libs/popper.js/1.16.0/umd/popper.min.js"></script>
41    <script src="https://maxcdn.bootstrapcdn.com/bootstrap/4.4.1/js/bootstrap.min.js"></script>
42  </head>
43  <body>
44
45    <div class="container">
46      <br>
47      <h2 class="text-center font-weight-bold">사용자 정보 변경</h2>
48      <hr/>
49      <form action="updatePro.jsp" method="post">
50        <div class="form-group">
51          <label for="id">ID:</label>
52          <input type="text" class="form-control" id="id" name="id" value="<%=id%>">
53        </div>
54        <div class="form-group">
55          <label for="name">NAME:</label>
56          <input type="text" class="form-control" id="name" name="name" value="<%=name%>">
57        </div>
58        <div class="form-group">
59          <label for="pwd">PASSWORD:</label>
60          <input type="password" class="form-control" id="pwd" name="pwd" value="<%=pwd2%>">
61        </div>
62        <br>
63        <div class="text-center">
64            <input type="submit" value="변경" class="btn btn-secondary">
65            <input type="button" value="삭제" class="btn btn-secondary" onclick="location.href='delete.jsp?id=<%=id%>'">
66            <input type="button" value="목록" class="btn btn-secondary" onclick="location.href='list.jsp'">
67        </div>
68      </form>
69    </div>
70  </body>
71  </html>
```

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- updatePro.jsp

```jsp
1  <%@ page language="java" contentType="text/html; charset=UTF-8"
2      pageEncoding="UTF-8"
3      import ="java.sql.*" %>
4  <%  request.setCharacterEncoding("utf-8");
5
6      //1. DB 연동 드라이버 로드
7      Class.forName("org.mariadb.jdbc.Driver");
8
9      //2. 연결 객체 생성
10     String url = "jdbc:mariadb://localhost:3306/jinsookdb";
11     String user = "jinsook";
12     String passwd = "1111";
13     Connection con = DriverManager.getConnection(url, user, passwd);
14
15     //3. 생성된 연결을 통해 SQL문 실행 의뢰 준비
16     String sql = "UPDATE LOGIN SET NAME=?, PWD=? WHERE ID=?";
17
18     PreparedStatement pstmt = con.prepareStatement(sql);
19     pstmt.setString(1, request.getParameter("name"));
20     pstmt.setString(2, request.getParameter("pwd"));
21     pstmt.setString(3, request.getParameter("id"));
22
23     //4. SQL 실행
24     int i = pstmt.executeUpdate();
25
26     //5. 객체 해제
27     pstmt.close();
28     con.close();
29     %>
30  <!DOCTYPE html>
31  <html>
32  <head>
33     <meta charset="UTF-8">
34     <title>Insert title here</title>
35  </head>
36  <body>
37     <script>
38        let ans = alert("변경되었습니다!");
39        if (!ans){
40           location.href='list.jsp';
41        }
42     </script>
43  </body>
44  </html>
```

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<img alt="DIT 동의과학대학교 DONG-EUI INSTITUTE OF TECHNOLOGY" />

- LOGIN 테이블 데이터 삭제하기
  - delete.jsp

```jsp
1  <%@ page language="java" contentType="text/html; charset=UTF-8"
2      pageEncoding="UTF-8"
3      import="java.sql.*"  %>
4
5  <%  request.setCharacterEncoding("utf-8");
6
7    //1. DB 연동 드라이버 로드
8    Class.forName("org.mariadb.jdbc.Driver");
9
10   //2. 연결 객체 생성
11   String url = "jdbc:mariadb://localhost:3306/jinsookdb";
12   String user = "jinsook";
13   String passwd = "1111";
14   Connection con = DriverManager.getConnection(url, user, passwd);
15
16   //3. 생성된 연결을 통해 SQL문 실행 의뢰 준비
17   String sql = "DELETE FROM LOGIN WHERE ID=?";
18
19   PreparedStatement pstmt = con.prepareStatement(sql);
20   pstmt.setString(1, request.getParameter("id"));
21
22   //5. SQL 실행
23   int i = pstmt.executeUpdate();
24
25   //6. 객체 해제
26   pstmt.close();
27   con.close();
28 %>
29
30 <script>
31     let ans = alert("삭제되었습니다!");
32     if (!ans){
33        location.href='list.jsp';
34     }
35 </script>
```

# insertForm.jsp와 updateForm.jsp 하나로 합치기

- insertUpdateForm.jsp

```jsp
1  <%@page import="java.sql.*"%>
2  <%@ page language="java" contentType="text/html; charset=UTF-8"
3      pageEncoding="UTF-8"%>
4  <%
5    String id = request.getParameter("id");
6    String name ="";
7    String pwd ="";
8    String action ="insertPro.jsp";
9
10   if(id!=null || id ==""){ //update
11
12     //1. jdbc driver 등록
13     Class.forName("org.mariadb.jdbc.Driver");
14
15     //2. db 와 연결(Connection) 생성
16     // 연결문자열 설정
17     String url = "jdbc:mariadb://localhost:3306/jinsookdb";
18     String user ="jinsook";
19     String passwd = "1111";
20     Connection con= DriverManager.getConnection(url, user, passwd);
21
22     //3. DB 연동
23     String sql = "select id, name, pwd from login where id=?";
24     PreparedStatement pstmt = con.prepareStatement(sql);
25     pstmt.setString(1, id);
26     ResultSet rs = pstmt.executeQuery();
27
28     //4. 결과 셋에서 데이터 추출하기
29     rs.next();
30     name = rs.getString("name");
31     pwd = rs.getString("pwd");
32
33     action ="updatePro.jsp";
34   }else{
35     id="";
36   }
37 %>
```

```html
39 <!DOCTYPE html>
40 <html>
41 <head>
42   <meta charset="UTF-8">
43   <title>로그인</title>
44 </head>
45 <body>
46   <h2>로그인</h2>
47   <form name="Login" action="<%=action %>" method="post">
48     아이디 : <input type="text" name="id" value="<%=id %>"><br>
49     이름 : <input type="text" name="name"  value="<%=name %>"><br>
50     암호: <input type="password" name="pwd"  value="<%=pwd %>"><br><br>
51     <input type="submit" value="변경저장">
52     <button type="button" onclick="Location.href='delete.jsp?id=<%=id%>'">삭제</button>
53     <button type="button" onclick="location.href='list.jsp'">사용자 조회</button>
54   </form>
55 </body>
56 </html>
```