Class 230117

File Upload

파일 전송을 위한 Form태그 옵션

- `method="post"`

- `enctype="multipart/form-data"`

  - 기존 방식의 '키:밸류' 형태로 데이터를 넘기는 것이 아니라 전체 데이터를 하나의 덩어리로 넘김.

  - 따라서 게시물의 제목과 내용과 파일이름, 파일내용 (사진은 두 개로 분해) 등으로 각각 추출해서 DB에 넣어 주어야 함.

    → 이것을 쉽게할 수 있게 도와주는 라이브러리 사용

  - 파일 자체는 DB에 들어가지는 않고 DB에는 이름만 들어가고 파일 자체는 서버의 특정 위치로 전송 됨

라이브러리 설치 (추출)

- Commons Fileupload

  FileUpload - Download Apache Commons FileUpload

  We recommend you use a mirror to download our release builds, but you must verify the integrity of the downloaded files using signatures downloaded from our main distribution directories. Recent releases (48 hours) may not yet be available from the mirrors. You are currently using https://dlcdn.apache.org/.

  https://commons.apache.org/proper/commons-fileupload/download_fileupload.cgi

- Commons IO

  Commons IO - Download Apache Commons IO

  We recommend you use a mirror to download our release builds, but you must verify the integrity of the downloaded files using signatures downloaded from our main distribution directories. Recent releases (48 hours) may not yet be available from all the mirrors. You are currently using

  https://commons.apache.org/proper/commons-io/download_io.cgi

추출에 필요한 기본 메서드 정리

- `isFieldName()`

  - 요소가 키-벨류 형태로 구성된 필드를 찾아 반환

- `getFeildName()`

  - 키값 속성 추출

- `getString()`

  - 밸류값 추출

- `getName()`

  - 파일 이름 추출

- `get()`

  - 파일 자체 추출

▼ 사용 코드 보기

```jsp
<%@page import="java.util.List"%>
<%@page import="java.util.Iterator"%>
<%@page import="org.apache.commons.fileupload.*"%>
<%@page import="org.apache.commons.fileupload.disk.*"%>
<%@page import="org.apache.commons.fileupload.servlet.*"%>
<%@page import="java.io.*"%>
<%@ page language="java" contentType="text/html; charset=UTF-8"
    pageEncoding="UTF-8"%>
<%
  request.setCharacterEncoding("utf-8");

  String fbtitle;   // 글 제목
  String fbcontent; // 글 내용
  String fbfile;    // 사진 이름
  byte[] fbu;       // 사진

  ServletFileUpload sfu = new ServletFileUpload(new DiskFileItemFactory());

  List<FileItem> items = sfu.parseRequest(request);

  Iterator<FileItem> iter = items.iterator();
  while(iter.hasNext()) {
    FileItem item = (FileItem) iter.next();
    String name = item.getFieldName();
    if(item.isFormField()) {
      String value = item.getString("utf-8");
      switch(name) {
      case "btitle":  fbtitle = value;  break;
      case "bcontent":fbcontent = value;  break;
      }
    } else {
      if (name.equals("bfile")) {
        fbu = item.get();
      }
    }
  }
%>
```

파일 서버에 저장하기 위한 방법

1. 데이터베이스 내부에 파일을 직접 넣기
2. 서버의 특정 위치에 파일을 그대로 저장하고 DB에는 그 이름과 경로만 저장하기
   - DB에 고용량 파일을 올리는 것은 비용 측면에서 적절하지 않아 이 방법을 많이 사용

파일 서버에 저장 구현 (게시판) (2번 방법)

파일 2개 저장

▼ fboard Table

```sql
CREATE TABLE `fboard` (
  `bno` INT(10) NOT NULL AUTO_INCREMENT,
  `btitle` VARCHAR(100) NULL DEFAULT NULL COLLATE 'utf8mb4_0900_ai_ci',
  `bwriter` VARCHAR(10) NULL DEFAULT NULL COLLATE 'utf8mb4_0900_ai_ci',
  `bcontent` LONGTEXT NULL DEFAULT NULL COLLATE 'utf8mb4_0900_ai_ci',
  `bfile1` VARCHAR(50) NULL DEFAULT NULL COLLATE 'utf8mb4_0900_ai_ci',
  `bfile2` VARCHAR(50) NULL DEFAULT NULL COLLATE 'utf8mb4_0900_ai_ci',
  `bdate` TIMESTAMP NULL DEFAULT CURRENT_TIMESTAMP,
  PRIMARY KEY (`bno`) USING BTREE
)
COLLATE='utf8mb4_0900_ai_ci'
ENGINE=InnoDB
AUTO_INCREMENT=5
;
```

▼ FileBoardDTO

```
package jdbc;

public class FileBoardDTO {
  private int bno;
  private String btitle;
  private String bwriter;
  private String bcontent;
  private String bfile1;
  private String bfile2;
  private String bdate;
  // getter/setter 생략
}
```

▼ **FileBoardDAO**

```
package jdbc;

import java.sql.Connection;
import java.sql.PreparedStatement;
import java.sql.ResultSet;
import java.sql.SQLException;
import java.util.ArrayList;
import java.util.List;

import util.ConnectionPool;

public class FileBoardDAO {

  // 작성된 게시글 등록
  public static boolean insert(String btitle, String bwriter, String bcontent, String bfile1, String bfile2) {
    boolean result = false;
    String sql = "INSERT INTO fboard (btitle, bwriter, bcontent, bfile1, bfile2) VALUES (?, ?, ?, ?, ?)";

    try {
      Connection conn = ConnectionPool.get();
      PreparedStatement pstmt = conn.prepareStatement(sql);
      pstmt.setString(1, btitle);
      pstmt.setString(2, bwriter);
      pstmt.setString(3, bcontent);
      pstmt.setString(4, bfile1);
      pstmt.setString(5, bfile2);

      result = pstmt.executeUpdate() == 1 ? true : false;

    } catch (SQLException e) {
      e.printStackTrace();
    }

    return result;
  }

  // 게시글 목록 가져오기
  public static List<FileBoardDTO> selectList() {
    ArrayList<FileBoardDTO> list = new ArrayList<>();
    String sql = "SELECT * FROM fboard";

    try {
      Connection conn = ConnectionPool.get();
      PreparedStatement pstmt = conn.prepareStatement(sql);

      ResultSet rSet = pstmt.executeQuery();

      while (rSet.next()) {
        FileBoardDTO bdto = new FileBoardDTO(
          rSet.getInt("bno"),
          rSet.getString("btitle"),
          rSet.getString("bwriter"),
          rSet.getString("bcontent"),
          rSet.getString("bfile1"),
          rSet.getString("bfile2"),
          rSet.getString("bdate")
        );
        list.add(bdto);
      }

    } catch (SQLException e) {
      e.printStackTrace();
      list = null;
    }

    return list;
  }
```

```java
    // 게시글 목록 가져오기
    public static BoardDTO select(int bno) {
      BoardDTO bdto= null;
      String sql = "SELECT * FROM board WHERE bno=?";

      try {
        Connection conn = ConnectionPool.get();
        PreparedStatement pstmt = conn.prepareStatement(sql);
        pstmt.setInt(1, bno);
        ResultSet rSet = pstmt.executeQuery();

        while (rSet.next()) {
          bdto = new BoardDTO(
            rSet.getInt("bno"),
            rSet.getString("btitle"),
            rSet.getString("bwriter"),
            rSet.getString("bcontent"),
            rSet.getString("bdate")
          );
        }

      } catch (SQLException e) {
        e.printStackTrace();
      }

      return bdto;
    }
}
```

▼ **FBoardForm**.jsp

```jsp
<%@ page language="java" contentType="text/html; charset=UTF-8"
    pageEncoding="UTF-8"%>
<!DOCTYPE html>
<html>
<head>
<meta charset="UTF-8">
<title>uploadForm.jsp</title>
<link href="https://cdn.jsdelivr.net/npm/bootstrap@5.0.2/dist/css/bootstrap.min.css" rel="stylesheet" integrity="sha384-EVSTQN3/az
</head>
<body>
  <div class="container">
    <h3>FILE UPLOAD</h3>
    <form action="FBoardInsert.jsp" method="post" enctype="multipart/form-data">
      <label class="form-label" for="btitle">제목</label>
      <input class="form-control" type="text" name="btitle" id="usernm">
      <label class="form-label" for="bcontent">내용</label>
      <input class="form-control" type="text" name="bcontent" id="usernm">
      <label class="form-label" for="bfile">파일 첨부</label>
      <input class="form-control" type="file" name="bfile1">
      <input class="form-control" type="file" name="bfile2">
      <button class="btn btn-info mt-5" type="submit">전송</button>
    </form>
  </div>
<script src="https://cdn.jsdelivr.net/npm/@popperjs/core@2.9.2/dist/umd/popper.min.js" integrity="sha384-IQsoLXl5PILFhosVNubq5LC7Q
<script src="https://cdn.jsdelivr.net/npm/bootstrap@5.0.2/dist/js/bootstrap.min.js" integrity="sha384-cVKIPhGWiC2Al4u+LWgxfKTRIcfu
</body>
</html>
```

▼ **FBoardInsert**.jsp

```jsp
<%@page import="jdbc.FileBoardDAO"%>
<%@page import="util.FileUtil"%>
<%@page import="java.util.List"%>
<%@page import="java.util.Iterator"%>
<%@page import="org.apache.commons.fileupload.*"%>
<%@page import="org.apache.commons.fileupload.disk.*"%>
<%@page import="org.apache.commons.fileupload.servlet.*"%>
<%@page import="java.io.*"%>
<%@ page language="java" contentType="text/html; charset=UTF-8"
    pageEncoding="UTF-8"%>
<%
  request.setCharacterEncoding("utf-8");

  String fbtitle = "";    // 글 제목
  String fbcontent = "";    // 글 내용
  String fbfile1 = "";      // 사진 이름
  String fbfile2 = "";      // 사진 이름
  byte[] fbu = null;       // 사진

  ServletFileUpload sfu = new ServletFileUpload(new DiskFileItemFactory());
```

```java
  List<FileItem> items = sfu.parseRequest(request);

  Iterator<FileItem> iter = items.iterator();
  while(iter.hasNext()) {
    FileItem item = (FileItem) iter.next();
    String name = item.getFieldName();
    if(item.isFormField()) {
      String value = item.getString("utf-8");
      switch(name) {
      case "btitle":  fbtitle = value;  break;
      case "bcontent":fbcontent = value;  break;
      }
    } else {
      if (name.equals("bfile1")) {
        fbfile1 = item.getName();
        fbu = item.get();
        String root = application.getRealPath(java.io.File.separator);
        FileUtil.saveImage(root, fbfile1, fbu);
      }
      if (name.equals("bfile2")) {
        fbfile2 = item.getName();
        fbu = item.get();
        String root = application.getRealPath(java.io.File.separator);
        FileUtil.saveImage(root, fbfile2, fbu);
      }
    }
  }

  FileBoardDAO.insert(fbtitle, "작성자", fbcontent, fbfile1, fbfile2);
%>
```

▼ **FBoardList**.jsp

```jsp
<%@page import="java.util.List"%>
<%@page import="jdbc.FileBoardDAO"%>
<%@page import="jdbc.FileBoardDTO"%>
<%@ page language="java" contentType="text/html; charset=UTF-8"
    pageEncoding="UTF-8"%>
<%
  List<FileBoardDTO> bList = FileBoardDAO.selectList();
%>
<!DOCTYPE html>
<html lang="en">

<head>

    <meta charset="utf-8">
    <meta http-equiv="X-UA-Compatible" content="IE=edge">
    <meta name="viewport" content="width=device-width, initial-scale=1">
    <meta name="description" content="">
    <meta name="author" content="">

    <title>Board</title>
    <!-- Bootstrap Core CSS -->
    <link href="resources/vendor/bootstrap/css/bootstrap.min.css" rel="stylesheet">
    <!-- MetisMenu CSS -->
    <link href="resources/vendor/metisMenu/metisMenu.min.css" rel="stylesheet">
    <!-- DataTables CSS -->
    <link href="resources/vendor/datatables-plugins/dataTables.bootstrap.css" rel="stylesheet">
    <!-- DataTables Responsive CSS -->
    <link href="resources/vendor/datatables-responsive/dataTables.responsive.css" rel="stylesheet">
    <!-- Custom CSS -->
    <link href="resources/dist/css/sb-admin-2.css" rel="stylesheet">
    <!-- Custom Fonts -->
    <link href="resources/vendor/font-awesome/css/font-awesome.min.css" rel="stylesheet" type="text/css">
    <!-- HTML5 Shim and Respond.js IE8 support of HTML5 elements and media queries -->
    <!-- WARNING: Respond.js doesn't work if you view the page via file:// -->
    <!--[if lt IE 9]>
        <script src="https://oss.maxcdn.com/libs/html5shiv/3.7.0/html5shiv.js"></script>
        <script src="https://oss.maxcdn.com/libs/respond.js/1.4.2/respond.min.js"></script>
    <![endif]-->

</head>

<body>

    <div id="wrapper">
        <!-- Navigation -->
        <nav class="navbar navbar-default navbar-static-top" role="navigation" style="margin-bottom: 0">
            <div class="navbar-header">
                <a class="navbar-brand" href="/BoardExam/BoardList.jsp">게시판</a>
            </div>
            <!-- /.navbar-header -->
```

```html
        <ul class="nav navbar-top-links navbar-right">
            <li class="dropdown">
                <a class="dropdown-toggle" data-toggle="dropdown" href="#">
                  게시판
                </a>
            </li>
            <!-- /.dropdown -->
        </ul>
        <!-- /.navbar-top-links -->

        <div class="navbar-default sidebar" role="navigation">
            <div class="sidebar-nav navbar-collapse">
                <ul class="nav" id="side-menu">
                    <li>
                        <a href="/BoardExam/BoardList.jsp">게시판</a>
                    </li>
                </ul>
            </div>
            <!-- /.sidebar-collapse -->
        </div>
        <!-- /.navbar-static-side -->
    </nav>

    <div id="page-wrapper" class="container">
      <p></p>
        <div class="row">
            <div class="col-lg-12">
                <div class="panel panel-default">
                    <div class="panel-heading">
                        게시글 목록
                    </div>
                    <!-- /.panel-heading -->
                    <div class="panel-body">
                        <div class="table-responsive">
                            <table class="table table-hover">
                                <thead>
                                    <tr>
                                        <th>글번호</th>
                                        <th>제목</th>
                                        <th>작성자</th>
                                        <th>내용</th>
                                        <th>파일1</th>
                                        <th>파일2</th>
                                        <th>등록일</th>
                                    </tr>
                                </thead>
                                <tbody>
<%
            for (FileBoardDTO bdto : bList) {
              String img1 = bdto.getBfile1();
              String imgStr1 = "";
              if(img1 != null) {
                imgStr1 = "<img src='imgs/" + img1 + "' width=100 />";
              }
              String img2 = bdto.getBfile2();
              String imgStr2 = "";
              if(img2 != null) {
                imgStr2 = "<img src='imgs/" + img2 + "' width=100 />";
              }
%>
                                    <tr onclick="location.href = 'bno=<%= bdto.getBno() %>'">
                                        <td><%= bdto.getBno() %></td>
                                        <td><%= bdto.getBtitle() %></td>
                                        <td><%= bdto.getBwriter() %></td>
                                        <td><%= bdto.getBcontent() %></td>
                                        <td><%= imgStr1 %></td>
                                        <td><%= imgStr2 %></td>
                                        <td><%= bdto.getBdate() %></td>
                                    </tr>
<%
                }
%>
                                </tbody>
                            </table>
                        </div>
                        <!-- /.table-responsive -->
                    </div>
                    <!-- /.panel-body -->
                </div>
                <!-- /.panel -->
            </div>
        </div>
        <!-- /.row -->
    </div>
    <!-- /#page-wrapper -->
```

```
        </div>
        <!-- /#wrapper -->

        <!-- jQuery -->
        <script src="resources/vendor/jquery/jquery.min.js"></script>
        <!-- Bootstrap Core JavaScript -->
        <script src="resources/vendor/bootstrap/js/bootstrap.min.js"></script>
        <!-- Metis Menu Plugin JavaScript -->
        <script src="resources/vendor/metisMenu/metisMenu.min.js"></script>
        <!-- DataTables JavaScript -->
        <script src="resources/vendor/datatables/js/jquery.dataTables.min.js"></script>
        <script src="resources/vendor/datatables-plugins/dataTables.bootstrap.min.js"></script>
        <script src="resources/vendor/datatables-responsive/dataTables.responsive.js"></script>
        <!-- Custom Theme JavaScript -->
        <script src="resources/dist/js/sb-admin-2.js"></script>
        <!-- Page-Level Demo Scripts - Tables - Use for reference -->
        <script>
        $(document).ready(function() {
            $('#dataTables-example').DataTable({
                responsive: true
            });
        });
        </script>

    </body>

    </html>
```

로그인

📎 index.html이 호출될 때 JavaScript의 location 객체의 href 속성을 이용해 메인 jsp로 이동시켜 jsp를 사용 할 수 있다.

Member Table

▼ 코드 보기

```
CREATE TABLE `member` (
  `mnumber` INT(10) NOT NULL AUTO_INCREMENT,
  `mname` VARCHAR(50) NULL DEFAULT NULL COLLATE 'utf8mb4_0900_ai_ci',
  `mid` VARCHAR(50) NULL DEFAULT NULL COLLATE 'utf8mb4_0900_ai_ci',
  `mpass` VARCHAR(50) NULL DEFAULT NULL COLLATE 'utf8mb4_0900_ai_ci',
  `mgender` VARCHAR(50) NULL DEFAULT NULL COLLATE 'utf8mb4_0900_ai_ci',
  `memail` VARCHAR(50) NULL DEFAULT NULL COLLATE 'utf8mb4_0900_ai_ci',
  `mdate` TIMESTAMP NULL DEFAULT CURRENT_TIMESTAMP,
  PRIMARY KEY (`mnumber`) USING BTREE
)
COLLATE='utf8mb4_0900_ai_ci'
ENGINE=InnoDB
;
```

MemberDTO.java

▼ 코드 보기

```
public class MemberDTO {
  private int mnumber;
  private String mname;
  private String mid;
  private String mpass;
  private String mgender;
  private String memail;
  private String mdate;
  // getter/setter 생략
}
```

MemberDAO.java

▼ 코드 보기

```java
package jdbc;

import java.sql.Connection;
import java.sql.PreparedStatement;
import java.sql.ResultSet;
import java.sql.SQLException;
import java.util.ArrayList;
import java.util.List;

import util.ConnectionPool;

public class MemberDAO {

  // 회원 가입 정보 테이블에 입력
  public static boolean insert(String mname, String mid, String mpass, String mgender, String memail) {
    boolean result = false;
    String sql = "INSERT INTO member (mname, mid, mpass, mgender, memail) VALUES (?, ?, ?, ?, ?)";

    try {
      Connection conn = ConnectionPool.get();
      PreparedStatement pstmt = conn.prepareStatement(sql);
      pstmt.setString(1, mname);
      pstmt.setString(2, mid);
      pstmt.setString(3, mpass);
      pstmt.setString(4, mgender);
      pstmt.setString(5, memail);

      result = pstmt.executeUpdate() == 1 ? true : false;

    } catch (SQLException e) {
      e.printStackTrace();
    }

    return result;
  }

  // 회원 목록 가져오기
  public static List<MemberDTO> selectList() {
    ArrayList<MemberDTO> list = new ArrayList<>();
    String sql = "SELECT * FROM member";

    try {
      Connection conn = ConnectionPool.get();
      PreparedStatement pstmt = conn.prepareStatement(sql);

      ResultSet rSet = pstmt.executeQuery();

      while (rSet.next()) {
        MemberDTO bdto = new MemberDTO(
          rSet.getInt("mnumber"),
          rSet.getString("mname"),
          rSet.getString("mid"),
          rSet.getString("mpass"),
          rSet.getString("mgender"),
          rSet.getString("memail"),
          rSet.getString("mdate")
        );
        list.add(bdto);
      }

    } catch (SQLException e) {
      e.printStackTrace();
      list = null;
    }

    return list;
  }

  // 회원 정보 가져오기
  public static MemberDTO select(String mid) {
    MemberDTO bdto= null;
    String sql = "SELECT * FROM board WHERE mid=?";

    try {
      Connection conn = ConnectionPool.get();
      PreparedStatement pstmt = conn.prepareStatement(sql);
      pstmt.setString(1, mid);
      ResultSet rSet = pstmt.executeQuery();
```

```
      while (rSet.next()) {
        bdto = new MemberDTO(
          rSet.getInt("mnumber"),
          rSet.getString("mname"),
          rSet.getString("mid"),
          rSet.getString("mpass"),
          rSet.getString("mgender"),
          rSet.getString("memail"),
          rSet.getString("mdate")
        );
      }

    } catch (SQLException e) {
      e.printStackTrace();
    }

    return bdto;
  }

  // 로그인 회원 정보 확인
  public static int login(String mid, String mpass) {
    String sql = "SELECT mid, mpass FROM member WHERE mid=?";

    try {
      Connection conn = ConnectionPool.get();
      PreparedStatement pstmt = conn.prepareStatement(sql);
      pstmt.setString(1, mid);
      ResultSet rSet = pstmt.executeQuery();

      if (!rSet.next()) {
        return 1; // 아이디와 비밀번호 모두 없는 경우
      }
      if(!mpass.equals(rSet.getString("mpass"))) {
        return 2; // 아이디만 존재하는 경우
      }

    } catch (SQLException e) {
      e.printStackTrace();
    }

    return 0; // 아이디와 비밀번호 모두 일치하는 경우
  }
}
```

회원가입 처리

db ← table ← (dto) ← dao ← signupCheck.jsp ← signupForm.jsp

▼ signupForm.jsp

```
<%@ page language="java" contentType="text/html; charset=UTF-8"
    pageEncoding="UTF-8"%>
<!DOCTYPE html>
<html>
<head>
<meta charset="UTF-8">
<title>Sign in</title>
<!-- CSS only -->
<link href="https://cdn.jsdelivr.net/npm/bootstrap@5.2.3/dist/css/bootstrap.min.css" rel="stylesheet" integrity="sha384-rbsA2VBKQh
</head>
<body>
  <section class="vh-100" style="background-color: #eee;">
    <div class="container h-100">
      <div class="row d-flex justify-content-center align-items-center h-100">
        <div class="col-lg-12 col-xl-11">
          <div class="card text-black" style="border-radius: 25px;">
            <div class="card-body p-md-5">
              <div class="row justify-content-center">
                <div class="col-md-10 col-lg-6 col-xl-5 order-2 order-lg-1">

                  <p class="text-center h1 fw-bold mb-5 mx-1 mx-md-4 mt-4">Sign in</p>

                  <form class="mx-1 mx-md-4" action="signupCheck.jsp" method="post">

                    <div class="d-flex flex-row align-items-center mb-4">
                      <i class="fas fa-user fa-lg me-3 fa-fw"></i>
                      <div class="form-outline flex-fill mb-0">
                        <label class="form-label" for="1">Name</label>
```

```html
                            <input type="text" id="1" class="form-control" name="mname"/>
                          </div>
                        </div>

                        <div class="d-flex flex-row align-items-center mb-4">
                          <i class="fas fa-user fa-lg me-3 fa-fw"></i>
                          <div class="form-outline flex-fill mb-0">
                            <label class="form-label" for="2">ID</label>
                            <input type="text" id="2" class="form-control" name="mid"/>
                          </div>
                        </div>

                  <div class="d-flex flex-row align-items-center mb-4">
                          <i class="fas fa-lock fa-lg me-3 fa-fw"></i>
                          <div class="form-outline flex-fill mb-0">
                            <label class="form-label" for="3">Password</label>
                            <input type="password" id="3" class="form-control" name="mpass"/>
                          </div>
                        </div>

                  <!-- <div class="d-flex flex-row align-items-center mb-4">
                          <i class="fas fa-key fa-lg me-3 fa-fw"></i>
                          <div class="form-outline flex-fill mb-0">
                            <input type="password" id="4" class="form-control" name="mpassre"/>
                            <label class="form-label" for="4">Repeat password</label>
                          </div>
                        </div> -->

                        <div class="d-flex flex-row align-items-center mb-4">
                          <i class="fas fa-envelope fa-lg me-3 fa-fw"></i>
                          <div class="form-outline flex-fill mb-0">
                            <label class="form-label" for="5">Email</label>
                            <input type="email" id="5" class="form-control" name="memail"/>
                          </div>
                        </div>

                        <div class="d-flex flex-row align-items-center mb-4">
                          <i class="fas fa-user fa-lg me-3 fa-fw"></i>
                          <div class="form-outline flex-fill mb-0">
                            <input type="radio" id="6" class="d-inline" name="mgender" value="male" />
                            <label class="form-label" for="6">Male</label>
                            <input type="radio" id="7" class="d-inline" name="mgender" value="female"/>
                            <label class="form-label" for="7">Female</label>
                          </div>
                        </div>

                        <div class="d-flex justify-content-center mx-4 mb-3 mb-lg-4">
                          <button type="submit" class="btn btn-primary btn-lg">Register</button>
                        </div>

                      </form>

                    </div>
                      <div class="col-md-10 col-lg-6 col-xl-7 d-flex align-items-center order-1 order-lg-2">

                      <img src="https://mdbcdn.b-cdn.net/img/Photos/new-templates/bootstrap-registration/draw1.webp"
                        class="img-fluid" alt="Sample image">

                    </div>
                  </div>
                </div>
              </div>
            </div>
          </div>
      </section>

  <!-- JavaScript Bundle with Popper -->
  <script src="https://cdn.jsdelivr.net/npm/bootstrap@5.2.3/dist/js/bootstrap.bundle.min.js" integrity="sha384-kenU1KFdBIe4zVF0s0G1M
  </body>
</html>
```

▼ signupCheck.jsp

```jsp
<%@page import="jdbc.MemberDAO"%>
<%@ page language="java" contentType="text/html; charset=UTF-8"
    pageEncoding="UTF-8"%>
<%
  request.setCharacterEncoding("utf-8");

  String mname = request.getParameter("mname");
  String mid = request.getParameter("mid");
  String mpass = request.getParameter("mpass");
```

```
      String mgender = request.getParameter("mgender");
      String memail = request.getParameter("memail");
      if(MemberDAO.insert(mname, mid, mpass, mgender, memail)) {
        out.print("success");
        response.sendRedirect("index.html");
      } else {
        out.print("fail");
      }
    %>
```

로그인 처리

db ←→ table ←→ dao (login Method) ← loginCheck.jsp ← loginForm.jsp
                                        → view

▼ loginForm.jsp

```
<%@ page language="java" contentType="text/html; charset=UTF-8"
    pageEncoding="UTF-8"%>
<!DOCTYPE html>
<html>
<head>
<meta charset="UTF-8">
<title>Sign in</title>
<!-- CSS only -->
<link href="https://cdn.jsdelivr.net/npm/bootstrap@5.2.3/dist/css/bootstrap.min.css" rel="stylesheet" integrity="sha384-rbsA2VBKQh
</head>
<body>
  <section class="vh-100" style="background-color: #eee;">
    <div class="container h-100">
      <div class="row d-flex justify-content-center align-items-center h-100">
        <div class="col-lg-12 col-xl-11">
          <div class="card text-black" style="border-radius: 25px;">
            <div class="card-body p-md-5">
              <div class="row justify-content-center">
                <div class="col-md-10 col-lg-6 col-xl-5 order-2 order-lg-1">

                  <p class="text-center h1 fw-bold mb-5 mx-1 mx-md-4 mt-4">Login</p>

                  <form class="mx-1 mx-md-4" action="loginCheck.jsp" method="post">

                    <div class="d-flex flex-row align-items-center mb-4">
                      <i class="fas fa-user fa-lg me-3 fa-fw"></i>
                      <div class="form-outline flex-fill mb-0">
                        <label class="form-label" for="2">ID</label>
                        <input type="text" id="2" class="form-control" name="mid"/>
                      </div>
                    </div>

                <div class="d-flex flex-row align-items-center mb-4">
                        <i class="fas fa-lock fa-lg me-3 fa-fw"></i>
                        <div class="form-outline flex-fill mb-0">
                          <label class="form-label" for="3">Password</label>
                          <input type="password" id="3" class="form-control" name="mpass"/>
                        </div>
                    </div>

                    <div class="d-flex justify-content-center mx-4 mb-3 mb-lg-4">
                      <button type="submit" class="btn btn-primary btn-lg">Login</button>
                    </div>

                  </form>

                </div>
                  <div class="col-md-10 col-lg-6 col-xl-7 d-flex align-items-center order-1 order-lg-2">

                  <img src="https://mdbcdn.b-cdn.net/img/Photos/new-templates/bootstrap-registration/draw1.webp"
                    class="img-fluid" alt="Sample image">

                </div>
              </div>
            </div>
          </div>
        </div>
      </div>
    </div>
  </section>

<!-- JavaScript Bundle with Popper -->
<script src="https://cdn.jsdelivr.net/npm/bootstrap@5.2.3/dist/js/bootstrap.bundle.min.js" integrity="sha384-kenU1KFdBIe4zVF0s0G1M
```

```
    </body>
    </html>
```

▼ loginCheck.jsp

```
<%@page import="jdbc.MemberDAO"%>
<%@ page language="java" contentType="text/html; charset=UTF-8"
    pageEncoding="UTF-8"%>
<%
  request.setCharacterEncoding("utf-8");

  String mid = request.getParameter("mid");
  String mpass = request.getParameter("mpass");

  switch(MemberDAO.login(mid, mpass)) {
  case 0 : session.setAttribute("mid", mid); // add session
      response.sendRedirect("index.html");
      break;
  case 1 : response.sendRedirect("signupForm.jsp");
      break;
  case 2 : response.sendRedirect("loginForm.jsp");
      break;
  }
%>
```

로그인 시 고려사항

- 입력한 아이디와 비번이 디비의 정보와 모두 일치하는 경우

  → 세션처리 → 메인화면

- 입력한 아이디는 있지만 비번이 다른 경우

  → 다시 로그인 창

- 입력한 아이디와 비번 모두 없는 경우

  → 회원 가입