aws 20230113

■ Hour 1 (09:00 ~ 09:50)

mysql installation & setting

mysql

port 번호 3306 사용 - 거의 대부분에서 3306 사용

■ Hour 2 (10:00 ~ 10:50)

heidi installation & setting

heidi

MySQL과 MariaDB의 사용을 도와줌

JSP로 데이터 베이스를 사용하는 4가지 방법

1. 각각의 JSP 파일에서 매번 직접 DB 사용
2. DB 연결 부분만 별도의 file로 구성
3. DB 연결 부분만 별도의 Class로 구성
4. Connection Pool - (WEB-INF \\ lib 에 jar파일 복사)

JDBC basic

- 6 steps
    1. import SQL Packages
    2. load JDBC Driver
    3. create Connection Object
    4. create Statement Object
    5. execute SQL Query
    6. close Connection (java 9 부터 생략가능)

■ Hour 3 (11:00 ~ 11:50)

JDBC basic

- 6 steps

1. import SQL Packages

```
<!-- step 1 import SQL Packages -->
<%@ page import=" java.sql.* "%>
```

2. load JDBC Driver

```
<% // step 2 load JDBC Driver
  try {
  Class.forName("com.mysql.jdbc.Driver");
  } catch (ClassNotFoundException err){
    out.print("JDBC DRIVER LOADING ERROR <br>" + err.getMessage());
  }
%>
```

3. create Connection Object

```
<%
// step 3 create Connection Object
  Connection conn = null;
  try {
    conn = DriverManager.getConnection("jdbc:mysql://localhost:3306/","root","0000");
  } catch (SQLException err){
    out.print("Connection Object ERROR <br>" + err.getMessage());
  }
%>
```

4. create Statement Object

```
<%
// step 4 create Statement Object
  PreparedStatement pstmt = conn.prepareStatement("CREATE DATABASE test");
%>
```

5. execute SQL Query

```
<%
// step 5 execute SQL Query
  pstmt.executeUpdate();
%>
```

6. close Connection (java 9 부터 생략가능)

```
<%
// step 6 close Connection
  pstmt.close();
  conn.close();
%>
```

■ Hour 4 (12:00 ~ 12:50)

MySQL

create database, table

▼ 사용할 database를 Connection 객체 생성시 설정 (" jdbc:mysql://localhost:3306/~~~ ")

```
// step 3 create Connection Object
  Connection conn = null;
  try {
    conn = DriverManager.getConnection("jdbc:mysql://localhost:3306/univ","root","0000");
  } catch (SQLException err){
    out.print("Connection Object ERROR <br>" + err.getMessage());
  }
```

■ Hour 5 (14:00 ~ 14:50)

▼ parameter 받아서 DB insert처리

```
<%@ page language="java" contentType="text/html; charset=UTF-8"
    pageEncoding="UTF-8"%>
<%@ page import="java.sql.*"%>

<!DOCTYPE html>
<html>
<head>
<meta charset="UTF-8">
<title>Insert title here</title>
</head>
<body>

<%
//step 2 load JDBC Driver
  try {
  Class.forName("com.mysql.jdbc.Driver");
  } catch (ClassNotFoundException err){
    out.print("JDBC DRIVER LOADING ERROR <br>" + err.getMessage());
  }

  // step 3 create Connection Object
  Connection conn = null;
  try {
    conn = DriverManager.getConnection("jdbc:mysql://localhost:3306/univ","root","0000");
  } catch (SQLException err){
    out.print("Connection Object ERROR <br>" + err.getMessage());
  }

  // step 4 create Statement Object
  String hakbun=request.getParameter("hakbun");
  String name=request.getParameter("name");
  String dept=request.getParameter("dept");
  String addr=request.getParameter("addr");
  String sql = "INSERT into student values (?,?,?,?)";
  PreparedStatement pstmt = conn.prepareStatement(sql);
  pstmt.setString(1,hakbun);
  pstmt.setString(2,name);
  pstmt.setString(3,dept);
```

```
  pstmt.setString(4,addr);

  // step 5 execute SQL Query
  pstmt.executeUpdate();

  // step 6 close Connection
  pstmt.close();
  conn.close();
%>
</body>
</html>
```

▼ DB의 데이터 받아서 표시

```
<%@ page language="java" contentType="text/html; charset=UTF-8"
    pageEncoding="UTF-8"%>
<%@ page import="java.sql.*"%>


<!DOCTYPE html>
<html>
<head>
<meta charset="UTF-8">
<title>Insert title here</title>
</head>
<body>
<%
//step 2 load JDBC Driver
  try {
  Class.forName("com.mysql.jdbc.Driver");
  } catch (ClassNotFoundException err){
    out.print("JDBC DRIVER LOADING ERROR <br>" + err.getMessage());
  }

  // step 3 create Connection Object
  Connection conn = null;
  try {
    conn = DriverManager.getConnection("jdbc:mysql://localhost:3306/univ","root","0000");
  } catch (SQLException err){
    out.print("Connection Object ERROR <br>" + err.getMessage());
  }

  // step 4 Statement Object
  String sql = "SELECT hakbun, name, dept, addr from student";
  PreparedStatement pstmt = conn.prepareStatement(sql);

  // step 5 execute SQL Query
  ResultSet rset = pstmt.executeQuery();
  while (rset.next()){ %>
  <%=rset.getString("hakbun") %> |
  <%=rset.getString("name") %> |
  <%=rset.getString("dept") %> |
  <%=rset.getString("addr") %> <br>
  <% }

  // step 6 close Connection
  rset.close();
  pstmt.close();
  conn.close();
%>

</body>
</html>
```

리턴되는 결과 값이 없을 경우 → pstmt.executeUpdate();

리턴되는 결과 값이 있을 경우 → ResultSet rset = pstmt.executeQuery();

■ Hour 6 (15:00 ~ 15:50)

log in / out with session (+ KAKAO LOGIN)

1. 아이디와 비번을 모두 정상적으로 입력한 경우 → 로그인 성공
2. 비번이 틀린 경우 → 로그인 실패 (다시 시도하세요)
3. 아이디가 DB에 존재하지 않는 경우 → 로그인 실패 (회원가입 페이지로 redirect)

```
<%@ page language="java" contentType="text/html; charset=UTF-8"
    pageEncoding="UTF-8"%>
<%@ page import="java.sql.*"%>

<%
  request.setCharacterEncoding("UTF-8");
  //step 2 load JDBC Driver
  try {
  Class.forName("com.mysql.jdbc.Driver");
  } catch (ClassNotFoundException err){
    out.print("JDBC DRIVER LOADING ERROR <br>" + err.getMessage());
  }

  // step 3 create Connection Object
  Connection conn = null;
  try {
    conn = DriverManager.getConnection("jdbc:mysql://localhost:3306/univ","root","0000");
  } catch (SQLException err){
    out.print("Connection Object ERROR <br>" + err.getMessage());
  }

  // step 4 Statement Object
  String hakbun = request.getParameter("hakbun");
  String sql = "SELECT hakbun, name, dept, addr from student where hakbun=?";
  PreparedStatement pstmt = conn.prepareStatement(sql);
  pstmt.setString(1, hakbun);

  // step 5 execute SQL Query
  ResultSet rset = pstmt.executeQuery();

  // DB에서 학번에 해당하는 자료가 있어서 반환되었는지 확인
  if(!rset.isBeforeFirst()) {
    out.print("<script>alert('해당 학번은 존재 하지 않습니다.');"
        + "history.back();"
        + "</script>");
    return;
  }
  rset.next();
  String dbhakbun = rset.getString("hakbun");
  String dbname = rset.getString("name");

  // dbhakbun hakbun 값이 같으면 session을 생성하세요
  // "hakbun" dbhakbun  "name" dbname

  if(hakbun.equals(dbhakbun)){
    session.setAttribute("hakbun", dbhakbun);
    session.setAttribute("name", dbname);

    out.print(session.getAttribute("hakbun")+"("+session.getAttribute("name")+") 님 방문을 환영합니다.<br>");
```

```
  }


  // step 6 close Connection
  rset.close();
  pstmt.close();
  conn.close();


%>
```

■ Hour 7 (16:00 ~ 16:50)

▼ DB 연결 & 종료 부분만 별도의 file로 구성해 DB 연결

```
<%
  // step 2 load JDBC Driver
  try {
  Class.forName("com.mysql.jdbc.Driver");
  } catch (ClassNotFoundException err){
    out.print("JDBC DRIVER LOADING ERROR <br>" + err.getMessage());
  }

  // step 3 create Connection Object
  Connection conn = null;
  try {
    conn = DriverManager.getConnection("jdbc:mysql://localhost:3306/","root","0000");
  } catch (SQLException err){
    out.print("Connection Object ERROR <br>" + err.getMessage());
  }
%>
```

```
<%
  pstmt.close();
  conn.close();
%>
```

```
<%@ include file = "DBConnection.inc" %>
<%
  // step 4 create Statement Object
  PreparedStatement pstmt = conn.prepareStatement("DROP DATABASE test3");

  // step 5 execute SQL Query
  pstmt.executeUpdate();
%>
<%@ include file = "DBClose.inc" %>
```

▼ DB 연결 & 종료 부분만 별도의 Class로 구성해 DB 연결

```
package jdbc6steps;

import java.sql.*;

public class DBConClose {
  // DB 연결 공통부분 메서드
  public static Connection getConnection() {
```

```
    // step 2 load JDBC Driver
    try {
    Class.forName("com.mysql.jdbc.Driver");
    } catch (ClassNotFoundException err){
      System.out.print("JDBC DRIVER LOADING ERROR <br>" + err.getMessage());
    }

    // step 3 create Connection Object
    Connection conn = null;
    try {
      conn = DriverManager.getConnection("jdbc:mysql://localhost:3306/","root","0000");
    } catch (SQLException err){
      System.out.print("Connection Object ERROR <br>" + err.getMessage());
    }
    return conn;
  }


  // DB 해제 공통부분 메서드
  public static void closeConnection(PreparedStatement pstmt, Connection conn) {
    try {
      pstmt.close();
      conn.close();
    } catch (SQLException err) {
      System.out.println("error " + err.getMessage());
    }
  }
}
```

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

<!-- step 1 import SQL Packages -->
<%@ page import="java.sql.*"%>

<!DOCTYPE html>
<html>
<head>
<meta charset="UTF-8">
<title>Insert title here</title>
</head>
<body>
<%@ page import="jdbc6steps.*"%>

<%
  Connection conn = DBConClose.getConnection(); // static 메서드

  // step 4 create Statement Object
  PreparedStatement pstmt = conn.prepareStatement("CREATE DATABASE test5");

  // step 5 execute SQL Query
  pstmt.executeUpdate();

  DBConClose.closeConnection(pstmt, conn);  // static 메서드
%>
</body>
</html>
```