# Course: Web Application Development
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**Web Resources:** http://125.234.238.107/web/web-application-development

# Lab 5 - Database (MySQL), JSP

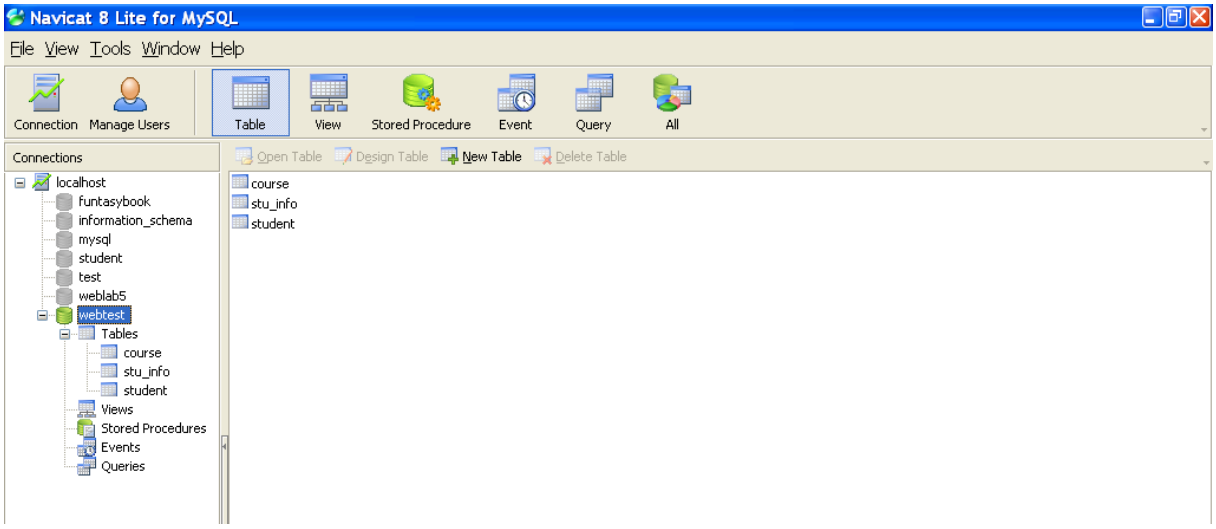
**Content:**

- **Introduction DBMS - MySQL**
- **Java Server Pages.**
- **Connection JSP-MySQL**

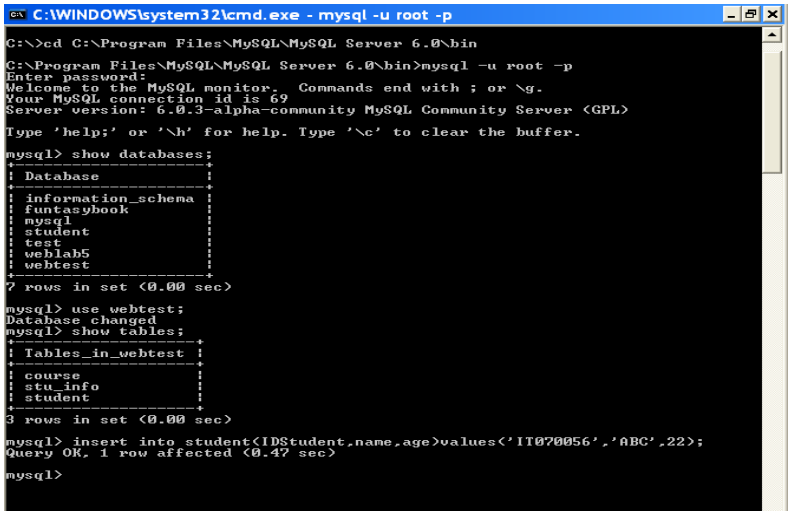
**Duration**: 3 hours

## Part 1: Introduction Database Management System MySQL

Install (MySQL Version 6, admin tool - use Graphic User Interface). Refer from this site: http://dev.mysql.com/doc/




You can use the command line on window to create database for your website




**Basic commands on mysql command line:**

| | |
|---|---|
| mysql -u root -p mysql | Logon to MySQL |
| mysqladmin -u root shutdown | Shutdow MySQL |
| show databases; | View Databases |
| show tables; | View Tables |
| select * from tables_name; | View content of tables |
| exit; | Exit and close MySQL |

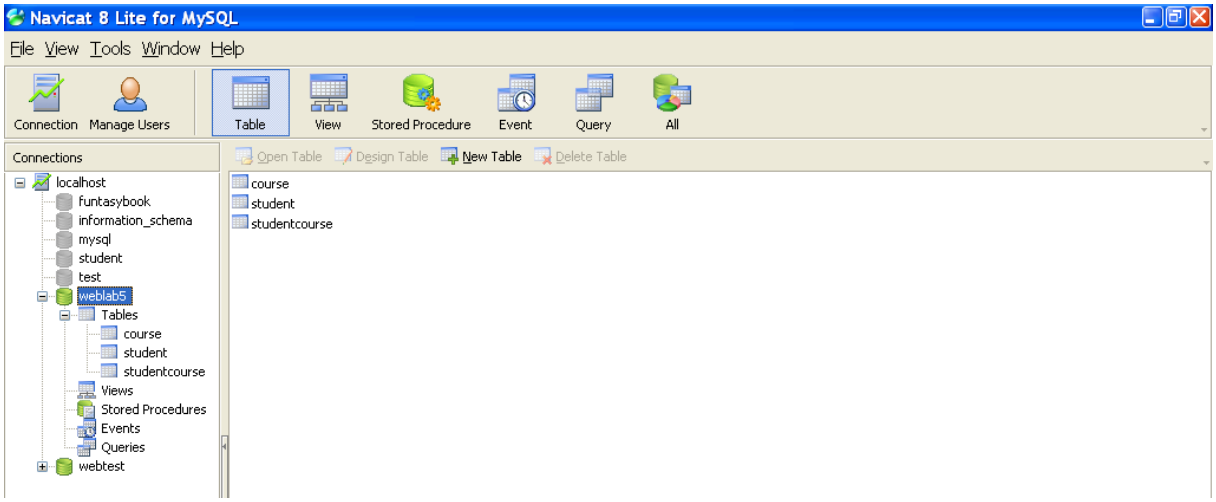
**Get help from mysql command**

| | |
|---|---|
| help [command] | Help for syntax of a command on server side |
| ? | Help for syntax of commands on client side |

***Example: creates a database for registry course***

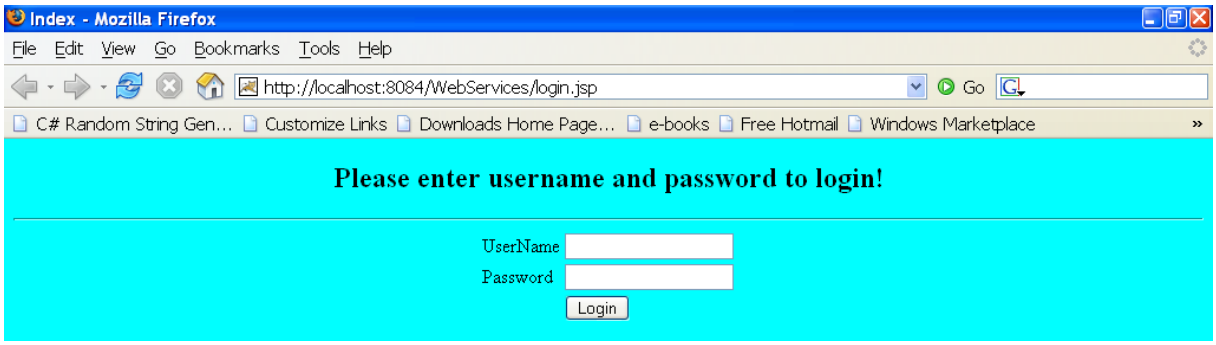
```
-- --------------------------------------------------------

--
-- Table structure for table 'course'
--

CREATE TABLE IF NOT EXISTS 'course' (
  'CourseID' bigint(20) NOT NULL auto_increment,
  'CourseName' varchar(255) NOT NULL,
  PRIMARY KEY  ('CourseID'),
  KEY 'Course_CourseID_INDEX' ('CourseID')
) ENGINE=InnoDB  DEFAULT CHARSET=utf8 AUTO_INCREMENT=5 ;

-- --------------------------------------------------------

--
-- Table structure for table 'student'
--

CREATE TABLE IF NOT EXISTS 'student' (
  'StudentID' int(11) NOT NULL auto_increment,
  'StudentName' varchar(255) NOT NULL,
  PRIMARY KEY  ('StudentID')
) ENGINE=InnoDB  DEFAULT CHARSET=utf8 AUTO_INCREMENT=6 ;
```

```
-- ----------------------------------------------------------

--
-- Table structure for table 'studentcourse'
--

CREATE TABLE IF NOT EXISTS 'studentcourse' (
  'StudentID' bigint(20) NOT NULL,
  'CourseID' bigint(20) NOT NULL,
  PRIMARY KEY  ('StudentID','CourseID'),
  KEY 'StudentCourse_StudentID_INDEX' ('StudentID'),
  KEY 'StudentCourse_CourseID_INDEX' ('CourseID')
) ENGINE=InnoDB DEFAULT CHARSET=utf8;
```




## Part 2: Java Server Pages

In this part, you will design many jsp pages. Using java source code, embed to html page. ***The first page*** is to check username and password to login another page.




If user input valid username and password, go to welcome page (homepage.java), else there is an error message.

***The second page*** is the homepage of your website, there is also a hit counter

Now, create many jsp pages, use form, and base on the following source code below:

```
<%
    //Get value from text-box
    String value = request.getParameter("name_text_box");
```

```
    out.print("Hello "+value+"!<br>");

  //Get value from radio button
  String radioButton = request.getParameter("name_radio_button");
    out.print("The gender is: "+radioButton+"<br>");

  //Get value from check-box button
  String[] courses;
  courses = request.getParameterValues("name_check_box");
   if (courses != null)
        {
          out.print("The course: <br>");
          for (int i = 0; i < courses.length; i++)
                {
                  out.println (courses[i]+"<br>");
                }
           }   else out.println ("<b>none<b>");
%>
```

## Part 3: Connection JSP - MySQL

***Seven basic steps in using JDBC:***

- Load the driver
- Define the connection URL
- Establish the connection
- Create a statement object
- Execute a query
- Process a results
- Close the connection

Use the following source below to test your system

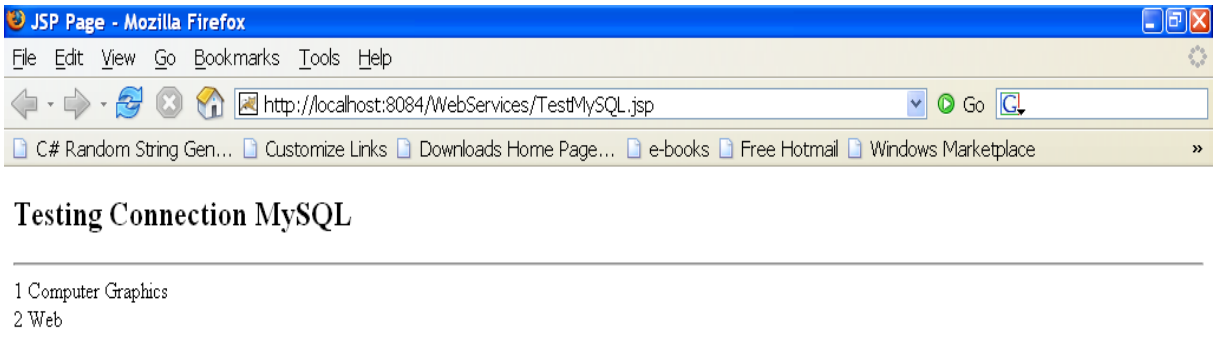
---

```
<%
      String connectionURL="jdbc:mysql://localhost:3306/weblab5?user=root;password="; //step 2
      Connection connection = null;    //step 3
      Statement statement = null;       //step 4
      ResultSet rs = null;
%>
```

---

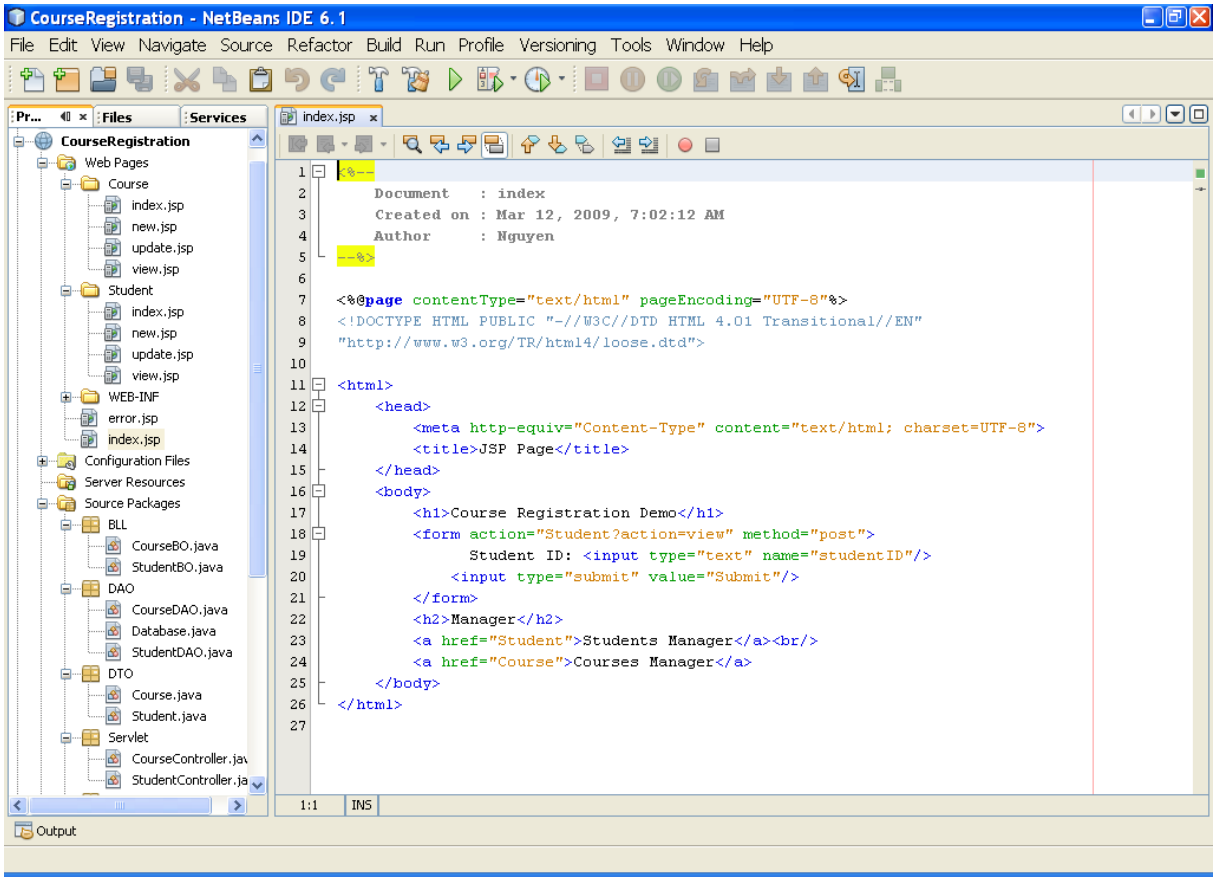
```
<%
       //Class.forName("org.gjt.mm.mysql.Driver").newInstance();
       Class.forName("com.mysql.jdbc.Driver").newInstance();    //step 1
       connection = DriverManager.getConnection(connectionURL, "root", "");
       statement = connection.createStatement();
       rs = statement.executeQuery("SELECT * FROM course");  //step 5

     while (rs.next()) {
         out.println(rs.getString("CourseID"));
         out.println(rs.getString("CourseName")+"<br>");
       }        //step 6
```

```
        rs.close();        //step 7
%>
```

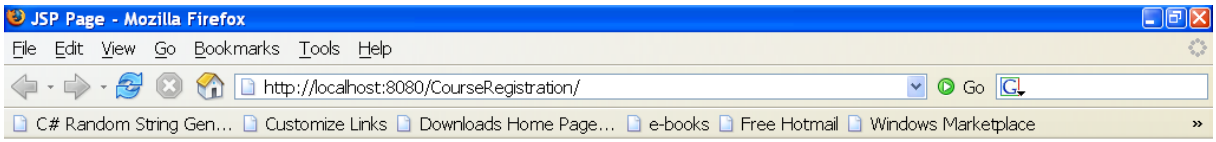



Now go on to develop your project base on the following interactions:

This is the structure of website:




***First page:*** allow to input Student ID and click Submit button to search



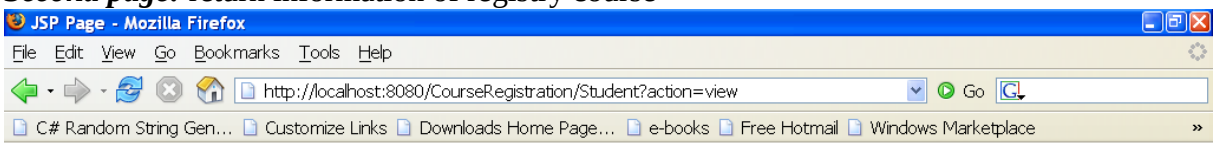

## Course Registration Demo

Student ID: Submit

### Manager

Students Manager
Courses Manager

***Second page:*** return information of registry course




## Student's Details

Student ID: 2
Stddent name: Nguyen Van Sinh

### Select Course

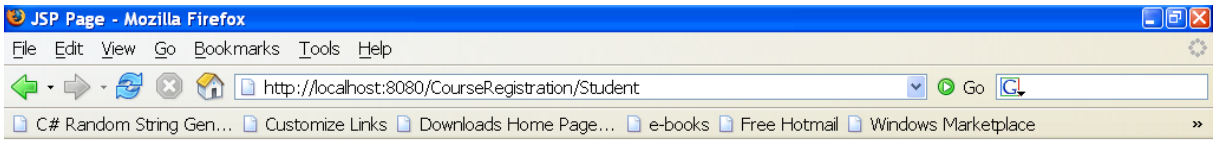
Course: Computer Graphics Add

**Registered Courses:**

| Course ID | Course Name | Action |
|---|---|---|
| 1 | Computer Graphics | Remove |
| 2 | Web | Remove |

homepage

***Third page:*** when click the link "Student Manager":



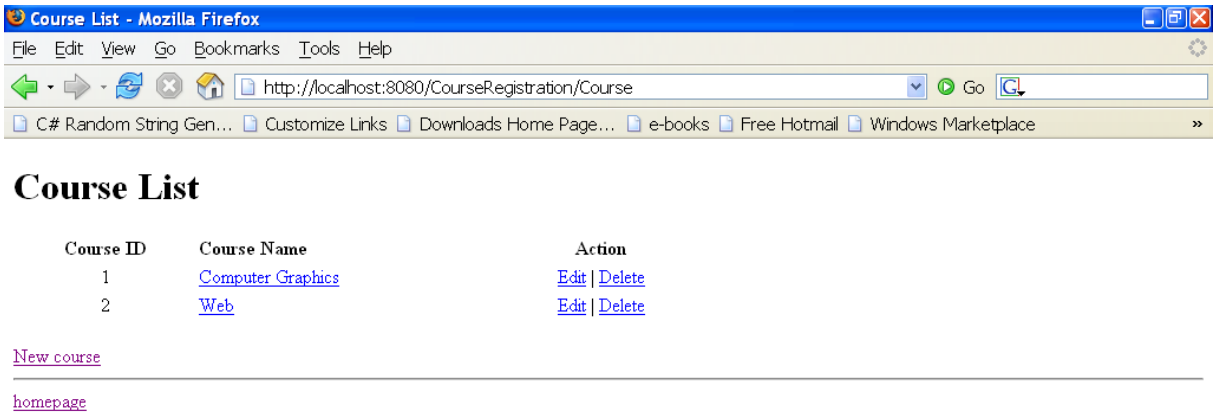

## Student List

| Student ID | Student Name | Action |
|---|---|---|
| 2 | Nguyen Van Sinh | Edit \| Delete |
| 3 | Le Van Son | Edit \| Delete |

New Student

homepage

***The page 4:*** when click the link "Course Manager"




In this page, user can click to "Edit" to modify or click to "Delete" to delete information.

***The next page:*** from the above page, user click to the name of course to see "Course's Detail"