

Course: Web Application Development

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Lab 5 - Database (MySQL), JSP

Content:

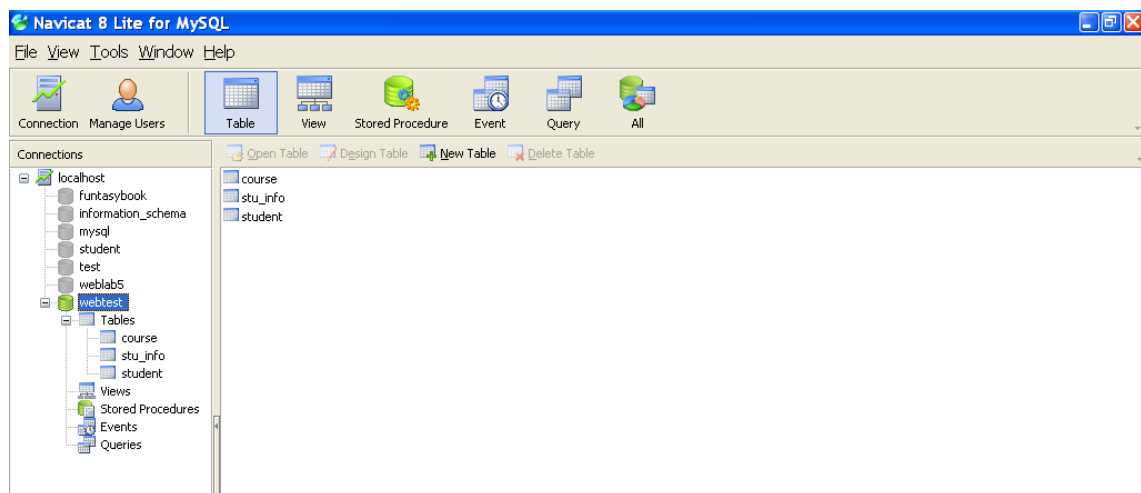
- Introduction DBMS - MySQL
- Java Server Pages.
- Connection JSP-MySQL

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

```
C:\WINDOWS\system32\cmd.exe - mysql -u root -p
C:\>cd C:\Program Files\MySQL\MySQL Server 6.0\bin
C:\Program Files\MySQL\MySQL Server 6.0\bin>mysql -u root -p
Enter password:
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 69
Server version: 6.0.3-alpha-community MySQL Community Server <GPL>
Type 'help;' or '\h' for help. Type '\c' to clear the buffer.

mysql> show databases;
+-----+
| Database |
+-----+
| information_schema |
| funtasybook |
| mysql |
| student |
| test |
| weblab5 |
| webtest |
+-----+
7 rows in set (0.00 sec)

mysql> use webtest;
Database changed
mysql> show tables;
+-----+
| Tables_in_webtest |
+-----+
| course |
| stu_info |
| student |
+-----+
3 rows in set (0.00 sec)

mysql> insert into student(id,student.name,age)values('IT070056','ABC',22);
Query OK, 1 row affected (0.47 sec)
mysql>
```

Basic commands on mysql command line:

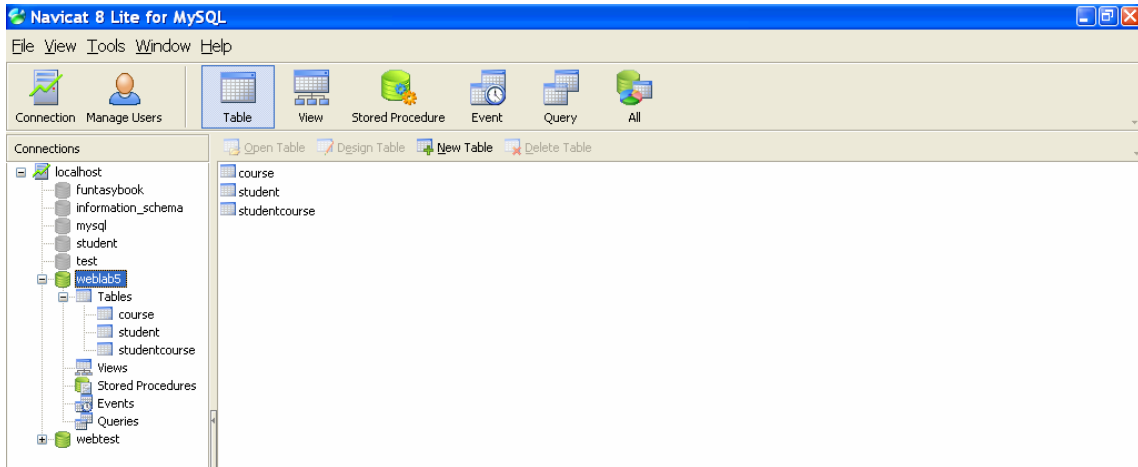
mysql -u root -p mysql	Logon to MySQL
mysqladmin -u root shutdown	Shutdown MySQL
show databases;	View Databases
show tables;	View Tables
select * from tables_name;	View content of tables
exit;	Exit and close MySQL

Get help from mysql command

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

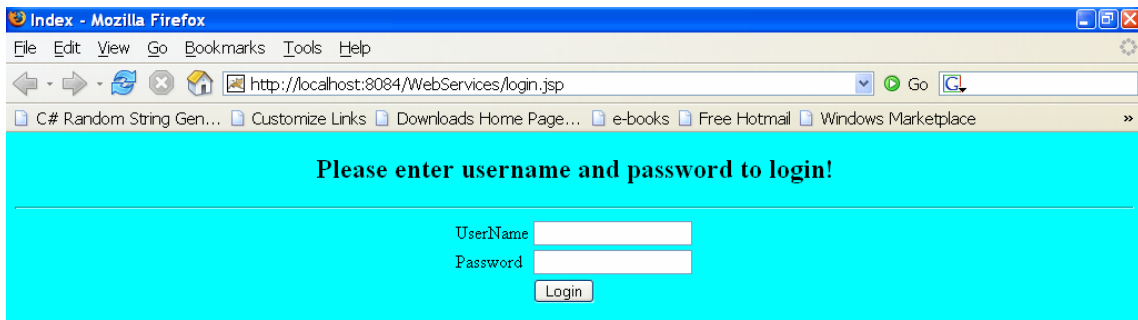
Example: creates a database for registry course

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

```

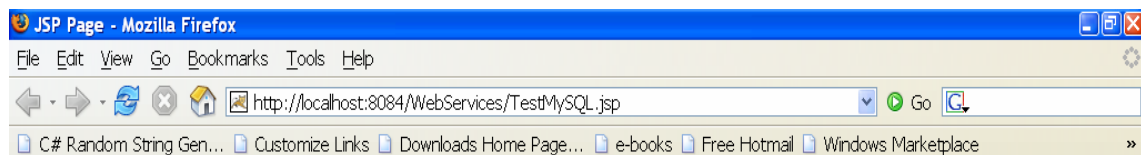
<%
    String connectionURL="jdbc:mysql://localhost:3306/weblab5?user=root;password="; //step 2
    Connection connection = null; //step 3
    Statement statement = null; //step 4
    ResultSet rs = null;

%>
-----
<%
    //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

%>

```

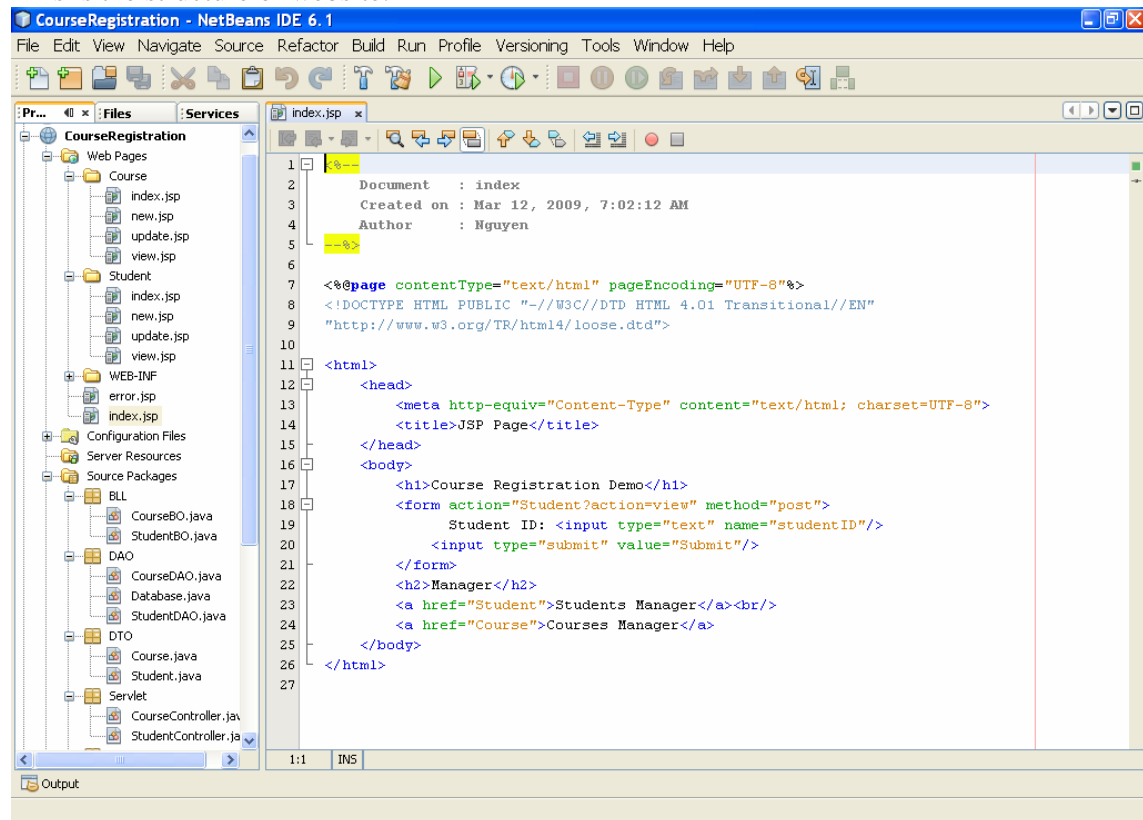


Testing Connection MySQL

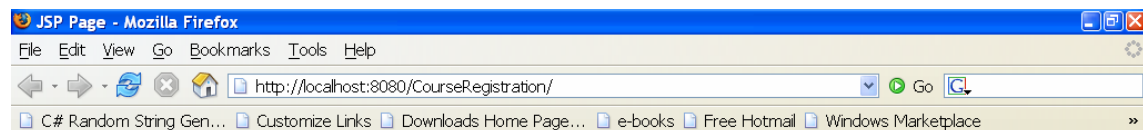
-
- 1 Computer Graphics
2 Web

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

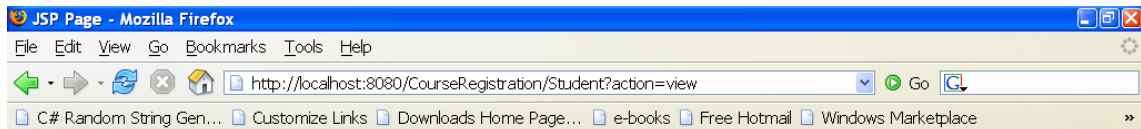
This is the structure of website:



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



Second page: return information of registry course



Student's Details

Student ID: 2
Stddent name: Nguyen Van Sinh

Select Course

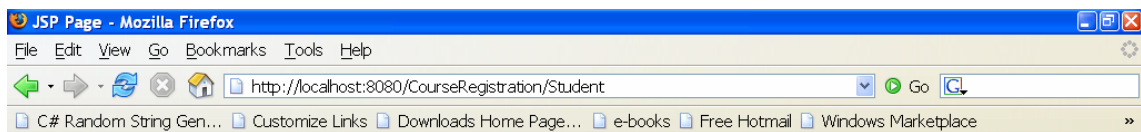
Course:

Registered Courses:

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

[homepage](#)

Third page: when click the link “Student Manager”:



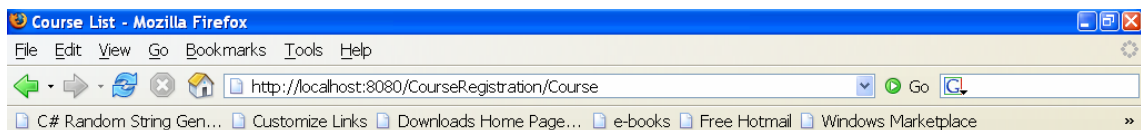
Student List

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”



Course List

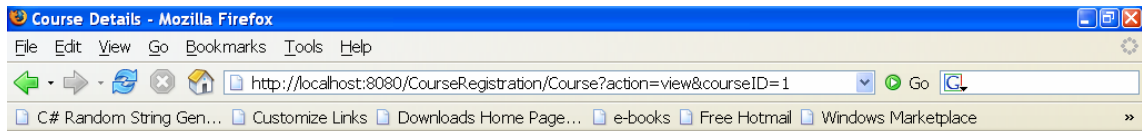
Course ID	Course Name	Action
1	Computer Graphics	Edit Delete
2	Web	Edit Delete

[New course](#)

[homepage](#)

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”



Course's Details

Course ID: 1

Course name: Computer Graphics

Student list:

Student ID	Student Name	Action
2	Nguyen Van Sinh	Remove

[homepage](#)