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# WEB TECHNOLOGY

## ASSIGNMENT-3

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### Students extra-curricular activities registration forum

#### Objective:

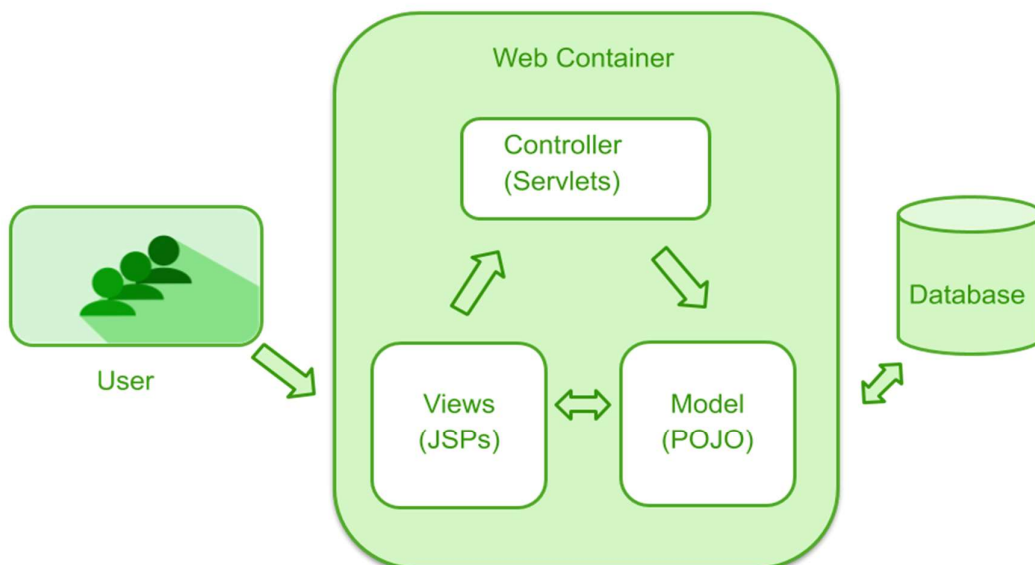
To develop a website for keep tracking of students' extra-curricular activities throughout their academic period.

#### Technologies used:

- ✓ Front-end:
  - HTML, CSS
  - Java Server Pages (JSP)
- ✓ Back-end:
  - JDK 1.8 - Java Servlet Classes
  - Apache Tomcat Server 9.0
  - MySQL database 5.7 – community server

#### Architecture:

This web application is based on MVC architecture. The **Model - View - Controller** framework is an architectural pattern that separates an application into three main logical components, Model, View and Controller. It separates business logic from presentation.



## Controllers:

The controllers in this web applications are **Java servlets**, used to process the data from the forms and they interact with back-end database system. These are also used to send the **pojo objects** (model) to **jsp files** (views) in order to present the data to the users. The controllers used in this web application are:

### End-User Servlets:

1. LoginDb.java – Servlet used for validating the user login details from database.
2. RegisterDb.java – Servlet used to register a new user and inserts data to database.
3. ProfileDb.java – Servlet used for retrieving user profile details from database and present them on views.
4. AddActivitiesDb.java – Servlet used to add a new activity of a particular user to database.
5. DisplayActivities.java – Servlet used for display activities of particular student, retrieved from database.
6. LogoutDb.java – Servlet enables user to terminate their session.

### Admin-Site servlets:

7. AdminDb.java – Servlet used for retrieving details about students from database.
8. VerfiyUser.java – Servlet used to verify the registered users.
9. ViewDetails.java – Servlet used for presenting the students information for admin.

## Views:

The views are used to present the data to the end users on their browser. These are implemented using JSP files for dynamic contents and/or HTML files for static content. For presenting styles in the web page, CSS is used. The views used in this web application are:

### End-User Views:

1. index.jsp – JSP file used as home page of the web application.
2. register.html – HTML file used for getting new user details for registration using form.
3. login.html – HTML file used for login using from.
4. profile.jsp – JSP file used to present the user profile details.
5. activities.html – HTML file used for getting user's club activity using form.
6. display.jsp – JSP file used to display the club activities of a particular user.

### Admin-Site Views:

7. admin.html – HTML file used as home page for admin site.
8. admin.jsp – JSP file presents the students details to be verified.
9. view.html – HTML file with form to get the filtered result of students.
10. details.jsp – JSP file to display the filtered students' details.

## Model:

Models are used for representing the data using custom classes. These are used for retrieving and storing model state in an application. The model(s) used in this web application is:

- ✓ Student Class – A simple Java class used for mapping the data representation between application and database.
- ✓ Fields:
  - int regno
  - String name
  - String dob
  - String dept
  - String gender
  - String passwd
  - String verify
- ✓ Method(s):
  - Student( ) Constructor with required arguments for creating and initializing the object.
  - Getter methods for data fields.

## Database:

**Database Name:** test

Database tables

```
mysql> show tables;
+-----+
| Tables_in_test |
+-----+
| green          |
| lds            |
| rac            |
| register       |
| sjc            |
| tm             |
| ys             |
+-----+
7 rows in set (0.07 sec)
```

register table schema

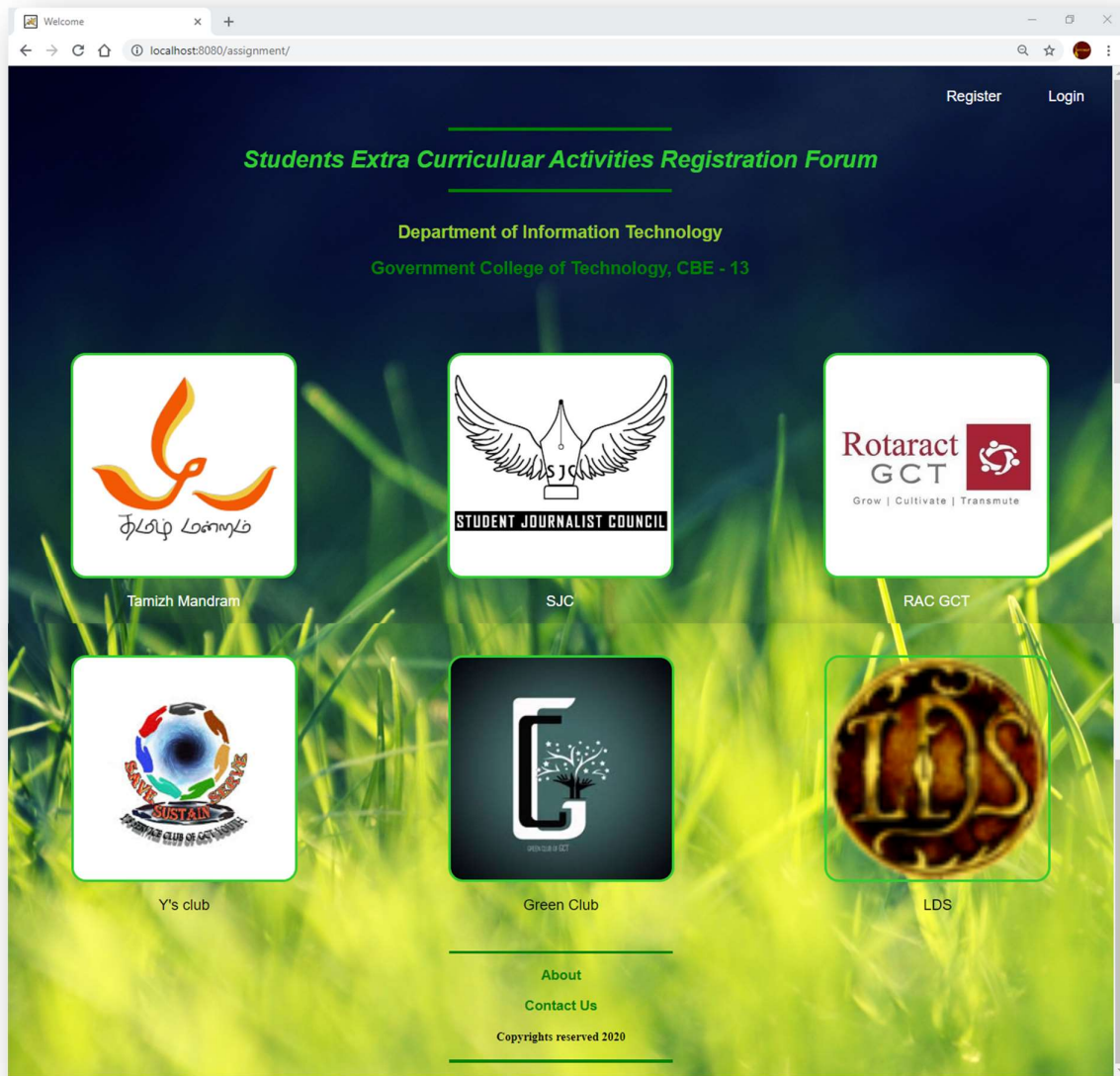
```
mysql> desc register;
+-----+-----+-----+-----+-----+-----+
| Field | Type          | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| regno | int(11)       | NO   | PRI | NULL    |       |
| name  | varchar(15)   | YES  |     | NULL    |       |
| dob   | date          | YES  |     | NULL    |       |
| dept  | varchar(5)    | YES  |     | NULL    |       |
| gender | varchar(6)    | YES  |     | NULL    |       |
| passwd | varchar(15)   | YES  |     | NULL    |       |
| verify | varchar(3)    | YES  |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
7 rows in set (0.00 sec)
```

Club tables schema

```
mysql> desc sjc;
+-----+-----+-----+-----+-----+-----+
| Field      | Type          | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| timestamp | datetime      | YES  |     | NULL    |       |
| regno     | int(11)       | YES  |     | NULL    |       |
| activity  | text          | YES  |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
3 rows in set (0.00 sec)
```

## Output Screenshots:

1. Home page of web application.

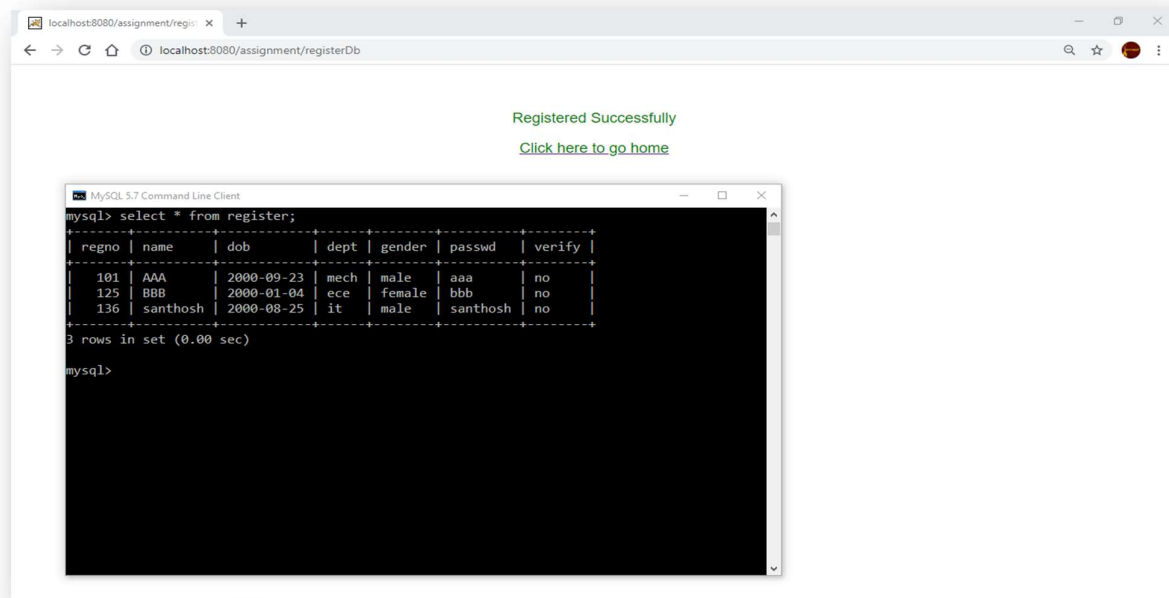


2. New user registration.

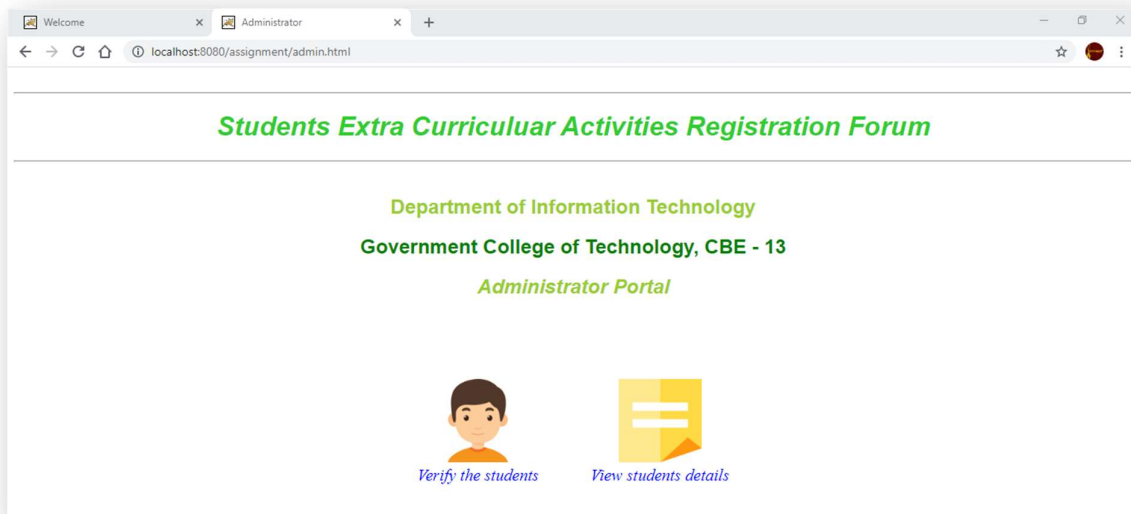
The screenshot shows the "Registration" form of the web application. The form is titled "Registration" and contains the following fields and controls:

- Username:
- Register No:
- DOB:
- Department:
- Gender: ☒ Male ☐ Female ☐ Others
- Password:
- Submit:
- Cancel:
- [Click here to go home](#)

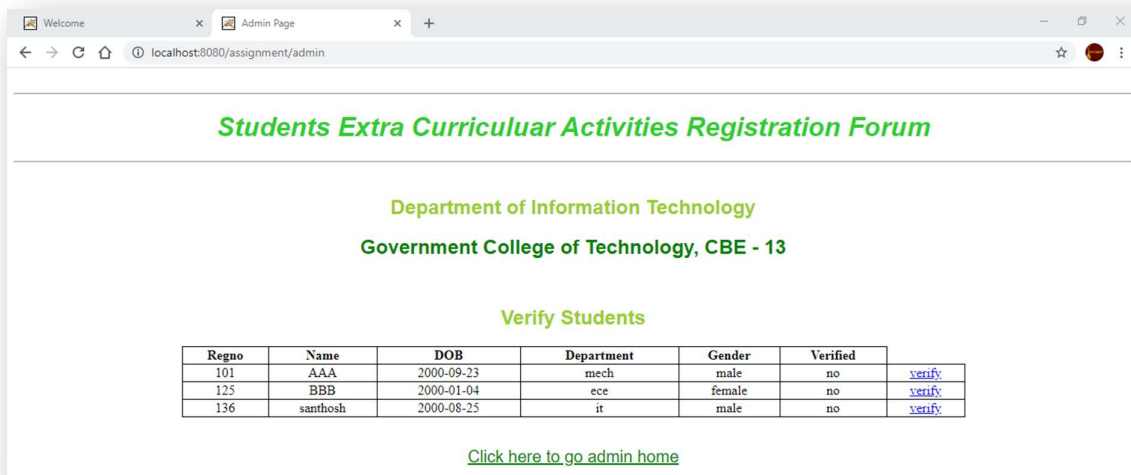
### 3. Successful registration.



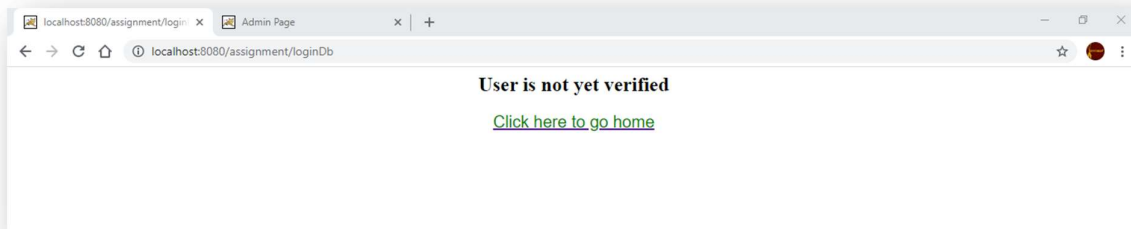
### 4. Admin – site home page.



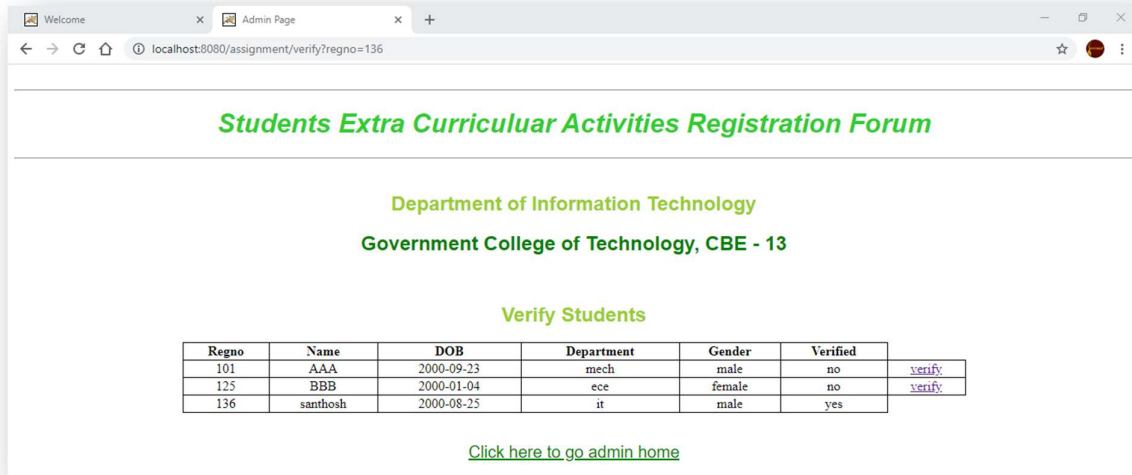
### 5. Before verifying registered user.



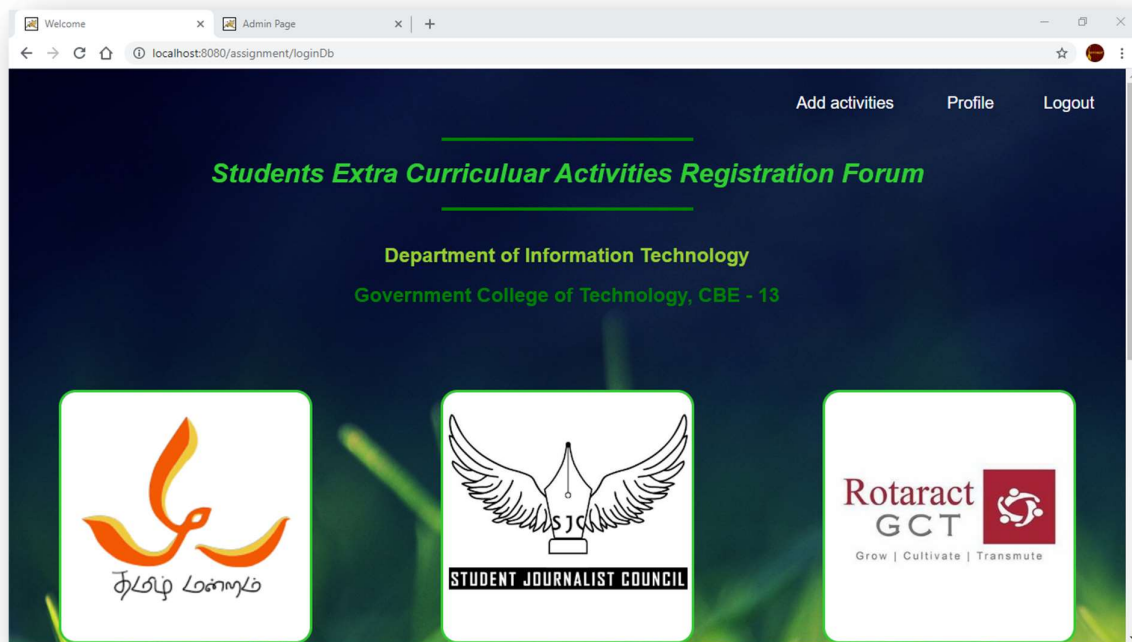
6. User is not allowed for login, since not yet verified by admin.



7. After verifying registered user.



8. User's home page after logged in.



## 9. User profile view.

The screenshot shows a web browser window with the URL `localhost:8080/assignment/profile`. The page title is "Students Extra Curricular Activities Registration Forum". Below the title, the department is listed as "Department of Information Technology" and the college as "Government College of Technology, CBE - 13". The user's profile information is displayed in a table-like format:

Regno	136
Name	santhosh
DOB	2000-08-25
Department	it
Gender	male
My activities...	Tamizh Mandram

Below the table, there is a "Submit" button and a link that says "Click here to go home".

## 10. Adding activities to one of the clubs (e.g. Tamizh mandram)

The screenshot shows a web browser window with the URL `localhost:8080/assignment/activities.html`. The page title is "Students Extra Curricular Activities Registration Forum". Below the title, the department is listed as "Department of Information Technology" and the college as "Government College of Technology, CBE - 13". The form for adding an activity is displayed:

Club:

Activity:

Below the form, there are "Submit" and "Cancel" buttons, and a link that says "Click here to go home".

## 11. Added activities.

The screenshot shows a web browser window with the URL `localhost:8080/assignment/activitiesDb`. The page displays a green message: "Added Successfully for Tamizh Mandram". Below the message is a link that says "Click here to go activities form".

Below the browser window, a MySQL 5.7 Command Line Client window is open, showing the following output:

```
mysql> select * from tm;
+-----+-----+-----+
| timestamp | regno | activity |
+-----+-----+-----+
| 2020-04-11 13:45:04 | 136 | Won first prize in essay writing |
+-----+-----+-----+
1 row in set (0.00 sec)

mysql>
```

## 12. Displaying activities of a club.

The screenshot shows a web browser window with the URL `localhost:8080/assignment/displayActivities`. The page displays the following content:

**Students Extra Curricular Activities Registration Forum**

Department of Information Technology  
Government College of Technology, CBE - 13

**Tamizh Mandram**

Date and Time	Activity
2020-04-11 13:45:04.0	Won first prize in essay writing

[Click here to go home](#)

Below the table, a MySQL Command Line Client window is open, showing the following command and result:

```
mysql> select * from tm;
+-----+-----+-----+
| timestamp | regno | activity |
+-----+-----+-----+
| 2020-04-11 13:45:04 | 136 | Won first prize in essay writing |
+-----+-----+-----+
1 row in set (0.00 sec)

mysql>
```

Result:

Thus, the website for student's extra-curricular registration forum was developed.