

Project 3 : Online Quiz Portal Using Servlets, JSP, and JDBC

Project objective: Create an online quiz portal, where users can explore multiple quiz, attempt the quiz, and save their position on the leaderboard

Description:

This project is based on Advance Java concepts like Servlets, JSP, and JDBC which focuses on creating an online Quiz Application.

Since this is a web application, users can participate in the online quiz through the Quiz portal. Once they have finished the online quiz, they can view their position on the leaderboard according to the correct answers.

The online Quiz portal can have two types of users:

- Admin User
- Normal User

Project Features:

- Admin user has a separate URL to access the admin portal that needs to be authenticated by admin username and password.
- Admin user can update the profile info as well able to change the password after logging in to the admin portal.
- Admin user can add the questions using MySQL.
- Admin user can create a quiz by selecting questions for the quiz and setting a quiz name.
- Admin user can view the dashboard with the following statistics:
 - Total Quiz
 - Total Questions
 - Total Users
- Admin user can see the users participated in a quiz along with their leaderboard.
- Users can explore the quiz that is created by Admin.
- User can create their profile using new user registration.
- Users can attempt the quiz and try to give the possible answers.
- Users can also see whether the given answer is correct or not.

Tools Required:

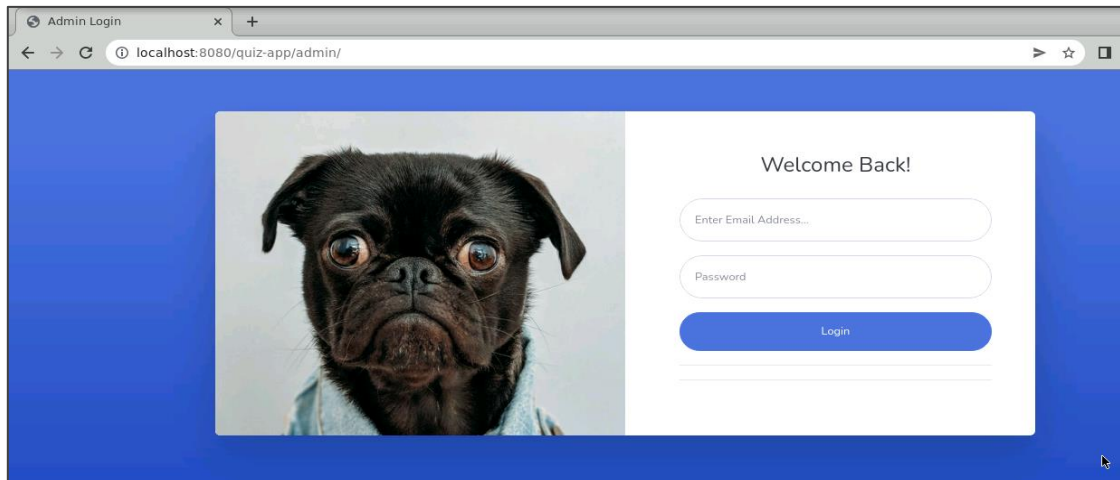
- JSP Page
- Servlet, JDBC
- MySQL
- Tomcat

Detailed Scenario:

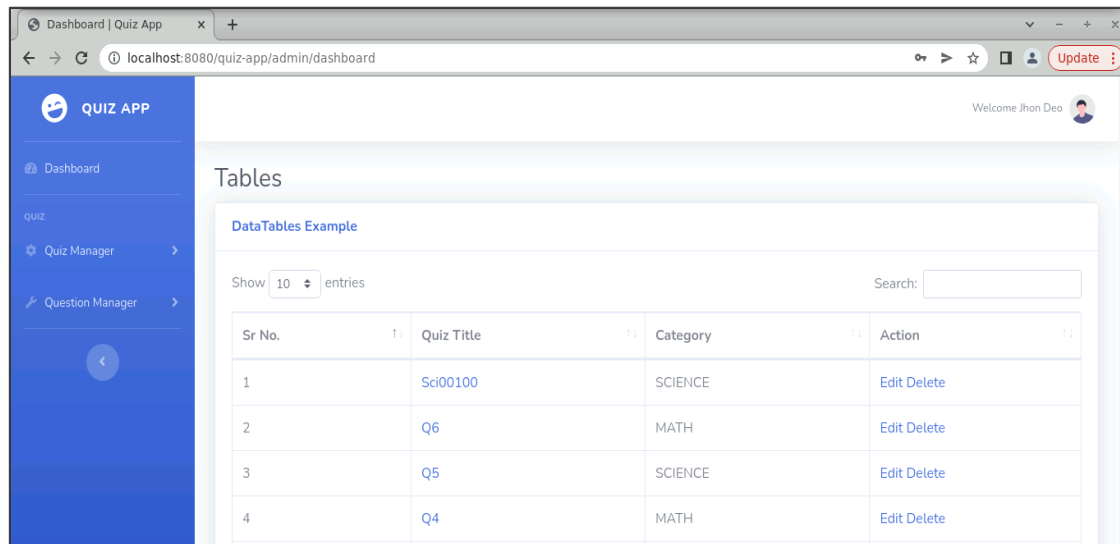
- Admin wants to create an online quiz for the website users.
- Admin adds the set of questions along with their answers via a database schema into the MySQL database.
- Admin opens the admin web URL and authenticates it by the admin username/password.
- Once the admin is authenticated, the admin user will be redirected to the dashboard.
- On the dashboard admin user, the option to Create New Quiz.
- For creating a new quiz, admin user provides a quiz name and selects the questions from the question set that has already been entered into the database.
- Once the question is selected, the admin saves the quiz and publishes it for the user.
- Once the quiz is published, Website users can attempt the quiz.
- Users open the user-accessible to attempt the quiz.
- If the user is already existing, sign in to attempt any quiz.
- Users can also see whether the given answer is correct or not. The correct answer is highlighted differently so the user can easily identify the correct answer.
- Once the user attempts the complete quiz, the leader board can be seen where the user can compare the result with others in her position.
- The output screenshots are available in the download attachment for your reference.

Expected Output:

- The admin login page has a separate URL, which will look like this.



- Once the admin logs in, this is how the main dashboard will appear.



- From the Question Manager section, questions can be added.



QUIZ APP

Welcome Jhon Deo

Dashboard

quiz

Quiz Manager

Question Manager

Add New Question(s)

Question List

Question List

Add New Question

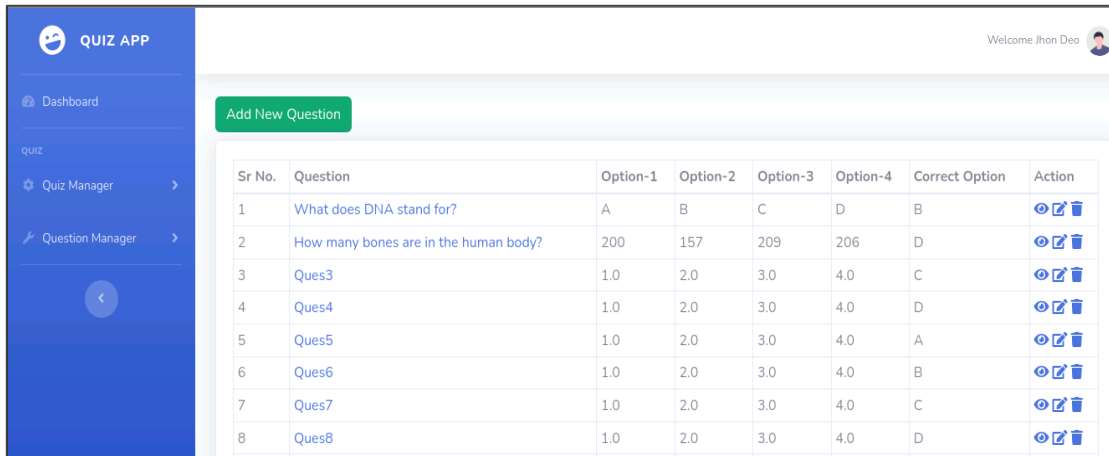
Question

Option-1

Option-2

Option-3

- Once questions have been successfully created, this is how the question list will look.



QUIZ APP

Welcome Jhon Deo

Dashboard

quiz

Quiz Manager

Question Manager

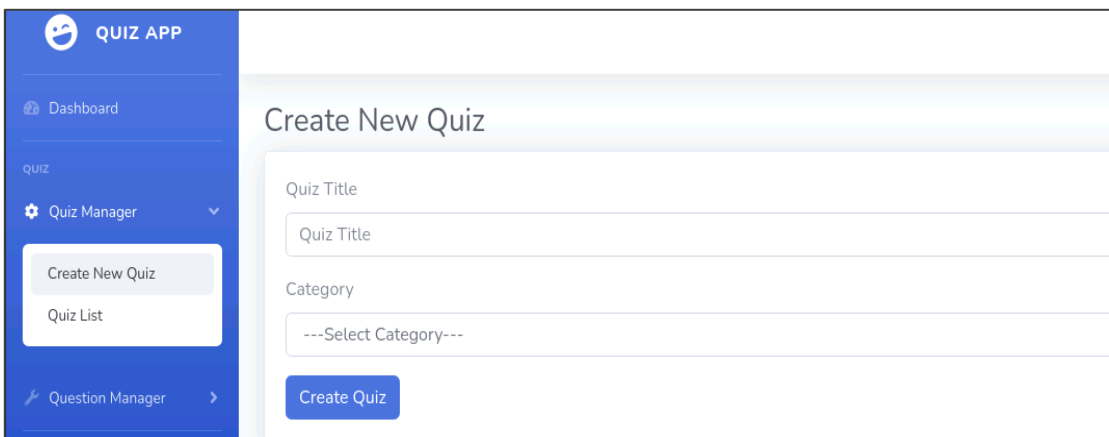
Add New Question(s)

Question List

Add New Question

Sr No.	Question	Option-1	Option-2	Option-3	Option-4	Correct Option	Action
1	What does DNA stand for?	A	B	C	D	B	View Edit Delete
2	How many bones are in the human body?	200	157	209	206	D	View Edit Delete
3	Ques3	1.0	2.0	3.0	4.0	C	View Edit Delete
4	Ques4	1.0	2.0	3.0	4.0	D	View Edit Delete
5	Ques5	1.0	2.0	3.0	4.0	A	View Edit Delete
6	Ques6	1.0	2.0	3.0	4.0	B	View Edit Delete
7	Ques7	1.0	2.0	3.0	4.0	C	View Edit Delete
8	Ques8	1.0	2.0	3.0	4.0	D	View Edit Delete

- From the Quiz Manager section, quizzes can be created.



QUIZ APP

Welcome Jhon Deo

Dashboard

quiz

Quiz Manager

Question Manager

Create New Quiz

Quiz List

Create New Quiz

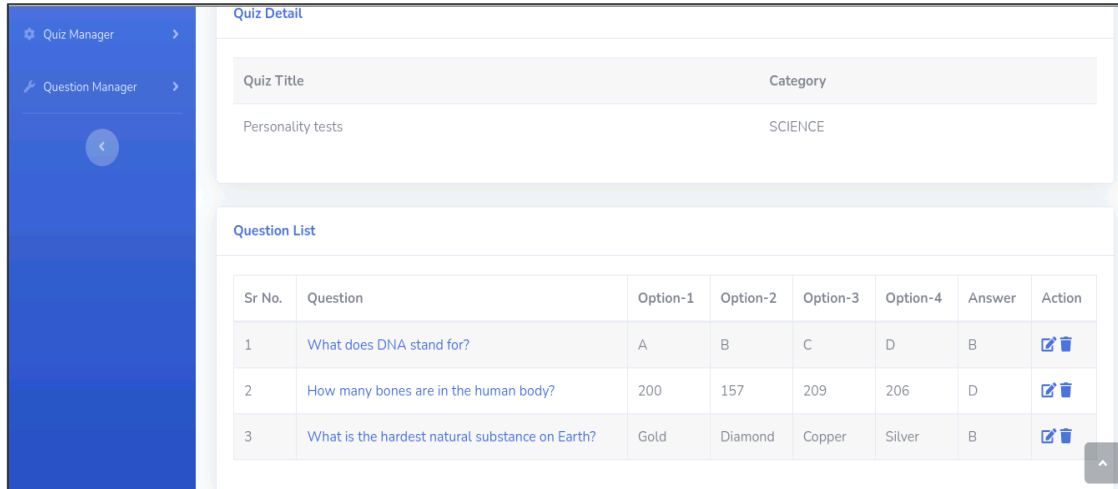
Quiz Title

Category







---Select Category---

Create Quiz

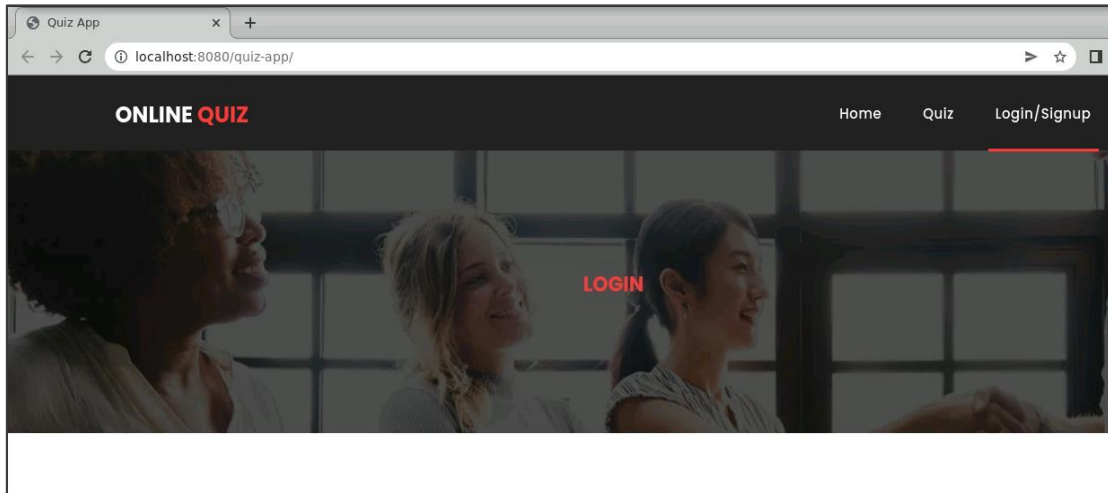
- After selecting questions and creating a quiz, the quiz detail page looks like this.



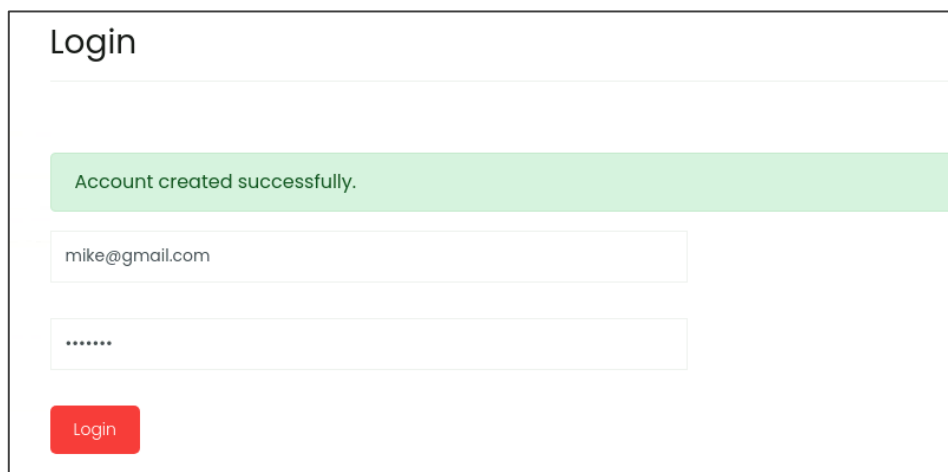
The screenshot shows the 'Quiz Detail' page. On the left is a sidebar with 'Quiz Manager' and 'Question Manager'. The main content area has a 'Quiz Title' field with 'Personality tests' and a 'Category' field with 'SCIENCE'. Below this is a 'Question List' table.

Sr No.	Question	Option-1	Option-2	Option-3	Option-4	Answer	Action
1	What does DNA stand for?	A	B	C	D	B	 
2	How many bones are in the human body?	200	157	209	206	D	 
3	What is the hardest natural substance on Earth?	Gold	Diamond	Copper	Silver	B	 

- The main page where end users will log in will look like this.



The screenshot shows the 'ONLINE QUIZ' app interface. The header has 'Home', 'Quiz', and 'Login/signup' links. The main area features a large image of three people smiling, with a red 'LOGIN' button overlaid in the center.



The screenshot shows the 'Login' page. It has a title 'Login' and a green success message: 'Account created successfully.' Below this are input fields for email (containing 'mike@gmail.com') and password (masked with dots). A red 'Login' button is at the bottom.

- After logging in successfully, a quiz list with multiple quizzes to take are displayed.

Quiz List			
Sr No.	Quiz Title	Category	Action
1	Personality tests	SCIENCE	<button>Start</button>
2	Sci00100	SCIENCE	<button>Start</button>

- After the quiz, the leaderboard appears, displaying the results of all users who took the quiz.

<div> <div>← → ↻</div> <div>localhost:8080/quiz-app/leaderBoard/10</div> <div> <div>⌵</div> <div>☆</div> <div>📱</div> <div>M</div> <div>Update</div> </div> </div>		
<div> <div>QUIZ NAME: PERSONALITY TESTS</div> <div>CATEGORY : SCIENCE</div> </div>		
Sr No.	User	Score
1	Mike tyson	1
2	Mike tyson	1