

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:

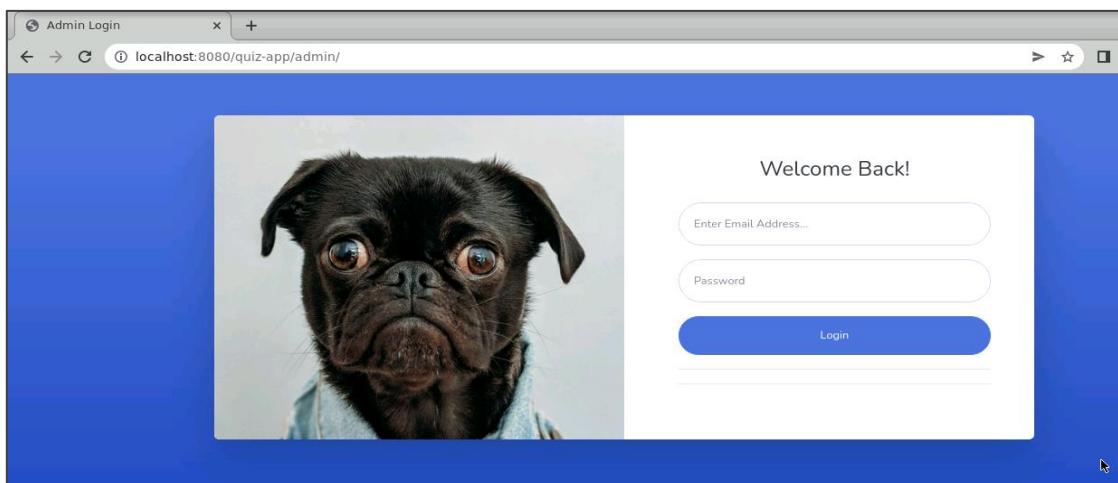
- JSP Page
- Servlet, JDBC
- MySQL
- Tomcat

Detailed Scenario:

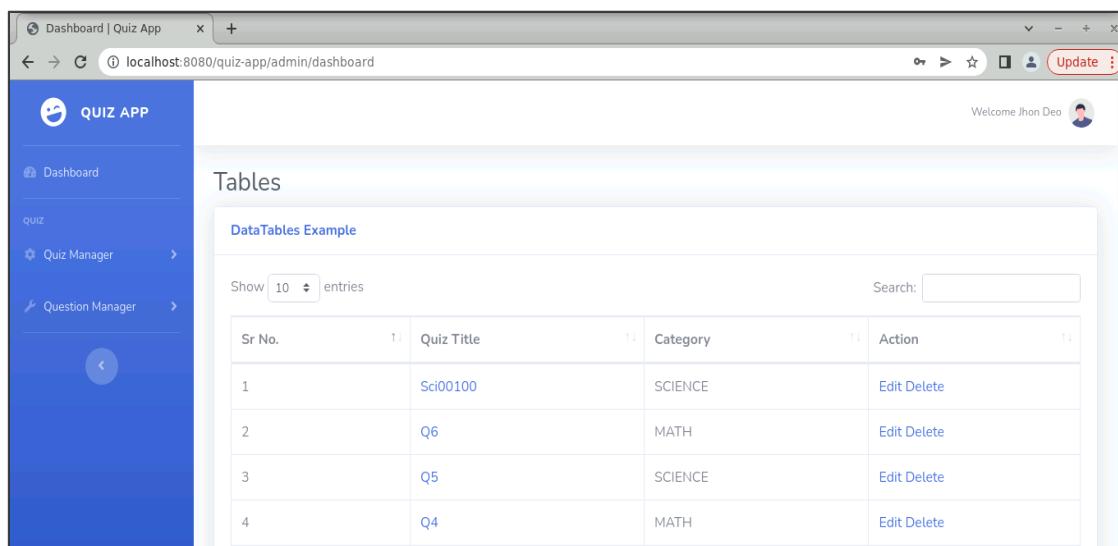
- Admin wants to create an online quiz for the website users.
- Admin adds the set of questions along with their answers via a database schema into the MySQL database.
- Admin opens the admin web URL and authenticates it by the admin username/password.
- Once the admin is authenticated, the admin user 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.



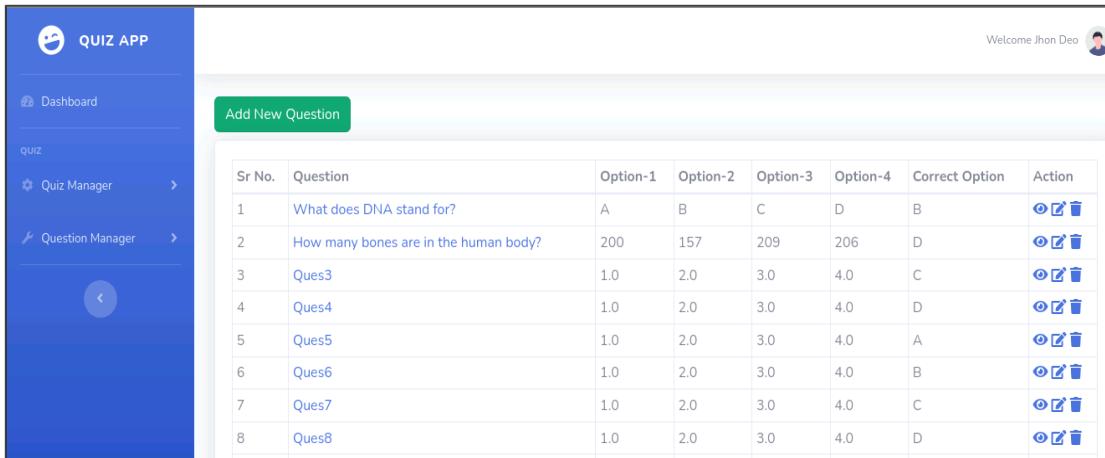
Sr No.	Quiz Title	Category	Action
1	Sci00100	SCIENCE	Edit Delete
2	Q6	MATH	Edit Delete
3	Q5	SCIENCE	Edit Delete
4	Q4	MATH	Edit Delete

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



The screenshot shows the 'Quiz APP' interface. On the left, a sidebar has 'Dashboard' and 'quiz' sections, with 'Quiz Manager' expanded to show 'Question Manager' and 'Add New Question(s)'. The main area is titled 'Question List' and contains a 'Add New Question' button. Below it is a form with fields for 'Question' (containing 'Question'), 'Option-1' (containing 'Option A'), 'Option-2' (containing 'Option B'), and 'Option-3' (empty). The top right corner shows 'Welcome Jhon Deo' with a profile icon.

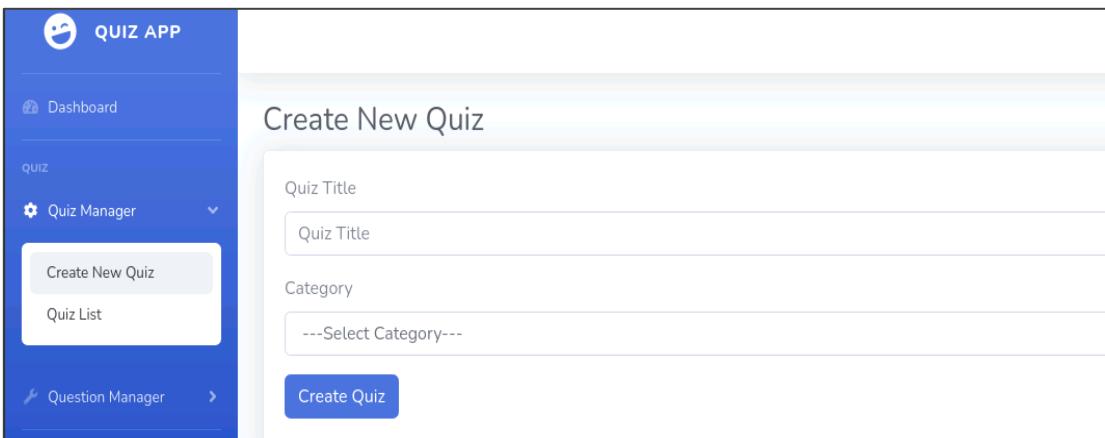
- Once questions have been successfully created, this is how the question list will look.



The screenshot shows the 'Quiz APP' interface. The sidebar is identical to the previous screenshot. The main area is titled 'Add New Question' and displays a table with 8 rows of questions. The columns are 'Sr No.', 'Question', 'Option-1', 'Option-2', 'Option-3', 'Option-4', 'Correct Option', and 'Action'. Each row contains a question and its options, with the 'Correct Option' column showing 'B' for the first row and 'A' for the fifth row. The top right corner shows 'Welcome Jhon Deo' with a profile icon.

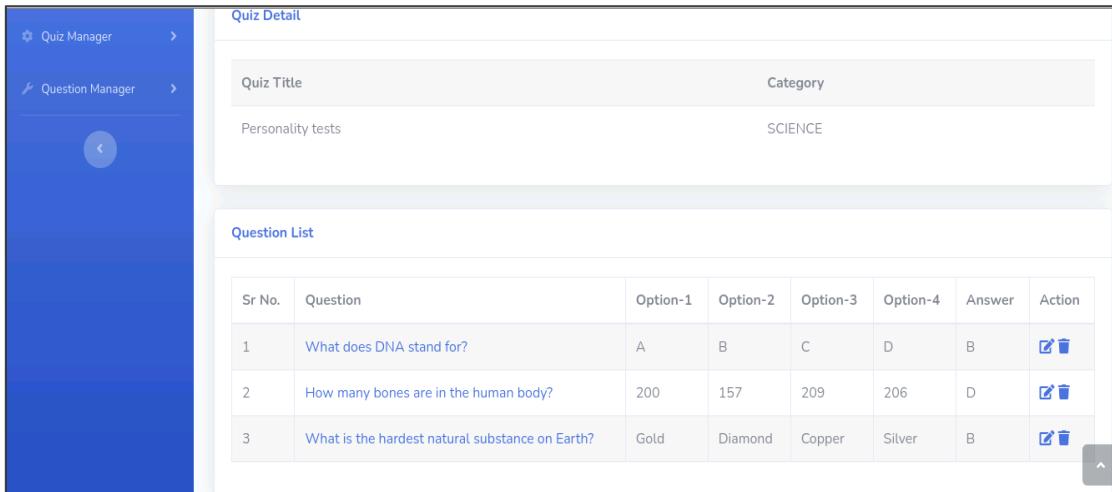
Sr No.	Question	Option-1	Option-2	Option-3	Option-4	Correct Option	Action
1	What does DNA stand for?	A	B	C	D	B	<input checked="" type="radio"/> <input checked="" type="checkbox"/> <input type="checkbox"/>
2	How many bones are in the human body?	200	157	209	206	D	<input checked="" type="radio"/> <input checked="" type="checkbox"/> <input type="checkbox"/>
3	Ques3	1.0	2.0	3.0	4.0	C	<input checked="" type="radio"/> <input checked="" type="checkbox"/> <input type="checkbox"/>
4	Ques4	1.0	2.0	3.0	4.0	D	<input checked="" type="radio"/> <input checked="" type="checkbox"/> <input type="checkbox"/>
5	Ques5	1.0	2.0	3.0	4.0	A	<input checked="" type="radio"/> <input checked="" type="checkbox"/> <input type="checkbox"/>
6	Ques6	1.0	2.0	3.0	4.0	B	<input checked="" type="radio"/> <input checked="" type="checkbox"/> <input type="checkbox"/>
7	Ques7	1.0	2.0	3.0	4.0	C	<input checked="" type="radio"/> <input checked="" type="checkbox"/> <input type="checkbox"/>
8	Ques8	1.0	2.0	3.0	4.0	D	<input checked="" type="radio"/> <input checked="" type="checkbox"/> <input type="checkbox"/>

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



The screenshot shows the 'Quiz APP' interface. The sidebar has 'Dashboard' and 'quiz' sections, with 'Quiz Manager' expanded to show 'Create New Quiz' and 'Quiz List'. The main area is titled 'Create New Quiz' and contains fields for 'Quiz Title' (with 'Quiz Title' typed in) and 'Category' (with a dropdown menu showing '---Select Category---'). At the bottom is a 'Create Quiz' button.

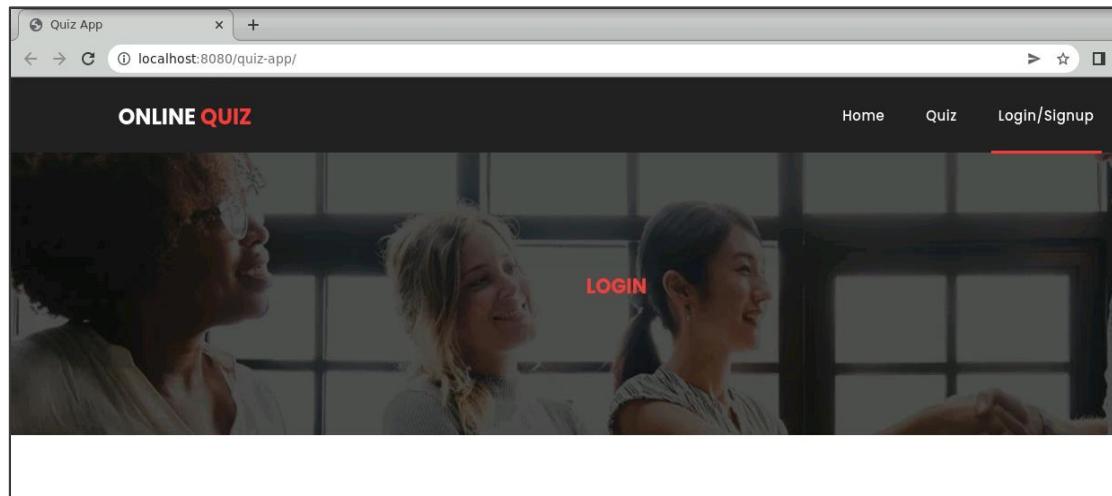
- After selecting questions and creating a quiz, the quiz detail page looks like this.



The screenshot shows the 'Quiz Detail' page. On the left, there's a sidebar with 'Quiz Manager' and 'Question Manager'. The main area has a header 'Quiz Detail' with fields for 'Quiz Title' (Personality tests) and 'Category' (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	<input checked="" type="checkbox"/> 
2	How many bones are in the human body?	200	157	209	206	D	<input checked="" type="checkbox"/> 
3	What is the hardest natural substance on Earth?	Gold	Diamond	Copper	Silver	B	<input checked="" type="checkbox"/> 

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



The screenshot shows the main 'ONLINE QUIZ' page. It features a banner image of three people smiling. A red 'LOGIN' button is visible in the center of the banner. The top navigation bar includes links for 'Home', 'Quiz', and 'Login/signup'.

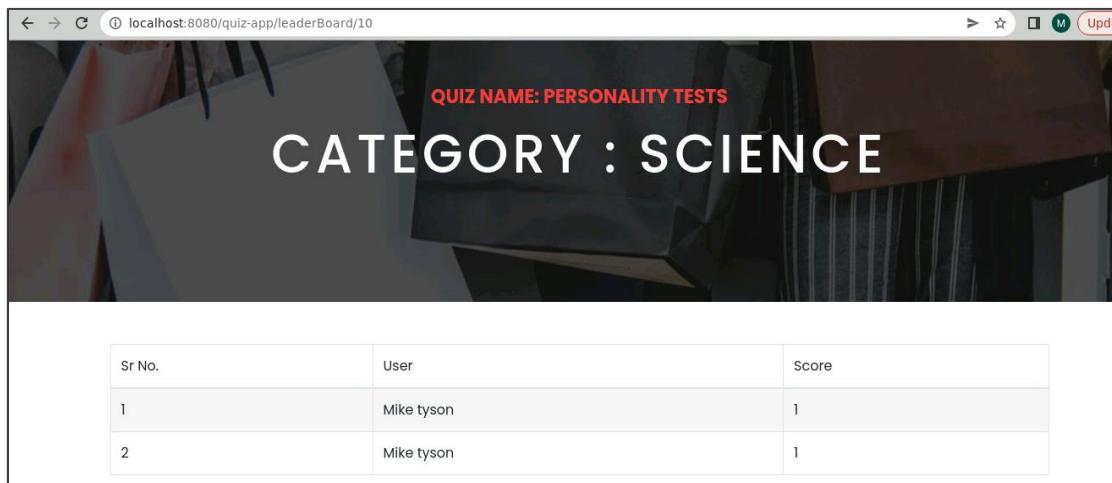


The screenshot shows a 'Login' form. At the top, it says 'Login'. Below that is a green success message: 'Account created successfully.' The form contains two input fields: one for email ('mike@gmail.com') and one for password ('*****'). At the bottom is a red 'Login' button.

- 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	Start
2	Sci00100	SCIENCE	Start

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



localhost:8080/quiz-app/leaderBoard/10

QUIZ NAME: PERSONALITY TESTS

CATEGORY : SCIENCE

Sr No.	User	Score
1	Mike tyson	1
2	Mike tyson	1