**Online Quiz System**

Creating an **online quiz system** using **JSP, HTML, CSS, and MySQL** involves several key steps. Here’s a breakdown of the components and implementation:

**Features of the Online Quiz System**

1. User Authentication (Login/Signup)
2. Displaying Quiz Questions
3. Timer for Quiz
4. Storing User Responses
5. Evaluating Scores and Showing Results
6. Admin Panel for Adding/Managing Questions

|  |
| --- |
| Implementation Steps  1. **Database Setup (MySQL)**  Create a database quizdb with tables for users, questions, and quiz responses.  CREATE DATABASE quizdb;  USE quizdb;  CREATE TABLE users (  id INT PRIMARY KEY AUTO\_INCREMENT,  username VARCHAR(50) UNIQUE NOT NULL,  password VARCHAR(255) NOT NULL  );  CREATE TABLE questions (  id INT PRIMARY KEY AUTO\_INCREMENT,  question TEXT NOT NULL,  option1 VARCHAR(255) NOT NULL,  option2 VARCHAR(255) NOT NULL,  option3 VARCHAR(255) NOT NULL,  option4 VARCHAR(255) NOT NULL,  correct\_option INT NOT NULL  );  CREATE TABLE quiz\_attempts (  id INT PRIMARY KEY AUTO\_INCREMENT,  user\_id INT,  question\_id INT,  chosen\_option INT,  FOREIGN KEY (user\_id) REFERENCES users(id),  FOREIGN KEY (question\_id) REFERENCES questions(id)  ); |
| **2. Database Connection (dbconnect.jsp)**  This file handles the MySQL connection.  <%@ page import="java.sql.\*" %>  <%  String url = "jdbc:mysql://localhost:3306/quizdb";  String user = "root";  String password = "";  Connection con = null;  try {  Class.forName("com.mysql.jdbc.Driver");  con = DriverManager.getConnection(url, user, password);  session.setAttribute("dbConnection", con);  } catch (Exception e) {  out.println("Database connection error: " + e);  }  **RequestDispatcher rd = request.getRequestDispatcher("login.jsp");**  **rd.forward(request,response);**  %> |
| 1. **User Login (login.jsp)**   <%@ page import="java.sql.\*" %>  <%  String username = request.getParameter("username");  String password = request.getParameter("password");  Connection con = (Connection) session.getAttribute("dbConnection");  PreparedStatement pst = con.prepareStatement("SELECT \* FROM users WHERE username=? AND password=?");  pst.setString(1, username);  pst.setString(2, password);  ResultSet rs = pst.executeQuery();  if (rs.next()) {  session.setAttribute("username", username);  response.sendRedirect("quiz.jsp");  } else {  out.println("Invalid username or password.");  }  %> |
| 1. **Quiz Page (quiz.jsp)**   This page retrieves and displays quiz questions.  <%@ page import="java.sql.\*, java.util.\*" %>  <%  Connection con = (Connection) session.getAttribute("dbConnection");  Statement stmt = con.createStatement();  ResultSet rs = stmt.executeQuery("SELECT \* FROM questions");  List<String> questions = new ArrayList<>();  while (rs.next()) {  questions.add("<p>" + rs.getString("question") + "</p>"  + "<input type='radio' name='q" + rs.getInt("id") + "' value='1'> " + rs.getString("option1") + "<br>"  + "<input type='radio' name='q" + rs.getInt("id") + "' value='2'> " + rs.getString("option2") + "<br>"  + "<input type='radio' name='q" + rs.getInt("id") + "' value='3'> " + rs.getString("option3") + "<br>"  + "<input type='radio' name='q" + rs.getInt("id") + "' value='4'> " + rs.getString("option4") + "<br>"  );  }  %>  <html>  <head>  <title>Online Quiz</title>  </head>  <body>  <h2>Quiz</h2>  <form action="submit\_quiz.jsp" method="post">  <%= String.join("<br>", questions) %>  <input type="submit" value="Submit">  </form>  </body>  </html> |
| 1. **Submit Quiz (submit\_quiz.jsp)**   This file processes the answers and calculates the score.  <%@ page import="java.sql.\*" %>  <%  Connection con = (Connection) session.getAttribute("dbConnection");  Statement stmt = con.createStatement();  ResultSet rs = stmt.executeQuery("SELECT \* FROM questions");  int score = 0;  while (rs.next()) {  int questionId = rs.getInt("id");  int correctAnswer = rs.getInt("correct\_option");  String selectedOption = request.getParameter("q" + questionId);  if (selectedOption != null && Integer.parseInt(selectedOption) == correctAnswer) {  score++;  }  }  out.println("<h2>Your Score: " + score + "</h2>");  %> |
| 1. **Admin Panel (admin.jsp)**   Allows the admin to add new questions.  <%@ page import="java.sql.\*" %>  <html>  <head>  <title>Admin Panel</title>  </head>  <body>  <h2>Add New Question</h2>  <form action="add\_question.jsp" method="post">  Question: <input type="text" name="question"><br>  Option 1: <input type="text" name="option1"><br>  Option 2: <input type="text" name="option2"><br>  Option 3: <input type="text" name="option3"><br>  Option 4: <input type="text" name="option4"><br>  Correct Option (1-4): <input type="number" name="correct\_option"><br>  <input type="submit" value="Add Question">  </form>  </body>  </html> |
| **Add Question (add\_question.jsp)**  jsp  CopyEdit  <%@ page import="java.sql.\*" %>  <%  String question = request.getParameter("question");  String option1 = request.getParameter("option1");  String option2 = request.getParameter("option2");  String option3 = request.getParameter("option3");  String option4 = request.getParameter("option4");  int correctOption = Integer.parseInt(request.getParameter("correct\_option"));  Connection con = (Connection) session.getAttribute("dbConnection");  PreparedStatement pst = con.prepareStatement("INSERT INTO questions (question, option1, option2, option3, option4, correct\_option) VALUES (?, ?, ?, ?, ?, ?)");  pst.setString(1, question);  pst.setString(2, option1);  pst.setString(3, option2);  pst.setString(4, option3);  pst.setString(5, option4);  pst.setInt(6, correctOption);  pst.executeUpdate();  out.println("Question added successfully!");  %> |
| **Login.html**  **<!DOCTYPE html>**  **<html>**  **<head>**  **<meta charset=*"ISO-8859-1"*>**  **<title>Insert title here</title>**  **</head>**  **<body>**  **<form action=*"dbconnect.jsp"*>**  **<label>Username:</label>**  **<input type=*"text"* value=*""* name=*"username"* id=*"username"*>**  **<label>Password:</label>**  **<input type=*"password"* value=*""* name=*"password"* id=*"password"*>**  **<input type=*"submit"* value=*"login"*>**  **</form>**  **</body>**  **</html>** |