Test Plan - OrangeHRM Automation Project

1. **Objective**

   The goal of this project is to design and implement automated tests for a small web application consisting of:

   - A web-based UI (OrangeHRM demo site)
   - REST API endpoints (mock API using reqres.in)

2. **Scope of Testing**

   - Functional UI Automation:
     - Login with valid and invalid credentials.
     - Adding a new employee record.
     - (Future scope: Editing and deleting an employee)
   - API Automation:
     - POST /login (valid and invalid cases)
     - GET /users (fetch user list)
     - POST /users (create a new user)
     - PUT /users/:id (update existing user)
     - DELETE /users/:id (remove a user)

3. **Tools Used**

   - **Selenium WebDriver (Java)**: UI automation in Chrome browser.
   - **TestNG**: Test execution and reporting framework.
   - **REST-assured**: API test automation.
   - **Maven**: Build and dependency management.
   - **Eclipse IDE**: Development environment.

4. **Test Environment**

   - Web Application: https://opensource-demo.orangehrmlive.com
   - Mock API: https://reqres.in/api
   - Browser: Chrome (latest stable version).
   - OS: Windows/Linux/Mac (cross-platform).

5. **Test Coverage**

   - Positive and negative login tests.

   - CRUD operations for employees (UI).

   - API endpoints tested for both success and failure responses.

6. **How to Run Tests**

   - Import the Maven project in Eclipse.

   - Install Java 11+, Maven, Chrome, and ChromeDriver.

   - Update ChromeDriver path if necessary.

   - Run tests:

     - `mvn test` OR

     - Right-click `testng.xml` -> Run as TestNG Suite.

7. **Assumptions & Limitations**

   - The OrangeHRM demo site is publicly available and may experience downtime.

   - Mock API (reqres.in) is used as real OrangeHRM API is not accessible.

   - Tests are created for demonstration purposes and may need adjustments for production.

8. **Deliverables**

   - Selenium UI test scripts.

   - REST-assured API test scripts.

   - Test plan document.

   - README with setup instructions.