

1. Design and create test cases to verify the login functionality of a web application.

Test Case ID	Project/Module ID	Req#ID	Feature	Test Case/Test Scenario	Test Steps	Pre-requisite	Test Data	Expected Result
TC_LOGIN_001	Orange HRM-MyInfo	1.1.1	Login Functionality	Verify login functionality with the valid User name and password.	1. Launch the Browser. 2. Open https://www.orangehrm.com/ 3. Enter valid user name and valid password. 4. Click on login button.	Internet must be working.	Username:User@123 Password:Pass@123	Successful Login. Home page must be displayed.
TC_LOGIN_002	Orange HRM-MyInfo	1.1.1	Login Functionality	Verify login functionality with the Invalid User name and password.	1. Launch the Browser. 2. Open https://www.orangehrm.com/ 3. Enter Invalid user name and valid password. 4. Click on login button.	Internet must be working.	Username:User@123 Password:Pass@124	Unsuccessful Login. Error message is displayed.
TC_LOGIN_003	Orange HRM-MyInfo	1.1.1	Login Functionality	Verify login functionality with the valid User name and Invalid password.	1. Launch the Browser. 2. Open https://www.orangehrm.com/ 3. Enter valid user name and invalid password. 4. Click on login button.	Internet must be working.	Username:User@123 Password:Pass@125	Unsuccessful Login. Error message is displayed.
TC_LOGIN_004	Orange HRM-MyInfo	1.1.1	Login Functionality	Verify login functionality with the Invalid User name and password.	1. Launch the Browser. 2. Open https://www.orangehrm.com/ 3. Enter Invalid user name and Invalid password. 4. Click on login button.	Internet must be working.	Username:User@124 Password:Pass@126	Unsuccessful Login. Error message is displayed.

2. Perform compatibility testing of a web application across multiple browsers and operating systems, documenting any issues found.

Test Case ID	Project/Module ID	Req#ID	Feature	Test Case/Test Scenario	Test Steps	Pre-requisite	Test Data	Expected Result
TC_Compatibility_001	Orange HRM-Web Application browser compatibility	1.1.2	To check browser compatibility	To check browser compatibility for https://www.orangehrm.com/ on Chrome	1. Launch Chrome Browser. 2. Enter the below url in chrome browser https://www.orangehrm.com/	Internet must be working.	https://www.orangehrm.com/	Orange hr welcome page must open.
TC_Compatibility_002	Orange HRM-Web Application browser compatibility	1.1.2	To check browser compatibility	To check browser compatibility for https://www.orangehrm.com/ on Chrome	1. Launch Chrome Browser. 2. Enter the below url in chrome browser https://www.orangehrm.com/	Internet must be working.	Username:User@123 Password:Pass@123	Orange hr home page must open
TC_Compatibility_003	Orange HRM-Web Application browser compatibility	1.1.2	To check browser compatibility	To check browser compatibility for https://www.orangehrm.com/ on Firefox	1. Launch Firefox Browser. 2. Enter the below url in Firefox browser https://www.orangehrm.com/	Internet must be working.	https://www.orangehrm.com/	Orange hr welcome page must open.
TC_Compatibility_004	Orange HRM-Web Application browser compatibility	1.1.2	To check browser compatibility	To check browser compatibility for https://www.orangehrm.com/ on Firefox	1. Launch Firefox Browser. 2. Enter the below url in Firefox browser https://www.orangehrm.com/	Internet must be working.	Username:User@123 Password:Pass@123	Orange hr home page must open

TC_Compatibility_005	Orange HRM-WebApplicati on browser compatibility	1.1.2	To check browser compatibility	To check browser compatibility for https://www.orangehrm.com/ on safari	1. Launch Safari Browser. 2.Enter the below url in Safari browser https://www.orangehrm.com/	Internet must be working.	https://www.orangehrm.com/	Orange hrm welco me page must open.
TC_Compatibility_006	Orange HRM-WebApplicati on browser compatibility	1.1.2	To check browser compatibility	To check browser compatibility for https://www.orangehrm.com/ on safari	1. Launch Safari Browser. 2.Enter the below url in Safari browser https://www.orangehrm.com/	Internet must be working.	Username:User@123 Password:Pass@123	Orange hrm home page must open

3. Conduct usability testing of a mobile application, focusing on the user interface and user experience.

Test Case ID	Project/Module ID	Req#ID	Feature	Test Scenario/Test Case	Test Steps	Pre-requisite	Test Data	Expected Result
TC_Amazon_001	Amazon Mobile App	1.1.3	User Interface of Amazon Mobile app	Verify that user is able to login to the app and able to see all the products listing.	1. Launch the installed Amazon app in mobile. 2. Enter the user id and password. 3.Observe dashboard of Amazon app.	Amazon mobile app must be downloaded and installed in mobile	Username:User@123 Password:Pass@123	Dashboard must be loaded successfully
TC_Amazon_002	Amazon Mobile App	1.1.3	User Interface of Amazon Mobile app	Verify if user is able to add the products to the cart successfully.	1. Launch the installed Amazon app in mobile. 2. Enter the user id and password. 3.Try to add any product to the cart	Amazon mobile app must be downloaded and installed in mobile	Username:User@123 Password:Pass@123	User must be able to add the items to the cart
TC_Amazon_003	Amazon Mobile App	1.1.3	User Interface of Amazon Mobile app	Verify if user is able to remove the products to the cart successfully.	1. Launch the installed Amazon app in mobile. 2. Enter the user id and password. 3.Try to remove any product from the cart	Amazon mobile app must be downloaded and installed in mobile	Username:User@123 Password:Pass@123	User must be able to remove the items from the cart

TC_Amazon_004	Amazon Mobile App	1.1.3	User Interface of Amazon Mobile app	Verify if user is able to sort the products based on price, reviews, popularity.	1. Launch the installed Amazon app in mobile. 2. Enter the user id and password. 3. Try to sort any product based on price, reviews, popularity.	Amazon mobile app must be downloaded and installed in mobile	Username:User@123 Password:Pass@123	User must be able to see the sorted products based on price, reviews, popularity.
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4. Perform boundary value analysis and design test cases to validate the handling of input ranges for a form validation feature.

Test Case ID	Project/Module	Req#ID	Feature	Test Scenario/Test Case	Test Steps	Pre-requisite	Test Data	Expected Result
Validate password. Max limit: 7 characters Min Char: 14 chars								
TC_Naukri_001	Naukri Signup	1.1.4	Signup form for account creation	Validate Signup form.	1.Open the signup form. 2.Enter the User Id. 3.Enter the 8 character password.	Naukri site must be	Username:User@123 Password:Pass@123	Password must be accepted
TC_Naukri_002	Naukri Signup	1.1.4	Signup form for account creation	Validate Signup form.	1.Open the signup form. 2.Enter the User Id. 3.Enter the 6 character password.	Naukri site must be	Username:User@123 Password:Pass@123	Password must not be accepted
TC_Naukri_003	Naukri Signup	1.1.4	Signup form for account creation	Validate Signup form.	1.Open the signup form. 2.Enter the User Id. 3.Enter the 15 character password.	Naukri site must be	Username:User@123 Password:Pass@123	Password must be not accepted
TC_Naukri_004	Naukri Signup	1.1.4	Signup form for account creation	Validate Signup form.	1.Open the signup form. 2.Enter the User Id. 3.Enter the13 character password.	Naukri site must be	Username:User@123 Password:Pass@123	Password must be accepted

5. Create a test plan for testing the performance and scalability of a web service, including test scenarios, test environment setup, and performance metrics to be measured.

Test Plan – Amazon mobile application

1. Introduction:

Project Information:

- Project Name: Amazon mobile application
- Project Manager: Neha Soni
- Project Start Date:18/03/2024
- Project End Date: 22/03/2024

Document Information:

- Document Title :Test Plan
- Document Version: 0.1

2. Objectives:

Purpose:

The purpose of this test plan is to ensure that the Amazon Mobile App performs optimally under varying loads and user interactions. This plan outlines the approach, test scenarios, environment setup, and performance metrics for conducting performance and scalability testing.

Scope:

- Evaluate the performance of the Amazon Mobile App under different user loads.
- Identify potential bottlenecks and performance issues.

- Measure the scalability of the application under increasing user loads.
- Ensure the application meets performance criteria under peak loads.

3. Test Plan:

Features to be tested:

When testing the performance and scalability of the Amazon mobile app, following are key features to be tested,

- User authentication and login
- Product search
- Addition and removal of product from the cart
- Add and maintain new address functionality
- User Interactions
- Device compatibility
- Network conditions
- Load handling and scalability

Features not to be tested:

- Payment Gateways
- Device specific functionalities
- Security testing

4. Testing Strategy:

Testing Levels:

- **Unit Testing:**
 - **Objective:** Verify the performance of individual units or components.
 - **Activities:**
 - Test critical functions and algorithms within the code.
 - Validate the efficiency.
 - **Tools:** Unit testing frameworks.
- **Integration Testing:**

- **Objective:** Validate the performance of integrated components.
 - **Activities:**
 - Test interactions between different modules.
 - Verify the performance of integrated components.
 - **Tools:** Integration testing tools.
- **System Testing:**
 - **Objective:** Assess the overall performance of the Amazon mobile app complete system.
 - **Activities:**
 - Test end to end scenarios, including user interactions and backend processes.
 - Validate the app's performance across different devices and platforms.
 - **Tools:** Testing frameworks, load testing tools.
- **Performance Testing:**
 - **Objective:** Evaluate the app's performance under various conditions.
 - **Activities:**
 - Conduct load testing to determine the app's behavior under expected and peak loads.
 - Measure response times and resource utilization.
 - **Tools:** Load testing tools like Jmeter, monitoring tools.
- **Scalability Testing:**
 - **Objective:** Assess the app's ability by increasing number of users.
 - **Activities:**
 - Test the app's performance under incremental user load.
 - Evaluate the system's scalability by adding resources.
 - **Tools:** Load testing tools.
- **Stress Testing:**

- **Objective:** Evaluate whether the app performs under stress conditions.
 - **Activities:**
 - Apply a load beyond the app's capacity.
 - **Tools:** Stress testing tools.
- **Compatibility Testing:**
 - **Objective:** Ensure the app performs well on different devices and platforms.
 - **Activities:**
 - Test the app on various smart phones and tablets.
 - Validate performance on different operating systems.
 - **Tools:** Physical devices and simulators.
- **Network Testing:**
 - **Objective:** Assess the app's performance under different network conditions.
 - **Activities:**
 - Test performance on various network speeds including 4G, 5G, and Wi-Fi.
 - **Tools:** Network simulation tools.
- **User Acceptance Testing (UAT):**
 - **Objective:** Validate performance from the end-user perspective.
 - **Activities:**
 - Involve real users to validate performance in a real-world environment.
 - **Tools:** UAT test reports.
- **Regression Testing:**
 - **Objective:** Ensure that performance improvements or changes do not affect existing functionality.
 - **Activities:**
 - Re-run performance tests after each release or major change.

- Validate key performance metrics are within acceptable ranges.
- **Tools:** Automated testing tools, regression testing frameworks.

5. Test Environment Setup:

- Hardware:

- Devices: Android and iOS smartphones and tablets.
- Emulators: Use emulators to simulate a variety of device types and screen sizes.

- Software:

- Amazon Mobile App: Latest stable version installed on test devices.
- Testing Tools: Apache JMeter for load testing, Wireshark for network analysis, etc.

- Network:

- Local network with the ability to simulate different bandwidths and latencies.

- Data:

- Populate the app with realistic test data to mimic real-world usage scenarios.

6. Test Execution:

Test Data

- Perform initial tests under normal load conditions to establish baseline performance metrics.
- Gradually increase the user load to simulate peak traffic conditions.
- Monitor app performance metrics and identify any degradation or bottlenecks
- Push the app beyond its capacity to determine its breaking point.
- Observe how the app behaves under extreme loads and if it recovers gracefully.
- Run the app under sustained load for an extended period to identify memory leaks or performance degradation over time.
- Test the app under different network conditions to ensure it performs well across various environments.
- Evaluate how the app scales with increasing user loads by adding more virtual users.

Test Execution Schedule

- Define a schedule for each test scenario, considering peak usage times.

Monitoring

- Utilize monitoring tools to capture key performance metrics such as response time, error rate, memory utilization,

7. Performance Metrics:

- **Response Time:** Time taken by the app to respond to user interactions (login, search, browsing, checkout).
- **Throughput:** Number of transactions processed per unit time.
- **Concurrency:** Number of users accessing the app simultaneously.
- **Error Rate:** Percentage of failed transactions or errors encountered.
- **Resource Utilization:** CPU, memory, and network usage of the app during testing.

8. Test Deliverables:

- Document test results including performance metrics, issues encountered, and recommendations for improvement
- Provide insights into areas of the application that need optimization.
- Include graphs and charts to visualize performance trends under different test scenarios.

9. Risk and Contingencies:

- **Regular Risk Assessment:** Continuously assess and update the list of risks throughout the testing process.
- **Early Issue Identification:** Implement monitoring and alerting to identify issues at an early stage.
- **Communication:** Open communication between testing, development, and operation teams to quickly address issues.

10. Conclusion:

- Include graphs and charts to visualize performance trends under different test scenarios.
- Highlight any critical issues discovered and provide recommendations for addressing them.
- Outline any further testing or optimizations needed to improve the app's performance.