Performance Testing Phase

Test Scenarios and Expected Results

Performance Testing Phase

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Project Title: Garage Management System

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5.1 Purpose of the Phase

The Performance Testing Phase evaluates the speed, reliability, and stability of the Garage Management System implemented on Salesforce. The main objective is to ensure that the system performs optimally under various conditions, handling real-world data and concurrent user operations without degradation.

5.2 Testing Objectives

1. To verify that system automation, Flows, and Apex Triggers execute correctly under load.
2. To ensure quick response time for record creation, update, and retrieval.
3. To validate that dashboards and reports generate accurate data without performance lag.
4. To confirm that multiple users can access and use the system simultaneously.
5. To identify and resolve any bottlenecks or configuration issues before deployment.

5.3 Testing Types and Approach

The Garage Management System underwent several levels of testing to ensure performance consistency across modules.

1. Unit Testing: Validated individual Salesforce components such as Flows, Objects, and Validation Rules.
2. Functional Testing: Ensured that all operations, such as booking appointments and billing, perform as expected.
3. Integration Testing: Verified data flow between related objects including Customer, Appointment, and Billing modules.
4. User Acceptance Testing (UAT): Conducted by end users to validate real-time system behavior.
5. Performance Testing: Focused on response time, transaction speed, and concurrent usage capabilities.

5.4 Test Scenarios and Expected Results

Test Scenario	Expected Result	Status

Creating a new Customer record	Record should be saved instantly and visible in Customer List View	Passed
Booking a new Appointment	Flow should trigger and generate an Appointment ID automatically	Passed
Service record update triggers Apex Handler	Service amount is calculated correctly based on selected options	Passed
Billing details update triggers Flow	Payment confirmation email is sent successfully to the customer	Passed
Dashboard report generation	Reports load within 3 seconds and display accurate values	Passed
Simultaneous user logins (5 users)	System remains stable without timeouts or errors	Passed

5.5 Tools and Environment Used

The testing was performed in Salesforce Developer Org using the following tools and environments:

1. Salesforce Developer Console for running Apex Triggers.
2. Flow Builder for automation testing.
3. Reports and Dashboards module for analytical validation.
4. Standard Salesforce Test Data for record creation.
5. Chrome browser for UI testing in Lightning Experience mode.

5.6 Bug Tracking and Reporting Process

All identified issues were logged and tracked within Salesforce using task records. Each bug was assigned a unique ID and categorized by severity. Testing progress was reviewed daily, and resolved issues were verified before moving to the next phase.

5.7 Performance Metrics

Metric	Expected Value	Observed Value
Average Page Load Time	Under 3 seconds	2.4 seconds
Flow Execution Time	Under 5 seconds	4.2 seconds
Record Save Response	Instant (<2 seconds)	1.8 seconds

Dashboard Refresh Rate	Under 4 seconds	3.1 seconds
Concurrent User Limit	Minimum 5 users	5 users passed successfully

5.8 Test Results and Observations

The overall performance of the Garage Management System met the defined benchmarks. No critical performance issues or system crashes were reported. All modules executed efficiently, and automation components responded within acceptable limits. Minor configuration tweaks were made to optimize Flow load times.

5.9 Expected Outcome

At the end of the Performance Testing Phase, the Garage Management System was confirmed to be stable, fast, and reliable under expected usage conditions. All Salesforce automations and integrations performed as intended, validating the system's readiness for deployment.