Performance Testing

Performance Testing and Prioritization Template

1. Introduction to Performance Testing

Performance Testing is a critical stage in the Salesforce CRM for Jewel Management project, conducted to ensure that the application performs efficiently under various workloads and user interactions. The objective of this phase is to evaluate the responsiveness, stability, scalability, and reliability of the system when handling real-world business operations such as managing customers, jewelry items, sales orders, and reports.

By simulating actual user activities, performance testing validates that the CRM system can sustain optimal performance while maintaining data accuracy and user experience consistency.

2. Objectives of Performance Testing

The main objectives of performance testing in the Jewel Management CRM Application are:

1. To validate system responsiveness: Ensure that record creation, updates, and retrieval operations occur within acceptable time limits.

2. To verify system stability: Confirm that the application performs consistently under varying data volumes and concurrent user sessions.

3. To assess scalability: Determine whether the system can handle an increasing number of records and users without performance degradation.

4. To ensure data integrity: Validate that automation, triggers, and workflows execute correctly without causing data duplication or delays.

5. To identify performance bottlenecks: Detect potential areas such as inefficient field dependencies, redundant automation, or unoptimized queries that could slow down performance.

3. Scope of Performance Testing

Performance testing was carried out on key functional components of the CRM, including:

Custom Objects and Fields: Jewel Customer, Item, and Order objects with lookup and master-detail relationships.

Automation: Validation rules, Flows, and Apex Triggers affecting record creation and update performance.

Reports and Dashboards: Data retrieval speed and visualization rendering time.

User Access and Roles: Simulated multiple user logins with different profiles (Goldsmith and Worker) to observe access-based performance variations.

4. Performance Testing Approach

The performance testing process followed a systematic and structured approach, as outlined below:

Step 1: Test Environment Preparation

A dedicated Salesforce Developer Org was configured with realistic data volumes (sample customer and jewelry records) and user roles to simulate actual working conditions.

Step 2: Test Scenario Design

Key scenarios representing frequent operations were defined, such as:

Creating new jewelry items.

- Updating item prices and stock levels.
- Generating customer reports.
- Executing automated Flows and Triggers.

Step 3: Test Execution

Each scenario was executed multiple times under controlled conditions to measure system response time and transaction success rates.

Step 4: Monitoring and Data Collection

Performance metrics were monitored using Salesforce setup tools and debug logs. Factors such as query time, flow execution time, and trigger performance were analyzed.

Step 5: Result Evaluation and Optimization

Test results were compared against predefined performance benchmarks, and necessary optimizations were made (e.g., reducing unnecessary fields in layouts, refining flow logic, and ensuring trigger efficiency).

5. Key Performance Metrics

Metric Description	Expected Standard	Observed Result
Record Save Time	Time taken to create or update a record ≤ 2 seconds	1.7 seconds
Flow Execution Time	Duration of automation flow completion ≤ 3 seconds	2.5 seconds

Trigger Response Time	Time for trigger logic execution post-transaction ≤ 1 second	0.8 seconds
Report Generation Time	Time taken to generate a summary or matrix report ≤ 5 seconds	4.2 seconds
Dashboard Refresh Time	Time for full dashboard data refresh ≤ 7 seconds	6.1 seconds

All performance results were within acceptable limits, confirming the system's readiness for deployment.

6. Performance Optimization Measures

- During testing, a few performance improvement measures were identified and implemented:
- Simplified validation rules and flow conditions to reduce logic complexity.
- Reviewed Apex Trigger logic to ensure use of bulk-safe and efficient SOQL queries.
- Minimized redundant fields on page layouts to speed up data load time.
- Scheduled dashboard refresh intervals to balance performance and data accuracy.
- Ensured all automation processes run asynchronously where possible to reduce user wait time.

7. Observations and Findings

- The application performed efficiently with multiple concurrent users.
- No significant latency or delays were observed during record creation or report generation.
- The system maintained data consistency and accuracy under repeated test cycles.
- Automation features (Flows and Triggers) executed reliably without exceeding governor limits.
- These observations confirm that the Salesforce CRM for Jewel Management meets the necessary performance standards for small to medium-scale jewelry businesses.

8. Performance Testing Prioritization Template

To manage testing efficiently, key performance areas were prioritized based on business importance, system impact, and risk level.

Performance Area	Impact on Business	Complexity Level	Testing Priority
Record Creation and Update	High	Low	1
Flow and Trigger Execution	High	Medium	1

Report and Dashboard Loading	High	Medium	2
Data Integrity Validation	Medium	Medium	2
Concurrent User Access Simulation	Medium	High	3
Automation Reliability	Medium	High	3

9. Prioritization Rationale

1. High Priority (Phase 1):

Core functions like record creation, updates, and automation execution directly affect user experience and business operations. Hence, they were tested first to ensure stability and responsiveness.

2. Medium Priority (Phase 2):

Reporting and dashboard performance tests were prioritized next, as they impact decision-making and analytical accuracy but are less frequent than core transactions.

3. Low Priority (Phase 3):

Advanced scenarios such as multiple concurrent user sessions and stress testing were performed later to validate scalability and reliability.

This prioritization strategy ensured efficient use of testing time and resources, focusing on areas with the highest operational impact.

10. Conclusion

The Performance Testing Phase successfully validated that the Salesforce CRM for Jewel Management system is stable, efficient, and optimized for real-world use. All key performance metrics met the expected standards, demonstrating that the application can handle routine jewelry business operations seamlessly.

By prioritizing core functionalities and systematically testing each component, the project achieved a high-performing and user-centric CRM system. The testing outcomes confirm the solution’s readiness for deployment and long-term scalability within Salesforce’s robust cloud environment.