

Performance Testing and Validation

1. Objective

The objective of this phase is to validate the performance, functionality, and reliability of the CRM-based Jewel Management Application. This testing ensures smooth operation for modules such as customer data management, sales tracking, billing, and inventory updates under real-world business conditions.

Focus areas include:

- Functional accuracy.
- Data security.
- Dashboard responsiveness.
- Automation performance.
- Scalability under multiple user loads.

2. Overview of Testing Strategy

Testing Type	Description	Tools Used	Status
Functional Testing	Verification of all customer and sales modules	Salesforce Developer Console, Flow Debugger	✓Passed
Security Testing	Verified secure data access for staff and managers	Role-Based Access Control	✓Passed
Usability Testing	Checked ease of navigation and interface design	Lightning App UI Testing	✓Passed
Load Testing	Simulated 50+ users creating and updating records	Developer Console	✓Passed

3. Functional Testing

Validated that all business workflows in CRM operate correctly:

- Customer Registration Flow – smooth creation and editing of customer profiles.
- Sales Module – accurate invoice generation and record linking.
- Inventory Update Trigger – automatic stock adjustments after every sale.

Test Case	Expected Result	Actual Result	Status
Customer Flow	Record created successfully	Record created	✓ Pass
Inventory Trigger	Stock auto-updated	Updated successfully	✓ Pass
Billing Flow	Invoice generated instantly	Generated correctly	✓ Pass

4. Security and Access Control Testing

Ensured role-based access for sales staff, managers, and admin users.

4.1 Procedure:

1. Created test users for each role.
2. Configured access levels.
 - Staff → View and edit customer details
 - Manager → Access to sales reports and dashboards
 - Admin → Full system access

4.2 Observation:

Access permissions worked correctly; unauthorized access was restricted.

5. Usability and Dashboard Testing

Evaluated user-friendliness, navigation, and dashboard speed.

5.1 Key Findings:

1. Intuitive layout for customer and sales sections
2. Real-time dashboard showing.
 - Daily Sales
 - Top-Selling Items
 - Inventory Levels
 - Customer Purchase Trends

5.2 Dashboard Load Testing:

Test Parameter	Expected Load Time	Actual Load Time	Result
Dashboard Load	\leq 3 seconds	2.5 seconds	<input checked="" type="checkbox"/> Pass
Data Refresh	\leq 5 seconds	4.1 seconds	<input checked="" type="checkbox"/> Pass

6. Automation Performance Testing

Flow and Trigger Validation:

- Created 50 customer records sequentially: average 0.9 sec per record.
- Automated triggers updated inventory instantly after each sale.

Automation Task	Object	Execution Time	Status
Stock Update Trigger	Inventory	0.6 sec	<input checked="" type="checkbox"/> Pass
Sales Invoice Flow	Billing	0.8 sec	<input checked="" type="checkbox"/> Pass

7. Load Testing and Scalability

Parameter	Limit	Actual	Status
CPU Time	10,000 ms	6,400 ms	✓ Pass
SOQL Queries	100	62	✓ Pass
Heap Size	6 MB	3.9 MB	✓ Pass

8. End-User Feedback Analysis

Collected feedback from sales executives and managers during pilot testing

Feedback Summary:

- Easy to navigate and manage customer data.
- Dashboard helps track sales efficiently.
- Automated stock updates save manual work Satisfaction Level: 96%..

Sample Comments:

- “Fast and easy to record daily sales.”
 - “Dashboard analytics are clear and helpful.”
 - “Stock updates happen instantly — very useful.”
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9. Summary of Testing Results

Test Type	Status	Key Outcome
Functional Testing	✓ Passed	All modules working correctly
Security Testing	✓ Passed	Proper role-based access maintained
Usability Testing	✓ Passed	User-friendly interface

Test Type	Status	Key Outcome
Load Testing	✓ Passed	Stable under multiple user load
Dashboard Testing	✓ Passed	Fast data refresh and accurate results

10. Conclusion

The CRM Application for Jewel Management successfully passed all performance and validation tests. It is efficient, secure, and user-friendly, ensuring smooth jewelry business operations for sales, inventory, and customer management.

The project achieved:

- 100% functionality across modules.
- Fast and stable dashboard performance.
- Zero system failures under heavy load.
- Ready for deployment in retail jewelry businesses.