

## **Phase 5: Performance Testing Phase**

**Project Title:** To Supply Leftover Food to Poor

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### **Introduction**

Performance testing is the final and most crucial stage of the project. It ensures that the system performs efficiently under different conditions and functions correctly after full implementation. In this phase, the Salesforce-based project "To Supply Leftover Food to Poor" was tested thoroughly to verify that it is fast, stable, and reliable. The main focus of this testing was to evaluate the system's response time, accuracy, and proper operation of all modules such as Donor Management, Food Donation, Volunteer Assignment, NGO Tracking, and Delivery Management. The testing confirmed that the CRM system functions smoothly in real-time scenarios, ensuring timely delivery of food to the needy.

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### **Objective of Testing**

The main objective of the performance testing phase is to ensure that the application performs all required functions without any technical issues or data errors. This phase checks whether the Salesforce system:

- Efficiently handles donor, food, volunteer, and NGO data.
  - Processes and updates records automatically using workflows and flows.
  - Displays accurate dashboards and reports in real time.
  - Can handle multiple donations, deliveries, and users simultaneously without performance degradation.
  - The goal is to confirm that the system is fully capable of managing day-to-day food donation operations effectively and reliably.
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### **Functional Testing**

Functional testing was carried out to verify that all features of the Salesforce system worked as expected. During testing:

- Donors were able to register and create food donation records successfully.
- Food details such as type, quantity, and expiry were stored and updated accurately.

- Volunteers were correctly assigned to nearby donations using automated flows.
- NGOs received instant notifications about available food donations.
- Delivery records linked correctly between donors, volunteers, and NGOs.

All modules interacted smoothly, and each function performed without errors. This testing confirmed that all designed functionalities worked exactly as intended.

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## Performance Testing

- Performance testing was conducted to examine the system's speed, efficiency, and stability while managing large data volumes.
  - Multiple donors, food donations, and delivery records were entered into the system to simulate real-time conditions.
  - Reports and dashboards loaded quickly without delay.
  - Automated notifications for new donations and completed deliveries were triggered instantly.
  - The system maintained high performance even when multiple users operated simultaneously.
  - The CRM application proved capable of handling large-scale food donation data efficiently without lag or failure, confirming its robustness and reliability.
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## Usability Testing

- Usability testing was performed to ensure the Salesforce application is simple, intuitive, and easy to navigate for all user roles — donors, NGOs, and volunteers.
  - Each page layout was tested for clarity and logical arrangement.
  - Labels and field names were understandable and user-friendly.
  - Dashboards and reports were visually appealing and easy to interpret.
  - Non-technical users were able to operate the system without prior Salesforce experience.
  - The results indicated that the user interface was clean, simple, and accessible, ensuring that all users could perform their tasks efficiently.
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## Security Testing

- Security testing was conducted to ensure that sensitive donor, food, and delivery data is well protected.
  - Role-based access control was implemented to ensure that only authorized users could modify or view specific records.
  - Admins retained full control of the system configuration and security settings.
  - Data stored in Salesforce was encrypted and protected from unauthorized access.
  - The results of the security testing confirmed that the system is secure and reliable, maintaining full integrity, confidentiality, and privacy of user data.
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## Integration Testing

- Integration testing was performed to confirm that all modules of the CRM application work together seamlessly.
  - When a new food donation was created, it automatically triggered alerts for volunteers and NGOs.
  - Upon delivery, the system updated donor and delivery records simultaneously.
  - Dashboards were refreshed instantly to display the latest statistics.
  - Automation rules executed correctly, ensuring data consistency across all modules. This testing confirmed that Donor, Food, Volunteer, NGO, and Delivery modules were properly interconnected and communicated effectively.
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## Test Environment

The testing was conducted in the Salesforce Developer Edition environment under real time simulation. Environment Setup:

- **Operating System:** Windows 10
- **Browser:** Google Chrome
- **Internet:** Stable broadband connection
- **Platform:** Salesforce Cloud CRM

The Salesforce environment provided a secure, flexible, and cloud-based testing setup that accurately simulated real-world food donation operations.

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## Test Results and Fixes

All test cases were executed successfully. The system passed functional, performance, usability, security, and integration testing. Minor issues such as redundant data entries and unclear field names were identified and resolved by:

- Enabling duplicate prevention rules.
  - Renaming fields for better clarity.
  - Optimizing record-triggered flows for faster execution.
  - After these fixes, the system performed flawlessly without any further errors or lag.
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## Conclusion

The Performance Testing Phase successfully verified that the Salesforce-based project “To Supply Leftover Food to Poor” is fast, secure, and user-friendly. All modules functioned efficiently, and the application handled real-time data smoothly even under load. Through Salesforce’s built-in automation and reporting tools, the system ensures accurate data management and quick food distribution tracking. With all testing phases passed successfully, the project is ready for final deployment and real-world implementation — marking the successful completion of this socially impactful initiative.