⚙️ Performance Testing Phase

1. Purpose of the Performance Testing Phase

The purpose of this phase is to evaluate the speed, stability, and efficiency of the Family Expense Tracking application built on ServiceNow.

This ensures that the system performs well under different workloads and provides quick, accurate results to users and the administrator (Anjali).

2. Objectives of Performance Testing

- ❖ To verify that the system responds quickly to user actions.
- ❖ To ensure that expense data loads and reports generate efficiently.
- ❖ To check system stability when multiple users input expenses simultaneously.
- ❖ To confirm that the database handles large volumes of expense data without errors or delays.

3. Key Performance Areas Tested

Test Type   Objective

- ✓ Load Testing   :   Check how the system performs when many expenses are added at once.
- ✓ Stress Testing : Test system limits by overloading with large data entries.
- ✓ Response Time Testing :   Measure how quickly the system loads pages, saves entries, and generates reports.
- ✓ Scalability Testing : Evaluate performance when the number of users or records increases.
- ✓ Usability Testing   : Ensure smooth navigation and user-friendly interfaces.

4. Test Environment Setup

- Platform: ServiceNow Developer Instance
- Modules Tested:
- Expense Entry Form
- Expense Report Generation
- Dashboard Visualization
- Test Data: 500–1000 expense entries including various categories like Groceries, Rent, Utilities, and Education.
- Hardware Used:
- 8GB RAM system
- Stable Internet Connection

5. Performance Metrics

1. Parameter   Expected Result   Actual Observation
2. Data Entry Time   ≤ 2 seconds per record   ✅ Met
3. Report Generation Time   ≤ 3 seconds   ✅ Met
4. Dashboard Load Time   ≤ 4 seconds   ✅ Met
5. System Crash or Lag None   ✅ Stable
6. Concurrent Users Supported   Up to 10 users   ✅ Passes

6. Performance Testing Scenarios

1. Scenario 1 – Data Entry Load Test:

100 records entered continuously.

Result: No lag observed, system processed all entries smoothly.

2. Scenario 2 – Report Generation Test:

Generated monthly expense reports with 1000 records.

Result: Reports loaded in under 3 seconds.

3. Scenario 3 – Dashboard Refresh Test:

Pie chart and bar chart updated dynamically.

Result: Visuals refreshed instantly after each new record.

4. Scenario 4 – Stress Test:

Entered 2000+ records to check system limit.

Result: Slight delay (~4 seconds), but no crash or data loss.

7. Issues Identified and Resolved

Issue cause Solution

Slow report loading for large data   Too many simultaneous queries   Optimized query filters and used indexed fields

Form submission delay   Client-side script load   Reduced unnecessary validations

8. Results of Performance Testing

✅ System handled all expected workloads efficiently.

✅ No crashes or data loss during tests.

✅ Response time met performance standards.

✅ Reports and dashboards displayed accurate, real-time data.

9. Conclusion

- The Performance Testing Phase confirms that the Family Expense Tracking System on ServiceNow is:
- Reliable under normal and high load conditions
- Fast in processing and displaying data
- Scalable to handle future growth in users or data volume
- User-friendly and performs consistently across modules

- This ensures that the final product is ready for real-world use by the administrator (Anjali) and her family members