

# Performance and Testing

Date	08/11/2025
Team ID	NM2025TMID02958
Project Name	Garage Management system
Maximum Marks	4 Marks

## Garage Management System - Performance Testing

### 5. Performance Testing

Performance Testing verifies that the system operates efficiently under various load conditions and realtime usage scenarios. The purpose of this phase is to ensure that the Garage Management System remains stable, responsive, and reliable during peak operations.

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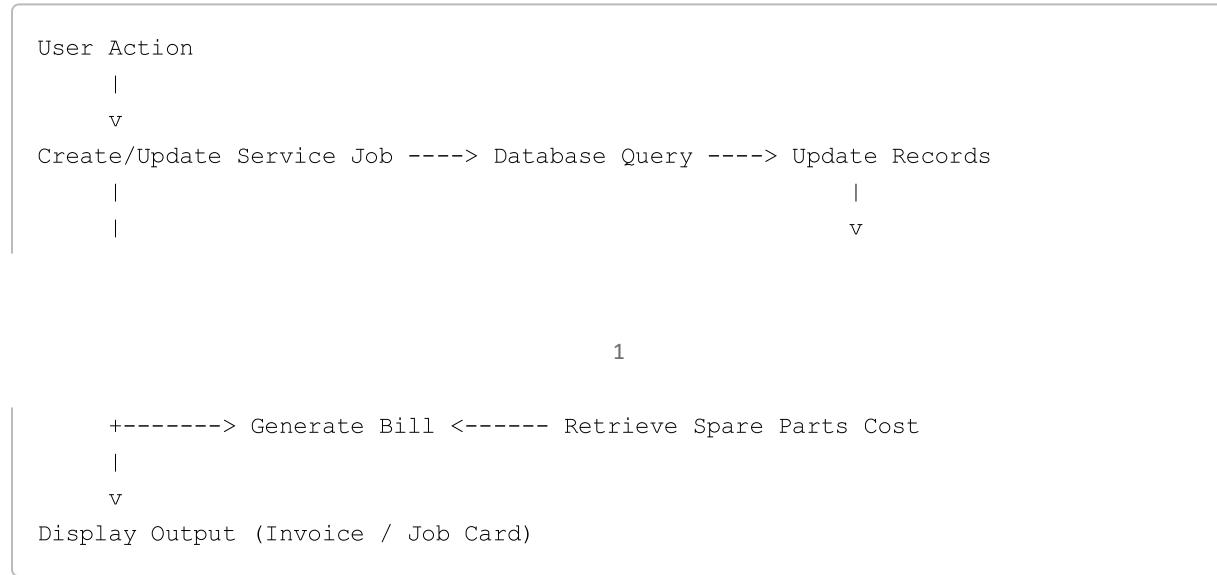
#### Objectives of Performance Testing

- Ensure the system responds quickly to user actions.
  - Check whether the database can handle large amounts of data.
  - Confirm system stability when multiple users or operations are active.
  - Validate that billing calculations are accurate and instant.
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#### Test Parameters and Expected Outcomes

Test Type	Description	Expected Outcome
Database Load Test	Large number of customer, vehicle, and service records are inserted and retrieved	Data retrieval must be fast without noticeable delay
Stress Test	Multiple job cards and billing processes executed simultaneously	System should remain stable and must not crash
Billing Speed Test	Bill generated using various spare parts and labor costs	Invoice must be calculated and displayed instantly
Inventory Update Test	Spare parts quantity updated during service	Stock should automatically adjust without errors

## Sample Performance Flow Diagram



## Results of Performance Testing

- System remains stable under multiple concurrent operations.
- Billing and job card creation processes are completed instantly.
- Database performs efficiently with large datasets.
- Spare parts stock updates are accurate and synchronized.

## Conclusion

The Performance Testing phase confirms that the Garage Management System is optimized for reliability, speed, and real-time operational use. The system is now ready for deployment in a real garage environment.

