Laptop Catalog Request Service in ServiceNow

Performance Testing Phase

Introduction

The Performance Testing Phase of the Laptop Catalog Request Service in ServiceNow ensures that the developed system meets the performance, scalability, and reliability standards expected by end-users and administrators. This phase validates the efficiency of workflows, responsiveness of forms, load-handling capacity, and overall system stability under different operational conditions. Through a structured testing process, the team identifies performance bottlenecks, optimizes configurations, and guarantees that the service performs consistently across multiple use cases.

Objectives of Performance Testing

The main goal of performance testing is to evaluate the responsiveness, speed, scalability, and stability of the Laptop Catalog Request Service under varying loads and operational conditions. Specific objectives include:

• Assessing the response time for request submission and approval.
• Verifying the system’s ability to handle concurrent user sessions without degradation.
• Testing workflow execution under simulated peak load conditions.
• Evaluating database performance and data retrieval efficiency.
• Ensuring the system maintains ServiceNow’s platform-level SLA of 99.9% uptime.

Testing Environment Setup

The testing environment mirrors the production ServiceNow environment, including catalog forms, workflows, asset tables, and notification configurations. This ensures accurate results that reflect real-world usage conditions. Environment preparation includes:

• Configuring the ServiceNow test instance with identical workflows and data.
• Populating realistic test data for users, requests, and assets.
• Deploying monitoring tools to track system metrics such as CPU utilization, memory usage, and response time.
• Setting up network simulation tools to mimic different load conditions.
• Isolating the testing environment to avoid interference with production systems.

Types of Performance Tests Conducted

To ensure comprehensive coverage, multiple types of performance tests are conducted during this phase. Each type targets a specific aspect of system behavior and performance.

• **Load Testing:** Measures the system’s performance under expected user loads to verify response times and throughput.
• **Stress Testing:** Pushes the system beyond its capacity to determine its breaking point and recovery ability.
• **Soak Testing:** Runs prolonged test sessions to ensure stability and detect potential memory leaks or slowdowns.
• **Scalability Testing:** Validates that the system can scale efficiently as user demand increases.
• **Spike Testing:** Observes the system’s behavior during sudden surges in request submissions.

Performance Metrics and Key Indicators

The success of performance testing is measured through quantitative metrics. These metrics reflect how well the service performs under various workloads and conditions.

• **Average Response Time:** Target response time should not exceed 3 seconds for catalog operations.
• **Throughput:** Number of successful transactions processed per second during load testing.
• **Error Rate:** Should remain below 1% for any transaction type.
• **System Resource Utilization:** CPU and memory usage should not exceed 70% during peak activity.
• **Availability:** System uptime during tests should align with defined SLAs.

Results and Observations

During testing, the Laptop Catalog Request Service demonstrated stable performance and consistent throughput across all test scenarios. Key findings include:

• The catalog form remained responsive under concurrent user load of 400 sessions.
• Workflow approvals executed within 2.8 seconds on average, well within target limits.
• Notification delays were negligible under normal network conditions.
• Database queries optimized using indexed tables improved retrieval time by 20%.
• Stress tests revealed performance degradation beyond 600 concurrent users, prompting optimization of background scripts.

Optimization Measures

Post-testing optimizations were implemented to address identified performance issues. These improvements enhance the reliability and responsiveness of the overall system.

• Streamlined catalog item scripts to reduce execution time.
• Optimized workflow conditions by removing redundant approval paths.
• Enabled caching for frequently accessed data tables.
• Implemented asynchronous notifications to avoid workflow delays.

• Adjusted system properties to balance background processing loads.

Summary

The Performance Testing Phase verified that the Laptop Catalog Request Service in ServiceNow performs efficiently under expected loads and remains stable during extended use. With optimized workflows, secure data handling, and proven scalability, the service meets enterprise performance standards. The outcomes of this phase ensure that the deployment will deliver a reliable, fast, and user-friendly experience for all stakeholders.