

EDUCATIONAL ORGANIZATION
USING SERVICENOW

PERFORMANCE & TESTING

Team ID	NM2025TMID01472
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Maximum Marks	4 Mark

Step 1: Performance and Testing

Purpose

The Performance and Testing phase for the **Laptop Request Catalog Item** ensures that the catalog form, workflow, and fulfillment processes function efficiently under varying loads and business conditions. This stage verifies the system's ability to deliver a reliable, responsive, and stable user experience while maintaining process integrity and data accuracy. The ultimate objective is to confirm that the catalog performs seamlessly before being deployed to the live environment.

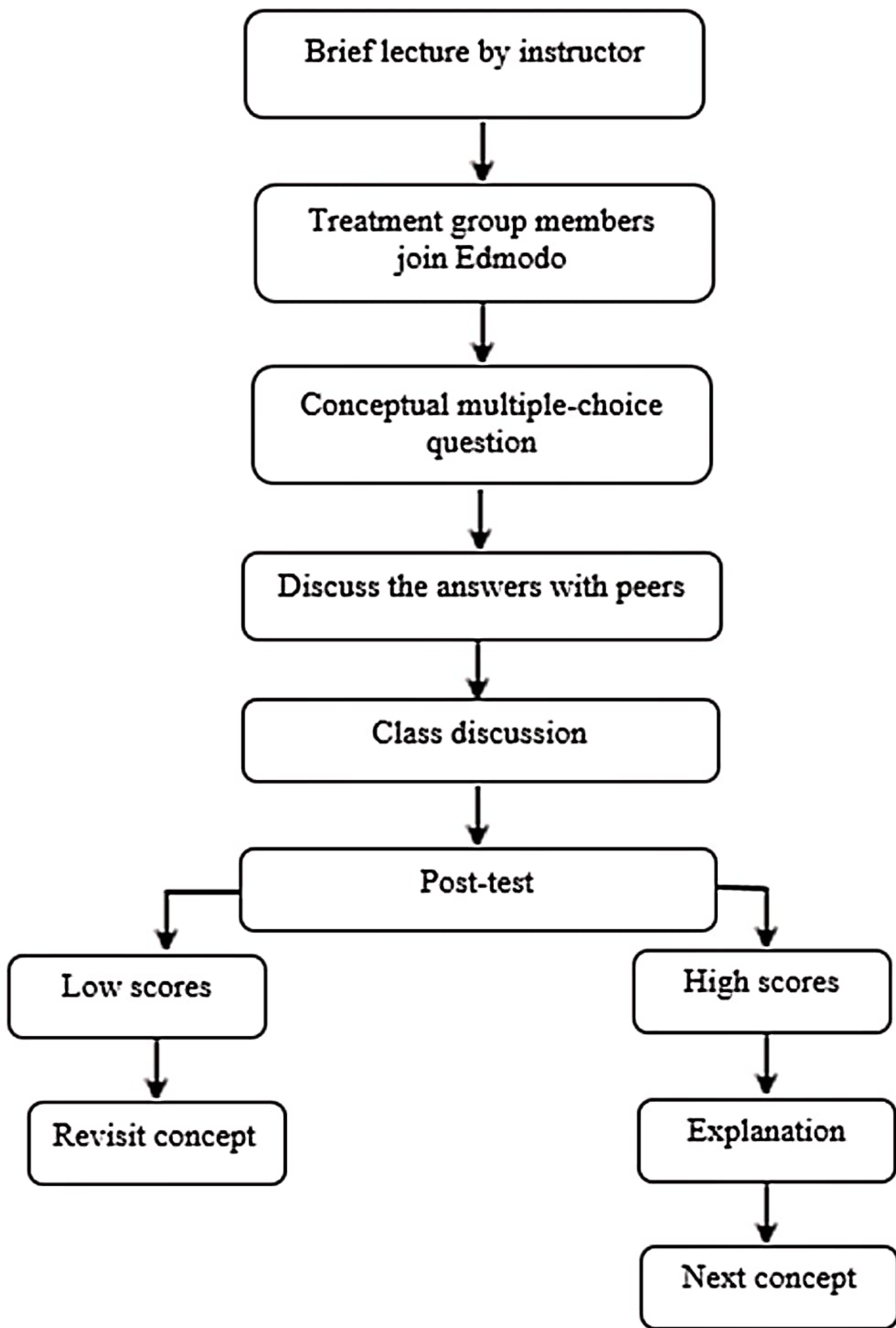
Performance Testing Overview

Performance testing focuses on assessing how the Laptop Request Catalog Item performs in terms of **speed, stability, scalability, and resource utilization**. It involves simulating real-world user activity, such as multiple employees submitting laptop requests simultaneously, to observe how the system handles high-demand scenarios.

This testing helps identify potential slowdowns, lags, or integration issues between the catalog item and connected modules like the approval system, fulfillment engine, and asset database.

Objectives of Performance Testing

- **Ensure that the Laptop Request Catalog Item meets predefined response time benchmarks.**
 - **Validate that the catalog can handle multiple concurrent requests without degradation in speed or accuracy.**
 - **Detect and eliminate bottlenecks in form submission, approval routing, and asset allocation.**
 - **Confirm that all system integrations (approval, fulfillment, and asset management) remain stable under heavy load.**
 - **Guarantee a consistent and smooth user experience across browsers, devices, and network conditions.**
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Testing Scope

The testing phase covers every functional and performance-related aspect of the catalog item, including:

- **Form Load and Submission Speed:** Ensuring that request forms load quickly and submit data without delay.
 - **Workflow Execution:** Measuring the efficiency of approval, notification, and fulfillment processes.
 - **Integration Testing:** Validating seamless communication with back-end systems such as CMDB and asset management modules.
 - **Notification Performance:** Tracking delays in email or in-app notifications during peak usage.
 - **Data Accuracy and Consistency:** Confirming that submitted data remains intact and synchronized throughout the request process.
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Types of Performance Testing

1. Load Testing:

Assesses how the system performs under normal and expected workloads. Ensures form submissions and workflow execution remain efficient for standard user activity.

2. Stress Testing:

Tests system behavior under extreme workloads to identify breaking points and ensure graceful degradation rather than failure.

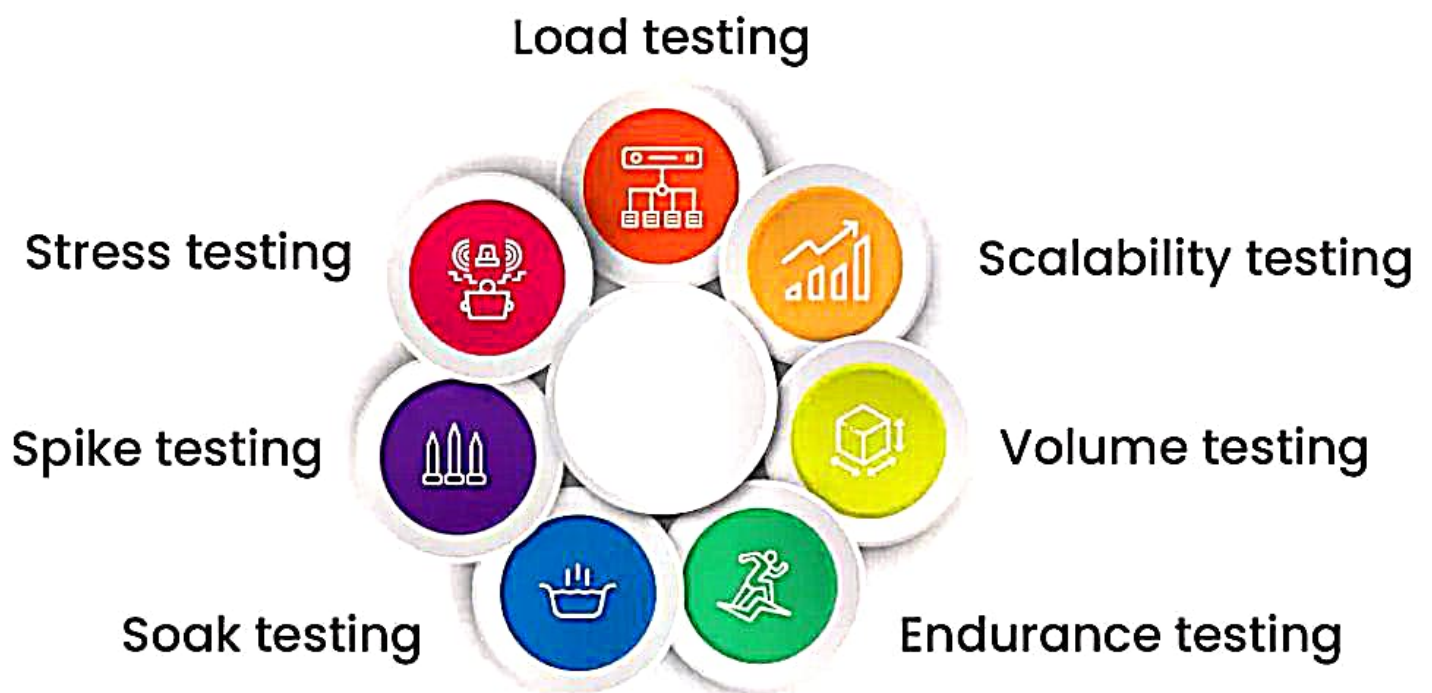
3. Endurance (Soak) Testing:

Evaluates the system's long-term stability by maintaining load for an extended duration to detect potential memory leaks or performance decline.

4. Scalability Testing:

Examines the system's ability to scale efficiently as user numbers or request volumes increase, ensuring minimal response time impact.

Types of Performance testing



Key Performance Metrics

During performance testing, the following metrics are continuously monitored and analyzed:

- **Response Time:** Time taken for pages or forms to load and submit.
- **Throughput:** Number of transactions or requests successfully processed per second.
- **Error Rate:** Percentage of failed submissions or workflow errors.
- **Resource Utilization:** CPU, memory, and network consumption under different load levels.
- **Transaction Completion Time:** Duration from form submission to final approval or fulfillment.

Testing Tools and Environment

Performance testing is conducted in a controlled test environment that mirrors production. Tools such as **JMeter**, **LoadRunner**, and **ServiceNow Automated Test Framework (ATF)** are used to simulate real user loads.

The testing setup integrates with ServiceNow modules—like approvals, fulfillment, and asset management—to replicate realistic conditions and workflows.

Analysis and Reporting

After each testing cycle, results are documented and analyzed to highlight improvement areas. Performance reports include response time summaries, error logs, and graphical trend analyses. Recommendations are provided for optimization, such as adjusting workflow scripts, database indexing, or network configurations, to enhance overall efficiency.

Continuous Improvement

Performance testing is an ongoing process that continues beyond the initial deployment. Each update, configuration change, or workflow enhancement triggers a new round of testing to maintain reliability. Continuous performance monitoring ensures that the Laptop Request Catalog Item consistently delivers fast, accurate, and user-friendly results over time.