Educational Organization Using ServiceNow

Team ID	LTVIP2026TMIDS66823
Project Name	Educational Organization Using ServiceNow
Faculty Mentor Name	DR P L Madhava Rao
College Name	Kallam Haranadhareddy Institute of Technology

Performance Testing Phase

The Performance Testing Phase is an important stage in the development of the Educational Organisation Management System using ServiceNow. This phase focuses on evaluating the system's speed, responsiveness, stability, and scalability under different working conditions. The primary goal of performance testing is to ensure that the system operates efficiently even when multiple users access it simultaneously and when large volumes of data are processed. It helps identify performance bottlenecks and ensures that the application delivers a smooth user experience.

In the Educational Management System, performance testing is conducted to verify that the custom tables, forms, workflows, and client scripts function without delay. Since the system manages student and teacher records, it must handle increasing data volumes as the institution grows. Performance testing ensures that the system can retrieve, store, and update records quickly without affecting overall responsiveness. The time taken to load forms, submit records, and execute workflows is carefully observed and evaluated.

One of the key aspects tested during this phase is response time. Response time refers to the duration taken by the system to process a user request and display the result. For example, when an administrator submits a student registration form, the system should save the record and generate a unique ID without noticeable delay. Similarly, when accessing reports or searching for specific records, the results should be displayed promptly. Acceptable response time ensures user satisfaction and operational efficiency.

Load testing is another important component of performance testing. It evaluates how the

system behaves when multiple users access it at the same time. In an educational institution, administrators, teachers, and management staff may simultaneously use the system. Load testing ensures that concurrent access does not slow down system performance or cause crashes. It verifies that the ServiceNow instance can handle the expected number of users efficiently.

Stress testing is also performed to determine the system's stability under extreme conditions. This involves testing the application with a higher-than-normal number of records or users to observe how it performs beyond expected capacity. Stress testing helps identify the maximum load the system can handle and ensures that it fails gracefully without data loss in extreme situations.

Database performance is another critical factor considered in this phase. Since custom tables store all institutional data, queries and data retrieval operations must be optimized. Proper indexing and structured field configuration ensure faster search and filtering operations. Performance testing verifies that database queries execute efficiently and do not cause delays. The execution of client scripts and process flows is also evaluated during this phase. Scripts should validate data quickly without affecting form performance. Workflows should route approval requests smoothly without unnecessary waiting time. If any delay or inefficiency is detected, necessary optimizations are implemented to enhance performance.

Security performance is also assessed to ensure that authentication and role-based access control mechanisms do not negatively impact system speed. While maintaining strong security, the system should still provide quick access to authorized users.

Monitoring tools within ServiceNow are used to observe system behavior and identify potential issues. Logs and performance metrics help detect slow transactions or configuration inefficiencies. Based on these observations, adjustments such as optimizing scripts, refining workflows, or improving form design are made to enhance system performance.

In conclusion, the Performance Testing Phase ensures that the Educational Organisation Management System using ServiceNow is reliable, stable, and efficient under various operating conditions. It evaluates response time, load handling capacity, stress tolerance, database efficiency, and workflow execution. By identifying and resolving performance issues before

deployment, this phase guarantees a smooth user experience and prepares the system for real-time institutional use. Performance testing ultimately enhances system quality, scalability, and long-term sustainability.