

Project Design Phase-II

Technology Stack (Architecture & Stack)

Date: 03 NOV 2025

Team ID: NM2025TMID01577

Project Name: Educational Organization Management Using ServiceNow

Technical Architecture

The **technical architecture** of the *Educational Organization Management System using ServiceNow* integrates cloud-based automation, database management, and user interface modules to create a seamless educational management platform.

This architecture is designed to digitalize key academic and administrative operations such as student enrollment, faculty management, course scheduling, and communication tracking. All these processes are unified through ServiceNow's **low-code platform**, ensuring scalability, reliability, and efficient workflow automation.

The architecture consists of three major layers — the **User Interface**, **Application Logic**, and **Database & Cloud Infrastructure**.

- The **UI Layer** enables interaction for administrators, faculty, and students via a centralized ServiceNow dashboard.
- The **Application Logic Layer** handles workflow automation, course management, request approvals, and notifications.
- The **Data Layer** securely stores student, faculty, and course data in the ServiceNow Cloud Database and Configuration Management Database (CMDB).

The system is hosted on the **ServiceNow SaaS (Software as a Service)** platform, offering high availability, built-in security, and flexible scalability for educational institutions.

Table 1: Components & Technologies

S.No.	Component	Description	Technology
1	User Interface	Web-based dashboard for admin, faculty, and student access.	ServiceNow Web UI
2	Application Logic-1	Automates student admission and course enrollment workflows.	ServiceNow Flow Designer, Script Actions
3	Application Logic-2	Manages approval and communication between departments.	ServiceNow Workflow Engine
4	Application Logic-3	Sends notifications for deadlines, announcements, and status updates.	ServiceNow Notifications
5	Database	Stores student, faculty, and academic	ServiceNow CMDB,

S.No.	Component	Description	Technology
		records.	Custom Tables
6	Cloud Infrastructure	Manages cloud-based hosting and performance optimization.	ServiceNow Cloud (SaaS)
7	External APIs	Optional integration with HRMS or Learning Management Systems.	REST API Integration

Table 2: Application Characteristics

S.No.	Characteristics	Description	Technology
1	Security	Role-based access, authentication, and secure scripting for data protection.	ACLs, Scoped Apps
2	Scalability	Cloud-hosted solution that supports institutional growth and data expansion.	ServiceNow Cloud Architecture
3	Availability	Ensures 24/7 system uptime for global educational access.	Load-balanced ServiceNow Instances
4	Performance	Optimized workflows and indexed queries for fast processing.	GlideRecord, Flow Actions

Conclusion

The **Educational Organization Management System** leverages ServiceNow's cloud ecosystem to automate, centralize, and optimize institutional operations. Its robust architecture provides a secure, scalable, and high-performing foundation, empowering administrators, faculty, and students with a unified digital environment that enhances efficiency, accuracy, and collaboration across the organization.