

Project Design Phase

Solution Architecture

Date	02-11-2025
Team ID	NM2025TMID02428
Project Name	Educational Organization
Maximum Marks	4 Marks

Goals of the Architecture

- To **design a structured, scalable, and secure system** for managing the processes of educational organizations.
- To **enable seamless workflow automation** across key departments such as admissions, examinations, and performance management.
- To **ensure centralized data management** with real-time reporting and insights.
- To **enhance user experience** through a unified and intuitive **ServiceNow portal**.

Key Components

Component	Description
User Interface Layer	The front-end interface , accessible to students, teachers, and administrators through the ServiceNow portal , offers dashboards, interactive forms, and real-time notifications .
Application Layer (Logic Layer)	The core layer where automated workflows, approvals, and notifications are built and managed using Flow Designer, Business Rules, and Catalog Items .
Database Layer	Securely stores student, staff, and course-related data in ServiceNow tables , complete with audit logs for tracking and accountability .

Component	Description
Integration Layer	Integrates with external systems such as LMS platforms, email services, and payment gateways through API connections .
Security Layer	Applies Role-Based Access Control (RBAC) , encryption , and authentication mechanisms to maintain data security and privacy .

✂ Development Phases

Phase	Activity	Tools Used
Phase 1 – Planning	Identify and define user requirements, workflow processes, and access roles to ensure a clear and efficient system structure.	Documentation, ServiceNow Project Planning
Phase 2 – Design	Create data models, workflow diagrams, and UI layouts.	Flow Designer, Data Schema Designer
Phase 3 – Implementation	Develop and configure workflows, dashboards, and forms to support seamless process automation and data visualization.	ServiceNow Studio
Phase 4 – Testing	Conduct pilot testing for one department, fix errors.	Test Management Tool
Phase 5 – Deployment & Maintenance	Implement the system across the organization and continuously monitor its performance and health .	Performance Analytics, Reports

Solution Architecture Description

The **ServiceNow-based Educational Management System** utilizes a **multi-layered architecture** designed to efficiently manage academic and administrative operations.

Each layer contributes a crucial function within the overall framework:

- The **User Interface Layer** engages directly with end users.
- The **Logic Layer** manages processes through automated workflows.
- The **Database Layer** securely stores and retrieves institutional information.
- The **Integration Layer** maintains seamless connectivity with external platforms.
- The **Security Layer** safeguards data using encryption and controlled access mechanisms.

This structured design enables **modular scalability**, **real-time analytics**, and **efficient data flow** throughout the system.

Example Solution Architecture Diagram (Text View)

