

# Project Design Phase-II

## Technology Stack Template

Date	02-11-2025
Team ID	NM2025TMID02428
Project name	Educational Organization using ServiceNow
Maximum Marks	4 Marks

### 1. Technical Architecture:

The Technical Architecture of the Educational Organization System outlines the interaction between the system's layers—front-end, back-end, database, and integration—within the ServiceNow platform. It emphasizes automation, centralized data access, and secure workflow management for students, teachers, and administrators.

#### Key Objectives:

- Offer a unified digital platform to manage all academic and administrative processes efficiently.
- Utilize ServiceNow's Flow Designer to automate workflows and improve operational efficiency.
- Uphold data integrity and security using the ServiceNow Configuration Management Database (CMDB).
- Support scalability and seamless integration with third-party systems.

### 2. Example: ServiceNow-Based Architecture:

#### Example Scenario:

When a student registers for a course:

- ❖ Users submit data through the Service Portal (Front-end).
- ❖ The request is handled and automated using Flow Designer (Workflow Automation).
- ❖ All data is securely stored in CMDB tables (Database Layer).
- ❖ Administrators are notified via the Notification Service (Integration Layer).

- ❖ Dynamic reports are generated using Performance Analytics (Backend Module).
- ❖ This setup ensures complete end-to-end automation, covering everything from user input to backend processing and reporting.

Layer	Element / Technology Used	Purpose / Key Function
Front-End	HTML5, CSS3, JavaScript, Service Portal	Builds and manages the interface for students, teachers, and administrators.
Back-End	ServiceNow Business Rules, Script Includes, Flow Designer	Manages business logic, approval processes, and workflow automation.
Database Layer	ServiceNow CMDB, Tables, Relationships	Maintains comprehensive records of academic, student, and staff data.
Integration Layer	REST APIs, IntegrationHub, Email Services	Facilitates integration and communication with external applications and tools.
Security Layer	Role-Based Access Control, Audit Logs, SSL Encryption	Enables communication with external tools.
Reporting Layer	Dashboards, Performance Analytics	Presents key performance metrics and analytical reports.

Characteristics	Description
Platform Type	Cloud-based low-code/no-code application built on ServiceNow.
Accessibility	Web-based platform accessible on both desktop and mobile devices.
Scalability	Accommodates an increasing number of users and expanding academic modules.
Automation	Uses Flow Designer and Workflows to reduce manual tasks.
Maintainability	Easily updatable through ServiceNow Studio and Update Sets.
Security	Provides robust data encryption, access control, and activity logging.
User Experience	Features a user-friendly and intuitive interface built with Service Portal.