

Project Design Phase-II Technology Stack (Architecture & Stack)

Date	02 November 2025
Team ID	NM2025TMID04717
Project Name	Educational Organisation using ServiceNow
Maximum Marks	4 Marks

Technical Architecture:

This project uses a low-code architecture powered by ServiceNow PDI (Personal Developer Instance). It includes:

Creation of custom tables for student admissions and academic progress,

Client-side automation via scripts,

Use of default ServiceNow components for workflows, forms, and UI.

The architecture is cloud-hosted, scalable, secure, and ideal for rapid educational workflow deployments.

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	Web UI where admin interacts with forms	ServiceNow Form UI, HTML/CSS
2.	Application Logic-1	Business logic for student admission process	Client Scripts in JavaScript
3.	Application Logic-2	Auto-fill, validations, dynamic updates	GlideForm (g_form) APIs, JS
4.	Application Logic-3	Result calculations and conditional logic	Client Scripts
5.	Database	Stores student, admission, and academic records.	ServiceNow Tables (MySQL-based)
6.	Cloud Database	Cloud-hosted internal DB through ServiceNow instance	Hosted on ServiceNow Cloud DB

7.	File Storage	File uploads or documentation if added in future	Not implemented (can extend)
8.	External API-1	Optional for integrating school data from third parties	(Future scope)
9.	External API-2	Optional for Aadhaar/OTP-based student verification	(Future scope)
10.	Machine Learning Model	Not applicable for current version	NA
11.	Infrastructure (Server / Cloud)	Cloud-hosted PDI provided by ServiceNow	ServiceNow Cloud Infrastructure

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Client-side scripts and Glide APIs used in ServiceNow environment	JavaScript (within ServiceNow)
2.	Security Implementations	Role-based access, record security, ACLs, and default ServiceNow IAM policies	RBAC, ServiceNow Security Model
3.	Scalable Architecture	Tables and modules can be extended; ServiceNow handles horizontal scaling	ServiceNow's scalable cloud infra
4.	Availability	Highly available via ServiceNow PDI (99.9% uptime), accessible through browser	ServiceNow Cloud
5.	Performance	Optimized with server-side processing and client scripts; designed for minimal latency	ServiceNow backend engine, caching mechanisms