

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

|               |   |
|---------------|---|
| Team ID       | NM2025TMID01180                           |
| Project Name  | Educational Organisation using ServiceNow |
| Maximum 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 |