

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

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| Date | 17 October 2025 |
| Team ID | NM2025TMID01723 |
| 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 |

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|-----|---------------------------------|---|---------------------------------|
| 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 |