

# Requirement Analysis Phase

## Technology Stack

### Template

#### Educational Organisation Management using ServiceNow

Date	31-10-2025
Team ID	NM2025TMID06510
Project Name	Educational Organisation Management using ServiceNow

#### Technology Stack – Educational Organisation Management System

The Technology Stack defines the **software, platforms, and tools** used to develop, deploy, and maintain the Education Management System. It ensures the solution is **robust, scalable, secure, and maintainable**.

The screenshot shows a ServiceNow interface for creating a new record. The title bar indicates 'Salesforce - Create SAL0001036'. The form contains the following fields:

Admin Number	SAL0001036	Fathers Name	
Admin Date		Mother Name	
Grade	-- None --	Father Cell	
Student Name		Mother Cell	

Below the form, there is a large empty area, likely a placeholder for a map or another form.

**Admission - Create SAL0001037**

**Students Progress - Create SAL0001038**

## 1. Platform Layer

- **ServiceNow Platform**
  - Provides core capabilities for workflow automation, database management, and reporting.
  - Hosts modules like Admissions, Academic Tracking, Workflow Automation, and Analytics.
  - Offers configurable forms, dashboards, and role-based access control.

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## 2. Front-End Layer

- **ServiceNow UI / Web Interface**
    - Intuitive dashboards and portals for students, teachers, and administrators.
    - Responsive design for desktop, tablet, and mobile devices.
    - Provides forms, notifications, and visual analytics.
  - **Optional Mobile Interface**
    - ServiceNow mobile app for remote access to workflows and dashboards.
    - Push notifications for alerts and updates.
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### **3. Back-End / Application Layer**

- **Workflow Engine**
    - Automates admissions, approvals, notifications, and interdepartmental processes.
  - **Scripting & Business Rules**
    - JavaScript-based scripts for validations, automation, and workflow logic.
  - **Integration Layer**
    - APIs for integration with external systems (finance, library, examination systems) if required.
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### **4. Database Layer**

- **ServiceNow Database (CMDB & Tables)**
    - Centralized storage for student, teacher, and administrative data.
    - Supports CRUD operations (Create, Read, Update, Delete).
    - Role-based access ensures data security and integrity.
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### **5. Analytics & Reporting Layer**

- **ServiceNow Performance Analytics & Dashboards**
  - Provides visual dashboards, KPI tracking, and customizable reports.

- Supports real-time insights for academic performance, attendance trends, and workflow efficiency.
  - **Export & Visualization Tools**
    - Charts, graphs, heatmaps, and exportable reports for management and audits.
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## 6. Security & Compliance

- **Role-Based Access Control (RBAC)**
    - Ensures students, teachers, and administrators access only permitted data and features.
  - **Data Encryption**
    - Encryption of data at rest and in transit.
  - **Audit Logging**
    - Tracks user activities, workflow approvals, and system changes for accountability.
  - **Compliance Standards**
    - Ensures adherence to institutional, regional, and legal requirements for student data management.
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## 7. Development & Testing Tools

- **ServiceNow Studio** – For module development, scripting, and workflow configuration.
  - **ServiceNow Automated Test Framework (ATF)** – For testing forms, workflows, and integrations.
  - **Version Control** – To manage scripts, configurations, and updates.
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## 8. Benefits of this Technology Stack

- **Scalable & Flexible:** Easily adapts to increasing users and future module additions.
- **Secure:** Role-based access, encryption, and audit logs protect sensitive data.

- **Integrated:** Centralized platform reduces fragmentation and streamlines operations.
- **User-Friendly:** Intuitive dashboards and mobile support improve adoption.
- **Data-Driven:** Analytics and reporting enable better decision-making and institutional planning.