

Project Design Phase-II

Technology Stack (Architecture & Stack)

Date	Team ID	Project Name	Maximum Marks
02 NOV 2025	NM2025TMID02905	EDUCATIONAL ORGANIZATION USING SERVICE NOW	4

Technical Architecture

The solution architecture for “*Prevent Course Deletion If Assigned to Active Students or Trainers*” within the educational organization’s ServiceNow platform is designed to ensure data integrity by verifying dependencies before permitting any course deletion.

This architecture leverages ServiceNow’s native modules, scripting logic, and cloud infrastructure to automate validation processes, maintain relational consistency, and provide secure administrative control.

Architectural Overview

The proposed architecture integrates various ServiceNow capabilities and system components to deliver a robust, automated validation workflow. It includes:

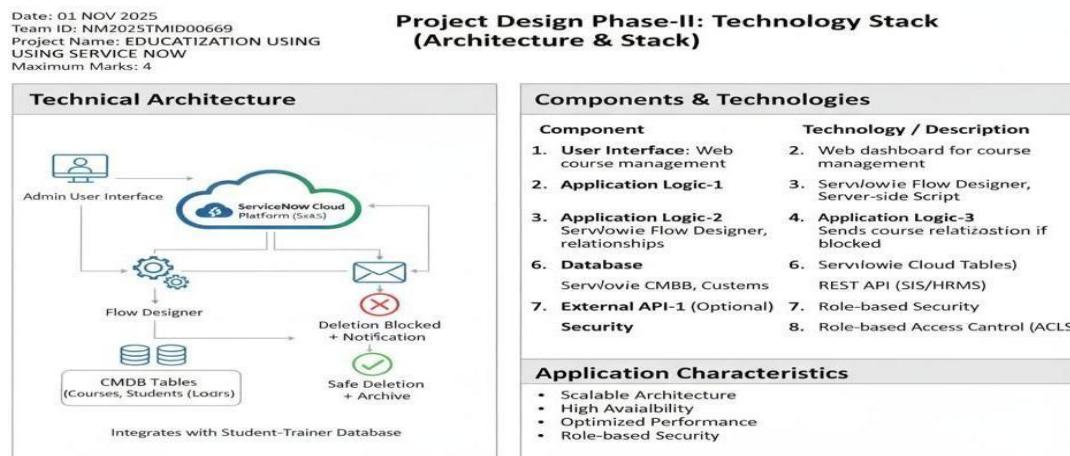
- **Process Validation:** Implemented through ServiceNow Flow Designer for efficient automation.
- **Database Integration:** Connection with the student-trainer database (CMDB tables) for dependency checks.
- **Notification Mechanism:** Alerts sent to academic coordinators when a deletion attempt is blocked.
- **Cloud-Based Hosting:** Deployed on ServiceNow’s scalable and secure SaaS cloud infrastructure.

Components & Technologies:

1. User Interface-Admin interacts through a web dashboard to manage

courses, students, and trainers.

2. Application Logic-1-Checks if a course is linked to any active student or trainer before allowing deletion. ServiceNow Flow Designer, Server-side Script
3. Application Logic-2-Validates course relationships from the student and trainer assignment tables.
4. Application Logic-3-Sends a notification or warning to the admin or academic coordinator if deletion is blocked.
5. Database Stores data about courses, students, trainers, and their associations.ServiceNow CMDB, Custom Course and Assignment Tables
6. Cloud Database-Managed automatically through ServiceNow's cloud environment.
7. File Storage Minimal use; system logs and audit trails stored internally for admin reference.
8. External API-1 (Optional)-Integration with Student Information System (SIS) or HRMS to verify user and course status.REST API in ServiceNow
9. External API-2-Not applicable in the current use case.
10. Machine Learning Model Not applicable for this use case.
11. Infrastructure (Server / Cloud)Fully hosted and managed on ServiceNow's secure cloud SaaS infrastructure. ServiceNow Cloud (SaaS)



Application Characteristics:

1. Open-Source Frameworks-Not applicable since ServiceNow is a proprietary low-code platform.
2. Security Implementations-Role-based access control ensures only authorized admins can manage or delete courses. ACLs, Scoped Applications
3. Scalable Architecture-SaaS-based ServiceNow architecture allows horizontal scalability as course and user data grow.
4. Availability The system is highly available with redundancy through ServiceNow's global data centers.
5. Performance-Optimized with asynchronous scripts, indexed tables, and efficient GlideRecord queries.