Project Design Phase
Technology Stack

Date	01 November 2025
Team ID	NM2025TMID01508
Project Name	Optimizing User, Group and Role Management with Access Control and Workflows
Maximum Marks	4 Marks

Technical Architecture Overview

This project leverages the ServiceNow Cloud Platform to create a secure, role-based project management environment.
The architecture integrates User Management, ACL Security, and Flow Designer Workflows to automate approvals, task tracking, and access control. Users interact through the ServiceNow web interface, with all processes and data managed on the ServiceNow SaaS infrastructure.

Table 1 – Components & Technologies:

S.No	Component	Description	Technology
1	User Interface	Interface through which Project Manager (Alice) and Team Member (Bob) access the system.	ServiceNow Web UI
2	Application Logic – 1	Handles user, group, and role management.	ServiceNow User Administration
3	Application Logic – 2	Configures Access Control Lists (ACLs) for data and field-level security.	ServiceNow ACL Configuration
4	Application Logic – 3	Automates task creation, approval, and completion processes.	ServiceNow Flow Designer
5	Database	Stores users, tasks, roles, and project records.	ServiceNow CMDB, User Tables
6	Cloud Database	Managed and maintained by ServiceNow cloud infrastructure.	ServiceNow Cloud Database
7	File Storage	Internal system logs and configuration files.	ServiceNow System Logs
8	External API – 1	Integrates with LDAP for centralized user synchronization.	REST API (ServiceNow Integration)

9	External API – 2	Not applicable for current version.	—
10	Machine Learning Model	No ML component used in this phase.	—
11	Infrastructure (Server / Cloud)	Hosted securely on the ServiceNow SaaS platform.	ServiceNow Cloud (SaaS)

Table 2 – Application Characteristics:

S.No	Characteristics	Description	Technology
1	Open-Source Frameworks	Not applicable (ServiceNow is proprietary).	—
2	Security Implementations	Implements role-based permissions, ACLs, and field-level security.	ServiceNow ACLs, Role Permissions
3	Scalable Architecture	SaaS-based platform allows horizontal scalability.	ServiceNow Cloud Architecture
4	Availability	High availability via ServiceNow's load-balanced cloud instances.	ServiceNow Cloud Hosting
5	Performance	Optimized workflows and background scripts ensure high performance.	Flow Designer, Scripted Automation