

# Project Design Phase – II

## Technology Stack (Architecture & Stack)

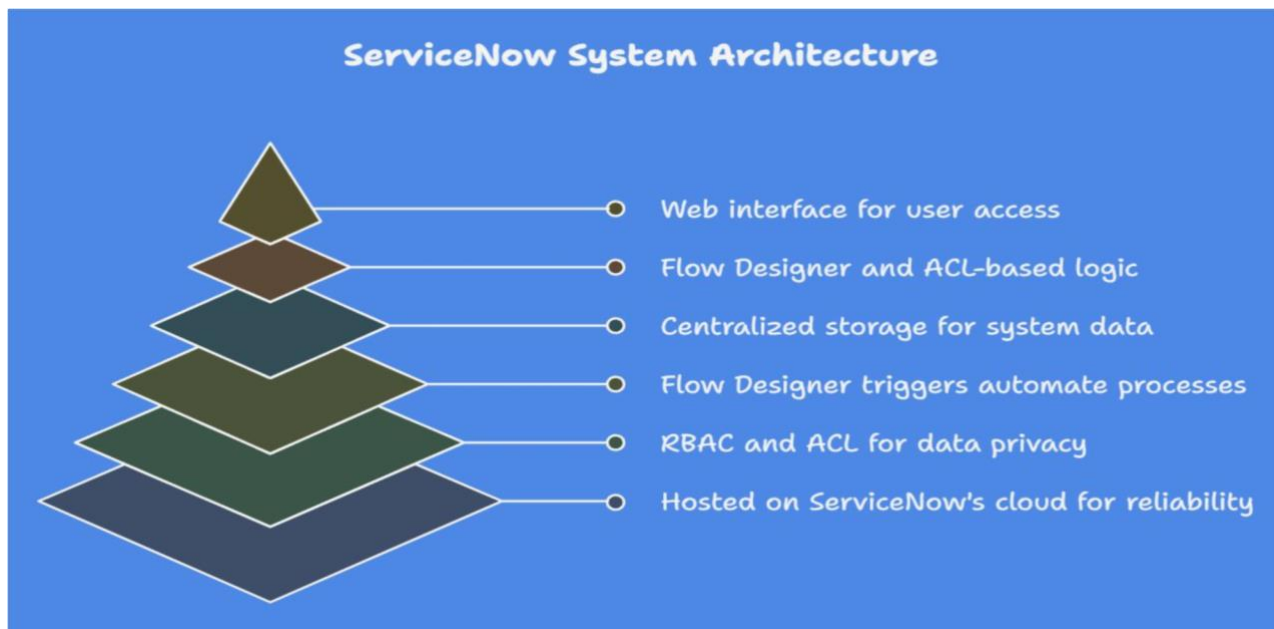
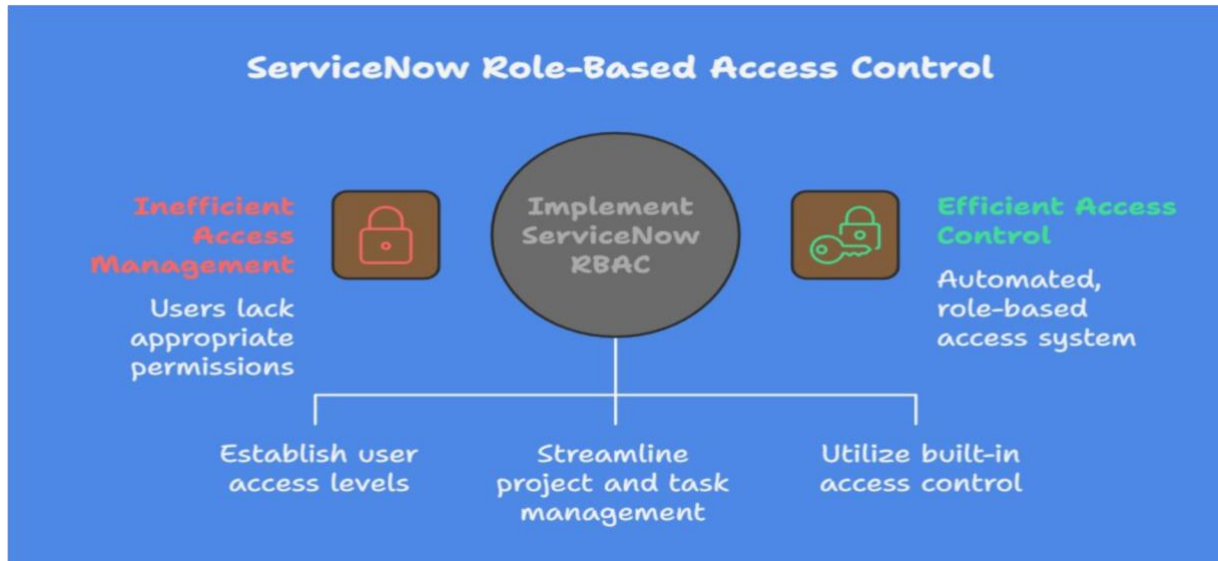
**Date:** 01 November 2025

**Team ID:** NM2025TMID03400

**Project Name:** Optimizing User, Group, and Role Management with Access Control and Workflows

**Maximum Marks:** 4 Marks

**Technical Architecture:**



S.No	Characteristics	Description	Technology
1.	<b>Open-Source Frameworks</b>	Not applicable since ServiceNow is a proprietary platform.	—
2.	<b>Security Implementations</b>	Role-based access control and ACL rules protect data from unauthorized access.	ACLs, Scoped Applications
3.	<b>Scalable Architecture</b>	ServiceNow's SaaS architecture supports horizontal scalability for multiple users and roles.	ServiceNow Cloud Architecture
4.	<b>Availability</b>	Highly available and managed by ServiceNow's global cloud infrastructure.	Load-balanced Cloud Instances

5.	<b>Performance</b>	Optimized through background scripts, indexed tables, and asynchronous workflow execution.	GlideRecord, Flow Designer
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**Table 1: Components & Technologies**

S.No	Component	Description	Technology
1.	<b>User Interface</b>	Users and administrators interact via the ServiceNow Web Dashboard for creating users, groups, and managing workflows.	ServiceNow Web UI
2.	<b>Application Logic - 1</b>	Handles user, group, and role creation with proper mapping for access control.	ServiceNow System Security Modules
3.	<b>Application Logic - 2</b>	Implements workflow logic for task assignment and approval using Flow Designer.	ServiceNow Flow Designer
4.	<b>Application Logic - 3</b>	Enforces access control through ACLs and role validation for project and task tables.	ServiceNow ACLs, Script Includes
5.	<b>Database</b>	Stores user, group, role, and task data securely within ServiceNow tables.	ServiceNow Database Tables
6.	<b>Cloud Database</b>	Managed and hosted by ServiceNow's cloud infrastructure ensuring high reliability.	ServiceNow Cloud Backend
7.	<b>File Storage</b>	Used for maintaining logs, configuration, and audit records within the platform.	ServiceNow System Logs
8.	<b>External API - 1 (Optional)</b>	Could integrate with HRMS or project tools for user synchronization.	ServiceNow REST API Integration
9.	<b>External API - 2</b>	Not applicable for current project scope.	—
10.	<b>Machine Learning Model</b>	Not applicable for this project.	—
11.	<b>Infrastructure (Server / Cloud)</b>	Fully hosted and managed on ServiceNow's SaaS cloud platform.	ServiceNow Cloud (SaaS)

**Table 2: Application Characteristics**