

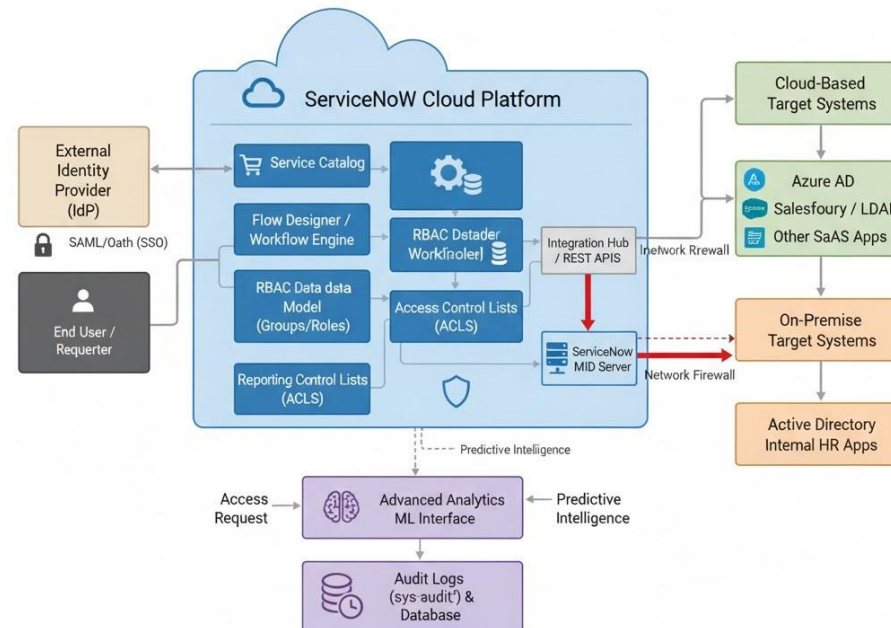
## Project Design Phase-II Technology Stack (Architecture & Stack)

Date	1 NOVEMBER 2025
Team ID	NM2025TMID00309
Project Name	Optimizing User, Group, and Role Management with Access Control and Workflows
Maximum Marks	4 Marks

### Technical Architecture:

The technical architecture for "Optimizing User, Group, and Role Management with Access Control and Workflows" is built upon the robust and extensible ServiceNow Platform. It integrates various modules and functionalities to deliver a seamless, secure, and automated access provisioning and governance solution.

### Technical Architecture: Optimized & Role Management with Access Control & Workflows



**Table-1: Components & Technologies:  
Optimizing User , Group, & Role Management with Access Control  
& Workflows**

	S.No.		Description	Technology
1	<b>User Interface</b>	End-users request access, admins manage via Web dashboard in ServiceNow.	ServiceNow Catalog / UI	
2	<b>Application Logic-1</b>	Orchestrate multi-level approval flow, task	ServiceNow Catalog / UI	
3	<b>Application Logic-2</b>	Automates user provisioning: adds user and notifications.	Task creation, dynamic role assignment	
3	<b>Application Logic-3</b>			
4		Enforces access rules (e.g., SoD checks) before deprovisioning roles.	Integration Hub	
5		before provisioning.		
5	<b>Data Model</b>	ServiceNow Business Rules / Script Includes	ServiceNow ServiceNow backend	
6	<b>Cloud Database</b>	Stores users, groups, roles, requests	and approval Rules	
7	<b>File Storage</b>	ServiceNow Access Control Tables	ServiceNow Cloud Database	
8		ServiceNow Cloud Database	SAML / OAuth 2.0	
9	<b>External API-1</b> (for SSO)	Managed by ServiceNow backend infrastructure.	Integration with Identity SSO)	
9	<b>External API-2</b>	Integration with corporate in target apps (just system logs / Attachments)	e.g., (e.ID, Azure AD SAP),	

**Table-2: Application Characteristics:  
Optimizing User, Group, & Role Management with Access Control & Workflows**

S.No	Characterisus	Description	Description
1.	Open-Source Frameworks	Not applicable (ServiceNow is proprietary)	-
2.	Security Implementations	Role-based access control (RBAC), Access Control	ACLs, Scoper ACLS, secure scripts
3.	Scalable Architecture	SaaS-based access control (Segregation of Duties (SOD) checks)	ServiceNow Cloud Architecture
4.	Availability	Highly available with ServiceNow cloud hosting	Load-balanced ServiceNow Instances
5.	Performance	Highly available with ServiceNoud hosting, Load-balblent Cluxed queries	GlideRecord, Background Scripts
6.	Integration Capabilities	Optimized via asynchronous flows, indeses tables and efficient GlideRecord queriys	GlideRecord, identlity providers (IIPs)