

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

Date	1 Nov 2025
TeamID	NM2025TMID07955
ProjectName	Optimizing User Group and Role Management with Access Control and Workflows.
Maximum Marks	4Marks

The deliverable includes the technical architecture diagrams and corresponding documentation as outlined in Table 1 and Table 2 below. These materials illustrate how the processes of user, group, and role management are automated, validated, and secured within the ServiceNow platform.

Example: *Optimizing User Group and Role Management using Workflows and Access Controls in ServiceNow* — this example demonstrates the integration of automated workflows, ACL enforcement, and approval mechanisms to ensure secure, efficient, and policy-compliant access management.

Guidelines

- Include all **processes** involved in role and group management as application logic blocks (Flow Designer, ACLs, Scripts).
- Show **ServiceNow SaaS** as the main infrastructure layer (cloud-hosted).
- Indicate any **external integrations** such as HR or Identity Management systems (optional).
- Specify **data storage components** like `sys_user`, `sys_user_group`, and `sys_user_role` tables.
- Indicate **workflow interfaces** where approvals, validations, and notifications occur.
- No machine learning model is used in the current version.

Table-1:Components&Technologies:

S.No	Component	Description	Technology
1.	UserInterface	Admin interacts through the Service Now Web UI to manage users, groups, and roles.	ServiceNow Web UI
2.	Application Logic-1	Automates role and group assignments using approval workflows.	ServiceNow Flow Designer,Script
3.	ApplicationLogic-2	Validates access and role conditions before update or deletion.	Glide Record in ServerScript
4.	ApplicationLogic-3	Sends notifications for approvals, denials, or blocked access changes.	ServiceNow Notifications
5.	Database	Stores user, group, and role details in system tables.	ServiceNow CMDB,IncidentTables
6.	Cloud Database	Managed securely under ServiceNow's SaaS infrastructure.	ServiceNow Cloud Database
7.	FileStorage	Stores audit logs and workflow history.	ServiceNow systemlogs
8.	ExternalAPI-1	Can connect to HR or Identity systems for auto-provisioning.	RESTAPIin ServiceNow
9.	ExternalAPI-2	Not applicable for current version.	-
10.	MachineLearningModel	Not applicable for current use case.	-
11.	Infrastructure(Server/Cloud)	Hosted and managed on the ServiceNow SaaS platform.	ServiceNowCloud (SaaS)

Table-2:Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Not applicable(ServiceNow is proprietary)	-
2.	Security Implementations	Uses ACLs, scoped apps, and secure scripts to enforce role-based access.	ACLs, Scoped Applications
3.	Scalable Architecture	SaaS-based design that scales easily with large user and role data.	ServiceNow Cloud Architecture
4.	Availability	Always available through ServiceNow's managed cloud hosting.	Load-balanced ServiceNow Instances
5.	Performance	Fast execution using Flow Designer, async jobs, and optimized GlideRecord queries.	Flow Designer, GlideRecord