

Project Design Phase

Solution Architecture

Date: 02 November 2025

Team ID: NM2025TMID00814

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

Maximum Marks: 4 Marks

Goal of the Architecture:

- To improve efficiency in managing users, groups, and roles within the ServiceNow platform.
- To implement secure and dynamic access control policies that ensure data confidentiality and integrity.
- To automate workflows for user access provisioning, role assignment, and approval processes.
- To reduce manual administrative work and lower the risk of human errors in access management.
- To ensure compliance, accountability, and transparency in all user-related operations.

Key Components:

- **User Management Module:**
Manages user creation, modification, and removal processes while ensuring correct user identification and consistent data management.
- **Group Management System:**
Organizes users into teams or departments, allowing for structured collaboration and effective role-based access control.
- **Role-Based Access Control (RBAC):**
Defines and assigns permissions based on specific roles to maintain secure, rule-based access to project resources.
- **Workflow Automation Engine:**
Uses ServiceNow's **Flow Designer** to automate task assignments, approvals, and notifications for smoother project operations.
- **Access Control Layer (ACLs):**
Sets detailed data access restrictions at both record and field levels based on user roles and privileges.
- **Audit and Compliance Module:**
Monitors and records all user activities, role changes, and access requests to ensure transparency and compliance with company policies and regulations.

Development Phase:

- Define and configure the user, group, and role hierarchy within the ServiceNow environment.

- Set up **Access Control Lists (ACLs)** to limit data visibility and modification based on user and group roles.
- Create automated workflows using **Flow Designer** for task approvals and dynamic role assignments.
- Perform thorough testing of scenarios such as user onboarding, role modification, and access revocation.
- Integrate **audit trail and reporting features** to monitor activities and validate compliance.

Solution Architecture Description:

- The proposed Solution Architecture offers a secure, scalable, and automated framework for managing users, roles, and workflows within the ServiceNow platform.
- By combining Role-Based Access Control (RBAC) with workflow automation, the system centralizes user management and dynamically assigns permissions based on group memberships and designated roles.
- The Workflow Engine (Flow Designer) streamlines critical operations like approvals, task updates, and completion tracking, which reduces manual work, improves efficiency, and supports compliance with company policies.
- To enhance governance, an Audit and Compliance Layer continuously records all access activities and workflow events. This provides real-time visibility into user actions and system changes, ensuring full accountability and preventing unauthorized operations.
- Overall, the architecture improves data security, reduces administrative workload, and fosters operational transparency. It meets modern enterprise standards for identity and access management, ensuring reliability, scalability, and efficiency throughout the entire project lifecycle.

