Project Design Phase

Solution Architecture

Date	05 November 2025
Team ID	NM2025TMID09142
Project Name	Optimizing User, Group, and Role Management with Access Control and Workflows
Maximum Marks	4 Marks

Solution Architecture:

Goals of the Architecture:

- Optimize and streamline user, group, and role management within the ServiceNow platform.
- Strengthen security and maintain data integrity using Access Control Lists (ACLs).
- Automate workflows for efficient role assignments, approvals, and access provisioning.
- Enhance accountability, minimize manual errors, and improve overall workflow visibility.

Key Components:

- Users Table: Stores user profiles and information (e.g., Alice, Bob).
- Groups Table: Organizes users into functional or project-based teams.
- Roles Table: Defines specific access privileges and responsibilities.
- Access Control List (ACL): Enforces data-level security to control read, write, and update permissions.
- Project and Task Tables: Custom tables created for tracking project-related operations and assignments.
- Flow Designer: Used to design and automate workflows for approvals, notifications, and task updates.

Development Phases:

1. User Setup: Create user profiles (e.g., Alice as Project Manager, Bob as Team Member).

2. Group Configuration: Form project-specific groups and assign members accordingly.

3. Role Definition: Define hierarchical roles such as Project Manager, Project Lead, and Team Member.

4. Access Management: Configure ACLs for secure data access at the table and field levels.

5. Custom Table Development: Build and test the Project and Task tables for structured data tracking.

6. Workflow Automation: Use Flow Designer to automate approval processes and task status updates.

7. Testing & Optimization: Validate workflow logic, ensure security compliance, and refine configurations for better performance.

Solution Architecture Description:

The proposed solution architecture focuses on optimizing user, group, and role management within ServiceNow by integrating automation and access control mechanisms. It establishes a clearly defined structure for managing users and their roles while maintaining strict security and efficiency standards. Within this architecture, users such as Alice (Project Manager) and Bob (Team Member) are systematically organized under defined groups and assigned specific roles. Access Control Lists (ACLs) are implemented to protect sensitive data within the Project and Task tables, ensuring that only authorized users can perform actions like creating, updating, or viewing records.

The Flow Designer plays a central role in automating workflows. For instance, when Bob updates a task to “In Progress,” an automated approval is triggered for Alice to review. Once approved, the task status automatically updates to “Completed.” This process enforces accountability, eliminates manual follow-ups, and ensures transparent communication between team members.

Overall, this solution architecture provides a secure, efficient, and scalable framework for managing users, roles, and permissions in ServiceNow. It enhances operational efficiency, reduces administrative workload, and ensures robust compliance with access control policies—achieving the core goal of

optimizing user, group, and role management through automation and workflow integration.

Example – Solution Architecture Diagram: