Project Design Phase

Solution Architecture

Date	31 October 2025
Team ID	26F183223D3726BBDE54BD8DC6085AFC
Project Name	Optimizing User, Group, and Role Management with Access Control and Workflows
Maximum Mark	2 Marks

Solution Architecture:

Goals of the Architecture:

- To automate task management using Flow Designer.

- To ensure role-based access control for users and groups.

- To improve workflow efficiency and reduce manual task assignments.

- To maintain system integrity and accountability within project teams.

Key Components:

- sys_user table: Stores user information.

- sys_user_group table: Defines groups and members.

- sys_user_role table: Assigns roles and permissions to users.

- Flow Designer: Automates workflows for task approvals.

- Task Table: Tracks and manages assigned tasks.

Development Phases:

- Create Users and Groups – Define users and group them by roles (e.g., Developer, Tester, Admin).

- Assign Roles – Use the sys_user_role table to assign access permissions.

- Design Workflow – Create a Flow in ServiceNow Flow Designer to manage task updates and approvals.

- Trigger Events – Configure triggers for task status changes (e.g., "In Progress" → "Completed").

- Approval Process – Automatically notify approver (e.g., Project Manager) for verification.

- Testing & Validation – Use impersonation to test workflows and verify automated updates.

Solution Architecture Description:

The proposed solution implements automated role-based workflows within the ServiceNow platform. It integrates user, group, and role management to ensure that only authorized users can modify or approve project tasks. The architecture uses Flow Designer to automate task updates, status transitions, and approval processes. Each user is mapped to a specific role that determines their level of access. When a task is updated or completed, the Flow Designer trigger automatically routes it for approval. This architecture minimizes manual intervention, enhances transparency, and ensures proper access control for all project members. The system's modular structure allows easy scalability — new users, roles, and workflows can be added without affecting existing data integrity.