

# Project Design Phase

## Solution Architecture

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| Date          | 01 November 2025   |
| Team ID       | NM2025TMID01508  |
| Project Name  | Optimizing User, Group and Role Management with Access Control and Workflows |
| Maximum Marks | 4 Marks  |

### Goals of the Architecture

- Implement structured user, group, and role management in ServiceNow.
- Ensure field-level security using Access Control Lists (ACLs).
- Automate task creation, updates, and approvals with Flow Designer.
- Establish accountability through defined roles and access workflows.

### Key Components

1. **User Management:** Create users (Alice – Project Manager, Bob – Team Member).
2. **Group & Role Configuration:** Define project team groups and roles such as *Project Member* and *Team Member*.
3. **Access Control Lists (ACLs):** Control access to task and project tables at the field level (e.g., status, comments).
4. **Flow Designer Automation:** Build workflows for task approval and completion.
5. **Testing and Validation:** Use impersonation to validate user permissions and ensure secure access flow.

### Development Phases

1. Create and configure **users, groups, and roles**.
2. Assign users to their respective groups and apply **role permissions**.
3. Create **Access Control Lists** for project and task tables.
4. Design a **Flow Designer workflow** that triggers approval when a task's status is updated.
5. Perform **testing through impersonation** to confirm role-based access and workflow functionality.

### Solution Architecture Description

The architecture establishes a **secure and automated project management environment** within ServiceNow.

It defines structured roles for users — the **Project Manager (Alice)** and **Team Member (Bob)** — and applies **Access Control Lists** to ensure only authorized users can view or modify specific data fields.

Through **Flow Designer**, task updates automatically trigger approval requests to the manager. Once approved, the task status updates to *Completed*. This design guarantees clear accountability, minimizes manual intervention, and ensures data integrity throughout the workflow.

The architecture effectively integrates **user management**, **access control**, and **workflow automation**, resulting in an efficient, secure, and collaborative project management system.

## System Elements

- **User Tables:** Alice (Project Manager), Bob (Team Member)
- **Group and Role Definitions:** Project Team, Project Member, Team Member
- **Access Control Lists (ACLs):** Field-level access restrictions
- **Flow Designer Workflow:** Task creation, approval, and completion automation
- **Task Tables:** Include task name, assigned user, status, and comments

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