

Project Design Phase Solution Architecture

Date	02 Nov 2025
Team ID	NM2025TMID04960
Project Name	Optimizing User, Group, and Role Management with Access Control and Workflows
Maximum Marks	4 Marks

Solution Architecture

Workflow for Role-Based Access Control and Task Management

1. User Identification and Role Assignment

- Each user is identified and assigned a specific role during onboarding (e.g., *Project Manager*, *Team Member*).
- These roles define their permissions, visibility, and control over tasks and data within the system.

2. Task Creation and Allocation

- The *Project Manager* creates new tasks and assigns them to team members based on their skills, availability, and role.
- Tasks include key attributes like **priority**, **due date**, and **required skill set** to ensure proper workload distribution.

3. Access Control Implementation

- Role-based access control (RBAC) is enforced to limit access according to user privileges.
- Admin rights remain with the *Project Manager*, ensuring only authorized users can modify or view sensitive information.
- Team Members can only view or update tasks assigned specifically to them.

4. Task Execution and Status Updates

- Team Members perform assigned tasks and update their progress (e.g., *In Progress*, *Completed*, *Blocked*).
- Each update automatically triggers notifications to stakeholders, maintaining real-time transparency.

5. Review and Feedback

- The *Project Manager* reviews completed tasks, verifies quality, and provides feedback or approvals.
- This review cycle establishes a continuous improvement mechanism for process efficiency and learning.

6. Reporting and Documentation

- The system automatically generates detailed reports summarizing task performance, completion rate, and user productivity.

- These reports help identify potential bottlenecks and serve as references for future planning and accountability.

Example - Solution Architecture Diagram:

Figure 1: Architecture and data flow of the with Access Control and Workflows Optimizing User, Group, and Role Management

