

Project Design Phase

Solution Architecture

Date	31 October 2025
Team ID	NM2025TMID06082
Project Name	Optimizing user, group and role management with access control and workflow
Maximum Marks	4 Marks

Solution Architecture:

Goals of the Architecture:

- To centralize and automate user, group, and role management processes.
- To ensure secure and consistent access control through defined policies.
- To enhance operational efficiency by reducing manual tasks and errors.
- To maintain compliance with organizational and regulatory standards.
- To provide scalability for future growth and system integrations.

Key Components:

- **User Directory:** Centralized database for storing user identities and attributes.
- **Role-Based Access Control (RBAC):** Framework defining permissions based on user roles.
- **Workflow Engine:** Automates approval, onboarding, and access modification processes.
- **Policy Management Module:** Defines and enforces access rules and compliance policies.
- **Audit and Reporting System:** Tracks user activities, access logs, and compliance status.
- **Integration Layer:** Connects with HR, IT, and third-party systems for seamless data flow.

Development Phases:

- **Phase 1**

Requirement Analysis: Identify access needs, user roles, and compliance requirements.

- **Phase 2**

Architecture Design: Define data models, workflows, and access control structure.

- **Phase 3**

Implementation: Develop and integrate user, role, and workflow modules.

- **Phase 4**

Testing and Validation: Perform functional, security, and performance testing.

- **Phase 5**

Deployment and Monitoring: Deploy system, monitor access patterns, and optimize performance.

Solution Architecture Description:

The solution architecture integrates user, group, and role management with automated access control and workflows to enhance security and efficiency. It uses centralized user directories, role-based access control (RBAC), and workflow engines for seamless onboarding, approvals, and access governance. This architecture ensures compliance, reduces manual effort, and provides scalable, secure identity management across the organization.