

Project Design Phase-II

Data Flow Diagram & User Stories

| | |
|----------------------|---|
| Date | 29 October 2025 |
| Team ID | NM2025TMID06552 |
| Project Name | Optimizing User, Group, and Role Management with Access Control and Workflows |
| Maximum Marks | 4 Marks |

Data Flow Diagrams (DFD)

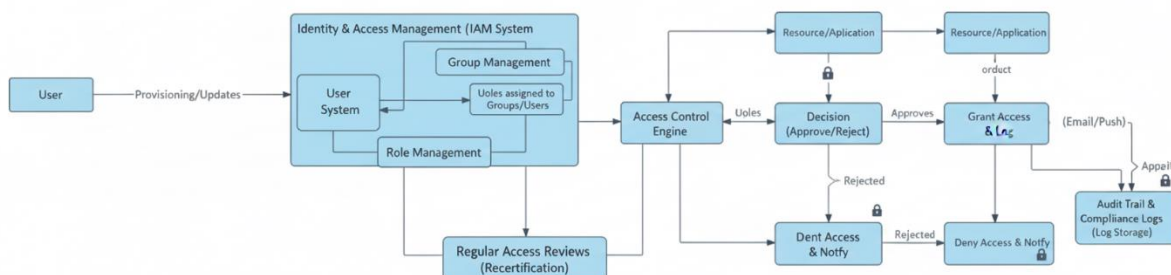
- A **Data Flow Diagram (DFD)** visually represents how data moves through the **User, Group, and Role Management System**.
- It demonstrates how user requests are validated, approved through workflows, and executed securely using **access control policies**.
- This ensures data consistency, prevents unauthorized changes, and maintains complete audit tracking.

DFD Summary

The DFD emphasizes **automation, validation, and accountability** in user management.

It ensures every access update passes through a **secure workflow** and all activities are fully logged, reducing manual errors and ensuring compliance.

Optimizing User, Group, and Role Management with Access Control and Workflows



User Stories

User Stories capture the **functional expectations** of users and administrators. They describe how each component of the system behaves within the context of workflow automation and access control enforcement.

| User Type | Functional Requirement (Epic) | User Story Number | User Story / Task | Acceptance Criteria | Priority | Release |
|--------------------|-------------------------------|-------------------|--|--|----------|----------|
| Administrator | User Management | USN-1 | As an admin, I want to create and modify users, assign roles, and manage group memberships through an approval-based workflow. | The system must validate inputs, ensure dependency checks, and trigger workflows for approvals before changes apply. | High | Sprint-1 |
| System | Access Validation | USN-2 | As a system, I must validate user, role, and group dependencies before any modification or deletion. | The system should block updates that violate access control rules or dependency checks. | High | Sprint-1 |
| Manager / Approver | Workflow Approval | USN-3 | As an approver, I want to review and approve user or role modification requests routed through workflow automation. | The system should send approval notifications, log actions, and update access after validation. | High | Sprint-2 |
| Security Auditor | Audit and Logging | USN-4 | As an auditor, I want to review logs of all user and role activities for compliance purposes. | Every user, group, or role change must generate an audit record with time, user ID, and action details. | Medium | Sprint-3 |
| User | Notification | USN-5 | As a user, I want to be notified when my access level or group membership changes. | The system must send automated notifications upon access modification. | Medium | Sprint-3 |