

## Project Design Phase-II

### Data Flow Diagram & User Stories

Date	01 Nov 2025
Team ID	NM2025TMID05127
Project Name	Optimizing User, Group, and Role Management with Access Control and Workflows
Maximum Marks	4 Marks

Certainly, Sirisha! Here's a tailored description of a **Data Flow Diagram (DFD)** for your project on **Role-Based Access Control and Workflow Management**:

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#### **Data Flow Diagram (DFD) – Project Overview**

The Data Flow Diagram for this project visually represents how data moves through the system, emphasizing user roles, task management, and access control. It illustrates the flow of information between users (e.g., Project Manager and Team Members), the processes they initiate, and how data is stored or modified within the application.

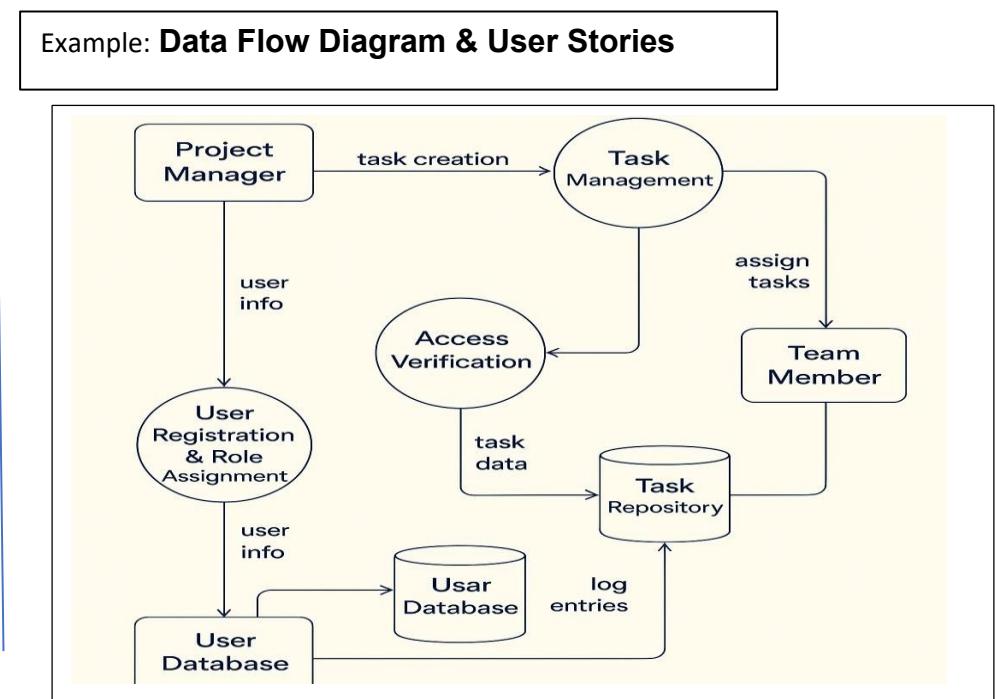
#### **Key Elements of the DFD:**

- **External Entities:**
  - *Project Manager* and *Team Members* serve as external actors who interact with the system by creating tasks, assigning roles, and updating statuses.
- **Processes:**
  - *User Registration & Role Assignment*: Assigns roles upon registration and updates access rights.
  - *Task Management*: Allows creation, assignment, and status updates of tasks.
  - *Access Verification*: Validates user actions based on assigned roles and permissions.
  - *Progress Reporting*: Generates performance reports and task summaries.
- **Data Stores:**
  - *User Database*: Stores user credentials, roles, and permissions.

- *Task Repository*: Holds all task-related information, including assignments and updates.
  - *Audit Logs*: Tracks changes in roles, permissions, and task statuses.
  - **Data Flows:**
    - Data flows between users and processes, showing how a request (e.g., login, task update) travels through access validation before being stored or reflected in reports.

This DFD provides a clear visual summary of your system's logic and data movement. If you'd like, I can help sketch it out or convert it into a presentation slide for easier sharing.

## Example: (Simplified)



Project Overview: Role-Based Access Control System							
Module	System Components		System Functionality		Deployment & Monitoring		
	Frontend	Backend	User Authentication	Role Management	Cloud Integration	Logs & Metrics	Monitoring Tools
Identity	Angular UI	Node.js API	SAML/OAuth2	RBAC	AWS Lambda	CloudWatch Metrics	CloudWatch Metrics
Access Control	React UI	Java Spring Boot API	OpenID Connect	Least Privilege	Amazon RDS	Amazon CloudWatch Metrics	Amazon CloudWatch Metrics
Task Management	React Native UI	Python Flask API	SSO	Role-based	Amazon Aurora	Amazon CloudWatch Metrics	Amazon CloudWatch Metrics
Reporting	React UI	Node.js API	OpenID Connect	Performance Metrics	Amazon Redshift	Amazon CloudWatch Metrics	Amazon CloudWatch Metrics
Logs & Metrics	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Monitoring	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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## User Stories for Role-Based Access Control System

User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance Criteria	Priority	Release
Administrator	User & Role Management	USN-1	As an admin, I can define and assign roles (e.g., Project Manager, Team Member).	Roles are assigned during user onboarding and stored in the system.	High	Sprint-1
Administrator	Access Control	USN-2	As an admin, I can configure access levels based on user roles.	Users see only content and features relevant to their role.	High	Sprint-1
Project Manager	Task Assignment	USN-3	As a PM, I can create and assign tasks to users based on their roles.	Tasks are assigned and visible only to relevant users.	High	Sprint-1
Team Member	Task Management	USN-4	As a team member, I can view, update, and mark tasks as completed.	Task status can be modified and tracked by the PM.	Medium	Sprint-2
Project Manager	Status Notifications	USN-5	As a PM, I receive notifications when a task is updated.	Notification is triggered on task status change.	Medium	Sprint-2
Project Manager/Admin	Reporting & Analytics	USN-6	As a user, I can generate reports on project progress and user activity.	Reports display task metrics, user performance, and project timelines.	Medium	Sprint-2
Administrator	Role Update & Audit Log	USN-7	As an admin, I can modify user roles and view change history.	Updated roles are reflected immediately with change logs recorded.	Low	Sprint-3

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