Project Design Phase-II

Technology Stack (Architecture & Stack)

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

Technical architecture:

The Deliverable shall include the architectural diagram as below and the information as per the table 1 & table 2
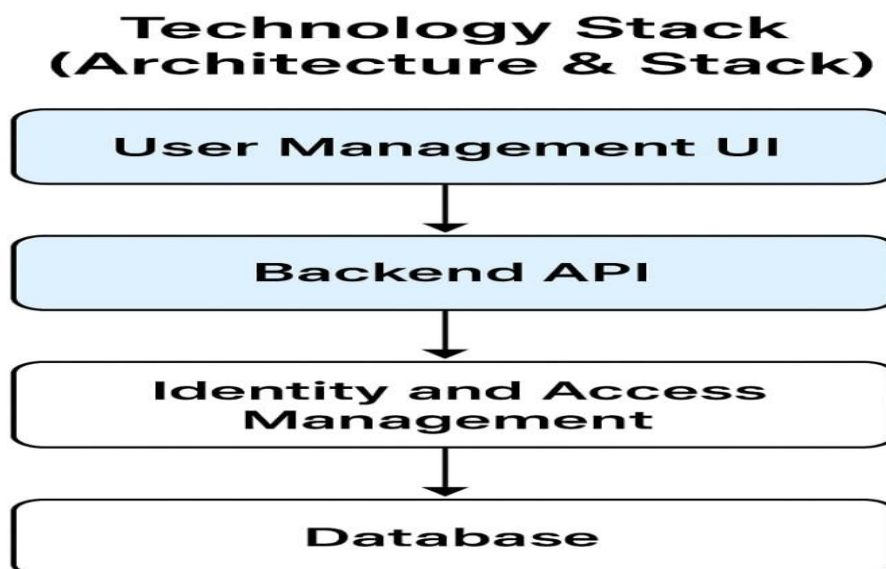
Example:

Table 1: Components & Technologies

S.NO	Components	Description	Technology
1	User Interface	Admins and users interact through a secure web dashboard to manage users, groups, and roles.	ServiceNow Web UI / Portal
2	Application Logic-1	Handles role-based access validation and permission checks.	ServiceNow Flow Designer, Script Includes
3	Application Logic-2	Automates workflow approvals for user and group assignments.	ServiceNow Workflow / Flow Designer
4	Application Logic-3	Sends automated notifications for access requests or changes.	ServiceNow Notification Engine
5	Database	Stores user, group, and role records with access mappings.	ServiceNow Tables (CMDB / User Table / Role Table)
6	Cloud Database	Manages scalable storage of user and access data.	ServiceNow Cloud Database
7	File Storage	Maintains audit logs and exportable reports.	ServiceNow System Logs / Attachments
8	External API-1	Integrates with HRMS or LDAP for user synchronization.	ServiceNow REST API / MID Server
9	External API-2	Connects with third-party identity management or SSO systems.	ServiceNow IntegrationHub Spokes
10	Machine Learning Model	(Optional) Identifies unusual access patterns or role misuse.	ServiceNow Predictive Intelligence / AI Search

Table-2: Application Characteristics

S.No	Characteristics	Description	Technology
1	Open-Source Frameworks	Not applicable, as ServiceNow is a proprietary platform.	-
2	Security Implementations	Implements robust role-based access control, ACLs, and secure scripting to manage user permissions safely.	ACLs, Scoped Applications
3	Scalable Architecture	SaaS-based and horizontally scalable using ServiceNow's multi-instance cloud infrastructure.	ServiceNow Cloud Architecture
4	Availability	Highly available and fault-tolerant with redundant load-balanced instances.	Load-Balanced ServiceNow Instances
5	Performance	Optimized through asynchronous workflows, background scripts, and indexed data tables.	GlideRecord, Background Scripts