

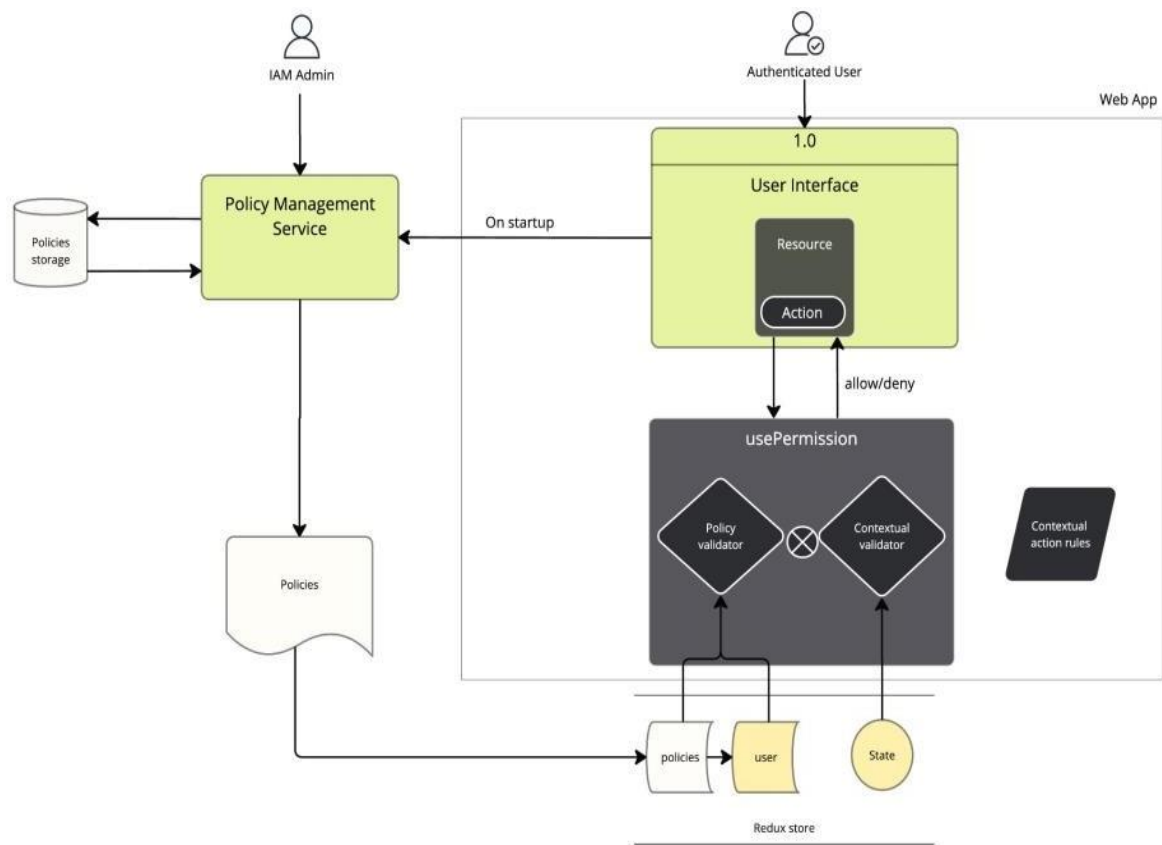
## Project Design Phase-II Technology Stack (Architecture & Stack)

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

### Technical Architecture:

This project is designed to **streamline and secure the management of users, groups, roles, and permissions** within an enterprise environment. It integrates **access control** and **workflow automation** to ensure that all role assignments, user modifications, and access requests are handled in a **controlled, auditable, and automated** manner.

### Example:



Attribute-based Access Control Workflow

## Components & Technologies:

S.No	Component	Description	Technology (ServiceNow)
1	User Interface	Interface for administrators to manage users, groups, and roles	ServiceNow Web UI (Forms, Lists, Dashboards)
2	Application Logic	Manages workflows, business logic, and access control	Flow Designer, Business Rules, Script Includes
3	Role-Based Access	Defines access permissions and visibility based on assigned roles	ACLs, RBAC (Role and Group Management)
4	Workflow Engine	Automates approval workflows for access and role assignments	Flow Designer, Workflow Editor (Legacy)
5	Data Storage	Stores user, group, role, and workflow-related records	ServiceNow CMDB, sys_user, sys_user_grmember tables
6	Authentication Service	Handles secure login and integration with external identity providers	SSO (SAML, OAuth 2.0), Multi-Factor Authentication
7	Integration Layer	Syncs data with external applications such as HRIS or Active Directory	IntegrationHub, REST API, MID Server
8	Notification System	Sends alerts for workflow updates and role changes	ServiceNow Notifications, Email, SMS APIs
9	Audit Logging	Maintains change history and audit records for compliance	System Logs, Audit Tables
10	Hosting & Deployment	SaaS-based cloud deployment managed entirely by ServiceNow	ServiceNow Cloud (PaaS/SaaS)

### Application Characteristics:

S.No	Characteristic	Description	Technology (ServiceNow)
1	No-Code/Low-Code Support	Enables rapid development of workflows and automation without heavy coding	Flow Designer, UI Policies, UI Actions
2	Security & Compliance	Ensures data protection with built-in access control and compliance tools	ACL Security, Contextual Security, GRC
3	Scalability	Scales automatically with growing enterprise requirements	ServiceNow Cloud
4	High Availability	Provides redundancy and consistent uptime across distributed cloud instances	SaaS Multi-instance Architecture, ServiceNow Cloud Infrastructure
5	Performance Optimization	Handles enterprise-scale datasets efficiently with asynchronous processing and caching	GlideRecord, Query Optimization, Caching
6	Maintainability	Simplified maintenance using modular configuration and reusable scripts	Scoped Apps, Update Sets
7	Integration Ready	Easily connects with both internal and external systems	IntegrationHub, REST/SOAP APIs
8	Auditability	Tracks all changes with native audit logging and version control	Audit History, System Log Tables
9	Mobile Support	Allows access and approvals via mobile for on-the-go management	ServiceNow Mobile App