Requirement Analysis

Technology Stack Template

Date	1 NOV 2025
Team ID	NM2025TMID00759
Project Name	Optimizing User, Group, and Role Management with Access Control and Workflows
Maximum marks	4 marks

Technology Stack – Requirements Analysis Phase:

To implement the solution for optimizing user, role, and group administration along with ACL management in ServiceNow, the following technology stack is proposed. These choices are based on functionality, compatibility, security, and ease of integration within the ServiceNow environment.

1. Platform:

ServiceNow: The core platform for developing and managing users, roles, groups, and ACLs. Provides modules for user administration, access control, reporting, and automation.

2. Programming & Scripting:

JavaScript: Used for client-side and server-side scripting within ServiceNow for business rules, workflows, and automation.

Glide API: ServiceNow-specific API for accessing and manipulating data tables, roles, and user records.

Flow Designer: Low-code tool in ServiceNow for designing process flows and automating tasks.

3. Database:

ServiceNow CMDB / Data Tables: Built-in relational tables to store users, roles, groups, ACLs, and audit logs. Supports queries, reporting, and relationships.

4. Reporting & Analytics:

ServiceNow Reports & Dashboards: For generating real-time and historical reports on user activity, role assignments, group memberships, and access events.

5. Security:

Access Control Rules (ACLs): Define role-based and group-based access restrictions on modules, records, and fields.

Authentication & SSO: Integration with corporate identity providers for secure login.

6. Development & Collaboration Tools:

ServiceNow Studio: IDE for developing scripts, applications, and modules within ServiceNow.

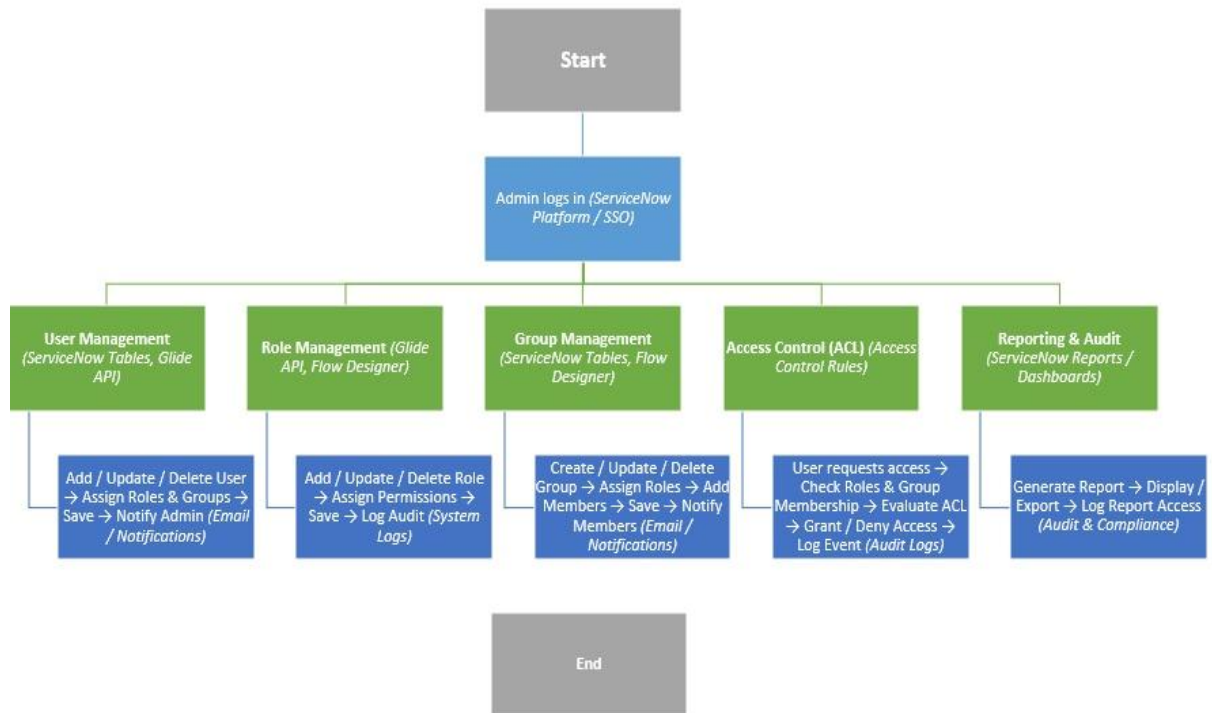Version Control / Documentation Tools: Git or internal versioning for script and workflow tracking; MS Word / PDF for documentation.

7. Optional / Supporting Tools:

Email / Notifications: ServiceNow email notifications for admins and users regarding changes or access events.

Audit & Logging: ServiceNow system logs for tracking changes, access events, and compliance reporting.

Flow Chart:

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                        ┌──────────────┐
                        │    Start     │
                        └──────┬───────┘
                               │
                   ┌───────────────────────┐
                   │ Admin logs in (ServiceNow │
                   │     Platform / SSO)    │
                   └───────────┬───────────┘
```

User Management (ServiceNow Tables, Glide API)	Role Management (Glide API, Flow Designer)	Group Management (ServiceNow Tables, Flow Designer)	Access Control (ACL) (Access Control Rules)	Reporting & Audit (ServiceNow Reports / Dashboards)
Add / Update / Delete User → Assign Roles & Groups → Save → Notify Admin (Email / Notifications)	Add / Update / Delete Role → Assign Permissions → Save → Log Audit (System Logs)	Create / Update / Delete Group → Assign Roles → Add Members → Save → Notify Members (Email / Notifications)	User requests access → Check Roles & Group Membership → Evaluate ACL → Grant / Deny Access → Log Event (Audit Logs)	Generate Report → Display / Export → Log Report Access (Audit & Compliance)

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                        ┌──────────────┐
                        │     End      │
                        └──────────────┘
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Summary:

The proposed technology stack leverages native ServiceNow tools for development, data management, and reporting, with scripting and automation using JavaScript and Glide APIs. ACLs and reporting modules ensure security, compliance, and administrative efficiency, while optional tools support notifications and audit tracking.