

Project Title:

Optimizing User, Group, and Role Management through Access Control and Workflow Automation

Problem Statement:

In a project management setup involving a Project Manager (Alice) and a Team Member (Bob), inefficiencies occur due to the lack of well-defined roles, secure access control, and automated workflows. This results in confusion in task assignments, difficulty in tracking task progress, and reduced overall productivity and transparency.

Objective:

To develop a custom ServiceNow application that implements role-based access control (RBAC), automates workflow processes, and provides real-time insights into task progress through interactive dashboards and analytical reports.

Project Overview:

This project utilizes ServiceNow's capabilities to design a comprehensive task management system that includes the following features:

- Defines users, groups, and specific roles.
- Restricts system access based on user roles.
- Automates task updates and workflow actions.
- Provides analytical dashboards and visual reports.
- Creates a custom scoped application for centralized task management.

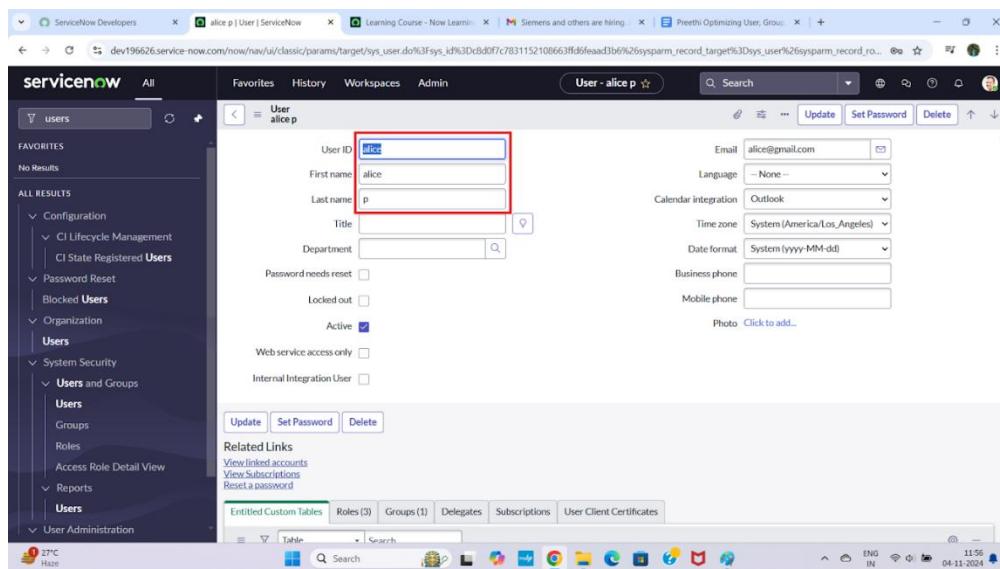
Detailed Breakdown:

1. User, Group, and Role Creation

What it does: Establishes user identities and assigns specific access permissions.

How it works:

- Users such as Alice (Project Manager) and Bob (Team Member) were created.
- Groups were categorized based on roles: Project Managers and Team Members.
- Custom roles including project_manager, team_member, and admin were defined.
- These roles were assigned to users and linked to their respective groups, forming the base for access control implementation.



2. Custom Scoped Application: Project Task Tracker

What it does: Provides a centralized application for managing project tasks efficiently.

How it works:

- A scoped application named Project Task Tracker was developed.
- A custom table, *Project Task, was created with fields such as *Task Name, Description, Status, Assigned To, Due Date, and Created By.
- This table functions as the primary database for storing and managing all task-related data.

3. Role-Based Access Control (ACLs)

What it does: Controls create, read, update, and delete permissions for users based on their assigned roles.

How it works:

- Access Control Rules (ACLs) were configured for the *Project Task* table.
- Project Managers are permitted to create, update, and delete any task.
- Team Members can only read and update tasks assigned to them.
- Role restrictions were applied using “Requires Role” and Condition Builder.

The screenshot shows a list of access control entries in ServiceNow. The columns are: Name, Decision Type, Operation, Type, Active, Updated by, and Updated. The rows include various task-related tables like u_task_table, u_task_table_2, and u_task_table_2_u_assigned_to, along with specific fields such as u_task_table.u_assigned_to, u_task_table.due_date, u_task_table.u_task_id, and u_task_table.u_task_name. The row for u_task_table.u_assigned_to is highlighted with a red box.

Name	Decision Type	Operation	Type	Active	Updated by	Updated
u_leave_request	Allow If	delete	record	true	admin	2024-10-22 02:27:59
u_leave_request	Allow If	create	record	true	admin	2024-10-22 02:27:59
u_task_table	Allow If	read	record	true	admin	2024-10-22 04:21:28
u_task_table	Allow If	write	record	true	admin	2024-10-22 04:20:15
u_task_table.u_assigned_to	Allow If	write	record	true	admin	2024-10-22 04:33:53
u_task_table.due_date	Allow If	write	record	true	admin	2024-10-22 04:33:14
u_task_table.u_task_id	Allow If	write	record	true	admin	2024-10-22 04:27:47
u_task_table.u_task_name	Allow If	write	record	true	admin	2024-10-22 04:31:14
u_task_table_2	Allow If	write	record	true	admin	2024-10-22 21:05:07
u_task_table_2	Allow If	read	record	true	admin	2024-10-22 21:26:57
u_task_table_2	Allow If	read	record	true	admin	2024-10-22 21:05:07
u_task_table_2	Allow If	write	record	true	admin	2024-10-22 21:28:27
u_task_table_2	Allow If	create	record	true	admin	2024-10-22 21:05:06
u_task_table_2	Allow If	delete	record	true	admin	2024-10-22 21:05:07
u_task_table_2.u_assigned_to	Allow If	write	record	true	admin	Activate Windows 2024-10-22 21:31:20

4. Application Navigation

What it does: Enables users to quickly access task-related modules.

How it works:

- A custom Application Menu titled Project Task Tracker was created.
- A module named All Tasks was added under this menu.
- The module links to a list view displaying all project tasks.
- Role restrictions ensure that only authorized users can access the module.

5. Workflow Automation Using Flow Designer

What it does: Minimizes manual intervention by automating task status updates and progress tracking.

How it works:

- A flow was designed using **ServiceNow Flow Designer**.
- **Trigger:** When a record in the Project Task table is updated.
- **Condition:** The Assigned To field is not empty.
- **Action:** Automatically changes the Status field to In Progress.
- This ensures that whenever a task is assigned, its progress is accurately tracked in real-time.

6. Dashboard & Reporting with Platform Analytics

What it does: Provides data visualization for better task monitoring and performance analysis.

How it works:

Several analytical reports were created, including:

- Pivot Table grouped by Task Name
- Pie Chart grouped by Status (New, In Progress, Completed)
- Pie Chart grouped by Assigned Users
- All reports were integrated into a single dashboard.
- This dashboard allows project managers and team members to easily track task distribution and workload.

Outcome:

- Enhanced task visibility and accountability.
- Controlled and secure access based on defined user roles.
- Automated workflows reducing manual efforts.
- Real-time tracking of task distribution and progress.

Why This is Useful:

- Keeps project managers and team members well-organized.
- Prevents unauthorized task modifications.
- Promotes better collaboration and transparency.
- Enables scalable project tracking with measurable metrics.

Conclusion:

This ServiceNow-based solution showcases how effective configuration of user roles, access controls, and workflow automation can transform traditional task management into a secure, efficient, and transparent system. Teams or individuals can use this framework as a reference to build or enhance their own role-based project management applications.