

OPTIMIZING USER, GROUP, AND ROLE MANAGEMENT WITH ACCESS CONTROL AND WORKFLOWS

SERVICE NOW

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ST.JOSEPH'S COLLEGE (ARTS & SCIENCE) INDEX

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INTRODUCTION

In the collaborative environment of a small project management team, effective task management is paramount to achieving project goals. A common challenge, however, is the lack of a structured system for defining who can do what, leading to confusion, inefficiency, and a lack of accountability. This problem is particularly evident in our scenario involving a two-person team: Project Manager Alice and Team Member Bob. The absence of clear role

definitions, access controls, and a standardized workflow means that tasks may be poorly assigned, progress is difficult to track, and final project outcomes are at risk. This document outlines a solution to this problem by implementing a robust framework for user, group, and role management, coupled with a systematic approach to access control and a defined task workflow. The goal is to create a transparent, efficient, and accountable system that empowers both team members to fulfill their specific responsibilities without confusion or overlap, ensuring projects are completed on time and within scope.

PROBLEM STATEMENT

In a small project management team consisting of a

Project Manager (Alice) and a Team Member (Bob), there is a need to efficiently manage project tasks and ensure accountability

throughout the project lifecycle.

The current system lacks clear role definitions, access controls, and a structured workflow, leading to confusion regarding task assignments and progress tracking.

SOLUTION

To optimize user, group, and role management with access control and workflows for the project management team, a Role-Based Access Control (RBAC) model with a defined Task Management Workflow should be implemented. This approach ensures that users (Alice and Bob) have specific permissions based on their roles, and all tasks follow a clear, sequential process.

PRACTICAL USE

- Clarity: Alice knows she is the sole owner of project setup and final approval, while Bob knows his responsibility is to execute and update his assigned tasks.
- Accountability: Each task's history shows who made the last update and when, providing a clear audit trail.
- Efficiency: The structured workflow eliminates guesswork.

Bob knows exactly what to do with a task at each stage, and Alice can quickly see what's ready for her review.

KNOWLEDGE GAINED

By implementing this system, the team gains a deeper understanding of Role-Based Access Control (RBAC) and workflow management. They learn that:

- RBAC isn't just about security; it's a powerful tool for defining responsibilities and clarifying roles.
- A well-defined workflow is essential for standardizing processes and ensuring consistency, even in a small team.
- Technology solutions (like project management software) are most effective when they are configured to support an organization's specific roles and processes, not just used out of the box.

MILESTONE 1: CREATE USERS

Go to the official ServiceNow Developer portal: <https://developer.servicenow.com> and create a developer account.

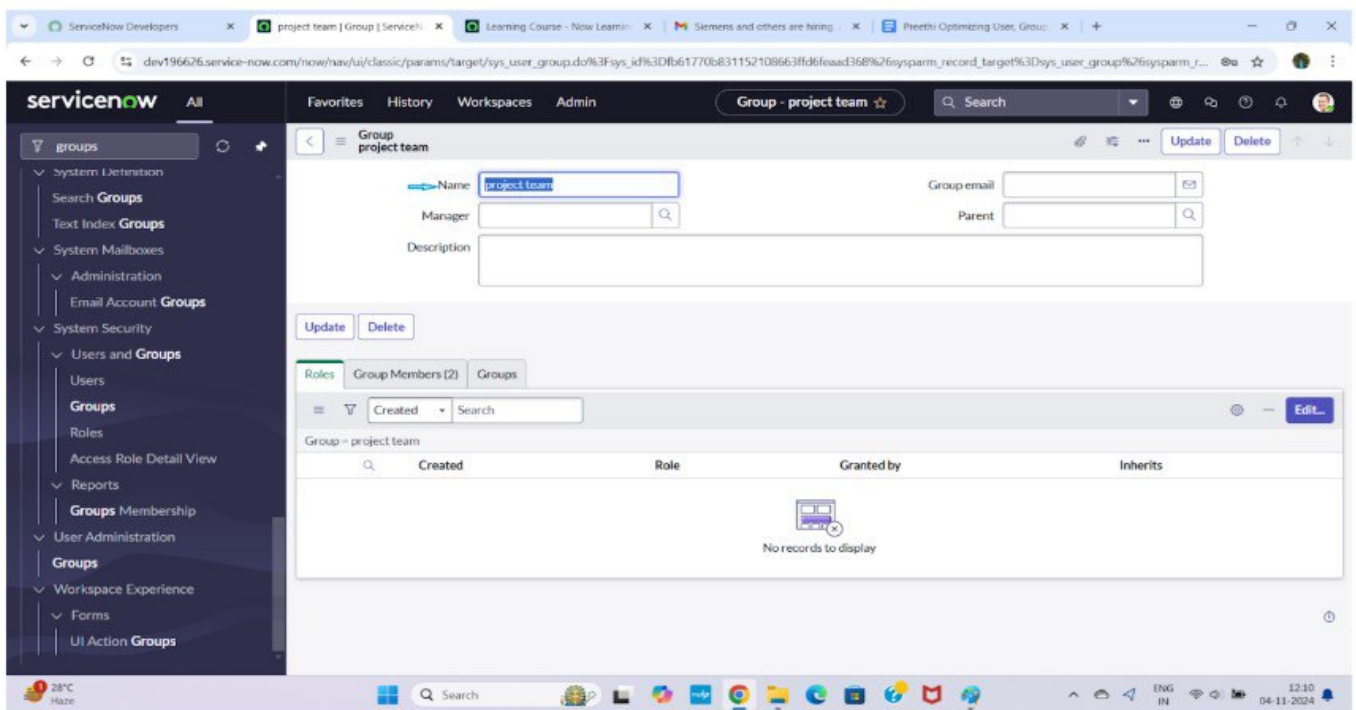
- Open service now
- Click on All >> search for users
- Select Users under system security
- Click on new
- Fill the following details to create a new user
- Click on submit

The screenshot shows the ServiceNow User Administration interface. The left sidebar contains a navigation menu with categories like Configuration, Lifecycle Management, Password Reset, Organization, Users, System Security, and User Administration. The main area displays the 'User - alice p' form. The 'User ID' field is highlighted with a red box and contains the text 'alice'. Other fields include 'First name' (alice), 'Last name' (p), 'Title', 'Department', 'Email' (alice@gmail.com), 'Language' (None), 'Calendar integration' (Outlook), 'Time zone' (System (America/Los Angeles)), 'Date format' (System (yyyy-MM-dd)), 'Business phone', and 'Mobile phone'. There are checkboxes for 'Password needs reset', 'Locked out', 'Active' (checked), 'Web service access only', and 'Internal Integration User'. At the bottom, there are buttons for 'Update', 'Set Password', and 'Delete', along with 'Related Links' and a 'Table' section.

MILSTONE 2: CREATE GROUPS

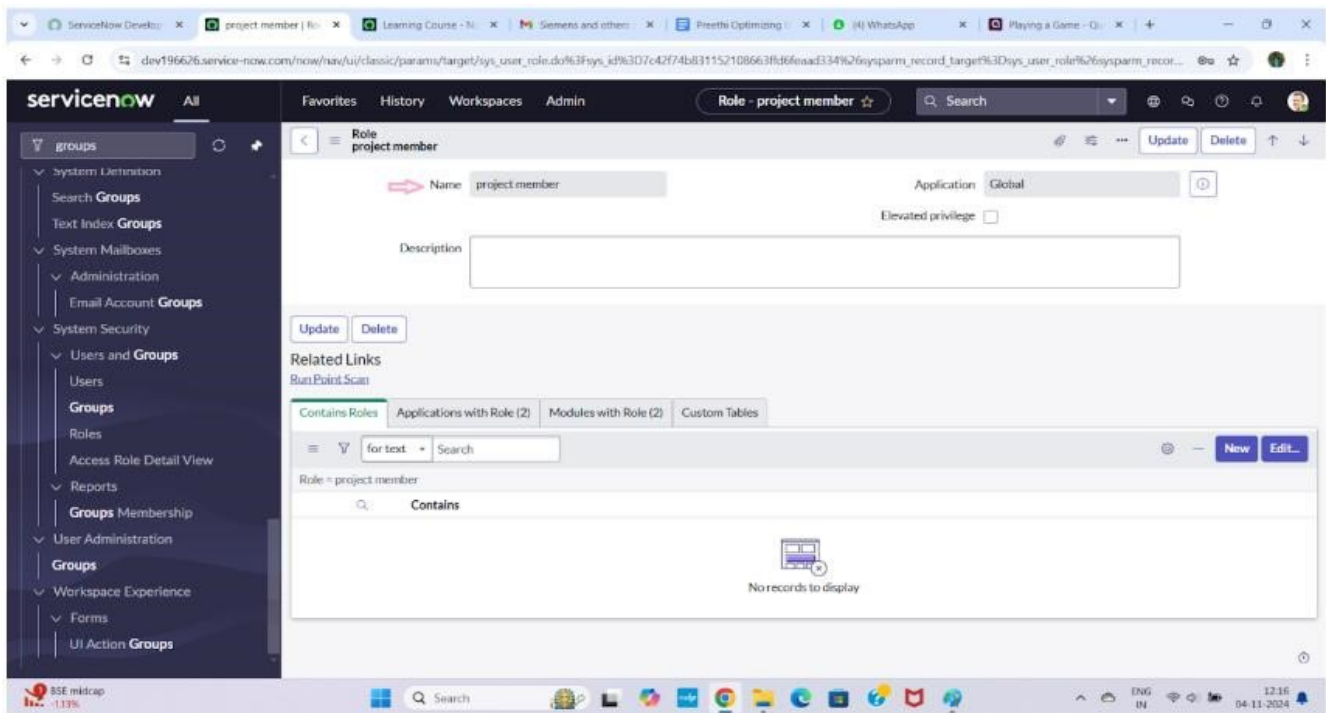
Log in to your ServiceNow instance and go to the Application Navigator.

- Open service now.
- Click on All >> search for groups
- Select groups under system security
- Click on new
- Fill the following details to create a new group
- Click on submit



MILSTONE 3: CREATE ROLES

- Open service now.
- Click on All >> search for roles
- Select roles under system security
- Click on new
- Fill the following details to create a new role
- Click on submit



MILSTONE 4: CREATION OF TABLE

- Open service now.
- Click on All >> search for tables
- Select tables under system definition
- Click on new
- Fill the following details to create a new table
 - Label : project table
 - Check the boxes Create module & Create mobile module
- Under new menu name : project table
- Under table columns give the columns

Table - New Record

* Name:

Extends table:

Create module: ☒

Create mobile module: ☒

Add module to menu:

New menu name:

Columns | Controls | Application Access

Table Columns: for text | Search

| Dictionary Entries | Column label | Type | Reference | Max length | Default value | Display |
|---|-----------------|---------|-----------|------------|---------------|---------|
| <input type="checkbox"/> <input type="checkbox"/> | project id | Integer | | | | false |
| <input type="checkbox"/> <input type="checkbox"/> | project name | String | | | | false |
| <input type="checkbox"/> <input type="checkbox"/> | project manager | String | | | | false |
| <input type="checkbox"/> <input type="checkbox"/> | start date | Date | | | | false |
| <input type="checkbox"/> <input type="checkbox"/> | end date | Date | | | | false |
| <input type="checkbox"/> <input type="checkbox"/> | status | Choice | | | | false |
| <input type="checkbox"/> <input type="checkbox"/> | description | String | | | | false |

Activate Windows
Go to Settings to activate Windows.

MILSTONE 5: ASSIGNED USERS TO GROUPS

Assign users to project team group

- Open service now.
- Click on All >> search for groups
- Select tables under system definition
- Select the project team group
- Under group members
- Click on edit
- Select alice p and bob p and save

ServiceNow Dev... project team | Learning Course | Siemens and ot | FreeH Optima | WhatsApp | Summary - Quo | Playing a Game

dev196626.service-now.com/now/nav/ui/classic/params/target/sys_user_group.do%3Fsys_id%3Dfb61770b61152108663ffdf6ead368%26sysparm_record_target%3Dsys_user_group%26sysparm_r...

servicenow

All

Favorites History Workspaces Admin

Group - project team

Search

groups

FAVORITES

No Results

ALL RESULTS

- Activity Subscriptions
- Configuration
- Activity Groups
- Business Calendar
- Business Calendar Groups
- Dynamic Schema
- Dynamic Attribute Groups
- Employee Center
- Action Framework
- Action Groups
- Now Experience Framework
- Declarative Actions
- Form Action Layout Groups
- List Action Groups
- Platform Analytics Administrat...
- Indicators

Name: project team

Group email:

Manager:

Parent:

Description:

Update Delete

Roles: Group Members (2) Groups

User Search

Actions on selected rows... New Edit...

Group - project team

| User |
|---------|
| Bob p |
| alice p |

1 to 2 of 2

ASSIGNED A ROLES TO USERS

- Open Servicenow.Click On All >> Search For User
- Select Tables Under System Definition
- Select The Project Manager User
- Under Project Manager
- Click On Edit
- Select Project Member And Save
- Click On Edit Add Project Table Role
- Click On Save And Update The Form

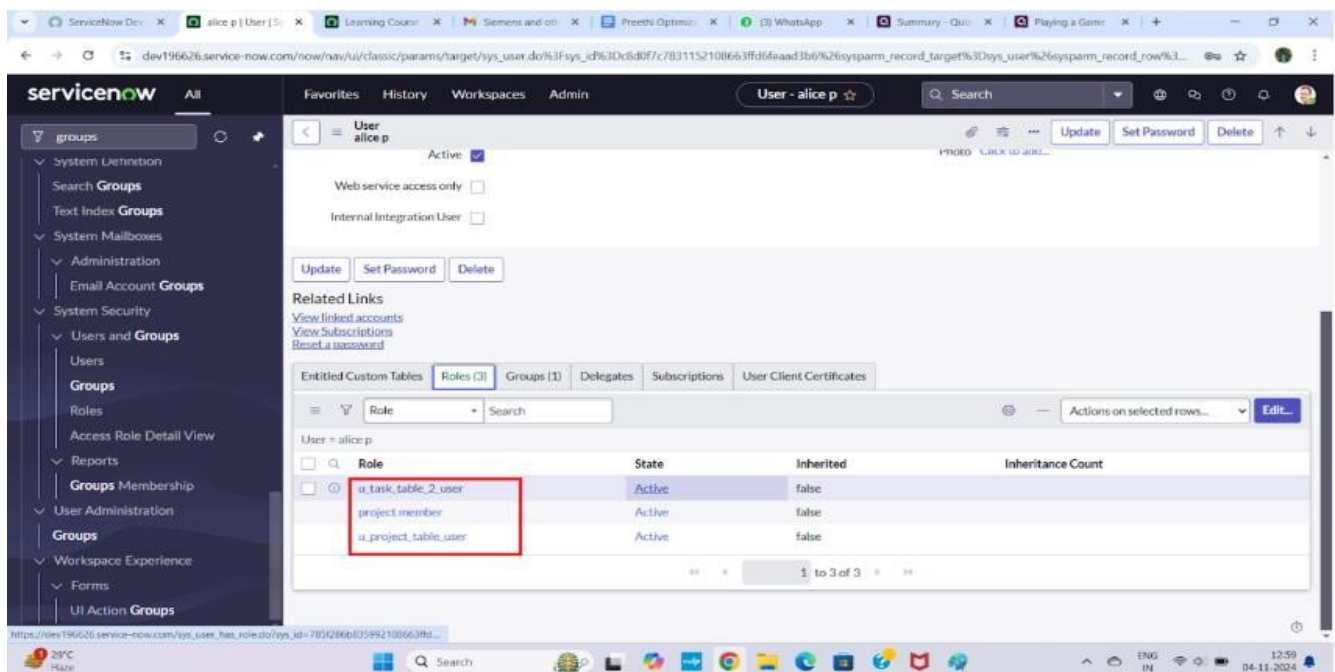


TABLE ACCESS TO APPLICATION

- while creating a table it automatically create a application and module for that table
- Go to application navigator search for search project table application
- Click on edit module
- Give project member roles to that application • Search for task table2 and click on edit application.
- Give the project member and team member role for task table 2 application

The top screenshot shows the 'Application Menu - task table 2' configuration page. It includes a 'Roles' field with the value 'u_task_table_2_user, project member, team member' and a 'Category' field with the value 'Custom Applications'. The 'Active' checkbox is checked. The bottom screenshot shows the 'Application Menu - project table' configuration page. It includes a 'Title' field with the value 'project table', an 'Application' field with the value 'Global', and a 'Roles' field with the value 'project member'. The 'Active' checkbox is checked. Both screenshots include fields for 'Hint' and 'Description', and 'Update' and 'Delete' buttons.

CREATION OF ACCESS CONTROL LIST

- Open service now.
- Click on All >> search for ACL
- Select Access Control(ACL) under system security
- Click on elevate role
- Click on new
- Fill the following details to create a new ACL

Warning: A role, security attribute, data condition, or script is required to properly secure access with this ACL.

* Type: record

* Operation: write

Decision Type: Allow If

Application: Global

Active: ☒

Advanced: ☐

Admin overrides: ☒

Protection policy: -- None --

* Name: task table 2 [u_task_table_2] status

Description:

Applies To: No. of records matching the condition: 1

Add Filter Condition Add "OR" Clause

-- choose field -- -- oper -- -- value --

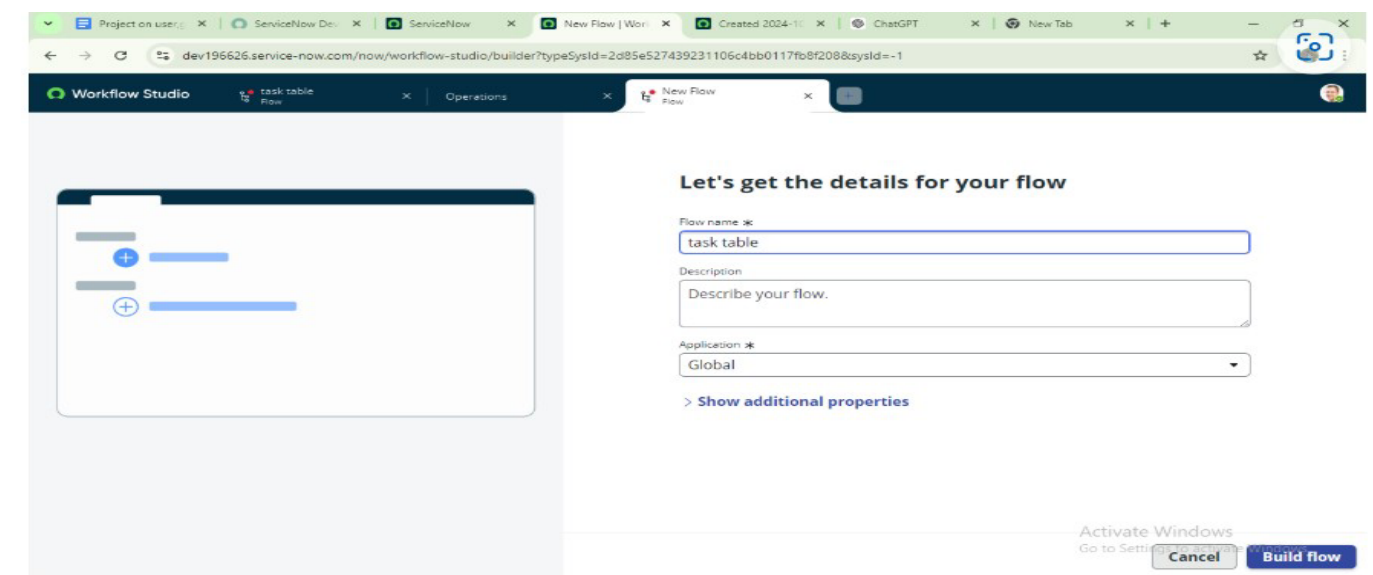
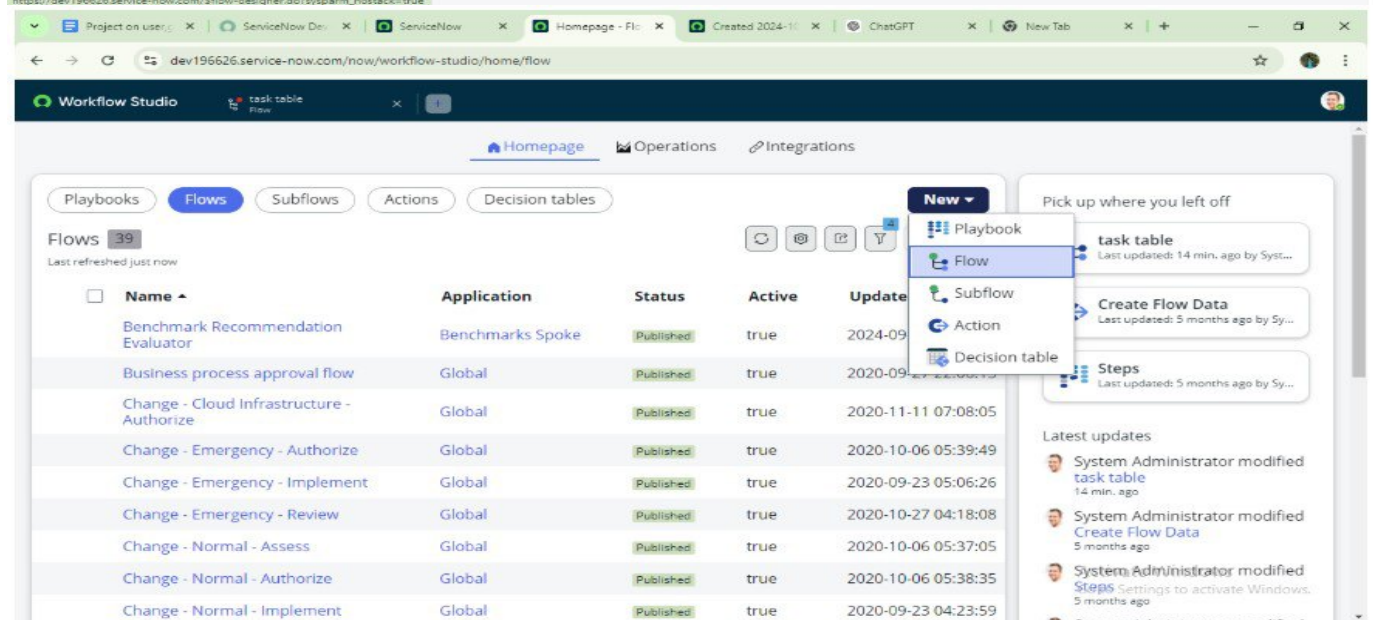
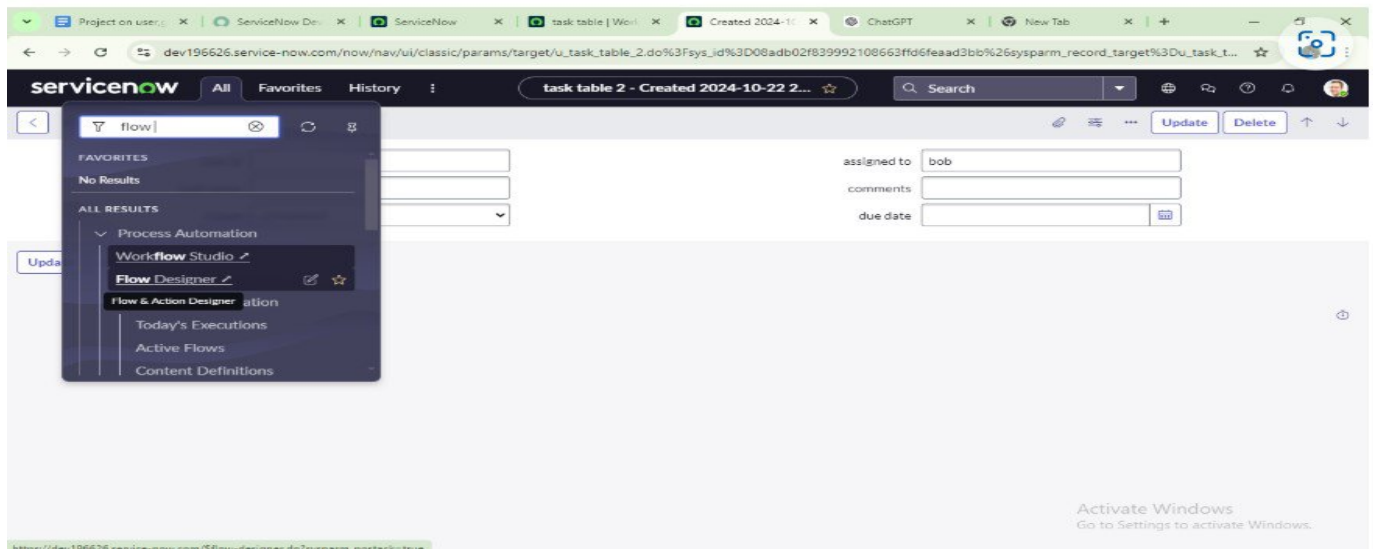
- Scroll down under requires role
- Double click on insert a new row
- Give task table and team member role
- Click on submit
- Similarly create 4 acl for the following fields

| 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_u_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 | 2024-10-22 21:31:20 |

- Click on profile on top right side
- Click on impersonate user
- Select bob user
- Go to all and select task table2 in the application menu bar
- Comment and status fields are have the edit access

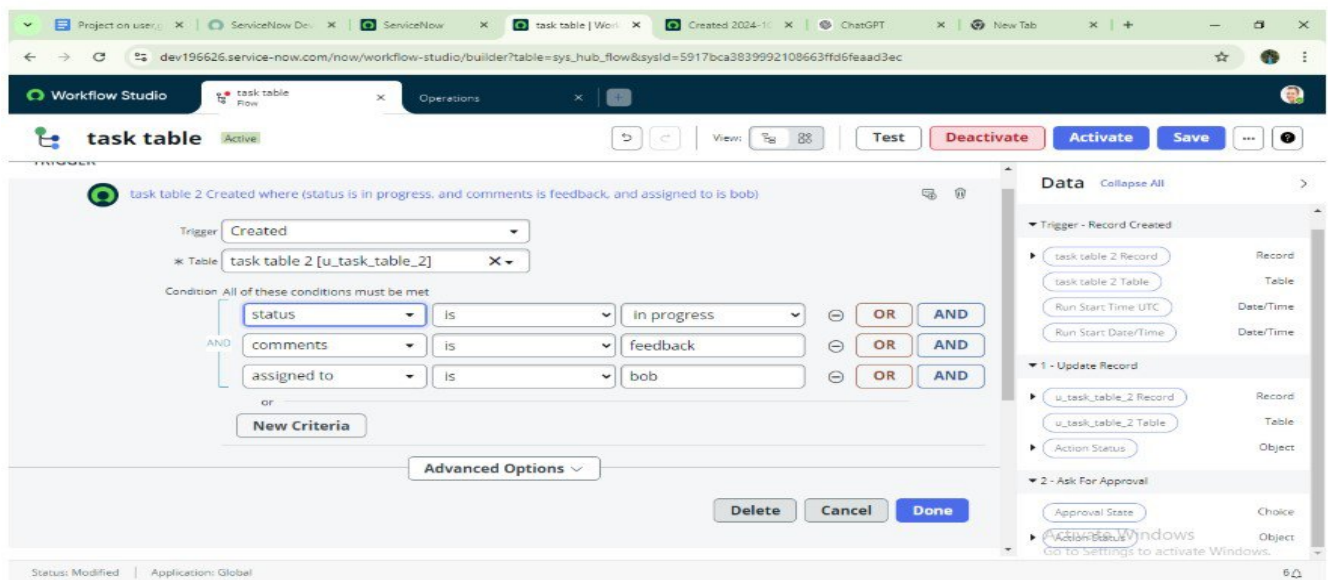
MILSTONE 9: CREATE A FLOW TO ASSIGN OPERATIONS

- Open service now.
- Click on All >> search for Flow Designer
- Click on Flow Designer under Process Automation.
- After opening Flow Designer Click on new and select Flow.
- Under Flow properties Give Flow Name as “ task table”.
- Application should be Global.
- Click build flow.



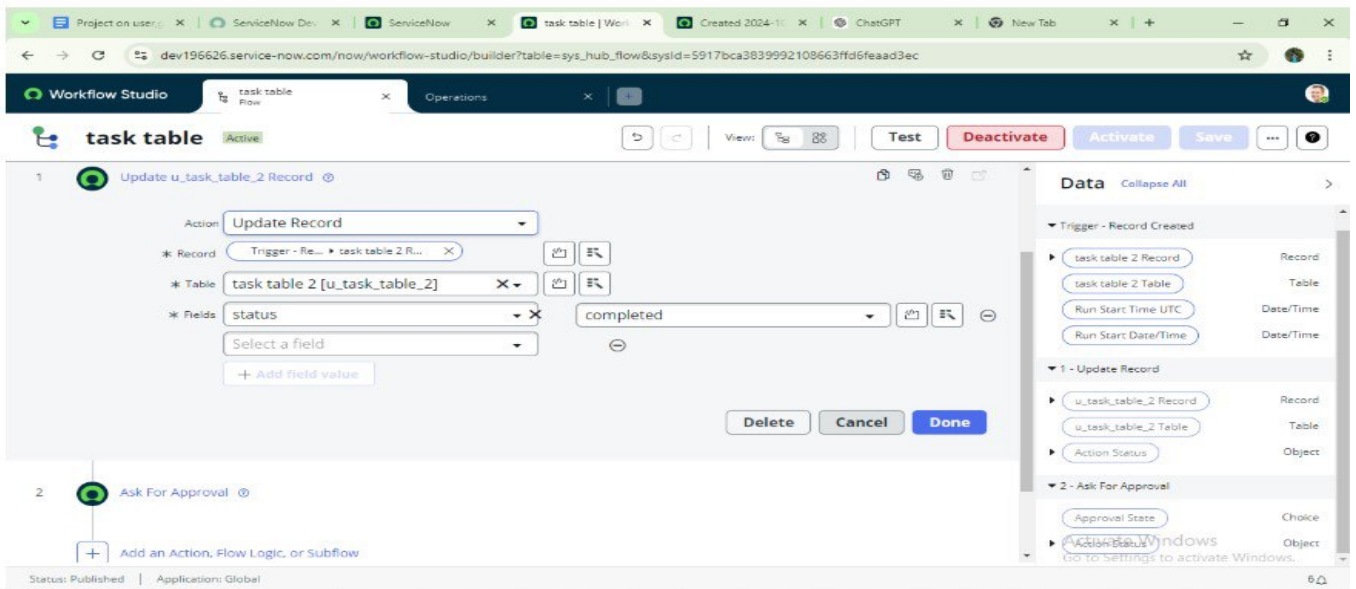
next step:
•Click on Add a trigger

- Select the trigger in that Search for “create record” and select that.
- Give the table name as “ task table ”.
- Give the Condition as Field : status Operator :is Value : in progress
- Field : comments Operator :is Value : feedback
- Field : assigned to Operator :is Value : bob
- After that click on Done



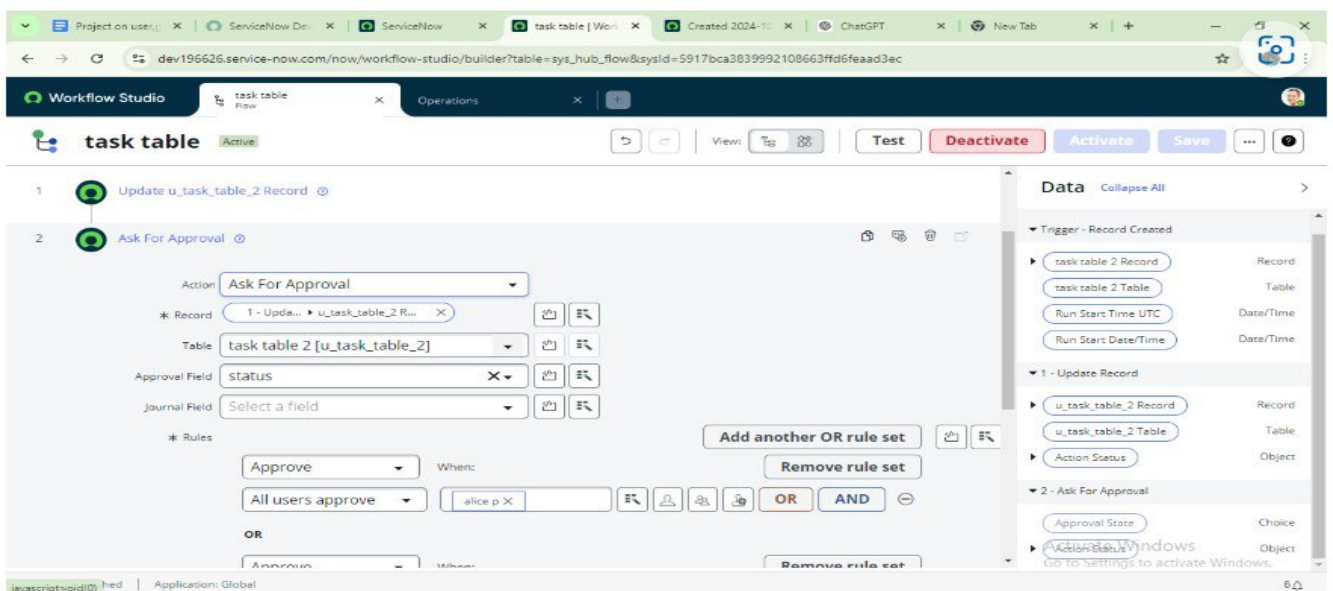
Next step:

- Click on Add an action.
- Select action in that ,search for “ update records”.
- In Record field drag the fields from the data navigation from Right Side(Data pill)
- Table will be auto assigned after that
- Add fields as “status” and value as “completed”
- Click on Done.



Next step:

- Now under Actions.
- Click on Add an action.
- Select action in that, search for "ask for approval".
- In Record field drag the fields from the data navigation from Right side
- Table will be auto assigned after that
- Give the approve field as "status" • Give approver as alice p
- Click on Done.



- Go to application navigator search for task table.
- It status field is updated to completed

task id:

task name:

status:

assigned to:

comments:

due date:

Update Delete

- Go to application navigator and search for my approval • Click on my approval under the service desk.
- Alice p got approval request then right click on requested then select approved

| State | Approver | Comments | Approval for | Created |
|-----------|-------------------|----------|--------------|---------------------|
| Approved | alice p | | (empty) | 2024-10-22 22:24:19 |
| Rejected | Fred Luddy | | (empty) | 2024-09-01 12:19:33 |
| Requested | Fred Luddy | | (empty) | 2024-09-01 12:17:03 |
| Requested | Fred Luddy | | (empty) | 2024-09-01 12:15:44 |
| Requested | Howard Johnson | | CHG0000096 | 2024-09-01 06:15:29 |
| Requested | Ron Ketterling | | CHG0000096 | 2024-09-01 06:15:29 |
| Requested | Luke Wilson | | CHG0000096 | 2024-09-01 06:15:29 |
| Requested | Christen Mitchell | | CHG0000096 | 2024-09-01 06:15:29 |
| Requested | Bernard Laboy | | CHG0000096 | 2024-09-01 06:15:29 |
| Requested | Howard Johnson | | CHG0000095 | 2024-09-01 06:15:25 |
| Requested | Ron Ketterling | | CHG0000095 | 2024-09-01 06:15:25 |
| Requested | Luke Wilson | | CHG0000095 | 2024-09-01 06:15:25 |
| Requested | Christen Mitchell | | CHG0000095 | 2024-09-01 06:15:25 |
| Requested | Bernard Laboy | | CHG0000095 | 2024-09-01 06:15:25 |

CONCLUSION

This scenario highlights a structured approach to project management, showcasing the roles of Alice and Bob within a defined workflow. With Alice's oversight and Bob's execution, the team effectively collaborates to ensure project

success. The use of tables organizes key information, facilitating easy tracking of projects, tasks, and progress updates. Overall, this system promotes accountability, enhances communication, and leads to the successful completion of projects.