

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

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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

Goto 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, Password Reset, Organization, System Security, and User Administration. The main content area is titled 'User - alice p' and contains a form for creating a new user. The form fields are as follows:

- User ID:  (highlighted with a red box)
- First name:
- Last name:  (highlighted with a red box)
- Title:
- Department:
- Password needs reset: ☐
- Locked out: ☐
- Active: ☒
- Web service access only: ☐
- Internal Integration User: ☐
- Email:
- Language:
- Calendar integration:
- Time zone:
- Date format:
- Business phone:
- Mobile phone:
- Photo:

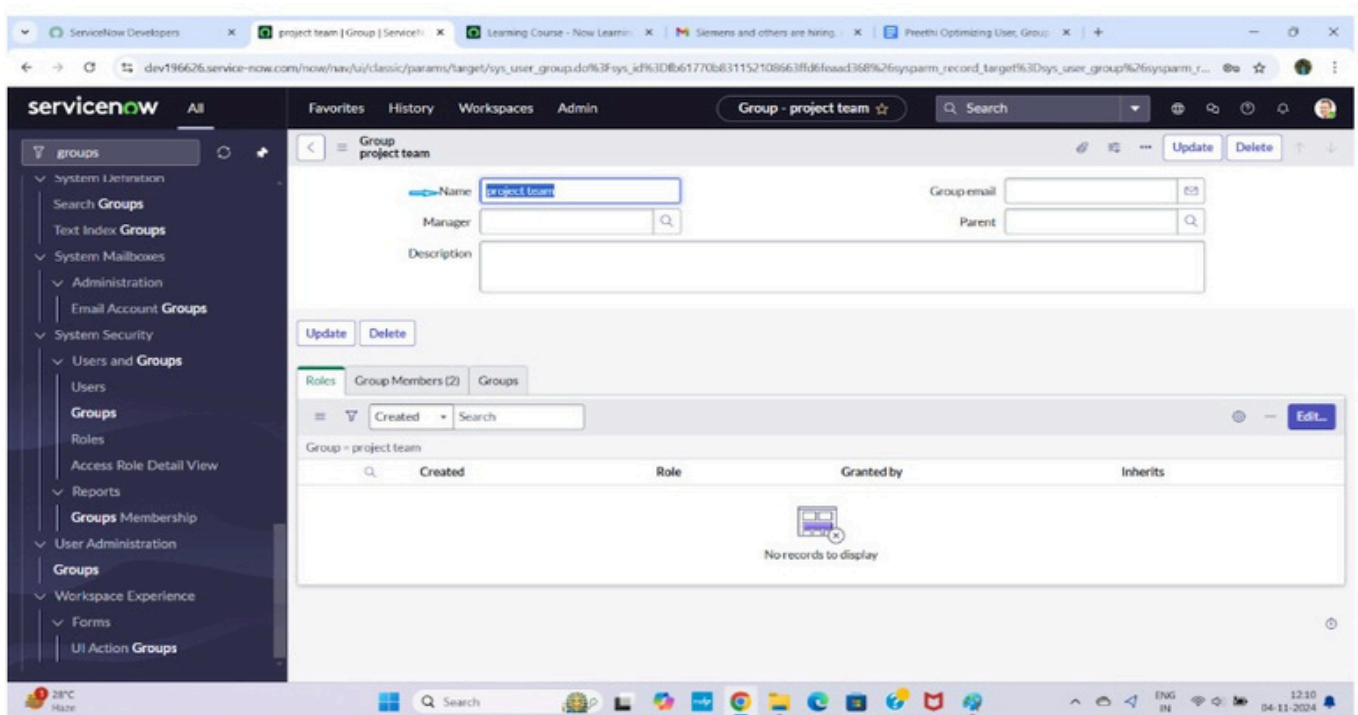
At the bottom of the form, there are buttons for 'Update', 'Set Password', and 'Delete'. Below the form, there is a 'Related Links' section with links for 'View linked accounts', 'View Subscriptions', and 'Reset a password'. At the very bottom, there is a 'Table' section with a search bar and a list of tabs: 'Entitled Custom Tables', 'Roles (3)', 'Groups (1)', 'Delegates', 'Subscriptions', and 'User Client Certificates'.



## MILSTONE 2: CREATE GROUPS

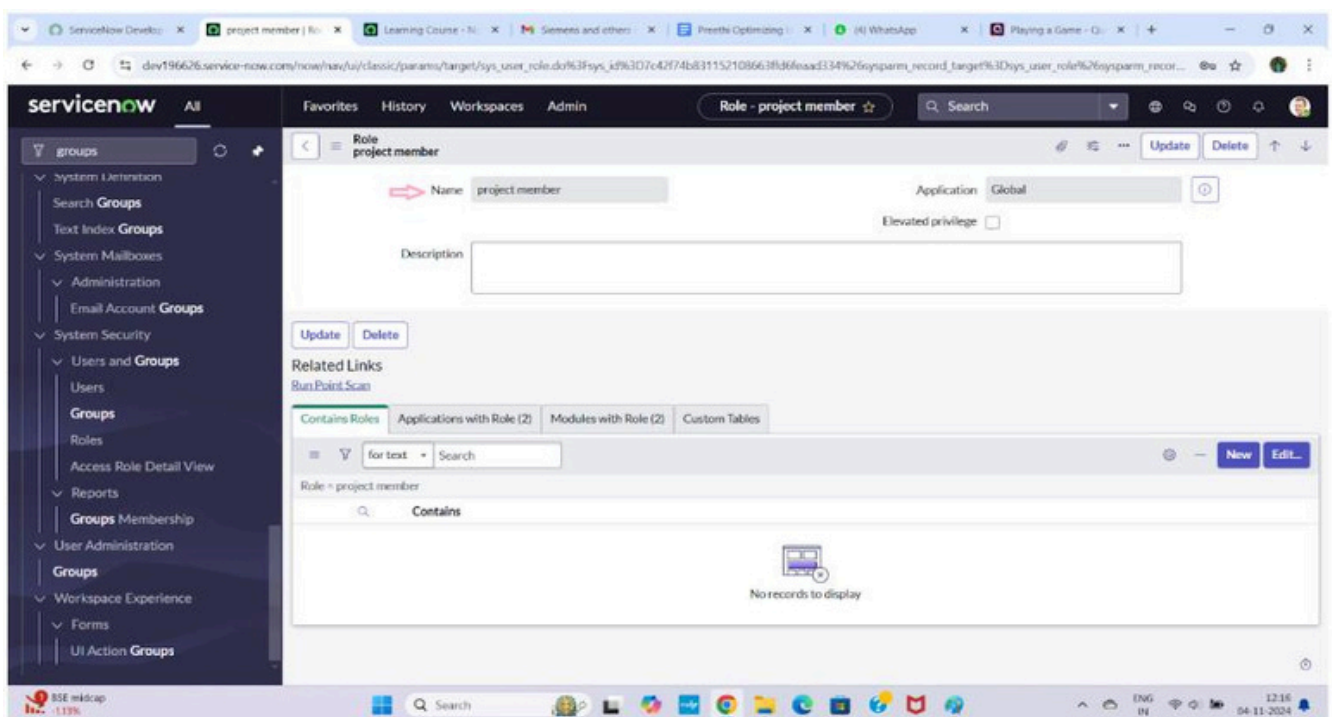
Log in to your ServiceNow instance and go to the Application Navigator.☑

- 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



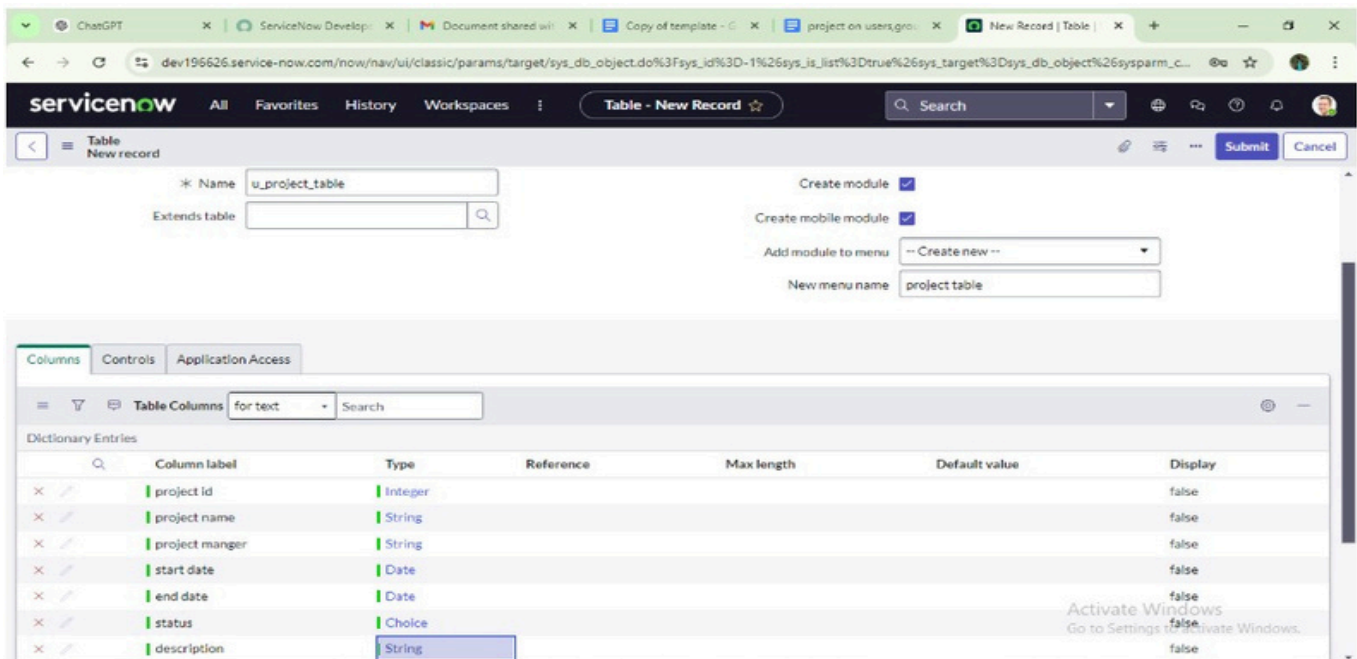
## MILSTONE 3: CREATE ROLES

- 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



The screenshot displays the ServiceNow 'Table - New Record' form. The form includes the following fields and options:

- Name:** u\_project\_table
- Extends table:** (empty)
- Create module:** ☒
- Create mobile module:** ☒
- Add module to menu:** -- Create new --
- New menu name:** project table

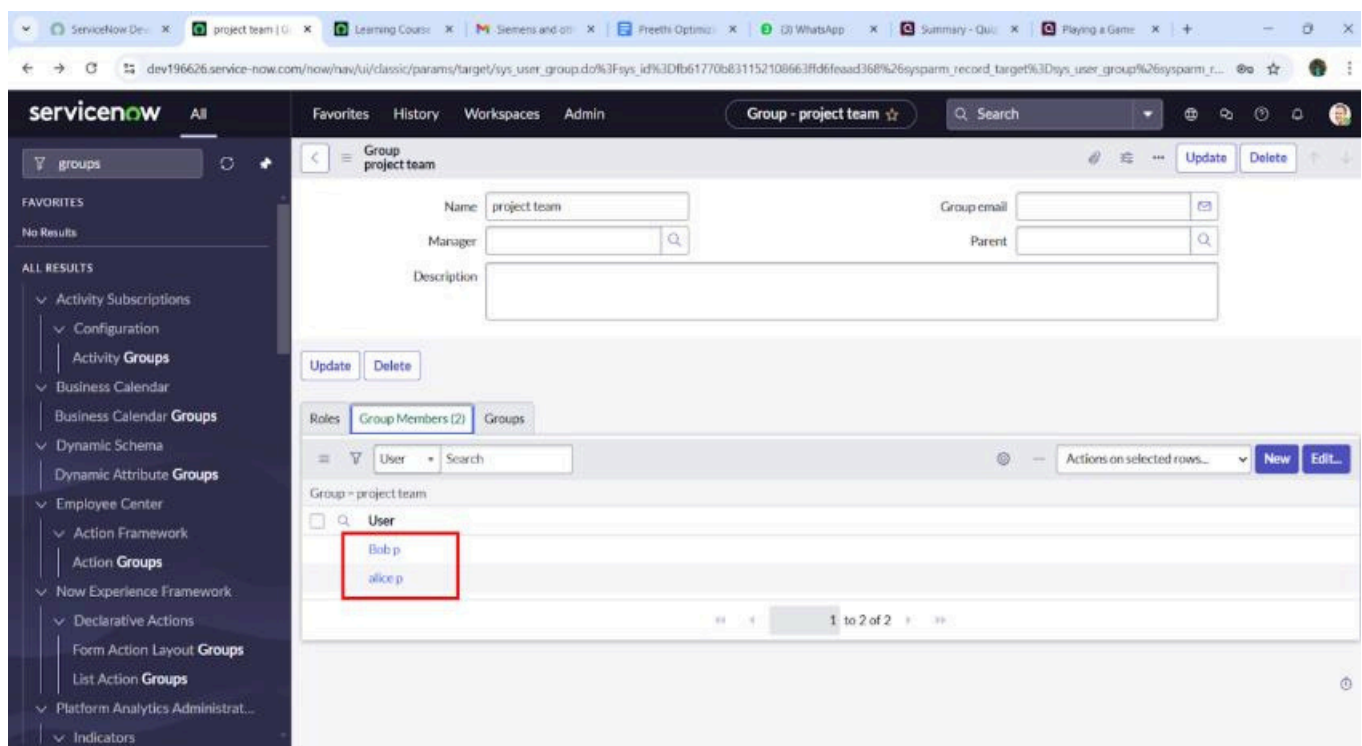
The 'Columns' tab is active, showing a list of columns with the following details:

Column label	Type	Reference	Max length	Default value	Display
project id	Integer				false
project name	String				false
project manger	String				false
start date	Date				false
end date	Date				false
status	Choice				false
description	String				false

# 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



# MILSTONE 6: 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

The screenshot displays the ServiceNow user management interface. The left sidebar shows the navigation menu with 'Users and Groups' expanded. The main content area shows the 'User - alice p' profile. The 'Roles' tab is selected, displaying a table of roles assigned to the user. The table has columns for 'Role', 'State', 'Inherited', and 'Inheritance Count'. Three roles are listed: 'u.task\_table\_2\_user', 'project member', and 'u.project\_table\_user'. The 'u.task\_table\_2\_user' role is highlighted with a red box. The 'State' column for all roles is 'Active', and the 'Inherited' column is 'false' for all. The 'Inheritance Count' is '1' for all roles.

Role	State	Inherited	Inheritance Count
u.task_table_2_user	Active	false	1
project member	Active	false	1
u.project_table_user	Active	false	1

# MILSTONE 7: 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 screenshot shows the ServiceNow web interface for configuring an application menu. The browser tabs include 'Copy of template - Google...', 'ServiceNow Developers', 'project table | Application M...', 'task table 2 | Application M...', and 'ChatGPT'. The URL is 'dev195626.service-now.com/now/nav/ui/classic/params/target/sys\_app\_application.do%3Fsys\_id%3D114beca3835992108663fd6feaad3dc'. The page title is 'Application Menu - task table 2'. The configuration form includes a search bar, a list of roles ('u\_task\_table\_2\_user', 'project member', 'team member'), a category dropdown set to 'Custom Applications', and fields for 'Hint' and 'Description'. The 'Active' checkbox is checked. At the bottom are 'Update' and 'Delete' buttons.

The screenshot shows the ServiceNow web interface for configuring an application menu. The browser tabs include 'Copy of template - Google Doc...', 'project on users.groups.roles:...', 'ServiceNow Developers', 'project table | Application Men...', and '+'. The URL is 'dev195626.service-now.com/now/nav/ui/classic/params/target/sys\_app\_application.do%3Fsys\_id%3D9705334f831152108663fd6feaad362'. The page title is 'Application Menu - project table'. The configuration form includes a search bar, a list of roles ('project member'), a category dropdown set to 'Custom Applications', and fields for 'Hint' and 'Description'. The 'Active' checkbox is checked. At the bottom are 'Update' and 'Delete' buttons. An 'Activate Windows' watermark is visible in the bottom right corner.



# MILSTONE 8: 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  
Admin overrides: ☒  
Protection policy: -- None --  
\* Name: task table 2 [u\_task\_table\_2]  
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

The screenshot shows a web browser window with multiple tabs. The active tab is titled 'task table 2 - Create Created'. The browser's address bar shows a URL from 'dev196626.service-now.com'. The ServiceNow interface has a dark header with the 'servicenow' logo and navigation links like 'All', 'Favorites', and 'History'. Below the header, the page title is 'task table 2 - Create Created' with a star icon. The main content area is a form for creating a new record. It includes fields for 'task id', 'task name', 'status' (a dropdown menu currently showing '-- None --'), 'assigned to', 'comments', and 'due date'. A 'Submit' button is located at the bottom left of the form area. At the bottom right of the page, there is a watermark that says 'Activate Windows Go to Settings to activate Windows.'

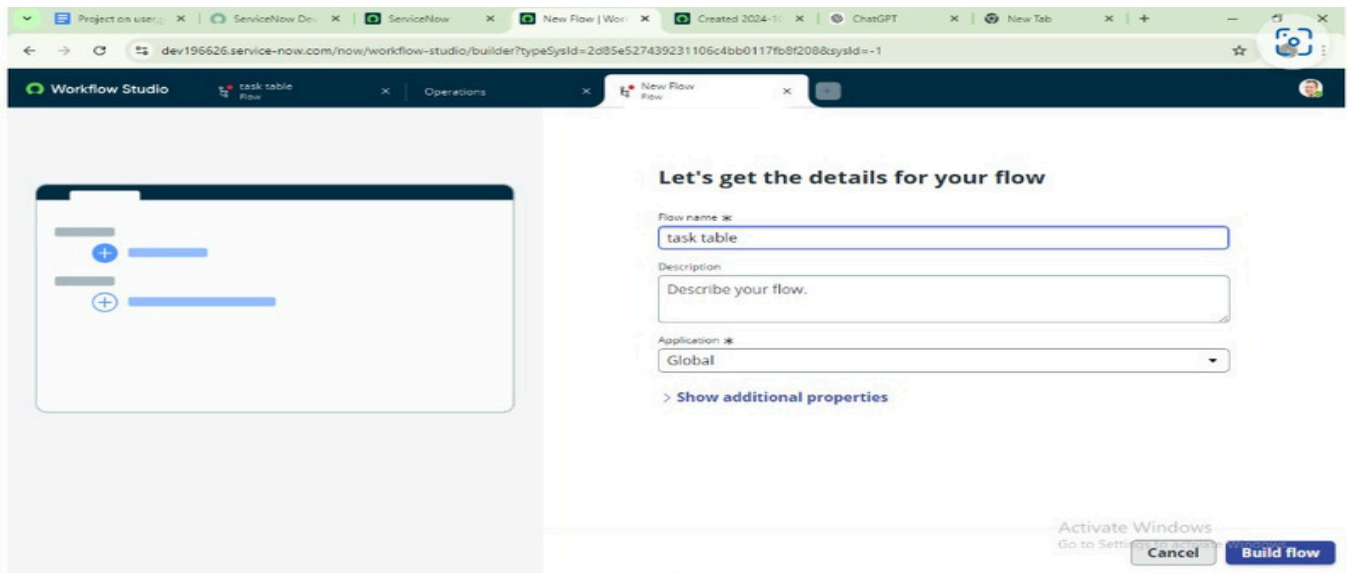


# MILSTONE 9: CREATE A FLOW TO ASSIGN OPERATIONS

- 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.

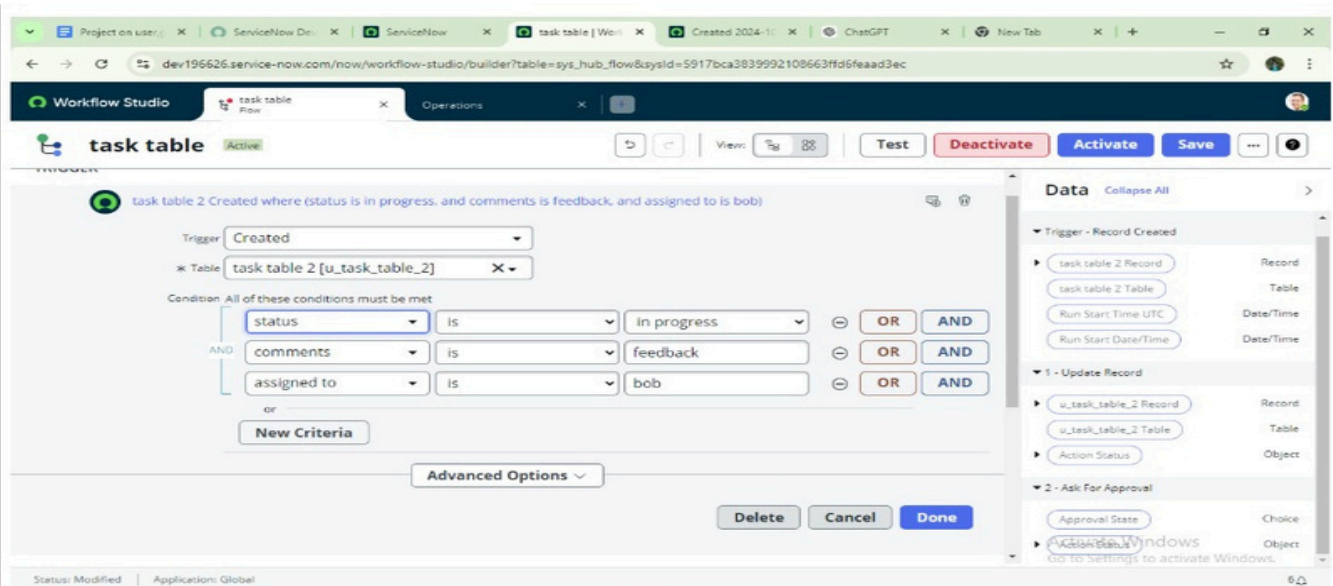
The screenshot displays the ServiceNow Flow Designer interface. The top navigation bar includes 'All', 'Favorites', 'History', and a search bar. A search for 'flow' is shown, with results under 'Process Automation' including 'Workflow Studio', 'Flow Designer', and 'Flow & Action Designer'. The 'Flow Designer' option is selected. The main area shows the 'task table' flow, which is a 'Global' application. The flow is listed in a table with columns: Name, Application, Status, Active, and Update. The flow is 'Published' and 'Active'. The 'Update' column shows the last update time as '2024-09-23 04:23:59'. The right sidebar shows 'Pick up where you left off' with a list of recent updates, including 'task table' updated 14 minutes ago by 'System Administrator'.

Name	Application	Status	Active	Update
Benchmark Recommendation Evaluator	Benchmarks Spoke	Published	true	2024-09-23 04:23:59
Business process approval flow	Global	Published	true	2020-09-23 04:23:59
Change - Cloud Infrastructure - Authorize	Global	Published	true	2020-11-11 07:08:05
Change - Emergency - Authorize	Global	Published	true	2020-10-06 05:39:49
Change - Emergency - Implement	Global	Published	true	2020-09-23 05:06:26
Change - Emergency - Review	Global	Published	true	2020-10-27 04:18:08
Change - Normal - Assess	Global	Published	true	2020-10-06 05:37:05
Change - Normal - Authorize	Global	Published	true	2020-10-06 05:38:35
Change - Normal - Implement	Global	Published	true	2020-09-23 04:23:59



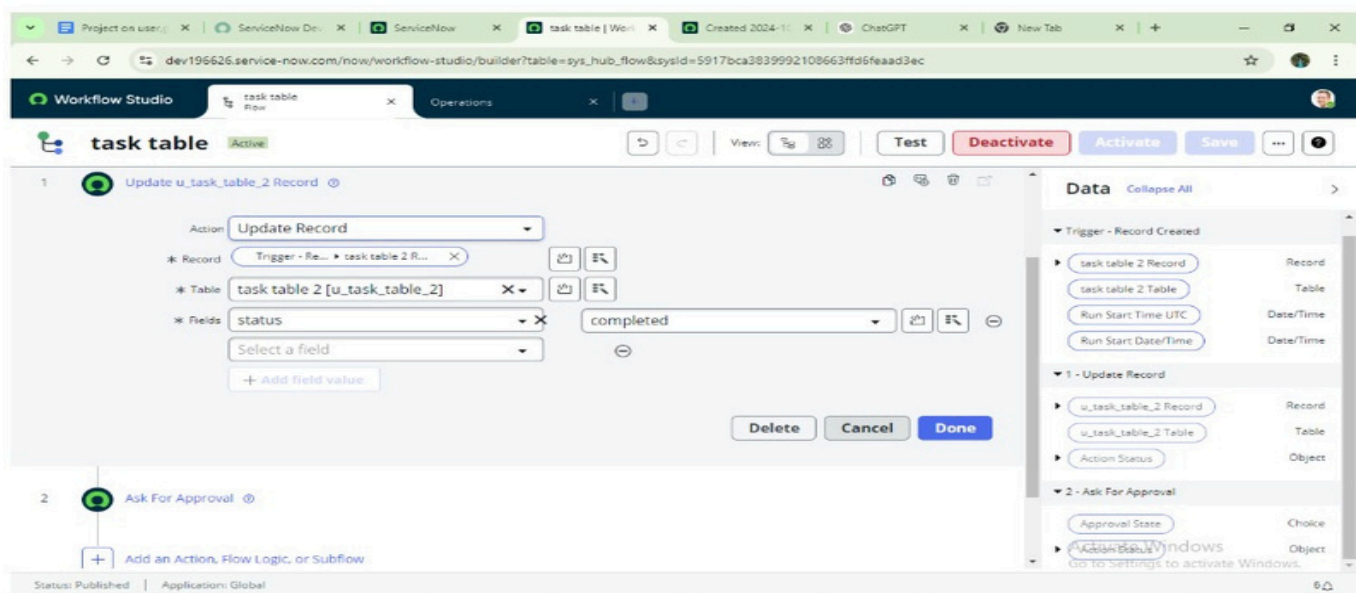
next step:

- 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



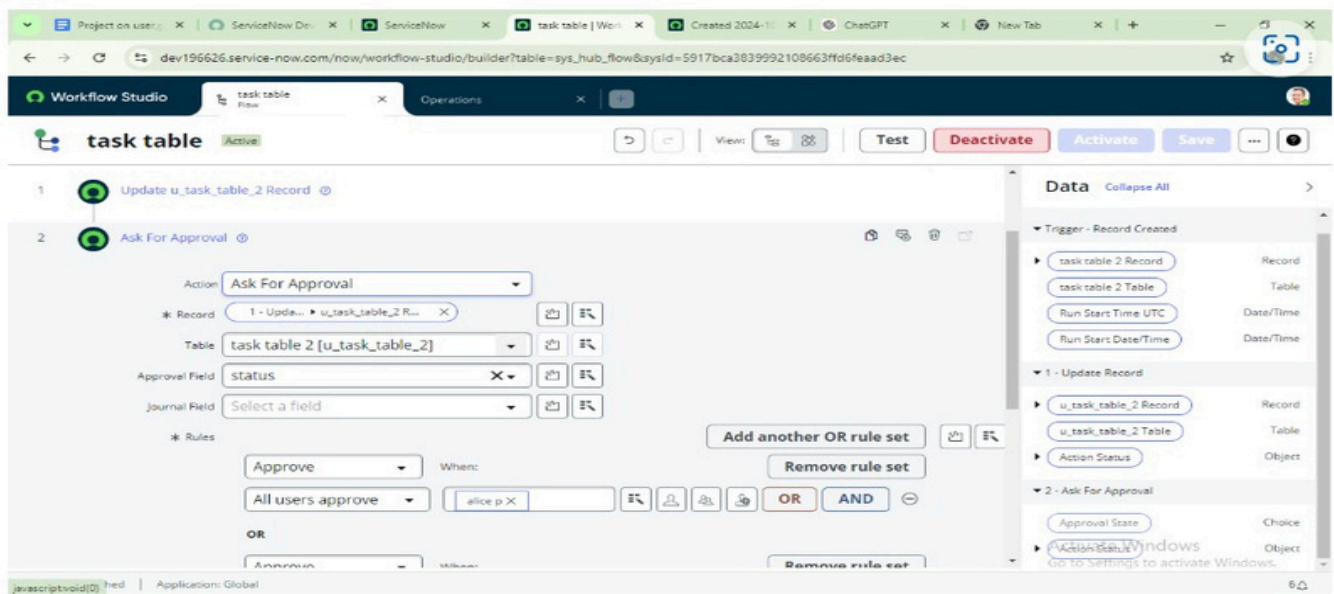
Next step:

- 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.

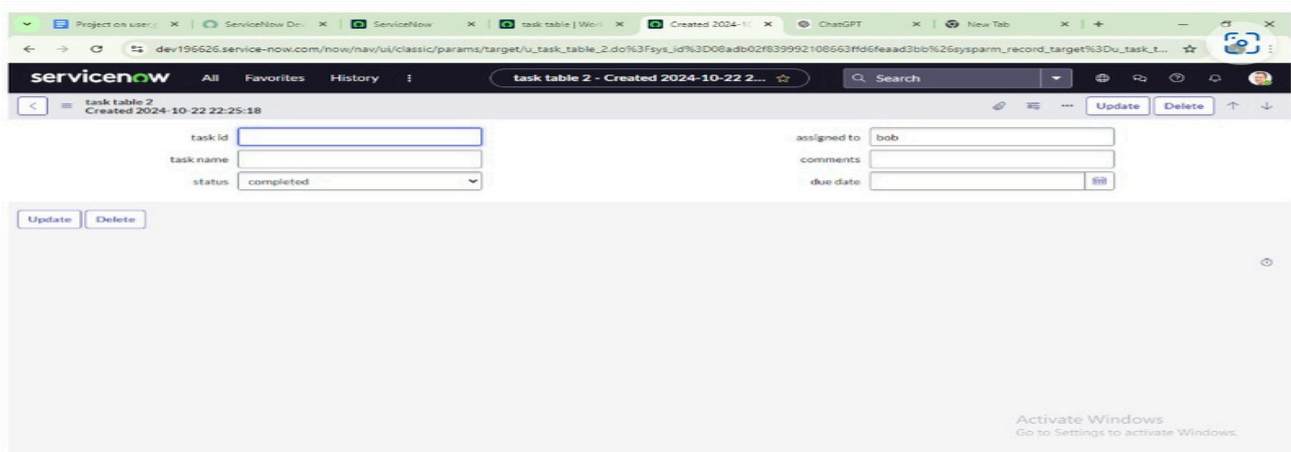


Next step:

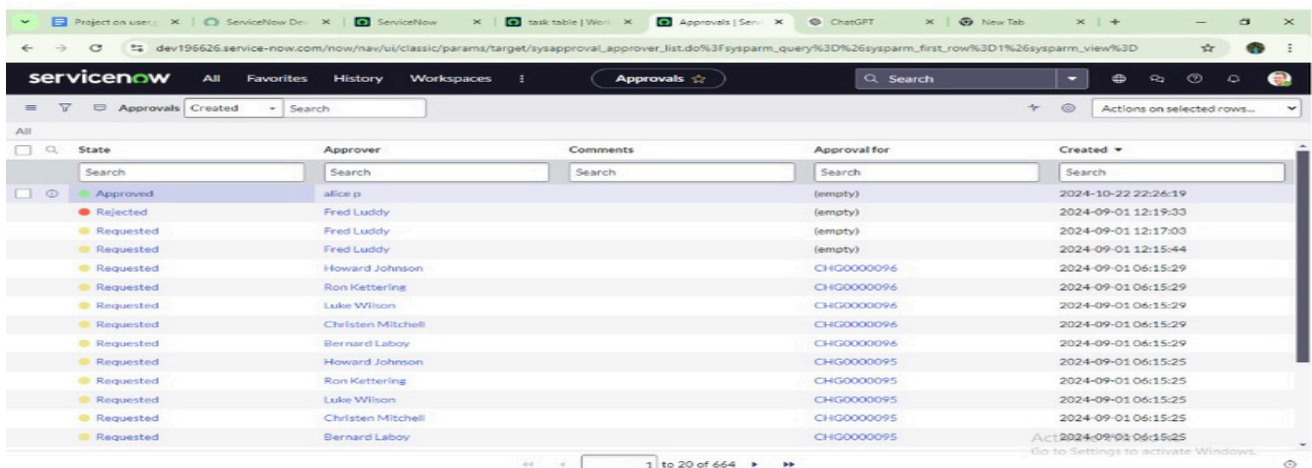
- Now under Actions.
- Click on Add an action.
- Select action in that ,search for “ ask for approval ”.
- In Record field drag the fields from the data navigation from Right side
- Table will be auto assigned after that
- Give the approve field as “ status”
- Give approver as alice p
- Click on Done.



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



- 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



## 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.