

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

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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

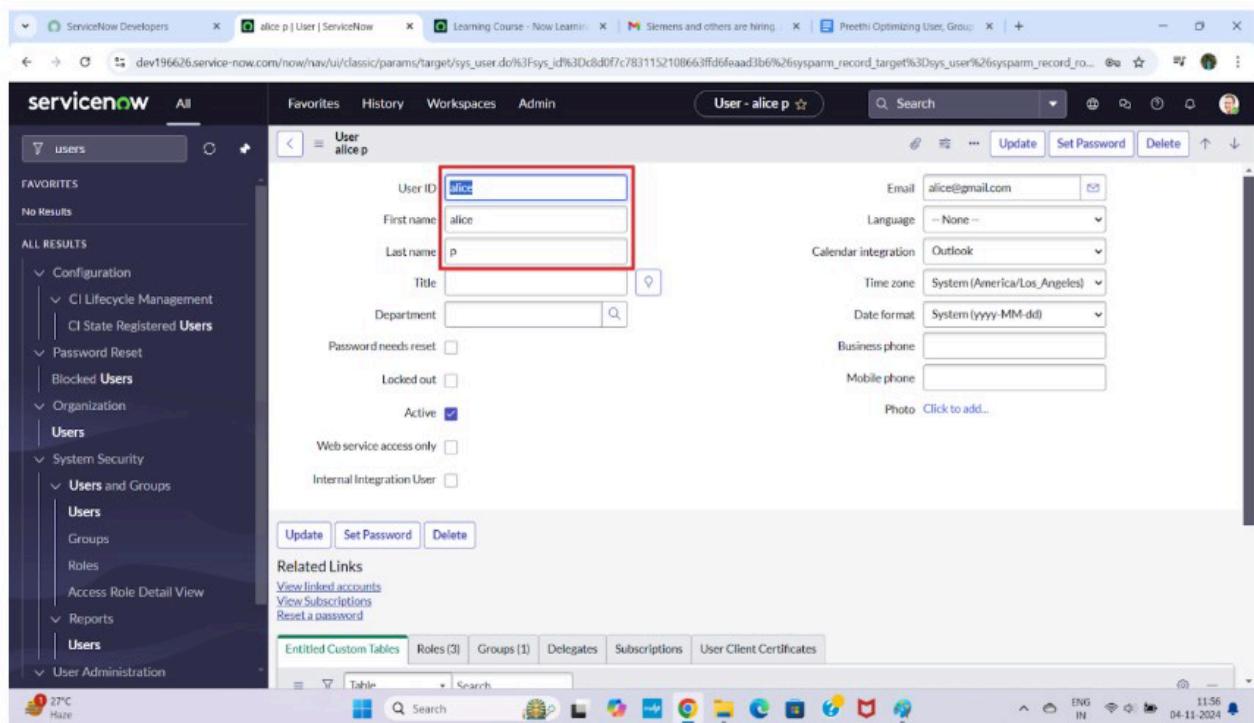
By implementing this system, the team gains a deeper understanding of **Role-Based Access Control (RBAC)** and **workflow management**. They learn that:

- **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



MILSTONE 2: CREATE GROUPS

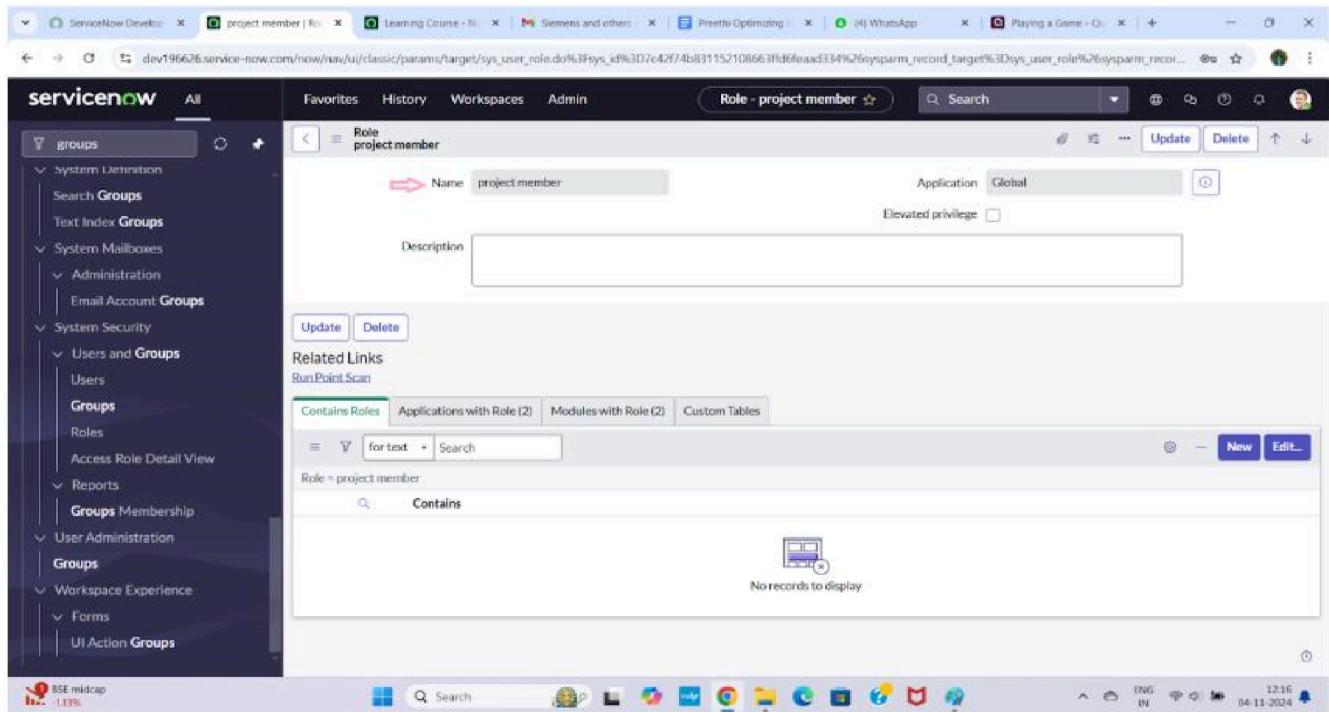
Log in to your ServiceNow instance and go to the Application Navigator.

- 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

The screenshot shows the ServiceNow application interface for creating a new group. The left sidebar navigation bar is visible with various system categories like System Definition, System Mailboxes, System Security, and Workspace Experience. The main content area is titled 'Group - project team' and contains fields for Name (set to 'project team'), Manager (empty), Group email (empty), and Parent (empty). Below this is a 'Description' field which is also empty. At the bottom of this section are 'Update' and 'Delete' buttons. Underneath is a table titled 'Group - project team' with columns for 'Created', 'Role', 'Granted by', and 'Inherits'. A note below the table says 'No records to display'. The top navigation bar includes tabs for Favorites, History, Workspaces, Admin, and a search bar. There are also standard browser controls at the top.

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 shows the ServiceNow 'Table - New Record' interface. The table is named 'u_project_table'. It has the following columns:

Column label	Type	Reference	Max length	Default value	Display
project id	Integer				false
project name	String				false
project manager	String				false
start date	Date				false
end date	Date				false
status	Choice				Activate Windows Go to Settings to activate Windows.
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

Servicenow Dev | project team | Learning Course | Siemens and others | Freeth Optimo | (3) WhatsApp | summary - Quick | Playing a Game

ServiceNow All

Favorites History Workspaces Admin

Group - project team

Name: project team

Manager:

Description:

Group email:

Parent:

Update Delete

Roles Group Members (2) Groups

User Search

Group ~ project team

User

Bob p

alice p

1 to 2 of 2

New Edit...

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 Administration Indicators

The screenshot shows the ServiceNow Groups page. On the left, there's a sidebar with a 'groups' search bar and a navigation tree containing categories like Activity Subscriptions, Configuration, Business Calendar, Dynamic Schema, Employee Center, Now Experience Framework, and Platform Analytics Administration. The main area displays a group named 'project team'. It has fields for Name (set to 'project team'), Manager (empty), Description (empty), Group email (empty), and Parent (empty). Below these are 'Update' and 'Delete' buttons. A tab bar at the bottom of the main area shows 'Roles', 'Group Members (2)', and 'Groups'. Under 'Group Members', there's a table with one row. The first column is 'User' with a checkbox and a magnifying glass icon. The second column lists two users: 'Bob p' and 'alice p'. The user 'alice p' is highlighted with a red rectangular box. At the bottom right of the main area, there are buttons for 'Actions on selected rows...', 'New', and 'Edit...'. The status bar at the bottom of the browser window shows the URL: dev196626.service-now.com/nav/ui/classic/params/target/sys_user_group.do?sys_id=3Dfb61770b831152108663ffd6feaad368%26sysparm_recoed_target%3Dsys_user_group%26sysparm_r...

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 shows the ServiceNow user edit interface for a user named 'alice p'. The left sidebar navigation is visible, showing categories like System Definition, Administration, and System Security. The main panel displays user details and a 'Roles' tab. The 'Roles' tab lists three assigned roles: 'u_task_table_2_user', 'project member', and 'u_project_table_user'. The 'project member' role is highlighted with a red box.

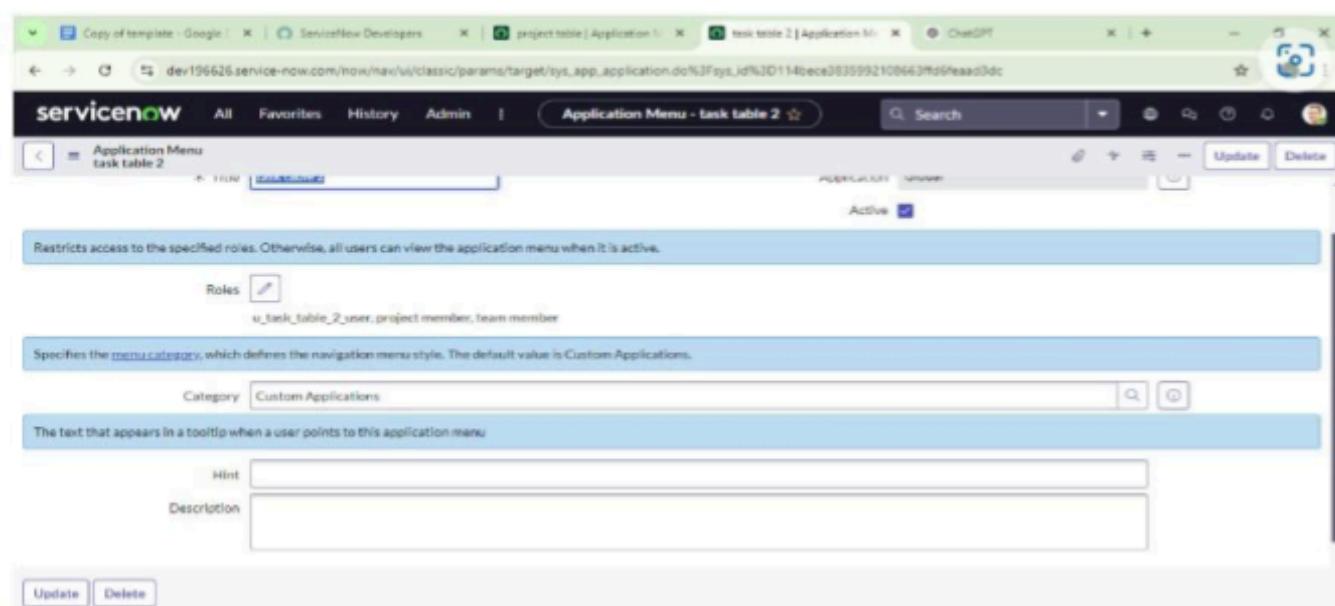
Role	State	Inherited	Inheritance Count
u_task_table_2_user	Active	false	
project member	Active	false	
u_project_table_user	Active	false	

TABLE ACCESS TO APPLICATION

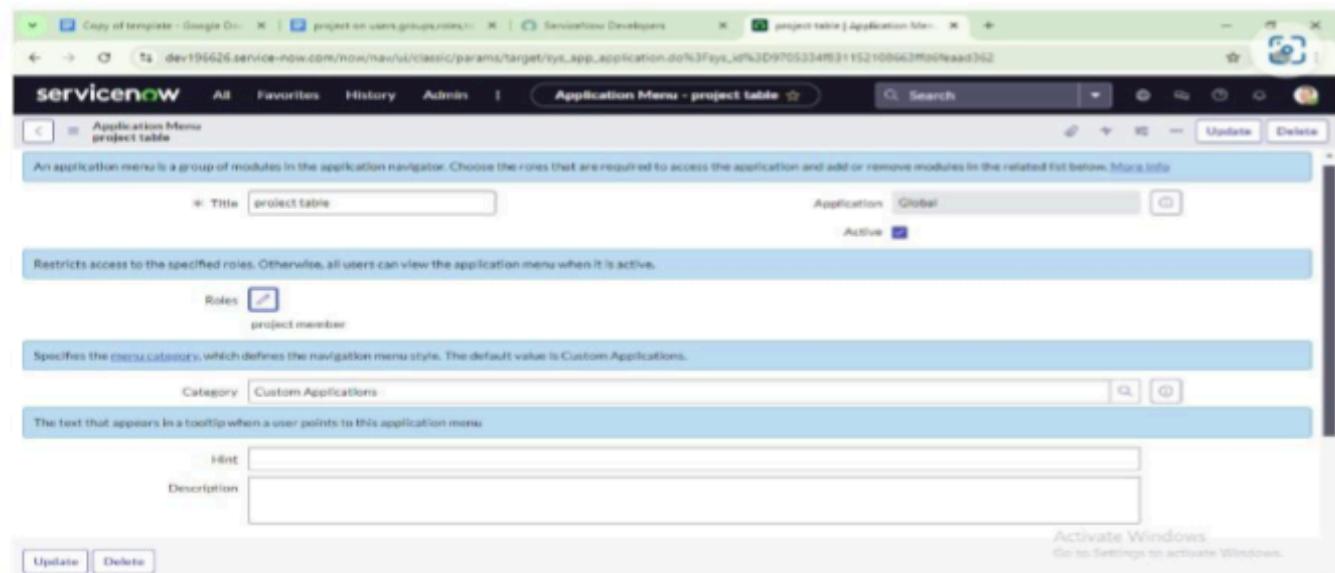
- while creating a table it automatically create a application and module for that table
- Go to application navigator search for search project table application

MILSTONE 7:

- 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 'Application Menu - task table 2' edit screen in ServiceNow. The title bar includes tabs for 'Copy of template - Google Doc', 'project table | Application 1', 'task table 2 | Application Men...', and 'OneGPT'. The main form has fields for 'Title' (task table 2), 'Category' (Custom Applications), 'Hint' (empty), and 'Description' (empty). Under 'Roles', 'u_task_table_2_user' is selected. The status is 'Active'. A note says 'Restricts access to the specified roles. Otherwise, all users can view the application menu when it's active.'



The screenshot shows the 'Application Menu - project table' edit screen in ServiceNow. The title bar includes tabs for 'Copy of template - Google Doc', 'project on users/groups/roles...', 'ServiceNow Developers', and 'project table | Application Men...'. The main form has fields for 'Title' (project table), 'Category' (Custom Applications), 'Hint' (empty), and 'Description' (empty). Under 'Roles', 'project member' is selected. The status is 'Active'. A note says 'Restricts access to the specified roles. Otherwise, all users can view the application menu when it's active.'

CREATION OF ACCESS CONTROL

LIST

- Open service now.

MILSTONE 8:

- 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	<input checked="" type="checkbox"/>
Admin overrides <input checked="" type="checkbox"/>	
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

All > Created on Today	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 21:01:20

MILSTONE 9:

- 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 ServiceNow interface for creating a new record in 'Task Table 2'. The page title is 'task table 2 - Create Created'. It contains several input fields: 'task id' (disabled), 'task name' (disabled), 'assigned to' (disabled), 'comments' (disabled), 'due date' (disabled), and a dropdown 'status' which is currently set to '-- None --'. At the bottom left is a 'Submit' button, and at the top right is a 'BP' icon.

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 shows a ServiceNow browser window with the URL https://dev196626.service-now.com/nav/nav/uiclassic/params/target/u_task_table_2.do?sys_id%2000ab062f629992108642f0d/lead%20/u%25keyparam_record_target%3Du_task_t.... The title bar says "task table 2 - Created 2024-10-22 2...". The left sidebar has a "Process Automation" section with "Workflow Studio" and "Flow Designer" selected. The main area shows a search result for "task table" with fields: assigned to [bob], comments [], due date []. Buttons for "Update" and "Delete" are at the top right.

The screenshot shows a ServiceNow browser window with the URL <https://dev196626.service-now.com/nav/workflow-studio/home/flow>. The title bar says "Workflow Studio". The main area shows a list of flows under the "Flows" tab. A context menu is open over the first flow, listing options: "Playbook", "Flow" (which is highlighted), "Subflow", "Action", and "Decision table". To the right, there's a sidebar titled "Latest updates" showing activity from "System Administrator".

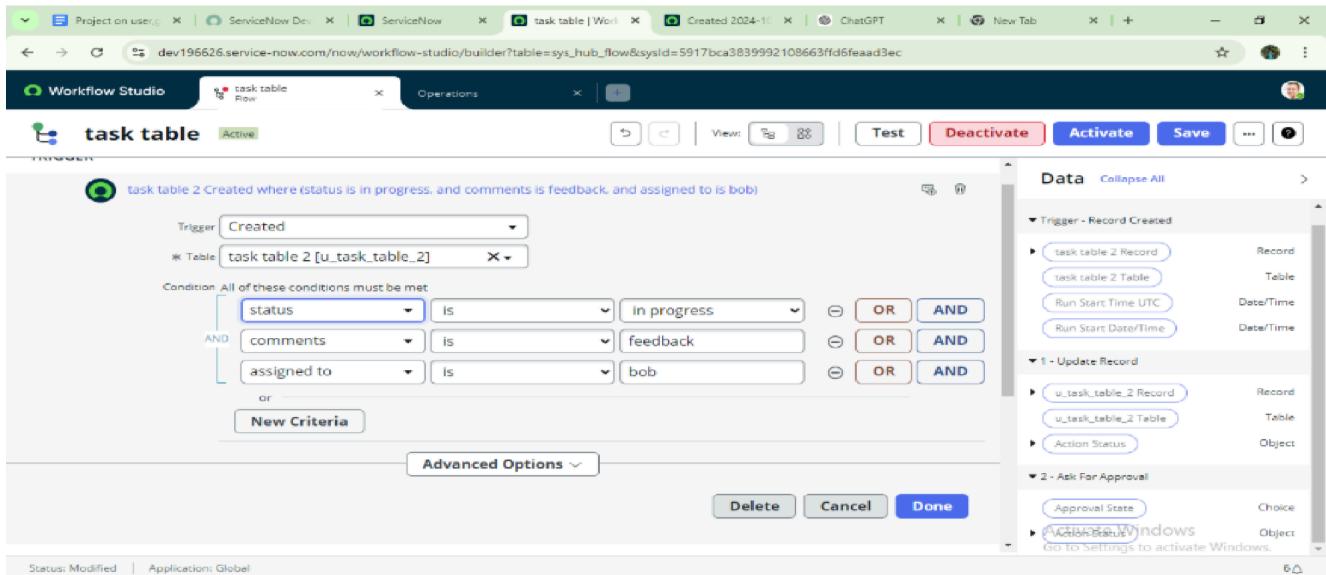
Name	Application	Status	Active	Updated
Benchmark Recommendation Evaluator	Benchmarks Spoke	Published	true	2024-09-22 10:45:10
Business process approval flow	Global	Published	true	2020-09-23 04:23:59
Change - Cloud Infrastructure - Authorize	Global	Published	true	2020-11-11 07:08:05
Change - Emergency - 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

The screenshot shows a ServiceNow browser window with the URL <https://dev196626.service-now.com/nav/workflow-studio/builder?typeSysId=2d85e527439231106c4bb0117fb0f208&sysId=-1>. The title bar says "New Flow". The main area shows a "Let's get the details for your flow" form. The flow name is "task table", the application is "Global", and the description is "Describe your flow.". A "Show additional properties" link is visible. At the bottom right, there are "Activate Windows" and "Build flow" buttons.

next step:

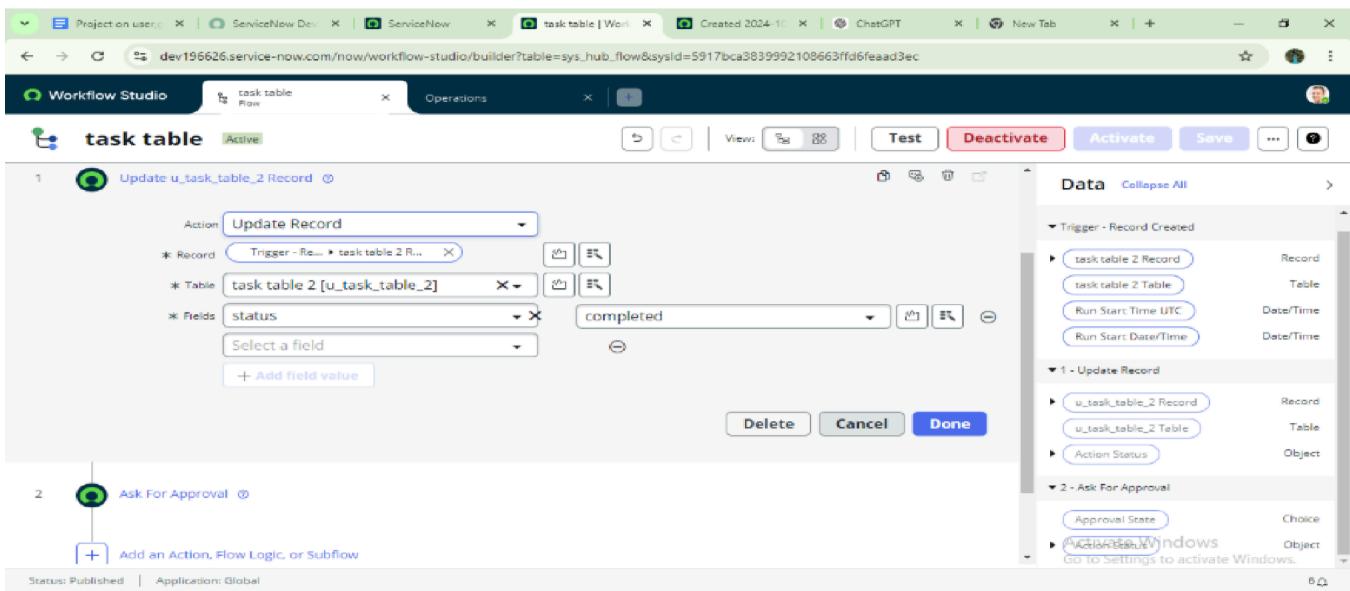
- Click on Add a trigger
- Select the trigger in that Search for “create record” and select that.
- Give the table name as “ task table ”.
- Give the Condition as Field : status Operator :is Value : in progress
 - Field : comments Operator :is Value : feedback
 - Field : assigned to Operator :is Value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

- After that click on Done



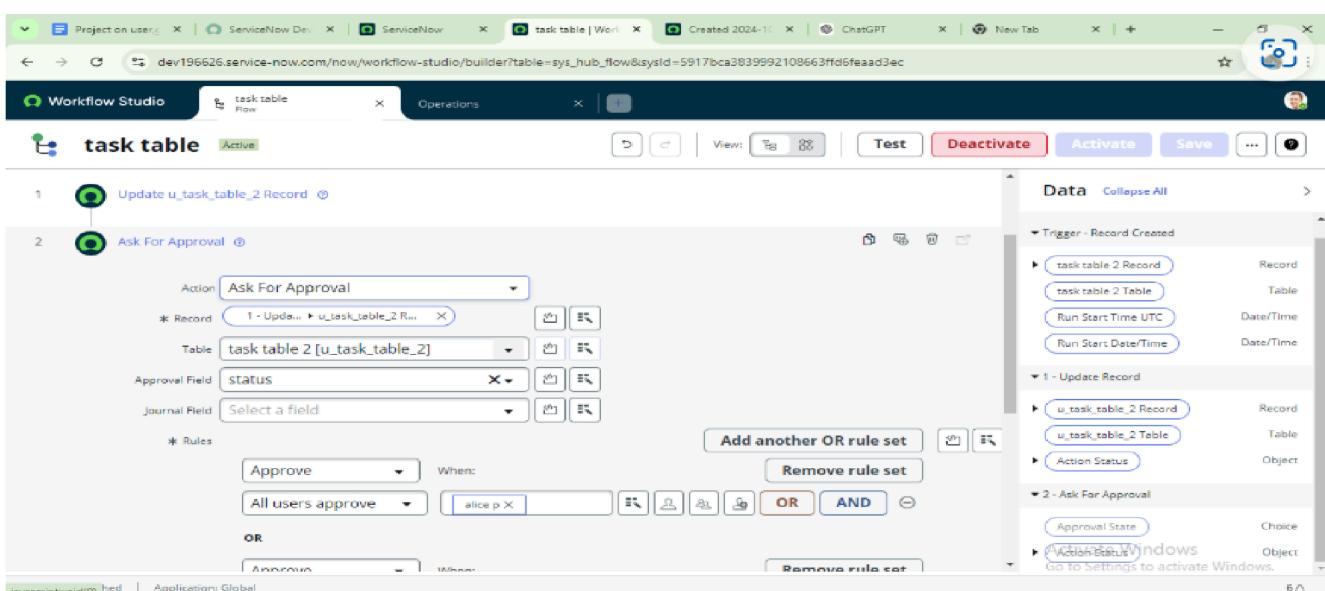
Next step:

- 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

A screenshot of a ServiceNow task table titled "task table 2 - Created 2024-10-22 22:25:18". The table has the following fields and values:

task_id	bob
task_name	Completed Task
status	completed
assigned_to	bob
comments	
due_date	

Buttons at the bottom include "Update" and "Delete". A watermark at the bottom right says "Activate Windows Go to Settings to activate Windows."

- 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

A screenshot of the ServiceNow Approvals list view. The table has the following columns and data:

All	State	Approver	Comments	Approval for	Created
	Approved	alice p	(empty)	2024-10-22 22:26:19	
	Rejected	Fred Luddy	(empty)	2024-09-01 12:19:33	
	Requested	Fred Luddy	(empty)	2024-09-01 12:17:03	
	Requested	Howard Johnson	(empty)	2024-09-01 12:15:44	
	Requested	Ron Kettering	CHG00000096	2024-09-01 06:15:29	
	Requested	Luke Wilson	CHG00000096	2024-09-01 06:15:29	
	Requested	Christen Mitchell	CHG00000096	2024-09-01 06:15:29	
	Requested	Bernard Laboy	CHG00000096	2024-09-01 06:15:29	
	Requested	Howard Johnson	CHG00000095	2024-09-01 06:15:25	
	Requested	Ron Kettering	CHG00000095	2024-09-01 06:15:25	
	Requested	Luke Wilson	CHG00000095	2024-09-01 06:15:25	
	Requested	Christen Mitchell	CHG00000095	2024-09-01 06:15:25	
	Requested	Bernard Laboy	CHG00000095	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.