



DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

REGULATION 2021



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HITECH ENGINEERING COLLEGE

(Approved By AICTE, New Delhi & Affiliated to Anna University, Chennai)

LABORATORY RECORD

This is to certify that this is a bonafide record of the work done by Mr

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thelaboratory in theSemester.

Staff-in-charge

Head of the Department

Submitted for the University Examination held on

Internal Examiner

External Examine

Optimizing user group and role management with access control and workflow

INTRODUCTION:

Effective access management is essential for maintaining security, compliance, and operational efficiency in modern organizations. This project focuses on optimizing user group and role management by integrating access control mechanisms and workflow AIM (Automation, Integration, and Management). The objective is to streamline user provisioning, minimize manual interventions, and ensure that access rights are consistently aligned with organizational policies.

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.

PROCEDURE:

Users

Create Users

STEP 1: Open service now

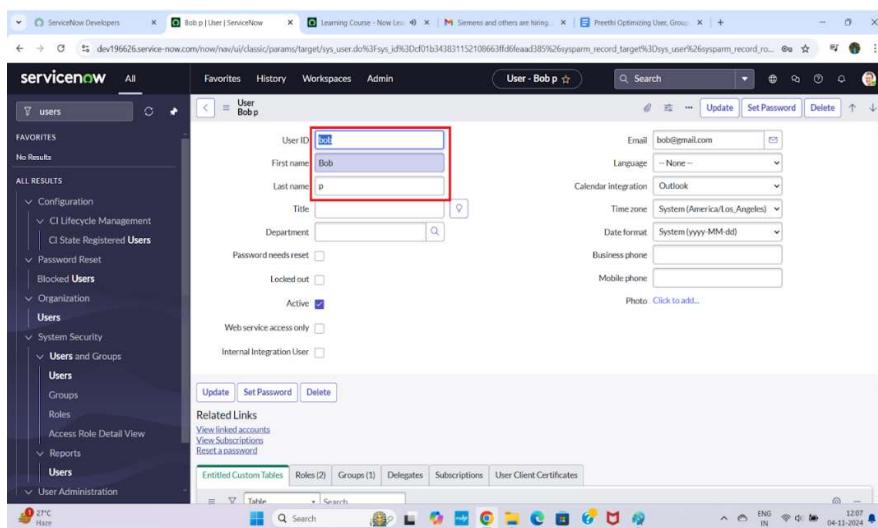
STEP 2: Click on All >> search for users

STEP 3: Select Users under system security

STEP 4: Click on new

STEP 5: Fill the following details to create a new user

STEP 6: Click on submit



Groups

Create Groups

STEP 1: Open service now.

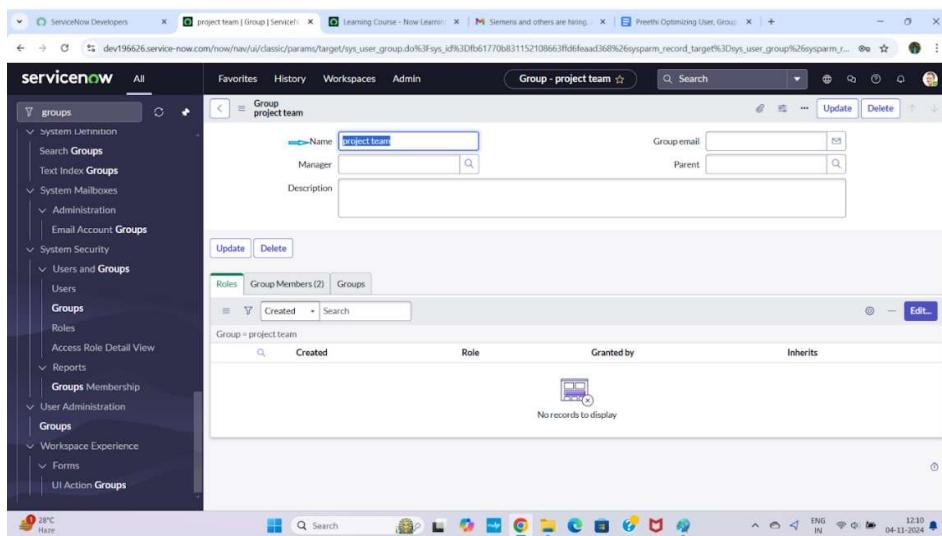
STEP 2: Click on All >> search for groups

STEP 3: Select groups under system security

STEP 4: Click on new

STEP 5: Fill the following details to create a new group

STEP 6: Click on submit



Roles

Create Role

STEP 1: Open service now.

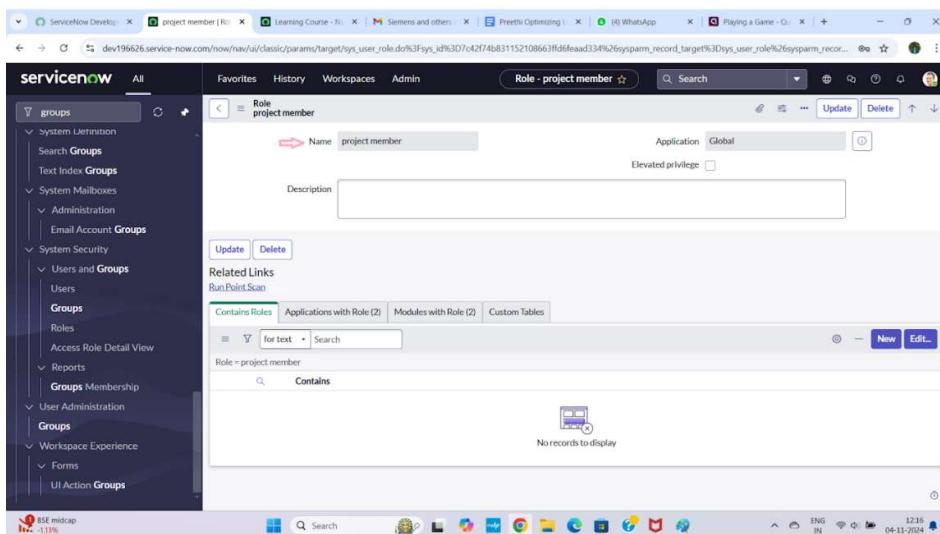
STEP 2: Click on All >> search for roles

STEP 3: Select roles under system security

STEP 4: Click on new

STEP 5: Fill the following details to create a new role

STEP 6: Click on submit



Assign users to groups

Assign roles to Alice user:

STEP 1: Open servicenow.Click on All >> search for user

STEP 2: Select tables under system definition

STEP 3: Select the project manager user

STEP 4: Under project manager

STEP 5: Click on edit

STEP 6: Select project member and save

STEP 7: click on edit add u_project_table role and u_task_table role

STEP 8: click on save and update the form.

The screenshot shows the ServiceNow interface for editing a user account. The left sidebar navigation includes 'System Definition', 'System Mailboxes', 'Administration', 'Email Account Groups', 'System Security', 'Users and Groups', 'Groups', 'Roles', 'Access Role Detail View', 'Reports', 'Groups Membership', 'User Administration', 'Groups', 'Workspace Experience', 'Forms', and 'UI Action Groups'. The main content area is titled 'User - alice.p' and shows the user's details: Active, Web service access only, Internal Integration User, and three related links: View linked accounts, View Subscriptions, and Reset a password. Below these are tabs for 'Entitled Custom Tables', 'Roles (3)', 'Groups (1)', 'Delegates', 'Subscriptions', and 'User Client Certificates'. The 'Roles (3)' tab is active, showing a table with columns: Role, State, Inherited, and Inheritance Count. Two rows are listed: 'project member' (Active, false) and 'u_project_table_user' (Active, false). Both rows are highlighted with a red border.

Assign roles to Bob user:

STEP 1: Open servicenow.Click on All >> search for user

STEP 2: Select tables under system definition

STEP 3: Select the bob p user

STEP 4: Under team member

STEP 5: Click on edit

STEP 6: Select team member and give table role and save

STEP 7: Click on profile icon Impersonate user to bob

STEP 8: We can see the task table2.

The screenshot shows the ServiceNow User edit screen for 'User - Bob p'. The left sidebar navigation is visible, showing categories like System Definition, Mailboxes, Security, and Administration. The main content area displays the user's details, including a note about requiring a SOAP role for API access. Below this are tabs for Roles (2), Groups (1), Delegates, Subscriptions, and User Client Certificates. The 'Roles' tab is selected, showing a table with two rows. The first row is highlighted with a red box and labeled 'u_task_table_2_user' under the 'Role' column. The second row is labeled 'team member'. Both rows show 'Active' under 'State' and 'false' under 'Inherited'. The bottom of the screen shows the Windows taskbar with various icons.

Role	State	Inherited
u_task_table_2_user	Active	false
team member	Active	false

Application access

Assign table access to application:

STEP 1: while creating a table it automatically create a application and module for that table

STEP 2: Go to application navigator search for search project table application

STEP 3: Click on edit module

STEP 4: Give project member roles to that application

STEP 5: Search for task table2 and click on edit application.

STEP 6: Give the project member and team member role for task table 2 application

The screenshot shows the ServiceNow Application Menu configuration interface for the 'project table' application. The title bar includes tabs for 'Copy of template - Google Doc', 'project on users.groups.roles.ti', 'ServiceNow Developers', and 'project table | Application Menu'. The main header says 'Application Menu - project table' with a star icon. Below the header, there's a breadcrumb trail: 'Application Menu > project table'. A search bar and a toolbar with 'Update' and 'Delete' buttons are visible. The configuration area has several sections:

- Title:** 'project table'
- Application:** 'Global' (checkbox checked)
- Active:** 'Active' (checkbox checked)
- Roles:** 'project member' (with an edit icon)
- Category:** 'Custom Applications'
- Hint:** An empty input field.
- Description:** An empty input field.

At the bottom, there are 'Update' and 'Delete' buttons. A watermark at the bottom right reads 'Activate Windows' and 'Go to Settings to activate Windows.'

Screenshot of the ServiceNow Application Menu - task table 2 configuration page.

The page title is "Application Menu - task table 2".

Key fields and settings visible:

- Roles:** u_task_table_2_user, project member, team member
- Category:** Custom Applications
- Hint:** (empty)
- Description:** (empty)
- Status:** Active (checkbox checked)
- Buttons:** Update, Delete

Bottom navigation bar includes: Modules, Order, Search, Actions on selected rows..., and New.

Access control list

Create ACL

STEP 1: Open service now.

STEP 2: Click on All >> search for ACL

STEP 3: Select Access Control(ACL) under system security

STEP 4: Click on elevate role

STEP 5: Click on new

STEP 6: Fill the following details to create a new ACL

The screenshot shows the 'Access Control - New Record' page in the ServiceNow interface. The top navigation bar includes tabs for 'Copy of template', 'ServiceNow Developers', 'ServiceNow', 'New Record | Access', 'ChatGPT', and 'New Tab'. The main title is 'Access Control - New Record'. A warning message at the top states: 'Warning: A role, security attribute, data condition, or script is required to properly secure access with this ACL.' The form fields are as follows:

- * Type: record
- * Operation: write
- Decision Type: Allow If
- Application: Global
- Active: checked
- Advanced: unchecked
- Admin overrides: checked
- Protection policy: None
- * Name: task table 2 [u_task_table_2]
- Description: (empty)
- Fields: status
- Applies To: No. of records matching the condition: 1
Add Filter Condition | Add "OR" Clause
-- choose field -- | -- oper -- | -- value --

At the bottom, there is a 'Conditions' section with the note: 'Access Control Rules have two decision types, and these types will behave differently depending on conditions.'

STEP 7: Scroll down under requires role

STEP 8: Double click on insert a new row

STEP 9: Give task table and team member role

STEP 10: Click on submit

STEP 11: 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

STEP 12: Click on profile on top right side

STEP 13: Click on impersonate user

STEP 14: Select bob user

STEP 15: Go to all and select task table2 in the application menu bar

STEP 16: Comment and status fields are have the edit access

The screenshot shows a ServiceNow web interface for creating a new record in 'task table 2'. The title bar reads 'task table 2 - Create Created'. The page includes a navigation bar with links for 'All', 'Favorites', 'History', and a search bar. Below the navigation is a toolbar with a 'Submit' button. The main content area contains several input fields: 'task id' (disabled), 'task name' (disabled), 'status' (dropdown menu showing '-- None --'), 'assigned to' (disabled), 'comments' (disabled), and 'due date' (disabled). At the bottom left is a 'Submit' button, and at the bottom right is a watermark for 'Activate Windows'.

Flow

Create a Flow to Assign operations ticket to group:

STEP 1: Open ServiceNow.

STEP 2: Click on All >> search for Flow Designer

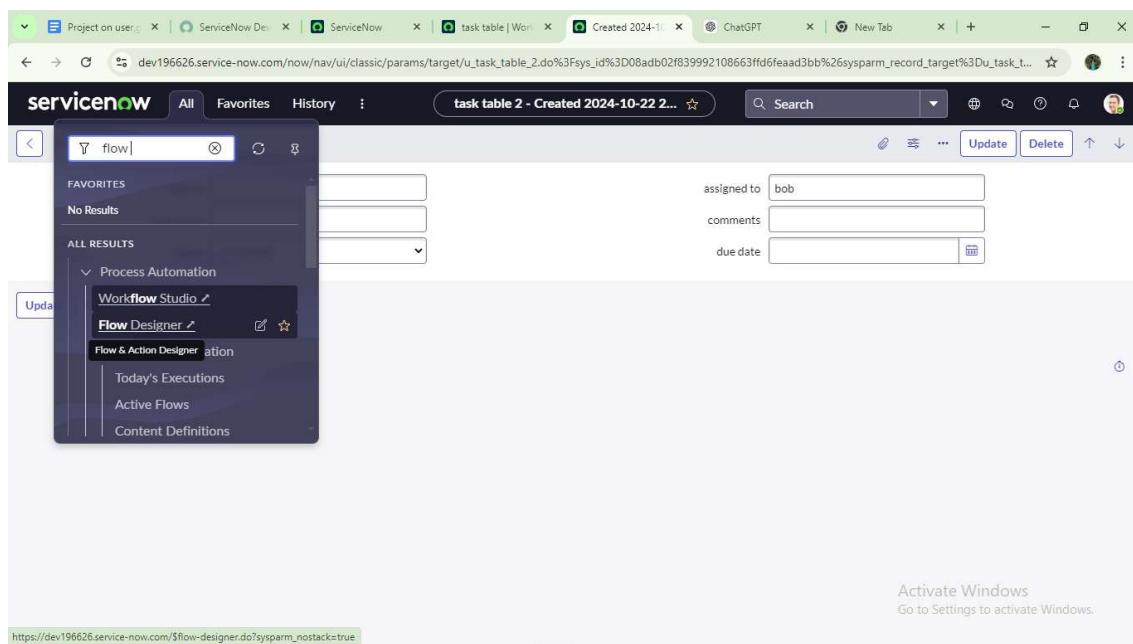
STEP 3: Click on Flow Designer under Process Automation.

STEP 4: After opening Flow Designer Click on new and select Flow.

STEP 5: Under Flow properties Give Flow Name as “ task table”.

STEP 6: Application should be Global.

STEP 7: Click build flow.



The screenshot shows the ServiceNow Workflow Studio homepage. At the top, there are several tabs: Project on user..., ServiceNow Dev, ServiceNow, Created 2024-10, ChatGPT, and New Tab. Below the tabs, the URL is dev196626.service-now.com/now/workflow-studio/home/flow.

The main area is titled "Workflow Studio" and has tabs for "Homepage", "Operations", and "Integrations". Below these tabs, there are buttons for "Playbooks", "Flows" (which is selected), "Subflows", "Actions", and "Decision tables".

A table lists "Flows" (39) with columns: Name, Application, Status, Active, and Update. The rows show various flow names like "Benchmark Recommendation Evaluator", "Business process approval flow", etc., along with their application (Benchmarks Spoke or Global), status (Published or Pending), and update dates.

A context menu is open over a row, with "Flow" highlighted. Other options in the menu include "Playbook", "Subflow", "Action", and "Decision table". To the right of the menu, a sidebar displays "Latest updates" with entries from "System Administrator" regarding "task table", "Create Flow Data", and "Steps".

The screenshot shows the ServiceNow Workflow Studio builder interface for creating a new flow. The title bar says "New Flow | Workflow Studio" and the URL is dev196626.service-now.com/now/workflow-studio/builder?typeSysId=2d85e527439231106c4bb0117fb8f208&sysId=-1".

The interface is divided into two main sections: a left pane showing a visual flow diagram with nodes and connections, and a right pane for entering flow details.

Let's get the details for your flow

Flow name: task table

Description: Describe your flow.

Application: Global

[Show additional properties](#)

At the bottom right, there is a message: "Activate Windows Go to Settings To activate Windows" above a "Cancel" button and a prominent "Build flow" button.

next step:

STEP 1: Click on Add a trigger

STEP 2: Select the trigger in that Search for “create record” and select that.

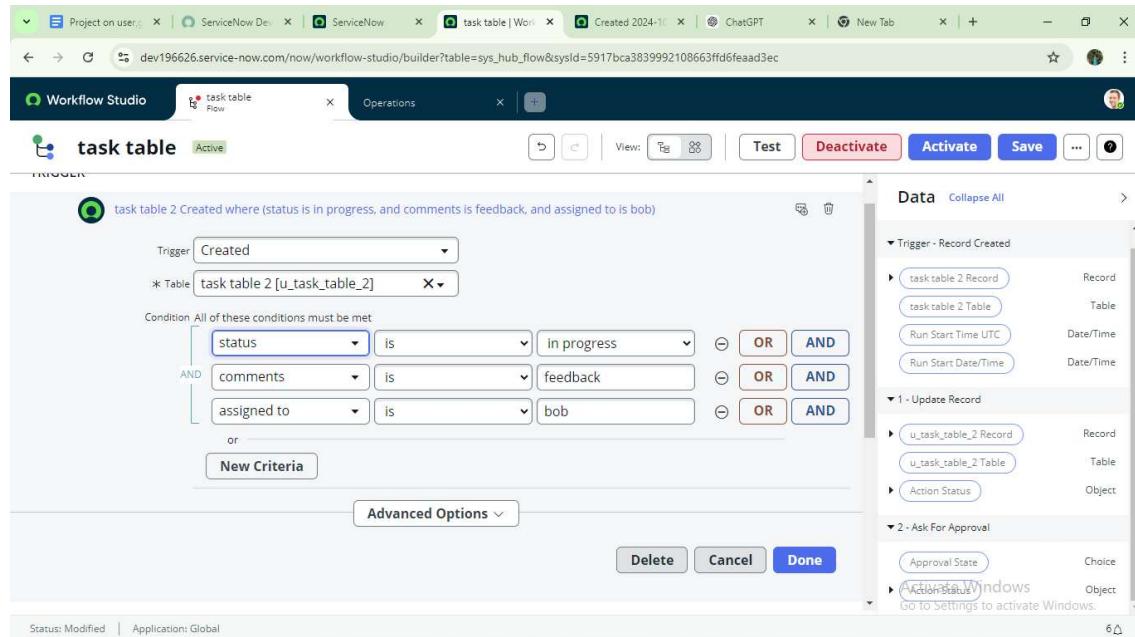
STEP 3: Give the table name as “ task table ”.

STEP 4: Give the Condition as Field : status Operator :is Value : in progress

Field : comments Operator :is Value : feedback

Field : assigned to Operator :is Value : bob

STEP 5: After that click on Done.



Next step:

STEP 1: Click on Add an action.

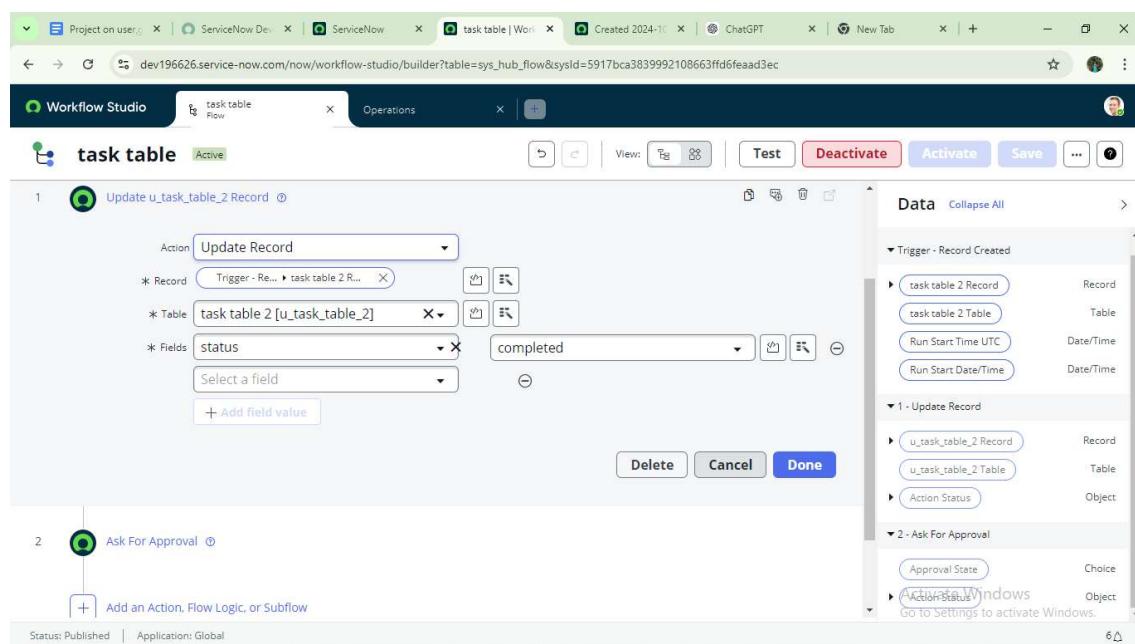
STEP 2: Select action in that ,search for “ update records”.

STEP 3: In Record field drag the fields from the data navigation from Right Side(Data pill)

STEP 4: Table will be auto assigned after that

STEP 5: Add fields as “status” and value as “completed”

STEP 6: Click on Done.



Next step:

STEP 1: Now under Actions.

STEP 2: Click on Add an action.

STEP 3: Select action in that ,search for “ ask for approval ”.

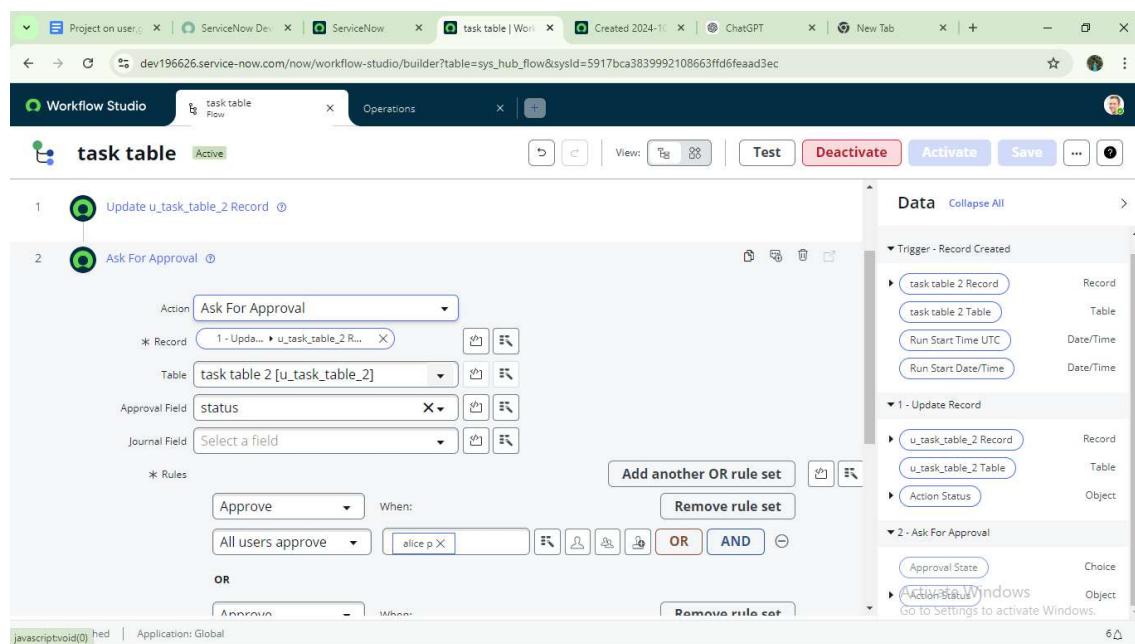
STEP 4: In Record field drag the fields from the data navigation from Right side

STEP 5: Table will be auto assigned after that

STEP 6: Give the approve field as “ status”

STEP 7: Give approver as alice p

STEP 8: Click on Done.



STEP 1: Go to application navigator search for task table.

STEP 2: It status field is updated to completed

The screenshot shows a ServiceNow task table record. The record is titled "task table 2 - Created 2024-10-22 22:25:18". The status field is set to "completed".

task id	assigned to
	bob

task name	comments

status	due date
completed	

Buttons at the bottom left: Update, Delete.

Activation message at the bottom right: Activate Windows
Go to Settings to activate Windows.

STEP 1: Go to application navigator and search for my approval

STEP 2: Click on my approval under the service desk.

STEP 3: Alice p got approval request then right click on requested then select approved

The screenshot shows a ServiceNow web interface with the title bar "servicenow". The main content area displays a table titled "Approvals" with the following columns: State, Approver, Comments, Approvalfor, and Created. The table lists 20 rows of data, with the first row highlighted in blue. The "State" column includes status icons: green for Approved, red for Rejected, and yellow for Requested. The "Approver" column lists names like "alice p", "Fred Luddy", "Howard Johnson", etc. The "Comments" and "Approvalfor" columns show "(empty)" or specific identifiers. The "Created" column shows dates ranging from 2024-09-01 to 2024-10-22. A search bar and filter dropdown are visible at the top of the table. At the bottom, there are navigation buttons for page 1 of 20.

State	Approver	Comments	Approvalfor	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	Fred Luddy	(empty)		2024-09-01 12:15:44
Requested	Howard Johnson	CHG0000096		2024-09-01 06:15:29
Requested	Ron Kettering	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 Kettering	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.