

Project Title

Optimizing User, Group, and Role Management with Access Control and Workflows

Team Id: NM2025TMID17911

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Category: ServiceNow System Administrator

Skills Required: Database & Directory Services, Programming & Scripting

Project Description:

The project “Optimizing User, Group, and Role Management with Access Control and Workflows” focuses on designing and implementing an efficient system for managing users, groups, and roles within an organization. The goal is to enhance security, scalability, and operational efficiency by streamlining how access rights and permissions are assigned, monitored, and automated.

The system ensures that user identities are properly authenticated, authorized, and mapped to specific roles or groups according to organizational policies. By integrating role-based access control (RBAC) and workflow-driven automation,

the project minimizes manual intervention, reduces errors, and enforces compliance with security standards.

TASK INITIATION

Create Users

1. Open service now
2. Click on All >> search for users
3. Select Users under system security
4. Click on new
5. Fill the following details to create a new user
6. Click on submit

The screenshot shows the ServiceNow 'Create User' form for a user named 'alice p'. The form is titled 'User - alice p' and includes a search bar and navigation tabs. The left sidebar shows the 'Users' section under 'System Security'. The main form area contains the following fields:

- User ID: (highlighted with a red box)
- First name:
- Last name:
- Title:
- Department:
- Email:
- Language:
- Calendar integration:
- Time zone:
- Date format:
- Business phone:
- Mobile phone:
- Photo: [Click to add...](#)

Below the form, 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'. The 'Related Links' section includes 'View linked accounts', 'View Subscriptions', and 'Reset a password'. The 'Entitled Custom Tables' section shows 'Roles (3)', 'Groups (1)', 'Delegates', 'Subscriptions', and 'User Client Certificates'.

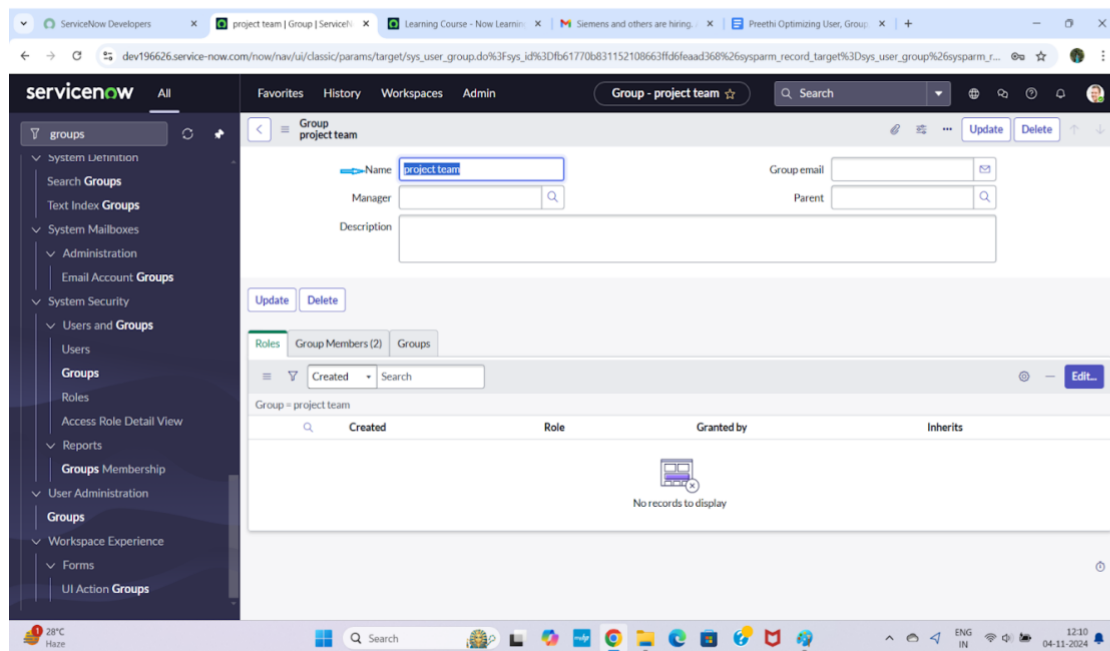
Create one more user:

7. Create another user with the following details
8. Click on submit

The screenshot shows the ServiceNow 'User Administration' page for a new user. The left sidebar contains a navigation menu with 'Users' selected. The main form is titled 'User - Bob p' and includes fields for 'User ID' (bob), 'First name' (Bob), and 'Last name' (p), which are highlighted with a red box. Other fields include 'Email' (bob@gmail.com), 'Language' (None), 'Calendar integration' (Outlook), 'Time zone' (System (America/Los Angeles)), 'Date format' (System (yyyy-MM-dd)), 'Business phone', 'Mobile phone', and 'Photo' (Click to add...). There are also 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', and a 'Related Links' section with 'View linked accounts', 'View Subscriptions', and 'Reset a password'.

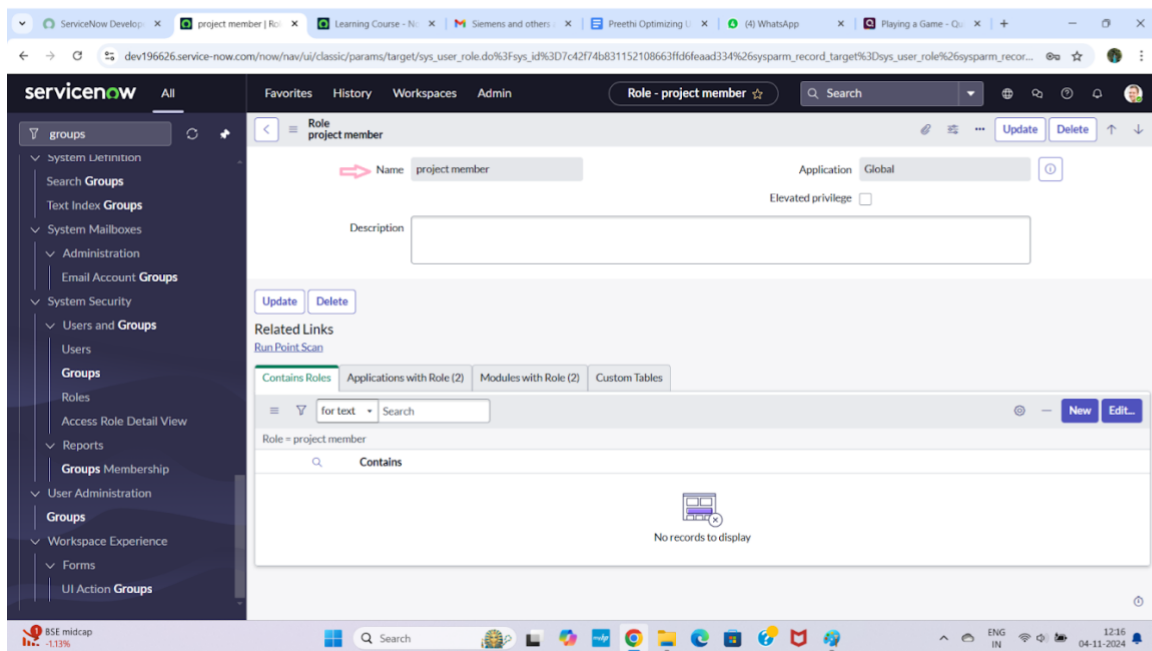
Create Groups

1. Open service now.
2. Click on All >> search for groups
3. Select groups under system security
4. Click on new
5. Fill the following details to create a new group
6. Click on submit



Create roles

1. Open service now.
2. Click on All >> search for roles
3. Select roles under system security
4. Click on new
5. Fill the following details to create a new role
6. Click on submit



Create one more role:

7. Create another role with the following details : Team member
8. Click on submit

Create Table

1. Open service now.
2. Click on All >> search for tables
3. Select tables under system definition
4. Click on new
5. Fill the following details to create a new table
 Label : project table
 Check the boxes Create module & Create mobile module

6. Under new menu name : project table

7. Under table columns give the columns

The screenshot shows the ServiceNow 'Role' configuration page for the role 'team member'. The left sidebar contains a navigation menu with categories like 'groups', 'System Definition', 'System Mailboxes', 'Administration', 'System Security', 'Users and Groups', 'Reports', 'Groups Membership', 'User Administration', 'Workspace Experience', 'Forms', and 'UI Action Groups'. The main content area shows the role configuration with fields for 'Name' (team member), 'Application' (Global), and 'Description'. Below these are 'Update' and 'Delete' buttons. A 'Related Links' section includes a 'Run Point Scan' link. A 'Contains Roles' section shows a table with no records displayed. The bottom of the page shows a Windows taskbar with various application icons and a system clock indicating 12:18 on 04-11-2024.

8. Click on submit

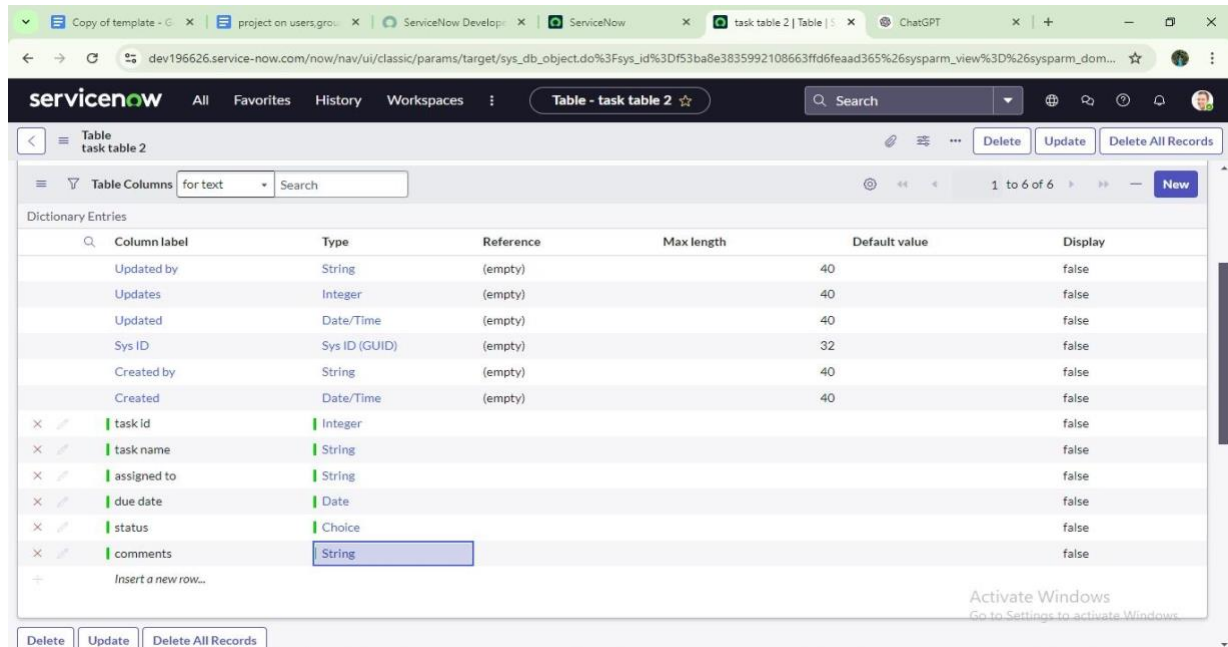
The screenshot shows the ServiceNow 'Table' configuration page for the table 'u_project_table'. The left sidebar contains a navigation menu with categories like 'Table', 'Table Columns', 'Table Controls', and 'Table Application Access'. The main content area shows the table configuration with fields for 'Name' (u_project_table), 'Extends table', 'Create module' (checked), 'Create mobile module' (checked), 'Add module to menu' (Create new), and 'New menu name' (project table). Below these are 'Submit' and 'Cancel' buttons. A 'Table Columns' section shows a table with columns for 'Column label', 'Type', 'Reference', 'Max length', 'Default value', and 'Display'. The table contains the following data:

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

Create one more table:

9. Create another table as: task table 2 and fill with following details.

10. Click on submit.



Column label	Type	Reference	Max length	Default value	Display
Updated by	String	(empty)	40		false
Updates	Integer	(empty)	40		false
Updated	Date/Time	(empty)	40		false
Sys ID	Sys ID (GUID)	(empty)	32		false
Created by	String	(empty)	40		false
Created	Date/Time	(empty)	40		false
task id	Integer				false
task name	String				false
assigned to	String				false
due date	Date				false
status	Choice				false
comments	String				false

Assign users to groups

Project team group

1. Open service now.

2. Click on All >> search for groups

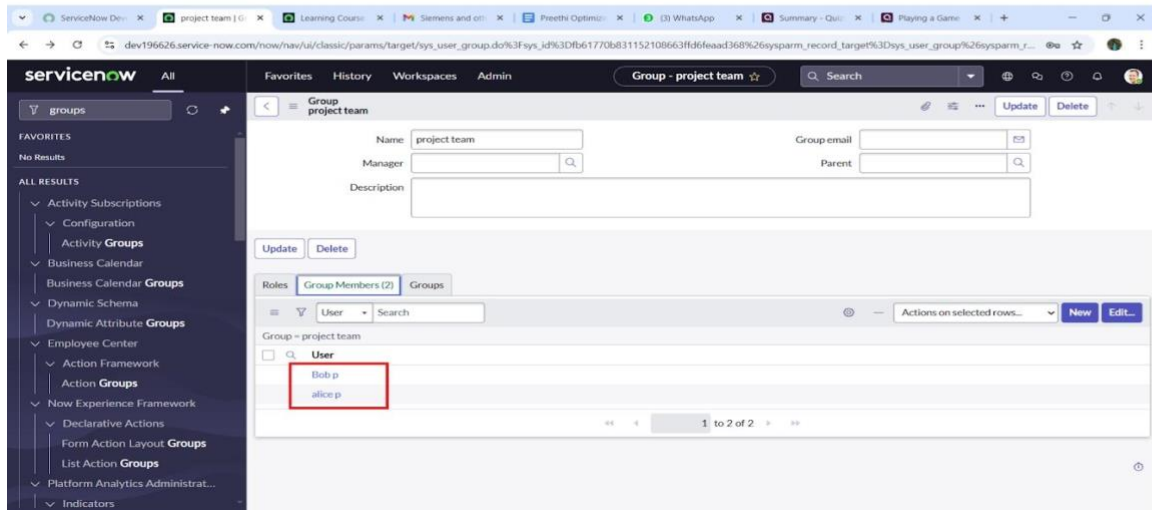
3. Select tables under system definition

4. Select the project team group

5. Under group members

6. Click on edit

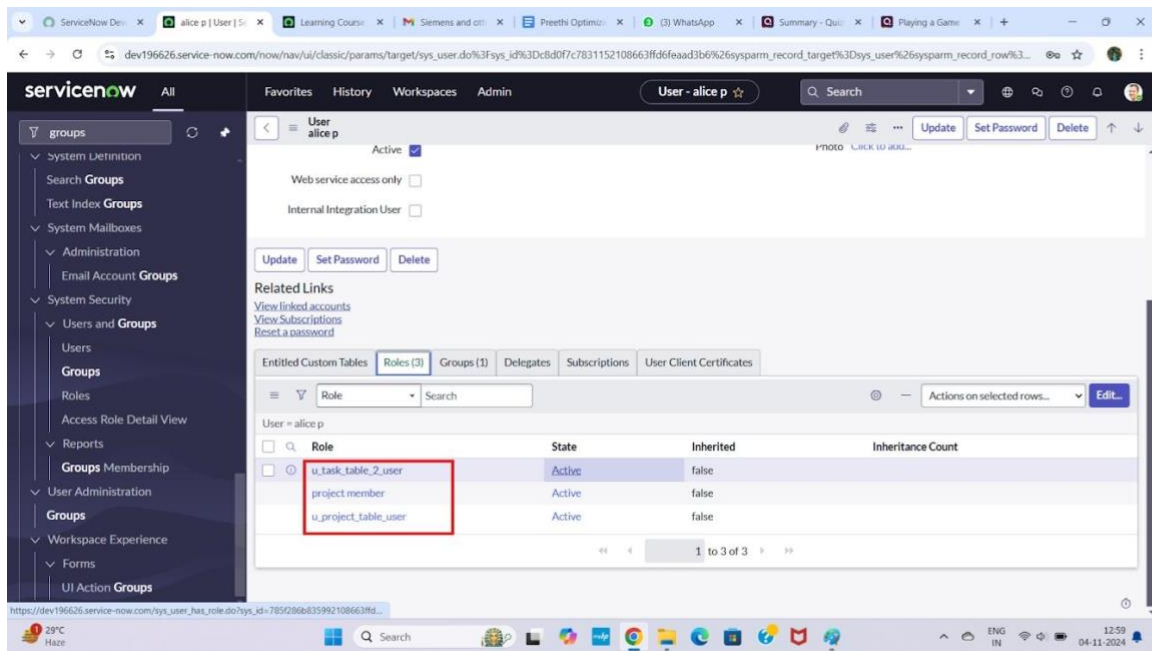
7. Select alice p and bob p and save



Assign roles to users

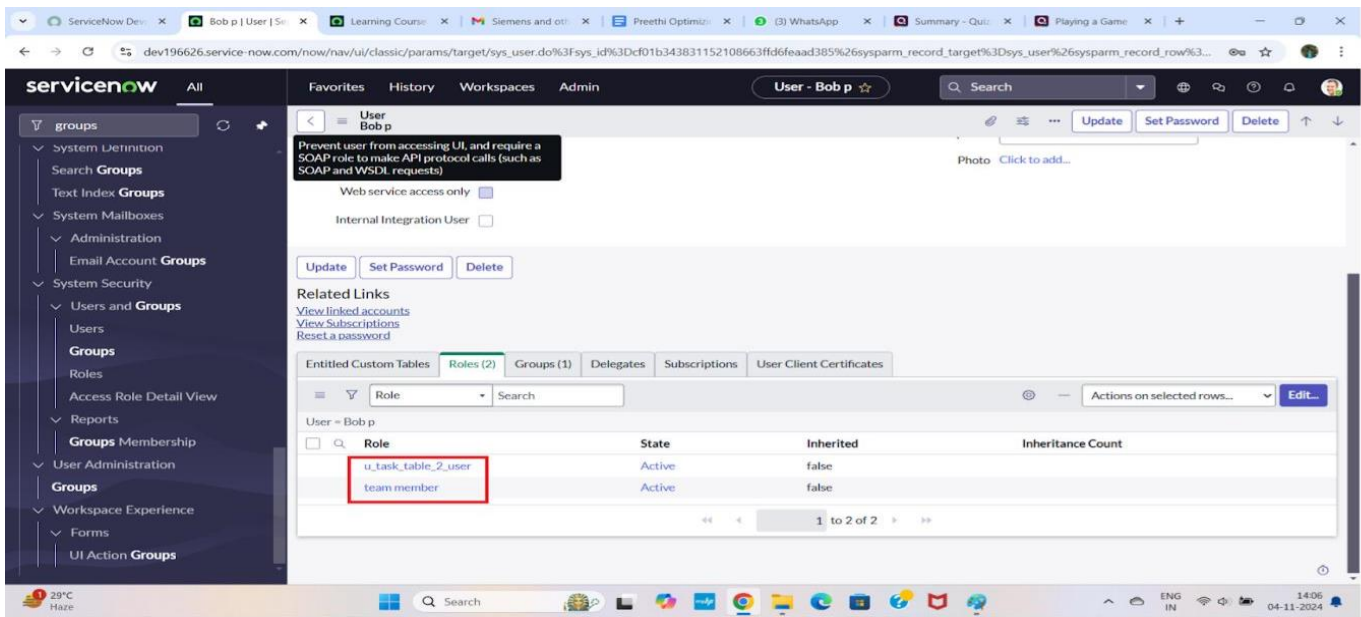
Assign roles to alice user

1. Open servicenow. Click on All >> search for user
2. Select tables under system definition
3. Select the project manager user
4. Under project manager
5. Click on edit
6. Select project member and save
7. click on edit add u_project_table role and u_task_table role
8. click on save and update the form.



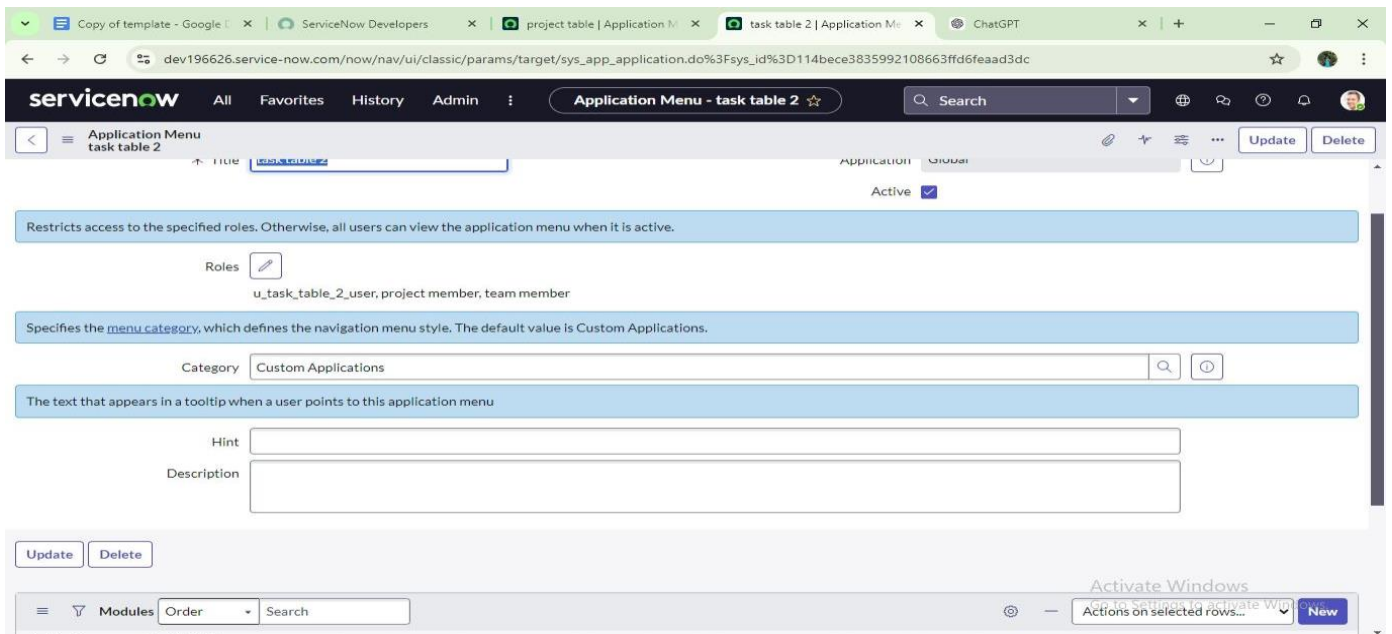
Assign roles to bob user

1. Open ServiceNow. Click on All >> search for user
2. Select tables under system definition
3. Select the bob p user
4. Under team member
5. Click on edit
6. Select team member and give table role and save
7. Click on profile icon Impersonate user to bob
8. We can see the task table



Application access

1. While creating a table it automatically create a application and module for that table
2. Go to application navigator search for search project table application
3. Click on edit module
4. Give project member roles to that application
5. Search for task table2 and click on edit application.
6. Give the project member and team member role for task table 2 application



servicenow | Application Menu - project table

An application menu is a group of modules in the application navigator. Choose the roles that are required to access the application and add or remove modules in the related list below. [More Info](#)

* Title: Application: Active: ☒

Restricts access to the specified roles. Otherwise, all users can view the application menu when it is active.

Roles:

Specifies the [menu category](#), which defines the navigation menu style. The default value is Custom Applications.

Category:

The text that appears in a tooltip when a user points to this application menu

Hint:

Description:

Update Delete

Activate Windows
Go to Settings to activate Windows.

Create ACL

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

servicenow | Access Control - New Record

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

* Type: Application: Active: ☒ Advanced: ☐

* Operation: Decision Type:

Admin overrides: ☒

Protection policy:

* Name:

Description:

Applies To:

Conditions

Access Control Rules have two decision types, and these types will behave differently depending on conditions.

Activate Windows
Go to Settings to activate Windows.

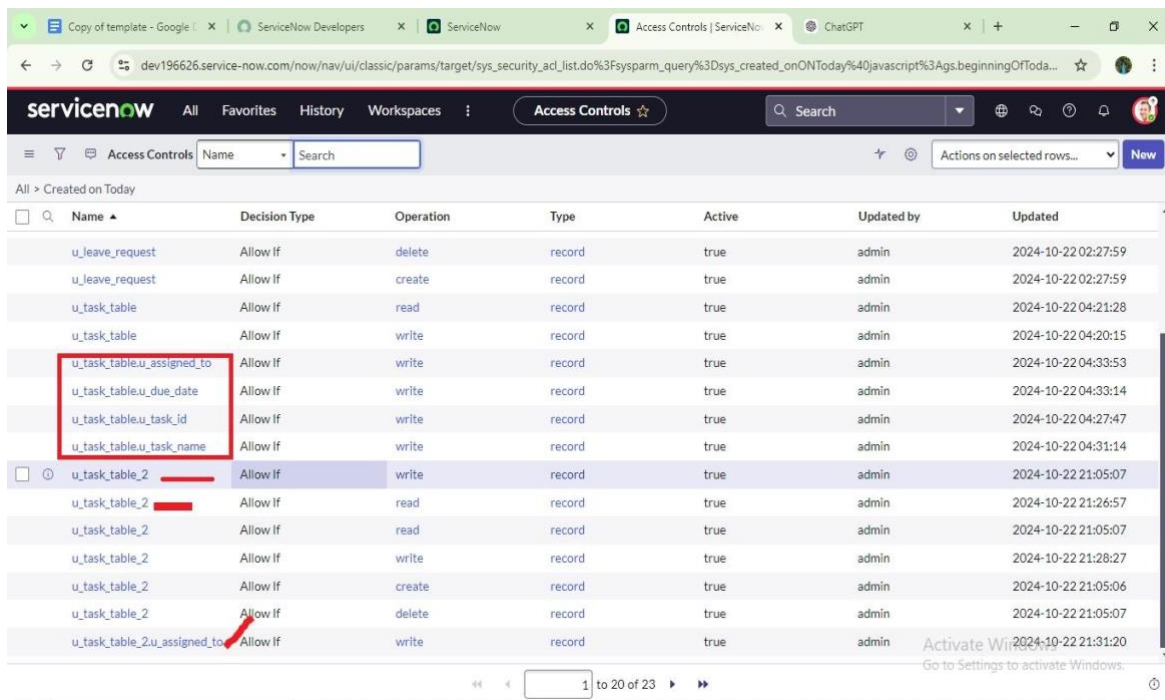
7.Scroll down under requires role

8.Double click on insert a new row

9.Give task table and team member role

10.Click on submit

11.Similarly create 4 acl for the following fields



The screenshot shows the ServiceNow 'Access Controls' list. A red box highlights four rows with the following details:

Name	Decision Type	Operation	Type	Active	Updated by	Updated
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

The table below shows other access controls for 'u_task_table_2'.

Name	Decision Type	Operation	Type	Active	Updated by	Updated
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

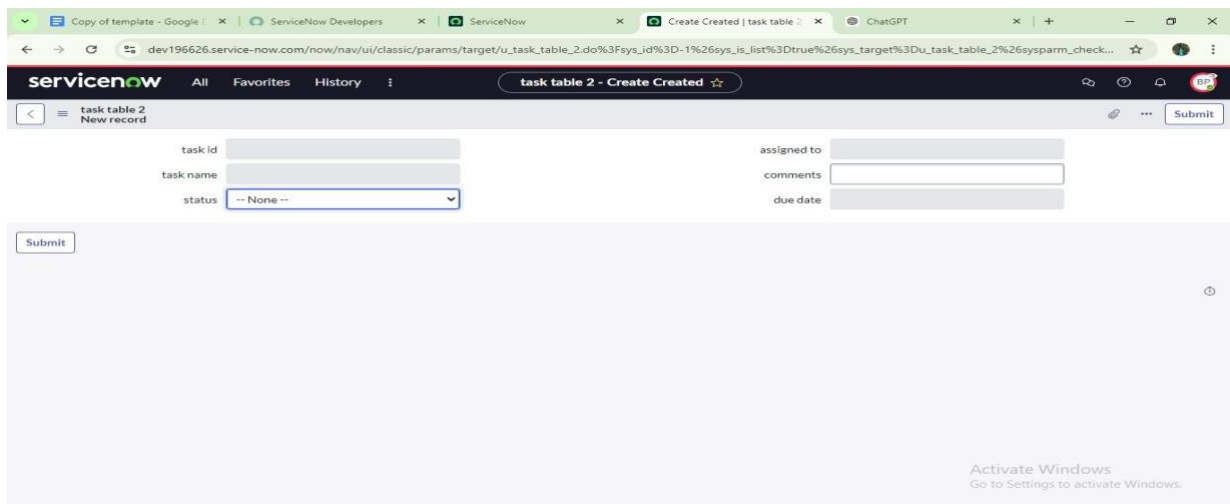
12.Click on profile on top right side

13.Click on impersonate user

14.Select bob user

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

16. Comment and status fields are have the edit access



The screenshot shows the 'task table 2 - Create Created' form. The form has the following fields:

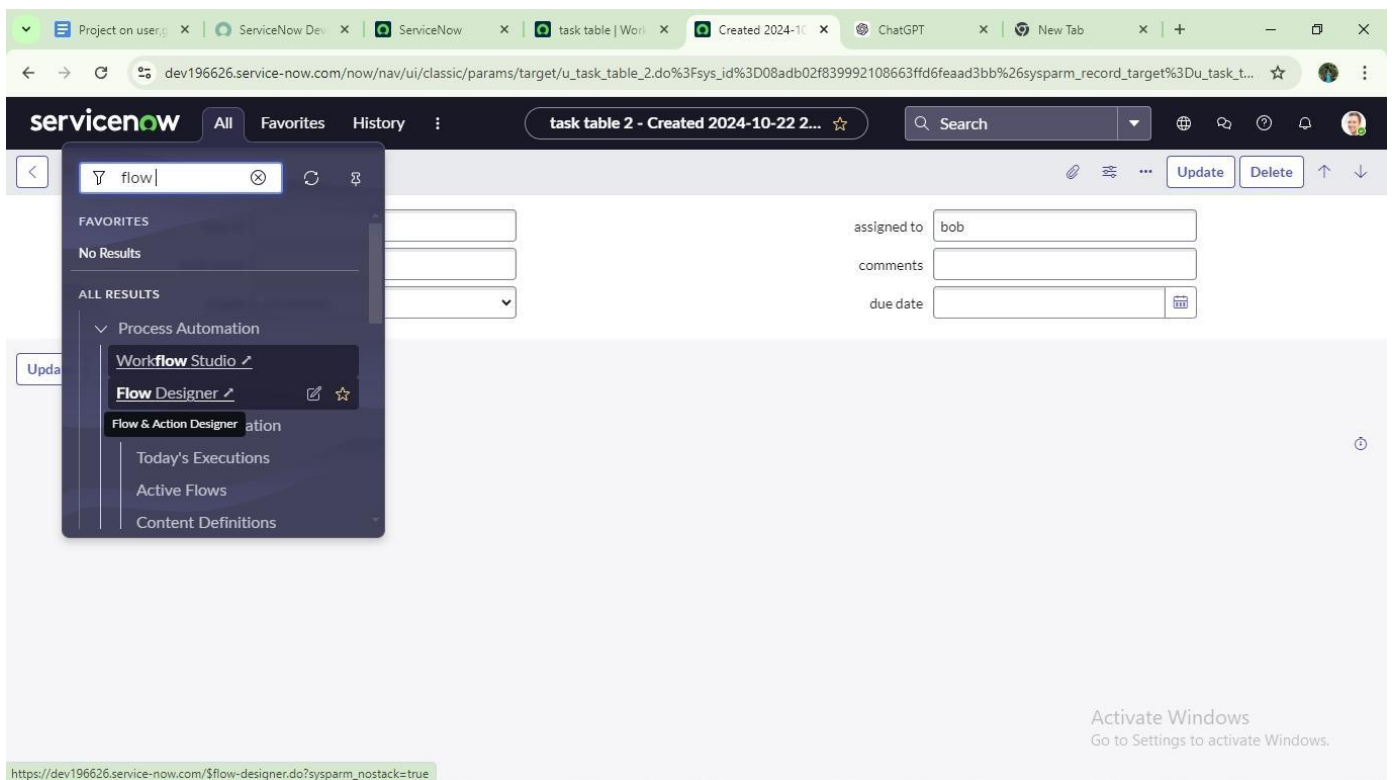
- task id:
- task name:
- status:
- assigned to:
- comments:
- due date:

There is a 'Submit' button at the bottom left of the form.

Create a Flow to Assign operations ticket to group

Open service now.

1. Click on All >> search for Flow Designer
2. Click on Flow Designer under Process Automation.
3. After opening Flow Designer Click on new and select Flow.
4. Under Flow properties Give Flow Name as “ task table”.
5. Application should be Global.
6. Click build flow.



Project on user...ServiceNow Dev...ServiceNow...Homepage - Flo...Created 2024-10...ChatGPT...New Tab

dev196626.service-now.com/now/workflow-studio/home/flow

Workflow Studiotask tableFlow

HomepageOperationsIntegrations

PlaybooksFlowsSubflowsActionsDecision tables

Flows 39Last refreshed just now

<input type="checkbox"/>	Name	Application	Status	Active	Update
<input type="checkbox"/>	Benchmark Recommendation Evaluator	Benchmarks Spoke	Published	true	2024-09-27 22:09:13
<input type="checkbox"/>	Business process approval flow	Global	Published	true	2020-09-23 04:23:59
<input type="checkbox"/>	Change - Cloud Infrastructure - Authorize	Global	Published	true	2020-11-11 07:08:05
<input type="checkbox"/>	Change - Emergency - Authorize	Global	Published	true	2020-10-06 05:39:49
<input type="checkbox"/>	Change - Emergency - Implement	Global	Published	true	2020-09-23 05:06:26
<input type="checkbox"/>	Change - Emergency - Review	Global	Published	true	2020-10-27 04:18:08
<input type="checkbox"/>	Change - Normal - Assess	Global	Published	true	2020-10-06 05:37:05
<input type="checkbox"/>	Change - Normal - Authorize	Global	Published	true	2020-10-06 05:38:35
<input type="checkbox"/>	Change - Normal - Implement	Global	Published	true	2020-09-23 04:23:59

New

PlaybookFlowSubflowActionDecision table

Pick up where you left off

task tableLast updated: 14 min. ago by Syst...

Create Flow DataLast updated: 5 months ago by Sy...

StepsLast updated: 5 months ago by Sy...

Latest updates

System Administrator modified task table14 min. ago

System Administrator modified Create Flow Data5 months ago

System Administrator modified Steps Settings to activate Windows.5 months ago

Project on user...ServiceNow Dev...ServiceNow...New Flow | Wor...Created 2024-10...ChatGPT...New Tab

dev196626.service-now.com/now/workflow-studio/builder?typeSysId=2d85e527439231106c4bb0117fb8f208&sysId=-1

Workflow Studiotask tableFlowOperationsNew Flow Flow

Let's get the details for your flow

Flow name *task table

DescriptionDescribe your flow.

Application *Global

> Show additional properties

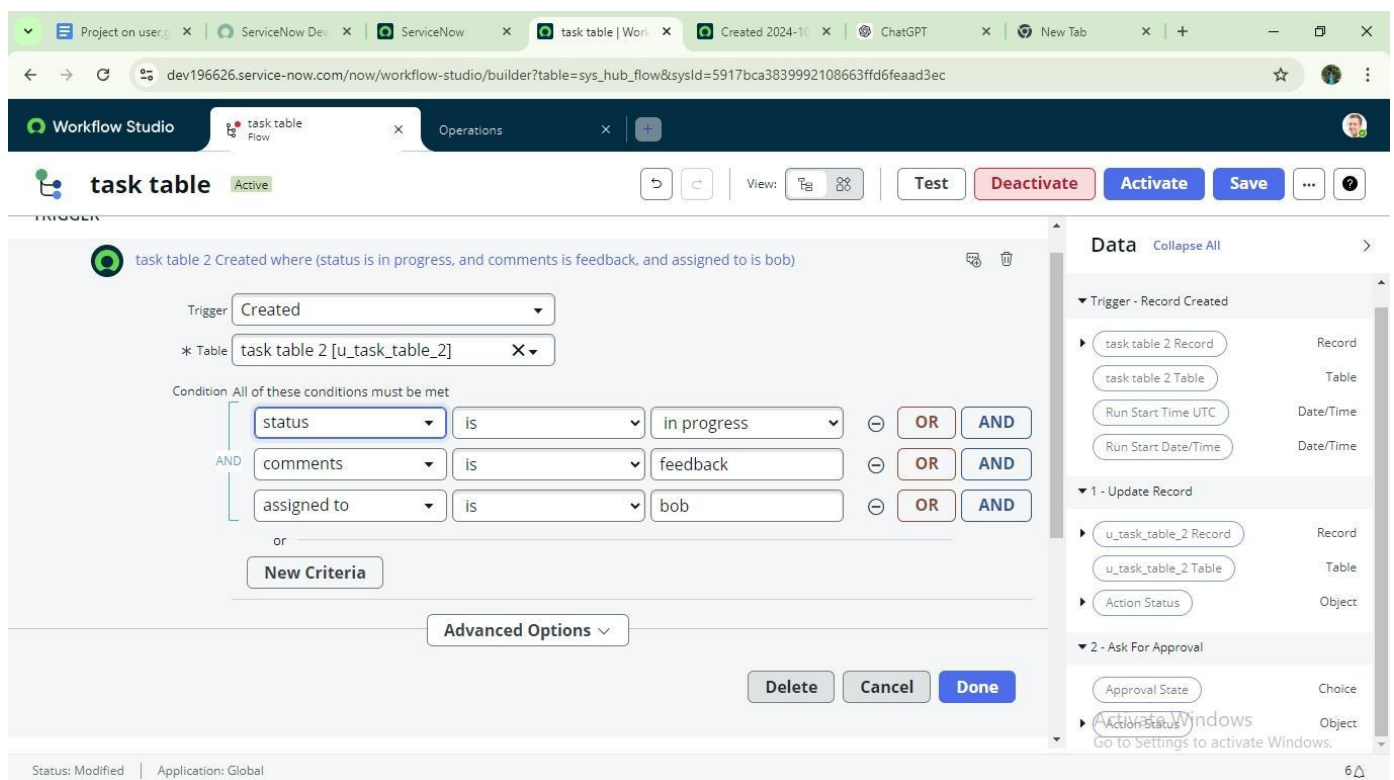
Activate Windows

Go to Settings to activate Windows

CancelBuild flow

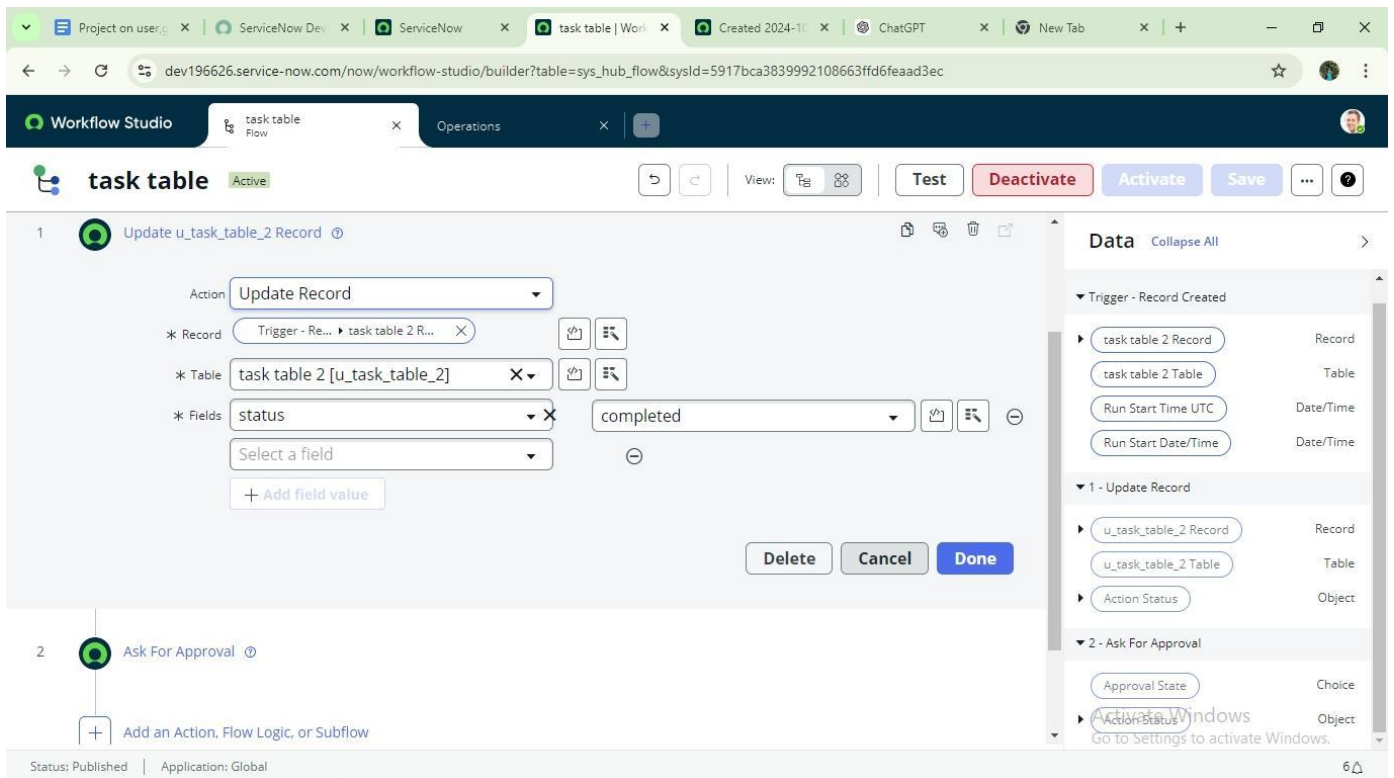
Next step:

1. Click on Add a trigger
2. Select the trigger in that Search for “create record” and select that.
3. Give the table name as “ task table ”.
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
5. After that click on Done.



Next step:

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



NEXT STEP:

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

The screenshot shows the ServiceNow Workflow Studio interface. The workflow is named 'task table' and is currently 'Active'. It consists of two steps:

1. Update u_task_table_2 Record
2. Ask For Approval

The 'Ask For Approval' step is configured with the following details:

- Action:** Ask For Approval
- Record:** 1 - Upda... u_task_table_2 R...
- Table:** task table 2 [u_task_table_2]
- Approval Field:** status
- Journal Field:** Select a field
- Rules:**
 - Approve
 - When: All users approve
 - alice p X
 - Buttons: OR, AND, Remove rule set

The 'Data' panel on the right shows the data available for the approval step:

- Trigger - Record Created**
 - task table 2 Record (Record)
 - task table 2 Table (Table)
 - Run Start Time UTC (Date/Time)
 - Run Start Date/Time (Date/Time)
- 1 - Update Record**
 - u_task_table_2 Record (Record)
 - u_task_table_2 Table (Table)
 - Action Status (Object)
- 2 - Ask For Approval**
 - Approval State (Choice)
 - Action Status (Object)

9.Go to application navigator search for task table.

10.It status field is updated to completed

The screenshot shows the ServiceNow application navigator with the 'task table 2' record selected. The record details are as follows:

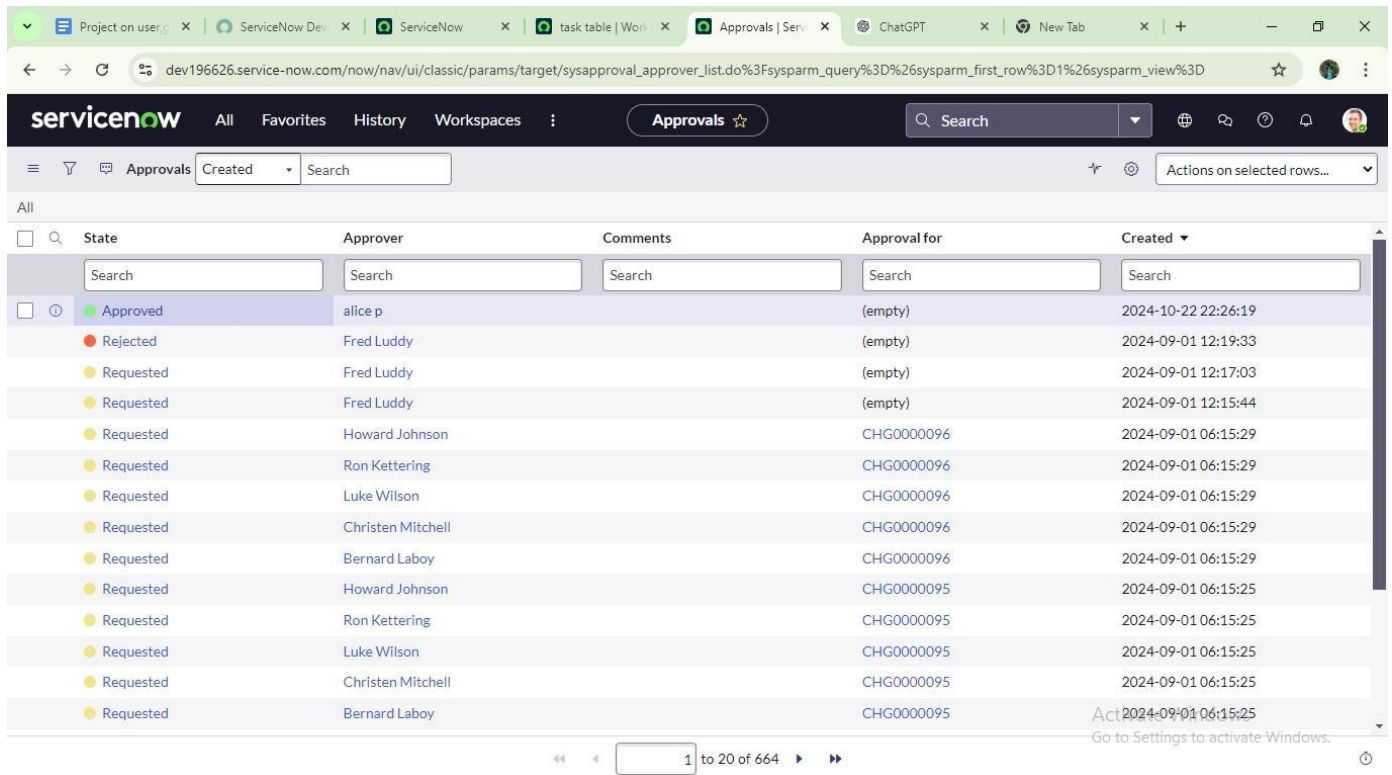
- task id:** [Empty field]
- task name:** [Empty field]
- status:** completed
- assigned to:** bob
- comments:** [Empty field]
- due date:** [Empty field]

The record was created on 2024-10-22 at 22:25:18. The interface includes 'Update' and 'Delete' buttons. An 'Activate Windows' watermark is visible in the bottom right corner.

11.Go to application navigator and search for my approval

12.Click on my approval under the service desk.

13. Alice p got approval request then right click on requested then select approved



The screenshot shows the ServiceNow 'Approvals' page. The table lists various approval requests with columns for State, Approver, Comments, Approval for, and Created. The first row is highlighted as 'Approved' for 'alice p' on '2024-10-22 22:26:19'. Other rows show 'Rejected' and 'Requested' states for various approvers like Fred Luddy, Howard Johnson, Ron Kettering, Luke Wilson, Christen Mitchell, and Bernard Laboy, all dated '2024-09-01'.

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	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:

The project “Optimizing User, Group, and Role Management with Access Control and Workflows” successfully demonstrates how structured identity and access management can improve both security and efficiency within an organization. By implementing role-based access control (RBAC), automated workflows, and centralized management of users and groups, the system reduces administrative overhead, minimizes errors, and ensures that only authorized users have access to the right resources.

This solution not only enforces the principle of least privilege but also provides a scalable framework adaptable to dynamic organizational needs. The inclusion of audit trails and compliance features enhances transparency and accountability, making the system reliable for enterprises that require strict security governance.

In conclusion, this project highlights the importance of combining technology, automation, and security best practices to streamline identity management. It paves the way for organizations to achieve better access control, stronger compliance, and improved user experience, ensuring long-term sustainability and trust in digital operations.