

***-----PROJECT NAME: OPTIMIZING  
USER,GROUP,AND ROLE MANAGEMENT WITH  
ACCESS CONTROL AND WORK FLOWS***

***TEAM ID: NM2025TMID15376***

***TEAM SIZE: 4***

***TEAM LEADER: MUGESH V***

***TEAM MEMBER: MUTHUKUMARAN K***

***TEAM MEMBER: LOGESH M***

***TEAM MEMBER: ESWARAN R***



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

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## **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.

## **Objective:**

**1. Define User Roles Clearly:** Establish distinct roles for Alice (Project Manager) and Bob (Team Member) to ensure clarity in responsibilities and access rights within the project management tool.

**2. Implement Access Control Mechanisms:** Create a system that restricts Bob's access to project creation and editing features while allowing him to view and update his assigned tasks, thereby preventing unauthorized changes.

**3. Streamline Workflow Processes:** Develop a structured workflow for task assignment and progress tracking, ensuring that Alice can easily assign tasks to Bob and monitor their completion in a timely manner.

**Skills:** Users, Groups, Roles, Tables, Access Control List, Flow Designer

## **ASK INITIATION**

### **Milestone 1 : Users**

#### ***Activity 1: Create Users***

## 1. Open ServiceNow

- Log in with your credentials.

## 2. Navigate to Users

- Click on **All** in the application navigator.
- Type **Users** in the search bar.
- Select **Users** under **System Security**.

## 3. Create New User

- Click on **New** at the top.

## 4. Fill User Details (example fields you may need to complete):

- **User ID** – Unique login name (e.g., jdoe).
- **First Name** – Enter the user's first name.
- **Last Name** – Enter the user's last name.
- **Email** – Enter a valid email address.
- **Password** – Set a password (if required).
- **Roles** – Assign necessary roles (e.g., itil, admin).
- **Department/Location** – (Optional) fill based on organization structure.

## 5. Submit

- Click on **Submit** to save the user record.

The screenshot displays the ServiceNow 'User' form for a user named 'alice p'. The form is divided into several sections. On the left, a sidebar shows the 'users' application and a list of 'ALL RESULTS' including Configuration, CI Lifecycle Management, CI State Registered Users, Password Reset, Blocked Users, Organization, Users, System Security, Users and Groups, Roles, Access Role Detail View, Reports, and User Administration. The main form area contains the following fields and options:

- User ID:** A text field containing 'alice'.
- First name:** A text field containing 'alice'.
- Last name:** A text field containing 'p'.
- Title:** A text field.
- Department:** A text field with a search icon.
- Email:** A text field containing 'alice@gmail.com'.
- Language:** A dropdown menu set to '-- None --'.
- Calendar integration:** A dropdown menu set to 'Outlook'.
- Time zone:** A dropdown menu set to 'System (America/Los Angeles)'.
- Date format:** A dropdown menu set to 'System (yyyy-MM-dd)'.
- Business phone:** A text field.
- Mobile phone:** A text field.
- Photo:** A link labeled 'Click to add...'.
- Active:** A checkbox that is checked.
- Password needs reset:** A checkbox.
- Locked out:** A checkbox.
- Web service access only:** A checkbox.
- Internal Integration User:** A checkbox.

At the bottom of the form, there are buttons for 'Update', 'Set Password', and 'Delete'. Below these buttons, there are links for 'View linked accounts', 'View Subscriptions', and 'Reset a password'. At the very bottom, there are tabs for 'Entitled Custom Tables', 'Roles (3)', 'Groups (1)', 'Delegates', 'Subscriptions', and 'User Client Certificates'.

## 6. Click on New Again

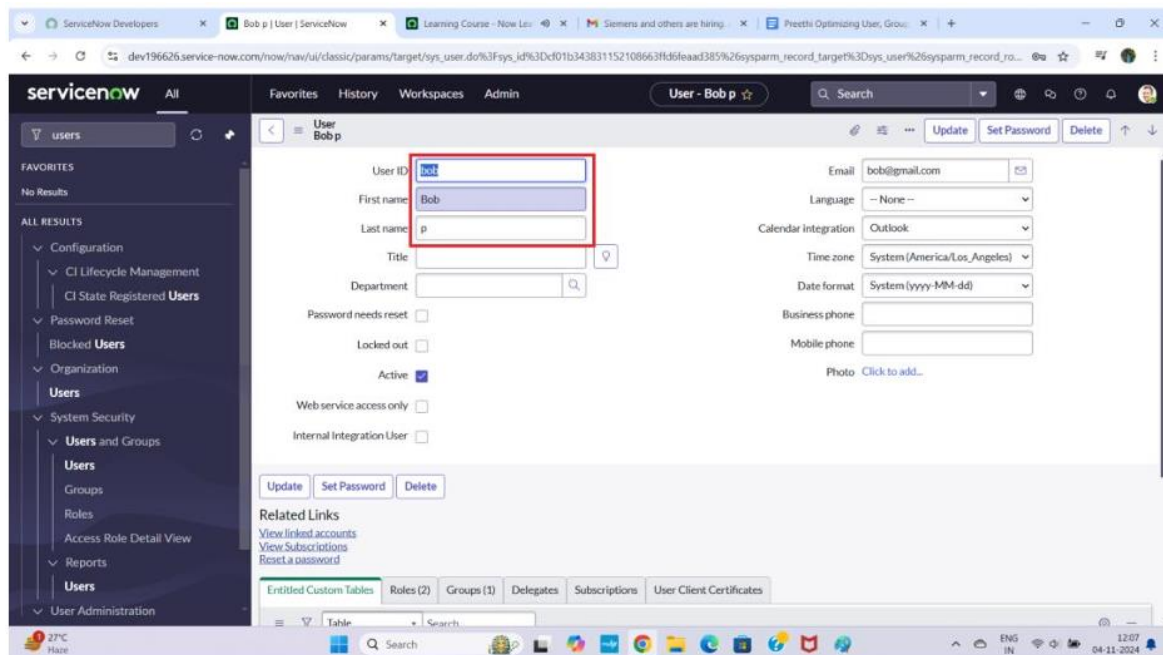
- After the first user is created, click **New** again to add another user.

## 7. Enter Second User Details

- **User ID** – e.g., asmith
- **First Name** – Alice
- **Last Name** – Smith
- **Email** – asmith@example.com
- **Password** – Set a password.
- **Roles** – Assign required roles.

## 8. Click on Submit

- Save the second user record.



## Milestone 2 : Groups

### **Activity 1: Create Groups**

#### 1. Open ServiceNow

- Log in with your ServiceNow credentials.

#### 2. Navigate to Groups

- Click on **All** in the application navigator.
- Type **Groups** in the search bar.
- Select **Groups** under **System Security**.

#### 3. Create New Group

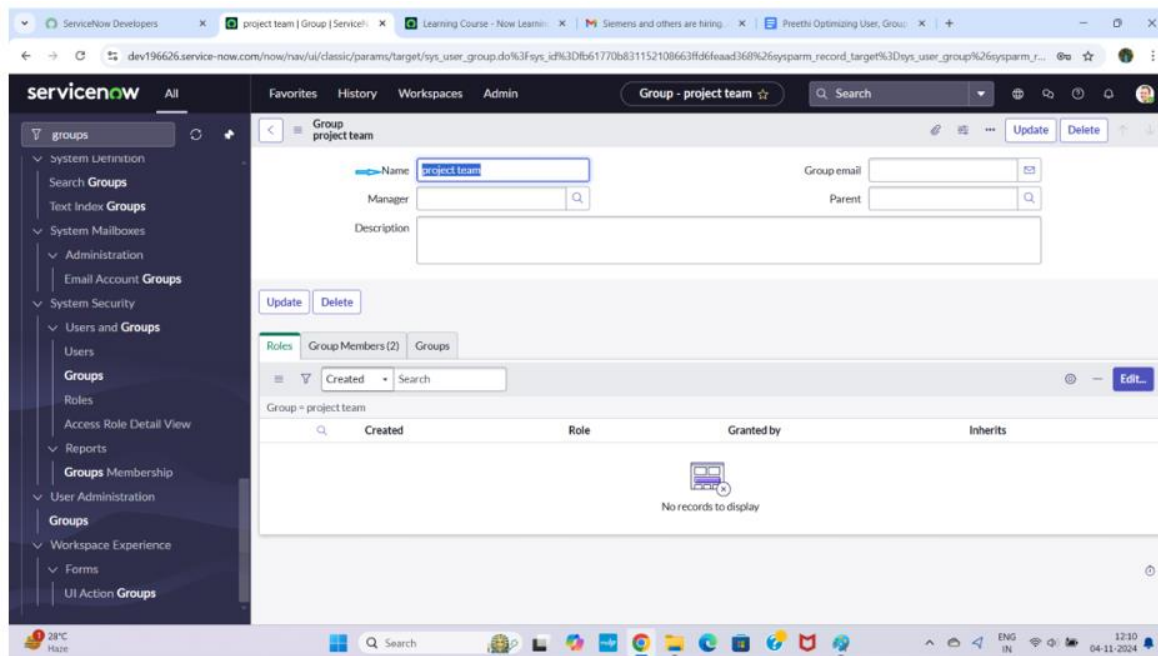
- Click on **New** at the top of the page.

#### 4. Fill Group Details

- **Name** – Enter the group name (e.g., *IT Support*).
- **Description** – Provide a short description (e.g., *Handles IT issues*).
- **Manager** – Assign a manager if needed.
- **Roles** – Add roles that group members will inherit.
- **Members** – Add users who belong to this group.

#### 5. Submit

- Click on **Submit** to save the new group.



### Milestone 3 : Roles

#### **Activity 1: Create roles**

##### 1. Open ServiceNow

- Log in with your ServiceNow credentials.

##### 2. Navigate to Roles

- Click on **All** in the application navigator.
- Type **Roles** in the search bar.
- Select **Roles** under **System Security**.

##### 3. Create New Role

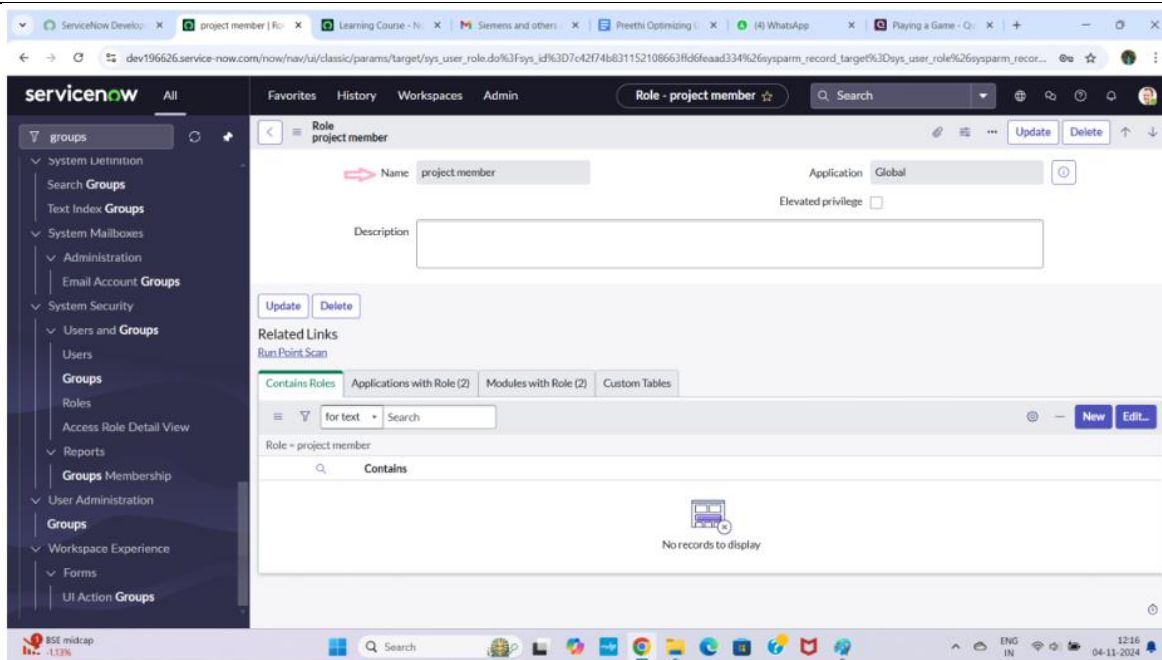
- Click on **New** at the top of the Roles list.

##### 4. Fill Role Details

- **Name** – Enter the role name (e.g., *incident\_manager*).
- **Description** – Provide a short description (e.g., *Manages incident tickets*).
- **Other fields** – Fill additional details if required.

##### 5. Click on Submit

- Save the new role record.



6. **Click on New Again**
  - After creating the first role, click **New** again.
7. **Enter Second Role Details**
  - **Name** – Enter another role name (e.g., *change\_approver*).
  - **Description** – Provide a description (e.g., *Approves change requests*).
8. **Click on Submit**
  - Save the second role record.

## **Milestone 4 : Table**

### ***Activity 1: Create Table***

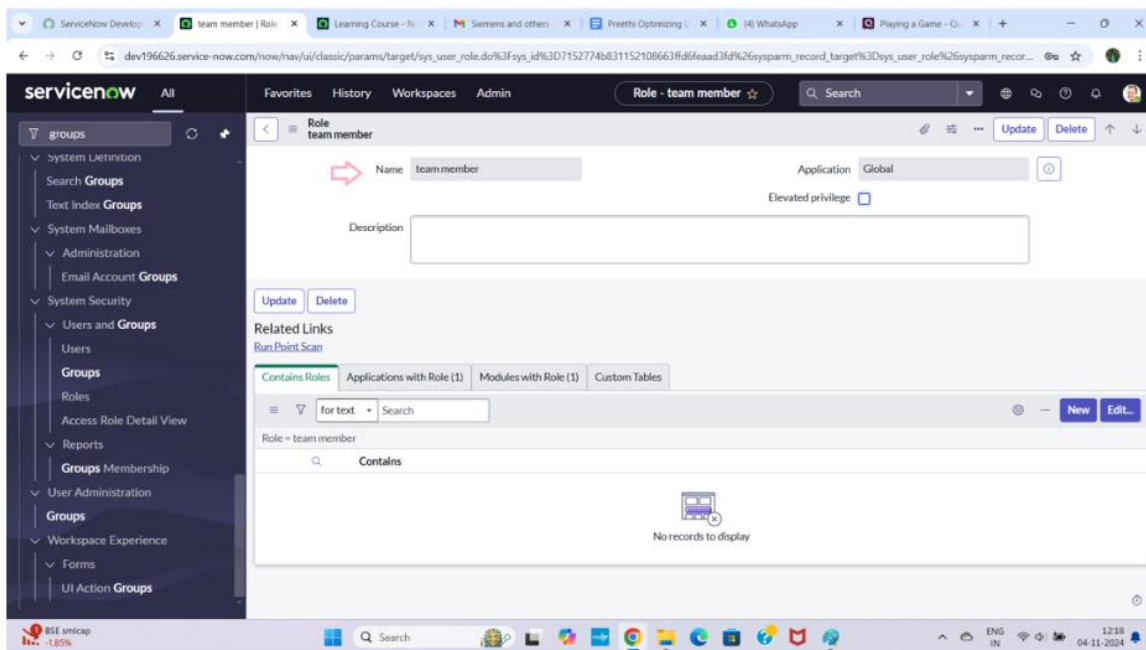
1. **Open ServiceNow**
  - Log in with your ServiceNow credentials.
2. **Navigate to Tables**
  - Click on **All** in the application navigator.
  - Search for **Tables**.
  - Select **Tables** under **System Definition**.
3. **Create a New Table**
  - Click on **New** at the top.
4. **Fill Table Details**
  - **Label** – Enter: Project Table
  - **Name** – Will auto-populate based on the label.
  - **Application** – Choose the application where the table should be created.
  - **Create Module** – ☐ Check this box.
  - **Create Mobile Module** – ☐ Check this box.
5. **Menu Name**
  - Under **New Menu Name**, enter: Project Table.

## 6. Define Table Columns

- Scroll down to the **Columns** section.
- Add the required columns, for example:
  - **Project ID** – String
  - **Project Name** – String
  - **Start Date** – Date/Time
  - **End Date** – Date/Time
  - **Project Manager** – Reference (User table)
  - **Status** – Choice (Active, Completed, On Hold)

## 7. Save Table

- Once all details are filled, click on **Submit**.



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## 8. Click on Submit

- Save the new table by clicking **Submit**.

**Table - New Record**

Name:  Create module: ☒  
 Extends table:  Create mobile module: ☒  
 Add module to menu:   
 New menu name:

**Columns** | Controls | Application Access

Table Columns for text Search

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

## 9. Click on New Again

- After creating the first table, click **New** to create another one.
- **Label** – Enter: Task Table 2
- **Check Boxes** – Select **Create Module** and **Create Mobile Module**.
- **Menu Name** – Enter: Task Table 2.

## 10. Click on Submit

- Save the new table by clicking **Submit**.

**Table - task table 2**

Table Columns for text Search

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

1 to 6 of 6 New

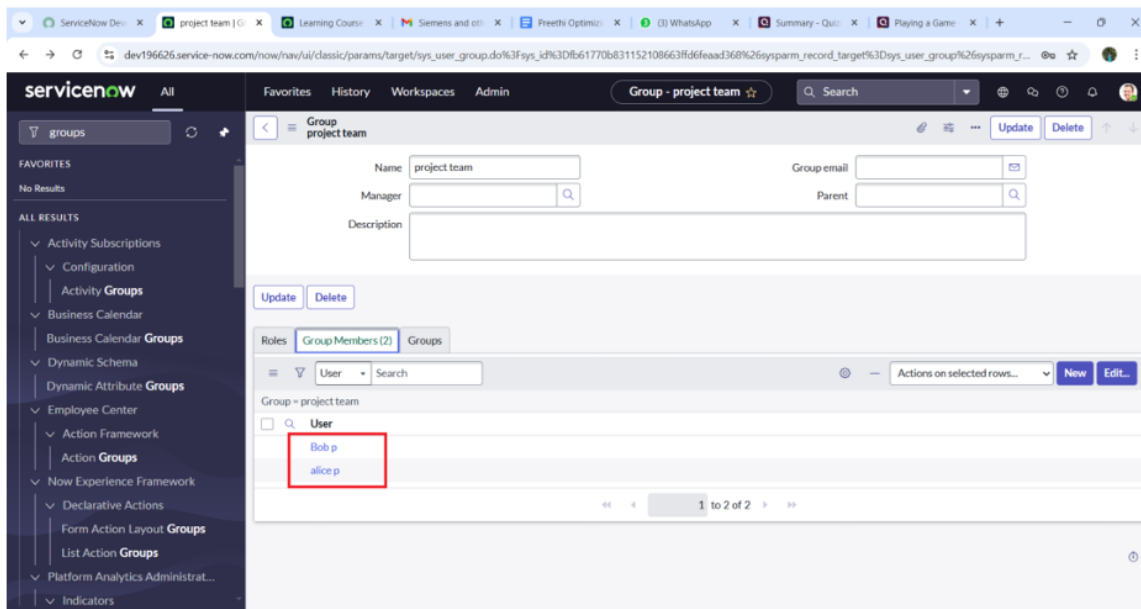
Delete Update Delete All Records



## **Milestone 5 : Assign users to groups**

### ***Activity 1: Assign users to project team group***

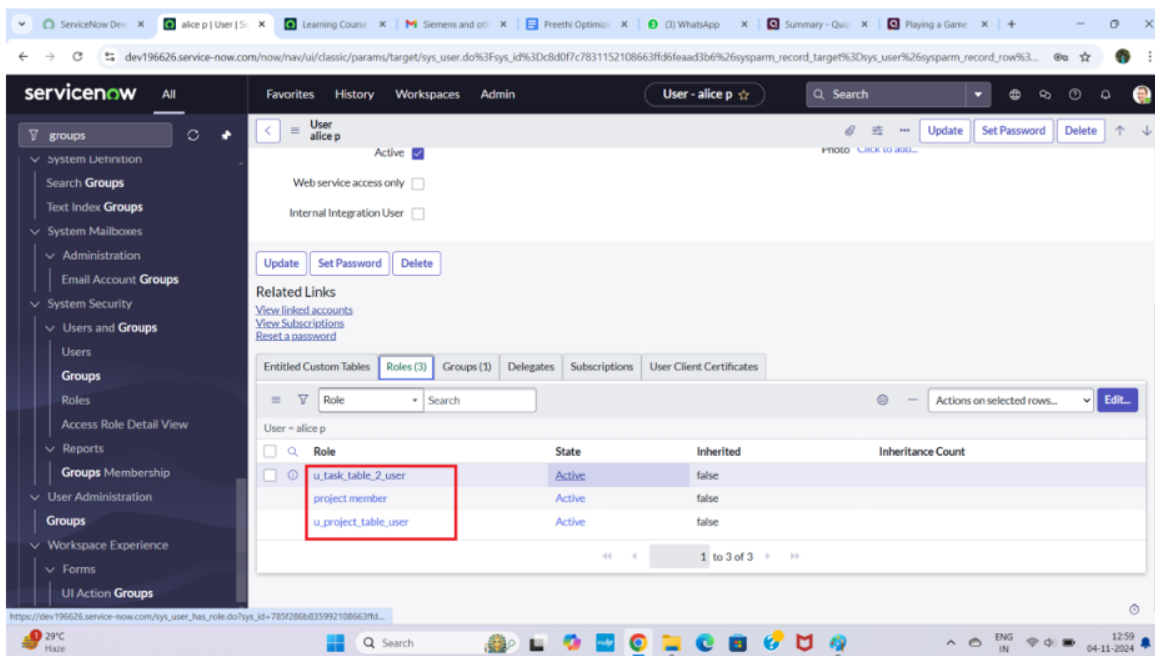
1. **Open ServiceNow**
  - Log in with your ServiceNow credentials.
2. **Navigate to Groups**
  - Click on **All** in the application navigator.
  - Search for **Groups**.
  - Select **Groups** under **System Security**.
3. **Select the Group**
  - From the Groups list, locate and select **Project Team Group**.
4. **Open Group Members**
  - Scroll down to the **Group Members** related list.
5. **Click on Edit**
  - In the **Group Members** section, click **Edit**.
6. **Add Members**
  - In the available users list, search for **Alice P** and **Bob P**.
  - Move them to the **Selected** list.
7. **Save Changes**
  - Click **Save** to add the users to the group.



## **Milestone 6 : Assign roles to users**

### ***Activity 1: Assign roles to alice user***

1. **Open ServiceNow**
  - Log in with your ServiceNow credentials.
  - Click on **All** in the application navigator.
  - Search for **User**.
2. **Navigate to Users**
  - Select **Users** under **System Definition**.
3. **Select the User**
  - From the list, open the **Project Manager** user record.
4. **Scroll to Roles Section**
  - Locate the **Roles** related list under the Project Manager user form.
5. **Click on Edit**
  - In the Roles related list, click **Edit**.
6. **Assign Role: Project Member**
  - From the available roles, select **Project Member**.
  - Move it to the **Selected Roles** list and **Save**.
7. **Click Edit Again**
  - Re-open the Roles editor.
  - Add the following roles:
    - **u\_project\_table**
    - **u\_task\_table**
8. **Save and Update**
  - Click **Save** to assign the roles.
  - Then click **Update** on the user form to finalize the changes.



## **Activity 2: Assign roles to bob user**

## 1. Open ServiceNow

- Log in with your ServiceNow credentials.
- Click on **All** in the application navigator.
- Search for **User**.

## 2. Navigate to Users

- Select **Users** under **System Definition**.

## 3. Select the User

- From the list, open the **Bob P** user record.

## 4. Go to Roles Section

- Scroll down to the **Roles** related list (or the **Team Member** section if configured).

## 5. Click on Edit

- Click **Edit** to modify the assigned roles.

## 6. Assign Role

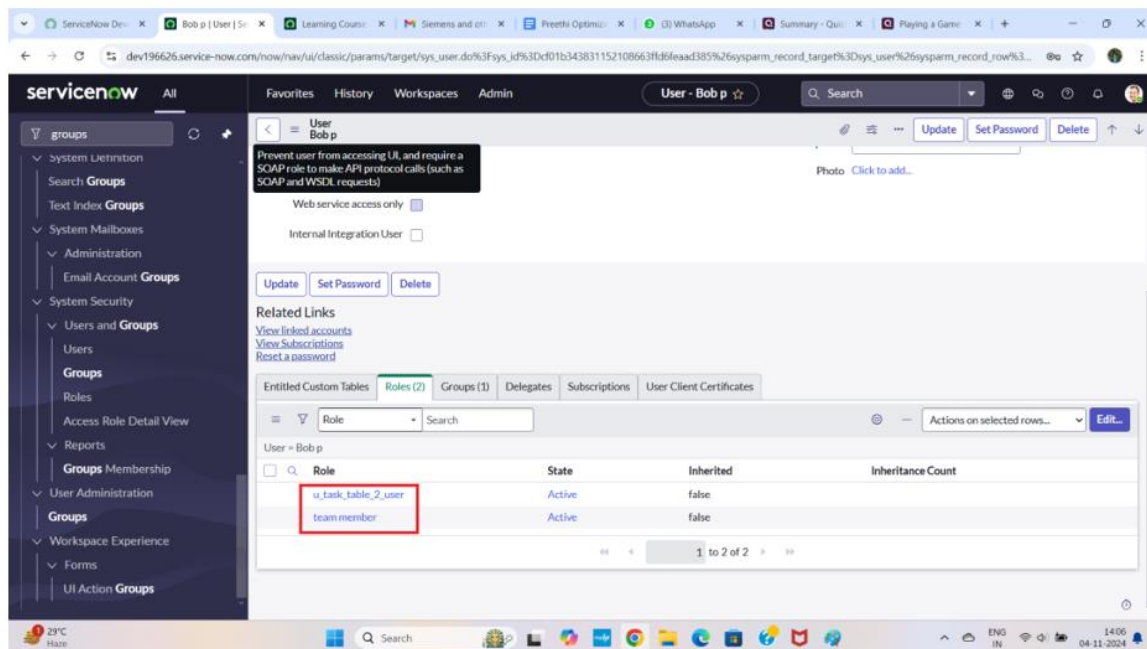
- Select the **Team Member** role.
- Also assign the **Table Role** related to Task Table 2.
- Click **Save**.

## 7. Impersonate User

- Click on your **Profile Icon** (top-right corner).
- Select **Impersonate User**.
- Choose **Bob P**.

## 8. Verify Access

- As Bob P, check the application navigator.
- You should now see access to **Task Table 2**.



## **Milestone 7 : Application access**

### **Activity 1: Assign table access to application**

#### **1. Automatic Application Creation**

- When you **create a new table** in ServiceNow, an **Application** and **Module** for that table are created automatically.
- Example: Creating **Project Table** generates a **Project Table Application** and module in the navigator.

#### **2. Locate the Project Table Application**

- In the **Application Navigator**, search for **Project Table Application**.

#### **3. Edit Module**

- Right-click on the **Project Table Module**.
- Select **Edit Module**.

#### **4. Assign Roles**

- In the module form, scroll to the **Roles** field.
- Add **Project Member** role.
- Save/Update the module.

#### **5. Locate Task Table 2 Application**

- In the **Application Navigator**, search for **Task Table 2 Application**.
- Open the module related to Task Table 2.

#### **6. Assign Multiple Roles**

- Edit the module.
- In the **Roles** field, add both:
  - **Project Member** role
  - **Team Member** role
- Save/Update the module.

The screenshot shows the ServiceNow web interface for editing the 'Application Menu' for 'task table 2'. The browser tabs include 'Copy of template - Google', 'ServiceNow Developers', 'project table | Application M...', 'task table 2 | Application M...', and 'ChatGPT'. The URL is 'dev196626.service-now.com/now/nav/ui/classic/params/target/sys\_app\_application.do%3Fsys\_id%3D114bece3835992108663ff6d6fead3dc'. The page title is 'Application Menu - task table 2'. The form includes fields for 'Roles' (with a value of 'u\_task\_table\_2\_user, project member, team member'), 'Category' (set to 'Custom Applications'), 'Hint', and 'Description'. There are 'Update' and 'Delete' buttons at the bottom left. An 'Activate Windows' watermark is visible at the bottom right.

## Milestone 8 :Access control list

### 1. Open ServiceNow

- Log in with your ServiceNow credentials.

### 2. Navigate to ACLs

- Click on **All** in the application navigator.
- Search for **ACL**.
- Select **Access Control (ACL)** under **System Security**.

### 3. Elevate Role

- Before creating or modifying ACLs, you must have the **security\_admin** role.
- Click on your **profile icon** → **Elevate Roles**.
- Select **security\_admin** and click **OK**.

### 4. Create New ACL

- Click on **New** to create a new Access Control rule.

The screenshot shows the 'Access Control - New Record' form in ServiceNow. The form includes the following fields and options:

- 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]
- Description:** (empty text area)
- Applies To:** No. of records matching the condition: 1
- Fields:** status
- Conditions:** (empty section with 'Add Filter Condition' and 'Add "OR" Clause' buttons)

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.'

### 5. Fill ACL Details

- In the ACL form, enter:
  - **Type** – Choose record.
  - **Operation** – Select Read, Write, Create, or Delete.
  - **Name** – Choose the table (e.g., Task Table).

### 6. Assign Roles

- Scroll down to the **Requires Role** section.
- Double-click on **Insert a new row**.
- Add the role **Team Member**.

### 7. Save ACL

- Click **Submit**.

## Repeat – Create Four ACLs for Task Table

Create 4 separate ACLs for the **Task Table**, each with **Team Member** role:

1. **Read ACL** – Task Table (Team Member can read records).
2. **Write ACL** – Task Table (Team Member can update records).
3. **Create ACL** – Task Table (Team Member can create records).
4. **Delete ACL** – Task Table (Team Member can delete records).

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

## 12. Click on Profile (Top-Right Corner)

- In ServiceNow, click your profile icon at the top-right of the screen.

## 13. Click on Impersonate User

- From the dropdown, select **Impersonate User**.

## 14. Select Bob User

- In the impersonation dialog, choose **Bob P** (Team Member).
- ServiceNow will switch the session to Bob's access.

## 15. Navigate to Task Table 2

- Click on **All** in the application navigator.
- Search for **Task Table 2**.
- Open the application module created for Task Table 2.

## 16. Verify Field Access

- Open a record inside **Task Table 2**.
- Check the **Comment** field → Bob should have **Edit** access.
- Check the **Status** field → Bob should also have **Edit** access.

The screenshot shows a web browser window with multiple tabs. The active tab is 'task table 2 - Create Created'. The browser 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'. The main form area is titled 'task table 2 New record' and contains several input fields: '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 browser window, there is a Windows watermark that says 'Activate Windows Go to Settings to activate Windows.'

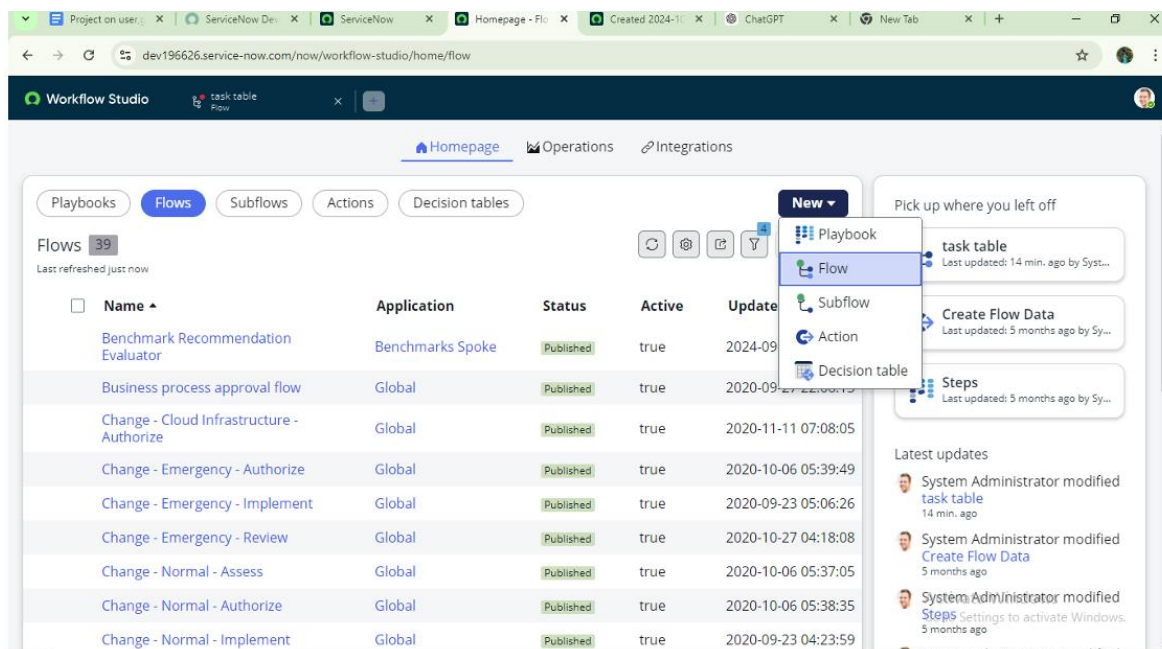
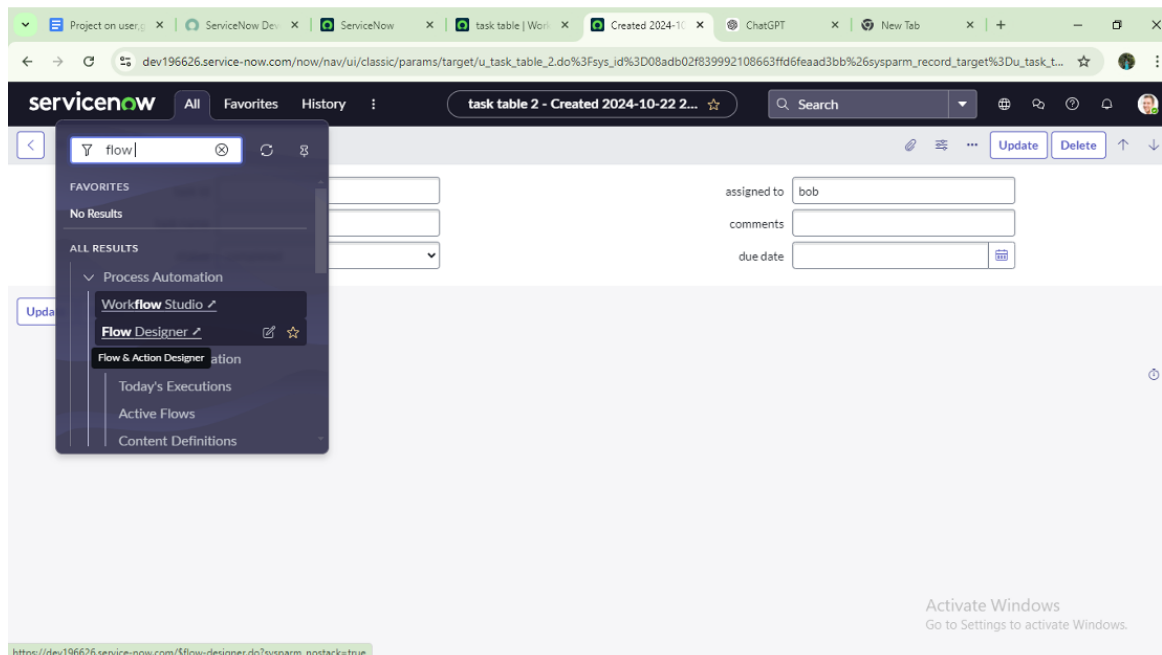
## Milestone 9: Flow

### *Activity 1: Create a Flow to Assign operations ticket to group*

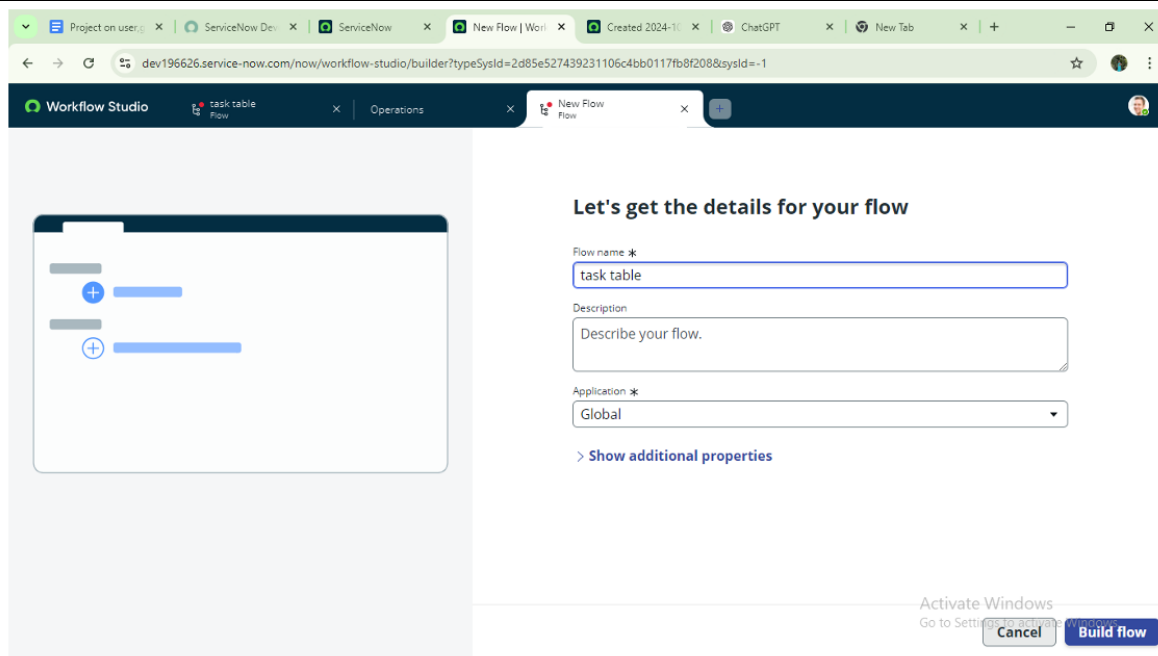
1. **Open ServiceNow**
  - Log in with your ServiceNow credentials.
2. **Navigate to Flow Designer**
  - Click on **All** in the application navigator.
  - Search for **Flow Designer**.
3. **Open Flow Designer**
  - Under **Process Automation**, click on **Flow Designer**.
4. **Create a New Flow**
  - Once Flow Designer opens, click **New**.
  - Select **Flow** from the options.
5. **Fill Flow Properties**
  - **Flow Name** – Enter: Task Table.
  - **Application** – Select **Global**.
6. **Click Submit / Done**
  - Confirm the properties and continue.

## 7. Build the Flow

- Click on **Build Flow** to start defining triggers, actions, and logic for the flow.







### 1. Click on Add a Trigger

- Inside Flow Designer, click the + **Add a Trigger** button.

### 2. Select Trigger Type

- In the search bar, type **Create Record**.
- Select **Created Record** as the trigger.

### 3. Choose Table

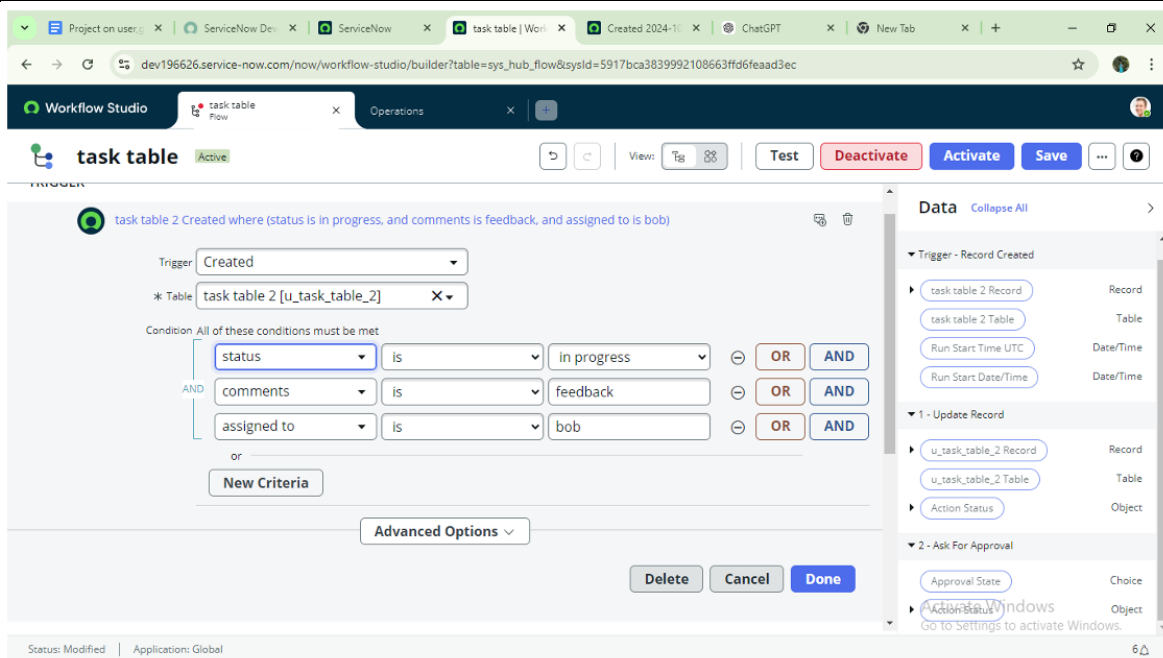
- In the table field, select **Task Table**.

### 4. Set Conditions

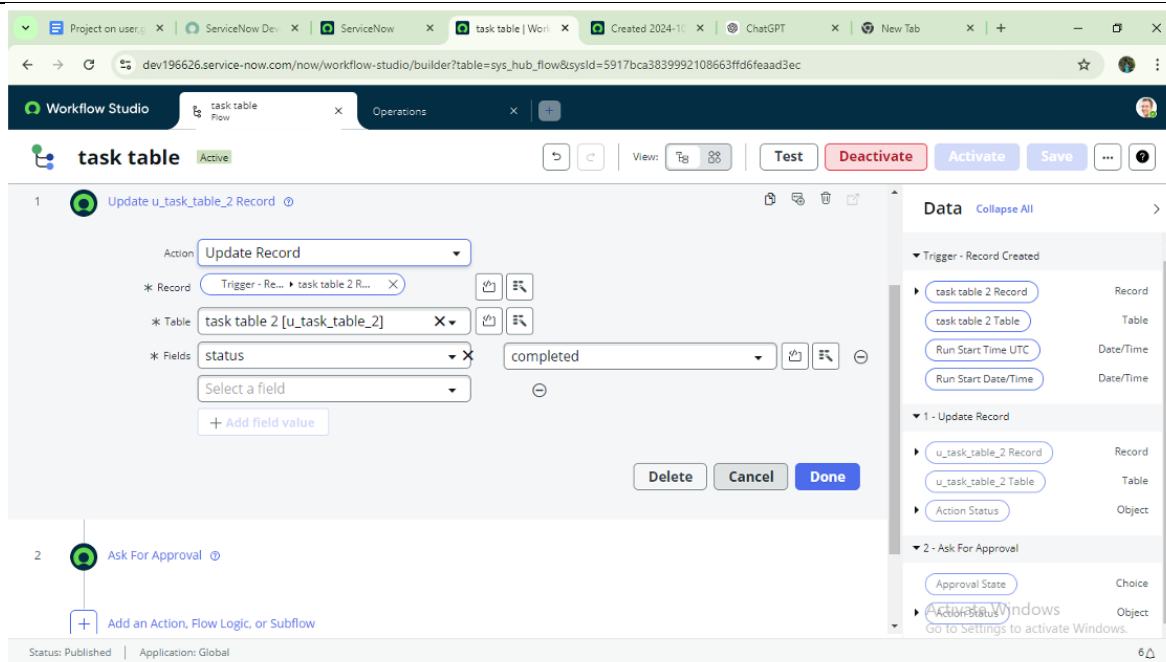
- Add the following conditions for the trigger:
  - **Field:** Status → **Operator:** is → **Value:** In Progress
  - **Field:** Comments → **Operator:** is → **Value:** Feedback
  - **Field:** Assigned To → **Operator:** is → **Value:** Bob

### 5. Save the Trigger

- Click on **Done** to save the trigger configuration.



1. **Click on Add an Action**
  - In the Flow Designer canvas, click + **Add an Action**.
2. **Search for Action**
  - In the action search bar, type **Update Records**.
  - Select **Update Record** from the list.
3. **Select Record**
  - In the **Record** field, drag and drop the record reference from the **Data Pill** (on the right side under **Trigger** → **Record**).
4. **Table Auto-Assignment**
  - The **Table** field will automatically be assigned to **Task Table** since the trigger comes from it.
5. **Update Fields**
  - Add the following field to update:
    - **Status** → set the **Value** to **Completed**.
6. **Save the Action**
  - Click **Done** to save the action configuration.



# 1. Go to Actions Section

- o In your flow, scroll to the **Actions** section.

# 2. Click on Add an Action

- o Click + **Add an Action** in the flow canvas.

# 3. Search for Action

- o In the search bar, type **Ask for Approval**.
- o Select **Ask for Approval** from the list.

# 4. Select Record

- o In the **Record** field, drag and drop the record reference from the **Data Pill** panel (on the right side, under **Trigger** → **Record**).

# 5. Table Auto-Assignment

- o The **Table** field will automatically populate with **Task Table**.

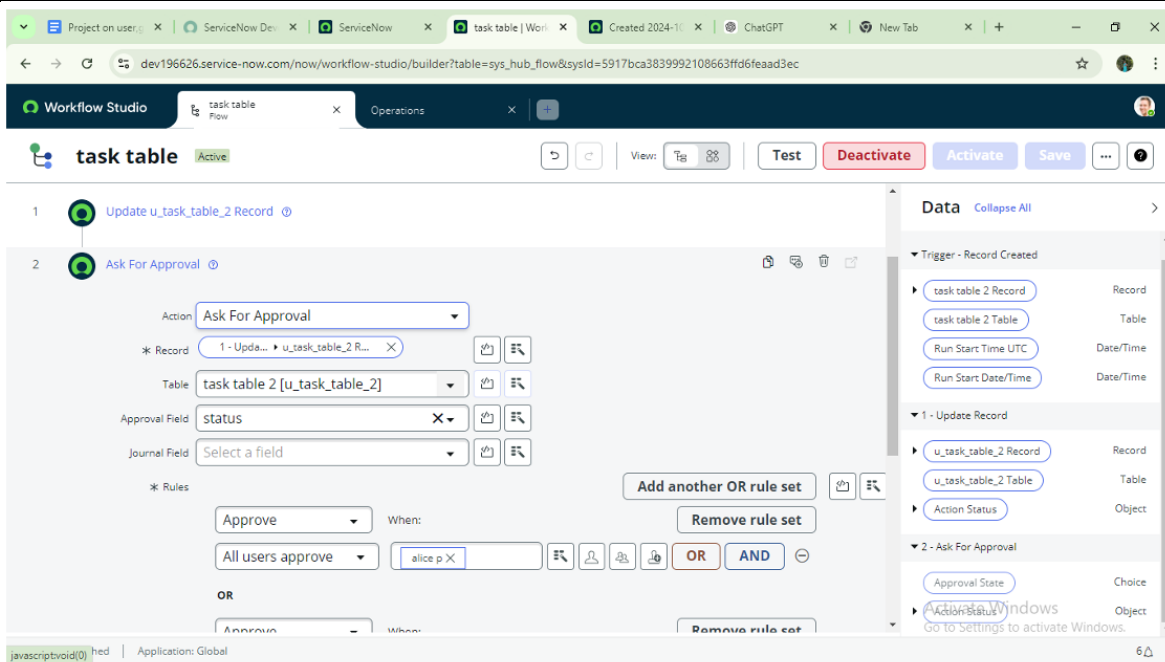
# 6. Set Approval Field

- o In **Approval field**, choose: **Status**.

# 7. Set Approver

- o In the **Approver** field, enter: **Alice P**.

# 8. Save the Action



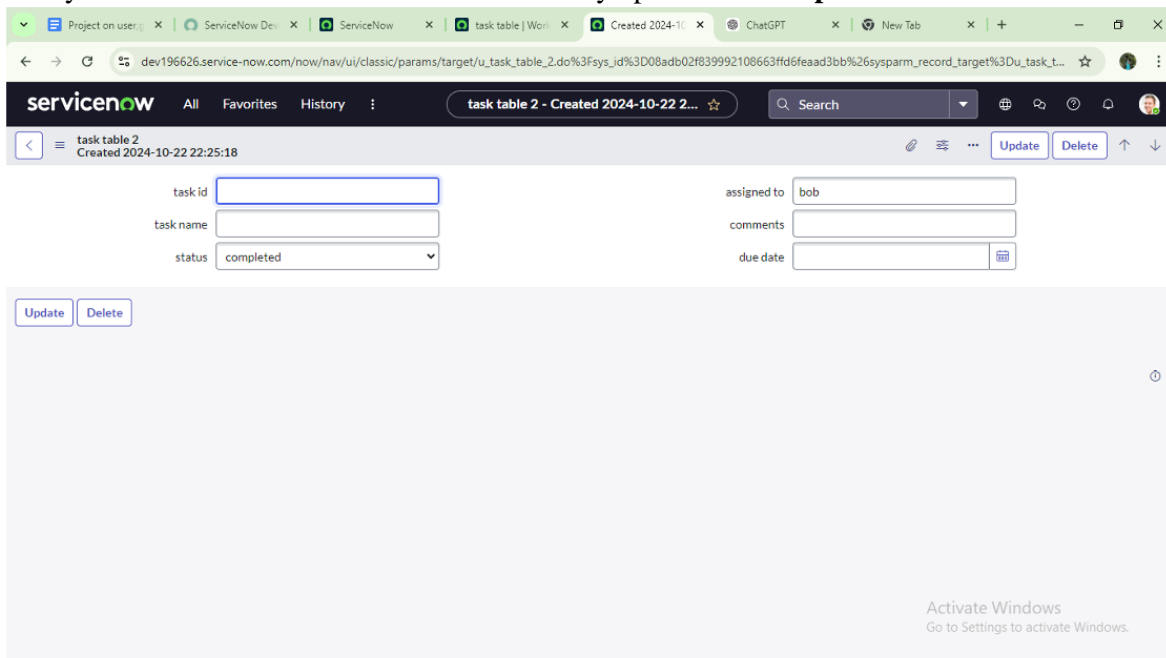
## 9. Access Task Table

- In the **Application Navigator**, search for **Task Table**.
- Click on **Task Table** under the relevant application/module to open the list of records.

## 10. Check Status Field

- Open the record that was created with the trigger conditions.

Verify that the **Status** field has been automatically updated to **Completed**.



## 11. Open My Approvals

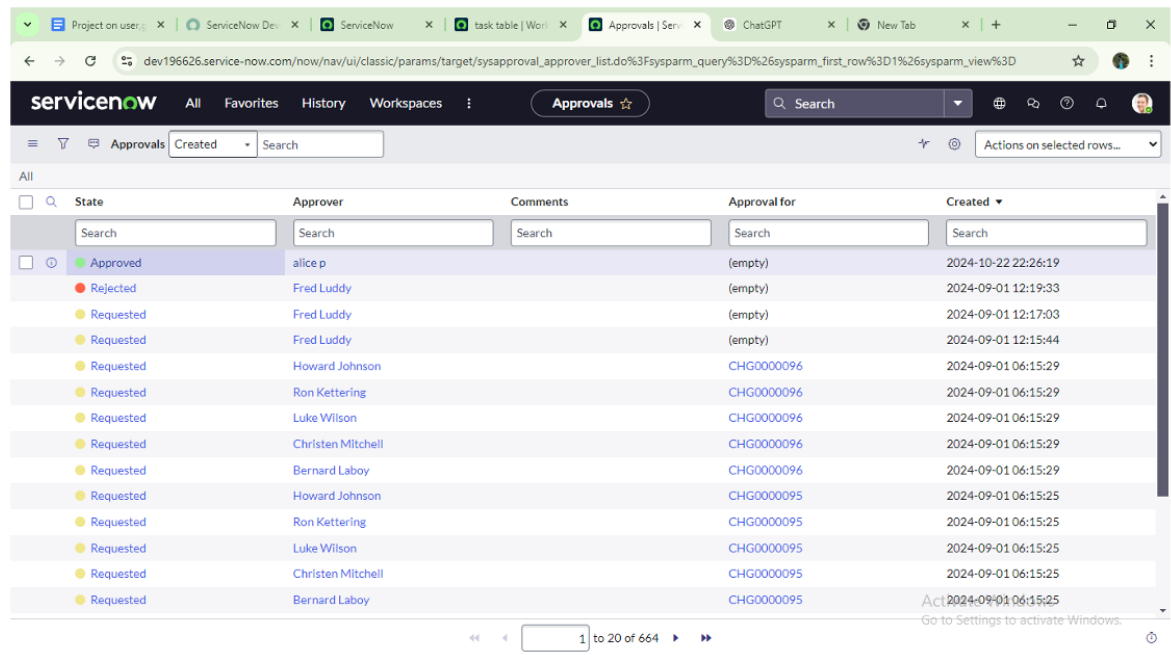
- In the **Application Navigator**, search for **My Approvals**.
- Click on **My Approvals** under the **Service Desk** section.

## 12.Check Approval Request

- Alice P will see the **approval request** generated by the flow for the Task Table record.

## 13.Approve the Request

- Right-click on the approval request.
- Select **Approve** from the options.



The screenshot shows the ServiceNow 'Approvals' list view. The table has columns for State, Approver, Comments, Approval for, and Created. The first row is highlighted in blue and shows an 'Approved' state for 'alice p' with a creation time of 2024-10-22 22:26:19. The subsequent rows show 'Rejected' and 'Requested' states for various approvers like Fred Luddy, Howard Johnson, Ron Kettering, Luke Wilson, Christen Mitchell, and Bernard Laboy, all with creation times from 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

This scenario highlights a **structured approach to project management**, clearly demonstrating the roles of Alice and Bob within a defined workflow. With **Alice’s oversight** and **Bob’s execution**, the team collaborates efficiently, ensuring project objectives are met.

The use of **tables** organizes critical information, allowing for easy tracking of projects, tasks, and progress updates. Automated processes like **Flow Designer triggers, record updates, and approvals** streamline workflow, enhance accountability, and improve communication.

Overall, this system supports **effective collaboration**, promotes **role-based access**, and ensures the **successful completion of projects** in a controlled and organized manne.

***Complete***

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