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PROJECT TITLE : Optimizing user group and role management with access control and workflows

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Team members: 4

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Project Ideation Phase

- **Project Title:** Optimizing User, Group, and Role Management with Access Control and Workflows in ServiceNow
- **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.

Requirement Analysis Phase

- **Users:** Create two users.
- **Groups:** Create two groups.
- **Roles:** Create roles for the users.
- **Tables:** Create table to store the data.
- **Assignments:** Assign users to groups, Assign roles to users and Assign Table access to application.
- **Access Control List (ACL):** Secure fields based on roles.
- **Flow:** Create a Flow to Assign Operations Ticket to Group.
- **Results:** Test outcome—verify links and field population.
- **Conclusion:** Evaluate success and readiness for deployment.

Project Planning Phase

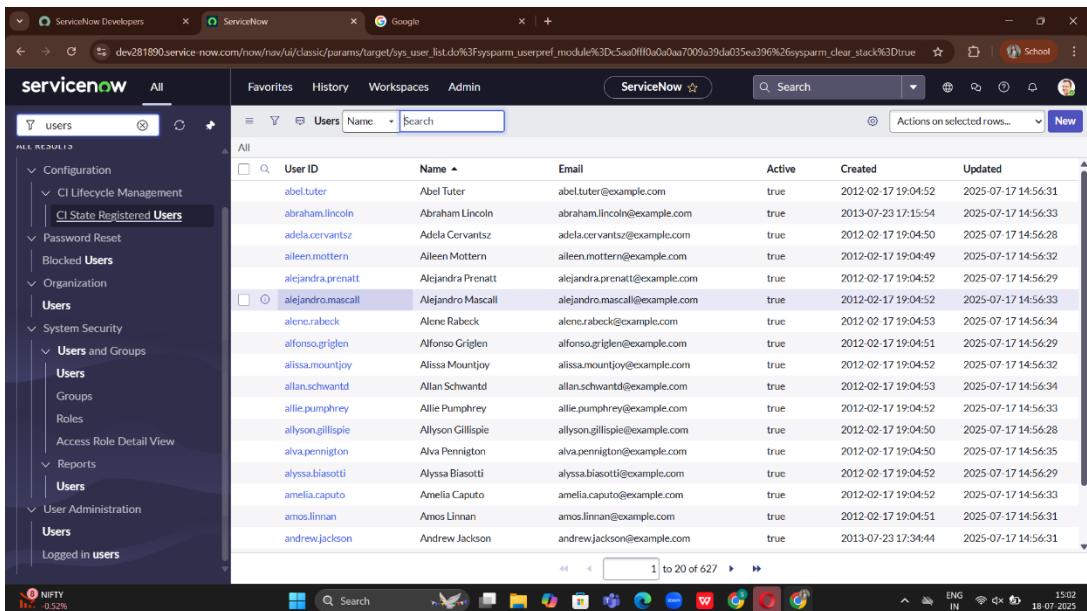
1. Project Timeline:

- Break your project into phases:
 - Ideation
 - Requirement Analysis
 - Design
 - Development (Users, Groups, Roles, Tables, ACLs and Flows)
 - Testing
 - Report generation
 - Review & Conclusion

Project Design Phase

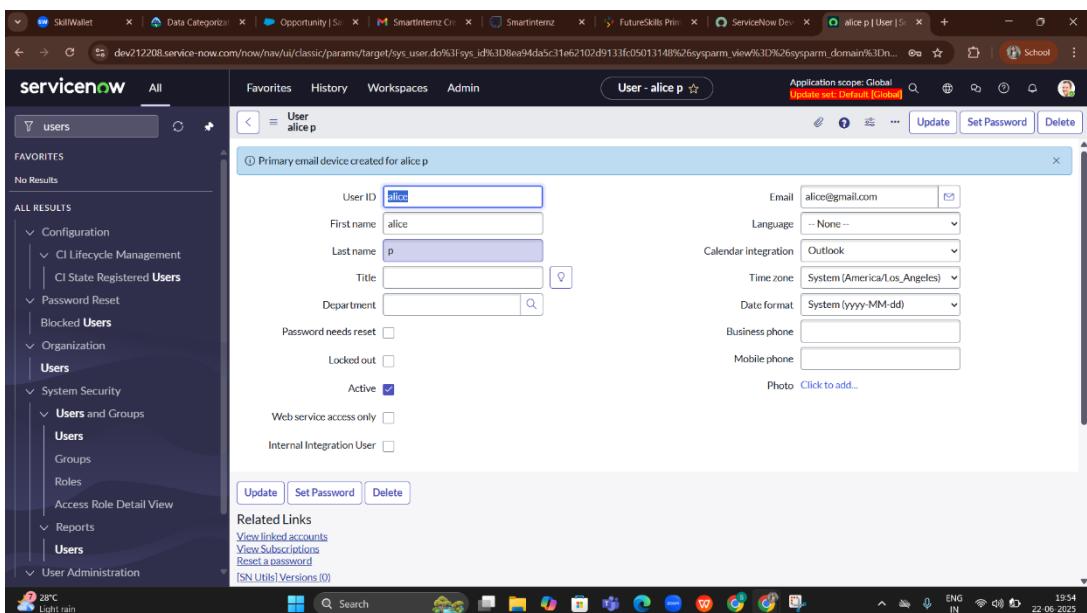
1. Create Users

- Open service now.
- Click on All >> search for **Users**
- Select Tables under **system security**
- Click on **New**



The screenshot shows the ServiceNow user list page. The left sidebar navigation includes sections like Configuration, CI Lifecycle Management, System Security, and User Administration. Under System Security, there is a 'Users' section. The main area displays a table of users with columns: User ID, Name, Email, Active, Created, and Updated. A specific user, 'alejandro.mascall', is selected, highlighted with a blue border. The bottom of the screen shows a taskbar with various icons and system status information.

- Fill the following details to create a new users
- Create a user named as “alice p”.



The screenshot shows the ServiceNow user creation form for a user named 'alice p'. The form fields include: User ID (alice), First name (alice), Last name (p), Title (empty), Department (empty), Password needs reset (unchecked), Locked out (unchecked), Active (checked), Web service access only (unchecked), and Internal Integration User (unchecked). To the right of the form, there are additional settings: Email (alice@gmail.com), Language (None), Calendar integration (Outlook), Time zone (System (America/Los_Angeles)), Date format (System (yyyy-MM-dd)), Business phone (empty), Mobile phone (empty), and a Photo field with a 'Click to add...' button. At the bottom of the form, there are 'Update', 'Set Password', and 'Delete' buttons, along with a 'Related Links' section containing links to View linked accounts, View Subscriptions, Reset a password, and ISN Utils/Versions (0).

- **Create one more user:**
- Create another user with the following details
- Username: “bob p”.
- Click on submit.

The screenshot shows the ServiceNow classic UI for creating a new user. The left sidebar navigation is visible, showing sections like Configuration, CI Lifecycle Management, CI State Registered Users, Password Reset, Blocked Users, Organization, and System Security. The main form is titled "User - Bob p". It contains fields for User ID (bob), First name (Bob), Last name (p), Title, Department, Password needs reset (unchecked), Locked out (unchecked), Active (checked), Web service access only (unchecked), Internal Integration User (unchecked), and various system configuration options like Language (None), Calendar integration (Outlook), Time zone (System (America/Los_Angeles)), Date format (System (yyyy-MM-dd)), Business phone, and Mobile phone. At the bottom of the form are buttons for Update, Set Password, and Delete. Below the form, there's a section for Related Links with links to View linked accounts, View Subscriptions, and Reset a password. The status bar at the bottom shows the date and time (22-06-2025) and system icons.

2. Create Groups

- 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

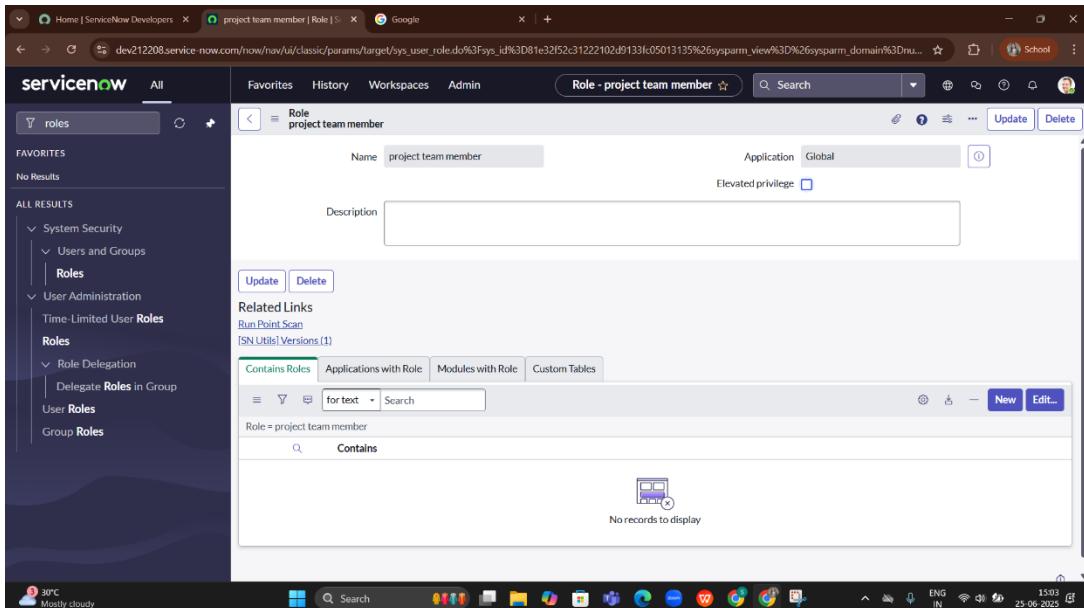
The screenshot shows the ServiceNow Groups page for the 'project team' group. The left sidebar navigation includes 'Administration', 'User Groups', 'System Definition', 'Search Groups', 'Text Index Groups', 'System Mailboxes', 'Email Account Groups', 'System Security', 'Users and Groups', 'Groups', 'Roles', 'Access Role Detail View', 'Reports', 'Groups Membership', 'User Administration', 'Groups', and 'Workspace Experience'. The main content area displays the 'Group - project team' record with fields for Name (project team), Manager (dropdown with a search icon), Group email (input field with a mail icon), Parent (dropdown with a search icon), and Description (text area). Below this is a table titled 'Roles' with columns for Role, Granted by, and Inherits. A note at the bottom says 'No records to display'. At the bottom of the page, there is a toolbar with various icons and a status bar showing weather (30°C Light rain), system status (ENG IN), and date/time (23-06-2025 15:21).

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

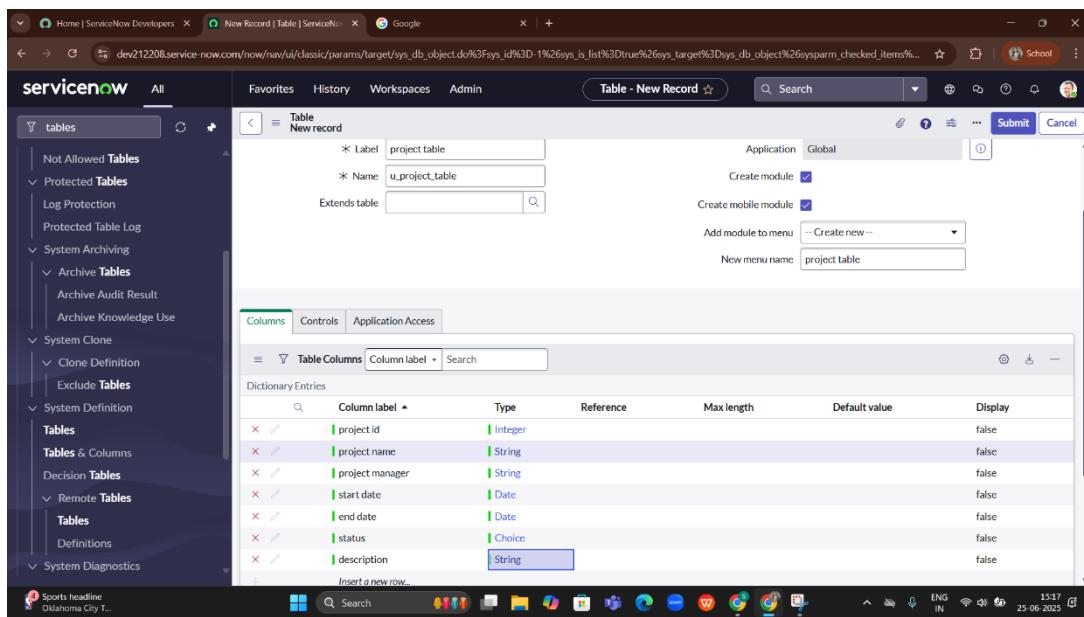
The screenshot shows the ServiceNow Roles page for the 'project member' role. The left sidebar navigation includes 'FAVORITES' (No Results) and 'ALL RESULTS' (System Security, Roles, User Administration, Time-Limited User Roles, Roles, Role Delegation, User Roles, Group Roles). The main content area displays the 'Role - project member' record with fields for Name (project member), Application (Global), and Elevated privilege (checkbox). Below this is a table titled 'Related Links' with columns for Contains Roles, Applications with Role, Modules with Role, and Custom Tables. A note at the bottom says 'No records to display'. At the bottom of the page, there is a toolbar with various icons and a status bar showing weather (30°C Mostly cloudy), system status (ENG IN), and date/time (25-06-2025 15:03).

- **Create one more role:**
- Create another role with the following details
- Click on submit

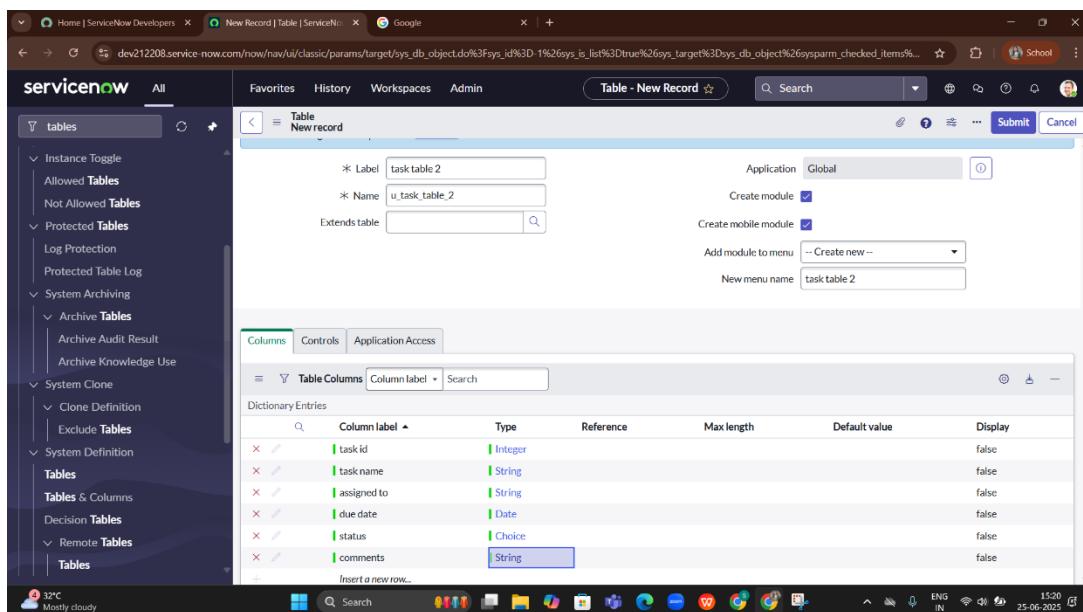


4. Create Tables

- 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

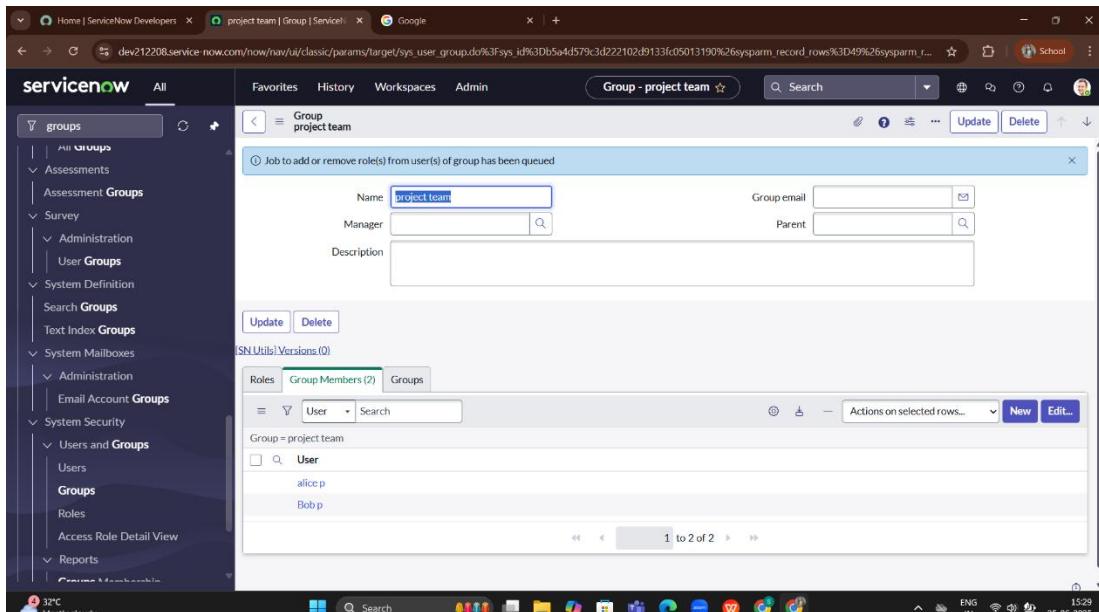


- Click on submit
- **Create one more table:**
- Create another table as:task table 2 and fill with following details.
- Click on submit.



5. 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.



6. Assign roles to users

- **Assign roles to alice user**
- 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 **u_project_table** role and **u_task_table** role
- Click on **save** and **update** the form.

The screenshot shows the ServiceNow web interface with the URL https://dev212208.service-now.com/nav/uiclassic/params/target.sys_user.do?sys_id=3D8ea04da531e62102d9133fc0501319a%26sysparm_record_rows%3D6%26sysparm_record.... The left sidebar navigation includes 'Web Authentication', 'System Logs', 'System Security' (with 'Users and Groups' expanded), 'Reports', 'Identity and Access Audit' (with 'User Trails' expanded), and 'System User Guide' (with 'User Guide' expanded). The main content area displays the 'User' record for 'User - alice p'. Under the 'Roles' tab, there are three entries:

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

- **Assign roles to bob user**
- Open servicenow
- Click on All >> **search for user**
- Select tables under system definition
- Select the **bob p** user
- Under **team member**
- Click on edit
- Select **team member** and give **table role** and save
- Click on profile icon **Impersonate user to bob**
- We can see the **task table2**

The screenshot shows the ServiceNow web interface with the URL https://dev212208.service-now.com/nav/uiclassic/params/target.sys_user.do?sys_id=3Dc7f989adc31e62102d9133fc0501319a%26sysparm_record_rows%3D6%26sysparm_rec.... The left sidebar navigation is identical to the previous screenshot. The main content area displays the 'User' record for 'User - Bob p'. Under the 'Roles' tab, there are two entries:

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

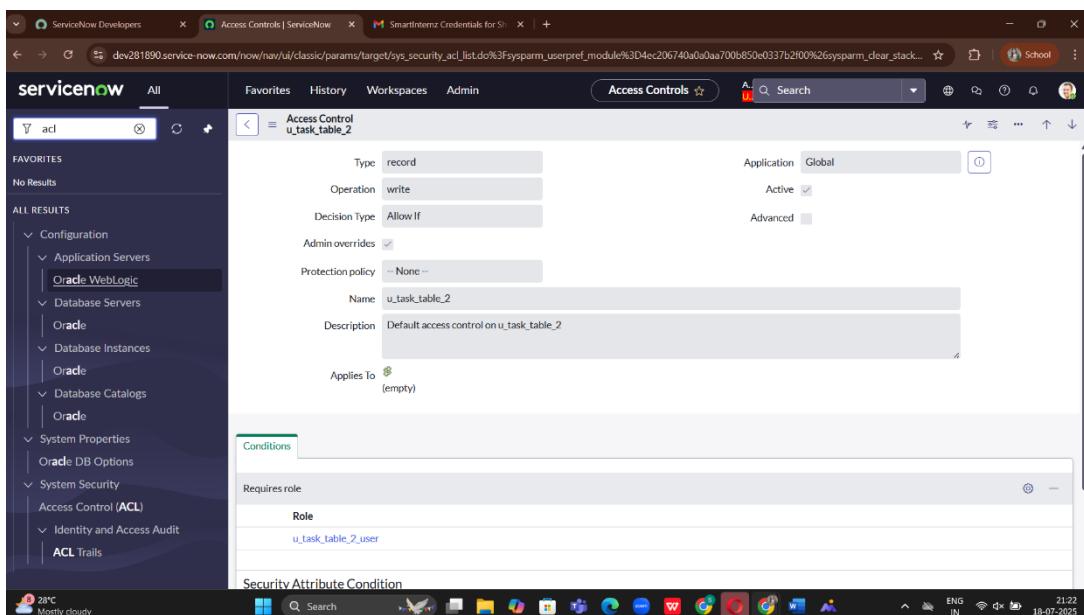
7. Application access

- **Assign table access to application**
- While creating a table it automatically creates 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 image contains two screenshots of the ServiceNow application menu editor interface. Both screenshots show the 'Application Menu - task table 2' and 'Application Menu - project table' respectively. In both cases, the 'Roles' field is populated with either 'u_task_table_2_user' or 'project member'. The 'Category' field is set to 'Custom Applications'. The 'Title' field is set to 'task table 2' for the top screenshot and 'project table' for the bottom one. The 'Active' checkbox is checked in both cases. The 'Edit User Roles' button is visible in the top screenshot. The status bar at the bottom of each screenshot shows system information like temperature (32°C), weather (Mostly cloudy), and date/time (25-06-2025).

8. Access control list

- Create ACL
- 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



- 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

The screenshot shows the ServiceNow Access Controls list page. The table contains the following data:

Name	Decision Type	Operation	Type	Active	Updated by	Updated
u_task_table_2.u.task_name	Allow If	write	record	true	admin	2025-06-25 03:37:05
u_task_table_2.u.task_id	Allow If	write	record	true	admin	2025-06-25 03:36:16
u_task_table_2.u.due_date	Allow If	write	record	true	admin	2025-06-25 03:35:39
u_task_table_2.u_assigned_to	Allow If	write	record	true	admin	2025-06-25 03:34:48
u_task_table_2.u.status	Allow If	write	record	true	admin	2025-06-25 03:29:34
u_task_table_2	Allow If	read	record	true	admin	2025-06-25 02:50:42
u_task_table_2	Allow If	delete	record	true	admin	2025-06-25 02:50:42
u_task_table_2	Allow If	write	record	true	admin	2025-06-25 02:50:42
u_task_table_2	Allow If	create	record	true	admin	2025-06-25 02:50:41
u_project_table	Allow If	read	record	true	admin	2025-06-25 02:47:42
u_project_table	Allow If	delete	record	true	admin	2025-06-25 02:47:42
u_project_table	Allow If	write	record	true	admin	2025-06-25 02:47:42
u_project_table	Allow If	create	record	true	admin	2025-06-25 02:47:42
sys_one_extend_eval_strategy_metric	Allow If	create	record	true	system	2025-06-21 05:34:47
sys_one_extend_eval_suggestion	Allow If	read	record	true	system	2025-06-21 05:34:47
sys_one_extend_dataset_skill_mapping	Allow If	read	record	true	system	2025-06-21 05:34:47
sys_one_extend_eval_strategy	Allow If	create	record	true	system	2025-06-21 05:34:47

- 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 the ServiceNow task table2 - Create Created page. The form fields are:

taskid	<input type="text"/>
task name	<input type="text"/>
assigned to	<input type="text"/>
status <input type="text" value="--None--"/>	
comments <input type="text"/>	
due date <input type="text"/>	

At the bottom left is a **Submit** button.

9. Flow

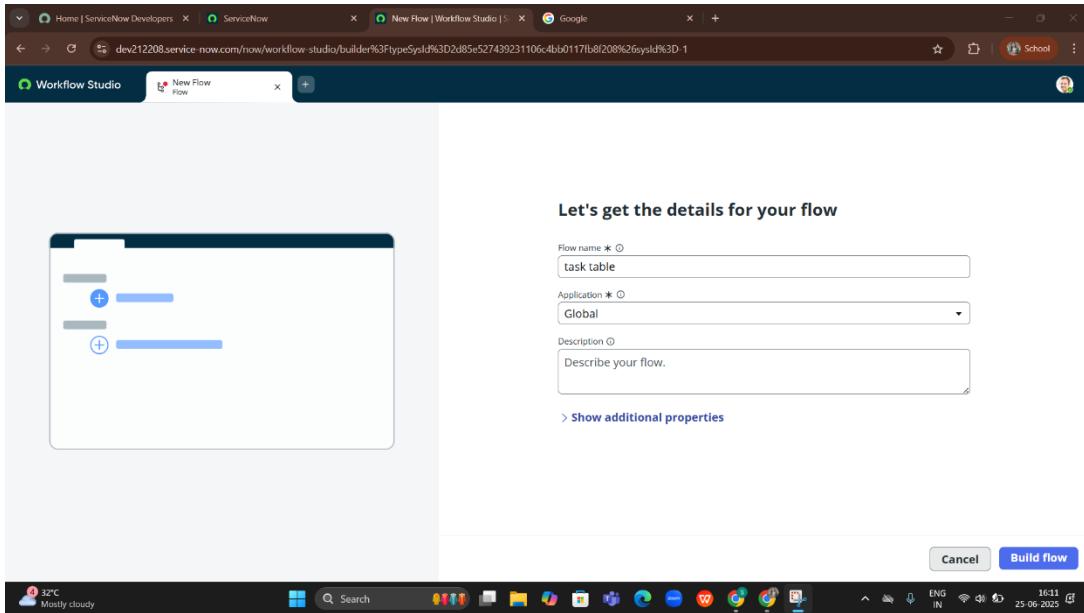
- **Create a Flow to Assign operations ticket to group**
- Open service now.
- Click on All >> search for **Flow Designer**
- Click on Flow Designer under Process Automation.
- After opening Flow Designer Click on new and select Flow.
- Under Flow properties Give Flow Name as “ **task table**”.
- Application should be **Global**.
- Click build flow.

The screenshot shows the ServiceNow homepage with the following details:

- Navigation Bar:** Includes links for Favorites, History, Workspaces, Admin, and a search bar.
- Left Sidebar:** Shows a tree view of applications:
 - All Applications
 - Docker Webhook Answer Subflow
 - Docker Webhook Answer Subflow
 - Webhook Answer Subflow
 - Process Automation
 - Workflow Studio
 - Flow Designer
 - Flow Administration
 - Today's Executions
 - Active Flows
 - Content Definitions
 - Content Filtering Rules
 - Inbound Email Flows
 - Event Queue
 - Settings
 - Complex Object Templates
 - Feature Access List
 - Pre-Compiled Actions
 - Pre-Compiled Flows
- Main Content Area:** Displays the "About ServiceNow" page with sections for "Using ServiceNow" and "More Information".
- System Status:** Shows weather (28°C, Mostly cloudy) and system status (ENG IN, 18-07-2025).

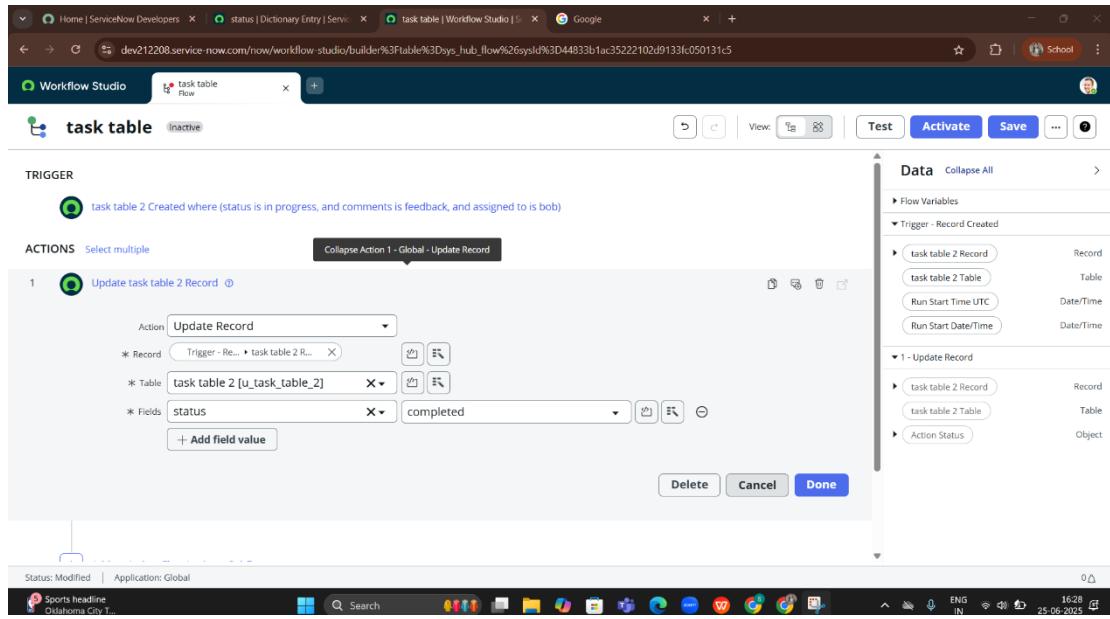
The screenshot shows the Workflow Studio interface with the following details:

- Top Navigation:** Includes links for Homepage, Operations, and Integrations.
- Header:** Shows "Flows 68" and a "New" button.
- Table:** A list of flows with columns: Name, Application, Status, Active, Updated, and Updated. The table includes rows for various flows like "Admin Deployment Approval Flow Error Notifier", "Admin Install App to Production Environment Flow Error Notifier", etc.
- Right Sidebar:** Includes sections for "Pick up where you left off" (Create Flow Data, Deployment Environment T..., Steps), "Latest updates" (System Administrator modified Create Flow Data, Deployment Environment Type Flow, Steps, Steps), and a "Recent" section.
- System Status:** Shows weather (28°C, Mostly cloudy) and system status (ENG IN, 18-07-2025).

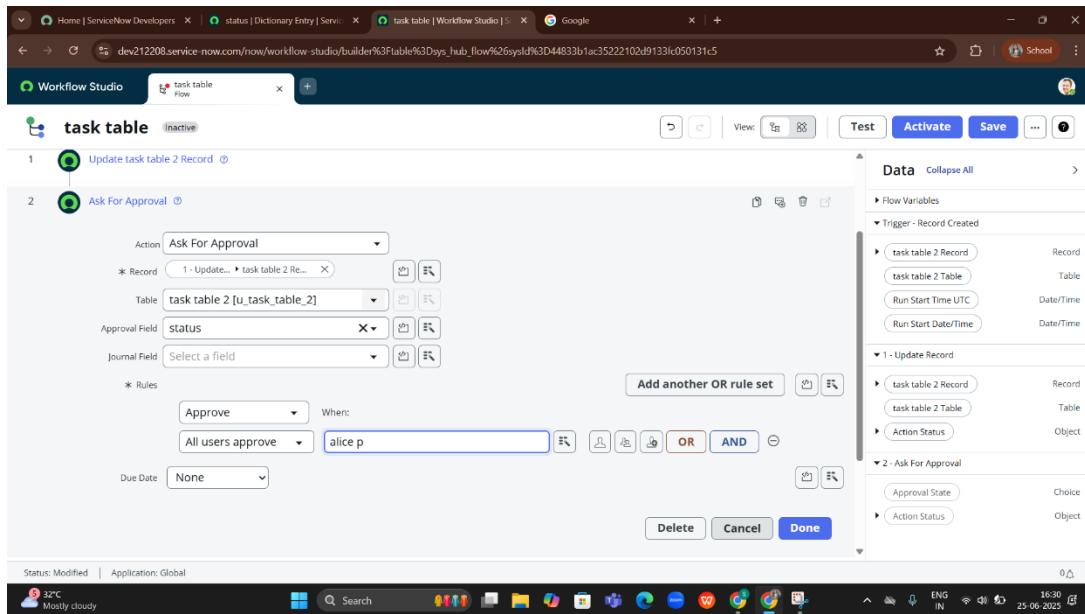


- Define ACL (Employees) Click on Add a trigger
- Select the trigger in that Search for “**create record**” and select that.
- Give the table name as “ **task table** ”.
- Give the Condition as:
- Field : status Operator :is Value : in progress
- Field : comments Operator :is Value : feedback
- Field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

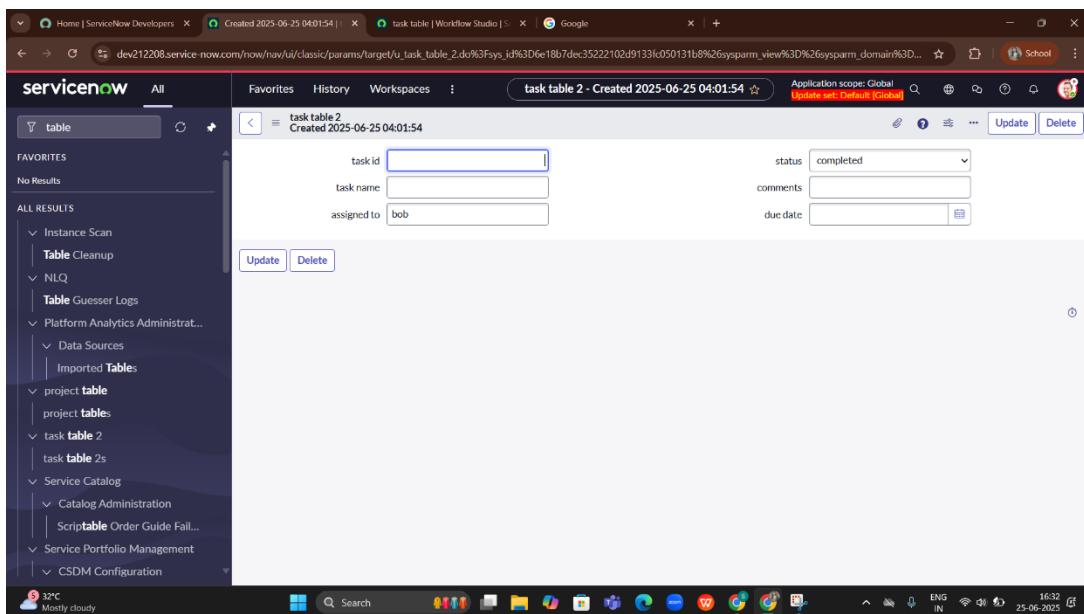
- Click on Add an action.
- Select action in that ,search for “ **update records** ”.
- In Record field drag the fields from the data navigation from Right Side(Data pill)
- Table will be auto assigned after that
- Add fields as “**status**” and value as “**completed**”
- Click on Done.



- 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

The screenshot shows the ServiceNow Approvals page. The search bar at the top contains "Approver" and "Approver Name >= alice p". The results table has columns: State, Approver, Comments, Approval for, and Created. There are 20 rows of data, each with a status icon (Approved or Requested), the approver's name (alice p or Bernard Laboy), a comment field (either empty or "Search"), an approval ID, and a creation date. The last row is partially visible.

State	Approver	Comments	Approval for	Created
Approved	alice p	(empty)	CHG0000052	2024-11-19 05:09:38
Requested	Bernard Laboy	Search	CHG0000071	2024-11-19 05:12:10
Requested	Bernard Laboy	Search	CHG0000037	2024-11-19 05:04:51
Requested	Bernard Laboy	Search	CHG0000076	2024-11-19 05:13:15
Requested	Bernard Laboy	Search	CHG0000094	2024-11-19 05:15:21
Requested	Bernard Laboy	Search	CHG0000051	2024-11-19 05:09:31
Requested	Bernard Laboy	Search	CHG0000073	2024-11-19 05:12:19
Requested	Bernard Laboy	Search	CHG0000090	2024-11-19 05:15:07
Requested	Bernard Laboy	Search	CHG0000074	2024-11-19 05:12:23
Requested	Bernard Laboy	Search	CHG0000055	2024-11-19 05:09:47
Requested	Bernard Laboy	Search	CHG0000078	2024-11-19 05:13:24
Requested	Bernard Laboy	Search	CHG0000091	2024-11-19 05:15:11
Requested	Bernard Laboy	Search	CHG0000045	2024-11-19 05:07:48
Requested	Bernard Laboy	Search	CHG0000081	2024-11-19 05:13:36
Requested	Bernard Laboy	Search	CHG0000052	2024-11-19 05:09:35

The screenshot shows the Workflow Studio task table flow execution details. The title is "task table". The execution status is "Test Run - Completed". The flow statistics show it was run by System Administrator and completed in 308ms. The trigger section shows "task table 2 Created". The actions section lists two steps: "Update Record" and "Ask For Approval", both completed successfully. The error handler section is empty.

Action	Type	Status	Start Time	Duration
task table 2 Created	Open current record	Completed	2025-06-25 04:54:53	308ms
1 Update Record	Core Action	Completed	2025-06-25 04:54:53	11ms
2 Ask For Approval	Core Action	Completed	2025-06-25 04:54:53	297ms

Final Conclusion

Effective optimization of user, group, and role management—combined with robust access control and streamlined workflows—is essential for maintaining data security, enforcing compliance, and enhancing operational efficiency. By defining clear roles, automating user provisioning, and applying granular access policies, organizations can minimize risks, reduce administrative overhead, and ensure that the right individuals have access to the right resources at the right time. Ultimately, a well-structured identity and access management strategy supports scalability, improves user experience, and aligns IT processes with business goals.