

# **SRIVIDYACOLLEGE OF ENGINEERING & TECHNOLOGY**

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Approved by AICTE, New Delhi and Affiliated to Anna University,  
Chennai



**Subject Name : ServiceNow Administrator (NM1051) (Under  
Naan Mudhalvan Scheme)**

**Project Title : Optimizing User, Group, and Role Management with  
Access Control and Workflows**

**Team ID: NM2025TMID03208**

**Team Size: 4**

**Team Leader : Irfanasanofar M- 922022104008**

**Team Member : Kirthika S- 922022104012**

**Team Member : John R- 922022104010**

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## 1. Objective

The main objective of this project is to design and implement a secure and efficient user,group,and role management system on the ServiceNow platform. The system focuses on optimizing access control and workflow automation to ensure proper data handling, user access authorization,and smooth operational processes.This project automates key administrative tasks such as creating users,assigning roles,defining groups,and securing data through AccessControl Lists (ACLs).The automation reduces human error, increases system security, and improves the efficiency of access management across the organization.

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## 2. Introduction

Inlarge organizations,managing user access,permissions,andwork flows is a complextask.Manual handling of these processes often leads to inefficiency, inconsistencies, and potential security vulnerabilities. ServiceNow provides a cloud-based solution that allows automating these administrative activities through Access Control Lists (ACLs) and FlowDesigner.This project demonstrates how ServiceNow canbe utilized to automate user management, improve data security, and streamline ticket assignment work flows.By implementing structured accesscontrol and workflows,the project ensures that only authorized users have access to relevant resources.

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## 3. ProjectScope

The project focuses on implementing and automating user,group,and role management using ServiceNow.The scope includes:

- Creation and management of users.
  - Formation of operational groups and assigning users to groups.
  - Creation of roles and assigning them to users.
  - Implementing application-level access and ACLrules.
  - Automating ticket assignments through Flow Designer.
  - Enhancing security through access control policies and role-based management.
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## 5. Tools and Technologies Used

Tool/Technology-Description

ServiceNow- Cloudplat form for workflow and process automation.

User Administration - Used for creating and managing users, groups, and roles.

AccessControlLists(ACLs)-Used to define access permissions to data and modules.

Flow Designer - Used to automate operational workflows.

Browser-Any modern browser like Google Chrome or Edge for accessing ServiceNow.

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## 6. System Requirements

### Hardware Requirements

- Processor:Dual Coreorhigher
- RAM:Minimum4GB
- Internet Connection:Stable broad band

### Software Requirements

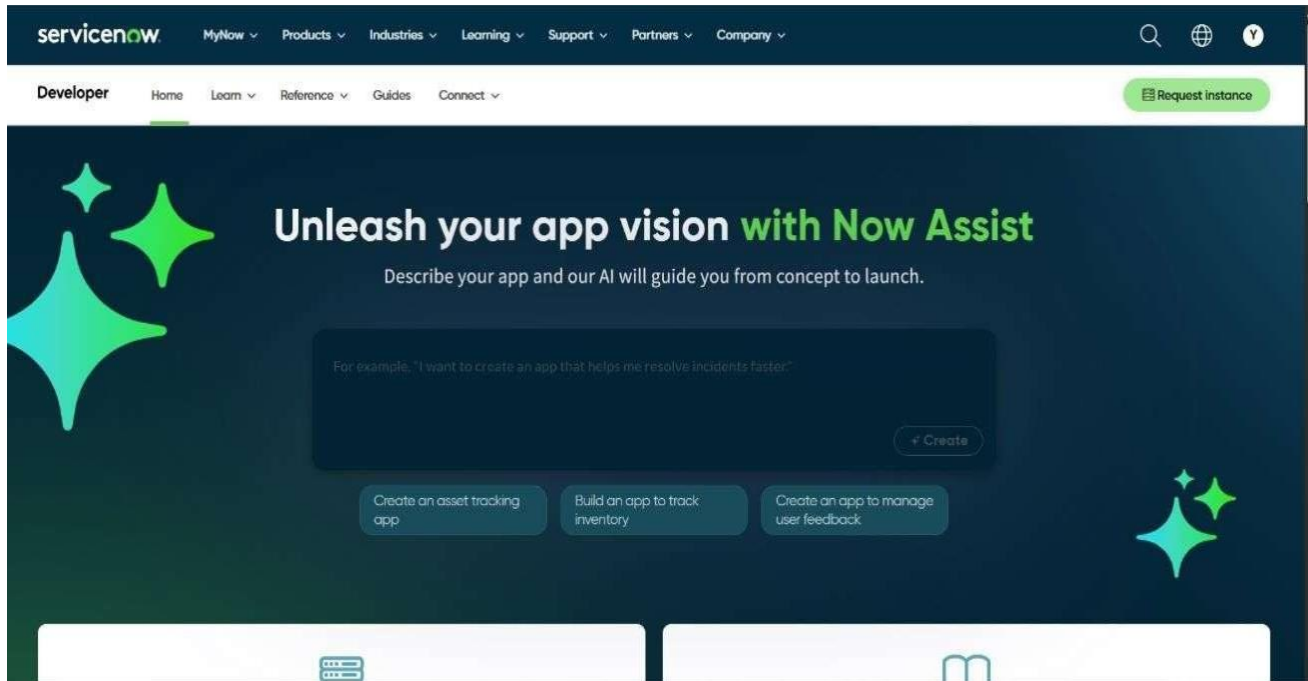
- Web Browser(Google Chrome preferred)
- ServiceNow Developer Instance
- ServiceNow Account(developer.servicenow.com)

## 7. Project Implementation Steps

**Step1:Settingup ServiceNow Instance**1. Visit

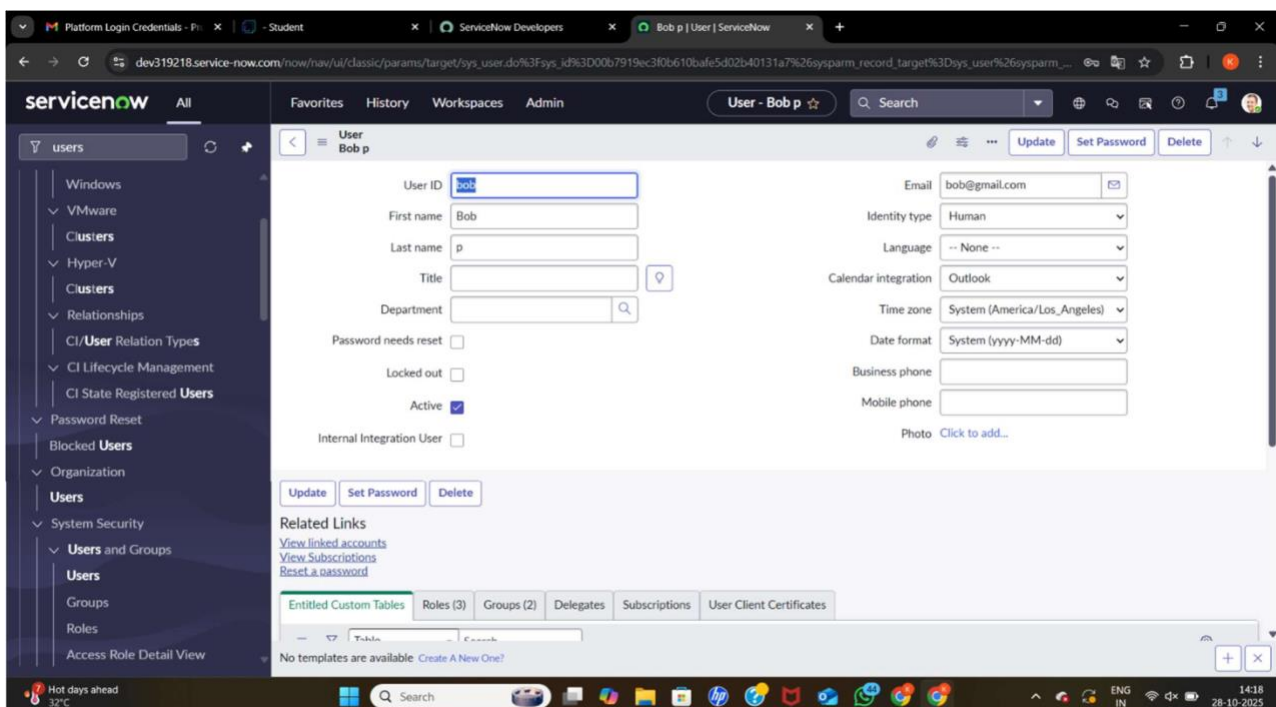
<https://developer.servicenow.com>

2. Signup for a free developr account.
3. Login to your instance to start customizing.



### Step2:Create Users

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 submitCreate one more user: →Create another user with the following details→Click on submit



Create one more user: →Create another user with the following details→Click on submit

The screenshot shows the ServiceNow 'User' form for a user named 'alice p'. The form is divided into two main sections: 'User' and 'Identity'. The 'User' section includes fields for User ID (alice), First name (alice), Last name (p), Title, Department, Password needs reset, Locked out, Active (checked), and Internal Integration User. The 'Identity' section includes fields for Email (alice@gmail.com), Identity type (Human), 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...). Below the form 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 (4)', 'Groups (2)', 'Delegates', 'Subscriptions', and 'User Client Certificates'. The bottom of the screen shows the Windows taskbar with the date 28-10-2025 and time 14:16.

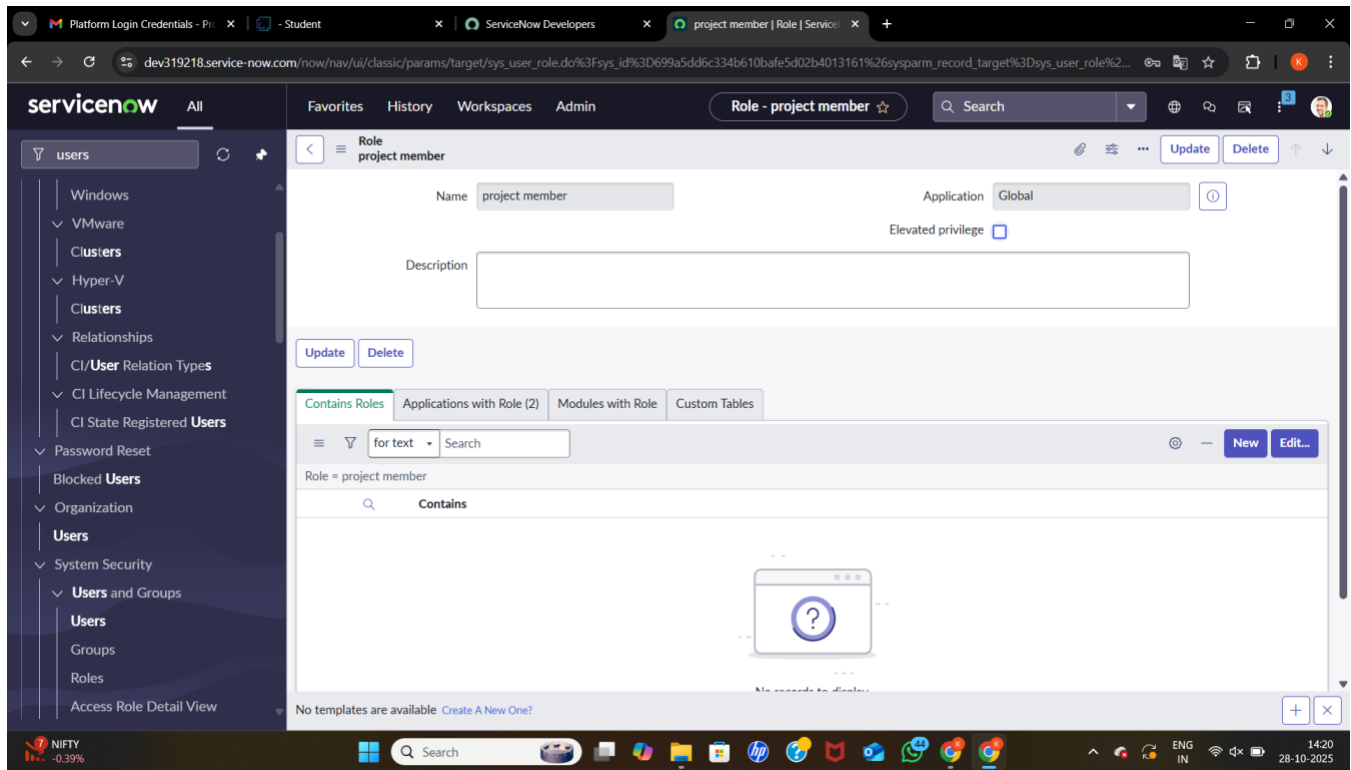
### Step3:Create Groups

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 'Group' form for a group named 'project team'. The form is divided into two main sections: 'Group' and 'Roles'. The 'Group' section includes fields for Name (project team), Group email, Manager, Parent, and Description. Below the form are buttons for 'Update' and 'Delete'. The 'Roles' section shows 'Group Members (2)' and 'Groups'. The 'Group Members' table has columns for 'Created', 'Role', 'Granted by', and 'Inherits'. The bottom of the screen shows the Windows taskbar with the date 28-10-2025 and time 14:19.

## Step4:Create Roles

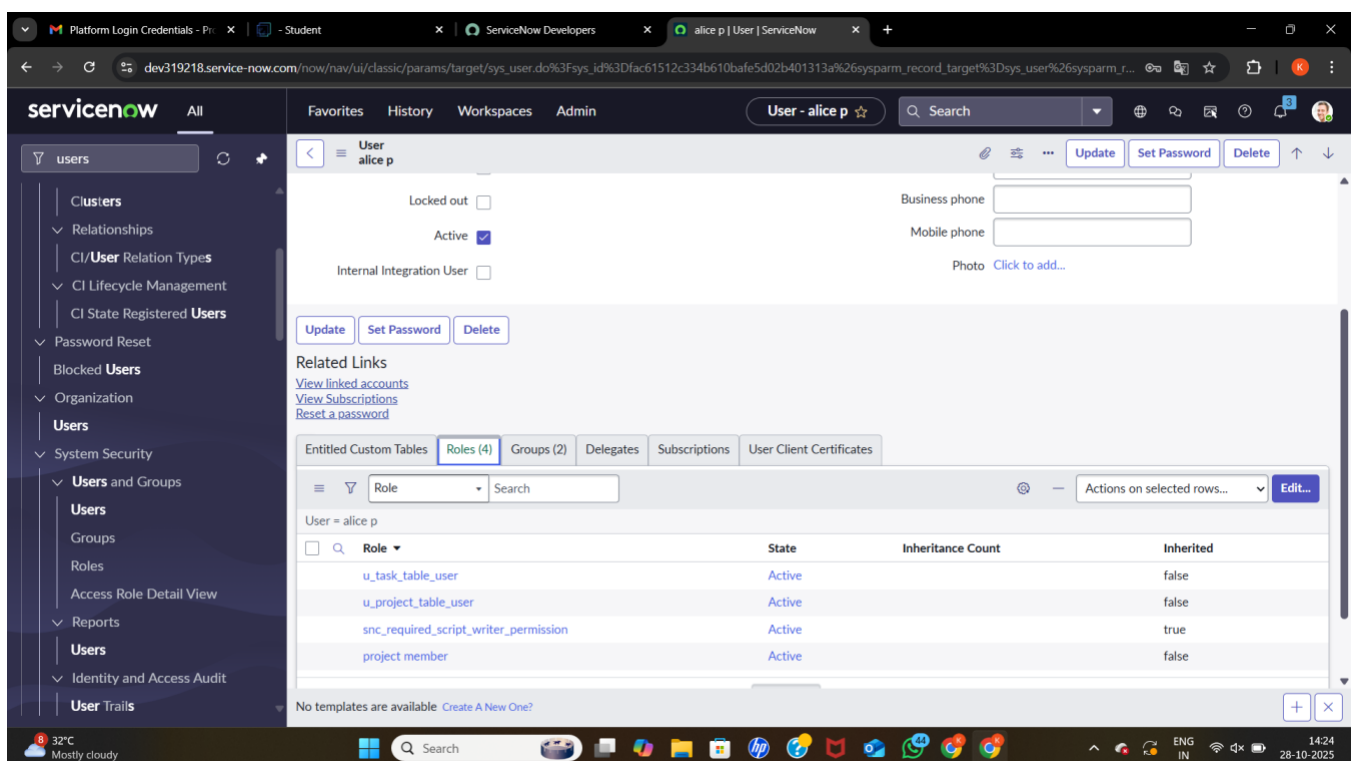
Open servicenow→Click on All >> search for roles→Select roles under system security→Click on new→Fill the following details to create a new role→Click on submit→Create another role with the following details→Click on submit.



The screenshot shows the ServiceNow interface for creating a new role. The left sidebar contains a navigation menu with categories like Users, System Security, and Users and Groups. The main content area is titled "Role - project member" and includes fields for Name (project member), Application (Global), and Description. There are buttons for Update and Delete. Below the form, there are tabs for Contains Roles, Applications with Role (2), Modules with Role, and Custom Tables. The Contains Roles tab is active, showing a search bar and a table with the role name "project member".

## Step5:Assign Users to Groups and Roles(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 interface for editing a user. The left sidebar contains a navigation menu with categories like Users, System Security, and Users and Groups. The main content area is titled "User - alice p" and includes fields for Locked out, Active, Business phone, Mobile phone, and Photo. There are buttons for Update, Set Password, and Delete. Below the form, there are tabs for Entitled Custom Tables, Roles (4), Groups (2), Delegates, Subscriptions, and User Client Certificates. The Roles (4) tab is active, showing a table with the user name "alice p" and a list of roles assigned to the user.

Role	State	Inheritance Count	Inherited
u_task_table_user	Active		false
u_project_table_user	Active		false
snc_required_script_writer_permission	Active		true
project member	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 user profile for 'Bob p'. The user is active and has three roles assigned: 'u\_task\_table\_user', 'Team member', and 'snc\_required\_script\_writer\_permission'. The 'Team member' role is highlighted in the 'Roles (3)' tab.

Role	State	Inheritance Count	Inherited
u_task_table_user	Active		false
Team member	Active		false
snc_required_script_writer_permission	Active		true

## Step6:Application Access:

while creating a table it automatically create 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

The screenshot shows the 'Application Menu - project table' configuration page. The title is 'project table' and the application is 'Global'. The 'Active' checkbox is checked. The 'Roles' field is set to 'project member'. The 'Category' is 'Custom Applications'. The 'Hint' and 'Description' fields are empty.

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:



Give the project member and team member role for task table application

The screenshot shows the ServiceNow 'Application Menu - task table' configuration page. The left sidebar contains a search bar with 'task table' and a list of favorites. The main content area has a title 'task table' and an application 'Global'. The 'Active' checkbox is checked. A description box contains the text: 'Restricts access to the specified roles. Otherwise, all users can view the application menu when it is active.' Below this, the 'Roles' field is populated with 'u\_task\_table\_user, Team member, project member'. The 'Category' is set to 'Custom Applications'. There are fields for 'Hint' and 'Description'. At the bottom, there are 'Update' and 'Delete' buttons.

### Step7:Create Access Control List (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.

The screenshot shows the ServiceNow 'Access Control - New Record' configuration page. The left sidebar contains a search bar with 'Filter' and a list of favorites. The main content area has a title 'Access Control - New Record'. A warning message states: 'Warning: A role, security attribute, data condition, script or ACL control via reference fields is required to properly secure access with this ACL.' Below this, the 'Type' is set to 'record', 'Operation' is 'create', and 'Decision Type' is 'Allow If'. The 'Application' is 'Global'. The 'Active' checkbox is checked. The 'Admin overrides' checkbox is checked. The 'Protection policy' is set to 'None'. The 'Name' field is empty. The 'Description' field is empty. The 'Applies To' field is empty. There are buttons for 'Add Filter Condition' and 'Add OR Clause'. At the bottom, there are 'Conditions' and a 'Submit' button.

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 page. The left sidebar contains a navigation menu with 'Access Control (ACL)' expanded. The main table lists ACLs with columns: Name, Decision Type, Operation, Type, Active, Updated by, and Updated. The table contains 18 rows of ACLs, including those for 'u\_task\_table' and 'u\_project\_table'.

Name	Decision Type	Operation	Type	Active	Updated by	Updated
u_task_table.u_status	Allow If	create	record	true	admin	2025-10-27 02:56:32
u_task_table.u_task_name	Allow If	create	record	true	admin	2025-10-27 02:50:16
u_task_table.u_task_id	Allow If	create	record	true	admin	2025-10-27 02:47:27
u_task_table.u_due_date	Allow If	create	record	true	admin	2025-10-27 02:46:32
u_task_table.u_assigned_to	Allow If	create	record	true	admin	2025-10-27 02:43:50
u_task_table	Allow If	write	record	true	admin	2025-10-27 00:48:37
u_project_table	Allow If	delete	record	true	admin	2025-10-26 23:42:57
u_project_table	Allow If	read	record	true	admin	2025-10-26 23:42:57
u_project_table	Allow If	write	record	true	admin	2025-10-26 23:42:57
u_project_table	Allow If	create	record	true	admin	2025-10-26 23:42:57
u_task_table	Allow If	delete	record	true	admin	2025-10-26 23:41:46
u_task_table	Allow If	read	record	true	admin	2025-10-26 23:41:45
u_task_table	Allow If	create	record	true	admin	2025-10-26 23:41:45
u_task_table	Allow If	write	record	true	admin	2025-10-26 23:41:45
sn_try_build_agent_message	Deny Unless	report_view	record	true	system	2025-10-24 17:13:42
sn_try_build_agent_conversation	Allow If	report_view	record	true	system	2025-10-24 17:13:42
sn_try_build_agent_conversation	Allow If	delete	record	true	system	2025-10-24 17:13:42

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 'task table - Create Created' form in ServiceNow. The left sidebar contains a navigation menu with 'task table' expanded. The main form has fields for 'assigned to', 'task id', 'task name', 'status', 'due date', and 'comments'. The 'status' field is set to 'none'. A 'Submit' button is visible at the bottom left of the form.



## Step8:Createa Flow

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 GlobalvClick build flow

The screenshot shows the ServiceNow Flow Designer interface. At the top, there are tabs for 'Playbooks', 'Flows', 'Subflows', 'Triggers', 'Actions', and 'Decision tables'. The 'Flows' tab is selected. Below the tabs, there is a list of flows with columns: Name, Application, Status, Active, and Updated. The list includes flows like 'VTB Sample Flow', 'Validate Environments Job', 'Transfer Order Line', 'Transfer Order', 'Toggle PAR Pie/Bar Context Menus', 'task table2', 'task table', 'Step based request fulfillment', 'Source Request', 'SLA notification and escalation flow', and 'Set visibility of Analytics applications(v2)'. A 'New' dropdown menu is open, showing options: 'Playbook', 'Flow', 'Subflow', 'Trigger', 'Action', 'Decision table', and 'Help me decide'. The 'Flow' option is selected. On the right side, there is a 'Pick up where you left off' section with cards for 'task table', 'task table2', and 'Multi-factor Authentication'. Below this is a 'Latest updates' section with a list of updates.

Name	Application	Status	Active	Updated
VTB Sample Flow	Visual Task Board (VTB) Spoke	Draft	false	2025-06-04 22:35
Validate Environments Job	Pipeline	Published	true	2025-06-04 22:35
Transfer Order Line	Global	Published	true	2025-10-24 15:33:43
Transfer Order	Global	Published	true	2025-10-24 15:33:40
Toggle PAR Pie/Bar Context Menus	Global	Published	true	2025-06-04 22:25:41
task table2	Global	Draft	false	2025-10-27 03:10:35
task table	Global	Draft	false	2025-10-27 23:09:51
Step based request fulfillment	Global	Published	true	2025-06-04 22:35:35
Source Request	Global	Published	true	2025-10-24 15:33:41
SLA notification and escalation flow	Global	Published	true	2020-04-23 05:42:08
Set visibility of Analytics applications(v2)	Global	Published	true	2025-09-30 21:24:39

## 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.

The screenshot shows the ServiceNow Flow Designer interface for a flow named 'task table'. The flow is currently 'Inactive'. The 'TRIGGER' section is expanded, showing a 'Created' trigger. The table is set to 'task table [u\_task\_table]'. The condition is 'All of these conditions must be met' and includes three criteria: 'status is in progress', 'comments is feedback', and 'assigned to is bob'. The 'Data' section on the right shows the flow variables and the trigger record. The 'Flow Variables' section includes 'task table Record', 'task table Table', 'Run Start Time UTC', and 'Run Start Date/Time'. The '1 - Update Record' section includes 'task table Record', 'task table Table', and 'Action Status'. The '2 - Ask For Approval' section includes 'Approval State' and 'Action Status'.

task table Created where (status is in progress, and comments is feedback, and assigned to is bob)

Trigger: Created

\* Table: task table [u\_task\_table]

Condition: All of these conditions must be met

- status is in progress
- AND
- comments is feedback
- AND
- assigned to is bob

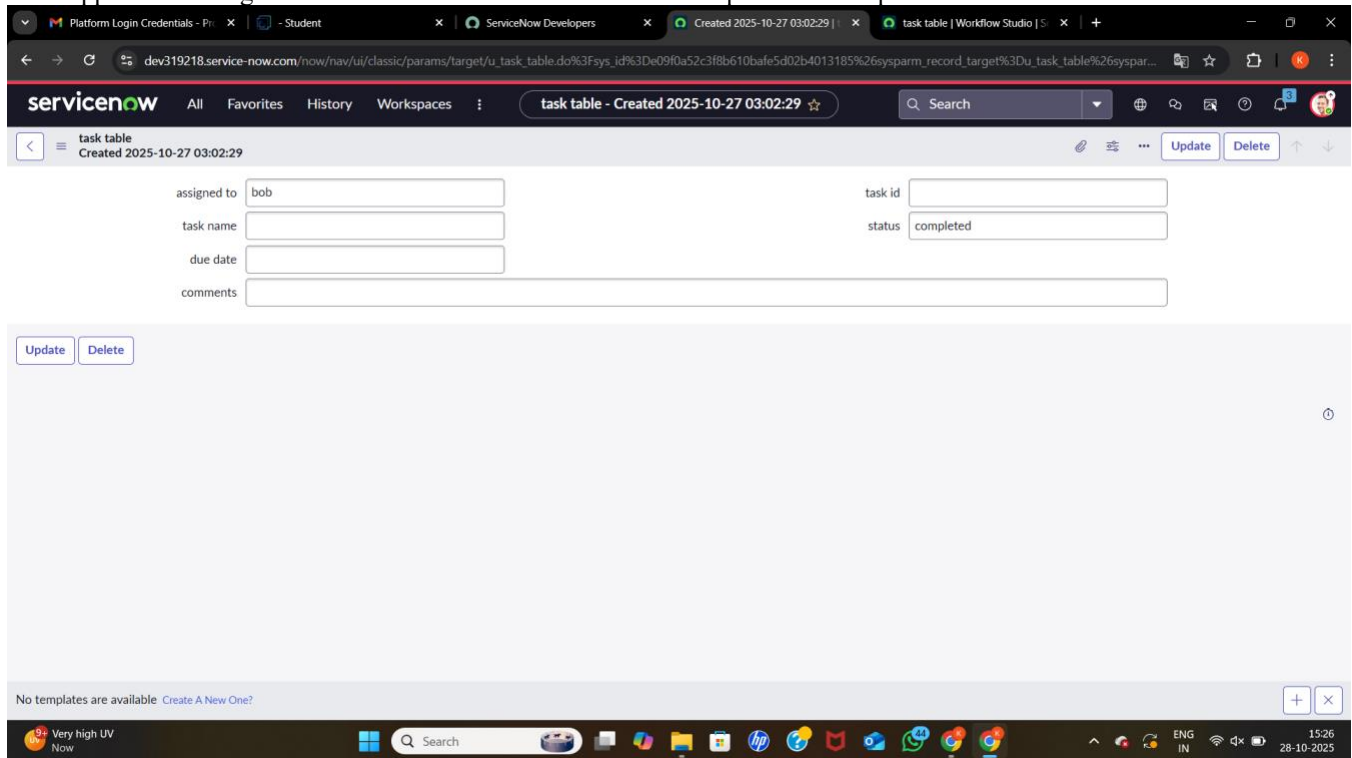
New Criteria

Advanced Options

Delete Cancel Done

Status: Draft Application: Global

Go to application navigator search for task table→It status field is updated to completed.



The screenshot shows the ServiceNow 'task table' form. The form is titled 'task table - Created 2025-10-27 03:02:29'. It contains several input fields: 'assigned to' (value: bob), 'task id' (empty), 'task name' (empty), 'status' (value: completed), 'due date' (empty), and 'comments' (empty). There are 'Update' and 'Delete' buttons at the bottom left. The bottom of the screen shows a Windows taskbar with various icons and a system tray showing the date and time.

task table - Created 2025-10-27 03:02:29

assigned to: bob

task id:

task name:

status: completed

due date:

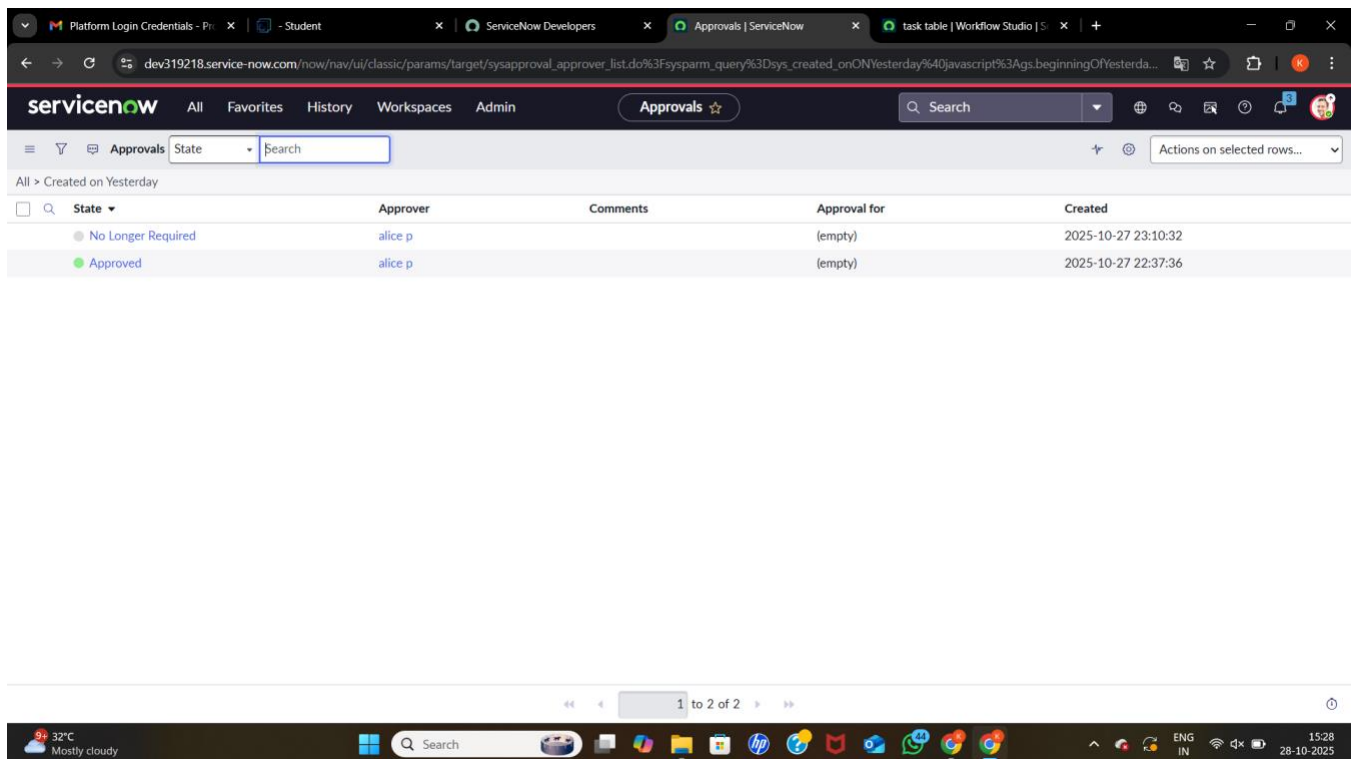
comments:

Update Delete

No templates are available [Create A New One?](#)

## 8. Testing and Output:

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' table. The table has columns: State, Approver, Comments, Approval for, and Created. There are two rows of data. The first row is 'No Longer Required' with approver 'alice p' and created date '2025-10-27 23:10:32'. The second row is 'Approved' with approver 'alice p' and created date '2025-10-27 22:37:36'. The bottom of the screen shows a Windows taskbar with various icons and a system tray showing the date and time.

Approvals

State: Search

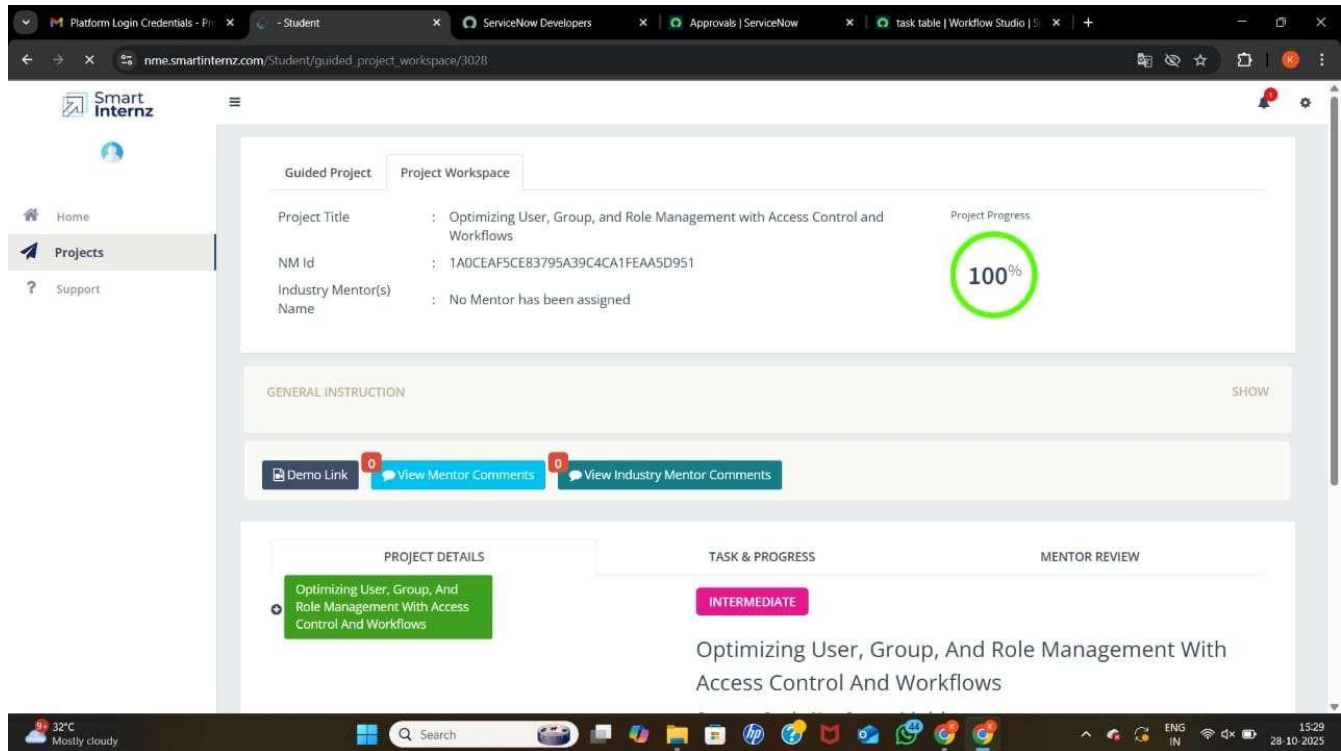
All > Created on Yesterday

State	Approver	Comments	Approval for	Created
No Longer Required	alice p		(empty)	2025-10-27 23:10:32
Approved	alice p		(empty)	2025-10-27 22:37:36

1 to 2 of 2

## 9.Results and Discussion

The project successfully automated the user, group, and role management process using ServiceNow. The implementation of ACLs ensured robust access control, while Flow Designer enhanced workflow automation. The system improved security, reduced administrative effort, and provided a transparent ticket-handling mechanism. The project demonstrates the potential of ServiceNow in optimizing IT operations.



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## 10.Conclusion

This project effectively demonstrate show ServiceNow can automate access control and workf low processes to enhance efficiency and security. By creating structured users, groups, and roles with ACL protection and automated workflows, the system ensures smooth and secure operations .Automation reduces manual errors, accelerates service delivery, and enhances accountability. The project highlights ServiceNow’s flexibility in extending automation capabilities beyond IT Service Management to broader enterprise solutions.

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## 11.Future Enhancements

- Integration with HR systems for automatic user provisioning.
  - Implementation of AI-based role recommendations for dynamic access control.
  - Adding email and mobile notifications for new ticket assignments.
  - Periodic access audits to maintain compliance and security standards
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