



Smart
Internz



KSK COLLEGE OF ENGINEERING AND TECHNOLOGY
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

**OPTIMIZING USER,GROUP,AND ROLE MANAGEMENT WITH
ACCESS CONTROL AND WORKFLOW**

Team ID : NM2025TMID07768

Team Size : 4

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Team member : Devisri S

Team member : Varsha R

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:

- Implement Role-Based Access Control (RBAC) for efficient access management
- Automate user provisioning and deprovisioning processes
- Streamline approval workflows and enhance transparency
- Regularly review and update user access rights and permissions
- Ensure compliance with regulatory requirements and security policies

Skills:

- ServiceNow Catalog Item Creation
- UI Policies & UI Actions
- Update Set Management
- Testing & Deployment
- Team Collaboration

Task initiation:

1. **Conduct Current State Assessment:** Review existing user, group, and access management processes.

2. **Define Requirements and Objectives:** Identify business needs and regulatory compliance requirements.

3. **Design Target State Architecture:** Plan RBAC implementation and workflow automation.

4. **Develop Implementation Plan:** Create timeline, milestones, and resource allocation plan.

5. **Configure and Test Solution:** Implement RBAC, automate workflows, and test thoroughly.

Features:

- 1. Centralized User Management:** Single platform for user provisioning, management, and deprovisioning.
- 2. Role-Based Access Control (RBAC):** Assign permissions based on job functions or roles.
- 3. Attribute-Based Access Control (ABAC):** Dynamic access control based on user attributes and environment.
- 4. Automated Workflows:** Streamline approval processes, requests, and escalations.
- 5. Group Management:** Create and manage groups based on departments, roles, or projects.
- 6. Access Reviews and Audits:** Regularly review and update access permissions and roles.
- 7. Self-Service Portal:** Allow users to request access, manage profiles, and reset passwords.
- 8. Integration with Existing Systems:** Integrate with HR systems, directories, apps, and identity providers.
- 9. Multi-Factor Authentication (MFA):** Enhance security with additional authentication factors.
- 10. Audit Logging and Compliance:** Track user activity, access changes, and ensure regulatory compliance.
- 11. Delegated Administration:** Assign administrative tasks to specific users or groups.
- 12. Customizable Access Policies:** Define and enforce access policies based on business needs.

Modules implemented:

The modules implemented for optimizing user, group, management with access control and workflow include User Management, Group Management, and Role-Based Access Control (RBAC). The Access Control module ensures secure access to resources, while the Workflow Management module streamlines business processes. The Audit and Compliance module tracks user activity and ensures regulatory compliance. Additionally, the Self-Service Portal module empowers users to manage their profiles and request access. Integration with existing systems is facilitated through the Integration module. The Authentication module enables Single Sign-On (SSO) and Multi-Factor Authentication (MFA). The Authorization module manages permissions and access rights. Other modules include User Provisioning, Access Review, and Workflow Automation. These modules work together to optimize user, group, and access management. They enhance security, productivity, and compliance. The modules are designed to be flexible and scalable. They can be customized to meet specific business needs. The implementation of these modules has improved overall efficiency.

1.user creation:

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

Create one more user:

7.Create another user with the following details

8.Click on submit

2.group creation:

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

3. Role management:

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

4.Assign users to group:

Assign roles to alice user:

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

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 table2.

5.Application access:

Assign table access to application:

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

6.Access Control List:

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

7.Flow:

Create a Flow to Assign operations ticket to group:

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

Implementation steps:

1.create users:

This screenshot shows the 'User - alice p' form in ServiceNow. The form is divided into two main sections. The left section contains fields for 'User ID' (alice), 'First name' (alice), 'Last name' (p), 'Title' (empty), and 'Department' (empty). Below these are checkboxes for 'Password needs reset', 'Locked out', 'Active' (checked), and 'Internal Integration User'. The right section contains 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...). At the bottom, there are buttons for 'Update', 'Set Password', and 'Delete'. Below the buttons are 'Related Links' (View linked accounts, View Subscriptions, Reset a password) and a tabbed interface with 'Entitled Custom Tables', 'Roles', 'Groups', 'Delegates', 'Subscriptions', and 'User Client Certificates'. A search bar is also present.

This screenshot shows the 'User - bob p' form in ServiceNow. The form is divided into two main sections. The left section contains fields for 'User ID' (bob), 'First name' (bob), 'Last name' (p), 'Title' (empty), and 'Department' (empty). Below these are checkboxes for 'Password needs reset', 'Locked out', 'Active' (checked), and 'Internal Integration User'. The right section contains fields for 'Email' (bob@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...). At the bottom, there are buttons for 'Update', 'Set Password', and 'Delete'. Below the buttons are 'Related Links' (View linked accounts, View Subscriptions, Reset a password) and a tabbed interface with 'Entitled Custom Tables', 'Roles', 'Groups', 'Delegates', 'Subscriptions', and 'User Client Certificates'. A search bar is also present.

2.create groups:

This screenshot shows the 'Group - project team' form in ServiceNow. The form is divided into two main sections. The top section contains fields for 'Name' (project team), 'Group email' (empty), 'Manager' (empty), 'Parent' (empty), and 'Description' (empty). Below these are buttons for 'Update' and 'Delete'. The bottom section is a tabbed interface with 'Roles', 'Group Members', and 'Groups'. The 'Roles' tab is selected, showing a table with columns 'Created', 'Role', 'Granted by', and 'Inherits'. The table is empty, and a message 'No records to display' is shown at the bottom.

3.create roles:

ServiceNow interface showing the 'Role - project member' form. The form includes fields for Name (project member), Application (Global), and Description. It also has buttons for Update and Delete. Below the form, there are tabs for Contains Roles, Applications with Role (2), Modules with Role (2), and Custom Tables. The Contains Roles tab is active, showing a search bar and a table with no records displayed.

4.Assign users to groups:

Assign role to alice user:

ServiceNow interface showing the 'User - alice p' form. The form includes fields for Active (checked), Internal Integration User (unchecked), Mobile phone, and Photo. It also has 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 4 roles assigned to the user.

| Role | State | Inherited | Inheritance Count |
|---------------------------------------|--------|-----------|-------------------|
| u_project_table_user | Active | false | |
| project member | Active | false | |
| snc_required_script_writer_permission | Active | true | |
| u_task_table_user | Active | false | |

Assign roles to bob user:

servicenow

AllFavoritesHistoryWorkspacesAdmin

User - bob p

Q Search

UpdateSet PasswordDelete

User bob p

Locked out

Active

Internal Integration User

business phone

Mobile phone

Photo Click to add...

UpdateSet PasswordDelete

Related Links

[View linked accounts](#)

[View Subscriptions](#)

[Reset a password](#)

Entitled Custom Tables

Roles (3)

Groups (2)

Delegates

Subscriptions

User Client Certificates

Role

Search

Actions on selected rows...

Edit...

User = bob p

| Role | State | Inherited | Inheritance Count |
|---------------------------------------|--------|-----------|-------------------|
| u_task_table_user | Active | false | |
| snc_required_script_writer_permission | Active | true | |
| team member | Active | false | |

1 to 3 of 3

5.Application access:

Assign table access to application:

servicenow

AllFavoritesHistoryWorkspaces

Application Menu - project table

Q Search

UpdateDelete

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

project table

Application

Global

Active

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

Roles

project member

Specifies the menu category, which defines the navigation menu style. The default value is Custom Applications.

Category

Custom Applications

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

Hint

Description

UpdateDelete

servicenow

AllFavoritesHistoryWorkspaces

Application Menu - task table

Search

UpdateDelete

<Application Menu task table

✎✚⚙⋮UpdateDelete

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](#)

* Titletask table

ApplicationGlobal ⓘ

Active☒

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

Roles ⓘ

u_task_table_user, project member, team member

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

CategoryCustom Applications ⓘ ⓘ

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

Hint

Description

UpdateDelete

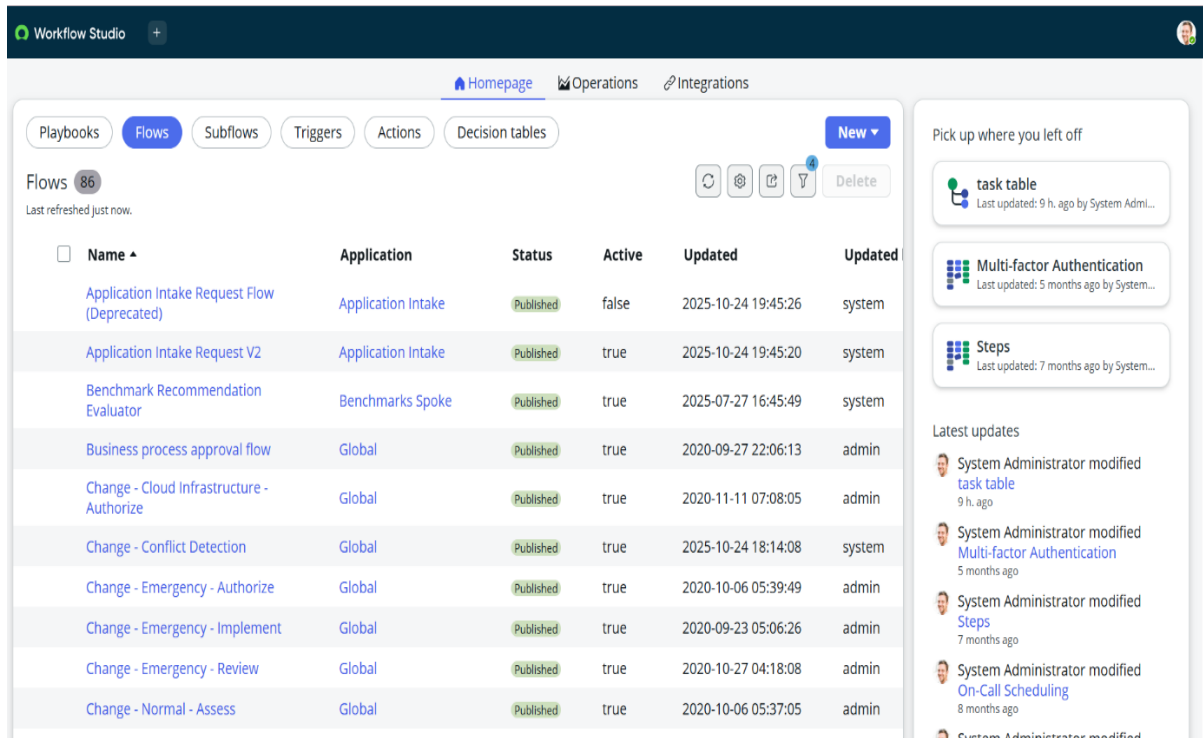
6. Access Control List:

Create ACL:

| Access Controls | | | | | | |
|---------------------------------------|---------------|-------------|--------|--------|------------|---------------------|
| Name | Decision Type | Operation | Type | Active | Updated by | Updated |
| u_project_table | Allow If | delete | record | true | admin | 2025-10-29 21:38:01 |
| u_project_table | Allow If | read | record | true | admin | 2025-10-29 21:38:01 |
| u_project_table | Allow If | write | record | true | admin | 2025-10-29 21:38:01 |
| u_project_table | Allow If | create | record | true | admin | 2025-10-29 21:38:01 |
| u_task_table | Allow If | delete | record | true | admin | 2025-10-29 21:37:35 |
| u_task_table | Allow If | write | record | true | admin | 2025-10-29 21:37:35 |
| u_task_table | Allow If | read | record | true | admin | 2025-10-29 21:37:35 |
| u_task_table | Allow If | create | record | true | admin | 2025-10-29 21:37:34 |
| sn_try_build_agent_knowledge_source | Deny Unless | report_view | record | true | system | 2025-10-24 20:15:32 |
| sn_try_build_agent_freemium_usage_log | Allow If | write | record | true | system | 2025-10-24 20:15:32 |
| sn_try_build_agent_task_telemetry | Deny Unless | report_view | record | true | system | 2025-10-24 20:15:32 |
| sn_try_build_agent_conversation | Allow If | read | record | true | system | 2025-10-24 20:15:32 |
| sn_try_build_agent_knowledge_source | Allow If | delete | record | true | system | 2025-10-24 20:15:32 |
| sn_try_build_agent_message | Deny Unless | report_view | record | true | system | 2025-10-24 20:15:32 |
| sn_try_build_agent_conversation | Allow If | report_view | record | true | system | 2025-10-24 20:15:32 |
| sn_try_build_agent_conversation | Allow If | delete | record | true | system | 2025-10-24 20:15:32 |

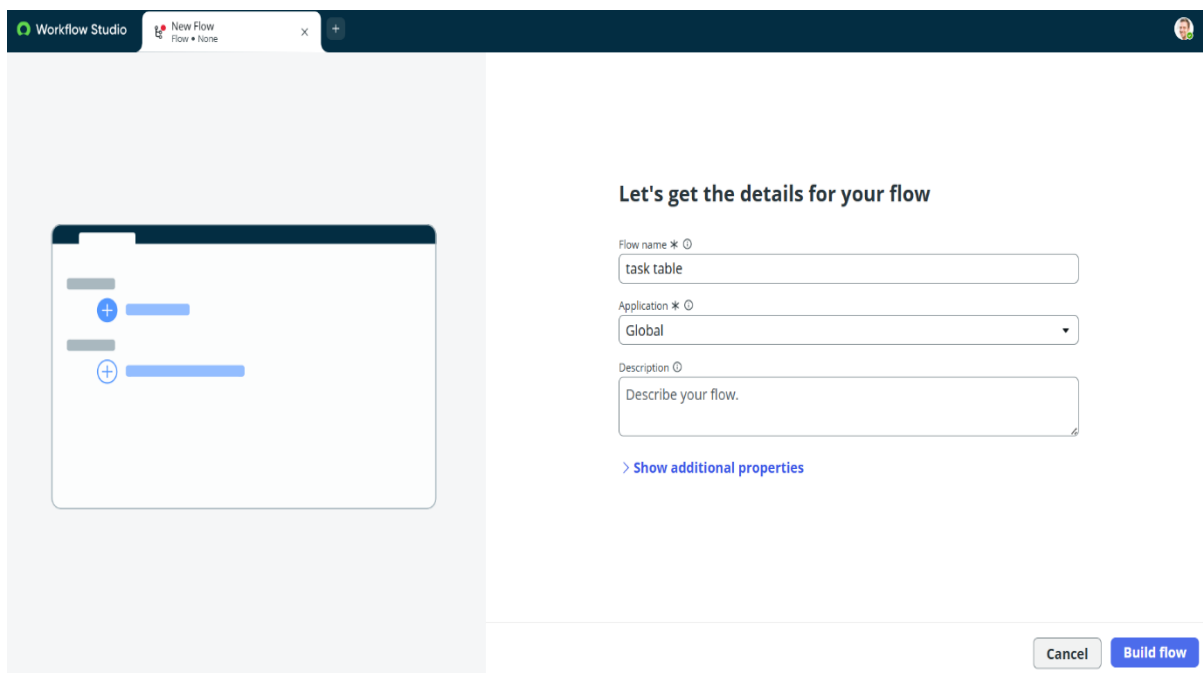
7.Flow:

Create a Flow to Assign operations ticket to group:



The screenshot shows the Workflow Studio interface. At the top, there's a navigation bar with 'Workflow Studio' and a '+' icon. Below it, there are tabs for 'Homepage', 'Operations', and 'Integrations'. A secondary navigation bar contains 'Playbooks', 'Flows' (selected), 'Subflows', 'Triggers', 'Actions', and 'Decision tables'. A 'New' button is on the right. The main area displays a list of flows with columns: Name, Application, Status, Active, Updated, and Updated. The list includes flows like 'Application Intake Request Flow (Deprecated)', 'Application Intake Request V2', 'Benchmark Recommendation Evaluator', 'Business process approval flow', 'Change - Cloud Infrastructure - Authorize', 'Change - Conflict Detection', 'Change - Emergency - Authorize', 'Change - Emergency - Implement', 'Change - Emergency - Review', and 'Change - Normal - Assess'. On the right, there's a sidebar with 'Pick up where you left off' showing 'task table', 'Multi-factor Authentication', and 'Steps'. Below that, 'Latest updates' shows recent modifications by the System Administrator.

| Name | Application | Status | Active | Updated | Updated |
|--|--------------------|-----------|--------|---------------------|---------|
| Application Intake Request Flow (Deprecated) | Application Intake | Published | false | 2025-10-24 19:45:26 | system |
| Application Intake Request V2 | Application Intake | Published | true | 2025-10-24 19:45:20 | system |
| Benchmark Recommendation Evaluator | Benchmarks Spoke | Published | true | 2025-07-27 16:45:49 | system |
| Business process approval flow | Global | Published | true | 2020-09-27 22:06:13 | admin |
| Change - Cloud Infrastructure - Authorize | Global | Published | true | 2020-11-11 07:08:05 | admin |
| Change - Conflict Detection | Global | Published | true | 2025-10-24 18:14:08 | system |
| Change - Emergency - Authorize | Global | Published | true | 2020-10-06 05:39:49 | admin |
| Change - Emergency - Implement | Global | Published | true | 2020-09-23 05:06:26 | admin |
| Change - Emergency - Review | Global | Published | true | 2020-10-27 04:18:08 | admin |
| Change - Normal - Assess | Global | Published | true | 2020-10-06 05:37:05 | admin |



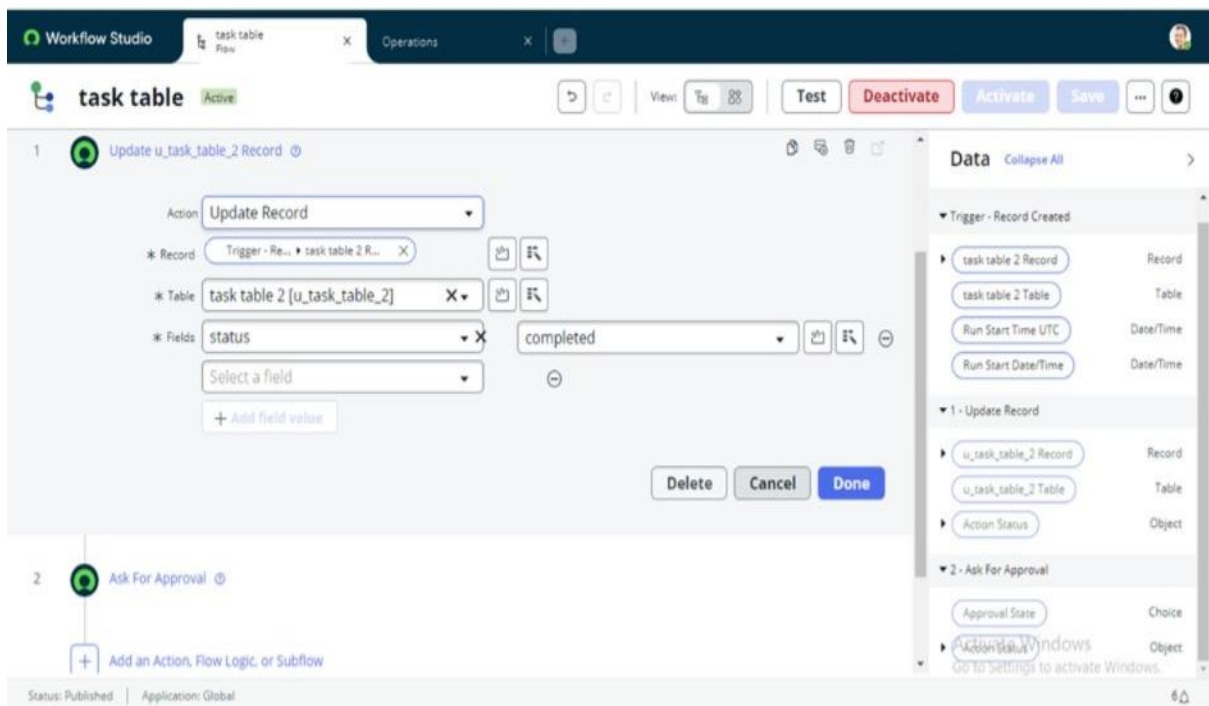
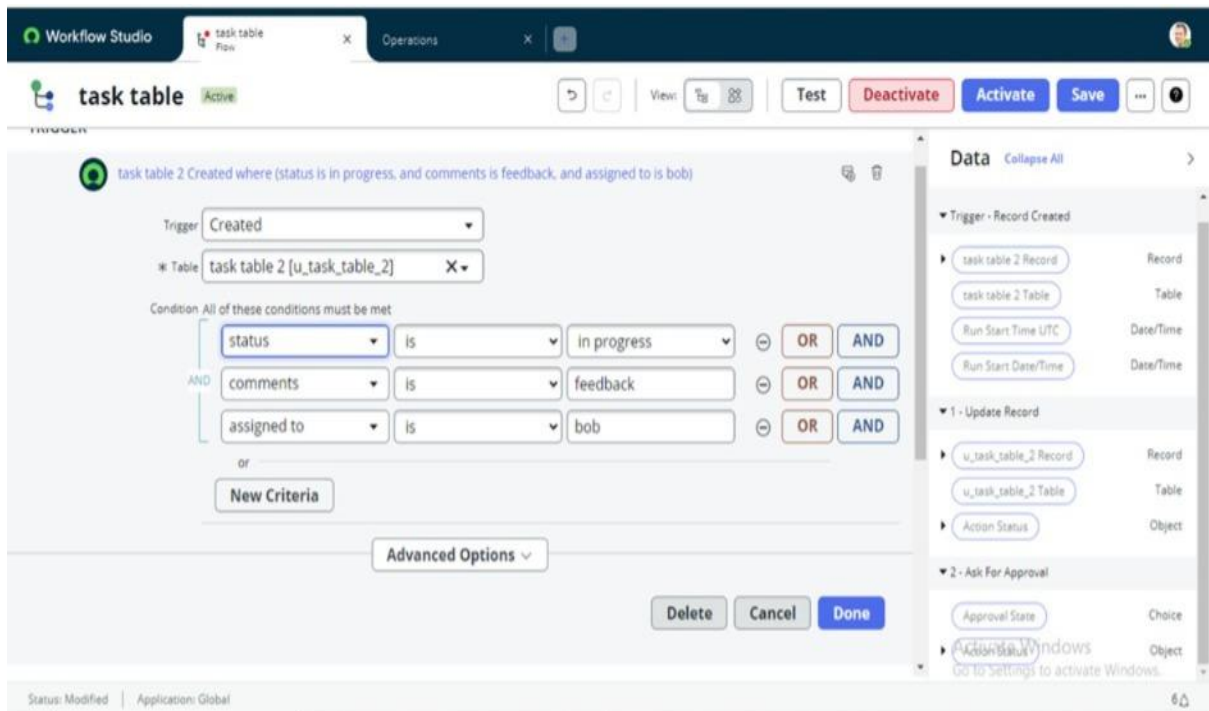
The screenshot shows the 'New Flow' form in Workflow Studio. The form has a title 'Let's get the details for your flow'. It includes fields for 'Flow name *' (task table), 'Application *' (Global), and 'Description' (Describe your flow.). There's a 'Show additional properties' link. At the bottom, there are 'Cancel' and 'Build flow' buttons.

Flow name *

Application *

Description

[Show additional properties](#)



Workflow Studio

task table
Flow

Operations

task table

Active

View

Test

Deactivate

Activate

Save

1

Update u_task_table_2 Record

2

Ask For Approval

Action

Ask For Approval

* Record

1 - Update 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

OR

AND

Add another OR rule set

Remove rule set

OR

Approve

When:

Remove rule set

Data

Collapse All

▼ 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

Activate Windows

Go to Settings to activate Windows.

servicenow

All

Favorites

History

task table 2 - Created 2024-10-22 2...

Search

<

task table 2

Created 2024-10-22 22:25:18

Update

Delete

↑

↓

task id

assigned to

bob

task name

comments

status

completed

due date

Update

Delete

Outcome:

Optimizing user, group, and role management with access control and workflow improves security, efficiency, and compliance. It streamlines processes, reduces risk, and enhances collaboration. Automated workflows increase productivity and reduce manual errors. Access control ensures data integrity and confidentiality. Overall, it leads to better decision-making and improved business outcomes.

Conclusion :

This scenario highlights a structured approach to project management, showcasing the roles of Alice and Bob within a defined workflow. With Alice's oversight and Bob's execution, the team effectively collaborates to ensure project success. The use of tables organizes key information, facilitating easy tracking of projects, tasks, and progress updates. Overall, this system promotes accountability, enhances communication, and leads to the successful completion of projects.