

Project Based Experiential Learning

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

Team ID : NM2025TMID02199

Team Size : 4

Team Leader : Daniel Jabaraj V

Team member : Domik RAJ K

Team member : Sriram D

Team member : Durga M

□ Project Documentation

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

Platform:

ServiceNow

Methodology: Project-Based Experiential Learning

Category: ServiceNow System Administartor

Skills

Required:

Tensorflow, Oracle DB

□ Problem Statement

In a compact project team comprising:

- □□ Alice – Project Manager
- □□ Bob – Team Member

...there exists a critical need to streamline task management and ensure accountability. The current system lacks:

- Defined roles and access controls
- Structured group management
- Automated workflows for task tracking

This leads to confusion, inefficiencies, and poor visibility across the project lifecycle.

Project Objectives

- Establish clear user roles and permissions
- Implement group-based access control
- Design structured workflows for task lifecycle
- Enhance transparency and accountability

Stakeholder Matrix

Role	Name	Responsibilities
<input checked="" type="checkbox"/> Project Manager	Alice	Assign tasks, review progress, approve completions
<input checked="" type="checkbox"/> Team Member	Bob	Execute tasks, update status, report blockers

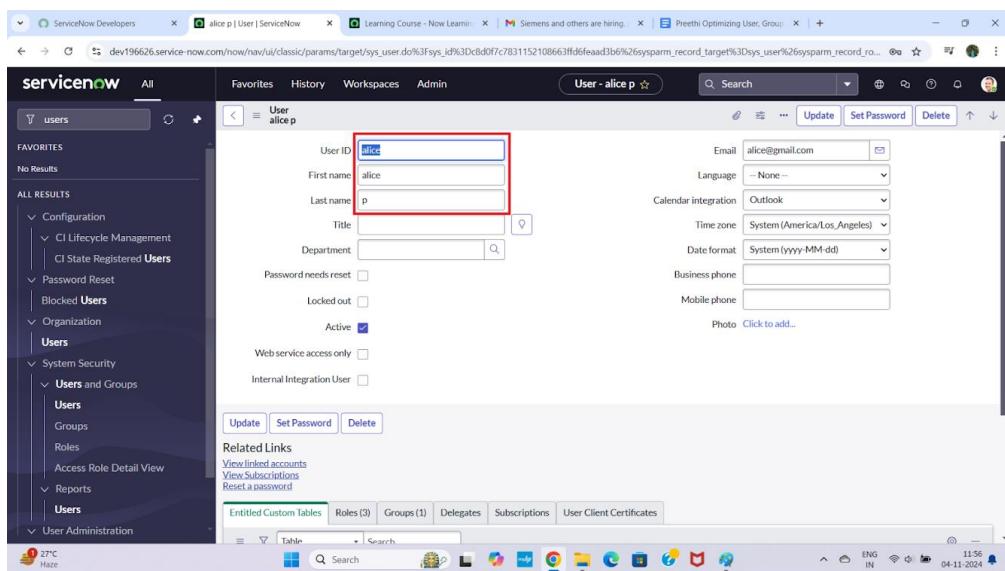
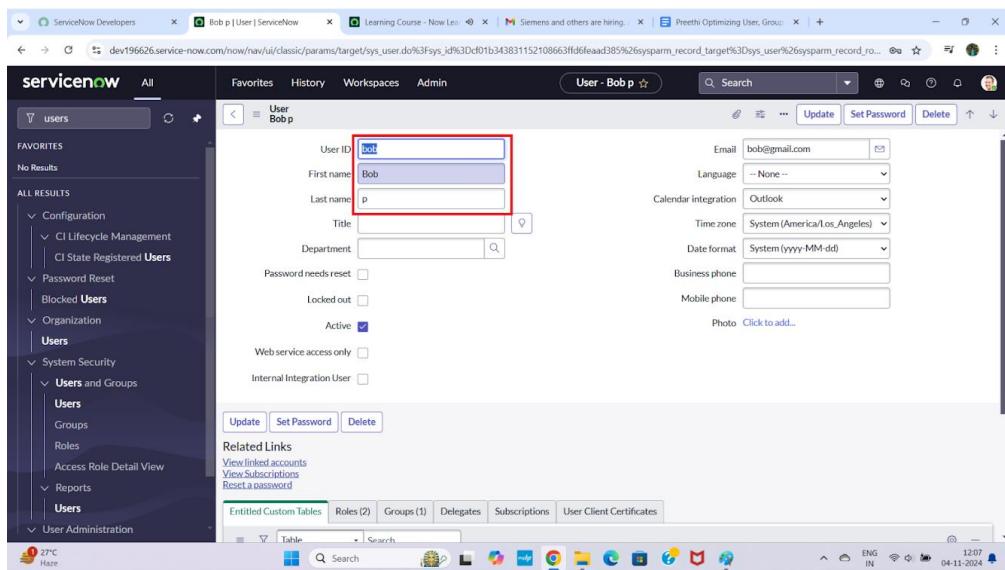
Key Components & Steps

1. **Users**

Purpose: Represent individuals in the system.

Steps:

- Create user profiles with unique identifiers (e.g., username, email)
- Assign basic attributes (name, role, department)
- Link users to groups and roles

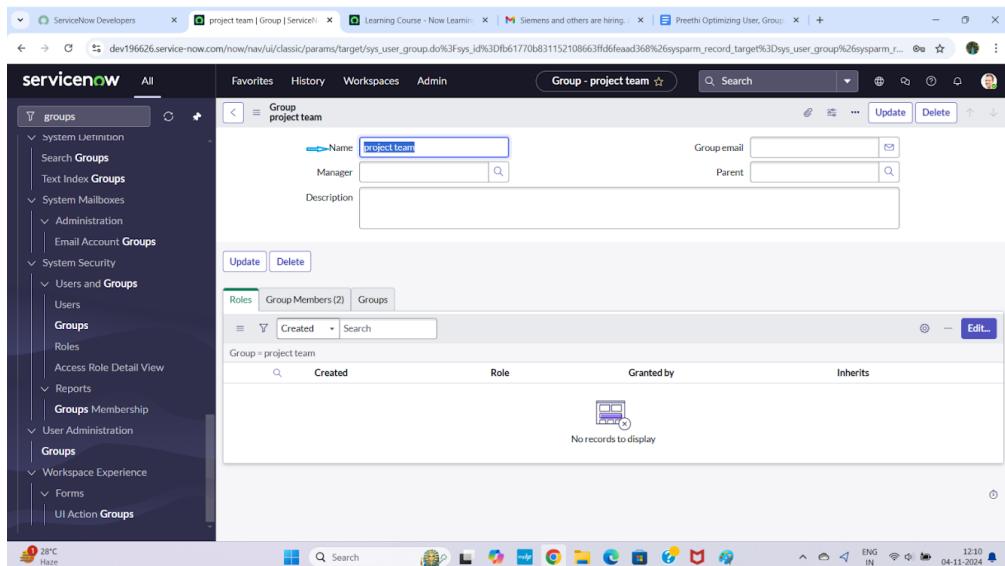


2. □ Groups

Purpose: Logical collections of users for simplified permission management.

Steps:

- Define group categories (e.g., Development, QA, Management)
- Add users to appropriate groups based on responsibilities
- Ensure groups reflect organizational structure

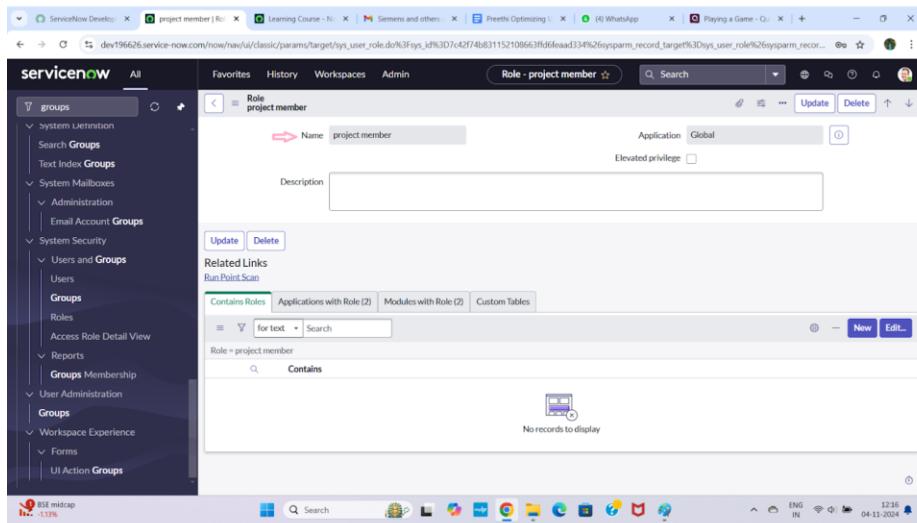


3. □□ Roles

Purpose: Define access levels and responsibilities.

Steps:

- Identify key roles (e.g., Project Manager, Developer, QA Tester)
- Assign permissions to each role (read, write, execute)
- Map roles to users or groups



4. Assign Users to Groups

Purpose: Enable scalable and manageable access control.

Steps:

- Match users to relevant groups based on their job function
- Review group membership periodically
- Automate group assignment if possible (e.g., via onboarding workflow)

The screenshot shows the ServiceNow user profile for 'User - Bob p'. The left sidebar navigation includes 'groups', 'System Definition', 'Search Groups', 'Text Index Groups', 'System Mailboxes', 'Administration' (with 'Email Account Groups' expanded), 'Users and Groups' (with 'Groups' expanded), 'Roles', 'Access Role Detail View', 'Reports', 'Groups Membership' (selected), 'User Administration', 'Groups', 'Workspace Experience', 'Forms', and 'UI Action Groups'. The main content area displays the user's details: 'User - Bob p' with a note 'Prevent user from accessing UI and require a SOAP role to make API protocol calls (such as SOAP and WSDL requests)'. It shows 'Web service access only' and 'Internal Integration User' status. Under 'Related Links', there are 'View linked accounts', 'View Subscriptions', and 'Reset a password' options. The 'Entitled Custom Tables' section shows two roles assigned: 'u_task_table_2_user' and 'team member'. Both roles are listed as 'Active' with 'Inherited' status set to 'false'. The bottom status bar shows '29°C Haze' and the date '04-11-2024'.

The screenshot shows the ServiceNow user profile for 'User - alice p'. The left sidebar navigation is identical to the first screenshot. The main content area displays the user's details: 'User - alice p' with an 'Active' status. It shows 'Web service access only' and 'Internal Integration User' status. Under 'Related Links', there are 'View linked accounts', 'View Subscriptions', and 'Reset a password' options. The 'Entitled Custom Tables' section shows three roles assigned: 'u_task_table_2_user', 'project.member', and 'u_project_table_user'. All three roles are listed as 'Active' with 'Inherited' status set to 'false'. The bottom status bar shows '29°C Haze' and the date '04-11-2024'.

5. Application Access

Purpose: Control access to specific applications or modules.

Steps:

- Define access rules per application
- Link applications to roles/groups
- Monitor and audit access logs

The screenshot shows the ServiceNow Application Menu configuration for the 'project table' application. The page includes fields for Title (project table), Application (Global), and Active status (checked). It also lists Roles assigned to the menu, which is 'project member'. The Category is set to 'Custom Applications'. A Hint and Description field are present but empty. At the bottom, there are 'Update' and 'Delete' buttons.

The screenshot shows the ServiceNow Application Menu configuration for the 'task table 2' application. The page includes fields for Title (task table 2), Application (Global), and Active status (checked). It lists Roles assigned to the menu, which include 'u_task_table_2_user', 'project.member', and 'team.member'. The Category is set to 'Custom Applications'. A Hint and Description field are present but empty. At the bottom, there are 'Update' and 'Delete' buttons, along with a 'Modules' tab and a 'Search' bar.

6. Access Control List (ACL)

Purpose: Specify permissions for users and groups.

Steps:

- Create ACL entries for each resource (e.g., files, modules)
- Assign read/write/execute permissions
- Enforce ACLs during user actions
- Log access attempts for auditing

The screenshot shows the 'Access Control - New Record' page in ServiceNow. The form fields are as follows:

- * Type: record
- * Operation: write
- Decision Type: Allow If
- Application: Global
- Active: checked
- Advanced: unchecked
- Admin overrides: checked
- Protection policy: -- None --
- * Name: task table 2 [u_task_table_2]
- Description: (empty)
- Applies To: No.of records matching the condition: 1
 - Add Filter Condition
 - Add "OR" Clause

Below the form, a section titled 'Conditions' contains the note: "Access Control Rules have two decision types, and these types will behave differently depending on conditions."

The screenshot shows the 'Access Controls' list page in ServiceNow. The table displays the following ACL entries:

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

The screenshot shows a ServiceNow web interface for creating a new record in the 'task table 2'. The title bar reads 'task table 2 - Create Created'. The form contains fields for 'task id' (text input), 'task name' (text input), 'status' (dropdown menu currently set to '--None--'), 'assigned to' (text input), 'comments' (text input), and 'due date' (text input). A 'Submit' button is located at the top right. Below the form, there is a large empty area with a placeholder 'Submit' button. In the bottom right corner of this area, there is a watermark-like text: 'Activate Windows Go to Settings to activate Windows.'

7. Workflow

Purpose: Structure task assignment and tracking.

Steps:

- Define workflow stages (e.g., To Do → In Progress → Review → Done)
- Assign tasks to users based on roles
- Track progress and update status
- Notify stakeholders of changes or delays

Project on user... | ServiceNow Dev | ServiceNow | task table | Created 2024-10-22 2... | ChatGPT | New Tab

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

Search

flow

Favorites

No Results

All Results

Process Automation

- Workflow Studio
- Flow Designer
- Flow & Action Designer
- Today's Executions
- Active Flows
- Content Definitions

assigned to bob

comments

due date

Activate Windows
Go to Settings to activate Windows.

[https://dev196626.service-now.com/\\$flow-designer.do?sysparm_nostack=true](https://dev196626.service-now.com/$flow-designer.do?sysparm_nostack=true)

This screenshot shows a ServiceNow task table titled 'task table 2 - Created 2024-10-22 2...'. A search bar at the top left contains the text 'flow'. On the left, a sidebar menu is open under 'Process Automation', specifically 'Workflow Studio', with 'Flow Designer' selected. The main table area is currently empty. At the bottom of the page, there is a message about activating Windows, and the URL 'https://dev196626.service-now.com/\$flow-designer.do?sysparm_nostack=true' is displayed in the address bar.

Project on user... | ServiceNow Dev | ServiceNow | Homepage - Flow | Created 2024-10-22 2... | ChatGPT | New Tab

Workflow Studio

task table Flow

Homepage Operations Integrations

Playbooks Flows Subflows Actions Decision tables

Flows 39 Last refreshed just now

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

New

Playbook

Flow

Subflow

Action

Decision table

Steps

Pick up where you left off

task table

Create Flow Data

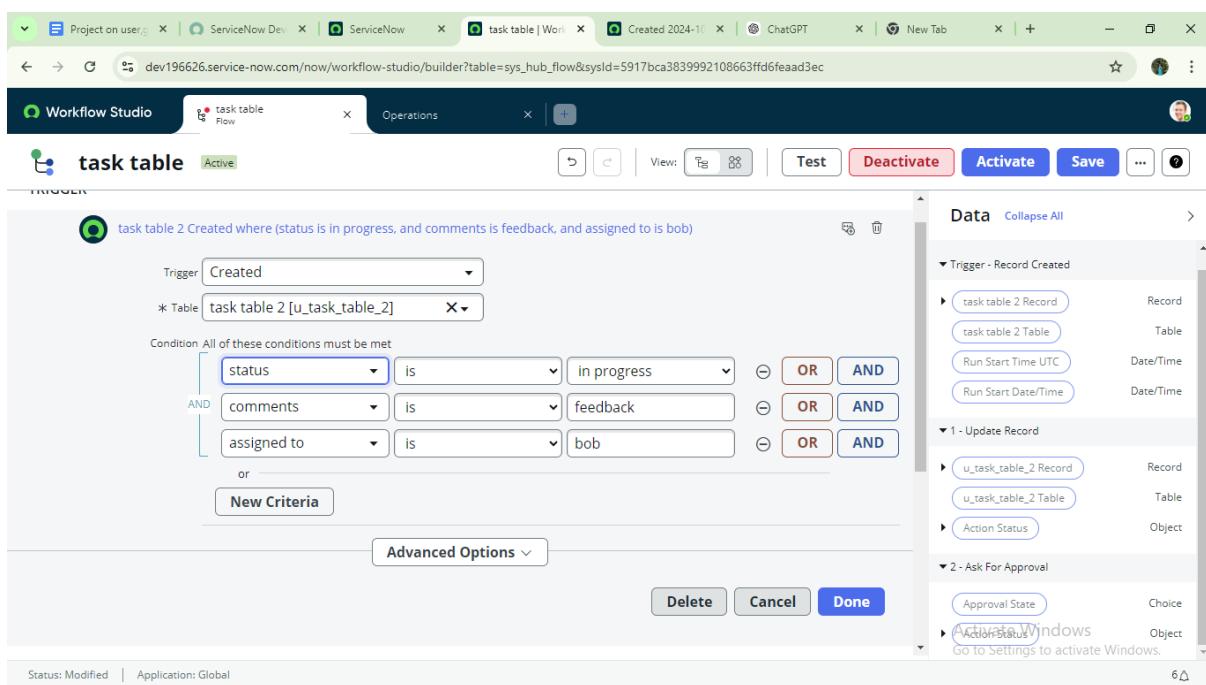
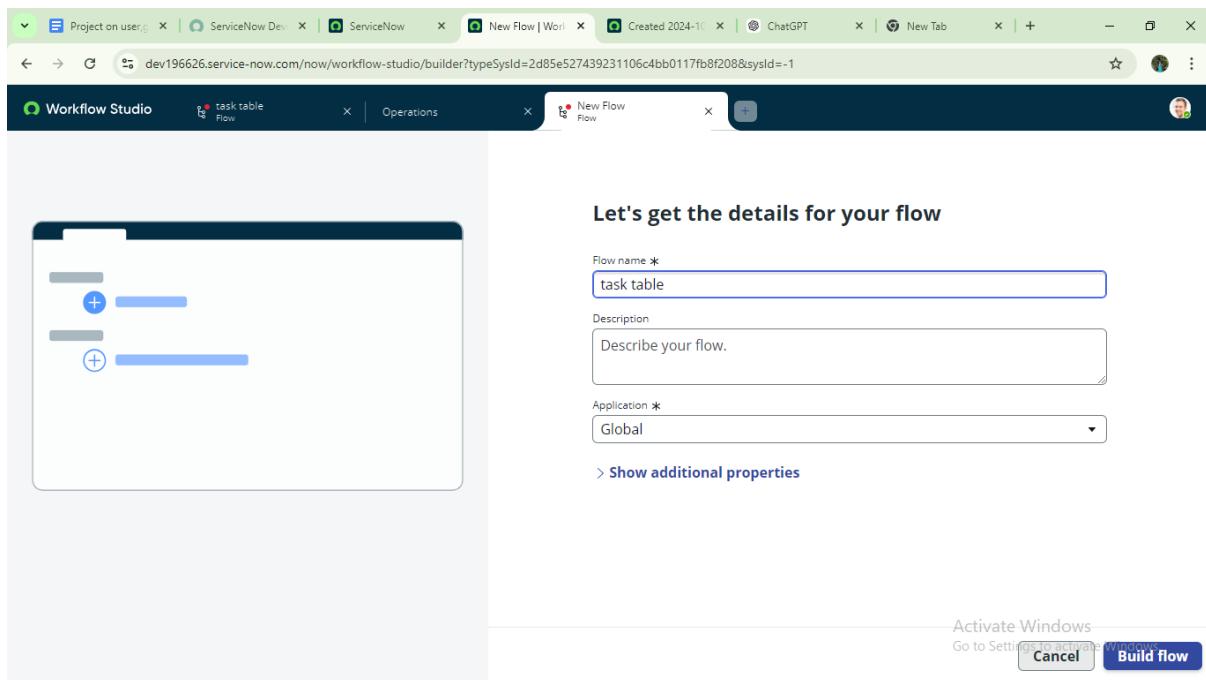
Latest updates

System Administrator modified task table 14 min. ago

System Administrator modified Create Flow Data 5 months ago

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

This screenshot shows the 'Workflow Studio' homepage. It features a navigation bar with 'Homepage', 'Operations', and 'Integrations'. Below the navigation, there are tabs for 'Playbooks', 'Flows' (which is selected), 'Subflows', 'Actions', and 'Decision tables'. A sidebar on the left shows a count of 39 flows, last refreshed just now. The main area displays a table of flows with columns for Name, Application, Status, Active, and Update. An 'Actions' column contains icons for each row. A 'New' button is located at the top right of the flow table. To the right of the table, there is a sidebar titled 'Pick up where you left off' containing links to 'task table', 'Create Flow Data', and 'Steps'. Another sidebar titled 'Latest updates' shows recent modifications made by 'System Administrator' to 'task table', 'Create Flow Data', and 'Steps'.



Workflow Studio - task table Flow

task table Active

1 Update u_task_table_2 Record

Action: **Update Record**

* Record: Trigger - Record Created > task table 2 Record

* Table: task table 2 [u_task_table_2]

* Fields: status completed

+ Add field value

2 Ask For Approval

+ Add an Action, Flow Logic, or Subflow

Status: Published | Application: Global

Data

- Trigger - Record Created
 - task table 2 Record
 - task table 2 Table
 - Run Start Time UTC
 - Run Start Date/Time
- 1 - Update Record
 - u_task_table_2 Record
 - u_task_table_2 Table
 - Action Status
- 2 - Ask For Approval
 - Approval State
 - Activate Windows

Workflow Studio - task table Flow

task table Active

1 Update u_task_table_2 Record

2 Ask For Approval

Action: **Ask For Approval**

* Record: 1 - Update Record > u_task_table_2 Record

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
 - Approve When:

Add another OR rule set

Remove rule set

Remove rule set

Data

- Trigger - Record Created
 - task table 2 Record
 - task table 2 Table
 - Run Start Time UTC
 - Run Start Date/Time
- 1 - Update Record
 - u_task_table_2 Record
 - u_task_table_2 Table
 - Action Status
- 2 - Ask For Approval
 - Approval State
 - Activate Windows

task table 2 - Created 2024-10-22 22:25:18

task id	bob
task name	
status	completed
assigned to	bob
comments	
due date	

Actions: Update, Delete

Activate Windows
Go to Settings to activate Windows.

Approvals

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 06:15:29
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

1 to 20 of 664

Activate Windows
Go to Settings to activate Windows.

□ Benefits

- ◆ Role-based access improves data security
- ◆ Group management simplifies administration
- ◆ Automated workflows reduce manual effort
- ◆ Audit trails boost accountability

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.