

Optimizing Project Management with Structured Access Control and Automated Workflows

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Created with Pi

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01

Objective

Objective

To establish a robust project management framework within ServiceNow by defining clear roles, implementing granular access controls, and automating key task management processes. This structure will eliminate ambiguity in task assignments, enhance accountability, and streamline progress tracking for the project team.



02

Phase 1: Foundational Configuration

First Name	Alice
Last Name	Peterson
Email	alice.peterson@example.com
	▼
Fried Ervench	
Geschnoch	

User Creation

To establish unique digital identities for team members with appropriate system access.

Navigate to All > System Security > Users.

Select New to create a user record.

Populate the mandatory fields (User ID, First Name, Last Name, Email) for Alice Peterson (Project Manager).

Click Submit.

Repeat the process to create a user record for Bob Parker (Team Member).

← → ⌂ dev328143.service-now.com/nav/ui/classic/params/target/sys_user.do%3Fsys_id%3Dedfb283b471322109bbcd24b116d4387%26sysparm_record_target%3Dsys_user%26sysparm_record_row%3D9%26sysparm_record_rows%3D630%26sysparm_record_list%3D...

servicenow All Favorites History Workspaces Admin

User - alice p ☆

Search

User alice p

User ID Alice

First name alice

Last name p

Title

Department

Password needs reset

Locked out

Active

Web service access only

Internal Integration User

Email alice@gmail.com

Language -- None --

Calendar integration Outlook

Time zone System (America/Los_Angeles)

Date format System (yyyy-MM-dd)

Business phone

Mobile phone

Photo Click to add...

Update Set Password Delete ↑

← → ⌂ dev328143.service-now.com/nav/ui/classic/params/target/sys_user.do%3Fsys_id%3Dc61c643b471322109bbcd24b116d43b8%26sysparm_record_target%3Dsys_user%26sysparm_record_row%3D1%26sysparm_record_rows%3D568%26sysparm_record_list... ⌂ ☆

servicenow All Favorites History Workspaces Admin

User - Bob p ☆

Search

User Bob p

User ID bob

First name Bob

Last name p

Title

Department

Password needs reset

Locked out

Active

Web service access only

Internal Integration User

Email bob@gmail.com

Language -- None --

Calendar integration Outlook

Time zone System (America/Los_Angeles)

Date format System (yyyy-MM-dd)

Business phone

Mobile phone

Photo Click to add...

Update Set Password Delete ↑ ↓

...

camera video file settings

Group Creation

To create a logical container for project team members, enabling collective assignment and permissions.

Navigate to All > System Security > Groups.

Select New.

Create a group named "Project Team" with a descriptive purpose.

Click Submit.



< > C 🔒 dev328143.service-now.com/nav/ui/classic/params/target/sys_user_group.do%3Fsys_id%3D5f6c247b471322109bbcd24b116d43e2%26sysparm_record_target%3Dsys_user_group%26sysparm_record_row%3D1%26sysparm_record_rows%3D10%: 📲 🏠 🎯 ➤ ❤️ ⌂

servicenow

All Favorites History Workspaces Admin

Group - project team ☆

Search

Group project team

Name: project team

Manager:

Description:

Group email:

Parent:

Update Delete

Roles Group Members (2) Groups

Created Search Edit...

Group = project team

Created	Role	Granted by	Inherits
No records to display			

Role Creation

To define a set of permissions that dictate what a user can see and do within the system.

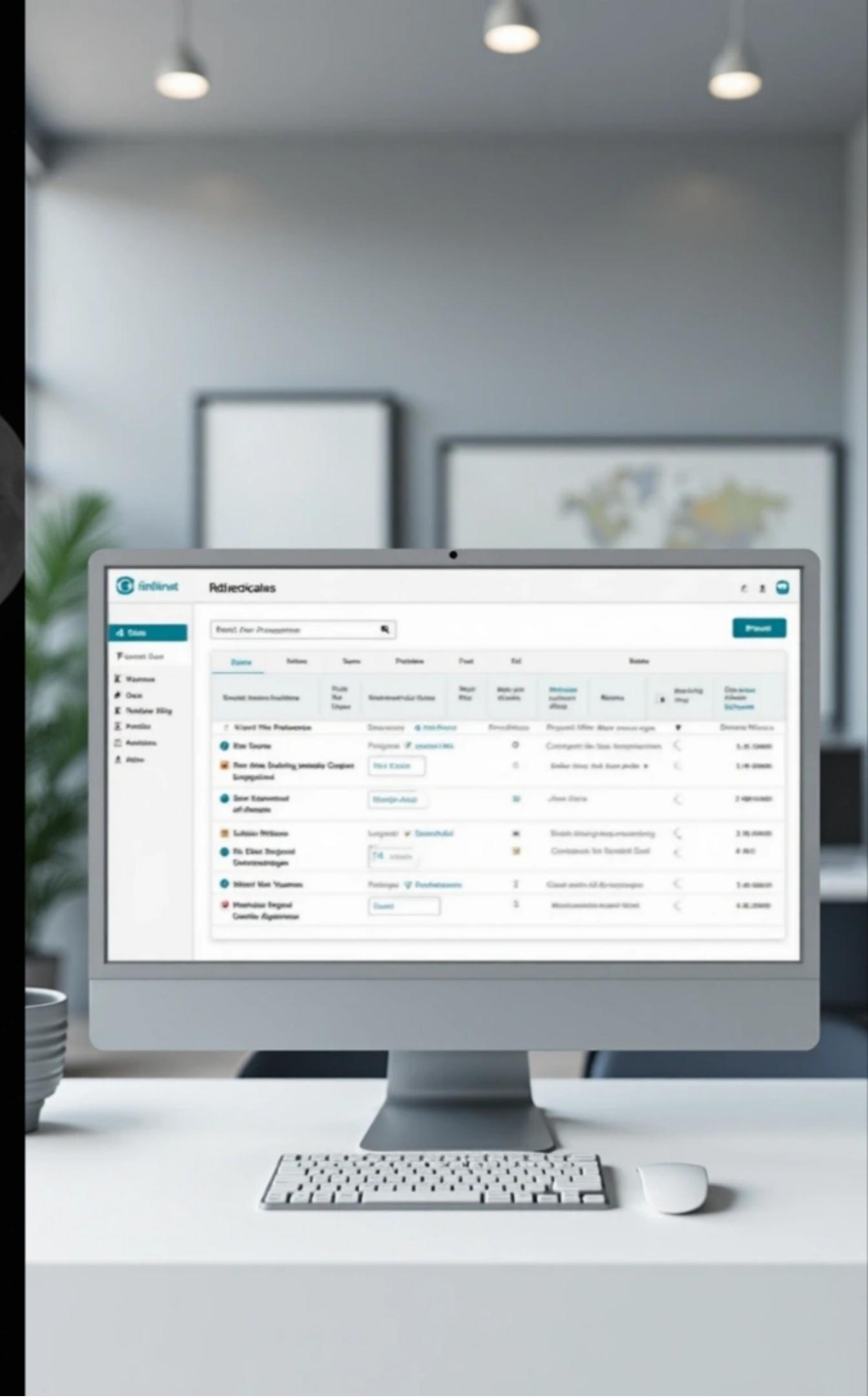
Navigate to All > System Security > Roles.

Select New.

Create a role named `project_manager` with a description outlining oversight capabilities.

Click Submit.

Repeat to create a second role named `team_member` with a description for task execution capabilities.



Role
project memberName Application Elevated privilege Description

Applications with Role (2) Modules with Role Custom Tables

 for text Search

Role = project member

Contains



No records to display

Google - My Activity | Search Settings | Speed Dial | Optimizing User, Group | Optimizing-User-Group- | how to add canva image | Edit file - PDFAid | Speed Dial | ServiceNow Developers | team member | Role | Serv

dev328143.service-now.com/nav/ui/classic/params/target/sys_user_role.do%3Fsys_id%3D589e3cfb475322109bbcd24b116d43ba%26sysparm_record_target%3Dsys_user_role%26sysparm_record_row%3D1%26sysparm_record_rows%3D1%26sysj

servicenow All Favorites History Workspaces Admin Role - team member

Role - team member Search

Name: team member Application: Global Description: Elevated privilege:

Update Delete



Data Structure Design (Table Creation)

To architect the data model for storing project and task information.

Navigate to All > System Definition > Tables.

Select New.

Configure the first table:

The screenshot shows a 'Create Table' dialog box with the following steps:

- Label: Project Table
- Name: u_project_table
- Enable Create module and Create mobile module.
- New Menu Name: Project Table
- Define the initial schema by adding relevant columns (e.g., project_name, description, start_date, end_date).

Click Submit.

Repeat the process to create a second table:

The screenshot shows a 'Create Table' dialog box with the following steps:

- Label: Task Table
- Name: u_task_table
- Add columns such as short_description, assigned_to, status, comments, and project (a Reference to the Project Table).

Table
project table

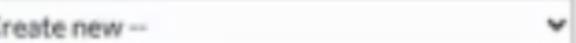
* Name u_project_table

Create module

Extends table

Create mobile module 

Add module to menu -- Create new --



New menu name

Remote Table

Columns Controls Application Access

Table Columns

for text

Search

@ — New

Dictionary Entries

	Column label	Type	Reference	Max length	Default value	Display
✖	start date	Date	(empty)	40		false
✖	Updated by	String	(empty)	40		false
✖	Updates	Integer	(empty)	40		false
✖	status	Choice	(empty)	40		false
✖	description	String	(empty)	40		false
✖	Updated	Date/Time	(empty)	40		false
✖	project id	Integer	(empty)	40		false
✖	end date	Date	(empty)	40		false
✖	project manager	String	(empty)	40		false
✖	Created by	String	(empty)	40		false
✖	project name	String	(empty)	40		false
✖	Sys ID	Sys ID (GUID)	(empty)	32		false
✖	Created	Date/Time	(empty)	40		false

Google - My Activity | Search Settings | Speed Dial | Edit file - PDFAid | Speed Dial | ServiceNow Developers | New Record | Table | ServiceNow Developers | Student | +MQya2AAAAABklEQVQJ | JqRMcSkpkAAAAASUVOD | + | Search | _ | X

dev328143.service-now.com/nav/ui/classic/params/target/sys_db_object.do?sys_id=1%26sys_is_list=1%26sys_target=3Dsys_db_object%26sysparm_checked_items=3D%26sysparm_fixed_query=3D%26sysparm_group_sort=3D%26

servicenow All Favorites History Workspaces Admin Table - New Record star

Table New record Submit Cancel

① ServiceNow recommends creating custom tables in scoped applications. To learn more about creating scoped applications, click [here](#).

A table is a collection of records in the database. Each record corresponds to a row in a table, and each field on a record corresponds to a column on that table. Applications use tables and records to manage data and processes. [More Info](#)

* Label: task table 2

* Name: u_task_table_2

Extends table:

Application: Global ⓘ

Create module:

Create mobile module:

Add module to menu: -- Create new --

New menu name: task table 2

Remote Table:

Columns Controls Application Access

Table Columns: for text

Column label	Type	Reference	Max length	Default value	Display
task id	Integer				false
task name	String				false
assigned to	String				false
due date	Date				false
status	Choice				false
comments	String				false

Insert a new row...

Submit Cancel

8 ENG - SA Game score | Search | Microsoft Edge | Microsoft Word | Microsoft Excel | Microsoft Powerpoint | Microsoft OneDrive | Google Photos | Google Sheets | 11:55 | ENG IN | 03-09-2025

03

Phase 2: Security and Access Control

Assign the users to group

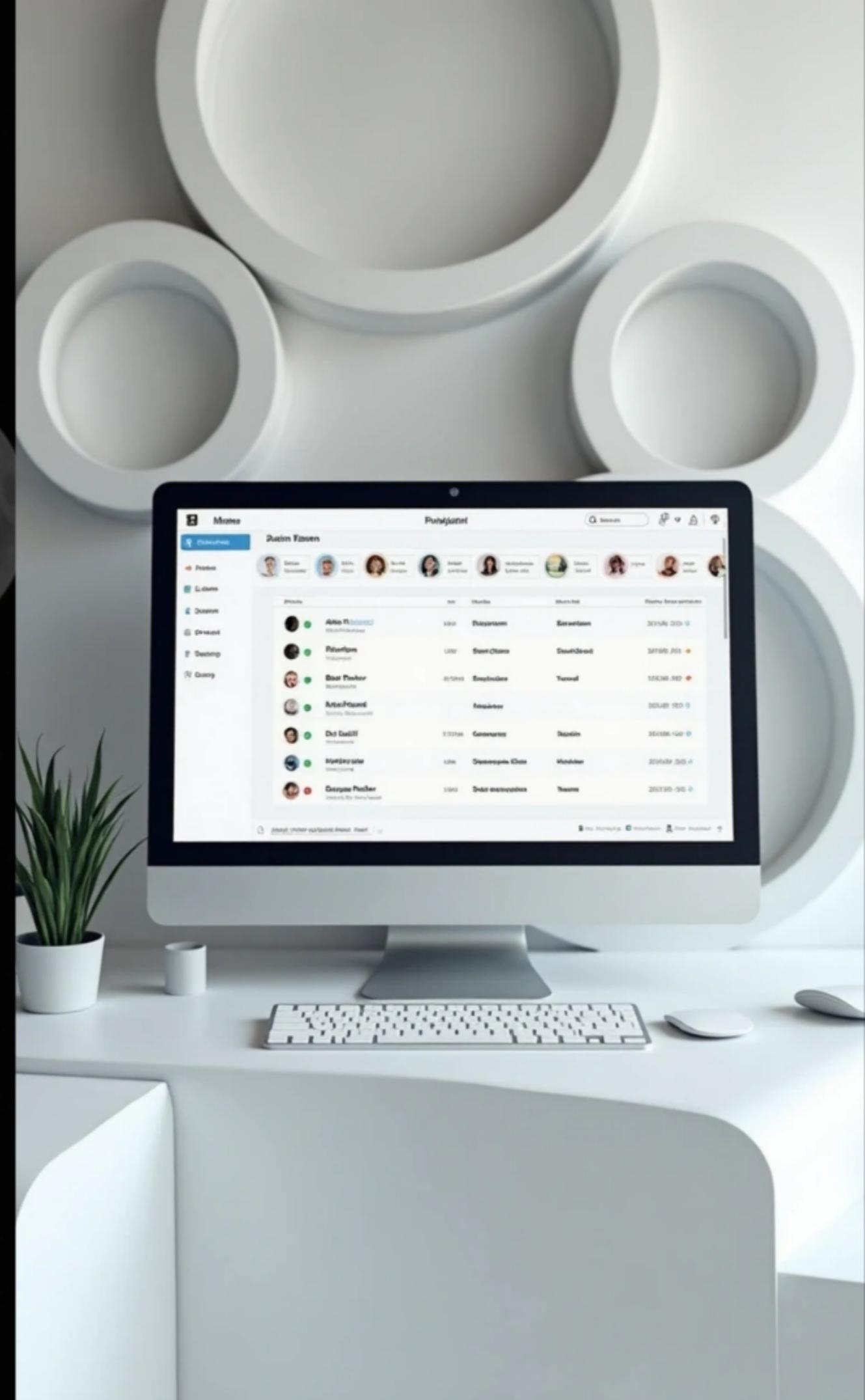
To associate users with the project team for collective permissions.

Navigate to the previously created "Project Team" group.

In the Group Members related list, click Edit.

Add Alice and Bob as members.

Save the record.



Google - My Activity | Search Settings | Speed Dial | Edit file - PDFAid | Speed Dial | ServiceNow Developers | project team | Group | Sen | - Student | +MQya2AAAABklEQVQDA | +

dev328143.service-now.com/nav/ui/classic/params/target/sys_user_group.do%3Fsys_id%3D5f6c247b471322109bbcd24b116d43e2%26sysparm_record_target%3Dsys_user_group%26sysparm_record_row%3D2%26sysparm_record_rows%3C

Search | ... | Update | Delete | ⚙

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All Favorites History Workspaces Admin

Group - project team ☆

Search

...

Group project team

Name

Group email

Manager

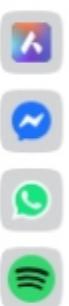
Parent

Description

Update Delete

Roles Group Members (2) Groups

≡	User	Search	Actions on selected rows...	New	Edit...
Group = project team					
<input type="checkbox"/>	User	alice p Bob p			
			1 to 2 of 2		



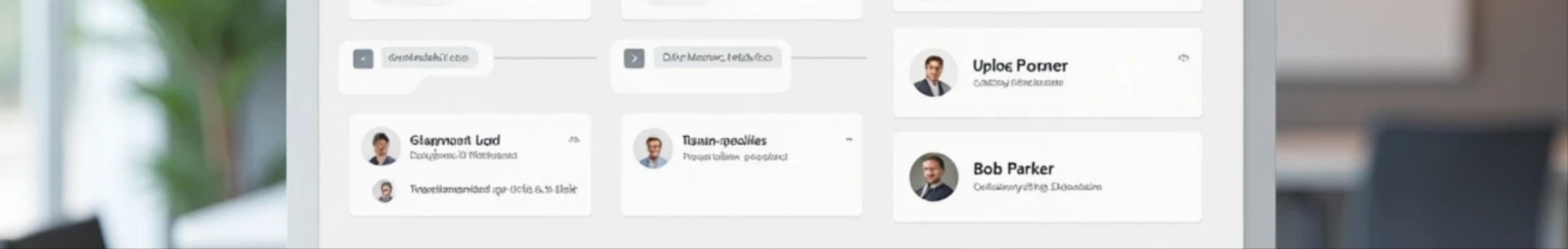
31°C
Mostly cloudy



Search



ENG IN 03-09-2025 11:26



User Role Elevation

To grant specific elevated permissions to each user based on their responsibilities.

Open the user record for Alice .

In the Roles related list, click Edit.

Assign the `project_manager`, `u_project_table`, and `u_task_table` roles.

Save the record.

Repeat for Bob , assigning only the `team_member` and `u_task_table` roles.

User
alice p

Last name	<input type="text" value="p"/>	Calendar integration	<input type="text" value="Outlook"/>
Title	<input type="text"/>	Time zone	<input type="text" value="System (America/Los_Angeles)"/>
Department	<input type="text"/>	Date format	<input type="text" value="System (yyyy-MM-dd)"/>
Password needs reset	<input type="checkbox"/>	Business phone	<input type="text"/>
Locked out	<input type="checkbox"/>	Mobile phone	<input type="text"/>
Active	<input checked="" type="checkbox"/>	Photo	Click to add...
Web service access only	<input type="checkbox"/>		
Internal Integration User	<input type="checkbox"/>		

Related Links

[View linked accounts](#)
[View Subscriptions](#)
[Reset a password](#)

Entitled Custom Tables Roles (3) Groups (1) Delegates Subscriptions User Client Certificates

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

User = alice p

1 to 3 of 3

Application Role Assignment

To control visibility of applications in the application navigator based on user roles.

Locate the application generated for the Project Table (e.g., via Application Registry).

Edit the application's properties and assign the project_manager role to its Roles field.

Locate the application for the Task Table.

Edit its properties and assign both the project_manager and team_member roles. This ensures both roles can access the task management application.

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All Favorites History Workspaces Admin 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 Global [\(i\)](#)

Active

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

Roles [\(i\)](#)
project member

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

Category [\(i\)](#)

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

Hint

Description

Update Delete

Modules		Order	Search	Actions on selected rows...	New			
Application menu = project table								
Title	Table	Active	Filter	Order ▲	Link type	Device type	Roles	Updated
project table s	project table [u_project_table]	true			List of Records		u_project_table_user	2025-08-30 13:59:56

Google - My Activity | Search Settings | Speed Dial | Edit file - PDFAid | Speed Dial | ServiceNow Developers | task table 2 | Application | Student | +MQya2AAABkIEQVQDA | +

dev328143.service-now.com/nav/ui/classic/params/target/sys_app_application.do%3Fsys_id%3Db725d19147a366109bbcd24b116d4315%26sysparm_record_target%3Dsys_app_application%26sysparm_record_row%3D2%26sysparm_record

servicenow All Favorites History Workspaces Admin Application Menu - task table 2 Search

Application Menu - task table 2

Current View: Default view (click me for other views)

Up 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: task table 2

Application: Global

Active:

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

Roles:

u_task_table_2_user, project member, team 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:

Update Delete

Modules Order Search Actions on selected rows... New

Application menu = task table 2

<input type="checkbox"/> Title	Table	Active	Filter	Order ▲	Link type	Device type	Roles	Updated
task table 2 s	task table 2 [u_task_table]	true			List of Records		u_task_table_2_user	2025-08-24 17:26:28

1 to 1 of 1

31°C Mostly cloudy | Search |

ENG IN | 03-09-2025 | 11:39

Access Control List (ACL) Configuration

To implement row and column-level security, ensuring users can only interact with data pertinent to their role.

Navigate to All > System Security > Access Control (ACL).

Elevate your role to security_admin to create ACLs.

Create a new ACL entry for the Task Table.

Name
Task Table - Team Member Edit Rights

Type
Record

Requires Role
team_member

Read/Write/Delete

Configure as needed (e.g., Write = true).

Condition

Script or conditions can be added to restrict access to only tasks assigned to the user.

Create additional ACLs to protect specific fields:

ACL 1

Grant Write access to the comments field for users with the team_member role.

ACL 2,ACL 3,ACL4

Grant Write access to the status field for users with the project_manager role, preventing unauthorized state changes.

Validation: Use the Impersonate User feature to assume Bob's identity. Navigate to the Task Table and verify that he has edit access only to the permitted fields (e.g., comments) and not to others restricted by ACLs.

ⓘ Warning: A role, security attribute, data condition, script or ACL control via reference fields is required to properly secure access with this ACL.

* Type	record	(i)	Application	Global	(i)
* Operation	create	(i)	Active	<input checked="" type="checkbox"/>	
Decision Type	Allow If		Advanced	<input type="checkbox"/>	
Admin overrides	<input checked="" type="checkbox"/>				
Protection policy	-- None --				
* Name	task table 2 [u_task_table_2]	(i)	status		
Description					
Applies To	No. of records matching the condition: 0 (i) Add Filter Condition Add OR Clause -- choose field -- (i) -- oper -- (i) -- value --				

Conditions

Access Control Rules have two decision types, and these types will behave differently depending on conditions.

1. Allow Access: Allows access to a resource if all conditions are met. Additional ACLs may grant access to records where this ACL has not granted access.
2. Deny Access: Denies access to a resource unless all conditions are met. Additional ACLs may not grant access to records where this ACL has denied access.

[More Info](#)

Requires role

Role [\(i\)](#)



Insert a new row...

Security Attribute Condition

Access Controls ★							
	Name	Decision Type	Operation	Type	Active	Updated by	Updated
	Search	Search	Search	Search	Search	Search	Search
	u_task_table_2	Allow If	read	record	true	admin	2025-09-07 14:52:38
	u_task_table_2	Allow If	write	record	true	admin	2025-09-07 14:52:39
	u_task_table_2	Allow If	delete	record	true	admin	2025-09-07 14:52:39
	u_task_table_2	Allow If	create	record	true	admin	2025-09-07 14:52:38
	u_task_table_2.u_assigned_to	Allow If	write	record	true	admin	2025-09-07 16:05:53
①	u_task_table_2.u_comments	Allow If	write	record	true	admin	2025-09-07 23:33:35
	u_task_table_2.u_due_date	Allow If	write	record	true	admin	2025-09-07 16:08:44
	u_task_table_2.u_status	Allow If	write	record	true	admin	2025-09-07 16:06:57
	u_task_table_2.u_task_id	Allow If	write	record	true	admin	2025-09-07 16:02:49
	u_task_table_2.u_task_name	Allow If	write	record	true	admin	2025-09-07 16:04:21
	VA Channel Integration ACL	Allow If	execute	REST_Endpoint	true	admin	2023-04-05 00:28:13
	VA Designer Config	Allow If	execute	REST_Endpoint	true	admin	2024-05-22 12:09:23
	VaCallbackPropertyUtil	Allow If	execute	client_callable_script_include	true	admin	2022-05-09 01:51:24
	ValidateAesVersion	Allow If	execute	client_callable_script_include	true	admin	2022-01-11 10:48:04
	Valid employee profile user	Allow If	execute	REST_Endpoint	true	admin	2024-06-12 13:17:06
	ValidateAlternatePortal	Allow If	execute	client_callable_script_include	true	admin	2024-03-06 16:53:36
	ValidateAppVersionAjax	Allow If	execute	client_callable_script_include	true	admin	2021-10-05 03:00:09
	ValidateEnvironment	Allow If	execute	client_callable_script_include	true	admin	2022-01-06 09:58:13
	ValidateSACIsPortalRecord	Allow If	execute	client_callable_script_include	true	admin	2023-06-16 07:21:47
	ValidateTextIndexFields	Allow If	execute	client_callable_script_include	true	admin	2017-11-16 23:12:51

04

Phase 3: Process Automation with Flow Designer

Automated Task Approval Workflow

To create a structured process where task completion by a team member triggers a mandatory approval from the project manager.

Navigate to Flow Designer.

Click New > Flow.

Flow Properties:

Name

Task Completion Approval Process

Application

Global

Trigger

Add Trigger > Record Created. Configure it for the Task Table with an optional condition (e.g., Status is 'In Progress').

Action 1 - Update Record:

Add an Action and search for Update Records.

Configure the action to set the Status field to 'Pending Approval' once the task is marked for review. This prevents the task from being accidentally worked on during the approval process.

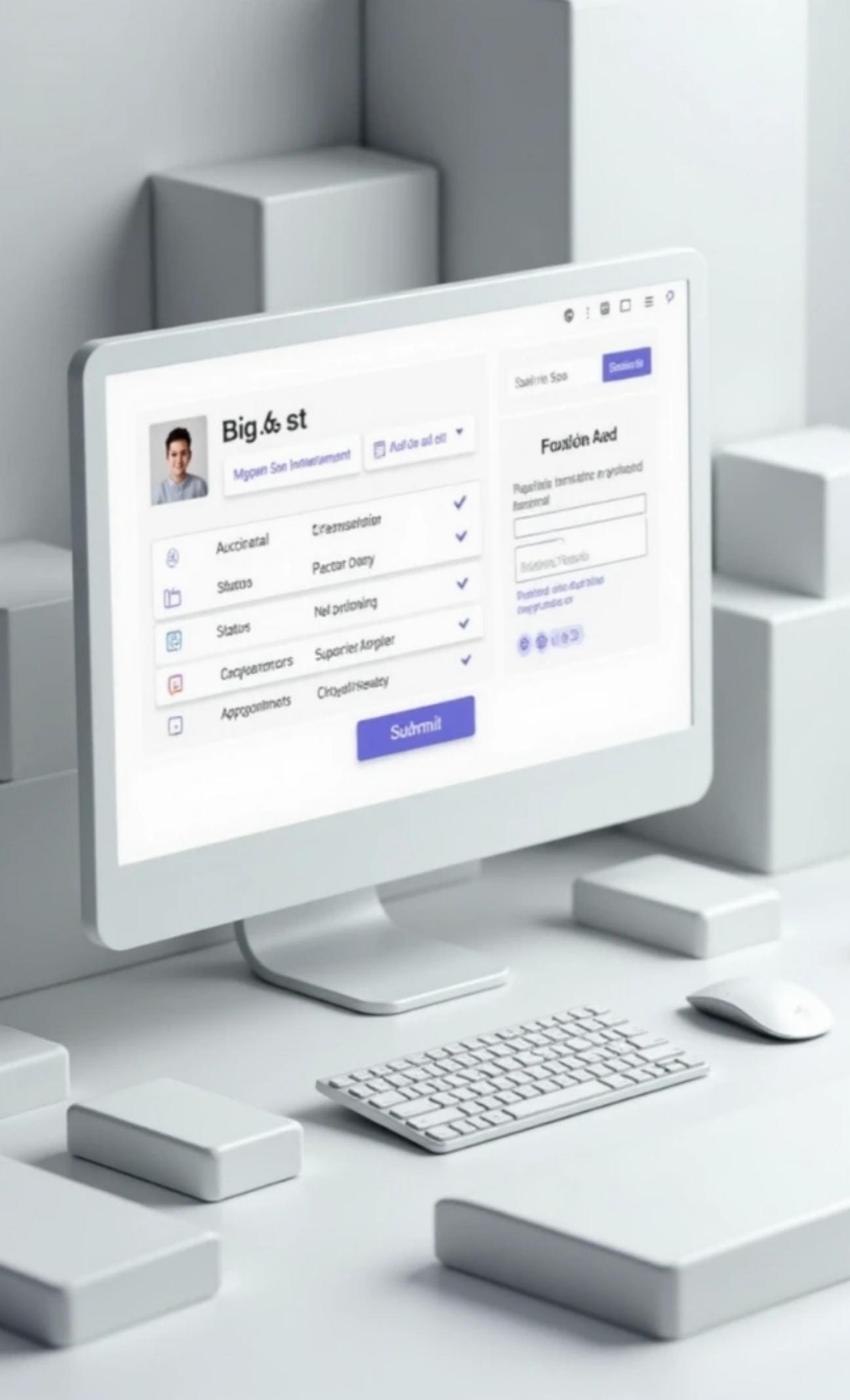
Action 2 - Request Approval:

Add another Action and search for Ask for Approval.

Approver: Dynamically assign the approver as Alice Peterson (or a group she is part of).

Outcomes: Map the approval decision (Approve/Reject) to the task's Status field (e.g., 'Approved' -> 'Completed', 'Rejected' -> 'In Progress').

Publish the flow to activate the automation.



Process Validation

To test the end-to-end workflow and ensure seamless operation.

As Bob: Impersonate Bob, create a task, and update its status to trigger the flow.

As Alice: Impersonate Alice, navigate to My Approvals, and review the pending request. Approving or rejecting the task should automatically update its status accordingly.

Workflow Studio

task table

task table

task_table

TRIGGER

task table 2 Created where (status is in progress, and comments is feedback, and assigned to is bob)

Trigger: Created

* Table: task table 2 [u_task_table_2]

Condition: All of these conditions must be met

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

or

New Criteria

Advanced Options

Delete Cancel Done

ACTIONS Select multiple

Add an Action, Flow Logic, or Subflow

ERROR HANDLER

If an error occurs in your flow, the actions you add here will run.

Status: Modified | Application: Global

→ C dev328143.service-now.com/now/nav/ui/classic/params/target/sysapproval_approver_list.do%3Fsysparm_first_row%3D1%26sysparm_query%3Dsysapproval%253D%26sysparm_view%3D

servicenow All Favorites History Workspaces Admin Approvals ☆

Search Actions on selected rows Personalize List

Approved task table 2: Created 2025-09-08 00:19:09

> Approval for = (empty)

State ▲	Approver	Comments	Approval for	Created
Approved	alice p	(empty)		2025-09-07 23:05:53
Approved	alice p	(empty)		2025-09-07 23:54:47
Approved	alice p	(empty)		2025-09-08 00:19:10
No Longer Required	alice p	(empty)		2025-09-07 23:12:54
No Longer Required	alice p	(empty)		2025-09-07 23:09:04
Requested	alice p	(empty)		2025-09-08 00:14:39

1 to 6 of 6 << < > >>

05

Conclusion

Conclusion

This sophisticated implementation transforms an ad-hoc project management process into a governed, efficient, and transparent system. By clearly defining Users, Groups, and Roles, we established accountability. Through Access Control Lists, we enforced data security and integrity. Finally, by automating the task completion process with a Flow, we introduced structure, reduced manual oversight, and ensured no task is closed without proper review. This framework is scalable, providing a solid foundation for the team's growth and increasing project complexity.

Thank You