Use Case

Amanda works in the Office of Regulatory Affairs where she and her team manage various cases across the agency. Their duties include confirming that employees are authorized for remote work and ensuring they are equipped with the required I.T. tools to handle records and sensitive information securely.

Despite the critical nature of these responsibilities, Amanda's team lacks a centralized system to track the progress and status of telework cases. Each case involves three departments: the employee's department, the HR department, and the IT department. The absence of a unified case management system complicates the coordination and monitoring of tasks, leading to potential inefficiencies and security risks.

Today the team is using:

PDF / Word Form

- A PDF form to fill the details about the request

Emails

- Email to send the request in PDF format
- Email to receive Submissions
- Communicate task updates

Spreadsheet

- Spreadsheet to track approvals & tasks across departments
- IT for Remote Access request
- HR for Safety & Manager
- Manage updates to Telework cases

Challenges

The lack of a single platform to manage their work results in:

Wasted Time	Staff Burnout
wasted staff time coordinating and communicating updates.	Staff Burnout as much of the work focuses on the crisis of the moment instead of planned and leveled workload
Unnecessary Firefighting	**Poor Visibility**
Unnecessary Firefighting by the team to avoid security and safety issues	Lack of clear status of the work across departments.

Amanda and her team have reached out to the IT department for help, but they have no availability to take on new projects. However, they gave Amanda access as a Citizen Developer to the organization's ServiceNow development instance.

Today your mission, and you have accepted it, is to play the role of Amanda and create a solution to efficiently manage cross-departmental work.

Let's make her world of work better...

Planning

Along with the ServiceNow instance URL and credentials, the I.T department sent you an email to start your Citizen Developer Journey on ServiceNow App Engine.

💡 Prework to start your Citizen Developer Journey on ServiceNow

1. Make a list of the data you need to track. Ex: Category of work
2. Reach for help on the channel @transformNow
3. If you're using a spreadsheet today, make a copy and keep only the data required. See the Don'ts section
4. Use the record producer to create a form quickly and reuse any relevant questions set
5. If case workers need to create and see tasks related to the case, add the related list ("Task→Parent") to a form (see documentation)
6. Read the No-Code Citizen Developer Guide for the Now Platform

Don'ts

1. Don't create and import the following data. ServiceNow will take care of that for you
   - Approvals tracking data such as approval status and dates
   - Dates related to the case. Ex "submission date"

Amanda made a list of the key data that the team is tracking and is eager to start.

Next, review the Takeoff Checklist to make sure you have the right files and resources needed to complete the lab.

Takeoff Checklist 🚀

Let's make sure you have everything you need to get started.

- [ ] A ServiceNow instance URL and credentials.
- [ ] Download the lab files archive telework_lab_files.zip
- [ ] Extract the lab files archive and check that you have the following files:
  - [ ] File 1: telework_App_Logo.png
  - [ ] File 2: telework_Cases.xlsx
  - [ ] File 3: telework_Data.xlsx
  - [ ] File 4: telework_icon.png
  - [ ] File 5: telework_form_annotation.docx

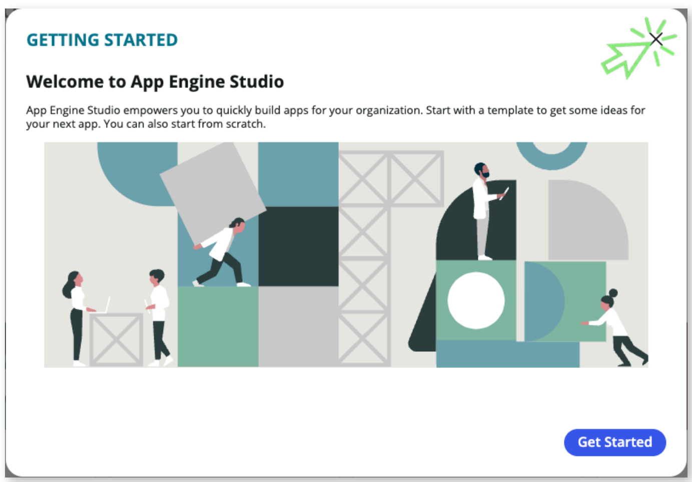
Overview: Build the Foundation

Purpose

In this exercise, we will learn how to create the core data elements of our application.

Getting started

1. If the Getting Started dialog opens, close it by clicking the Get Started button.



2. This reveals the homepage of App Engine Studio. From this page:

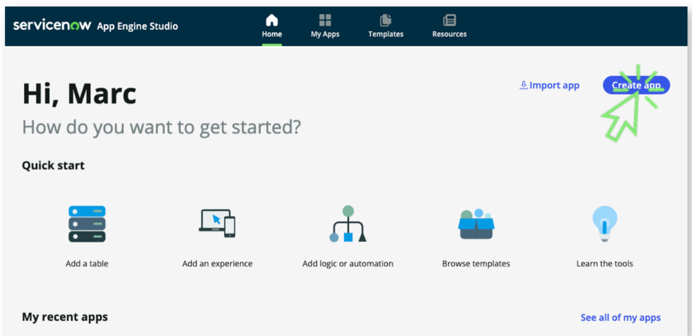
   - You can create new applications or extend previously developed applications.
   - There are a variety of templates provided out of the box that contain

examples of configurations that address common business challenges.

- Feel free to return here later to review some of the capabilities enabled with these templates.

1.1 Create the Application

1. Click on the Create App button.



2. Configure the app.

    1. *Name*: Telework Case Management

    2. *Description*: Manage Telework requests across departments

    > NOTE
    >
    > Your initials will prevent you from using the same app name as another lab attendee.

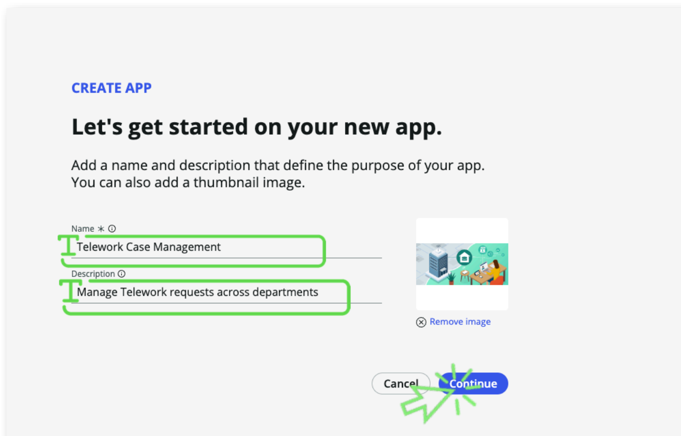
3. Optional – Add an image to the application. Images can be a great way to personalize and provide character for your application.

    1. Click the app logo or browse to upload tile.

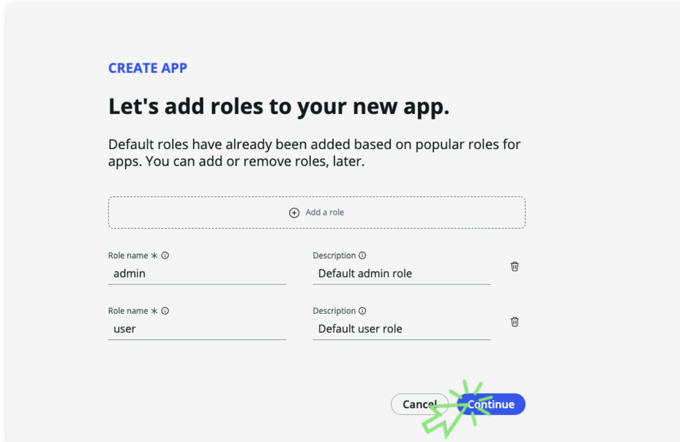
2. Browse to and select the **telework App Logo.png** file you downloaded.

4. The screen should look like below (note in this case we used ER as initials).

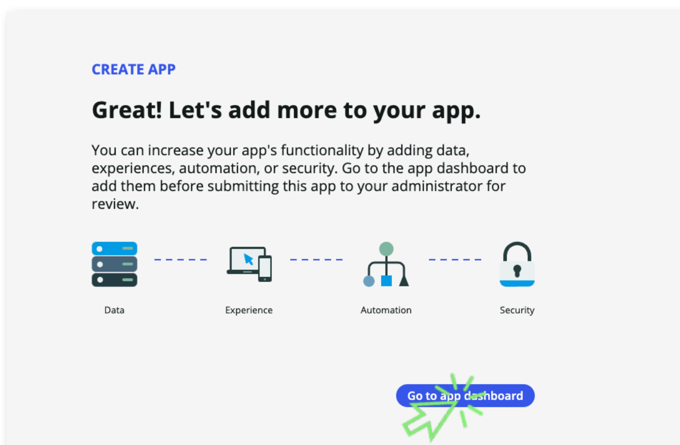
5. Click on the Continue button.



6. In the **Let's add roles** screen, Click on the Continue button.



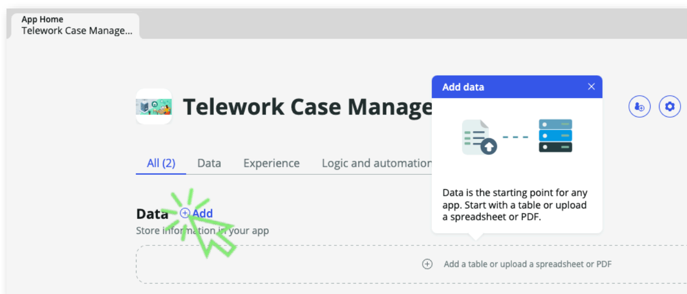
7. The app will be created. Once it is finished, Click on the **Go to app dashboard** button.



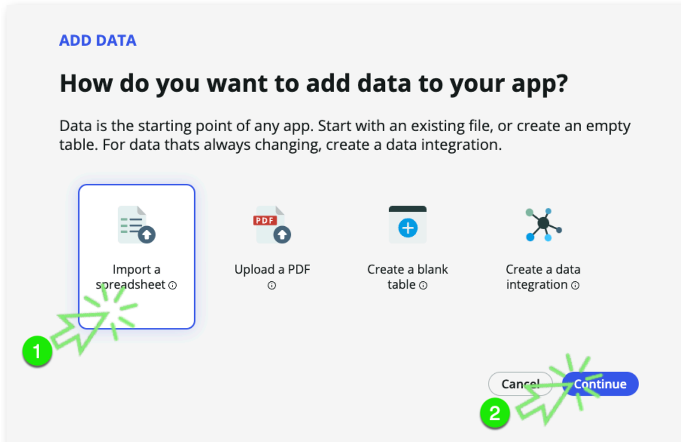
1.2 Create the Tables with Data

We will create the core tables for our application. To create a table in App Engine Studio:

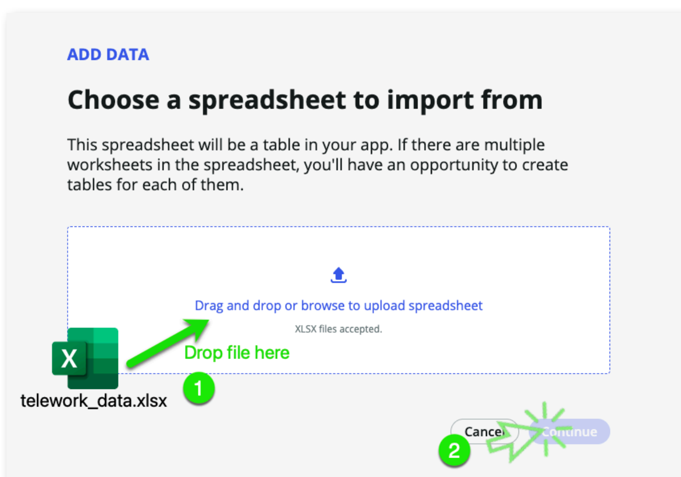
1. Click the Add icon (⊕ Add) for *Data* on the *App Home* tab.



2. ① Select Import a spreadsheet tile,
   ② Click on the Continue button.



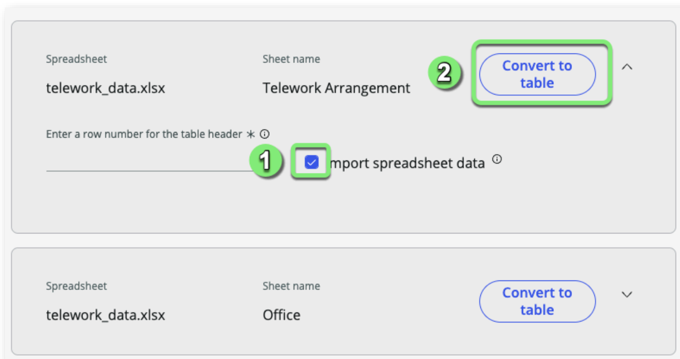
3. ① Drag and drop the file **Telework Data.xlsx** (in the telework_lab files folder we downloaded earlier),
② Click on the Continue button.



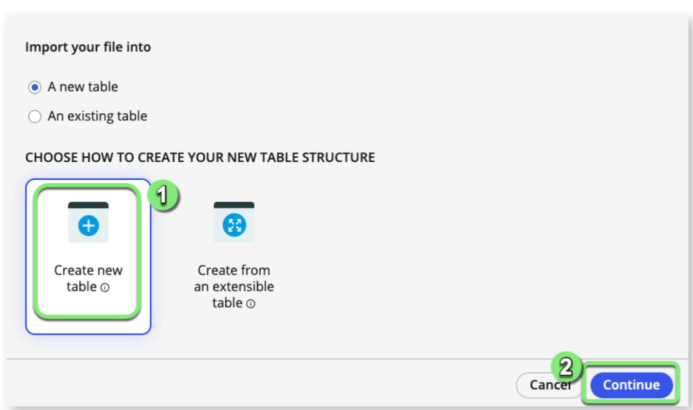
4. Our spreadsheet has multiple sheets. **We only need the first one** "Telework

Arrangement".

5. ① Check ☑ **Import spreadsheet data** (in the telework_lab files folder we downloaded earlier),
   ② Click on **Convert to table.**



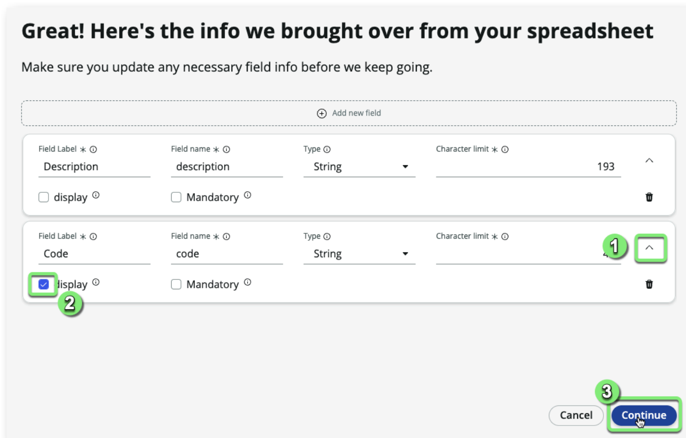
6. ① Select **Create new table** (to hold the Arrangement data),
   ② Click on the Continue button.



7. ① Click the Expand/Collapse icon (⌄) for the "Code" field to see advanced configuration options,

② Check the **Display** checkbox,

③ Click on the **Continue** button.

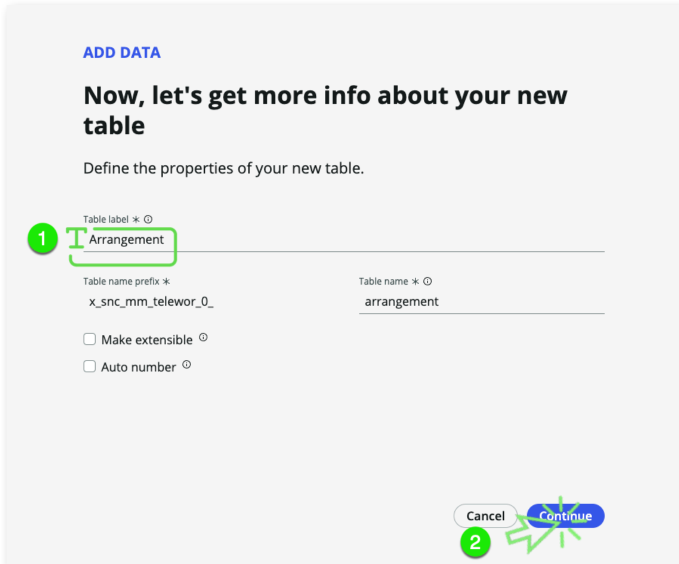


> **INFO**
>
> The **Display** field is the one that appears if you reference this record from another table. A table can only have a single field marked as the **Display** field. For example, in a drop-down or reference we want it to display the code "Remote Telework" and not the full Description.
> Fields are also known as table columns.

8. Set the table name

① Set the table label to **Arrangement**. (Hit ⇥ Tab) The table name will auto populate.

② Click on the **Continue** button.

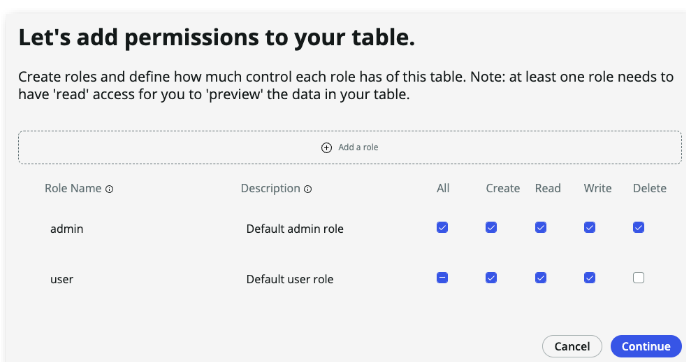


9. Set the permissions

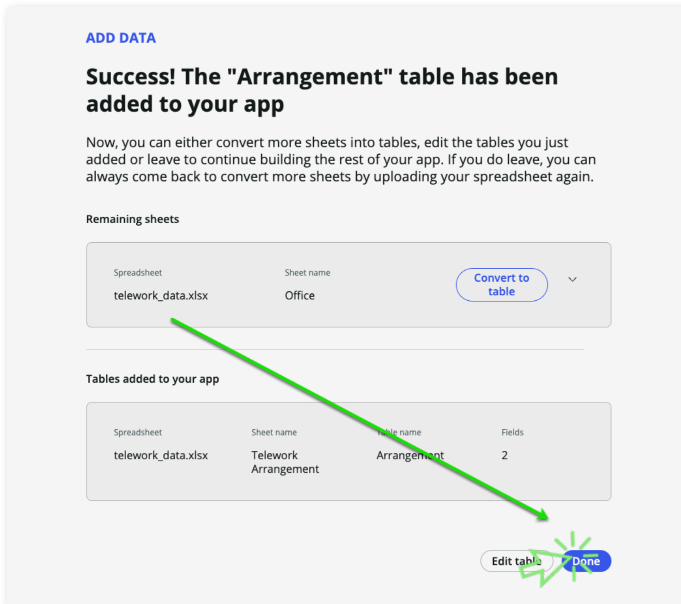
① For the **admin** role, click the **All** checkbox

② For the **user** role, click the **All** checkbox and then remove the **Delete** permission.

③ Click on the Continue button.



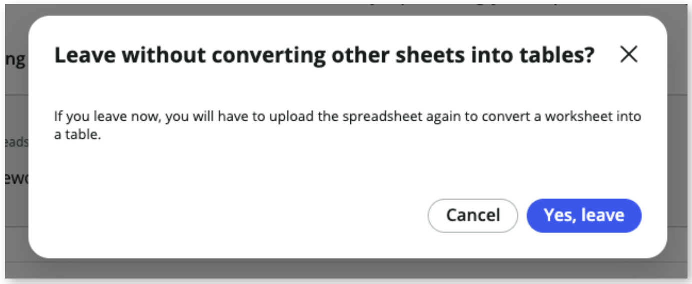
10. A loading screen will appear while the table is being created. When it completes, click Done.



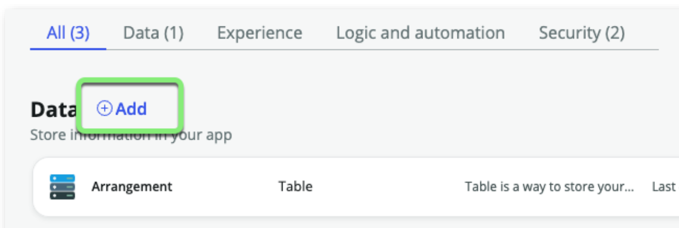
11. We haven't converted all the sheets in the spreadsheets, so we'll see this message pop up.

> INFO
>
> This is intentional to show you that you do not have to import all of the sheets in a workbook.

12. Click Yes, leave.

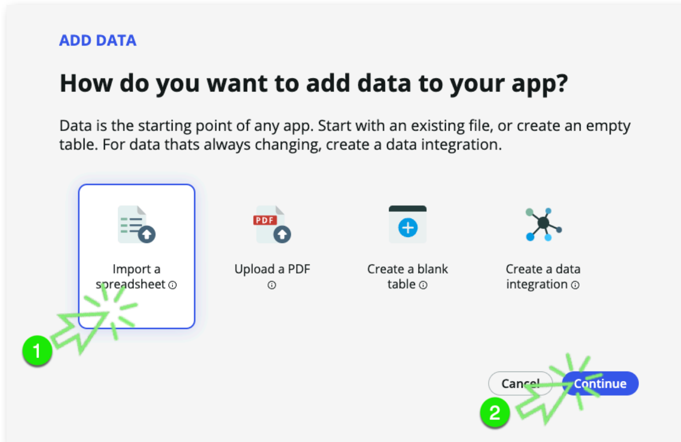


13. Let's add the Telework Case table. Click the **Add** icon (⊕ Add) for *Data* on the *App Home* tab.



14. ① Select **Import a spreadsheet**.

    ② Click **Continue**.

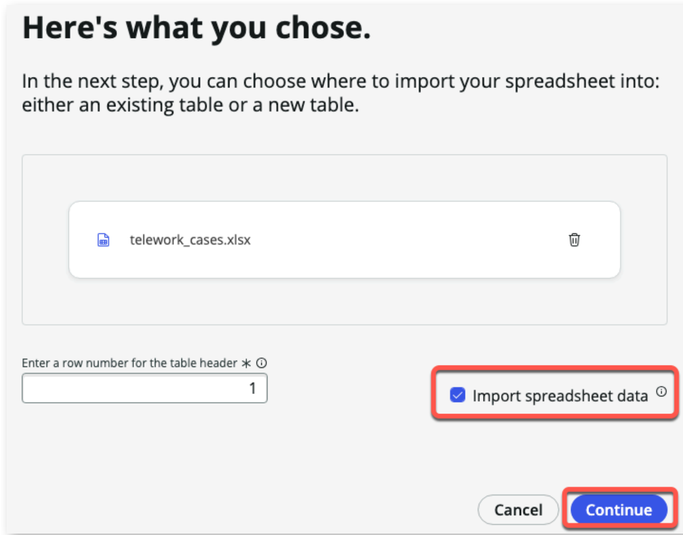


15. On the *Choose a spreadsheet to import from* screen, click the **Drag and drop or browse to upload spreadsheet** link.

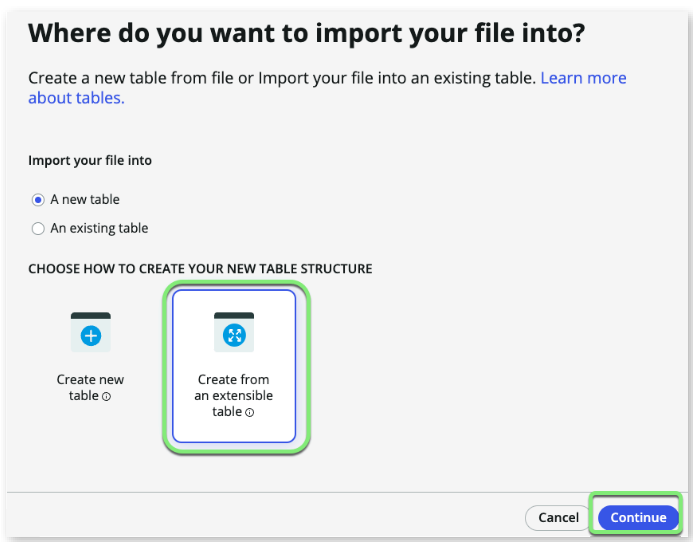
16. Browse and select the **telework_cases.xlsx** file you downloaded.

17. Select ☑ **Import spreadsheet data.**

18. Click on the **Continue** button.



19. Select Create from an extensible table, then click Continue.

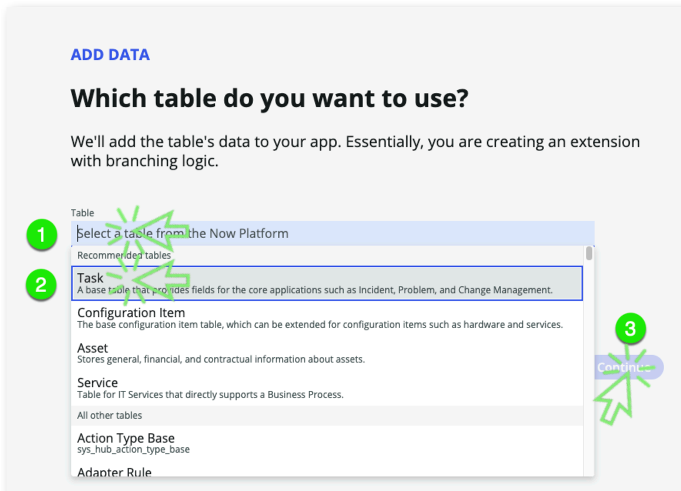


20. On the *Which table do you want to use?* screen,

1 Click in the table field,

2 Select the **Task** table,

3 Click on the Continue button.



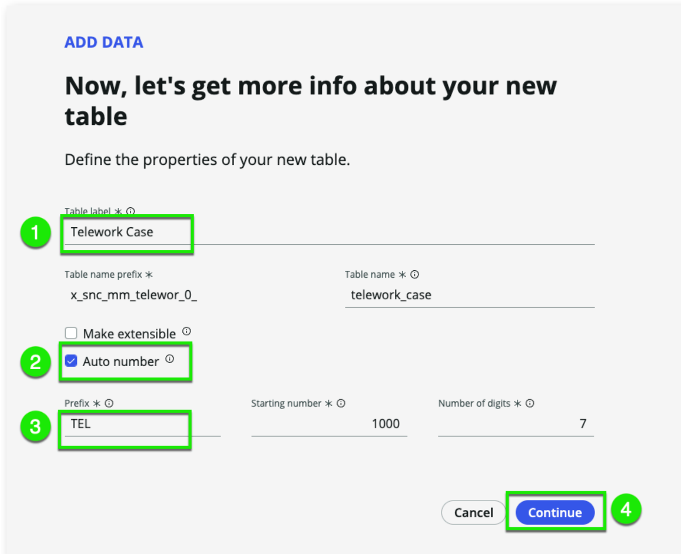
21. On the *let's get more info about your new table* screen,

1 Set the "Table label" to **Telework Case**. (Hit ⇥ Tab) *The "Table name" will auto populate.*

2 Check the **Auto number**,

3 Keep the Prefix as **TEL**

4 Click the Continue button.

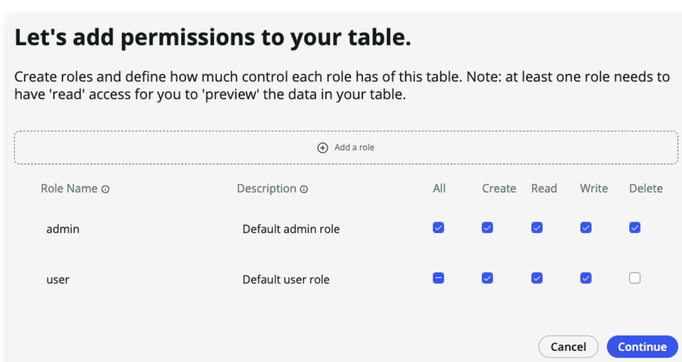


22. Set the permissions.

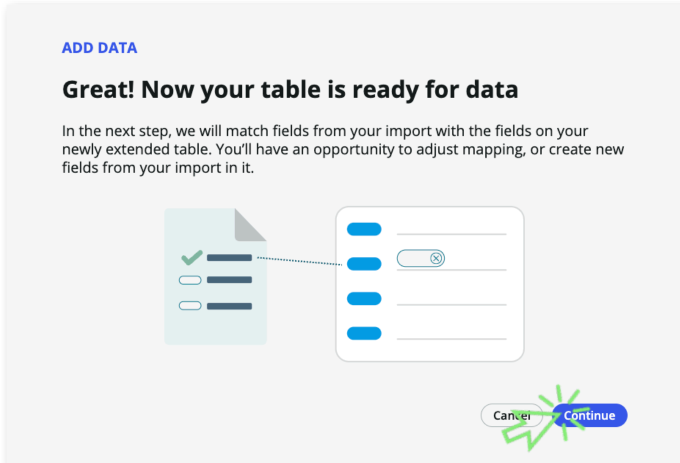
① For the **admin** role, click the **All** checkbox

② For the **user** role, click the **All** checkbox and then remove the **Delete** permission.

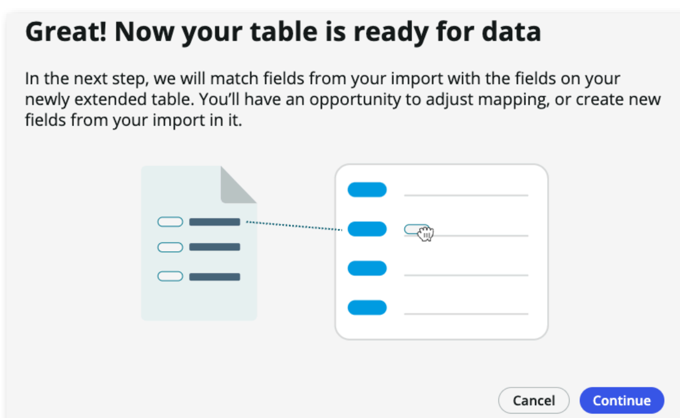
③ Click on the Continue button.



23. Click Continue.

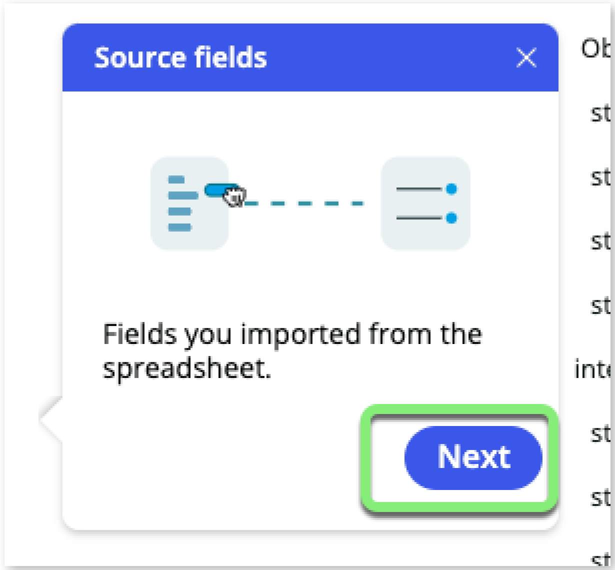


24. A loading screen will appear: *Sit tight while we create data mapping instance for table Arrangement.*
Click Continue on the next screen.



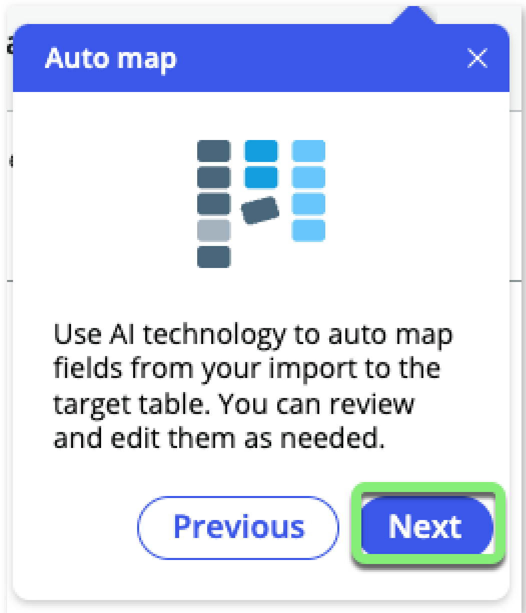
25. Read the help pop-up and click Next until Done.

1. Click Next

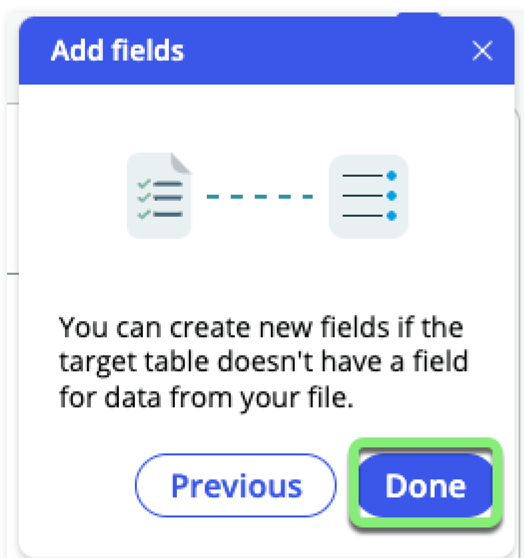


2. Click Next

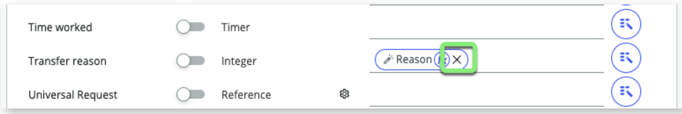
3. Click Next


Auto map
Use AI technology to auto map fields from your import to the target table. You can review and edit them as needed.
Previous
Next

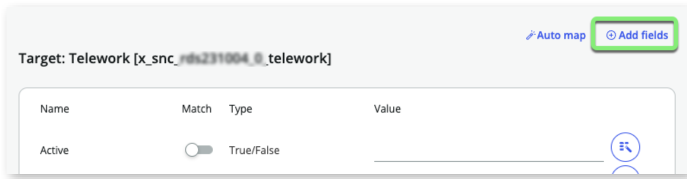
4. Click Done


Add fields
You can create new fields if the target table doesn't have a field for data from your file.
Previous
Done

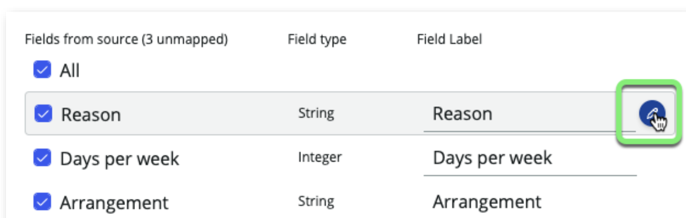
26. Notice the fields have already been auto-mapped, but some are not correct. Clear out the *Transfer reason* value.



27. Click on the Add Fields link button at the top.

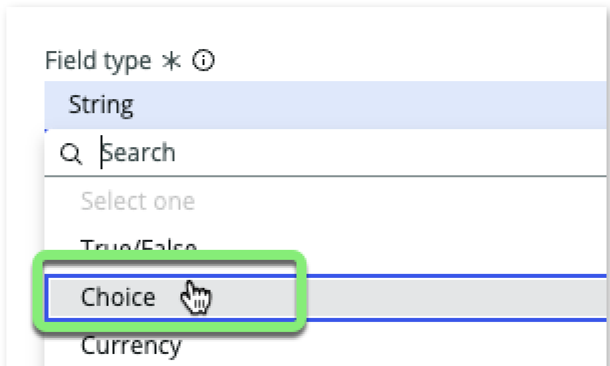


28. Hover over the row and edit the Reason field by clicking on the pencil icon.



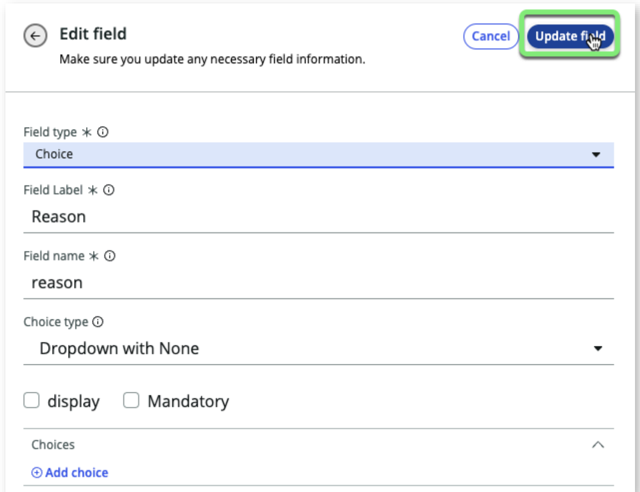
29. 1. Click "String" under **Field type**

2. Select Choice

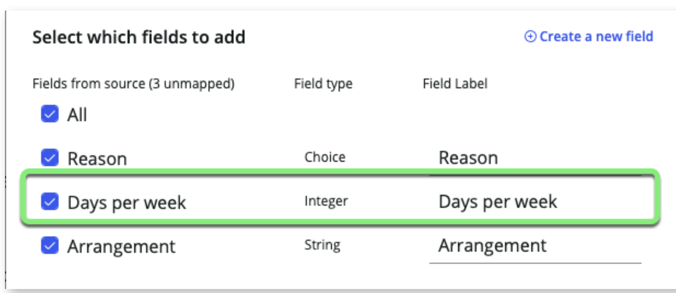


3. Click the Update field button.

The choices will be added for you based on the spreadsheet data!

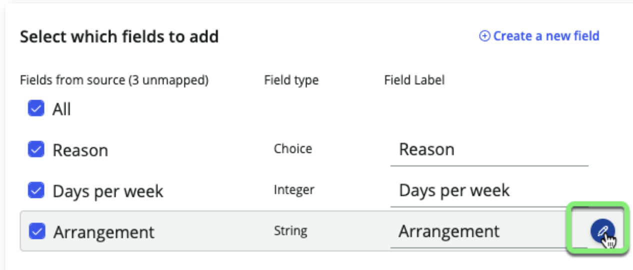


30. Days per week is ok as an integer. Do not do anything to it.



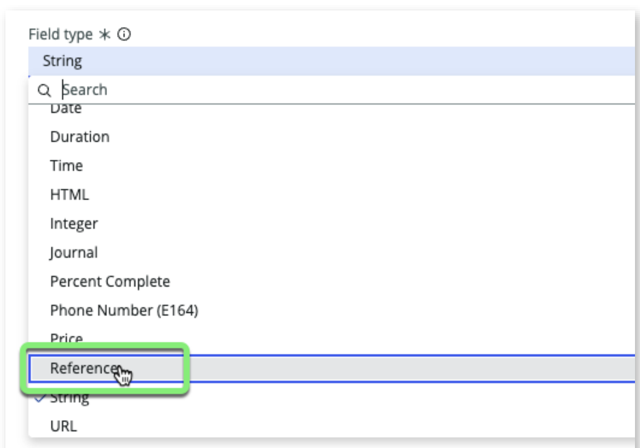
31. Edit the Arrangment field.

    1. Hover over the row and edit the Arrangement field by clicking on the pencil icon.



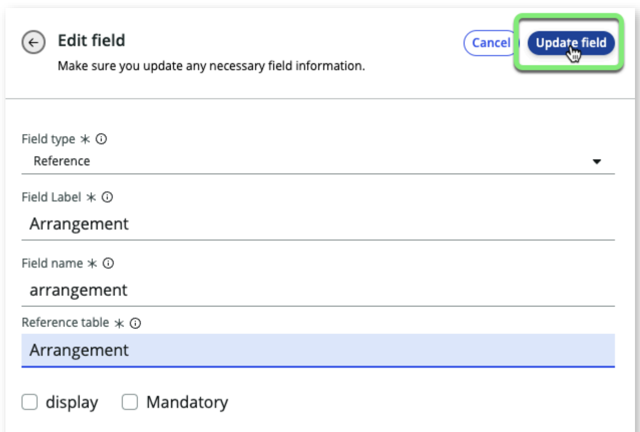
2. Click "String" under **Field type**

3. Select "Reference"

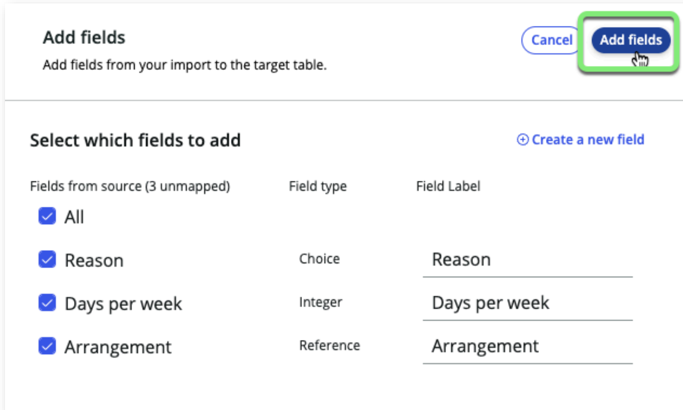


4. Type "Arrangement" into the **Reference table** field and click on the "Arrangement" table.

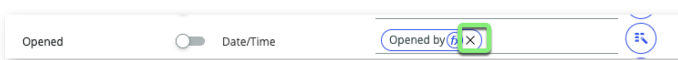
5. Click Update field.

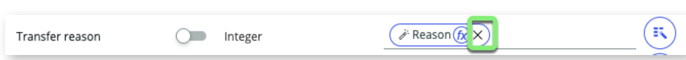


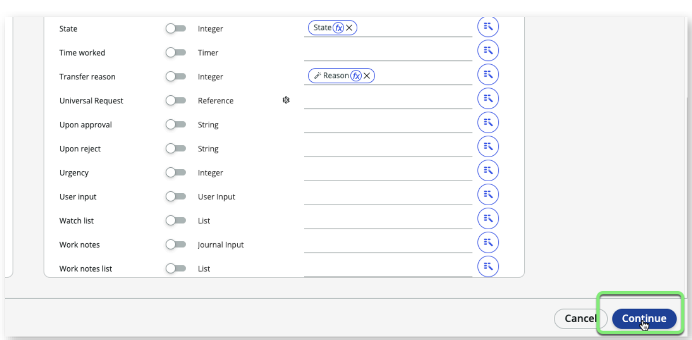
32. Now that you have configured the new fields click Add fields to add them to our new table.

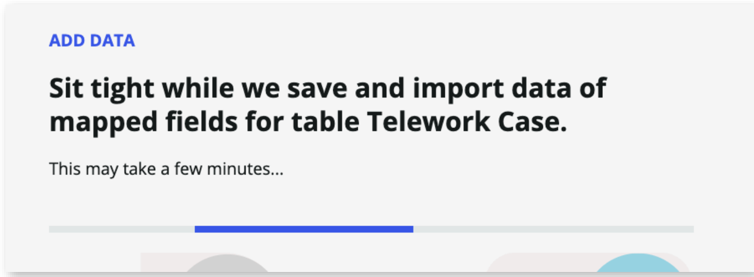


33. Clear the Description, Opened, and Transfer reason values, and click **Continue** in the bottom right corner.

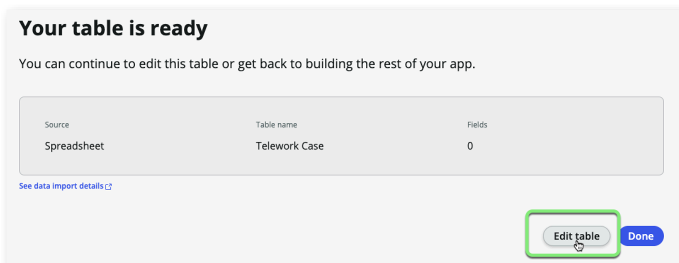




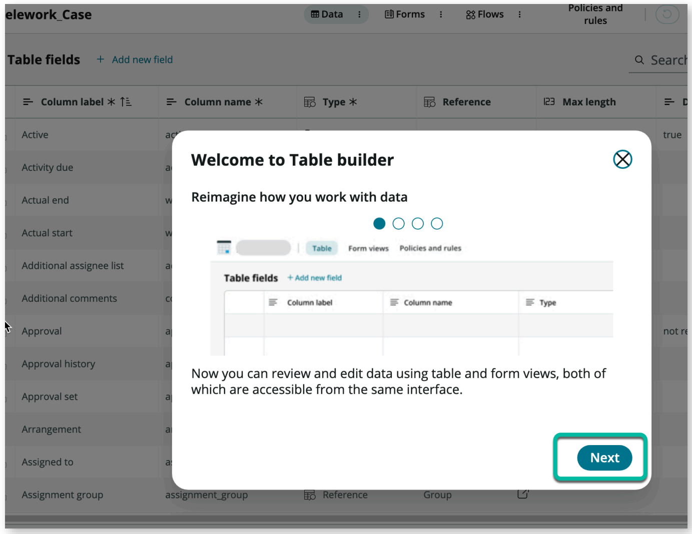




34. Your table is now ready. Click the **Edit table** button. Click through all the helper screens.



35. Click the **Next** button on the Welcome to Table builder helper and other popups.



> ## INFO
> We can see all the fields that our table inherited from the Task table, making building applications faster.

Exercise Recap Congratulations, you've built the first tables in your solution.

In this exercise, we learned how to create a new application and map out the data elements important to enable our business process.

We learned to use the Table Builder to add and configure columns including Reference fields and Choice lists.

We were able to complete all these tasks using simple point-and-click administration and without requiring specialized application or database knowledge.

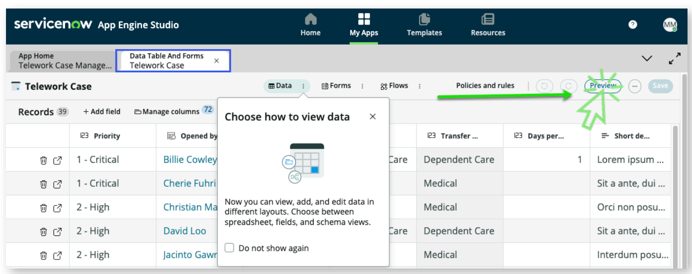
Next we'll take a look at the list & form views that have been generated for our table and adjust the layouts.

1.3 Configure the Table Form

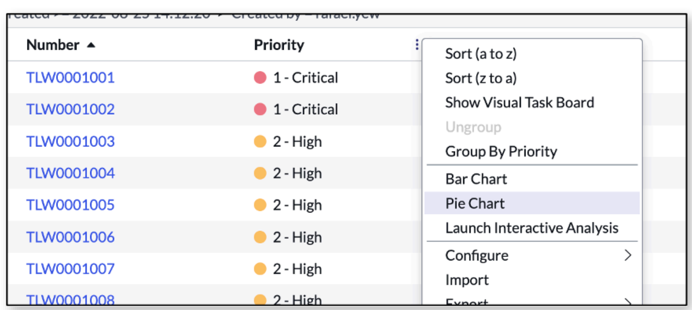
Part 1 - We can already use the Case List

Without any code, we can start working and managing our records.

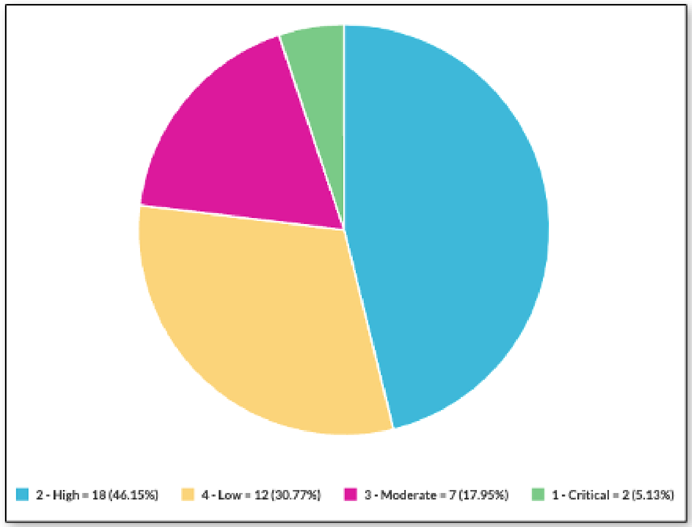
1. From the **Data Table And Forms** tab, **preview** the Telework table.



2. Hover the column header **Priority** , **right-click** to display the menu and then select **Pie Chart**.



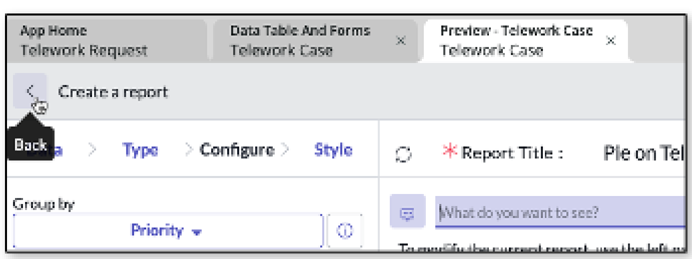
3. And voila, we get a Pie chart that shows us the distribution of cases by Priority.



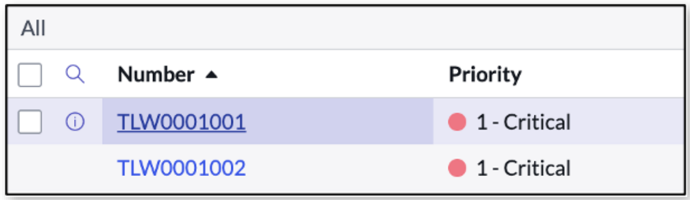
4. Explore the other tools in the Context Menu such as Visual Task Board.

5. The team struggles managing and understand the status of related tasks. Let's fix that.

6. Click the back button on the Pie Chart report to get back to the list.

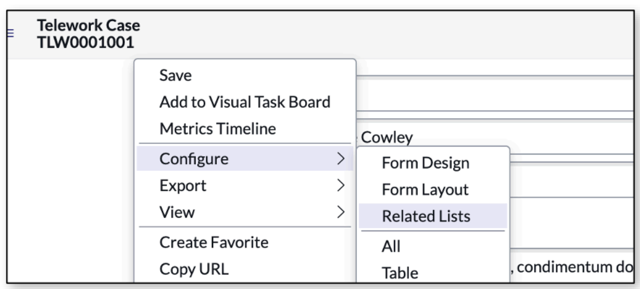


7. Open a record by clicking the number field.



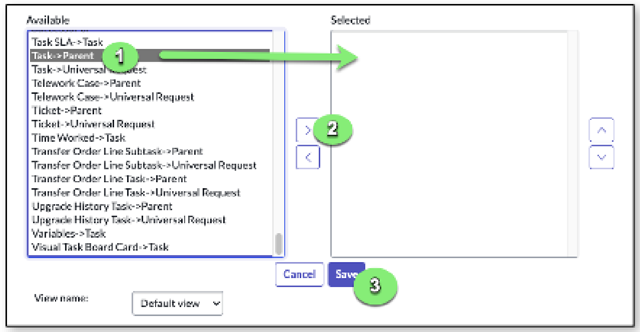
8. Configure the related list by doing:

    1. Right-click on header.
    2. Select **Configure**.
    3. Then select **Related Lists**.

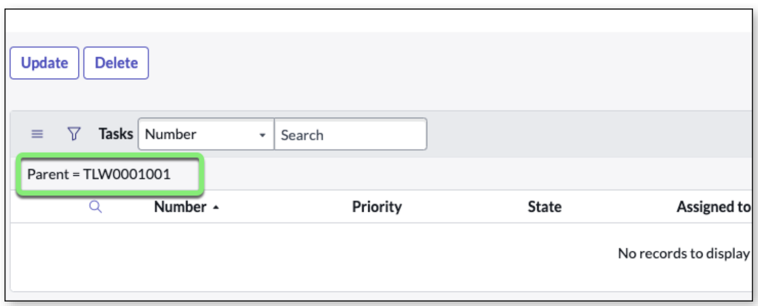


9. In the new form:

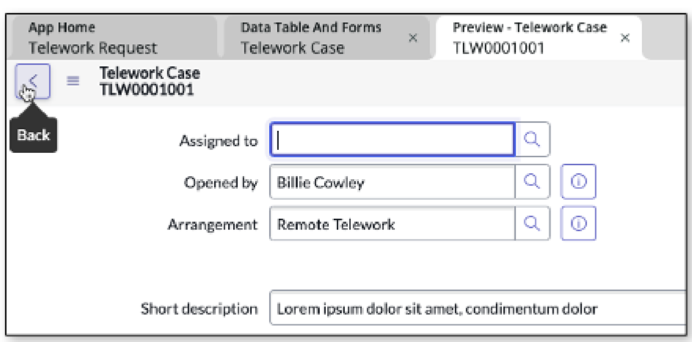
    1. Select the item **Task → Parent**.
    2. Click on the button to move the item to the selected list.
    3. Click on the Save button.



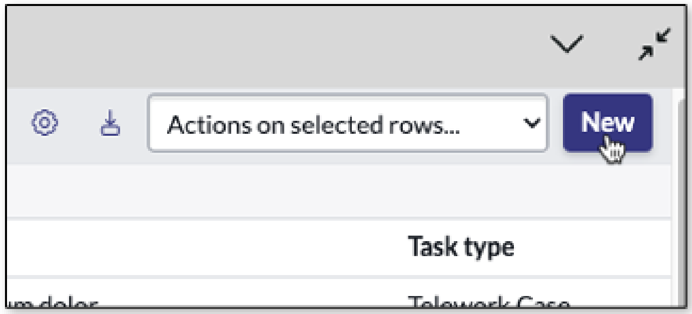
Now a new tab at the bottom of the form will show records that have relationships to the current record.



10. Go back to the list view by clicking on the back button at the top.

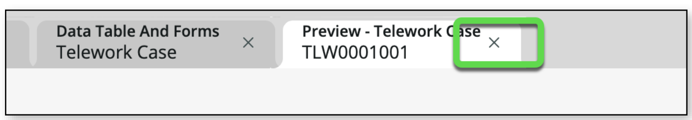


11. We can even start creating new records/cases. Click **New** in the top right.



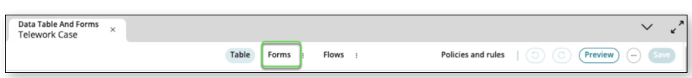
But wait, the form doesn't have the fields we want. Let's fix that.

13. Close the Preview tab by **clicking** the **X**.



Part 2 - Configure Telework Case Form

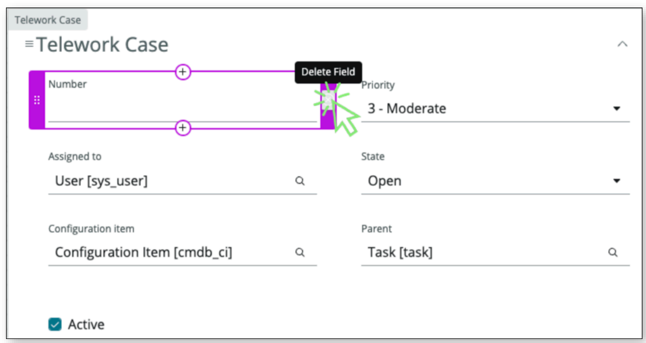
1. At the top-center of the table, click **Forms**.



As we created our table by extending the Task table, we inherited some fields we don't need for our use case.

2. Remove the following fields from the form by clicking the X.

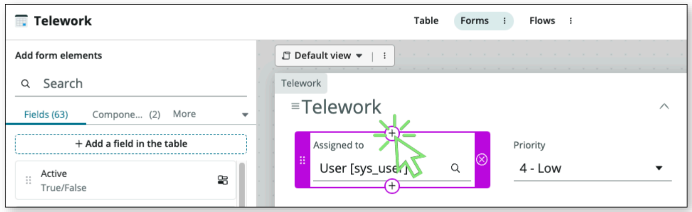
   - Number
   - Configuration Item
   - Active
   - Parent



3. Users want to see who opened the case. We can easily fulfill the requirement by reusing the **Opened by** field from the Task table. In the Fields tab to the left is where existing fields can be added.

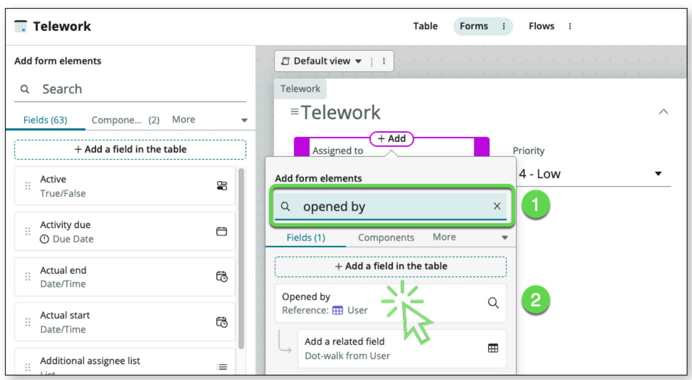
> INFO
>
> Note that there are more than 60 fields available to use. The number of fields may be different as other ServiceNow application may add fields onto the Task table.

4. Click the circled plus icon ⊕ to add a field above

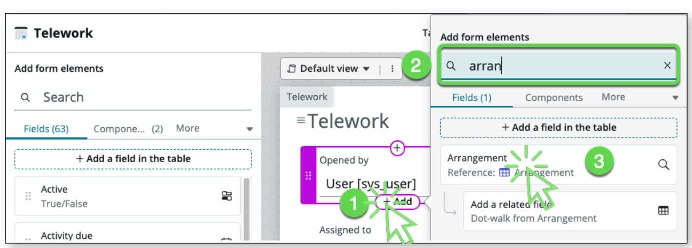


5. ① Type **Opened by** in the Search box

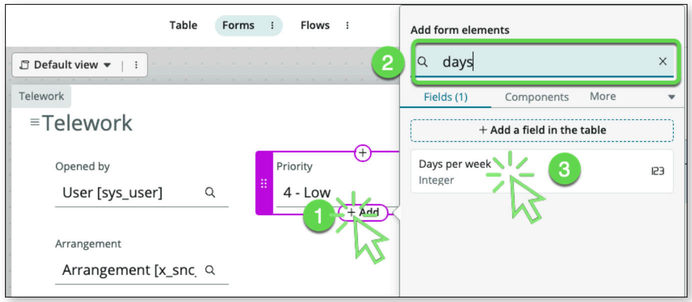
   ② Click on the **Opened by** field



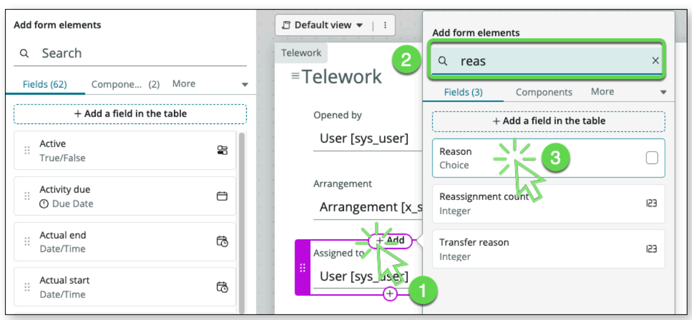
6. Repeat the operation to add the field **Arrangement**



7. Add the field Days per week



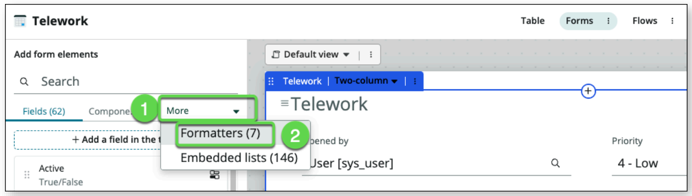
8. Add the field Reason



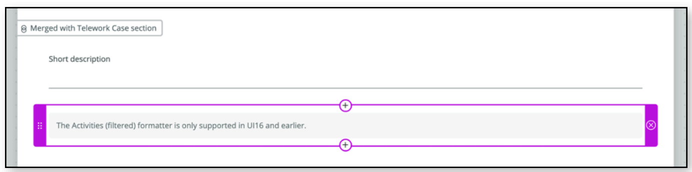
Now we'll add the Activity formatter that provides a way to present the audit history of a particular record

10. ① Click More

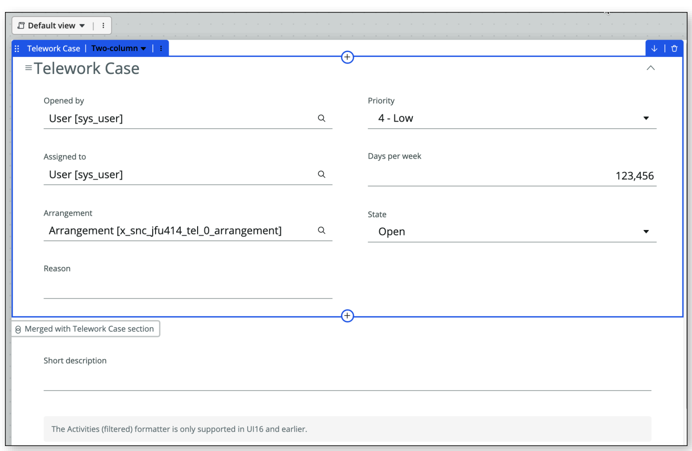
② Click Formatters



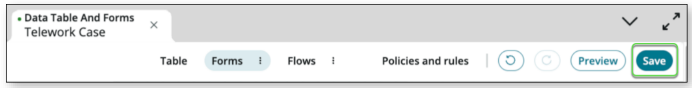
1. Drag the "**Activities (filtered)**" field onto the form below the Short description field.



12. Your form should look like something this (doesn't have to have exact same layout):

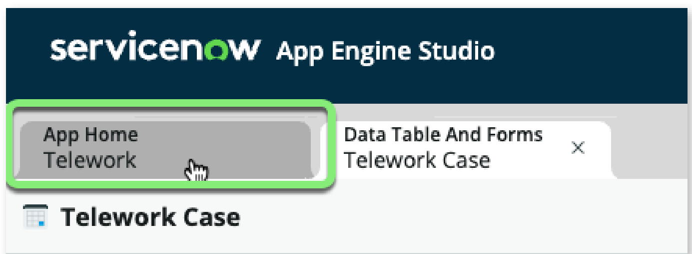


13. On the top right, Click on the Save button

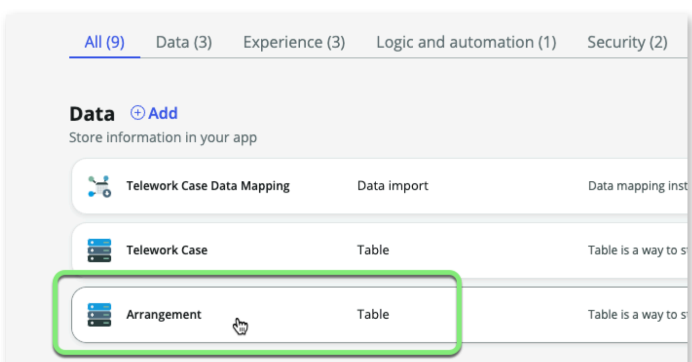


Part 3 - Preview the Arrangement form

1. Go back to the App Home



2. Click on the **Arrangement** table in the Data section.



3. Click the **Forms** pill in the top middle of the page.

> INFO
>
> Here you can edit the Arrangement form as needed. No changes are needed at this time.

4. Click the AES tab for the **Arrangement** table.

Exercise Recap

In this exercise, we learned how to modify the list and form views for our Telework Case table.

We also saw some useful things you can do from the list view to generate quick reports.

We were able to complete all these tasks using simple point-and-click administration and without requiring specialized application or database knowledge.

Overview: Create the User Experience

Purpose

In this exercise, we will learn how to create user experiences for interacting with our application. We will leverage App Engine Studio to create a new Sevice Catalog Item experience designed to allow any user to make a Telework Request.

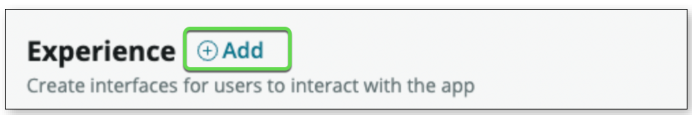
2.1 Create the Request Form

Purpose

ServiceNow offers multiple ways to create a user experience for submitting a form. In this exercise, we will learn one quick way to get users off paper forms and emails.

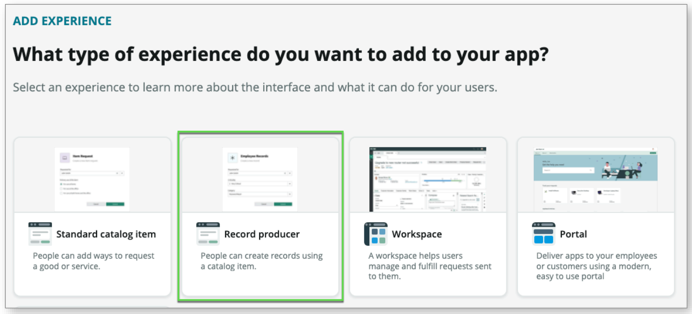
1. Go to App Home tab, "App home Telework"

2. On the application homepage, locate the Experience section and click the ⊕ Add icon.



This takes us to a selection where we can identify the type of experience we wish to create.

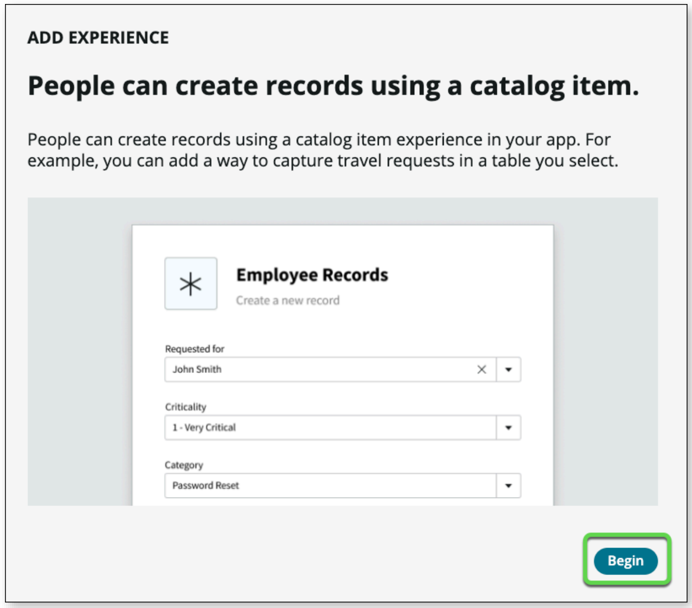
3. Select the Record Producer option.



> **INFO**
>
> A record producer is a specific type of catalog item that allows end users to create records from the service catalog.

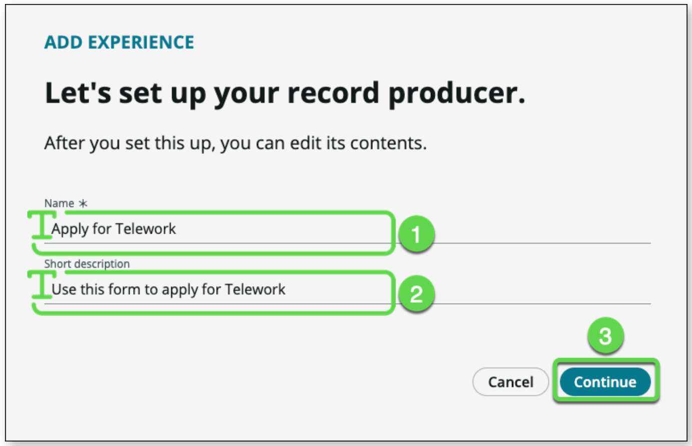
4. This launches the record producer creator.

5. Click on the **Begin** button

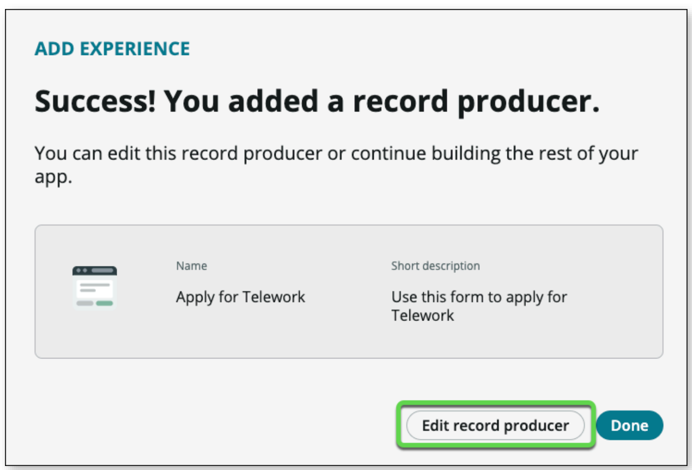


6. Set the following values (💡 double-click, copy & paste into the form).

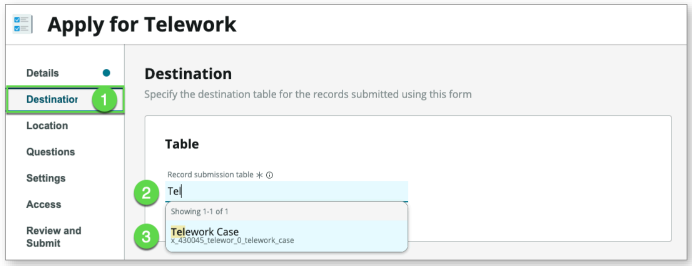
	Field Name	Field Value
①	Name	Apply for Telework
②	Short Description	Use this form to apply for Telework
③	Click on the Continue button.	



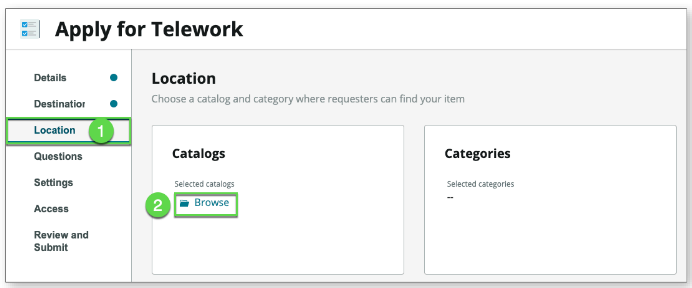
7. Click on the Edit record producer button.



8. Click on Destination , then type Tel, and select the Telework Case table.

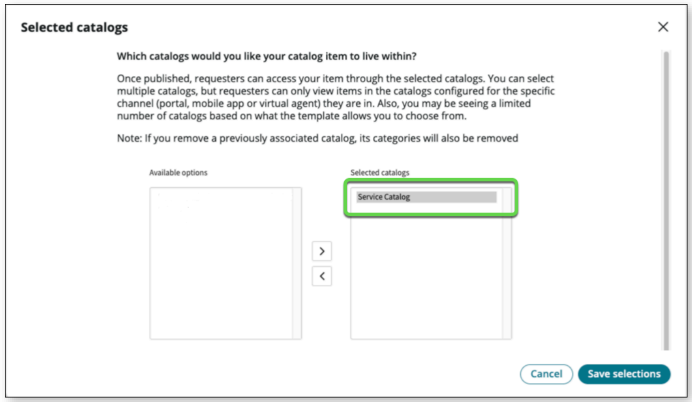


9. Click on **Location** , then under **Catalogs**, click on **Browse**.



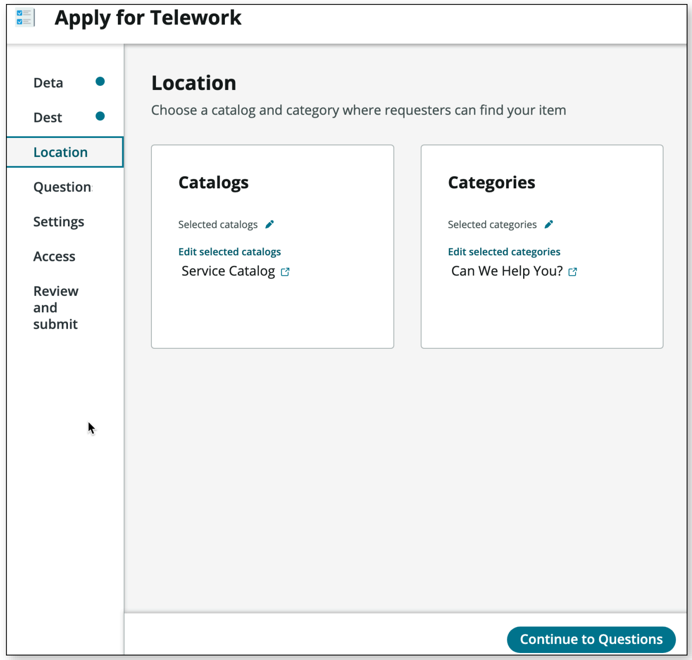
10. Click on **Service Catalog** , then click on the right arrow to move the item over to the Selected list.

11. At the bottom, Click on the Save selections button.



12. Under **Categories** , **click** on **Browse.**

13. Move **Can We Help You?** to the right-hand side and Click on the **Save selections** button.
Your screen should look like below.



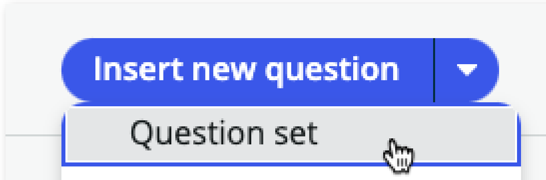
14. Let's add questions to the form. Click the **Continue to Questions** button.

> INFO
>
> Unlike in a paper-based form, we don't need to ask users to fill personal information like first name, last name, ..., or date of request. That information will be automatically attached to the case. This makes filling forms so much faster.

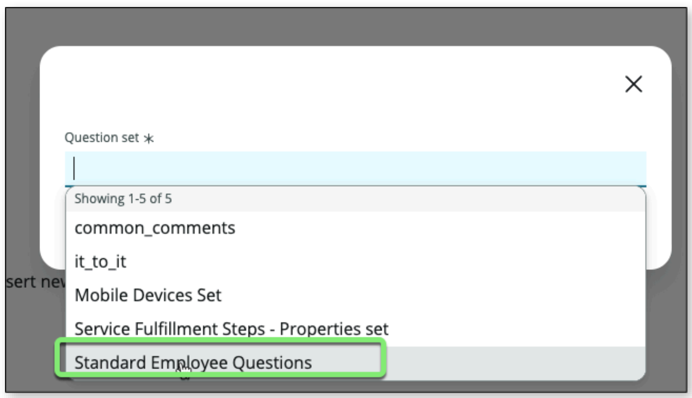
15. We want to allow users to open a case on behalf of another individual, so let's start by asking users " Who is this request for?" and " When do you need this?"

16. Click on Questions.

17. Click the arrow next to Insert new question then click "Question set".

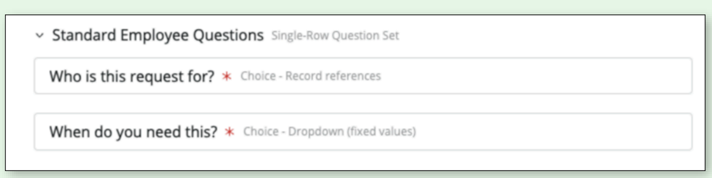


18. Select "Standard Employee Questions" and click Submit.



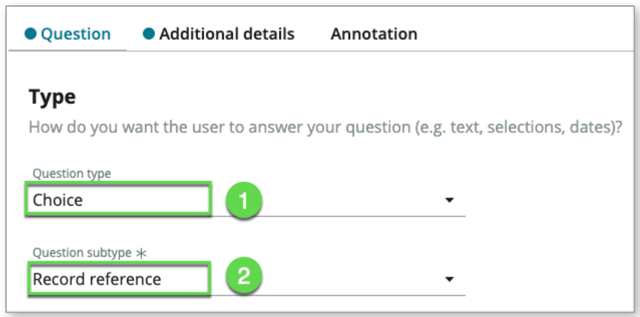
TIP

This will add two frequently asked questions on forms. Click the little arrow on the left to see the questions.



19. One key information we need users to provide is the type of arrangement they are applying for.

    1. Click Insert new question.
    2. For Question type, select **Choice**.
    3. For **Question subtype** , select **Record reference**.



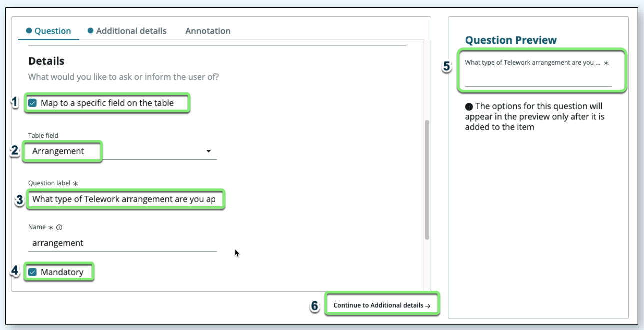
    4. Scroll down to the **Details** section.
    5. In the **Details** section, enter the following information: (double-click, copy & paste into the form).

	Field Name	Field Value
1	Map to a specific field	Checked
2	Table field	choose **Arrangement**
3	Question label	What type of Telework arrangement are you applying for?
4	Mandatory	Checked

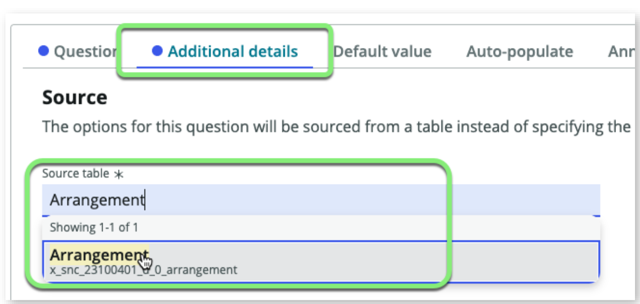
	Field Name	Field Value
5	Question Preview	Notice on the right panel, then **Question Preview** shows what the question will look like to the user.

INFO

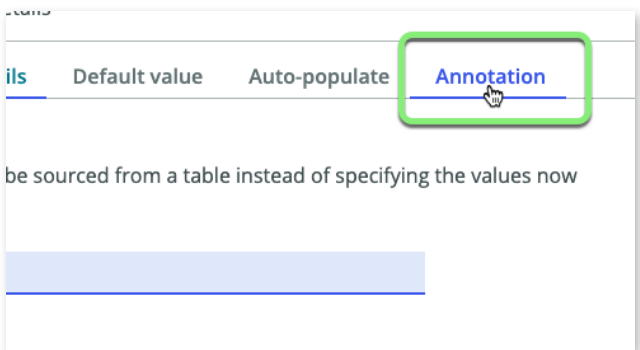
Notice the **Question Preview** that shows what the question will look like to the user.



6. Click on **Continue to Additional details →**.
7. In the **Additional details** section, set the **Source Table** to the **Arrangement** table we imported earlier as options for this question.



8. Then Click on the **Annotation** tab.

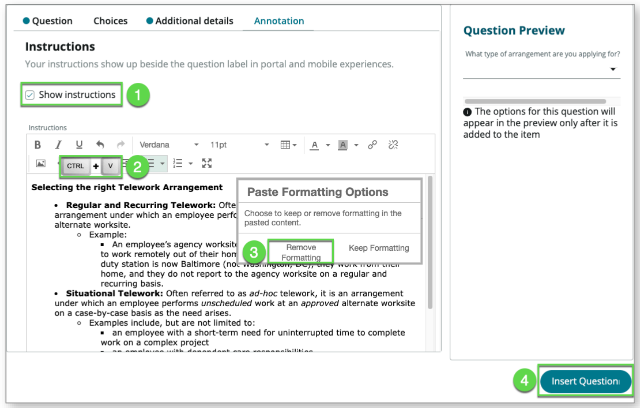


In the current process, the team is spending a lot of time correcting and manually re-routing applications due to people confusing the different types of Telework arrangement.

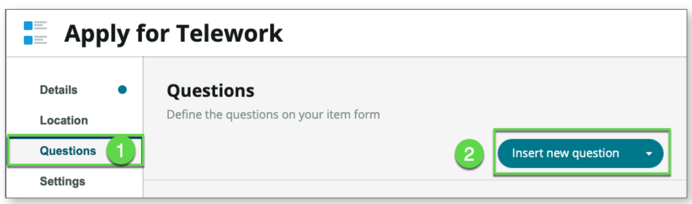
Let's fix that.

We'll use the **Annotation** tab to provide users with additional instructions for the question.

11. Check the box **Show instructions.**
12. Open the file: **telework form annotation.docx**.
13. Copy all the text in the file (⌘ Cmd or CTRL+A, CTRL+C)
14. Paste it into the Annotation section of the Telework Form (⌘ Cmd or CTRL+V). You can choose to either keep or remove formatting.
15. Click on the Insert Question button.



20. Back to the main form, Click on the **Insert Question** button.

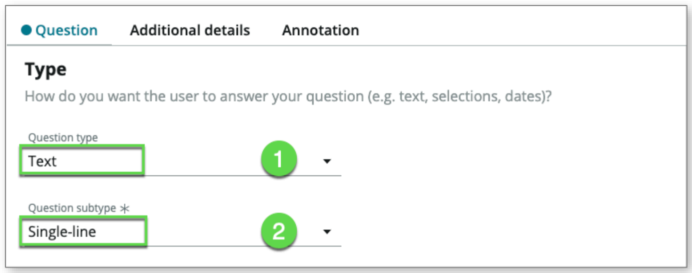


21. When users select the arrangement type **Situational** , we'll prompt them for the number of days per week.

    1. Set the following values in the **Type** section:

Field Name	Field Value
Question type	Text

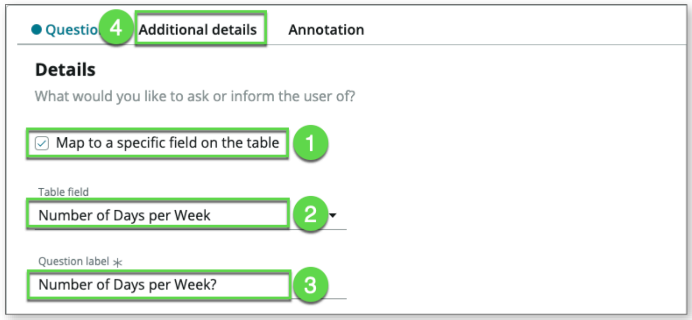
Field Name	Field Value
Question subtype	Single line



2. Scroll down to the **Details** section.
3. In the **Details** section, enter the following information: (💡 double-click, copy & paste into the form).

Field Name	Field Value
Map to a specific field	Checked
Table field	Days per week
Question label	Number of Days per Week?
Name	days_per_week

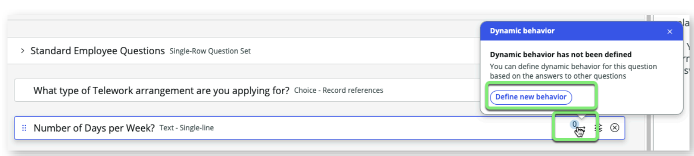
4. Click on **Additional details**.



5. In the **Additional details** section, for the **Text validation** field, select **Number.**
6. Click on the Insert Question button.

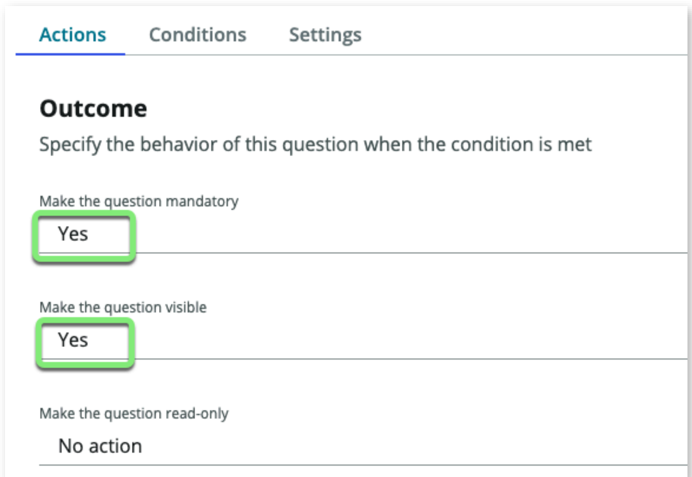
22. Back on the **Questions** page, we're going to define the dynamic behavior of the question "Number of Days per week?" based on the answer to the previous question "What type of Telework...?"

    1. For the question "Number of Days per Week?", click on the **behavior** icon, then click **Define new behavior.**



    2. In the **Actions** tab, we'll specify the behavior we need:

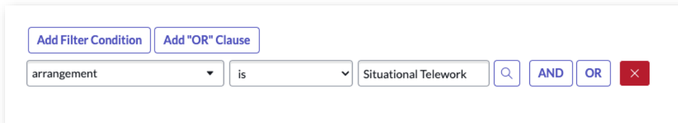
Field Name	Field Value
Make the question mandatory	Yes
Make the question visible	Yes



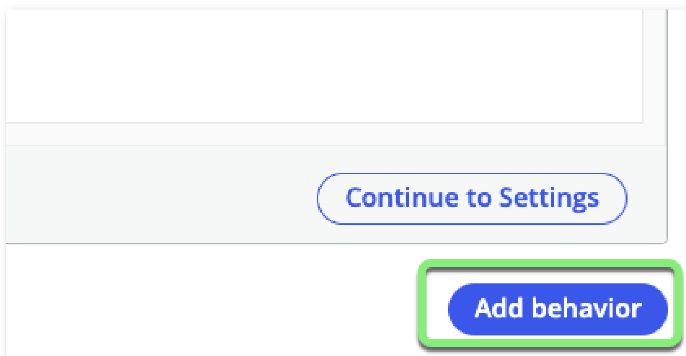
2. Click on the **Conditions** tab.

3. Set the **Dynamic Behavior Condition** filter to

arrangement	is	Situational Telework



4. Click on the Add behavior button in the bottom right.

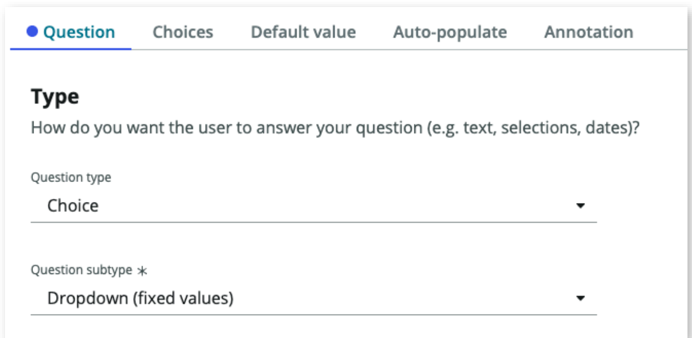


> INFO
>
> This will create a UI effect where the "Number of Days per Week" field will only appear when "What type of Telework arrangement are you apply for?" is "Situational Telework".

23. Back on the **Questions** page, we're going to ask for the reason for Teleworking. Click on Insert New Question.

    1. In the **Type** section set the following values:

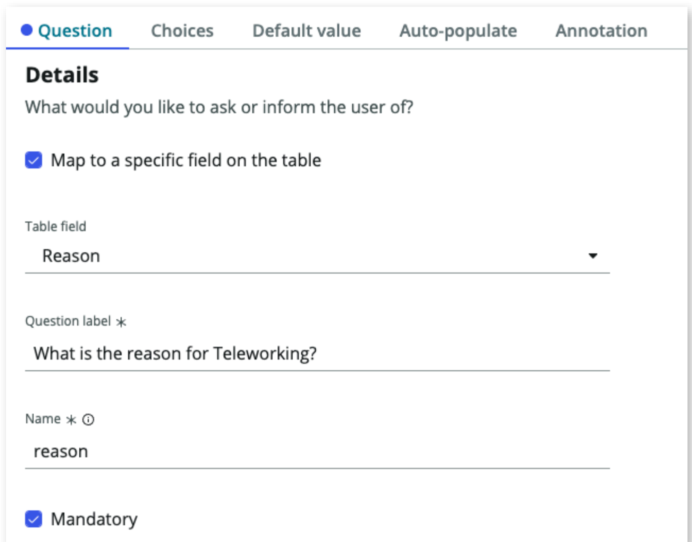
Field Name	Field Value
Question type	Choice
Question subtype	Dropdown (fixed values)



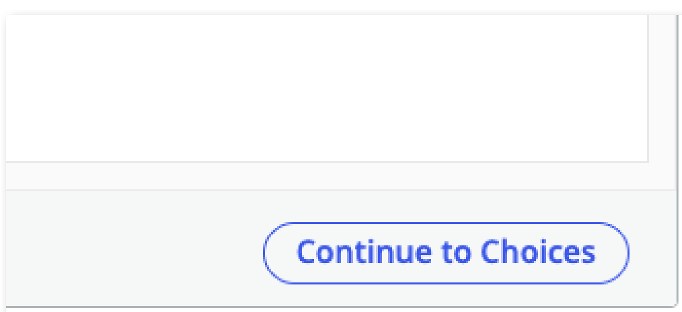
2. Scroll down to the **Details** section.
3. In the **Details** section, enter the following information: (💡 Copy & paste into the form).

Field Name	Field Value
Map to a specific field	Checked
Table field	Reason
Question label	What is the reason for Teleworking?

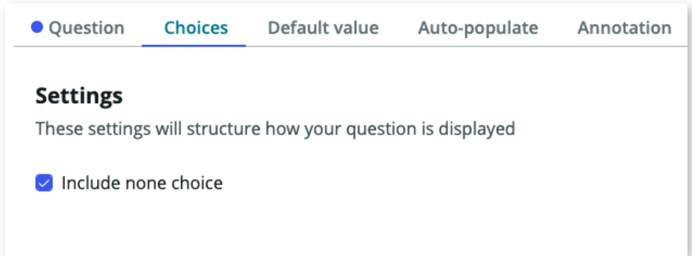
Field Name	Field Value
Name	reason
Mandatory	Checked



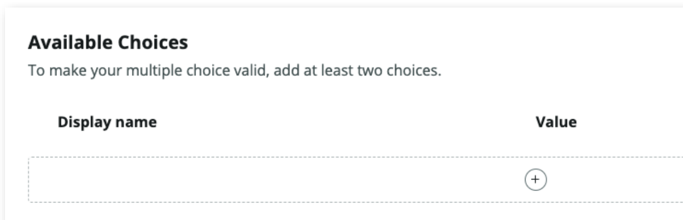
4. Click on Continue to Choices.

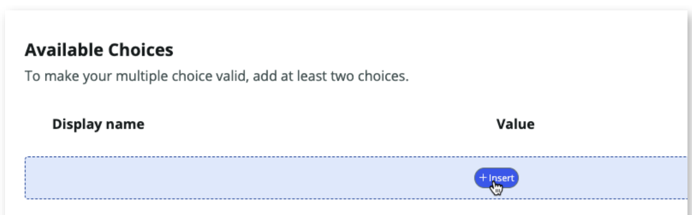


5. Check **Include none choice.**



6. In the **Available choices** section, click the + to insert a new choice. Add the following choices. (💡 Type in the Display Name and the value is created for you).



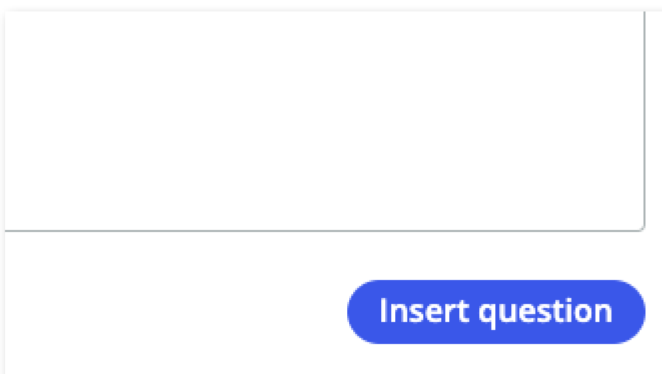


Display Name	Value
Medical	medical

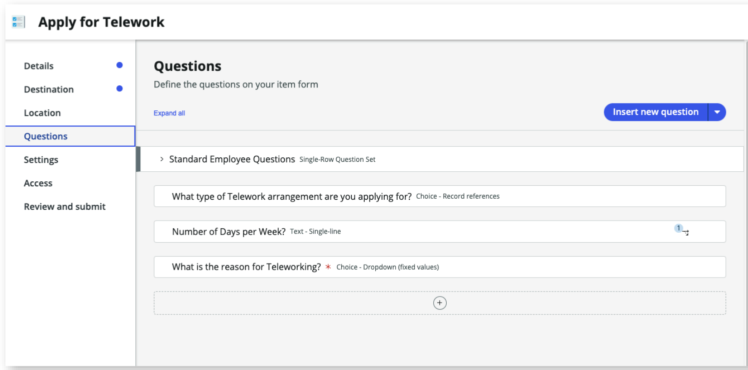
Display Name	Value
Dependent Care	dependent_care
Reasonable Accommodation	reasonable_accommodation

Should look like this when complete:

7. Click Insert Question in the bottom right.

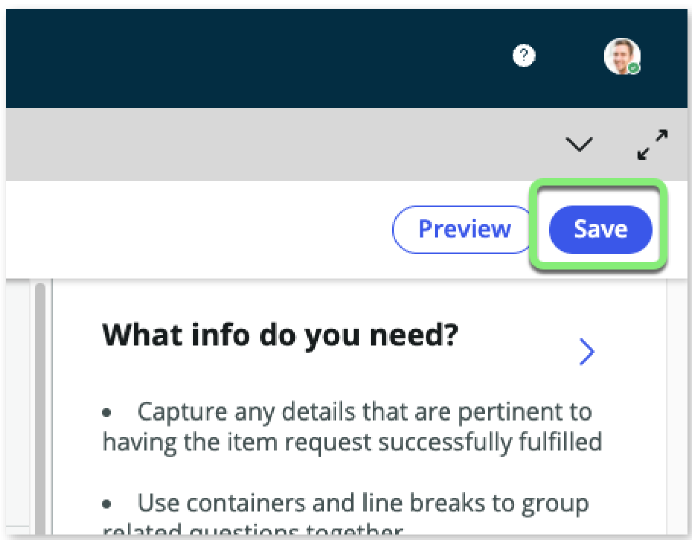


Your screen should now look like this:

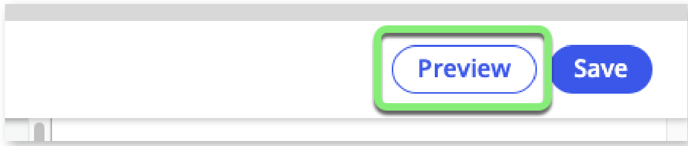


24. Back to the questions page:

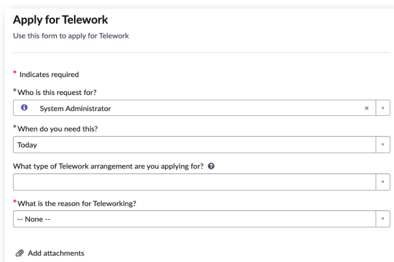
    1. Click Save.

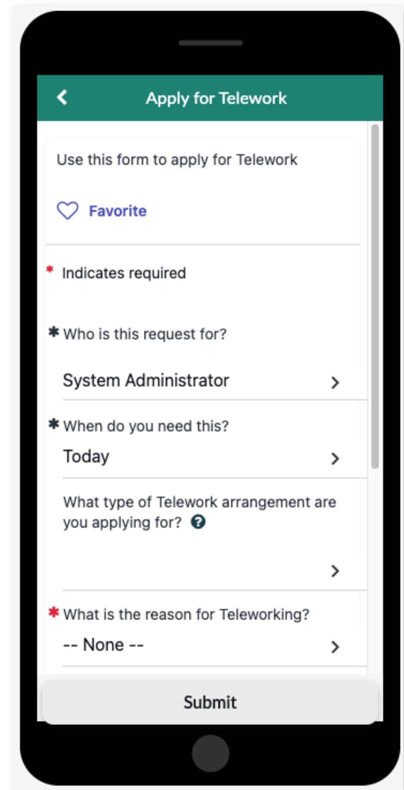


    2. Click Preview.



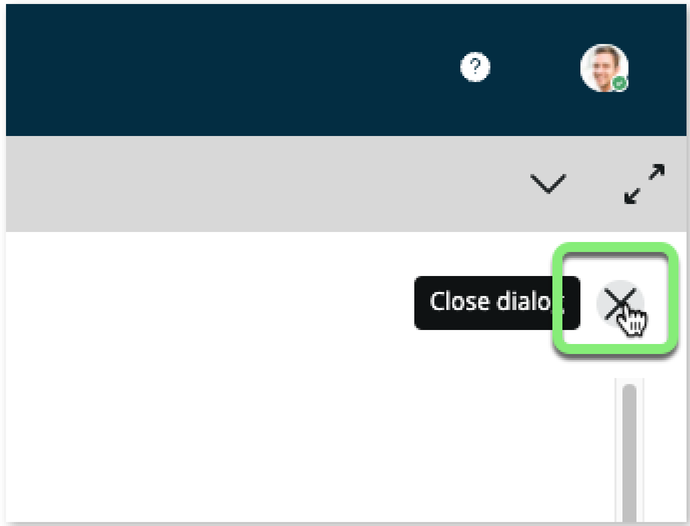
25. The **Preview** page allows to visualize what our form will look like in different experiences. (You can interact with the item but not submit it).

<table>
<tr><th>Portal</th><th>Now Mobile</th></tr>
<tr><td>


</td><td>


</td></tr>
</table>

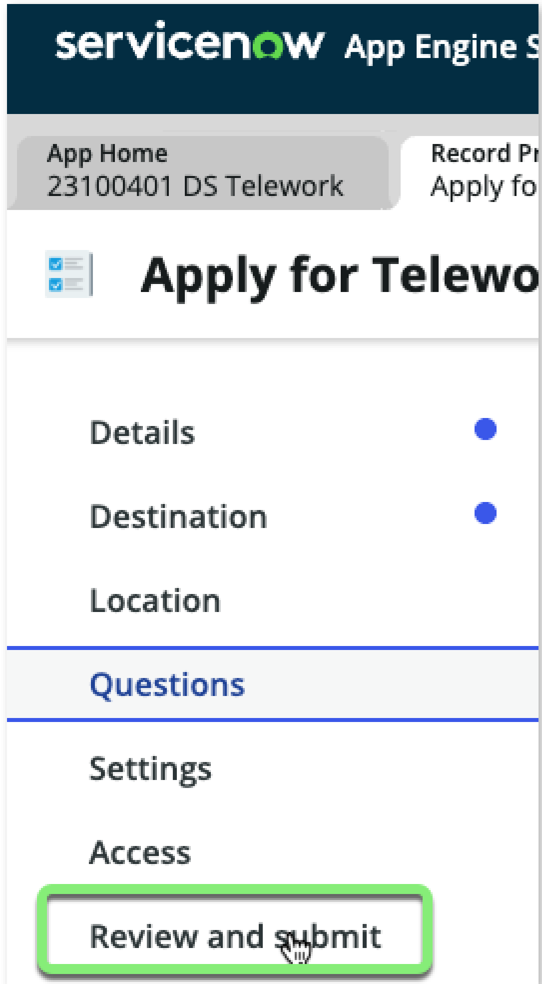
26. Close the Preview by clicking on the X on the top right.



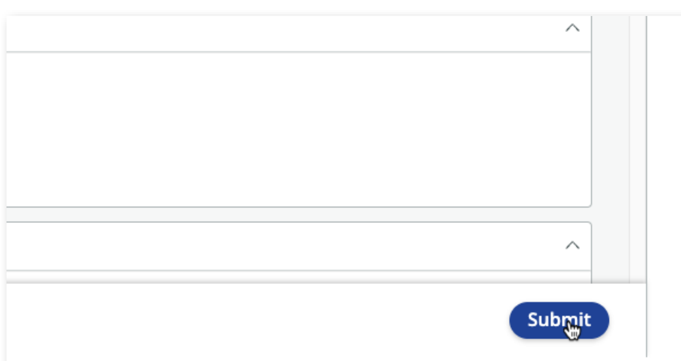
> INFO
>
> If you want to preview your catalog item in the Virtual Agent you will need to activate the plugins_ _ **Glide Virtual Agent** and **Service Management Virtual Agent Topic Blocks**. Additional setup beyond that is required to get NLU to perform a topic conversation via the Virtual Agent. Feel free to experiment this after completing the entire lab.

27. Let's publish the form to the Service Portal.

    1. Click on **Review and Submit**.

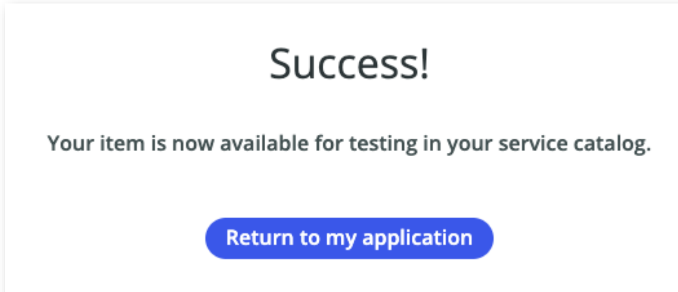


2. Click Submit in the bottom right.



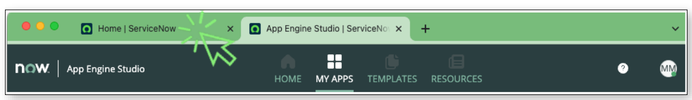
28. **Congratulations!** The form is published on your development instance.

Click Return to my application.



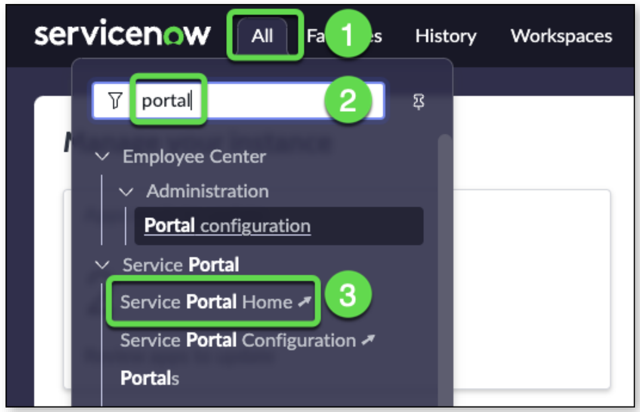
Let's see how users can easily find it on the Service Portal

30. Go to the browser tab with ServiceNow Admin Home page.

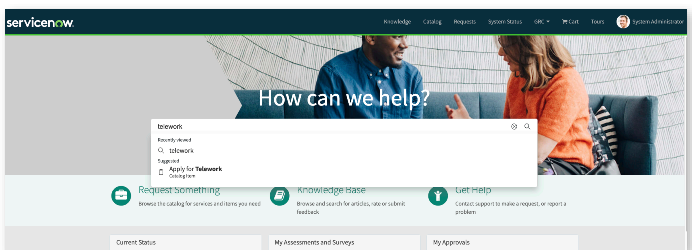


31. Open the Service Portal by doing the following:

    1. Click All.
    2. Type **Portal.**
    3. Click on **Service Portal Home.**

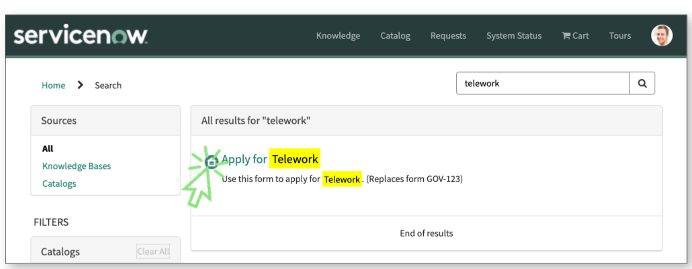


32. In the portal, search for "Telework"



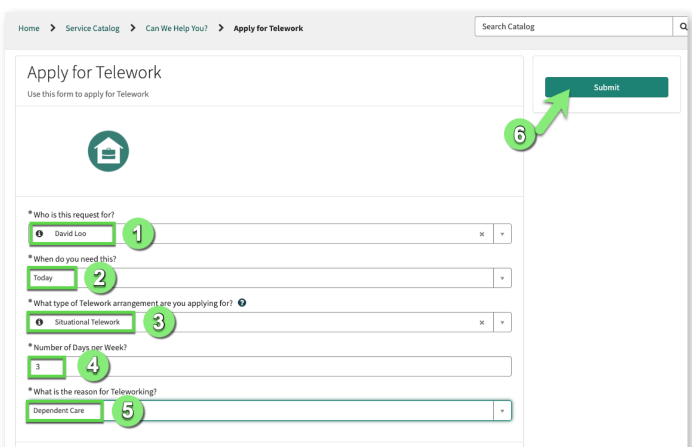
The catalog item is found.

33. Click on the item to Apply for Telework.



34. In the **Details** section, enter the following information: (💡 double-click, copy & paste into the form).

Step	Field Name	Field Value
1	Who is this request for?	David Loo
2	When do you need this?	This week
3	What type of Telework arrangement are you applying for?	Situational Telework
4	Number of days per week?	3
5	What is the reason for Teleworking?	Dependent Care
6	Click on the Submit button.	



Exercise Recap

In this exercise, we learned how to use App Engine Studio (AES) to easily create customized Catalog Items that users can access in Service Portal and on mobile devices.

Our next exercise will focus on taking the building blocks created to this point and making them actionable to drive automation and process optimization

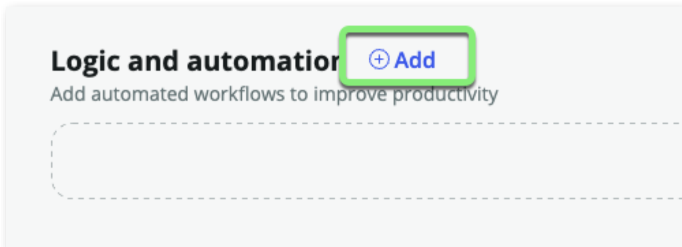
Overview: Automate work

Purpose

In this exercise, we will move beyond simply digitizing data entry and we will focus on ways we can drive optimization though automation

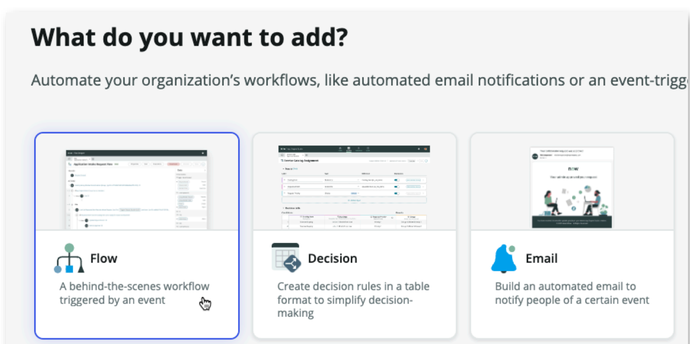
3.1 Create the Workflow

1. From the App Home tab, in the "Logic and automation" section, click Add.

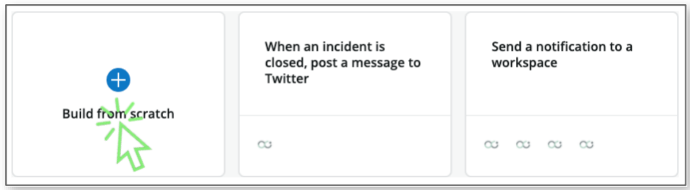


From the Add Automation Screen, we are provided with a variety of process automation templates we can use to speed creation of common activities.

2. Click "Flow".



3. Click Build from scratch to create a new workflow.



A Flow is a sequence of actions to automate processes on the Now Platform.

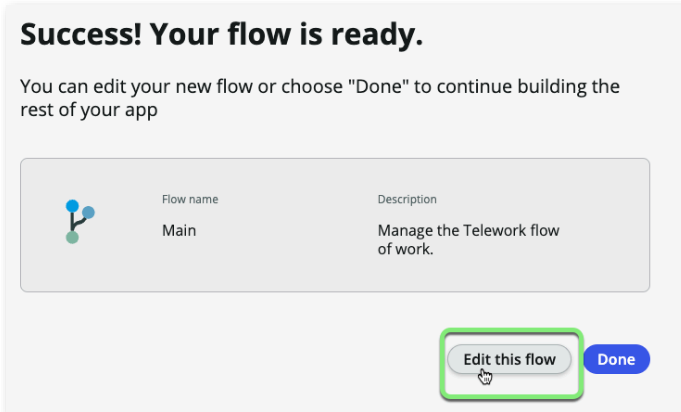
Logic and automation use computers to manage repeatable processes instead of using people. Logic and automation can reduce human error and speed up processes. App Engine Studio allows creators to add process flows to their applications.

4. Create the flow with the following information:

Field	Value
Name	Main
Description	Manage the Telework flow of work.

Click on the Continue button.

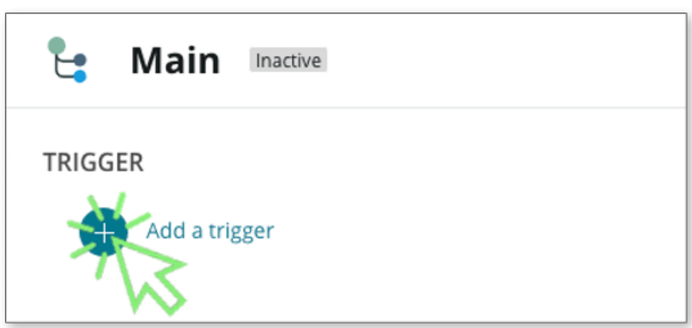
5. Click the **Edit this flow** button to begin the configuration process.



6. You may see a tour popup. Let's skip the tour for now, by clicking the Skip tour button.

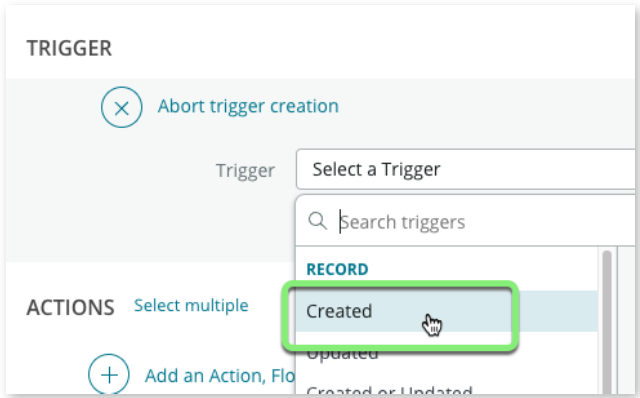
The first thing we'll do is set up our trigger to define when this flow will run.

7. Click on Add a trigger in the upper left of the flow designer screen.

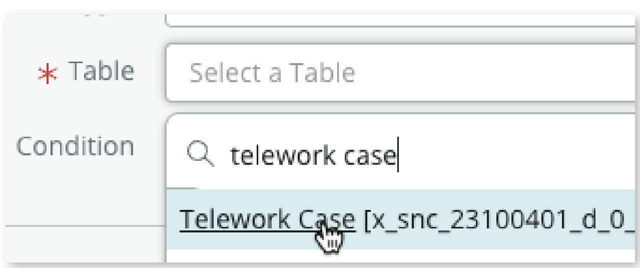


Flow designer provides different options for triggering a workflow. You can kick off a flow based on a record being created or updated, , run on a scheduled basis, or based on a unique application component like an SLA task being triggered or an inbound email being received by the instance. For our use case we are going to:

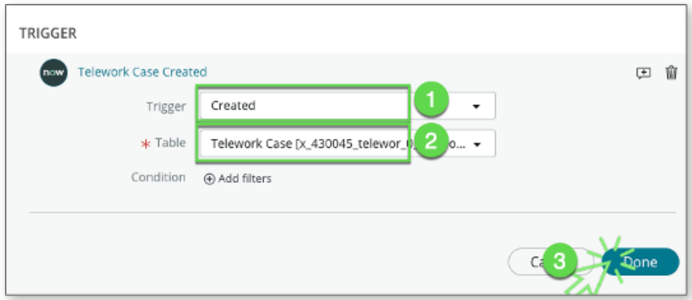
1. Select Created from the Record section.



2. Select the Telework Case table.

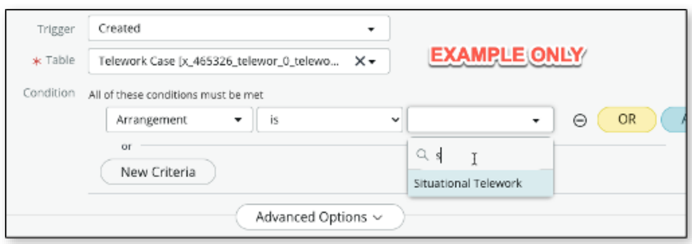


3. Click Done to close the trigger.



NOTE

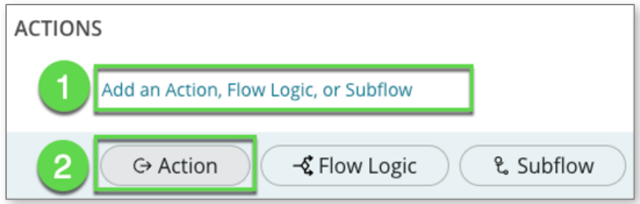
There might be circumstances under which we need to have a particular flow to execute. In this case we can use the "Add filters" option to define conditions that must be met for this flow to execute. This helps making flow easier to maintain and reuse. For example, we could use a flow specific to new request, one for renewal or request.



8. Now we'll add the actions to execute when this flow fires.

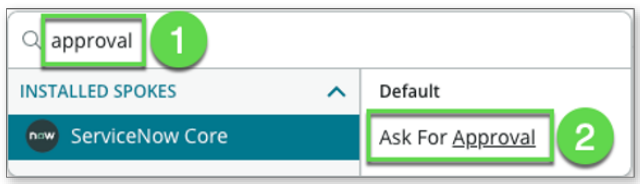
    1. Click Add an Action, Flow logic, or Subflow.

    2. Choose Action.



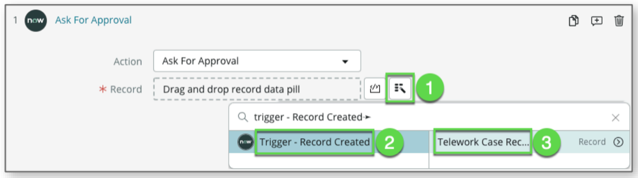
9. The first step in the process we want to automate is managing the approvals across departments.

    1. In the search field, type "approval".
    2. Select Ask for Approval.



10. The first thing we need to configure is the record we'll be working with for this action.

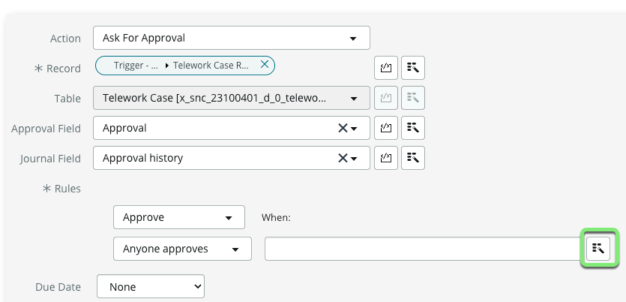
    1. Click on the data picker.
    2. Select Trigger – Record Created.
    3. Select Telework Case Record.



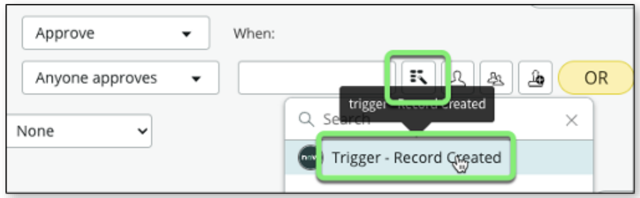
11. In the **Rules** section, let's configure the approval rule.

    1. Choose **Anyone approves** for the Approval rule.

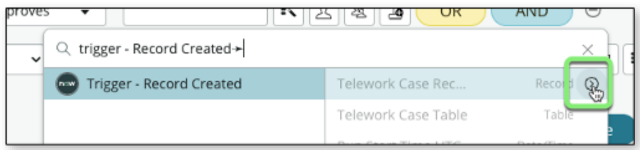
    2. Click on the Data Pill Picker button (*the magic wand button*).



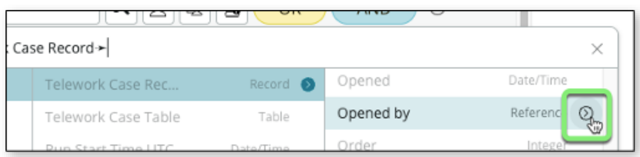
3. Click **Trigger – Record created.**



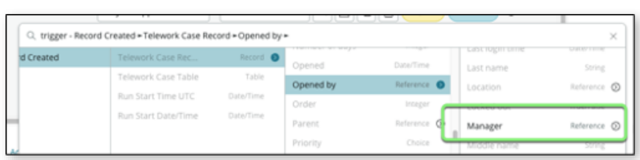
4. Click on the chevron to access the list of fields.



5. Locate the **Opened by** field and click on the chevron next to it.



6. Select **Manager.**



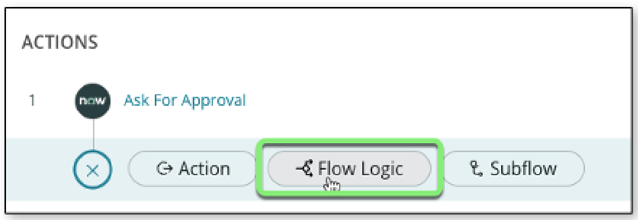
We just configured an approval request to the manager of the person who submitted the form.

7. Click Done.

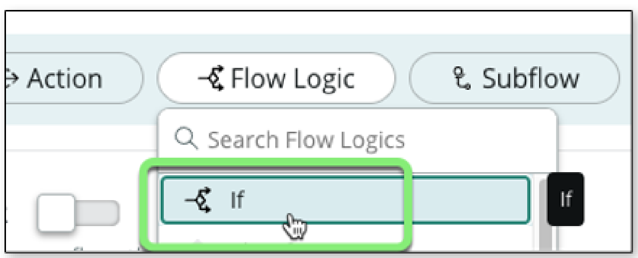
12. Now let's configure what happens when the manager approves:

    1. Under the Ask for Approval, click on the "Add an Action. Flow logic or Sub flow.

    2. Select Flow Logic.

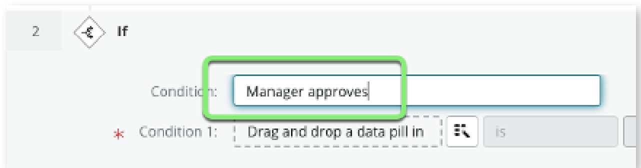


    3. Select If.

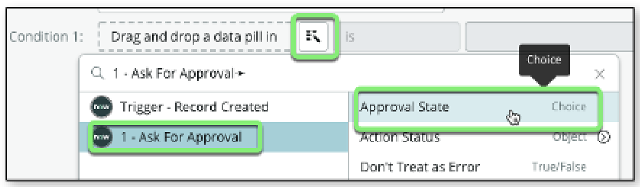


13. Let's define the condition:

    1. In the Condition Label field type "Manager approves".



2. Click on the Data Pill Picker (*magic wand button*).
3. Click 1 – Ask for Approval.
4. Click Approval State.



5. Set drop-down to Approved.

6. Click Done.

INFO

> We now have a branch where we can add actions or flow logic if the manager approves.
>
> Let's save the team from sending tasks via emails or other systems.

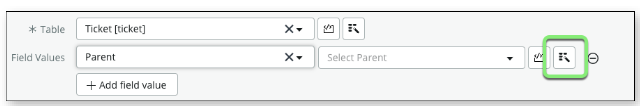
---

14. Next, we will configure the Flow to automatically request I.T. to assign a Remote Access Token to the employee.

    1. Under *If Manager approves* click the small + to add a step.

    2. Select **Action** > **ServiceNow Core** > **Create Task.**
    3. For Table, select "Ticket".
    4. Click **Add field value.**
    5. Search and select **Parent.**
    6. Click on the Data Pill Picker (*magic wand button*).

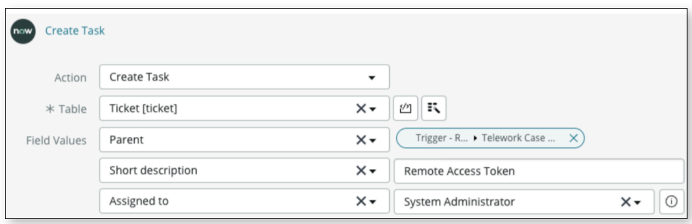
    7. Select **Trigger - Record created** > **Telework Case Record.**

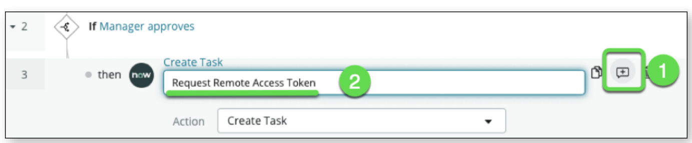
    8. Click **+ Add field value** and add two other fields:

Field Name	Field Value
Short description	Remote Access Token
Assigned to	for testing assign it to yourself (System administrator)

This is how the Field Values should look:



9. Let's add an annotation and set it to "Request Remote Access Token".

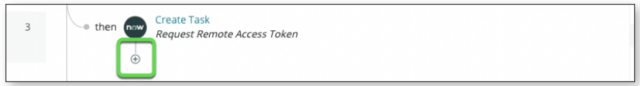


10. Click Done.

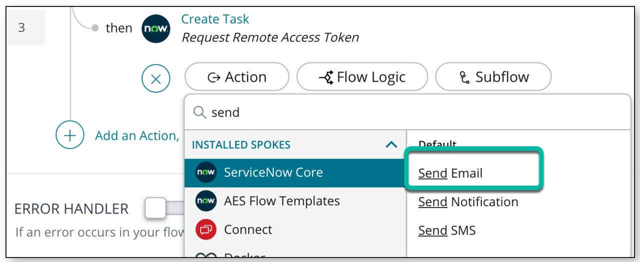
15. First, let's take care of automating the notifications that take too much time right now.

We'll send an email to the applicant's and let them know their application has been approved.

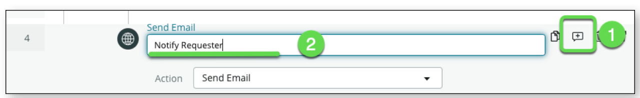
1. Under **3 - Create Task** click the small + to add a step.



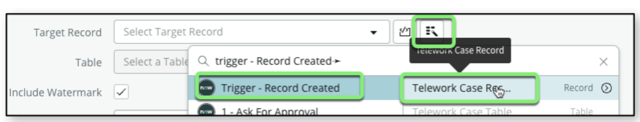
2. Select **Action** > **ServiceNow Core** > **Send Email.**



3. Let's add an annotation and set it to "Notify Requester".

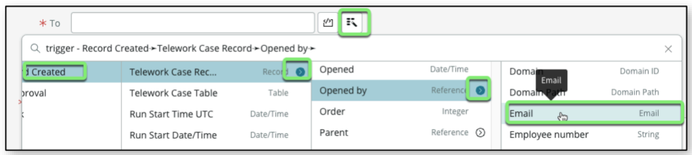


4. For the Target record, use the Data Pill Picker to select **Trigger - Record created** > **Telework Case Record.**



5. For the **To** field,
    1. Click on the record picker.

2. Select **Trigger - Record created.**
3. Click on the chevron to access the list of fields.
4. Locate the **Opened by** field and click on the chevron next to it.
5. Select **Email.**

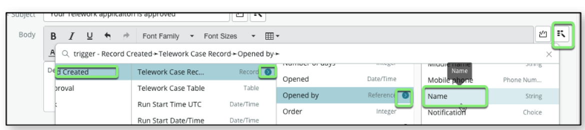


6. For the **Subject**, enter:

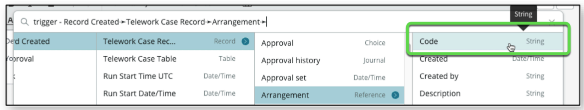
```
Your Telework application is approved.
```

7. For the **Body**:

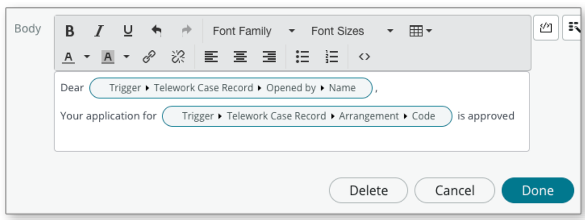
    1. Start by entering: "Dear " (followed by a whitespace).
    2. Use the record picker to select the **Opened by** > **Name** field.



    3. Hit Enter to move to the next line.
    4. Type "Your application for ".
    5. Use the Data Pill Picker to select the **Arrangement** > **Code** field.

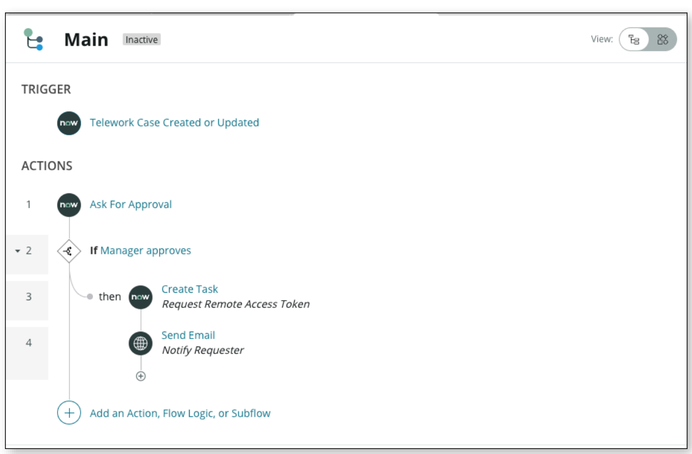


6. Type " is approved" after the data pill (preceeded by a whitespace).
7. The Body should look like this:

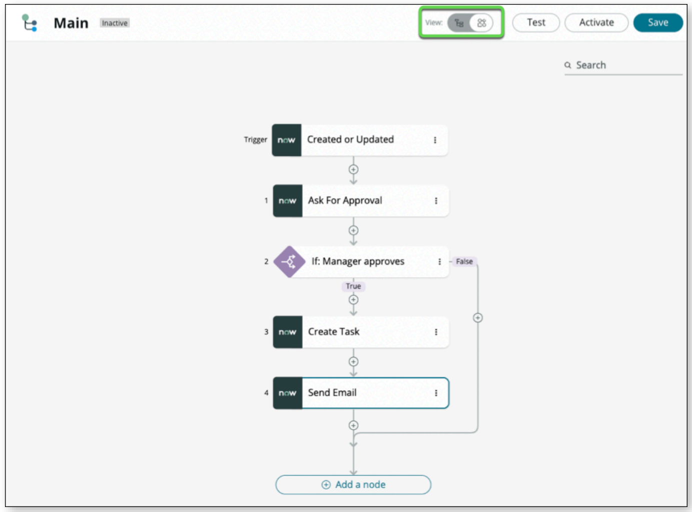


16. Click Done.

17. Your flow should look like this:



18. Click on the Toggle view to visualize the flow as a Diagram.



20. In the top right corner of the screen, Click Save.

Although the Flow is saved, it won't run until we activate it.

21. Click Activate on the left of the Save button.

22. In the Confirmation box click the Activate button.

Congratulations! 🎉

You've built a flow that takes care of managing tasks and communications across multiple departments.

> INFO
>
> Note that by default Personal Developer Instances have "sending email" turned off by default. If you want to receive the email, make sure that the user

> submitting the application has a valid email address on their user record.

Next, let's test our work and see it in action.

3.2 Test the Workflow

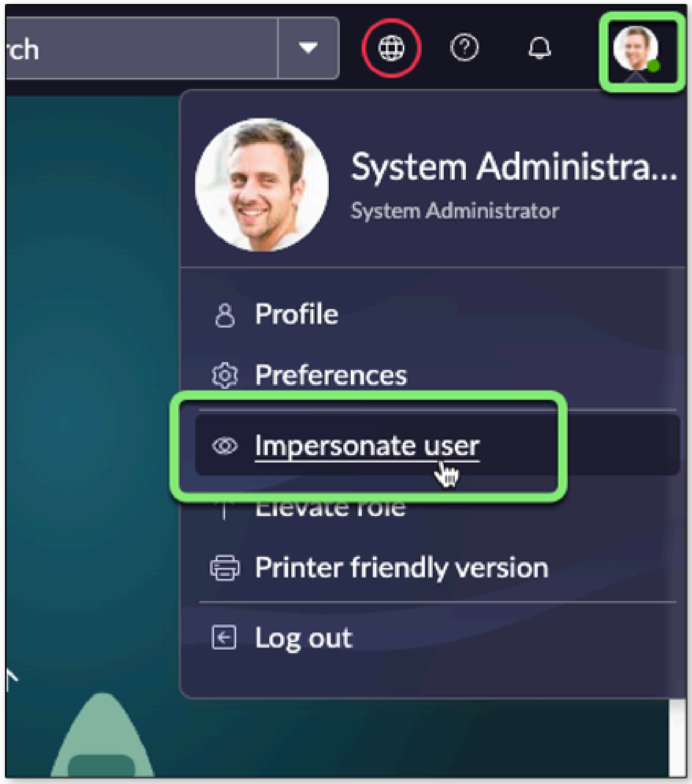
In this section, we will test the flow we just created and make sure it functions as expected.

We need to test with a user who has a manger. Fortunately ServiceNow allows admins to impersonate other authenticated users for testing purposes.

Let's go back to the ServiceNow admin page.

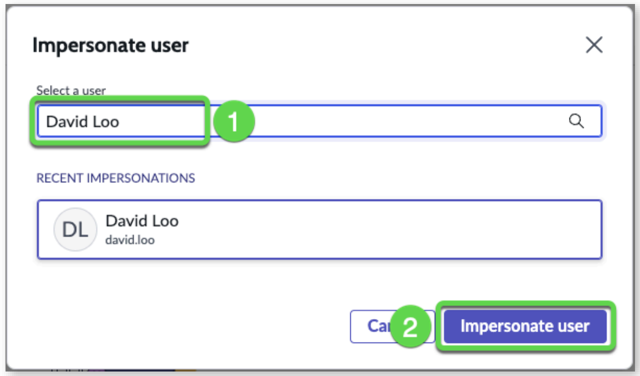
1. In the banner frame, click the profile photo in the top right to open the user menu.

2. Select Impersonate User.



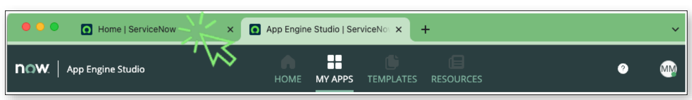
The Impersonate User dialog box appears.

1. Search for and select "David Loo" (it's one of the demo user who has a manager).
2. Click *Impersonate User*



3. Let's submit a new application.

4. Go to the tab with ServiceNow Admin Home page.

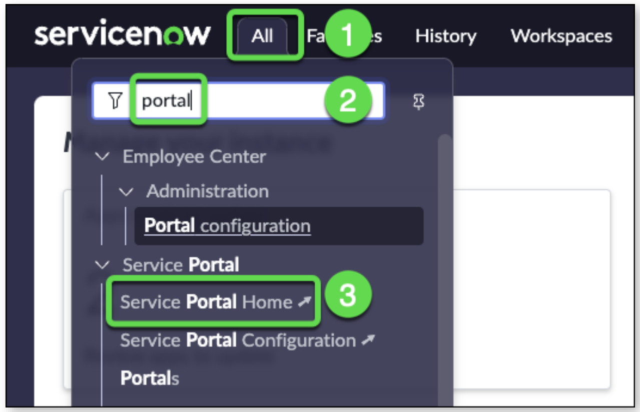


5. and then open the Service Portal

    1. Click All.

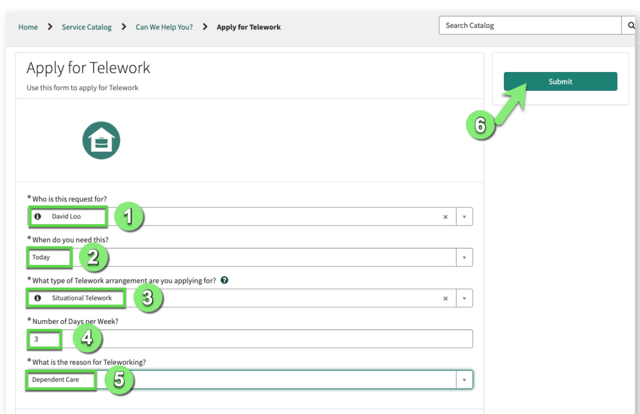
    2. Type "Portal".

    3. Click on Service Portal Home.



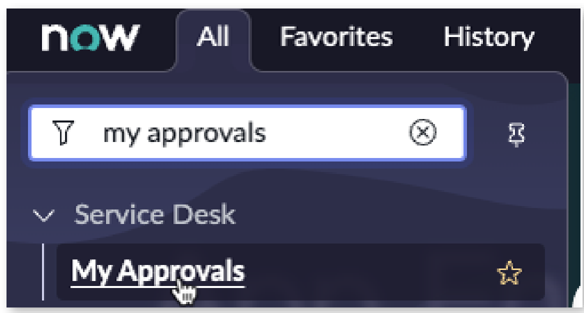
6. In the ServiceNow Portal page.

    1. Search for "Telework".
    2. Open the catalog item.
    3. Complete the form as below and Submit.

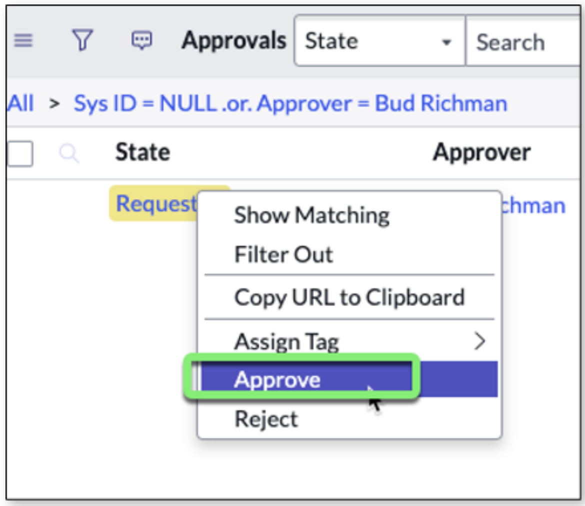


7. Let's check the execution

1. Go back to the ServiceNow admin page.
2. Impersonate David Loo's manager : "Bud Richman".
3. With email enabled on the instance and a valid email address, the manager would get an email notification and allow the manager to approve or reject.
4. Let's check if the manager has any approval request in My Approvals list.
    1. In the All menu, search for and select, type My Approvals.



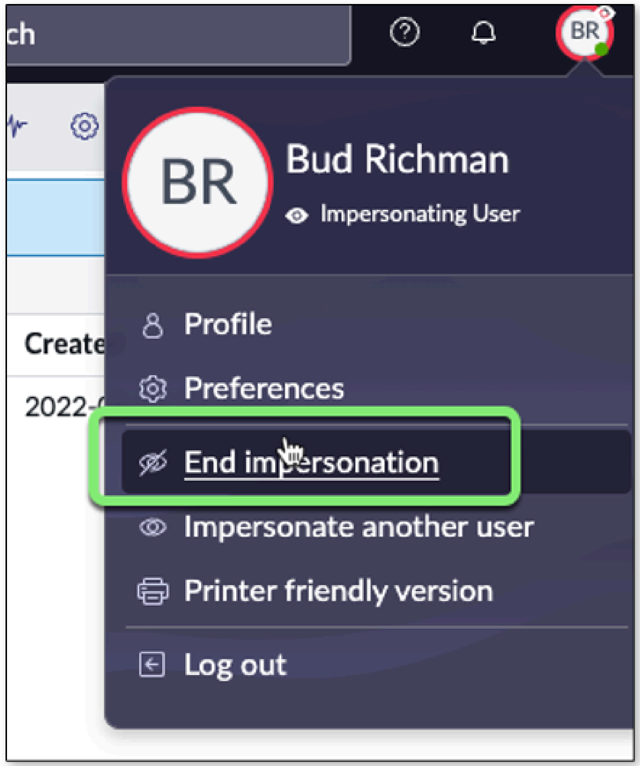
    2. Yes, there is one! Right-click on the Requested.
    3. Select Approve.



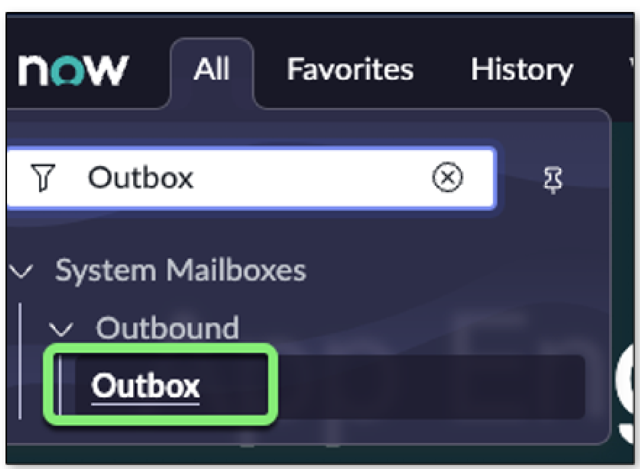
8. Next, let's check if an email was sent.

    1. In the top right, click the profile photo to open the User menu.

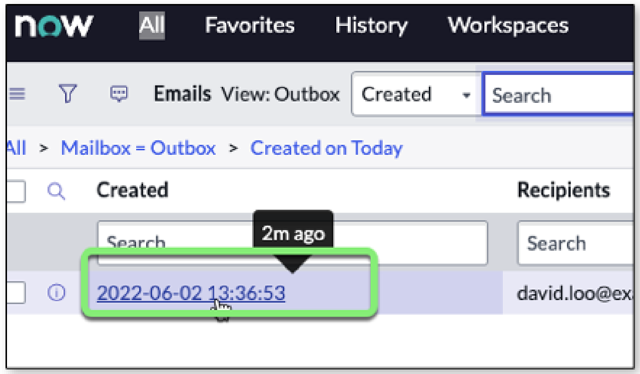
    2. Select End Impersonation.



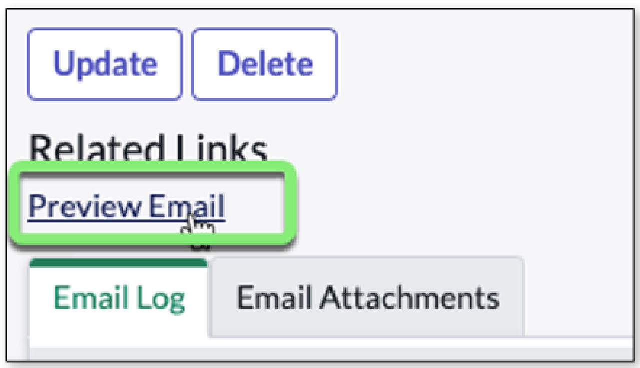
3. In the All menu, search for and select Outbox.



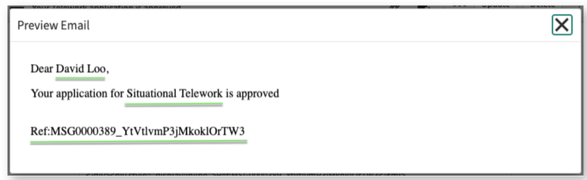
4. Click on the Created column name to show most recent at the top. We have an email! Click on it to open it.



5. On the email record, scroll down to the bottom of the page, and click on the **Preview Email** related link.



6. And voila! Observe the email that was sent.
    1. We have automated case updates notifications.
    2. Notice the watermark at the bottom of the email. ServiceNow generates a watermark label at the bottom of each notification email to allow matching incoming email to existing records. This helps track emails sent as part of a case and manage responses to emails.



Congratulations!

You successfully built and tested a workflow that saves a lot of time in the organization and makes sure tasks are assigned properly.

Overview: Manage work

Purpose

In this exercise, we will learn how to create user experiences for interacting with our application. We will leverage App Engine Studio to create a new Workspace experience designed to allow the team to track and manage cases across the enterprise.

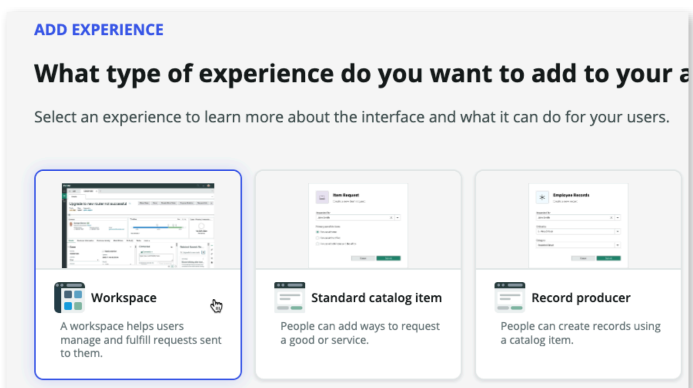
4.1 Create a Workspace

We will now create and configure the Workspace experience for our new application.

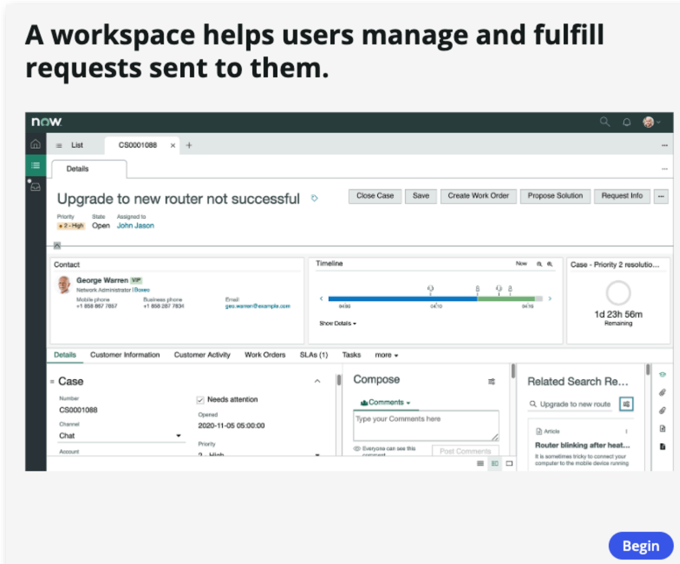
1. On the application homepage, locate the Experience section and click the ⊕ Add icon.

This takes us to a selection where we can identify the type of experience we wish to create.

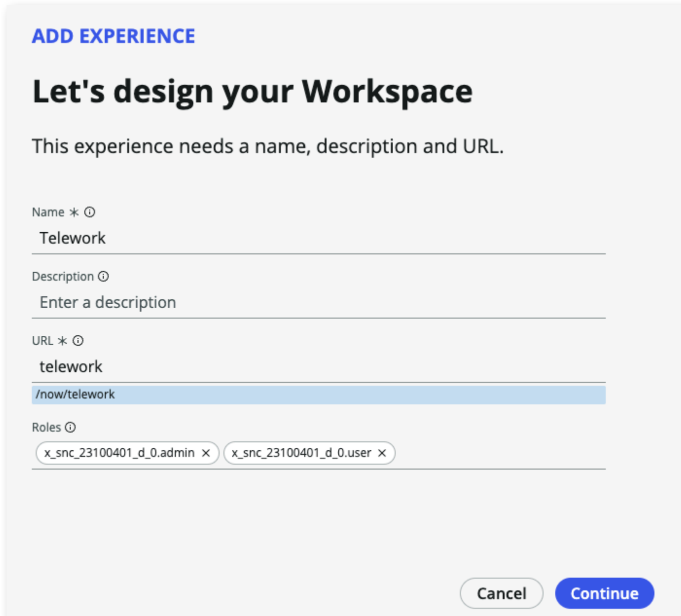
2. Click the Workspace tile to create a workspace to help users manage and fulfill requests sent to them.



3. Click on the Begin button to begin the Workspace Builder wizard.



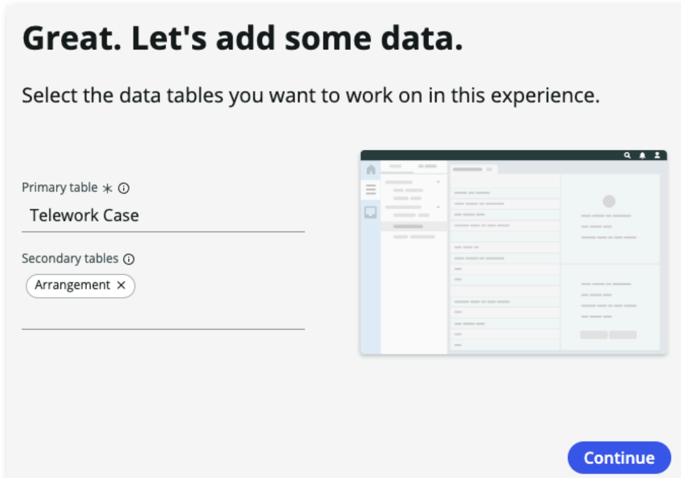
4. Next, leave the default value and Click on the Continue button.

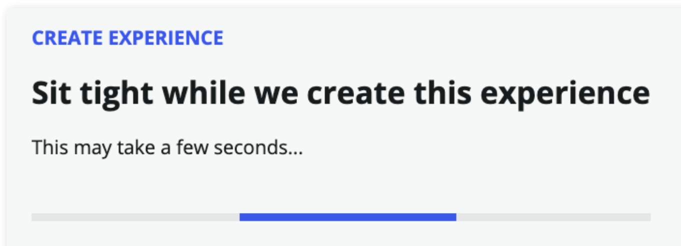


Next, we'll select the tables we want to work with in this workspace.

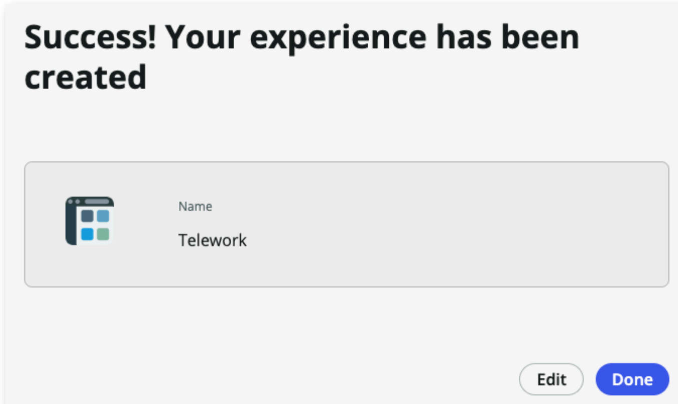
5. Set **Primary table** and **Secondary tables** like below and click on the Continue button.

Field Name	Field Value
Primary table	Telework Case
Secondary tables	Arrangement



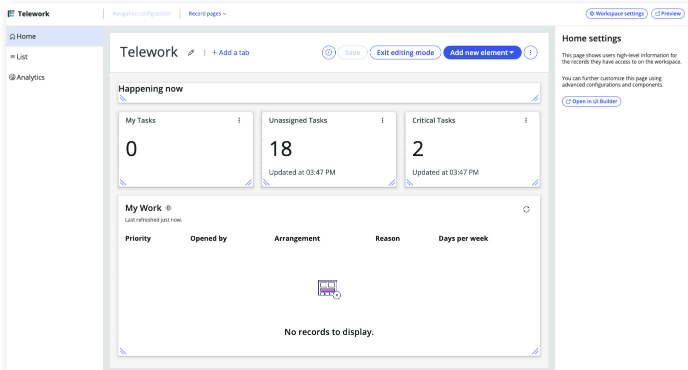


7. Your new Workspace experience is completed. Click on the Edit button.



8. We are now directed to the Workspace Builder. Click on the **Get started** button.

9. We now have a fully functioning workspace to get work done quickly.



> ⓘ INFO
>
> The Workspace Builder for App Engine allows you to manage dashboards, build lists, and customize record pages for workspaces created in App Engine Studio. App Engine licensed customers enjoy exclusive access to this premium feature.

Next, let's tailor the workspace to our needs.

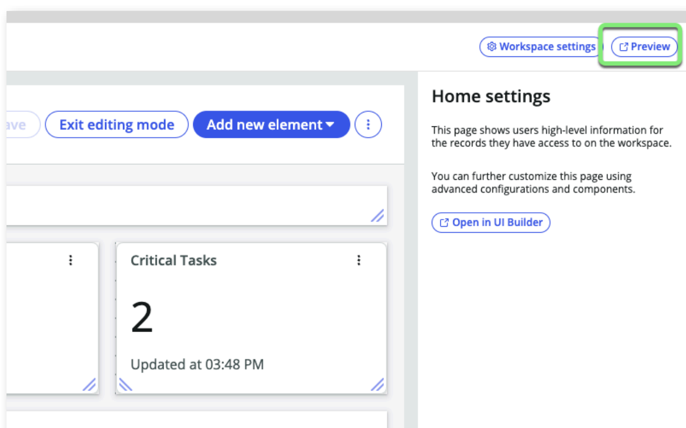
4.2 Configure the Workspace

The Workspace Builder empowers users of all skill sets to build a custom workspace in a no-code environment. With this builder, you can quickly create a workspace and configure its layout, lists, and record pages. If you need access to more advanced functionalities and configurations, you can open the workspace in UI Builder from within this builder.

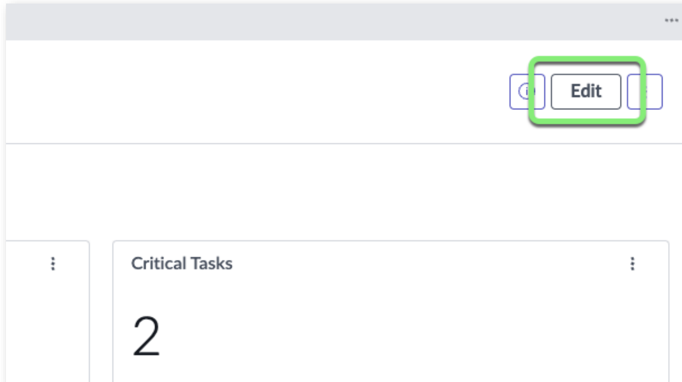
A lot has been pre-configured for us. We'll make a couple of changes to improve it.

Let's help the business users visualize quickly cases by priority.

1. Click the **Preview** button in the upper right to open the workspace in a new browser tab.

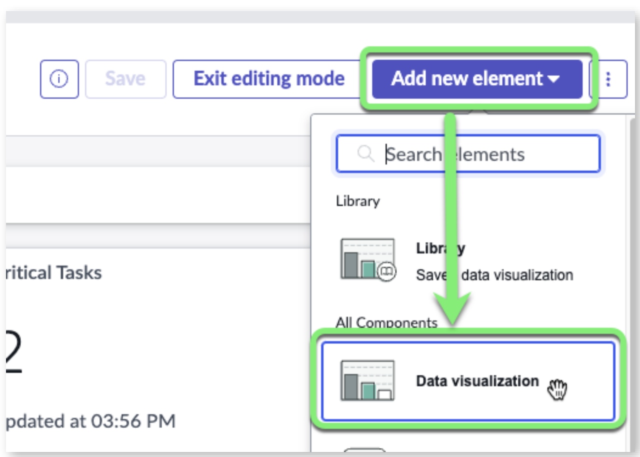


2. Go into Edit Mode by clicking the **Edit** button

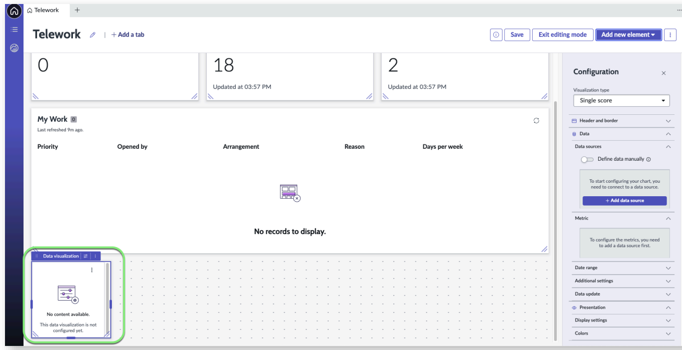


3. Add a new Data Visualization.

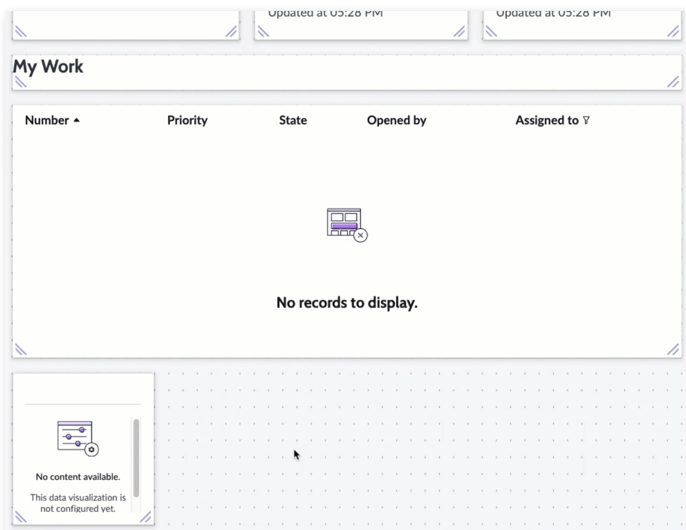
    1. Click on Add new element.
    2. Select Data visualization.



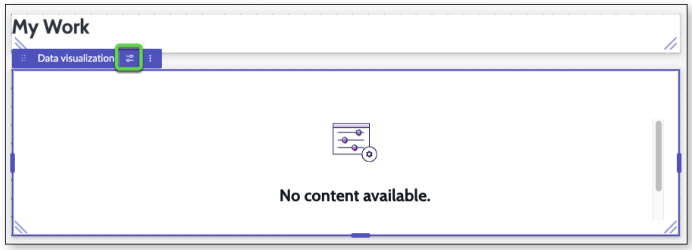
4. Scroll down, the component has been added at the bottom of the page.



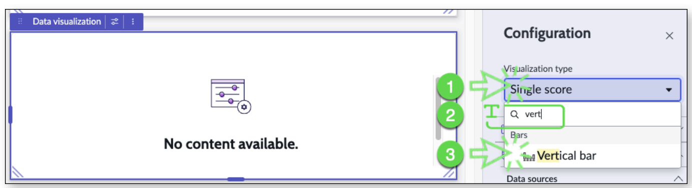
5. Drag and drop the new data component from the bottom of the dashboard to right above the My Work section and size it to expand across the screen.



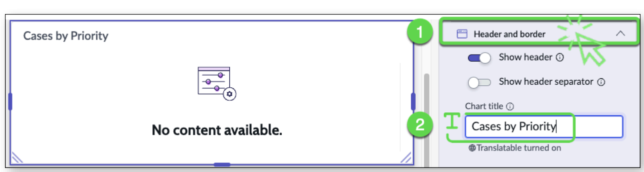
6. On the new component, click the configure icon



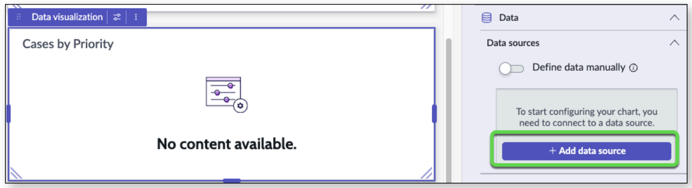
7. In the configuration panel:
   (1) Click the **Visualization Type Dropdown**
   (2) type "vert"
   (3) select **Vertical bar**.



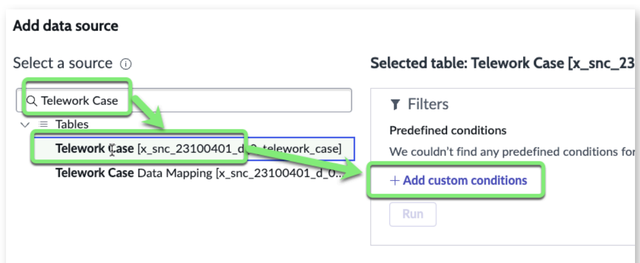
8.
- Click on **Header and border** to expand that section,
- type "Cases by Priority" in the **Chart Title** field.



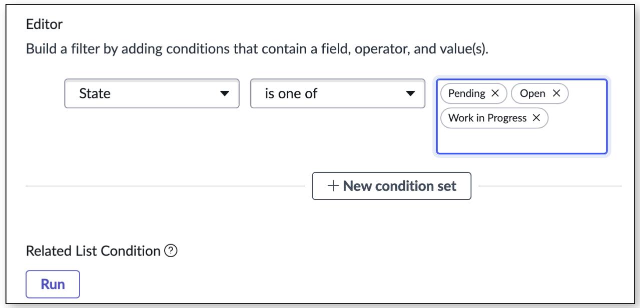
9. Under Data sources, click **+ Add data source.**



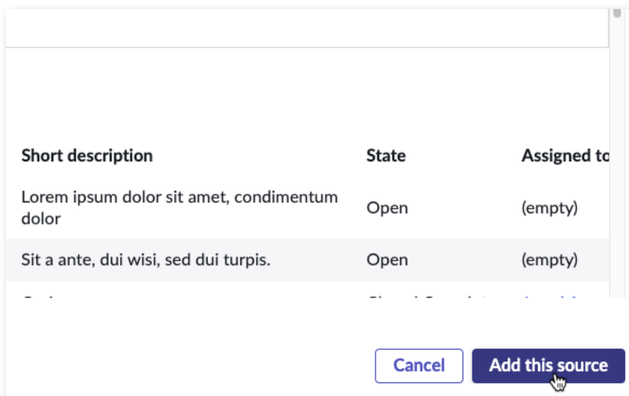
10. 1. Type **Telework Case** in the "Select a source" field.
    2. Click **Telework Case** in the search results.
    3. Click **+ Add custom conditions.**



11. We want to see only the non-closed cases.
    1. Set **State is one of Pending, Open, Work in Progress.**

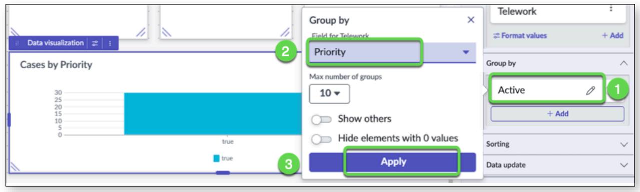


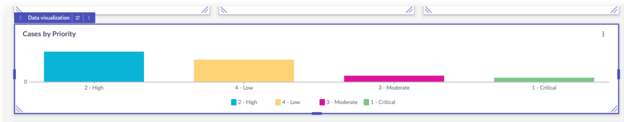
2. Click **Add this source** in the bottom right.



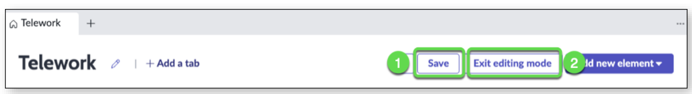
12. In the **Group by** section,

    1. Click the pencil icon next to **Active**.
    2. Set **Priority** for the Group by.
    3. Click **Apply**.

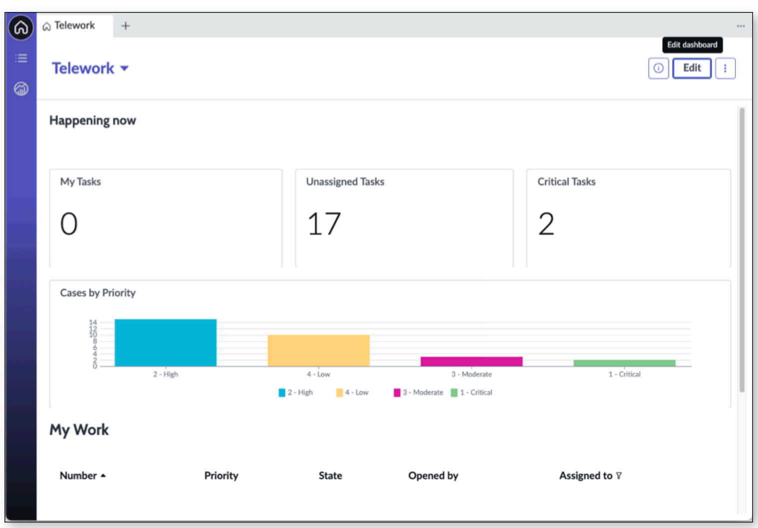




13. On the top right, Click Save then Exit Edit Mode



And voilà, your new dashboard!

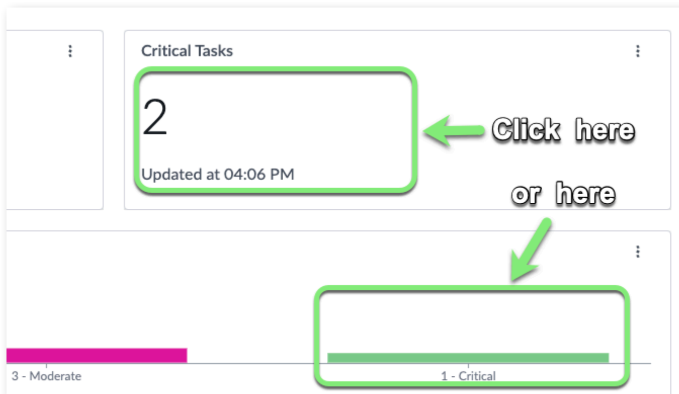


Exercise Recap

In this exercise, we learned how to create a custom workspace and used the the Workspace Builder to display key performance indicators and organize information in ways that benefit our users.

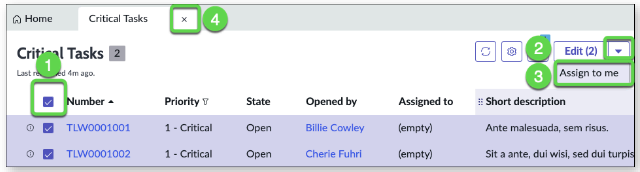
4.3 Use the Workspace

1. Let's take care of the **Critical Tasks**. Click on the **Critical Tasks** score or the critical bar chart.

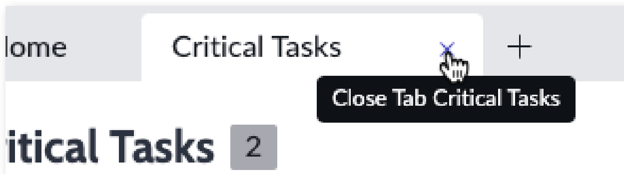


> INFO
>
> You can click either data visualaziation as they are both pointing to the same data: two Telework cases with a state of "1 - Critical" priority.

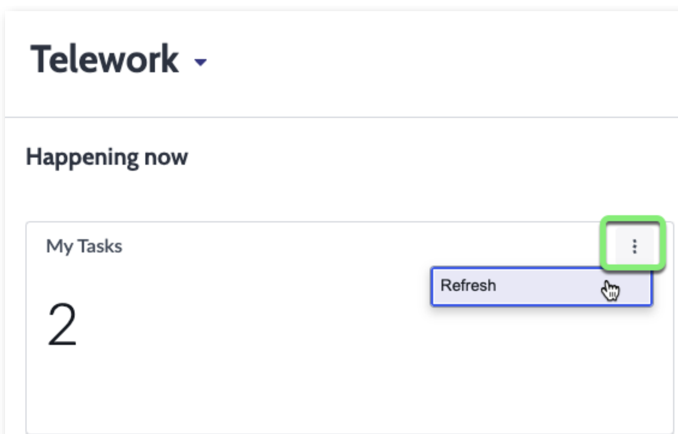
2. 1. Select all rows.
   2. Click the drop-down arrow next to **Edit**.
   3. Select **Assign to me**.



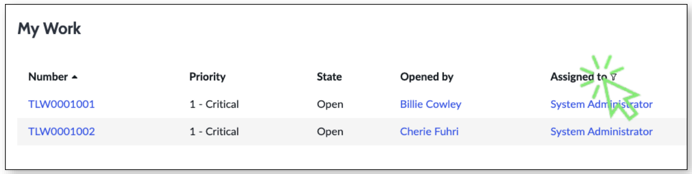
4. Close the tab.



3. Refresh the My Tasks score. You now have 2 tasks assigned to you.



4. In the My Work list, click on the Assigned to header to refresh the list.



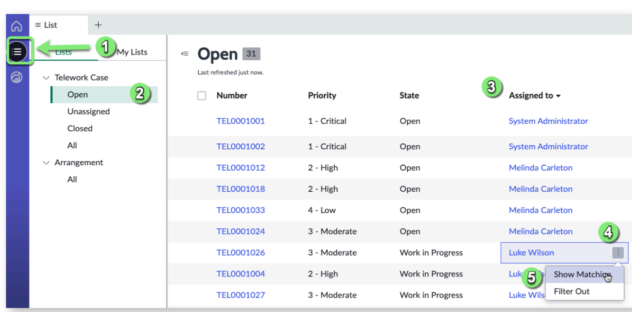
Great! Now let's see how quick we can handle an emergency ⚠️.

Bulk Assignment

Our team member *Luke Wilson* is out sick today. We need to reassign his work to another case worker. (*It is hard to do when the work is managed via emails and spreadsheets!*)

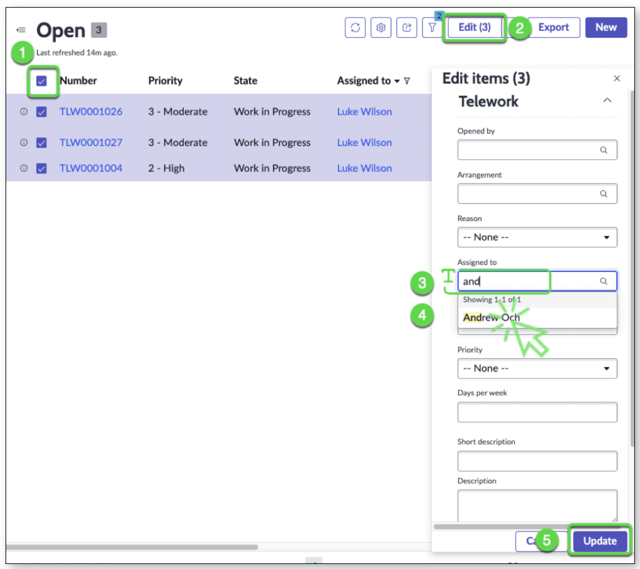
5. Let's find all the open cases assigned to Luke Wilson

   1. Click the List icon.
   2. Click on **Open** in the Telework Case section.
   3. Sort cases by **Assigned to** by clicking on the header.
   4. Click the button next to "Luke Wilson".
   5. click "Show Matching".

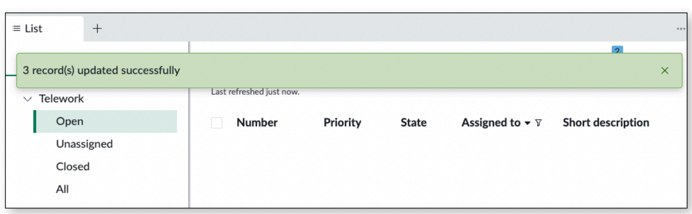


6. Let's assign Luke's cases to Andrew Och

    1. Select all rows
    2. Click **Edit**
    3. type **and**
    4. Select "Andrew Och"
    5. Click Update.



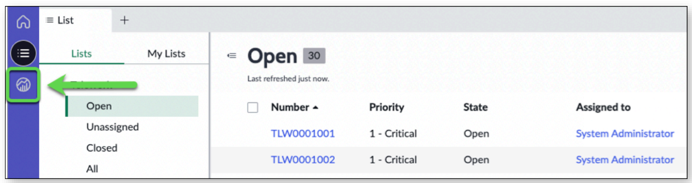
You should see this message:



Finding Answers with the Analytics Center

7. Now let's check the Analytics Center to quickly find the data we need.

8. Click the Analytics Center button.

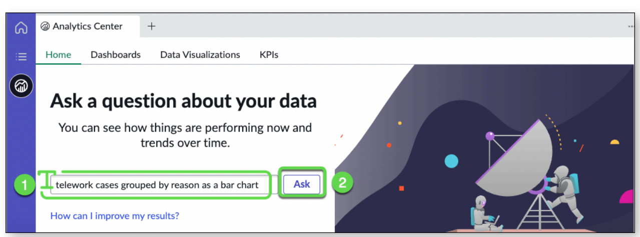


9. Let's ask some question about our data.

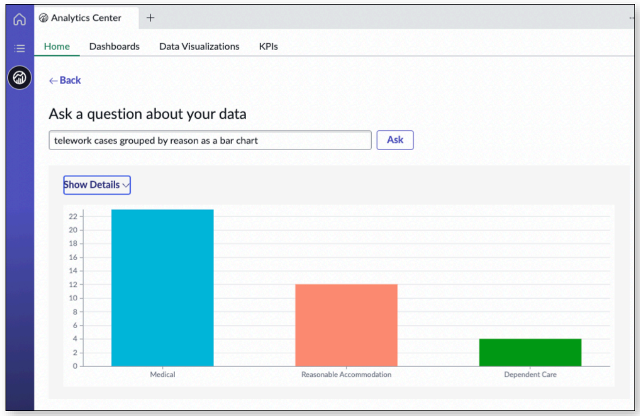
    1. Type the following query:

```
show me all the telework cases grouped by reason as a bar chart
```

    2. Click the Ask button.



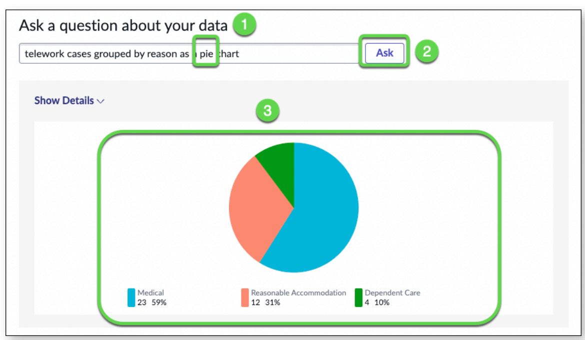
    3. And here is the answer:



4. Try changing the query:

    1. Replace **bar** with **pie**

    2. Click Ask to get a Pie Chart.



> INFO
>
> As you type in a query, Analytics Q&A suggests recent searches, indicators, tables, and columns that match what you have typed so far. Only the tables and columns to which you have access are shown

Exercise Recap

In this exercise, we learned how to use the out-of-the-box capabilities to manage work and quickly find answers to questions about our data.

Lab Review

In this lab, we built, implemented, and tested an application using the fundamental part of an application: Data, User Experience, and Automation.

The team managing the work will be more efficient and the users will get what they need faster.

Of course, the examples in these exercises are just the beginning when it comes to the power of leveraging App Engine.

The possibilities are limited only by your imagination as a Creator. If you can dream it, you can workflow it on the Now Platform.

Here are some resources to help you continue your journey on the ServiceNow platform

Supplemental Resources

In addition to this Lab Guide and the resources discussed in the live workshop, the following resources are always available to help with this, or any other ServiceNow activities.

- Get a free Personal Development instance and more free training on:
  - https://developer.servicenow.com/
- Online community forums
  - https://community.servicenow.com/
- Online training and certification (Many additional free trainings, some are for a fee)
  - https://nowlearning.service-now.com/
- Customer Success Center
  - https://www.servicenow.com/success.html

APPENDIX

Lab Features

Summary of features we went through in this lab.

1. Create an App

2. Create Data Model
    1. Create a Table from a spreadsheet
    2. Create a Table by extending the Task table
    3. Add a field that references data from another table
    4. Create a choice field
    5. Change the layout of the form
    6. Add and remove fields
    7. Add related task

3. Create Case Worker Experience
    1. Create Workspace
    2. Bulk Task assignment
    3. Use the Analytics Center to ask question about the data
    4. Use of Impersonation for testing purposes
    5. Configure Workspace with the Workspace Builder

4. Create the Requester Experience
    1. Expose a form to users via the Service Portal
    2. Set field visibility conditionned upon the value of another field

5. Automate the work
    1. Create a Flow
        1. Create Tasks for several departments
        2. Send an email
    2. Test the flow
        1. Use impersonation
        2. Check for approval
        3. Check for email sent

CHANGELOG

Planned for the future

- Use new catalog builder feature "Auto-populate" to change the value of a field based on a change in another field.

- Simplify testing of workflow

- Add Decision table

History

Version	Author	Changes
2023-October (Utah)	Dale.Stubblefield(ServiceNow)	‣ Leverage the new Utah feature to create a table from an Excel sheet and extend an existing table. ‣ Updated screenshots to match the Utah user experience ‣ Additional screenshots for clarity
2023-August (Utah)	Marc.Mouries(ServiceNow)	‣ Leverage the new Utah feature to create a table from an Excel sheet and extend an existing table. ‣ Updated screenshots to match the Utah user experience

Version	Author	Changes
		‣ Additional screenshots for clarity
2023 (Utah)	Jay Freise(ServiceNow) , Marc.Mouries(ServiceNow)	‣ Leverage the new Utah feature to create a table from an Excel sheet and extend an existing table. ‣ Updated screenshots to match the Utah user experience ‣ Additional screenshots for clarity
3.1	Eric Rietveld(ServiceNow), Marc.Mouries(ServiceNow)	‣ Conversion from word doc to website to improve readability on small screens ‣ Reduced the number of options for the reason choice field to 3. ‣ Added more explicit screenshots ‣ Added missing field reason to case form ‣ Simplified instructions to open the portal ‣ Moved sections import data and workspace configuration to later sections ‣ Updated workspace editing to use the new Workspace Builder instead of UI Builder

Version	Author	Changes
3.0	Dale.Stubblefield(ServiceNow)	Started update for ServiceNow Tokyo Release - App Engine Studio v22.0.3
2.1	Marc.Mouries(ServiceNow)	Significant changes in correctness and clarity
2.0	Dale.Stubblefield(ServiceNow)	Updated screenshots for the San Diego release
1.0	Marc.Mouries(ServiceNow)	First version for the Rome release

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