PL-900 Labs

Module 0: Course introduction

Scenario

- **Bellows College** is an educational organization with **multiple buildings on campus**.

- **Campus visitors** are currently recorded in **paper journals**. The information is not captured consistently, and there are **no means to collect** and **analyze data about the visits** across the entire campus.

- **Campus administration** would like to modernize their **visitor registration system** where access to the buildings is controlled by **security personnel** and **all visits are required** to be **pre-registered and** recorded by their **hosts.**

- Throughout this course, you will **build applications** and **perform automation** to enable the **Bellows College administration** and **security personnel** to manage and **control access to the buildings on campus.**

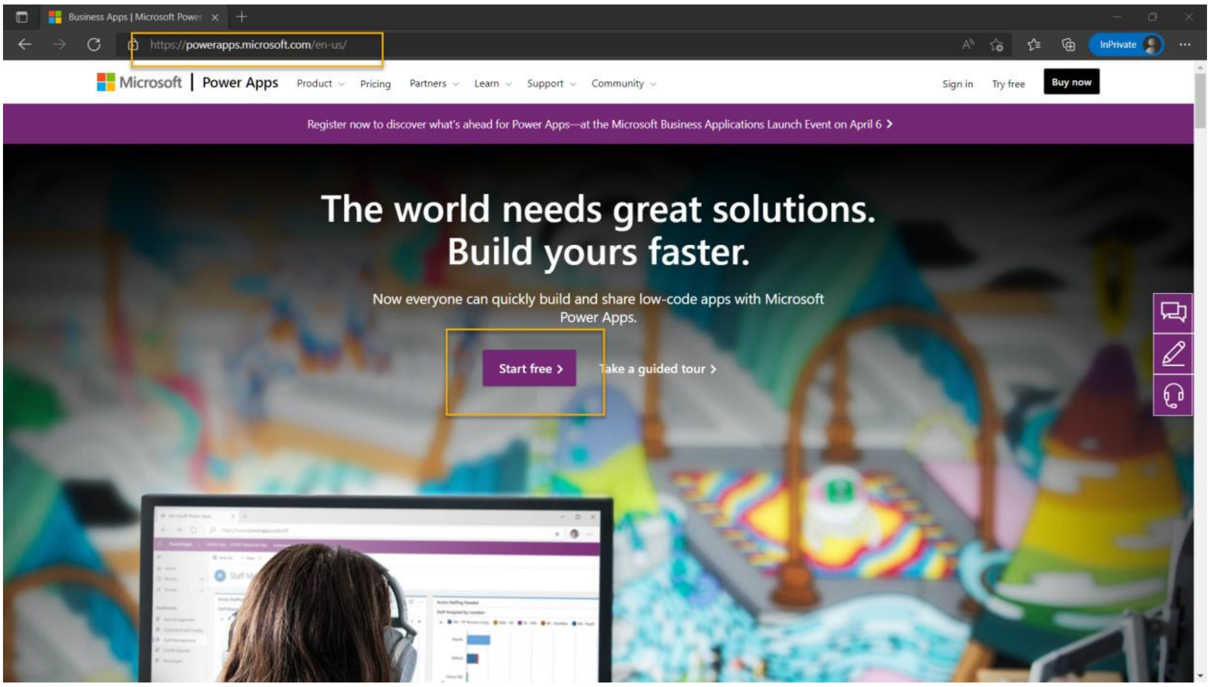
In this Module 0 lab, you will acquire a Power Platform trial tenant and access the Power Platform admin center. In the admin center, you will then create your **Practice** environment that you will do the majority of your lab work in.

Exercise 1 – Setup

Task 1 - Acquire your Microsoft Power Platform trial tenant

1. Copy your **Microsoft 365 credentials** from the Authorized Lab Hoster.

2. Navigate to https://powerapps.microsoft.com and click **Start free.**



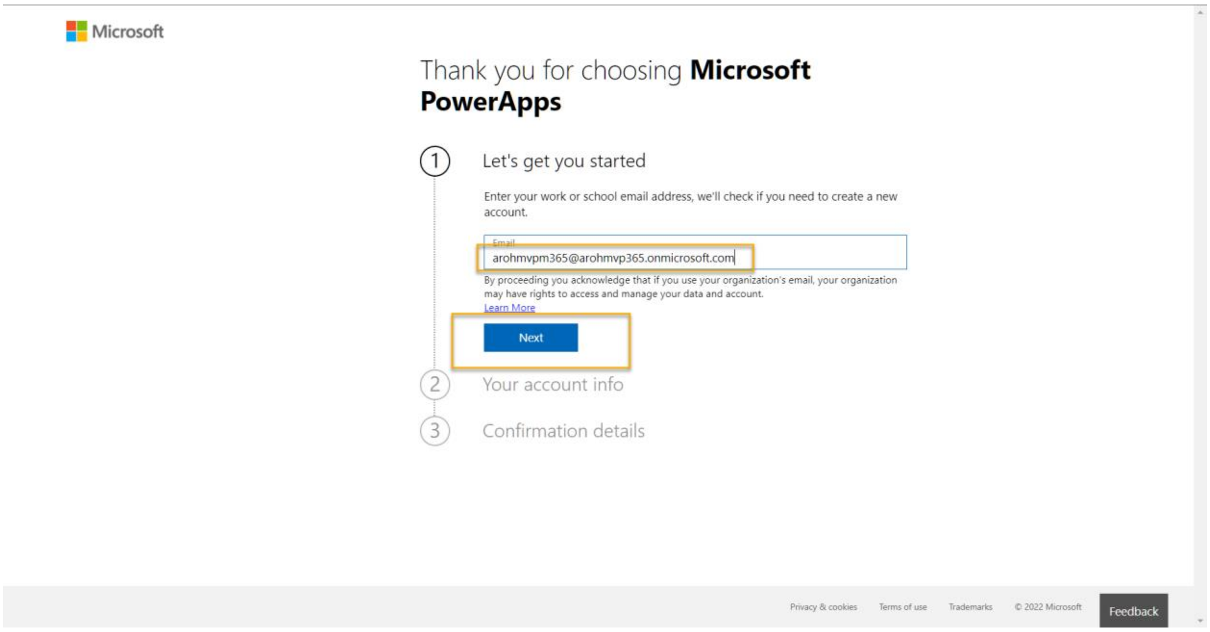
https://powerapps.microsoft.com/en-us/

Register now to discover what's ahead for Power Apps—at the Microsoft Business Applications Launch Event on April 6 >

The world needs great solutions. Build yours faster.

Now everyone can quickly build and share low-code apps with Microsoft Power Apps.

3. Under **Get started**, enter the email address from your Microsoft 365 credentials in the text box that says **Enter your work email address.**



Thank you for choosing **Microsoft PowerApps**

1 Let's get you started

Enter your work or school email address, we'll check if you need to create a new account.

Email: arohmvpm365@arohmvp365.onmicrosoft.com

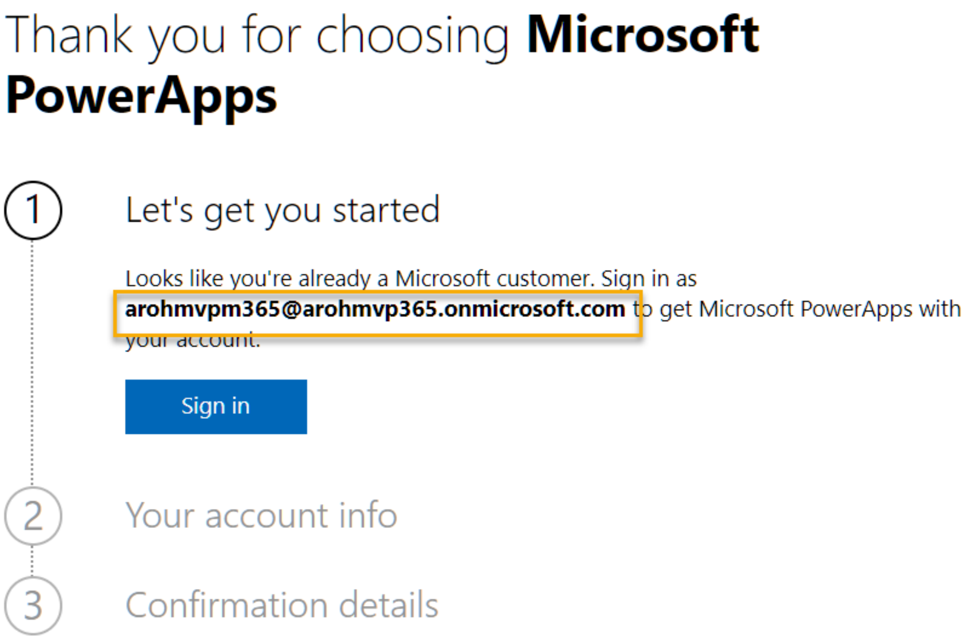
By proceeding you acknowledge that if you use your organization's email, your organization may have rights to access and manage your data and account.

Learn More

2 Your account info

3 Confirmation details

4. You see a prompt that you have an existing account with Microsoft. Select **Sign in.**



Thank you for choosing **Microsoft PowerApps**

1 Let's get you started

Looks like you're already a Microsoft customer. Sign in as **arohmvpm365@arohmvp365.onmicrosoft.com** to get Microsoft PowerApps with your account.

Sign in

2 Your account info

3 Confirmation details

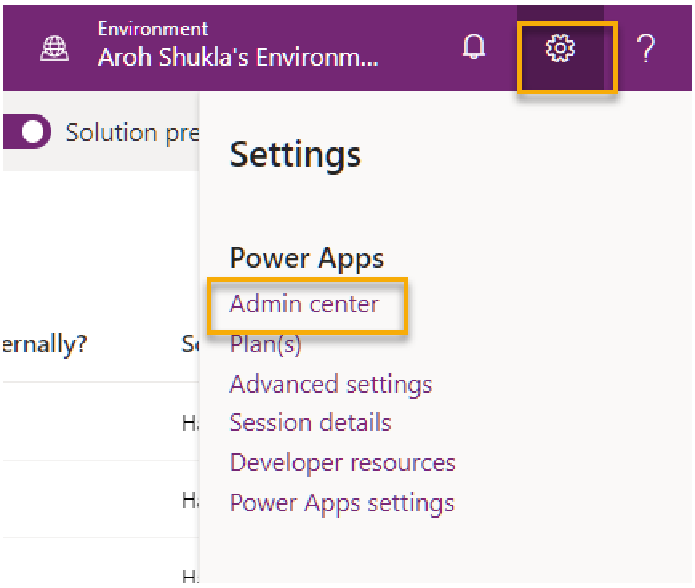
5. Enter the password provided by the Authorized Lab Hoster.

6. Select **Yes** to stay signed in.

7. Complete your account info and select **Get started** to sign up for your Microsoft Power Platform trial.

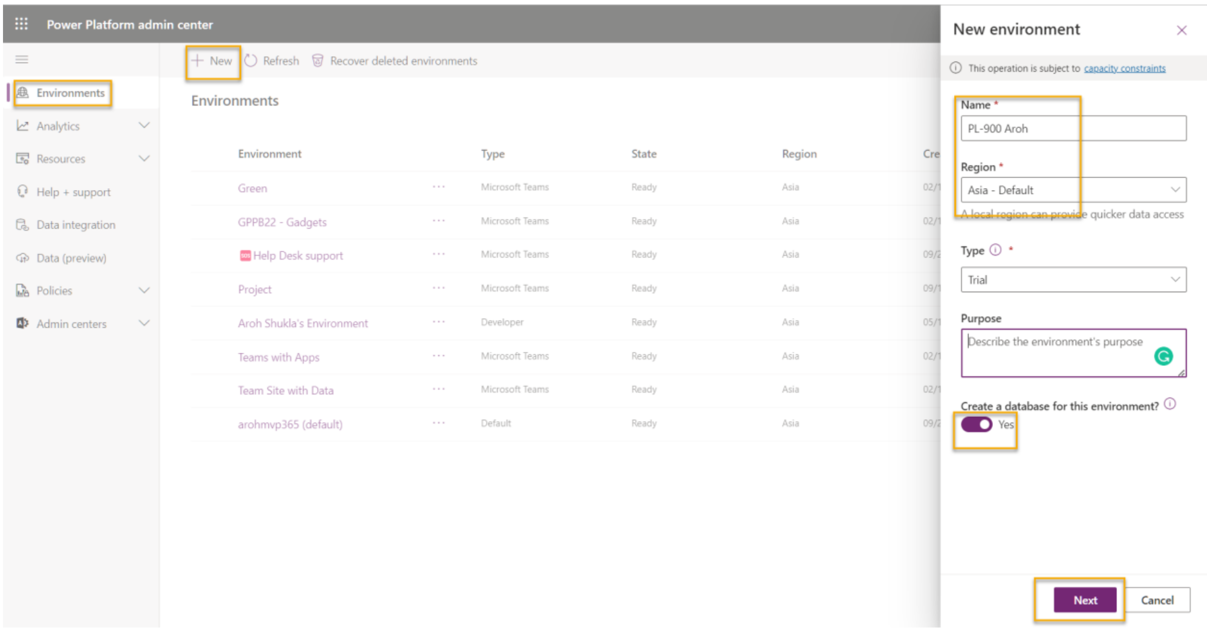
Task #2 – Create environment

1. Access https://admin.powerplatform.microsoft.com and log in with your Microsoft 365 credentials if prompted again.



2. Select **Environments** and click **+New.**

- For **Name**, enter **[My Initials] Practice.** (Example: AJ Practice.)
- For **Type**, select **Trial** (do not select the Trial (subscription-based) option).
- Change the toggle on **Create a database for this environment?** to **Yes.**



Environments

Environment		Type	State	Region	Cre
Green	···	Microsoft Teams	Ready	Asia	02/1
GPPB22 - Gadgets	···	Microsoft Teams	Ready	Asia	02/1
Help Desk support	···	Microsoft Teams	Ready	Asia	09/2
Project	···	Microsoft Teams	Ready	Asia	09/1
Aroh Shukla's Environment	···	Developer	Ready	Asia	05/1
Teams with Apps	···	Microsoft Teams	Ready	Asia	02/1
Team Site with Data	···	Microsoft Teams	Ready	Asia	02/1
arohmvp365 (default)	···	Default	Ready	Asia	09/2

New environment

This operation is subject to capacity constraints

Name * PL-900 Aroh

Region * Asia - Default

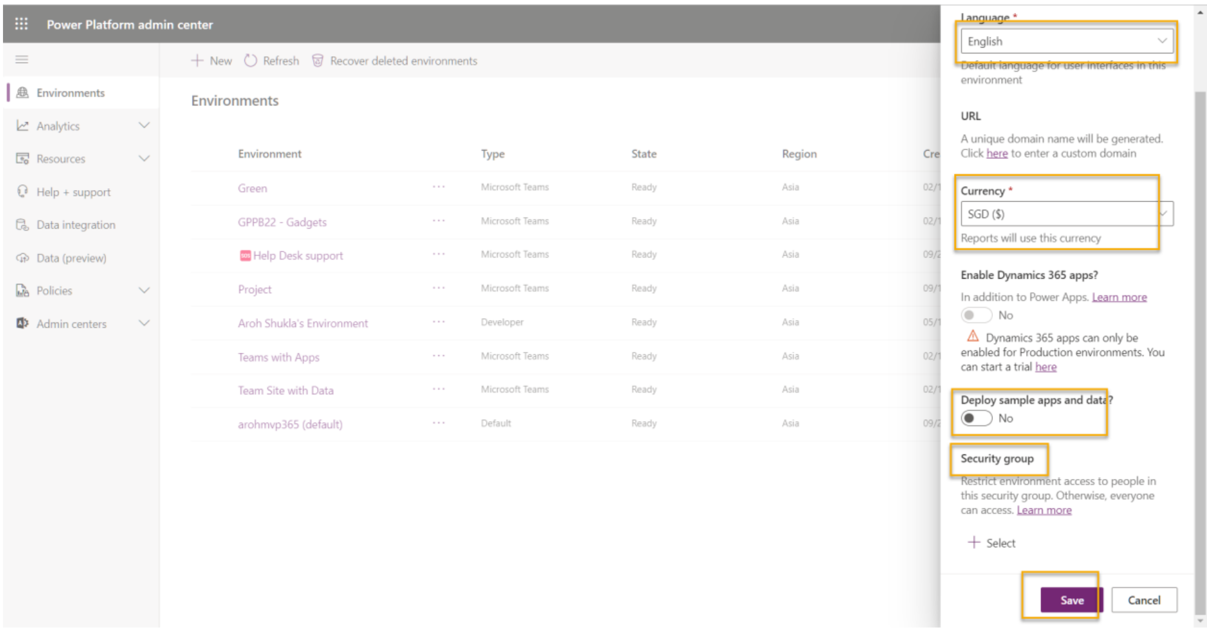
A local region can provide quicker data access

Type * Trial

Purpose: Describe the environment's purpose

Create a database for this environment? Yes

- Leave all other selections as default and click **Next.**
- On the next tab, leave all selections to default and click **Save.**



Environments

Environment		Type	State	Region	Cre
Green	···	Microsoft Teams	Ready	Asia	02/1
GPPB22 - Gadgets	···	Microsoft Teams	Ready	Asia	02/1
Help Desk support	···	Microsoft Teams	Ready	Asia	09/2
Project	···	Microsoft Teams	Ready	Asia	09/1
Aroh Shukla's Environment	···	Developer	Ready	Asia	05/1
Teams with Apps	···	Microsoft Teams	Ready	Asia	02/1
Team Site with Data	···	Microsoft Teams	Ready	Asia	02/1
arohmvp365 (default)	···	Default	Ready	Asia	09/2

Language * English

Default language for user interfaces in this environment

URL

A unique domain name will be generated. Click here to enter a custom domain

Currency * SGD ($)

Reports will use this currency

Enable Dynamics 365 apps?

In addition to Power Apps. Learn more

No

Dynamics 365 apps can only be enabled for Production environments. You can start a trial here

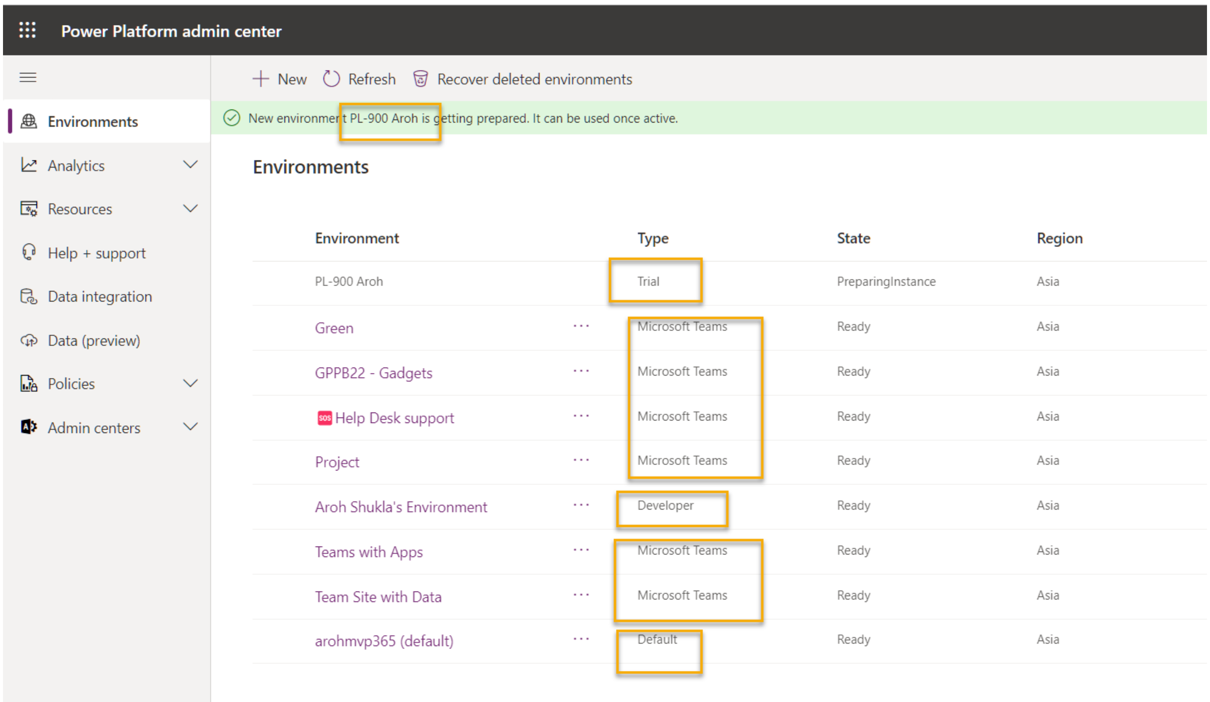
Deploy sample apps and data? No

Security group

Restrict environment access to people in this security group. Otherwise, everyone can access. Learn more

3. Your **Practice** environment should now show in the list of Environments.

Your environment may take a few minutes to provision. Refresh the page if needed.



New environment PL-900 Aroh is getting prepared. It can be used once active.

Environments

Environment	Type	State	Region
PL-900 Aroh	Trial	PreparingInstance	Asia
Green	Microsoft Teams	Ready	Asia
GPPB22 - Gadgets	Microsoft Teams	Ready	Asia
Help Desk support	Microsoft Teams	Ready	Asia
Project	Microsoft Teams	Ready	Asia
Aroh Shukla's Environment	Developer	Ready	Asia
Teams with Apps	Microsoft Teams	Ready	Asia
Team Site with Data	Microsoft Teams	Ready	Asia
arohmvp365 (default)	Default	Ready	Asia

Exercise #2: Provision a Power Apps portal

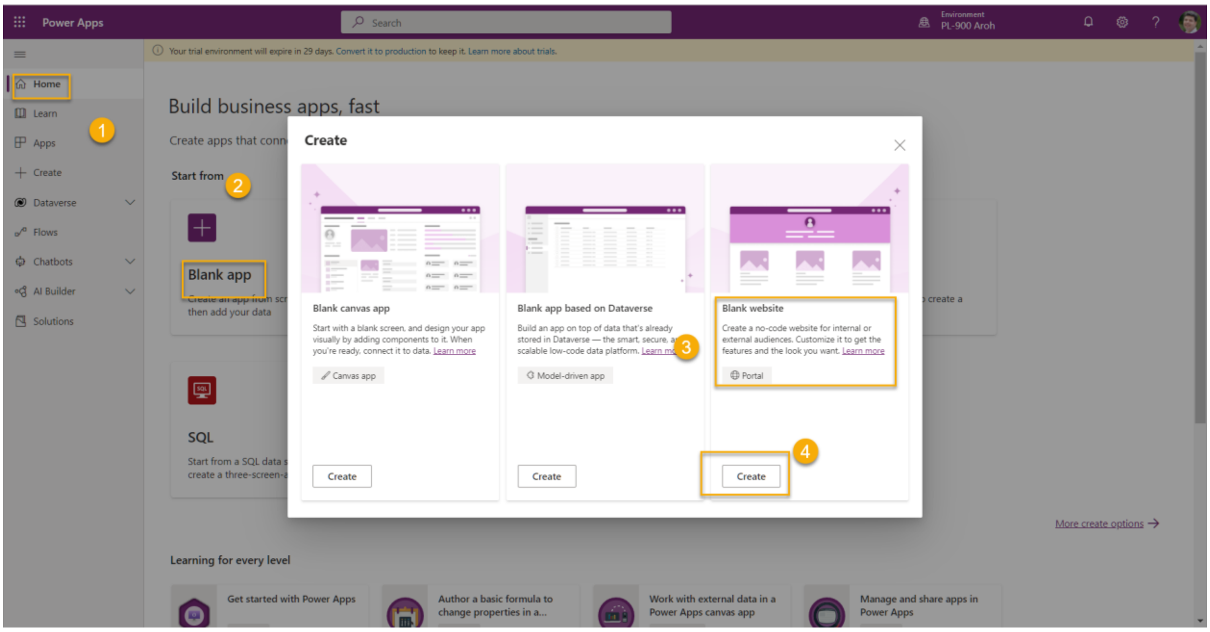
Objective: Provisioning a Power Apps portal can take some time. In this exercise, you will create your Power Apps portal in your environment so that the provisioning process can be initiated. You will use this portal in a later lab.

Task #1: Create Power Apps portal

1. Sign in to https://make.powerapps.com

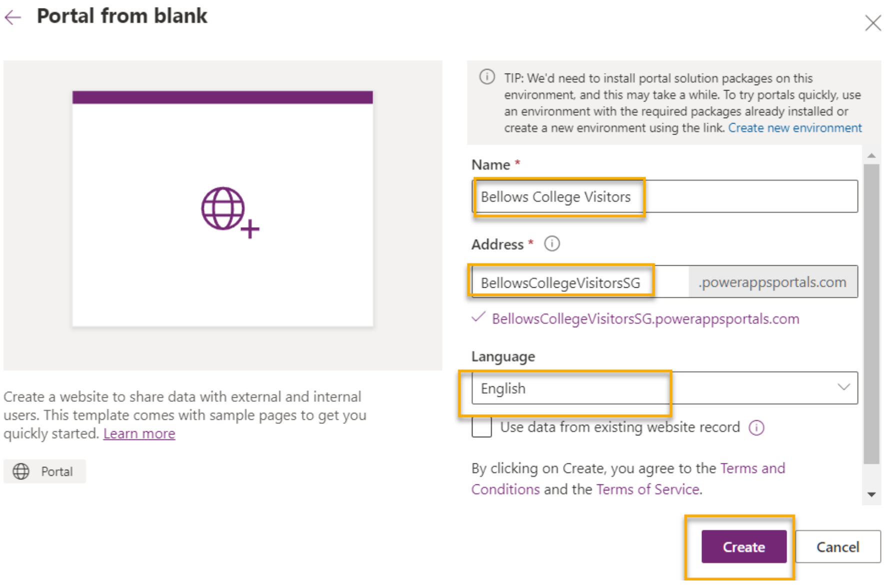
2. If the **Environment** displayed in the top right is not your Practice environment, click to select your Environment.

3. On the Home page, click on the **Portal from blank** panel under **Make your own app**


Power Apps
Search
Environment
PL-900 Aroh
Your trial environment will expire in 29 days. Convert it to production to keep it. Learn more about trials.
Home
Learn
Apps
Create
Dataverse
Flows
Chatbots
AI Builder
Solutions
1
Build business apps, fast
Create apps that conn
Start from
2
Blank app
Create an app from scr
then add your data
SQL
Start from a SQL data s
create a three-screen-a
Create
Blank canvas app
Start with a blank screen, and design your app visually by adding components to it. When you're ready, connect it to data. Learn more
Canvas app
Create
Blank app based on Dataverse
Build an app on top of data that's already stored in Dataverse — the smart, secure, a scalable low-code data platform. Learn mo
3
Model-driven app
Create
Blank website
Create a no-code website for internal or external audiences. Customize it to get the features and the look you want. Learn more
Portal
4
Create
create a
More create options →
Learning for every level
Get started with Power Apps
Author a basic formula to change properties in a...
Work with external data in a Power Apps canvas app
Manage and share apps in Power Apps

If you do not see this option, try zooming out.

4. Provide new portal details
   - Enter **Bellows College Visitors** as the portal **Name**
   - Provide a unique URL; **something**.powerappsportals.com (if the name has been taken, choose a different one)
   - Select a base portal **Language**
   - Click **Create**



Create a website to share data with external and internal users. This template comes with sample pages to get you quickly started. Learn more

TIP: We'd need to install portal solution packages on this environment, and this may take a while. To try portals quickly, use an environment with the required packages already installed or create a new environment using the link. Create new environment

Name *: Bellows College Visitors

Address *: BellowsCollegeVisitorsSG .powerappsportals.com

✓ BellowsCollegeVisitorsSG.powerappsportals.com

Language: English

□ Use data from existing website record

By clicking on Create, you agree to the Terms and Conditions and the Terms of Service.

The Portal provisioning process will run anywhere from 30 to 45 minutes. You do not have to wait, as this will continue while moving on to the next module.

Module 2: Introduction to Microsoft Dataverse

Scenario

- **Bellows College** is an educational organization with **multiple buildings on campus**. Campus visits are currently recorded in paper journals. The information is not captured consistently, and there are **no means to collect and analyze data** about the visits across the entire campus.

- Campus administration would like to modernize their **visitor registration system** where access to the buildings is controlled by security personnel and all visits are required to be pre-registered and recorded by their hosts.

- Throughout this course, you will build applications and perform automation to enable the Bellows College administration and security personnel to manage and control access to the buildings on campus.

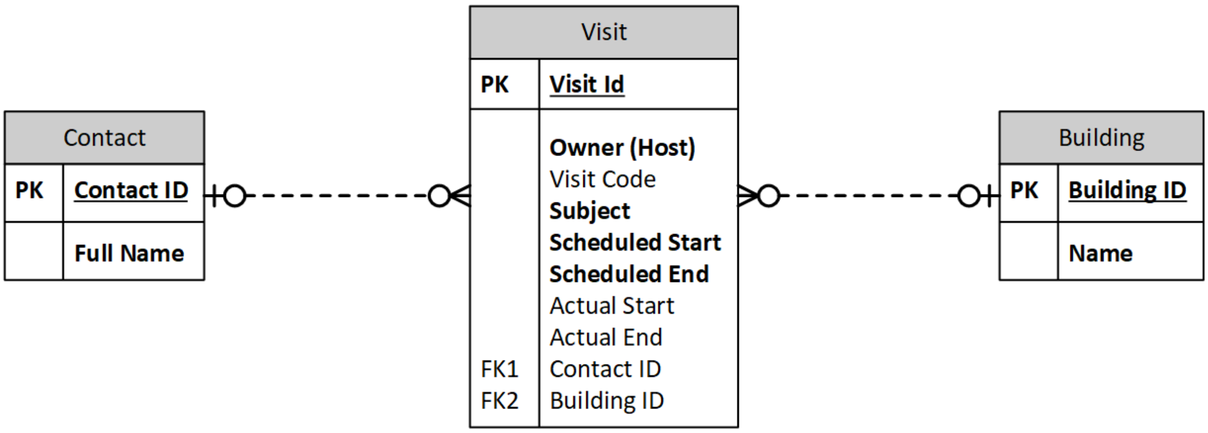
- In this lab you will access your environment, create a **Microsoft Dataverse** database, and **create a solution** to **track your changes**. You will also **create a data model** to support the following requirements:
- **R1** – Track the **locations (buildings)** of the campus visits
- **R2** – Record basic information **to identify and track the visitors**
- **R3** – **Schedule**, **record**, and **manage visits**

Finally, you will import sample data into Microsoft Dataverse.

High-level lab steps - DATA MODEL

To prepare your learning environments you will:

- **create a solution** and **publisher**
- add both **new** and **existing components** required to meet the application requirements. Refer to the data model document for the metadata description (tables and relationships). You can hold CTRL+click or right click the link to open the data model document in a new window.



Your solution will **contain several tables** upon completion of all the customizations:

- **Contact**
- **Building**
- **Visit**

Prerequisites:

- Completion of **Module 0 Lab 0 - Validate lab environment**

Things to consider before you begin:

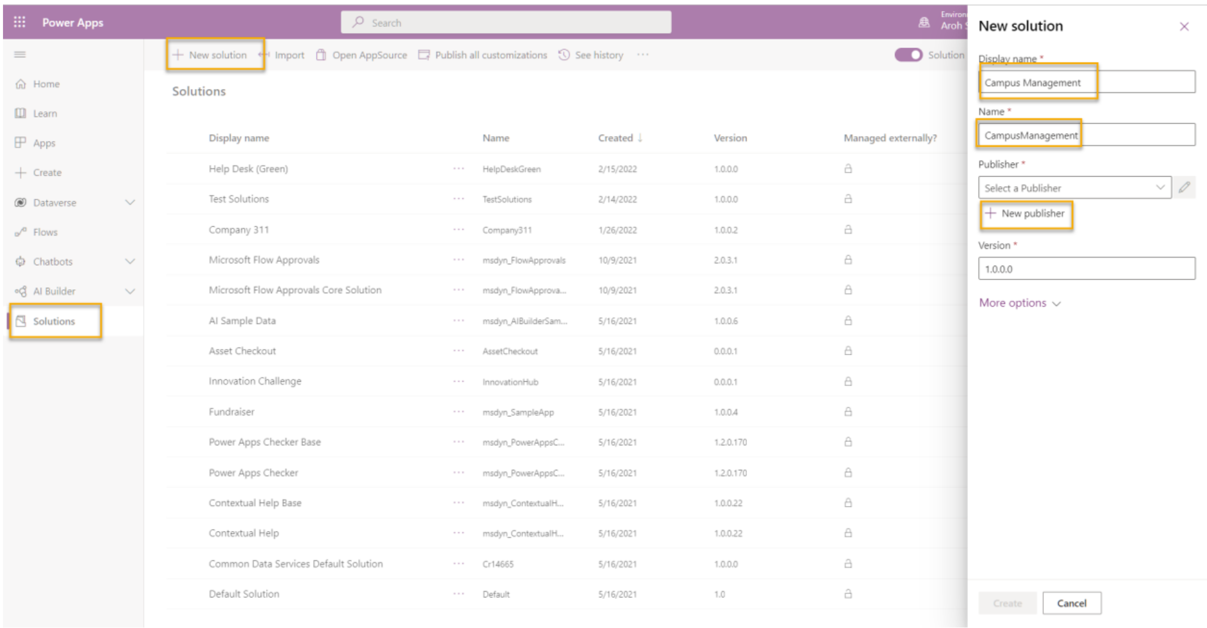
- Naming convention
- Data types, restrictions (e.g. max length of a name)
- Datetime formatting to support easy localization

Exercise #1: Create Solution

Task #1: Create Solution and Publisher

1. **Create Solution**
    - Navigate to https://make.powerapps.com. You may need to reauthenticate - click **Sign in** and follow instructions if needed.
    - Select your environment by clicking on **Environment** on the upper right corner of the screen and choosing your environment from the drop-down menu.
    - Select **Solutions** from the left menu and click **New Solution**.

- Enter **[Your Last Name] Campus Management** for **Display Name**.



Solutions

Display name		Name	Created ↓	Version	Managed externally?
Help Desk (Green)	···	HelpDeskGreen	2/15/2022	1.0.0.0	🔒
Test Solutions	···	TestSolutions	2/14/2022	1.0.0.0	🔒
Company 311	···	Company311	1/26/2022	1.0.0.2	🔒
Microsoft Flow Approvals	···	msdyn_FlowApprovals	10/9/2021	2.0.3.1	🔒
Microsoft Flow Approvals Core Solution	···	msdyn_FlowApprova...	10/9/2021	2.0.3.1	🔒
AI Sample Data	···	msdyn_AIBuilderSam...	5/16/2021	1.0.0.6	🔒
Asset Checkout	···	AssetCheckout	5/16/2021	0.0.0.1	🔒
Innovation Challenge	···	InnovationHub	5/16/2021	0.0.0.1	🔒
Fundraiser	···	msdyn_SampleApp	5/16/2021	1.0.0.4	🔒
Power Apps Checker Base	···	msdyn_PowerAppsC...	5/16/2021	1.2.0.170	🔒
Power Apps Checker	···	msdyn_PowerAppsC...	5/16/2021	1.2.0.170	🔒
Contextual Help Base	···	msdyn_ContextualH...	5/16/2021	1.0.0.22	🔒
Contextual Help	···	msdyn_ContextualH...	5/16/2021	1.0.0.22	🔒
Common Data Services Default Solution	···	Cr14665	5/16/2021	1.0.0.0	🔒
Default Solution	···	Default	5/16/2021	1.0	🔒

Display name * Campus Management

Name * CampusManagement

Publisher * Select a Publisher

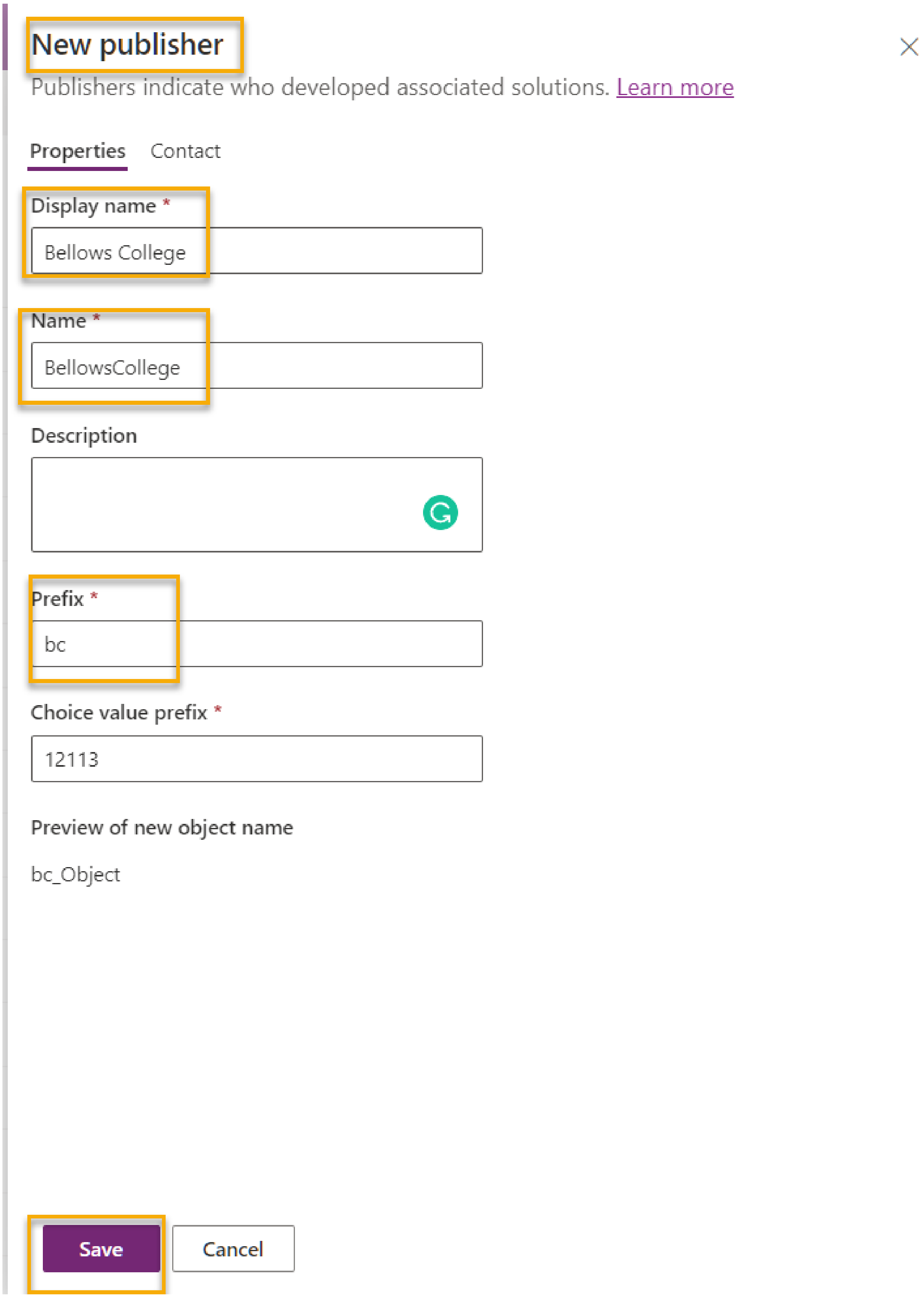
+ New publisher

Version * 1.0.0.0

2. Create Publisher

- In the **Publisher** section, select **+ Publisher**
- In the window that pops up, enter **Bellows College** for **Display Name**.
- Enter **BellowsCollege** for **Name**.
- Enter **bc** for **Prefix**

- Click **Save**



New publisher

Publishers indicate who developed associated solutions. Learn more

Properties Contact

Display name *: Bellows College

Name *: BellowsCollege

Description:

Prefix *: bc

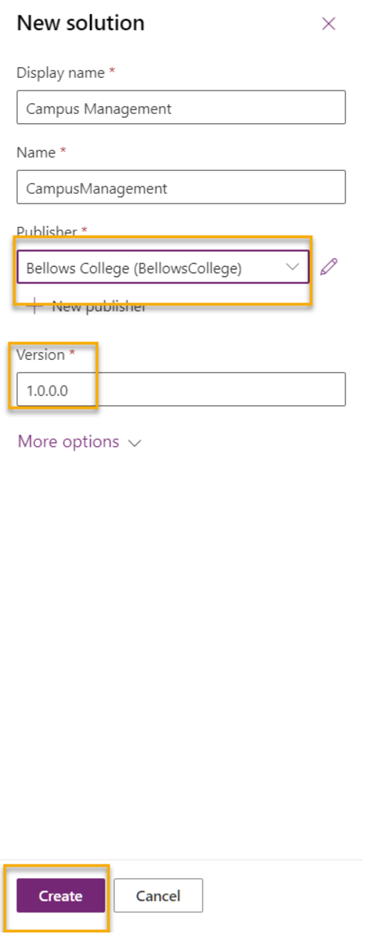
Choice value prefix *: 12113

Preview of new object name: bc_Object

- Click **Done** in the pop-up window.

3. Complete the solution creation.

- Now, click on the **Publisher** dropdown and select the **Bellows College** publisher you just created.
- Validate that **Version** is set to **1.0.0.0**
- Click **Create**.



New solution

Display name *: Campus Management

Name *: CampusManagement

Publisher *: Bellows College (BellowsCollege)

Version *: 1.0.0.0

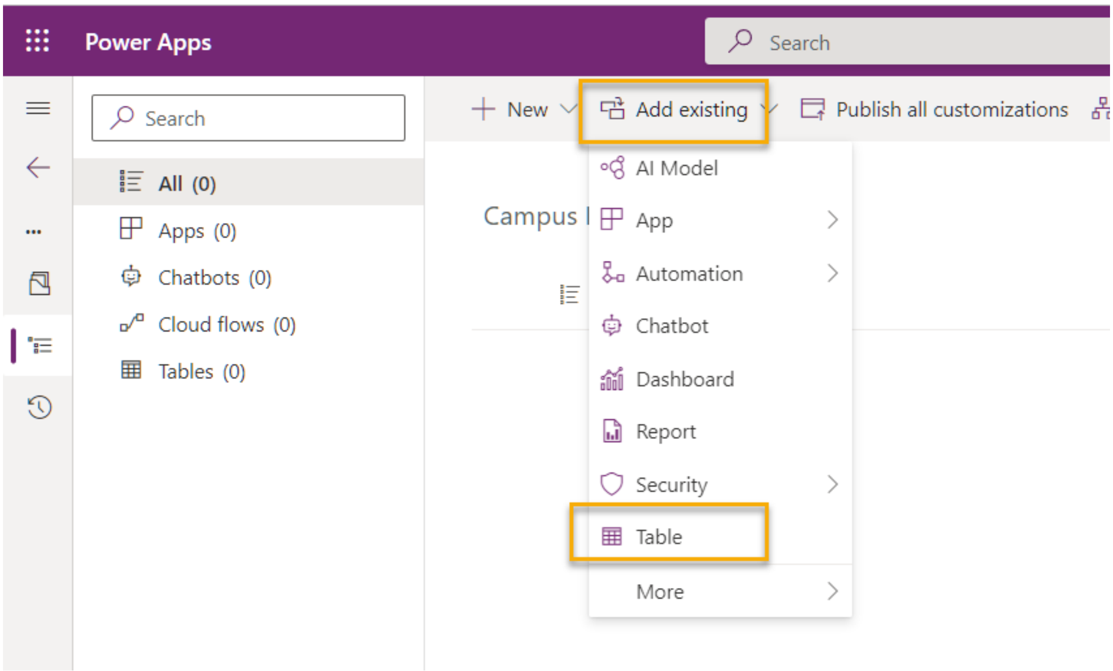
Exercise #2: Add Existing and Create New Tables

Objective: In this exercise, you will add the standard Contact table and create new custom tables for Buildings and Visits in the solution.

Task #1: Add Existing Table

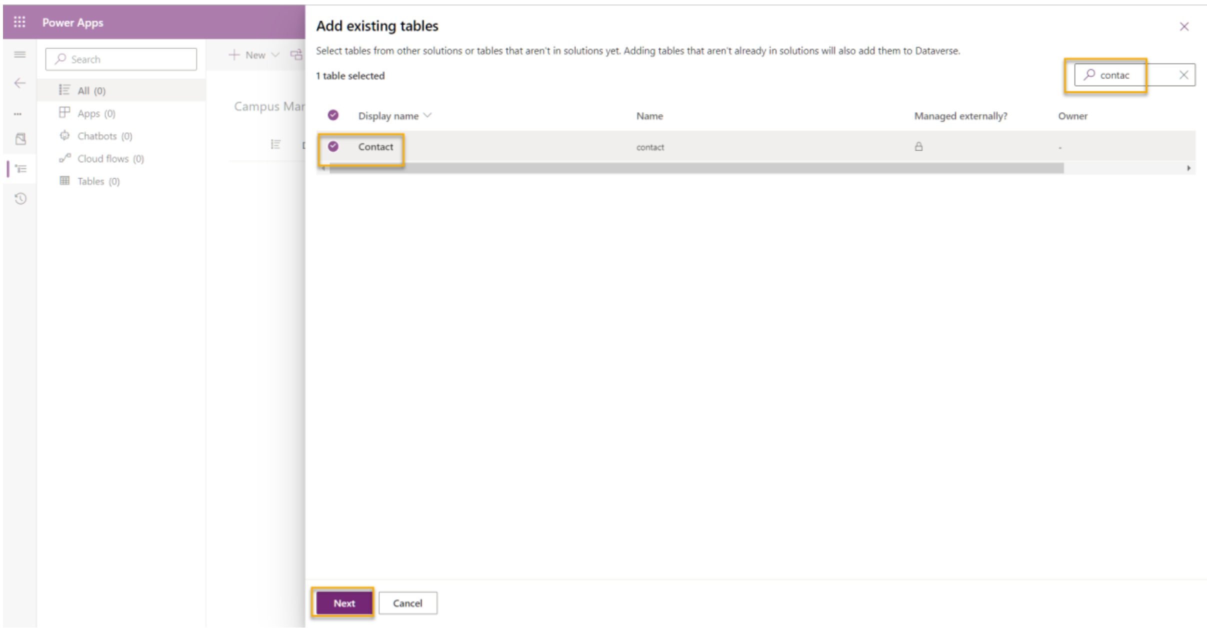
1. Click to open your **Campus Management** solution you just created.

2. Click **Add Existing** and select **Table**.



3. Locate **Contact** and select it.

4. Click **Next**.



Add existing tables

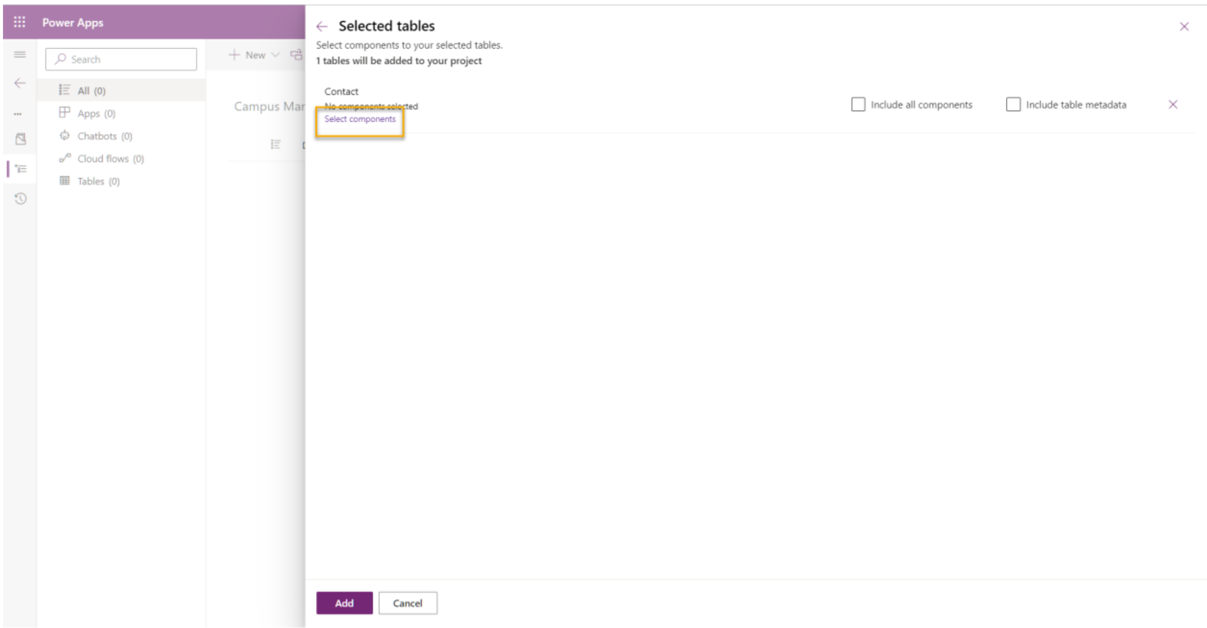
Select tables from other solutions or tables that aren't in solutions yet. Adding tables that aren't already in solutions will also add them to Dataverse.

1 table selected

contac

	Display name	Name	Managed externally?	Owner
●	Contact	contact	🔒	-

5. Click **Select Components** under Contact.



Selected tables

Select components to your selected tables.

1 tables will be added to your project

Contact

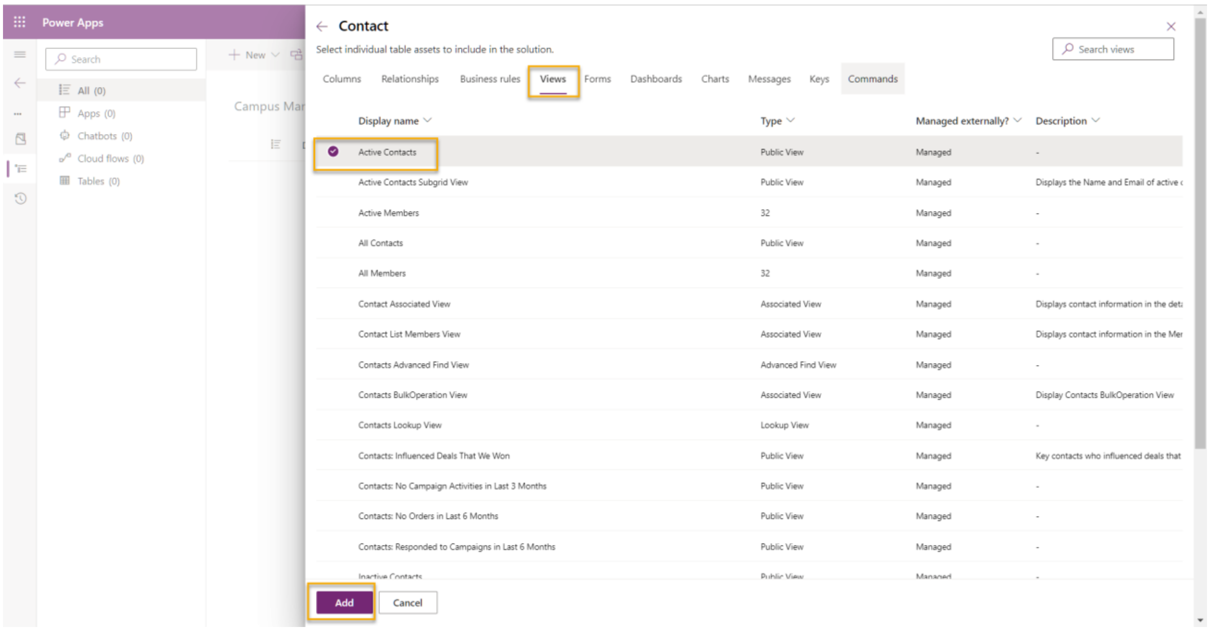
No components selected

Select components

□ Include all components □ Include table metadata

Add Cancel

6. Select the **Views** tab and select the **Active Contacts** view. Click **Add**.



Contact

Select individual table assets to include in the solution.

Search views

Columns Relationships Business rules Views Forms Dashboards Charts Messages Keys Commands

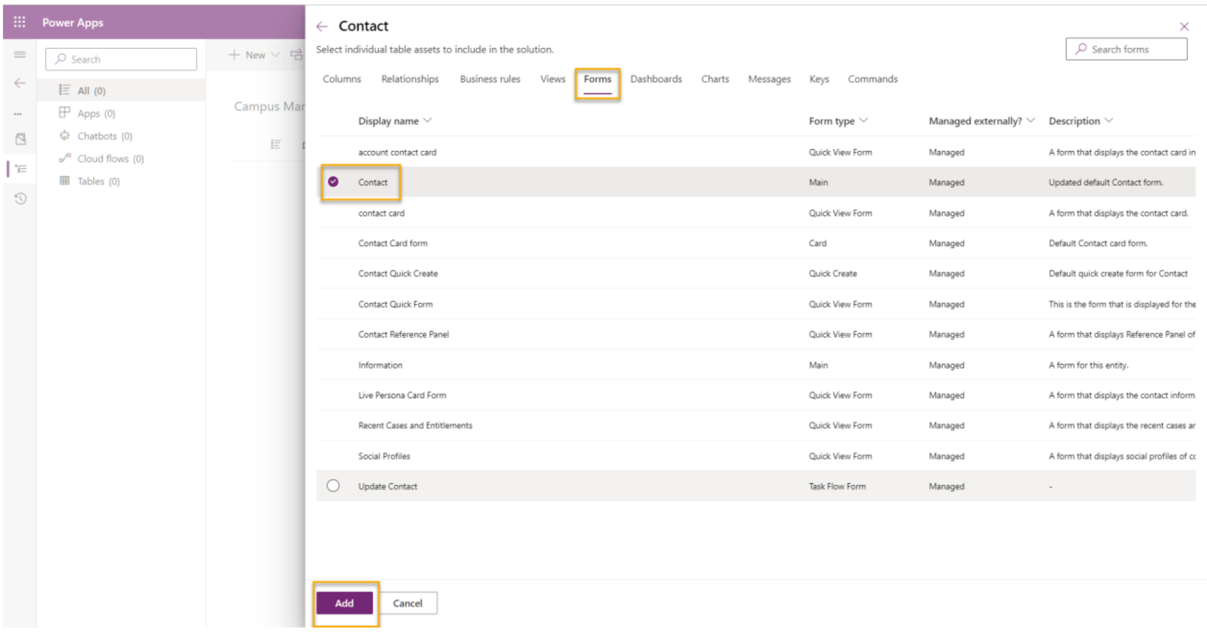
	Display name	Type	Managed externally?	Description
✓	Active Contacts	Public View	Managed	-
	Active Contacts Subgrid View	Public View	Managed	Displays the Name and Email of active c
	Active Members	32	Managed	-
	All Contacts	Public View	Managed	-
	All Members	32	Managed	-
	Contact Associated View	Associated View	Managed	Displays contact information in the det
	Contact List Members View	Associated View	Managed	Displays contact information in the Mer
	Contacts Advanced Find View	Advanced Find View	Managed	-
	Contacts BulkOperation View	Associated View	Managed	Display Contacts BulkOperation View
	Contacts Lookup View	Lookup View	Managed	-
	Contacts: Influenced Deals That We Won	Public View	Managed	Key contacts who influenced deals that
	Contacts: No Campaign Activities in Last 3 Months	Public View	Managed	-
	Contacts: No Orders in Last 6 Months	Public View	Managed	-
	Contacts: Responded to Campaigns in Last 6 Months	Public View	Managed	-
	Inactive Contacts	Public View	Managed	-

Add Cancel

7. Click **Select Components** again.

8. Select the **Forms** tab and select the **Contact** form.

9. Click **Add**.



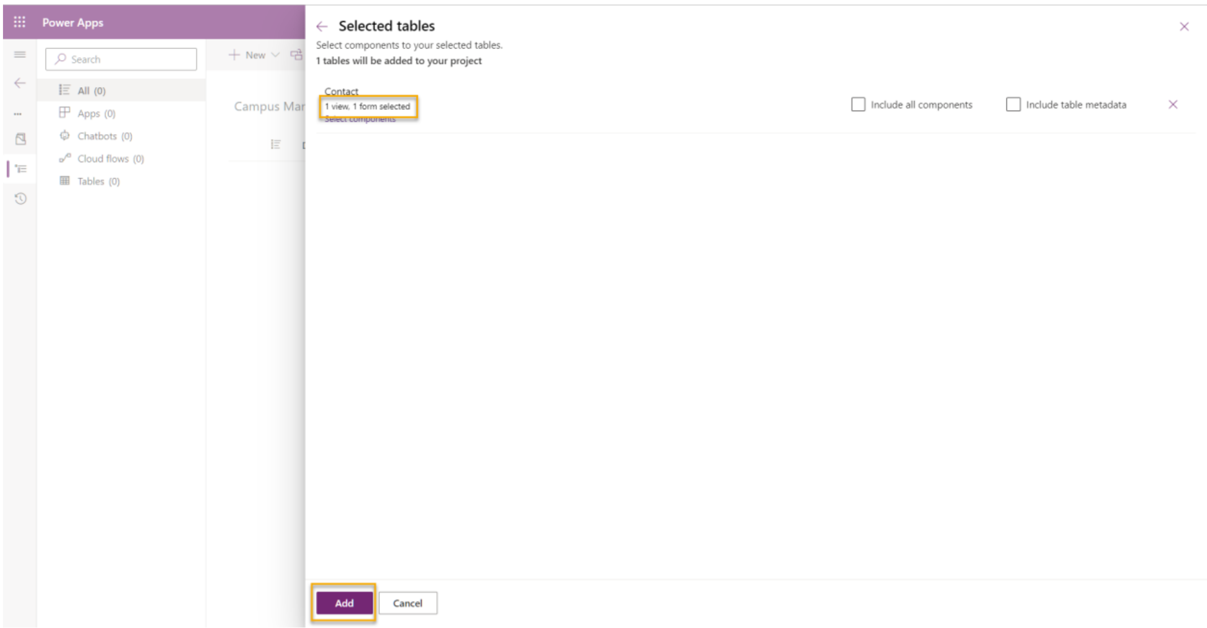
Contact

Select individual table assets to include in the solution.

	Display name	Form type	Managed externally?	Description
	account contact card	Quick View Form	Managed	A form that displays the contact card in
●	Contact	Main	Managed	Updated default Contact form.
	contact card	Quick View Form	Managed	A form that displays the contact card.
	Contact Card form	Card	Managed	Default Contact card form.
	Contact Quick Create	Quick Create	Managed	Default quick create form for Contact
	Contact Quick Form	Quick View Form	Managed	This is the form that is displayed for the
	Contact Reference Panel	Quick View Form	Managed	A form that displays Reference Panel of
	Information	Main	Managed	A form for this entity.
	Live Persona Card Form	Quick View Form	Managed	A form that displays the contact inform
	Recent Cases and Entitlements	Quick View Form	Managed	A form that displays the recent cases ar
	Social Profiles	Quick View Form	Managed	A form that displays social profiles of cc
○	Update Contact	Task Flow Form	Managed	-

You should have **1 View** and **1 Form** selected.

10. Click **Add** again. This will add the Contact table with the selected View and Form to the newly created solution.



Selected tables

Select components to your selected tables.

1 tables will be added to your project

Contact

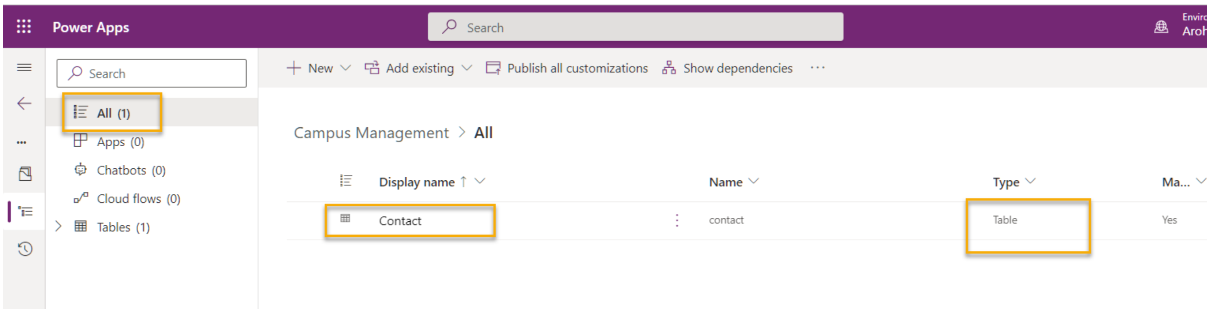
1 view, 1 form selected

Select components

□ Include all components

□ Include table metadata

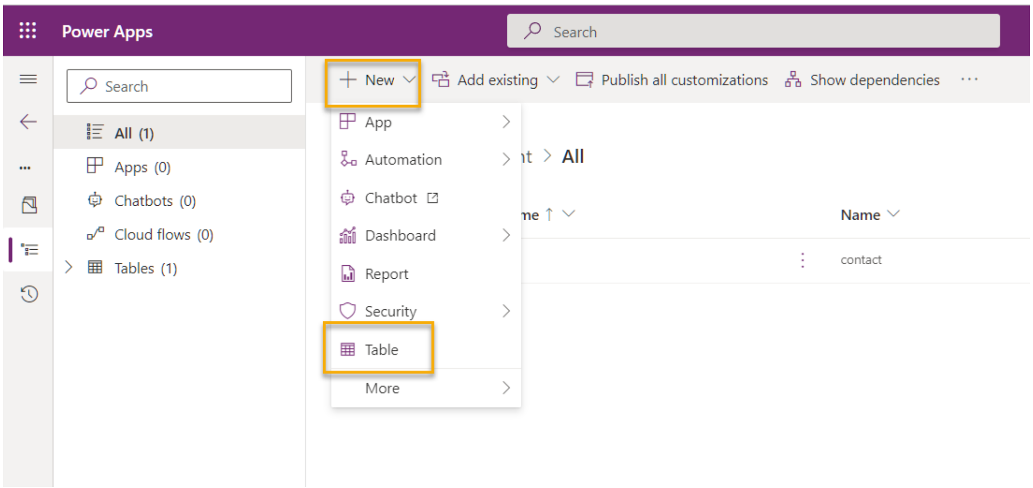
Your solution should now have one table: Contact.



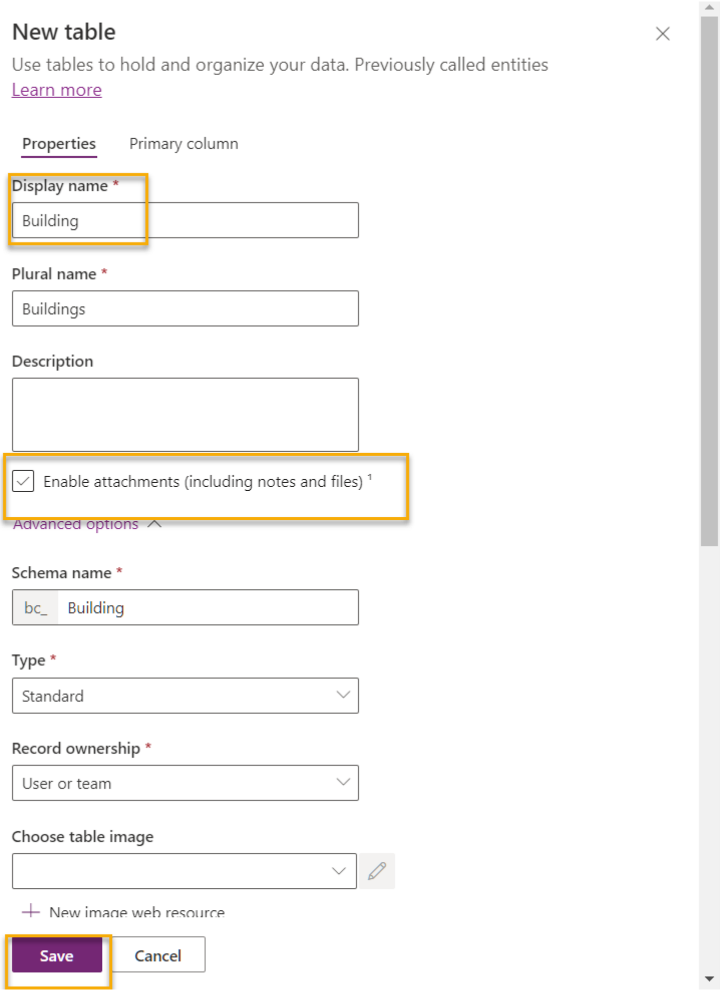
Display name ↑	Name	Type	Ma...
Contact	contact	Table	Yes

Task #2: Create Building Table

1. You should still have your browser open to your Campus Management solution. If not, open the Campus Management solution by following these steps:
   - Sign in to https://make.powerapps.com (if you are not already signed in)
   - Select **Solutions** and click to open the **[Your Last Name] Campus Management** solution you just created.
2. Create Building table
   - Click **New** and select **Table**.



- Enter **Building** for **Display Name**



New table

Use tables to hold and organize your data. Previously called entities

Learn more

Display name *: Building

Plural name *: Buildings

Description:

☑ Enable attachments (including notes and files) [1]

Schema name *: bc_ Building

Type *: Standard

Record ownership *: User or team

Choose table image:

- Click **Save**. This will start provisioning the table in background while you can start adding other tables and columns.

Task #3: Create Visit Table and Columns

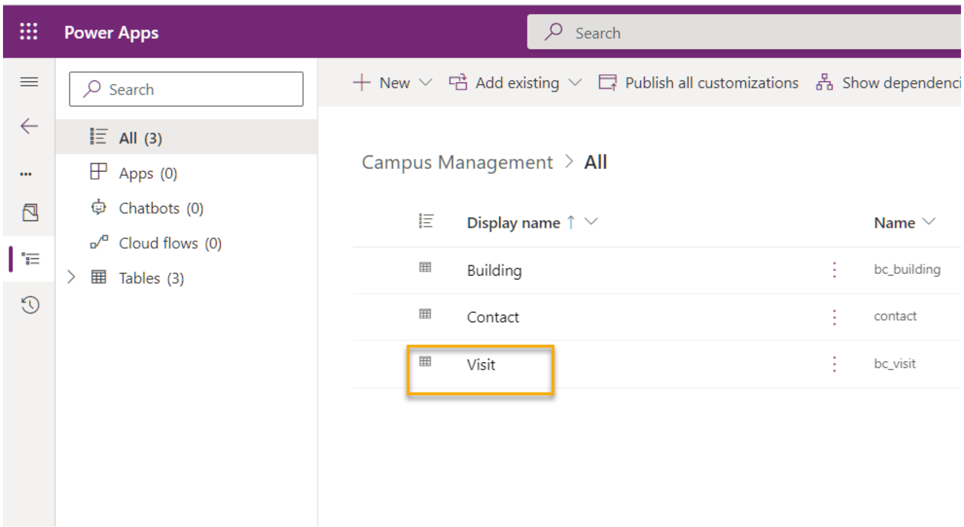
The **Visit** table will contain information about the campus visits including the building, visitor, scheduled and actual time of each visit.

We would like to assign each visit a unique number that can be easily entered and interpreted by a visitor when asked during the visit check-in process.

We use **Time zone independent** behaviour to record date and time information, because time of a visit is always local to the location of the building and should not change when viewed from a different time zone.

1. You should still have your browser open to your Campus Management solution. If not, open the Campus Management solution by following these steps:
   - Sign in to https://make.powerapps.com (if you are not already signed in)
   - Select **Solutions** and click to open the **[Your Last Name] Campus Management** solution you just created.
2. Create Visit table

- Click **New** and select **Table**.
- Enter **Visit** for **Display Name**
- Click **Save**. This will start provisioning the table in background while you can start adding other columns.



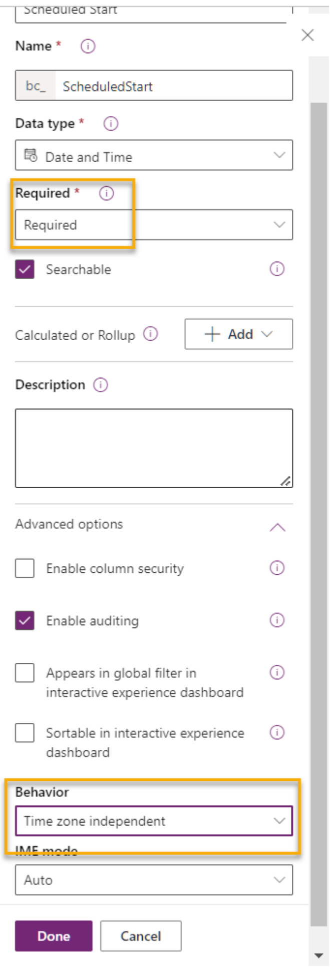
Campus Management > All

Display name ↑	Name
Building	bc_building
Contact	contact
Visit	bc_visit

3. Create Scheduled Start column

- Select **Visit** table
- Make sure you have the **Columns** tab selected and click **Add column**.
- Enter **Scheduled Start** for **Display Name**.
- Select **Date and Time** for **Data Type**.
- In **Required**, select **Required**.
- Expand **Advanced options** section.
- In **Behavior**, select **Time zone independent**.

- Click **Done**.



Scheduled Start

Name * bc_ ScheduledStart

Data type * Date and Time

Required * Required

☑ Searchable

Calculated or Rollup + Add

Description

Advanced options

□ Enable column security

☑ Enable auditing

□ Appears in global filter in interactive experience dashboard

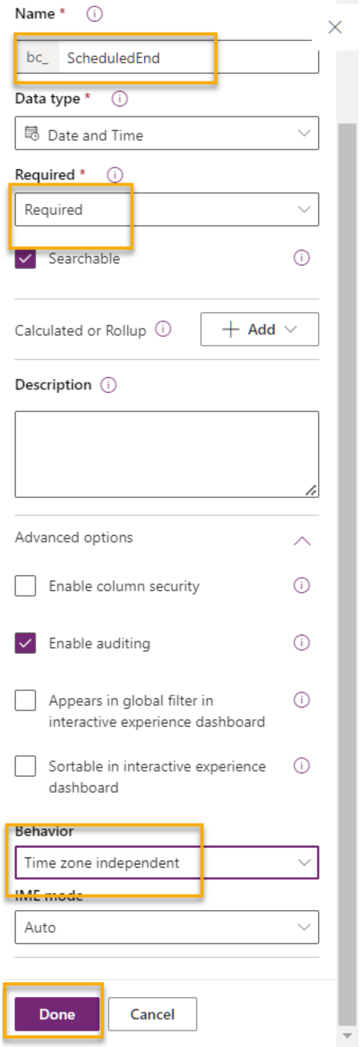
□ Sortable in interactive experience dashboard

Behavior Time zone independent

IME mode Auto

4. Create Scheduled End column
    - Click **Add column**.
    - Enter **Scheduled End** for **Display Name**.
    - Select **Date and Time** for **Data Type**.
    - In **Required**, select **Required**.
    - Expand **Advanced options** section.
    - In **Behavior**, select **Time zone independent**.

- Click **Done**.



Name * ⓘ

bc_ ScheduledEnd

Data type * ⓘ

Date and Time

Required * ⓘ

Required

☑ Searchable ⓘ

Calculated or Rollup ⓘ

Description ⓘ

Advanced options

☐ Enable column security ⓘ

☑ Enable auditing ⓘ

☐ Appears in global filter in interactive experience dashboard ⓘ

☐ Sortable in interactive experience dashboard ⓘ

Behavior

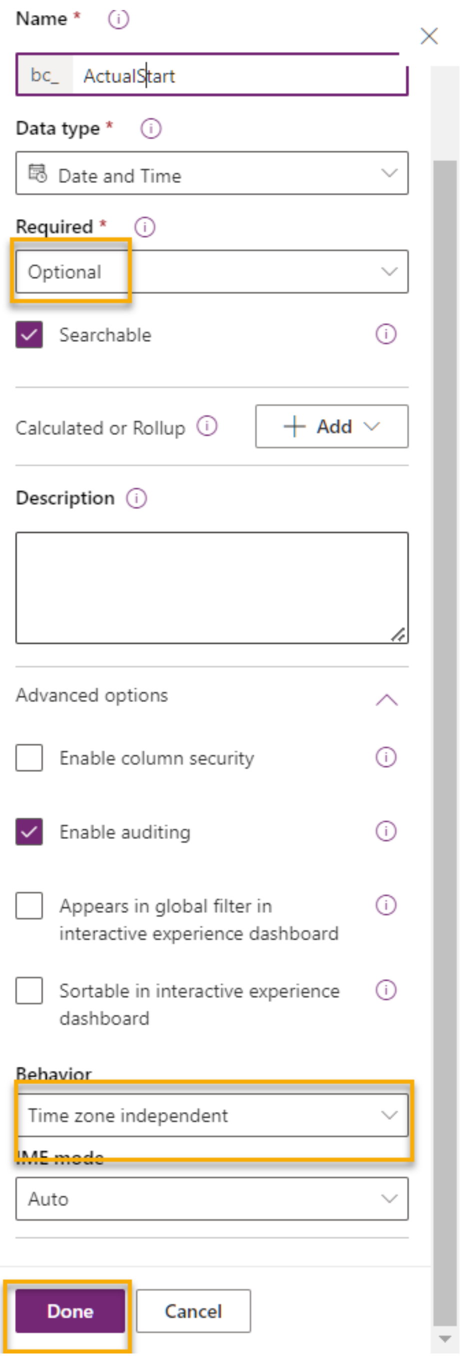
Time zone independent

IME mode

Auto

5. Create Actual Start column
   - Click **Add column**.
   - Enter **Actual Start** for **Display Name**.
   - Select **Date and Time** for **Data Type**.
   - In **Required**, leave this as **Optional**.
   - Expand **Advanced options** section.
   - In **Behavior**, select **Time zone independent**.

- Click **Done**.



Name * ⓘ

bc_ ActualStart

Data type * ⓘ

Date and Time

Required * ⓘ

Optional

☑ Searchable

Calculated or Rollup ⓘ

Description ⓘ

Advanced options

□ Enable column security

☑ Enable auditing

□ Appears in global filter in interactive experience dashboard

□ Sortable in interactive experience dashboard

Behavior

Time zone independent

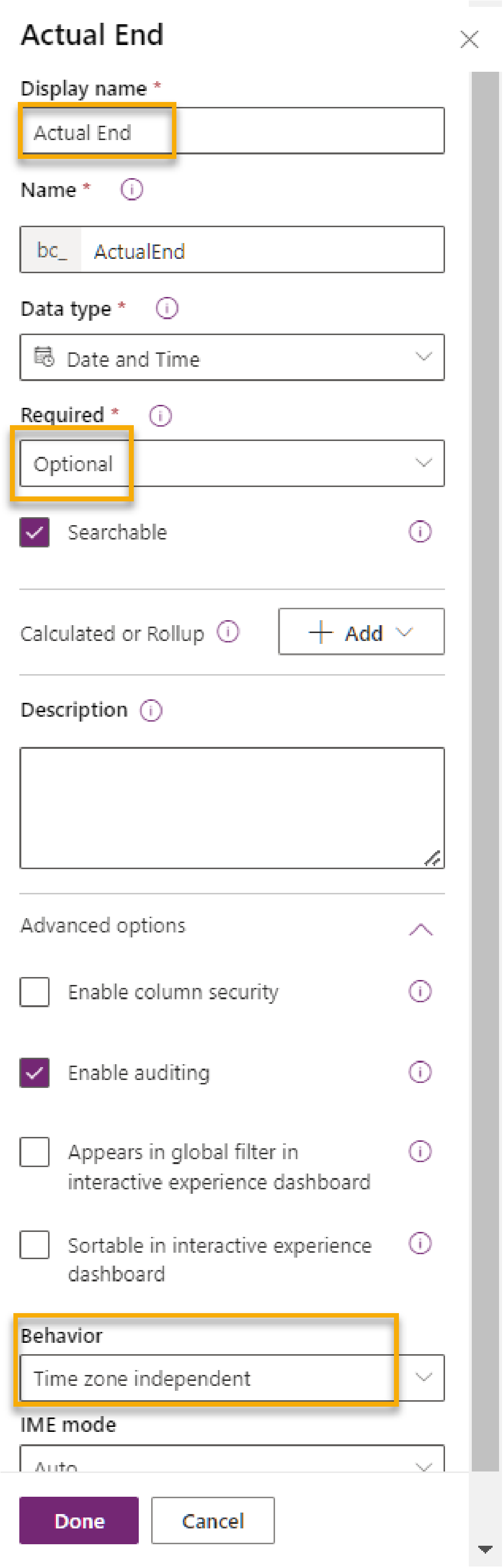
IME mode

Auto

6. Create Actual End column
   - Click **Add column**.
   - Enter **Actual End** for **Display Name**.
   - Select **Date and Time** for **Data Type**.
   - In **Required**, leave this as **Optional**.
   - Expand **Advanced options** section.

- In **Behavior**, select **Time zone independent**.

- Click **Done**.



Actual End

Display name *

Actual End

Name *

bc_ ActualEnd

Data type *

Date and Time

Required *

Optional

☑ Searchable

Calculated or Rollup

Description

Advanced options

☐ Enable column security

☑ Enable auditing

☐ Appears in global filter in interactive experience dashboard

☐ Sortable in interactive experience dashboard

Behavior

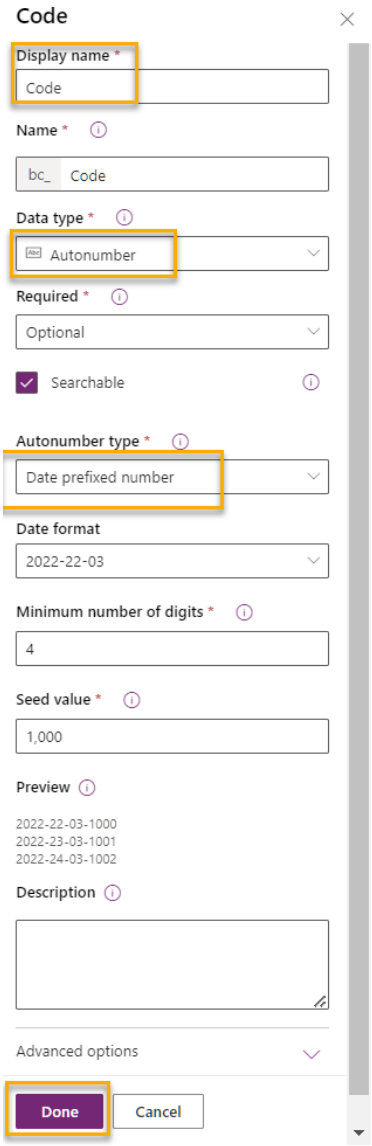
Time zone independent

IME mode

Auto

7. Create Code column

- Click **Add column**.
- Enter **Code** for **Display Name**.
- Select **Autonumber** for **Data Type**.
- Select **Date prefixed number** for **Autonumber type**.
- Click **Done**.



Code

Display name * Code

Name * bc_ Code

Data type * Autonumber

Required * Optional

☑ Searchable

Autonumber type * Date prefixed number

Date format 2022-22-03

Minimum number of digits * 4

Seed value * 1,000

Preview

2022-22-03-1000
2022-23-03-1001
2022-24-03-1002

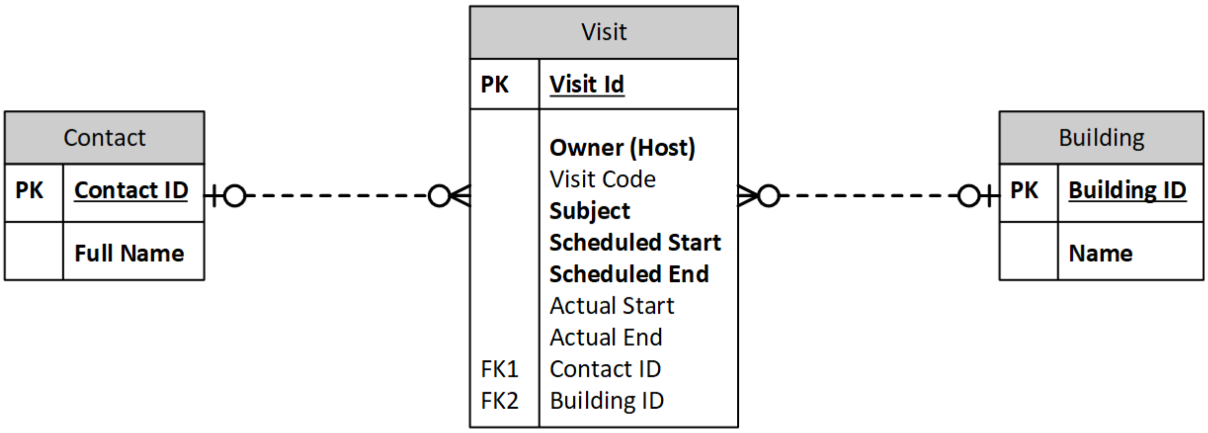
Description

8. Click **Save Table**

Exercise #3: Create Relationships

Objective: In this exercise, you will add relationships between the tables.

Task #1: Create Relationships

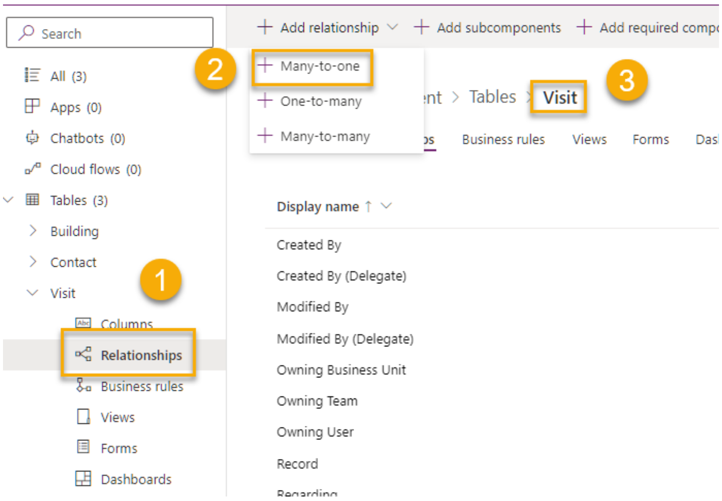


1. Ensure that you are still viewing the **Visit** table of your **Campus Management** solution. If not, navigate there.

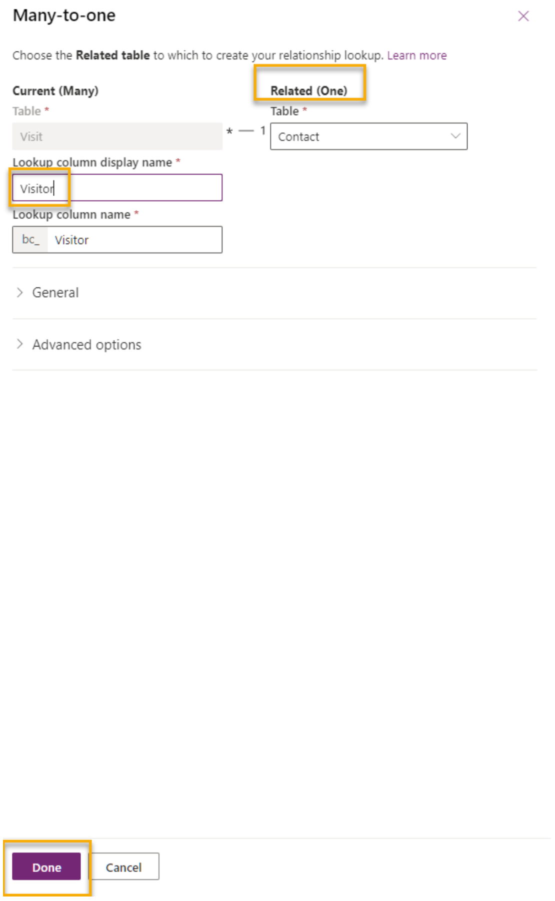
2. Create **Visit** to **Contact** relationship

   - Select the **Relationships** tab.

   - Click **Add Relationship** and select **Many-to-one**



- ○ Select **Contact** for **Related (One)**



Many-to-one

Choose the **Related table** to which to create your relationship lookup. Learn more

Current (Many)

Table * Visit

Related (One)

Table * Contact

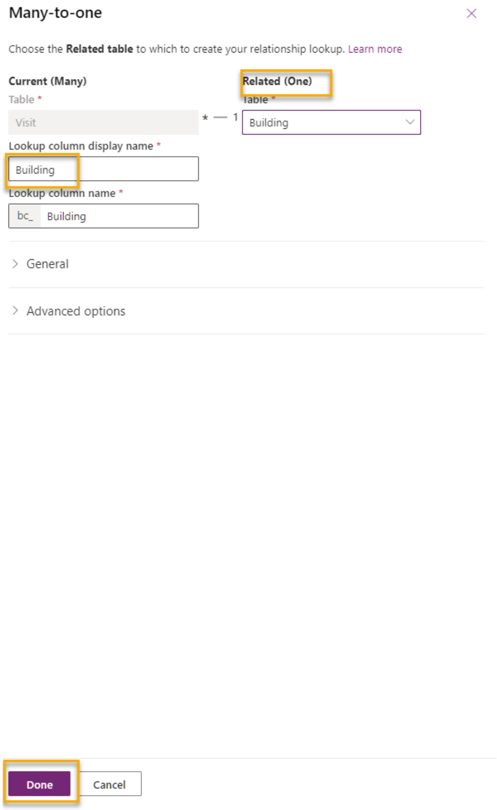
Lookup column display name * Visitor

Lookup column name * bc_ Visitor

- ○ Enter **Visitor** for **Lookup column display name**
- ○ Click **Done**.

3. Create Visit to Building relationship
   - ○ Click **Add Relationship** and select **Many-to-one**
   - ○ Select **Building** for **Related (One)**

- Click **Done**.



Many-to-one

Choose the **Related table** to which to create your relationship lookup. Learn more

Current (Many)

Table *: Visit

Related (One)

Table *: Building

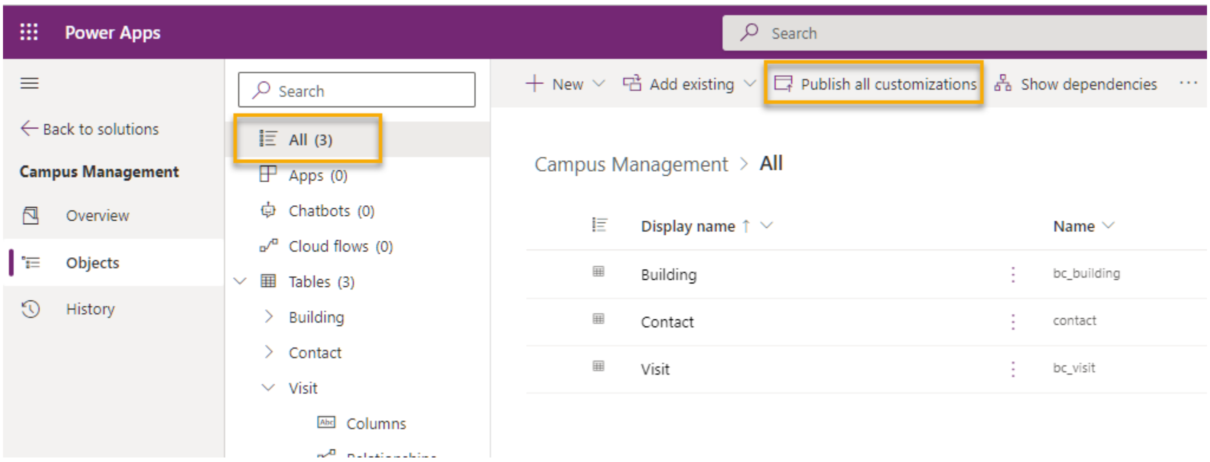
Lookup column display name *: Building

Lookup column name *: bc_ Building

4. Click **Save Table**.

5. Select **Back to solutions** at the top left.

6. Select **Publish all customizations.**



Display name ↑	Name
Building	bc_building
Contact	contact
Visit	bc_visit

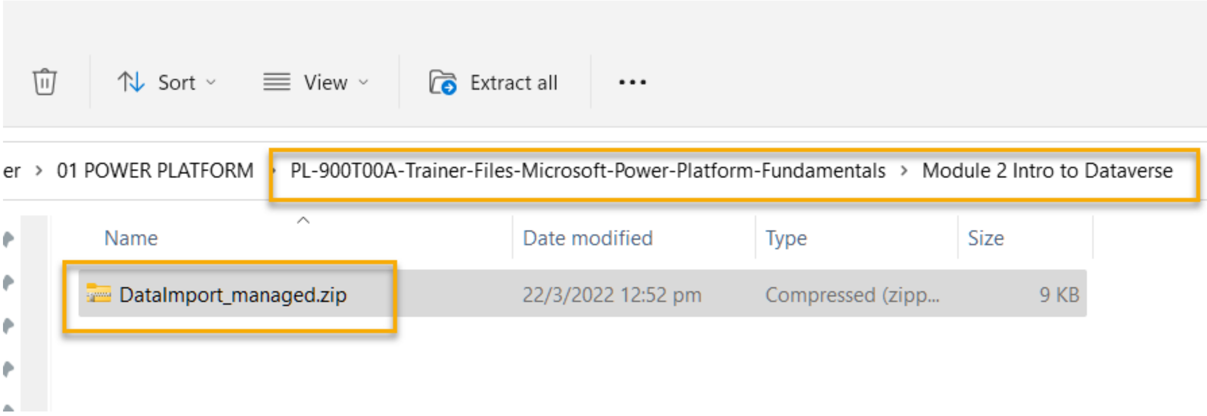
Exercise #4: Import Data

Objective: In this exercise you will import sample data into the Dataverse database.

Task #1: Import solution

In this task you will import a solution that contains the Power Automate flow required to complete data import.

1. You should have the **DataImport_managed.zip** file stored on your Desktop. Download Data Import Solution if you do not.


Sort
View
Extract all
er › 01 POWER PLATFORM › PL-900T00A-Trainer-Files-Microsoft-Power-Platform-Fundamentals › Module 2 Intro to Dataverse

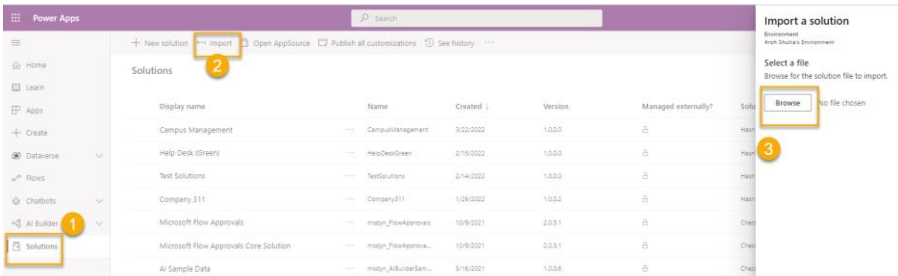
Name	Date modified	Type	Size
DataImport_managed.zip	22/3/2022 12:52 pm	Compressed (zipp...	9 KB

2. Sign in to https://make.powerapps.com.

3. Select your **[my initials] Practice** environment at the top right, if it is not already selected.

4. Select **Solutions** in the left navigation panel.

5. Click **Import**, then click **Browse**. Browse and select **DataImport_managed.zip** from your Desktop, and then press **Next**.



Solutions

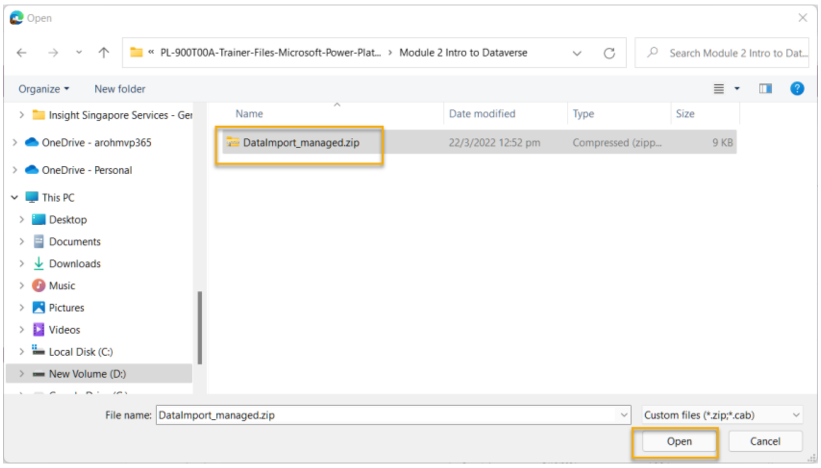
Display name	Name	Created ↓	Version	Managed externally?
Campus Management	CampusManagement	3/22/2022	1.0.0.0	🔒
Help Desk (Green)	HelpDeskGreen	2/15/2022	1.0.0.0	🔒
Test Solutions	TestSolutions	2/14/2022	1.0.0.0	🔒
Company 311	Company311	1/26/2022	1.0.0.2	🔒
Microsoft Flow Approvals	msdyn_FlowApprovals	10/9/2021	2.0.3.1	🔒
Microsoft Flow Approvals Core Solution	msdyn_FlowApprova...	10/9/2021	2.0.3.1	🔒
AI Sample Data	msdyn_AIBuilderSam...	5/16/2021	1.0.0.6	🔒

Import a solution

Environment
Aroh Shukla's Environment

Select a file
Browse for the solution file to import.

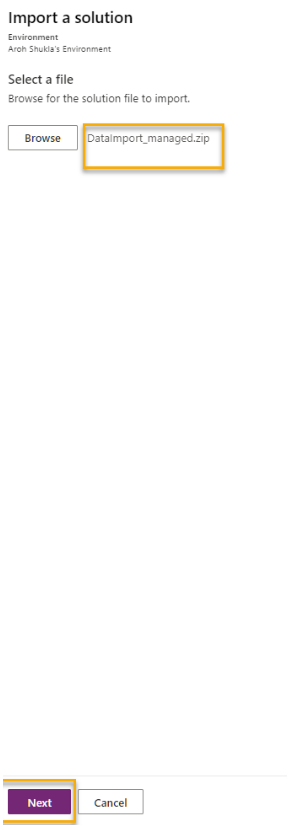
No file chosen



Name	Date modified	Type	Size
DataImport_managed.zip	22/3/2022 12:52 pm	Compressed (zipp...	9 KB

File name: DataImport_managed.zip

Custom files (*.zip;*.cab)



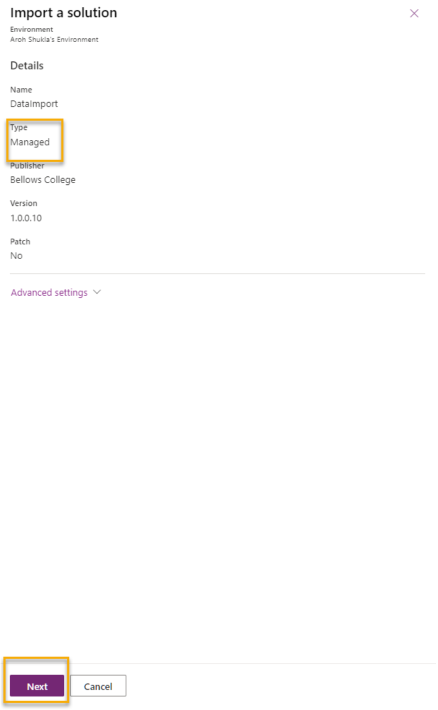
Import a solution

Environment
Aroh Shukla's Environment

Select a file

Browse for the solution file to import.

DataImport_managed.zip



Import a solution

Environment
Aroh Shukla's Environment

Details

Name
DataImport

Type
Managed

Publisher
Bellows College

Version
1.0.0.10

Patch
No

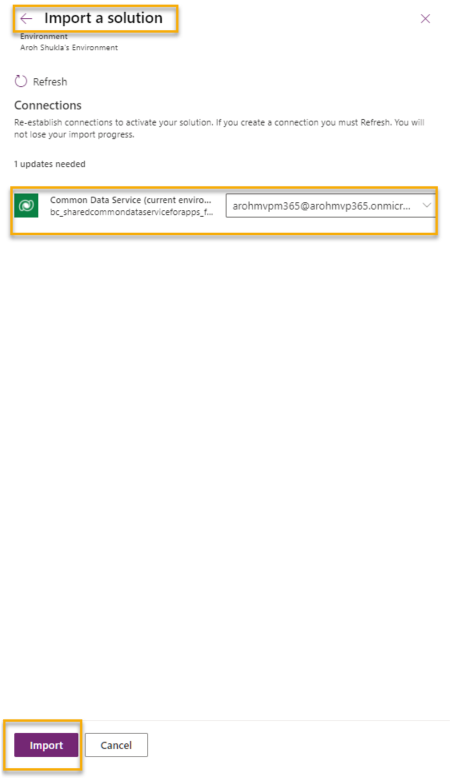
You may receive the following message:

There are missing dependencies. Install the following solutions before installing this one...

That message indicates that either the data model is not complete, the publisher prefix is not **bc**, or the **Building** and **Visit** table names differ from the names listed in the steps above.

6. Press **Next**. You should be prompted to re-establish connections.

7. Expand the **Select a connection** dropdown and select **+ New Connection**.



Import a solution

Environment

Aroh Shukla's Environment

Refresh

Connections

Re-establish connections to activate your solution. If you create a connection you must Refresh. You will not lose your import progress.

1 updates needed

Common Data Service (current enviro...
bc_sharedcommondataserviceforapps_f...

arohmvpm365@arohmvp365.onmicr...

Import

Cancel

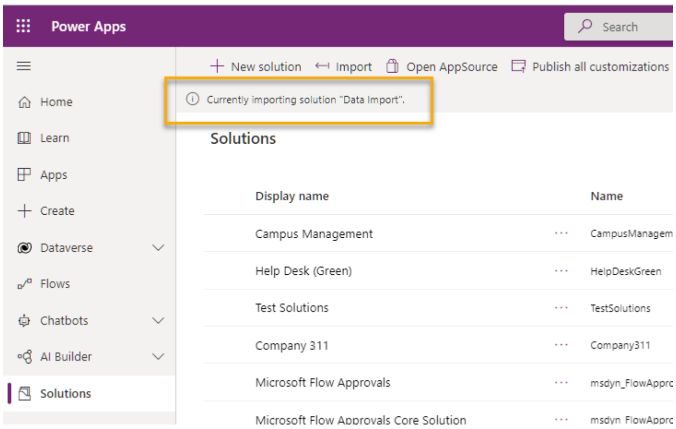
8. The new browser window or tab will open. Select **Create** when prompted to the connection. Sign in if required to complete creating the connection.

9. Close the current tab so that you are now back to the previous **Import a Solution** tab.

10. Ensure the connection you just created is selected. If you do not see your connection, click **Refresh** to refresh the list of connections.

11. Press **Import**.

12. Wait until the import is complete.



Currently importing solution "Data Import".

Solutions

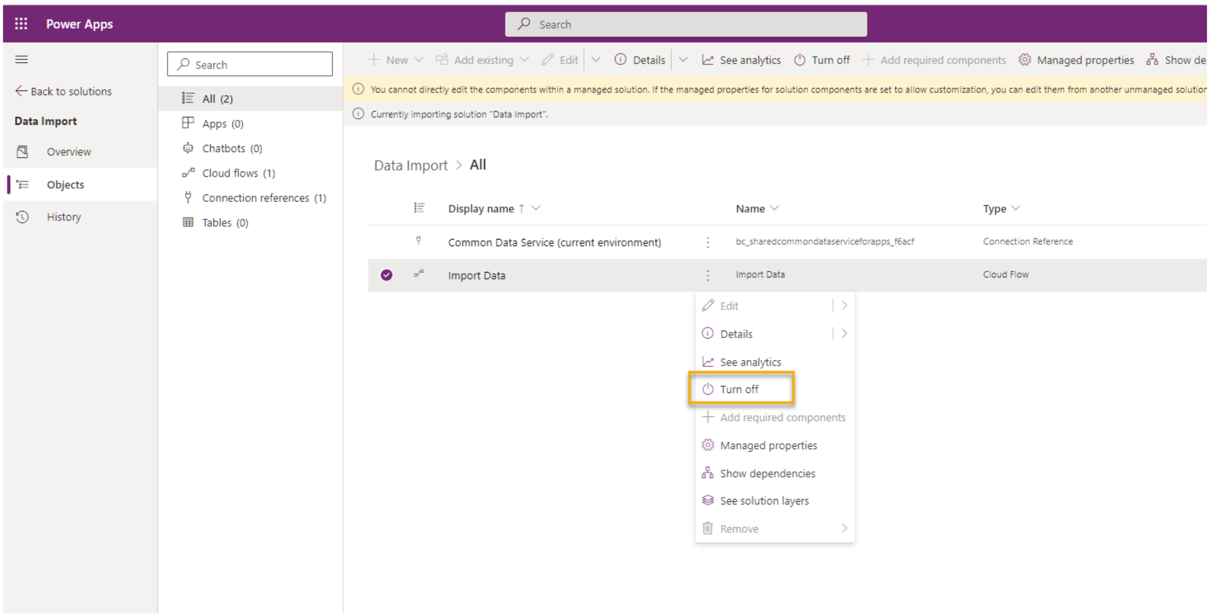
Display name	Name
Campus Management	CampusManagem
Help Desk (Green)	HelpDeskGreen
Test Solutions	TestSolutions
Company 311	Company311
Microsoft Flow Approvals	msdyn_FlowApprc
Microsoft Flow Approvals Core Solution	msdyn_FlowApprc

Task #2: Import Data

1. Open **Data Import** solution.

2. Check the **Status** of the **Import Data** flow.

3. If **Status** is **Off**, select **...** next to **Import Data** then select **Turn On**.



You cannot directly edit the components within a managed solution. If the managed properties for solution components are set to allow customization, you can edit them from another unmanaged solutio

Currently importing solution "Data Import".

Data Import > All

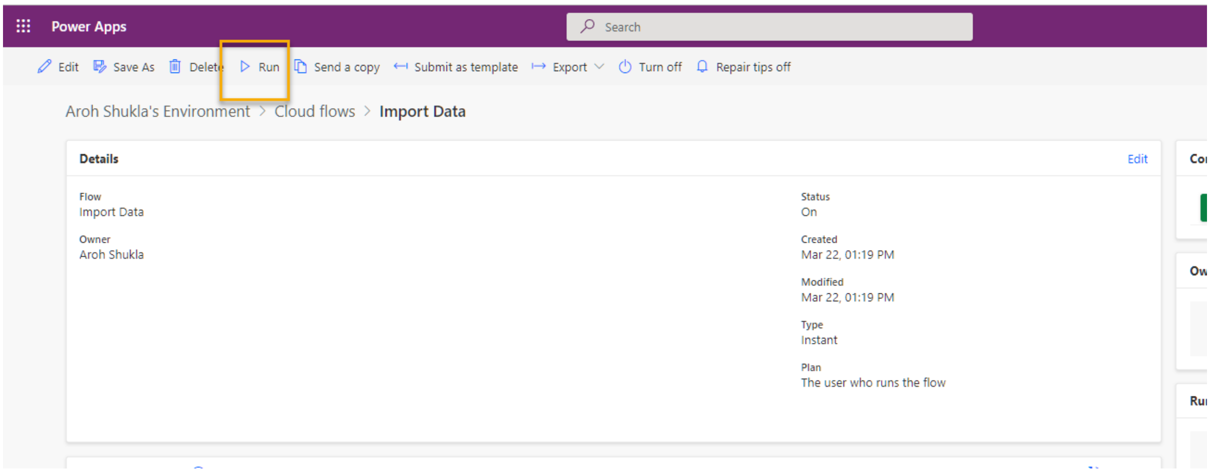
Display name ↑	Name	Type
Common Data Service (current environment)	bc_sharedcommondataserviceforapps_f6acf	Connection Reference
Import Data	Import Data	Cloud Flow

Important: If you receive an error message, verify that the tables and columns you created match the instructions above.

4. Open **Import Data** component. A new tab will open Power Automate.

5. Click **Get Started** if presented with a popup.

6. Click **Run** then click **Run flow** when prompted.



Aroh Shukla's Environment > Cloud flows > Import Data

Details

Flow
Import Data

Owner
Aroh Shukla

Status
On

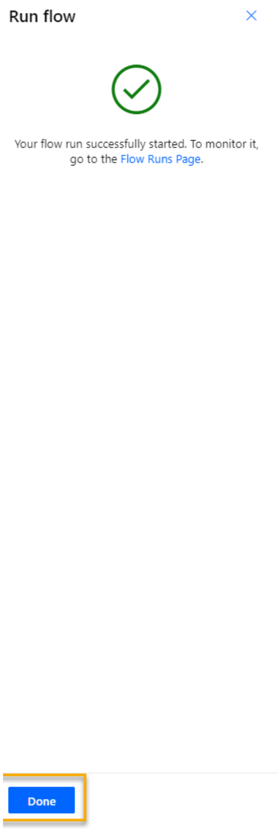
Created
Mar 22, 01:19 PM

Modified
Mar 22, 01:19 PM

Type
Instant

Plan
The user who runs the flow

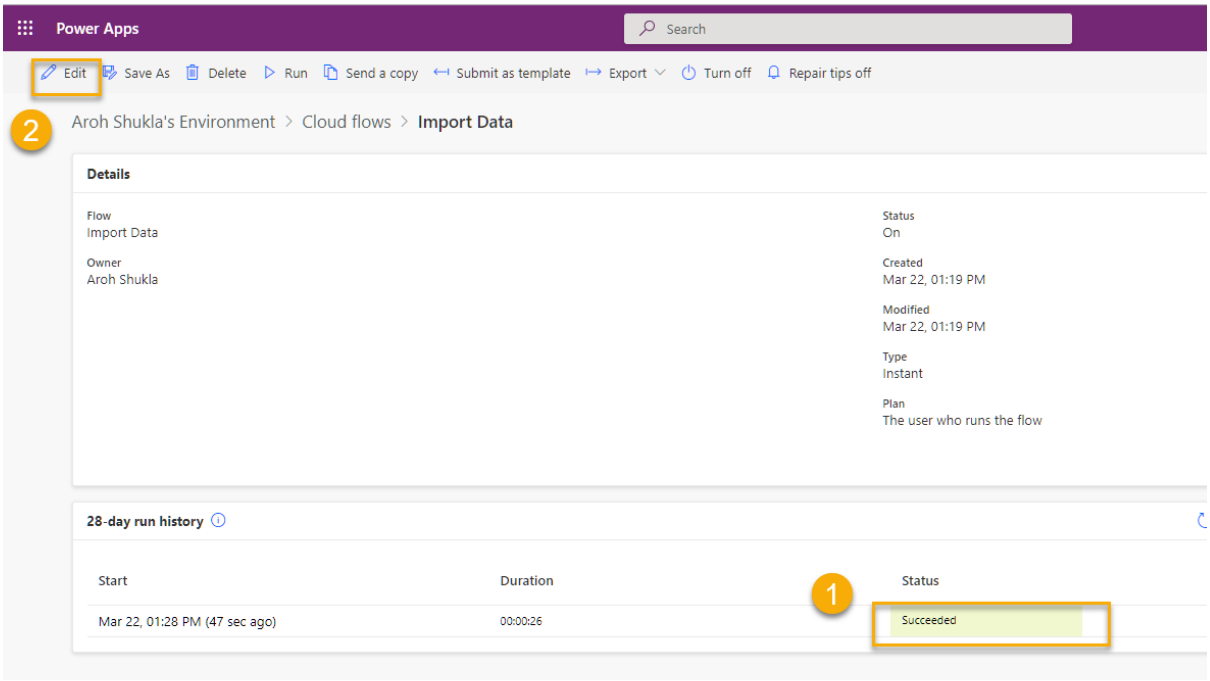
7. Click **Done**.



Run flow

Your flow run successfully started. To monitor it, go to the Flow Runs Page.

8. Wait until the flow instance completes the run. You can refresh the **28-day run history** table to see when the flow has run.



Aroh Shukla's Environment > Cloud flows > Import Data

Details

Flow
Import Data

Owner
Aroh Shukla

Status
On

Created
Mar 22, 01:19 PM

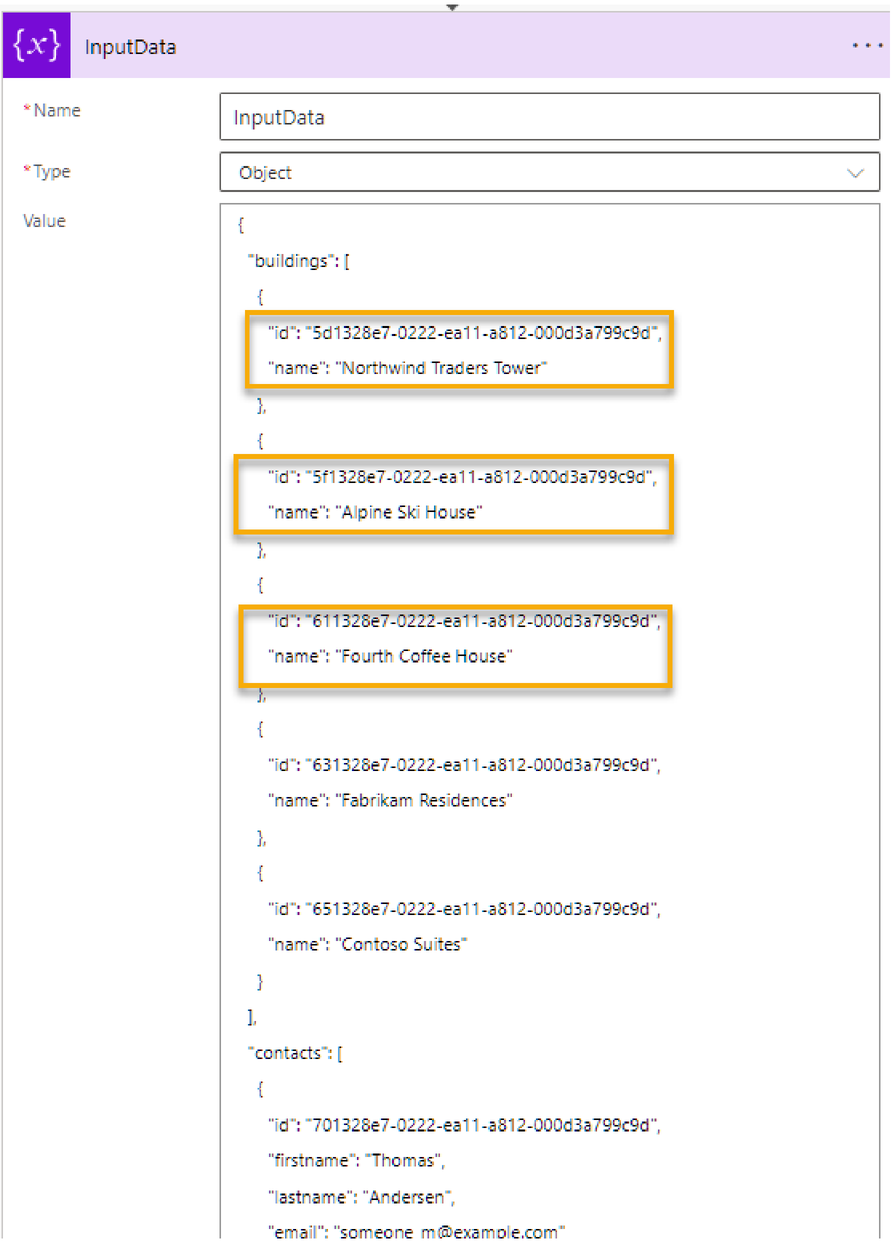
Modified
Mar 22, 01:19 PM

Type
Instant

Plan
The user who runs the flow

28-day run history

Start	Duration	Status
Mar 22, 01:28 PM (47 sec ago)	00:00:26	Succeeded



InputData

*Name: InputData

*Type: Object

Value:

```
{
 "buildings": [
  {
   "id": "5d1328e7-0222-ea11-a812-000d3a799c9d",
   "name": "Northwind Traders Tower"
  },
  {
   "id": "5f1328e7-0222-ea11-a812-000d3a799c9d",
   "name": "Alpine Ski House"
  },
  {
   "id": "611328e7-0222-ea11-a812-000d3a799c9d",
   "name": "Fourth Coffee House"
  },
  {
   "id": "631328e7-0222-ea11-a812-000d3a799c9d",
   "name": "Fabrikam Residences"
  },
  {
   "id": "651328e7-0222-ea11-a812-000d3a799c9d",
   "name": "Contoso Suites"
  }
 ],
 "contacts": [
  {
   "id": "701328e7-0222-ea11-a812-000d3a799c9d",
   "firstname": "Thomas",
   "lastname": "Andersen",
   "email": "someone_m@example.com"
```

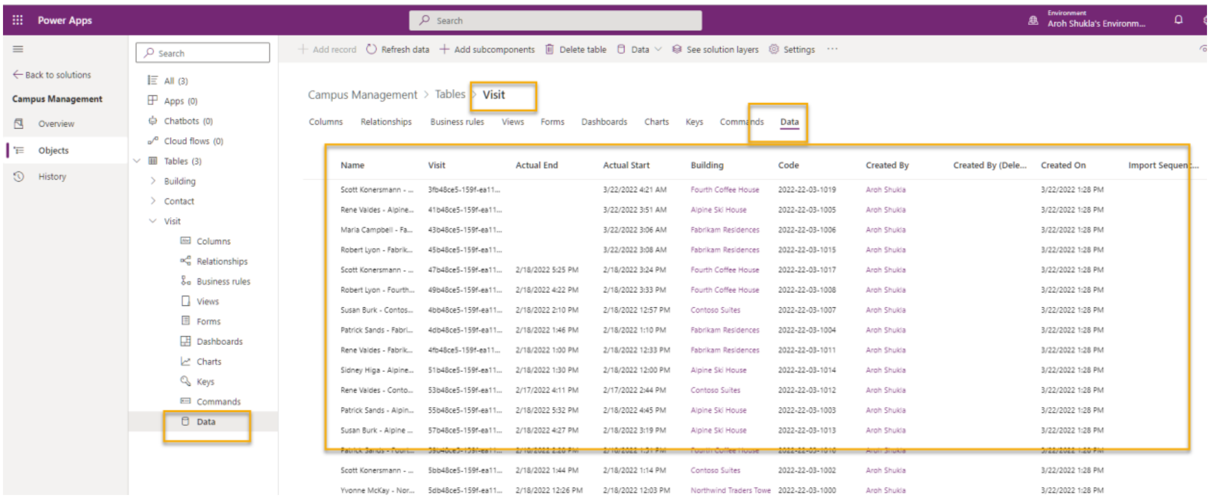
The purpose of this flow was to generate **example data for the upcoming labs**. In the next task, you will verify **that the data import was successful**.

Task #3: Verify Data Import

1. Navigate back to the previous Power Apps tab. Click **Done** on the popup.

2. Select **Solutions** on the left navigation bar and open your **Campus Management** solution.

3. Click to open the **Visit** table, then select the **Data** tab.



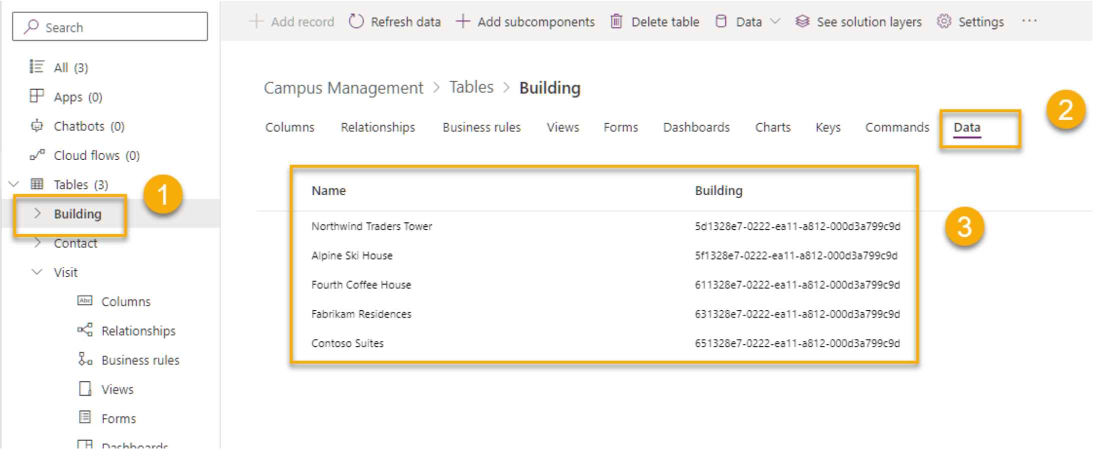
Name	Visit	Actual End	Actual Start	Building	Code	Created By	Created By (Dele...	Created On	Import Sequen:...
Scott Konersmann - ...	3fb48ce5-159f-ea11...		3/22/2022 4:21 AM	Fourth Coffee House	2022-22-03-1019	Aroh Shukla		3/22/2022 1:28 PM	
Rene Valdes - Alpine...	41b48ce5-159f-ea11...		3/22/2022 3:51 AM	Alpine Ski House	2022-22-03-1005	Aroh Shukla		3/22/2022 1:28 PM	
Maria Campbell - Fa...	43b48ce5-159f-ea11...		3/22/2022 3:06 AM	Fabrikam Residences	2022-22-03-1006	Aroh Shukla		3/22/2022 1:28 PM	
Robert Lyon - Fabrik...	45b48ce5-159f-ea11...		3/22/2022 3:08 AM	Fabrikam Residences	2022-22-03-1015	Aroh Shukla		3/22/2022 1:28 PM	
Scott Konersmann - ...	47b48ce5-159f-ea11...	2/18/2022 5:25 PM	2/18/2022 3:24 PM	Fourth Coffee House	2022-22-03-1017	Aroh Shukla		3/22/2022 1:28 PM	
Robert Lyon - Fourth...	49b48ce5-159f-ea11...	2/18/2022 4:22 PM	2/18/2022 3:33 PM	Fourth Coffee House	2022-22-03-1008	Aroh Shukla		3/22/2022 1:28 PM	
Susan Burk - Contos...	4bb48ce5-159f-ea11...	2/18/2022 2:10 PM	2/18/2022 12:57 PM	Contoso Suites	2022-22-03-1007	Aroh Shukla		3/22/2022 1:28 PM	
Patrick Sands - Fabri...	4db48ce5-159f-ea11...	2/18/2022 1:46 PM	2/18/2022 1:10 PM	Fabrikam Residences	2022-22-03-1004	Aroh Shukla		3/22/2022 1:28 PM	
Rene Valdes - Fabrik...	4fb48ce5-159f-ea11...	2/18/2022 1:00 PM	2/18/2022 12:33 PM	Fabrikam Residences	2022-22-03-1011	Aroh Shukla		3/22/2022 1:28 PM	
Sidney Higa - Alpine...	51b48ce5-159f-ea11...	2/18/2022 1:30 PM	2/18/2022 12:00 PM	Alpine Ski House	2022-22-03-1014	Aroh Shukla		3/22/2022 1:28 PM	
Rene Valdes - Conto...	53b48ce5-159f-ea11...	2/17/2022 4:11 PM	2/17/2022 2:44 PM	Contoso Suites	2022-22-03-1012	Aroh Shukla		3/22/2022 1:28 PM	
Patrick Sands - Alpin...	55b48ce5-159f-ea11...	2/18/2022 5:32 PM	2/18/2022 4:45 PM	Alpine Ski House	2022-22-03-1003	Aroh Shukla		3/22/2022 1:28 PM	
Susan Burk - Alpine ...	57b48ce5-159f-ea11...	2/18/2022 4:27 PM	2/18/2022 3:19 PM	Alpine Ski House	2022-22-03-1013	Aroh Shukla		3/22/2022 1:28 PM	
Patrick Sands - Fourt...	59b48ce5-159f-ea11...	2/18/2022 2:20 PM	2/18/2022 1:51 PM	Fourth Coffee House	2022-22-03-1010	Aroh Shukla		3/22/2022 1:28 PM	
Scott Konersmann - ...	5bb48ce5-159f-ea11...	2/18/2022 1:44 PM	2/18/2022 1:14 PM	Contoso Suites	2022-22-03-1002	Aroh Shukla		3/22/2022 1:28 PM	
Yvonne McKay - Nor...	5db48ce5-159f-ea11...	2/18/2022 12:26 PM	2/18/2022 12:03 PM	Northwind Traders Towe	2022-22-03-1000	Aroh Shukla		3/22/2022 1:28 PM	

4. Click **Active Visits** in the top right-hand corner to display the view selector, then select **All columns**. This will change the view that is being used to display the Visit data.

If you do not see **Active Visits** due to smaller resolution, you should see an eye icon in the same location.

If the import was successful, you should see a list of visit rows.

5. Click on any value in the **Building** column, confirm that the Building form opens in a separate window.



Name	Building
Northwind Traders Tower	5d1328e7-0222-ea11-a812-000d3a799c9d
Alpine Ski House	5f1328e7-0222-ea11-a812-000d3a799c9d
Fourth Coffee House	611328e7-0222-ea11-a812-000d3a799c9d
Fabrikam Residences	631328e7-0222-ea11-a812-000d3a799c9d
Contoso Suites	651328e7-0222-ea11-a812-000d3a799c9d

6. Close the recently launched window.

7. Click on any value in the **Visitor** column (you may need to scroll the view to the right), confirm that the Contact form opens in a separate window.

8. Close the recently launched window.

Challenges

- Would you consider using *appointment* activity as part of the solution? What would it change?

- How could you enforce the scheduled end to be after the scheduled start?

- How could you add support for multiple meetings during a single visit?
- How could you secure the building access not only for external contacts but for internal staff member as well?
- How could you make visits to certain buildings require management approval? What would the approval process change in the data model?

Module 3: Get started with Power Apps (Canvas Apps – Part 1)

Lab: How to build a canvas app, Part 1

Scenario

Bellows College is an educational organization with multiple buildings on campus. Campus visits are currently recorded in paper journals. The information is not captured consistently, and there are no means to collect and analyze data about the visits across the entire campus.

Campus administration would like to modernize their visitor registration system where access to the buildings is controlled by security personnel and all visits are required to be pre-registered and recorded by their hosts.

Throughout this course, you will build applications and perform automation to enable the Bellows College administration and security personnel to manage and control access to the buildings on campus.

In part 1 this lab, you will design a Power Apps canvas app that college staff can use to manage visits for their guests.

High-level lab steps

We will follow the below outline to design the canvas app:

- Create the app from data using the **phone form factor template**
- Configure a detail page **with visit info**
- Configure an edit page **to create to visits**
- Configure a gallery **control to show the visits**
- Add filtering on the gallery data source to show only future visits

Prerequisites

- Completion of **Module 0 Lab 0 - Validate lab environment**
- Completion of **Module 2 Lab 1 - Introduction to Microsoft Dataverse**

Things to consider before you begin

- What is the most prevalent form factor for the target audience?

- Estimate the **number of records** in the system
- How to narrow the records selected to improve app performance and user adoption

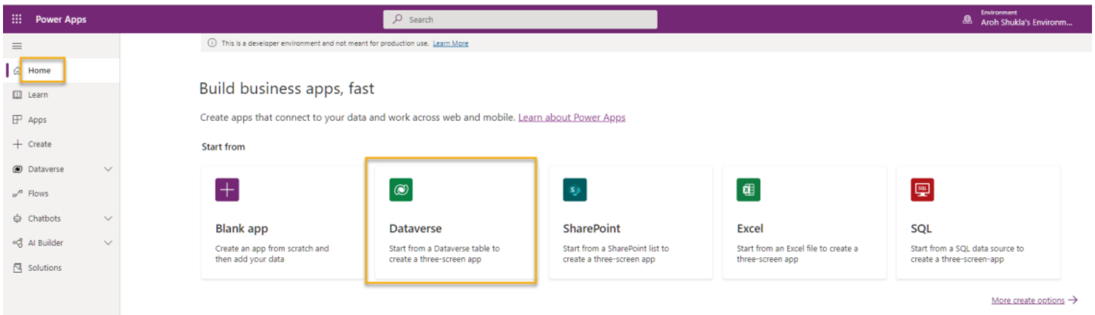
Exercise #1: Create Staff Canvas App

Objective: In this exercise, you will create a **canvas app from a template** and then modify it to include required data.

Task #1: Create Canvas App

In this task, you will create a canvas app using the phone layout template based on Microsoft Dataverse. Using Visits as a selected table from Dataverse, the template will generate a Gallery - View - Edit app to manage campus visits.

1. Start creating an app from data
   - Sign in to https://make.powerapps.com
   - Select your **environment** at the top right if it is not already set to your Practice environment.
   - Select the **Dataverse** icon within **Start from data** on the Home screen.



This is a developer environment and not meant for production use. Learn More

Build business apps, fast

Create apps that connect to your data and work across web and mobile. Learn about Power Apps

Start from

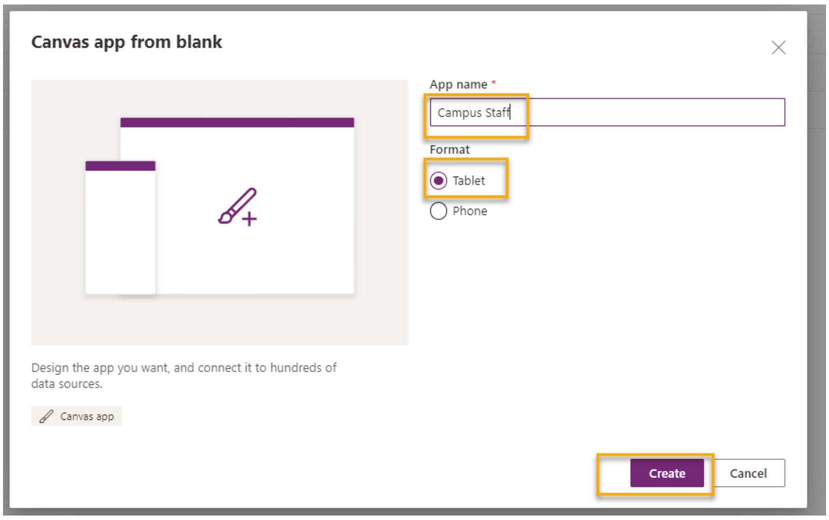
Blank app — Create an app from scratch and then add your data

Dataverse — Start from a Dataverse table to create a three-screen app

SharePoint — Start from a SharePoint list to create a three-screen app

Excel — Start from an Excel file to create a three-screen app

SQL — Start from a SQL data source to create a three-screen-app



Canvas app from blank

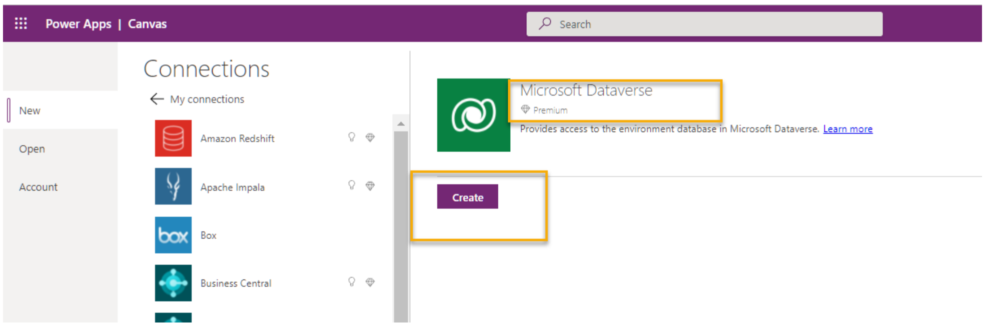
App name *: Campus Staff

Format: ● Tablet ○ Phone

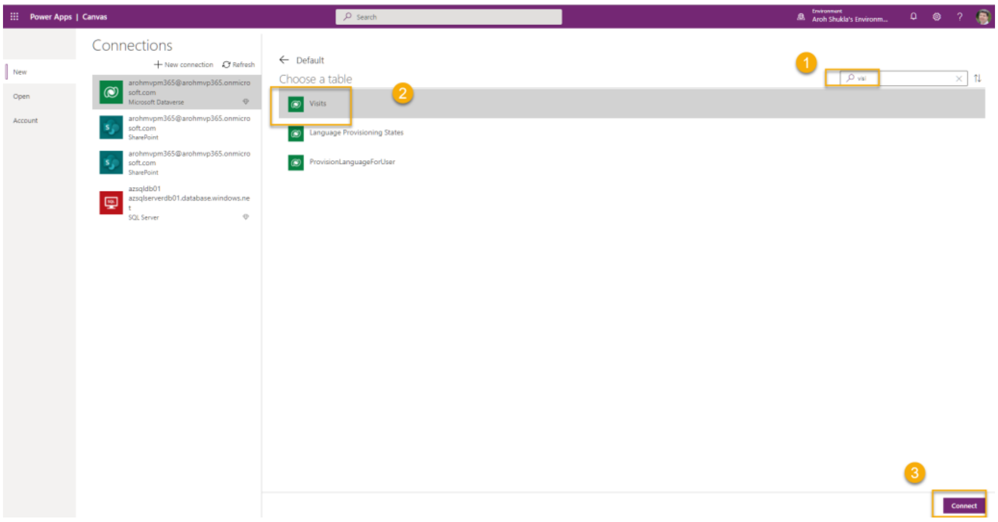
Design the app you want, and connect it to hundreds of data sources.

2. Connect to your Visits table
   - Select **+ New connection**

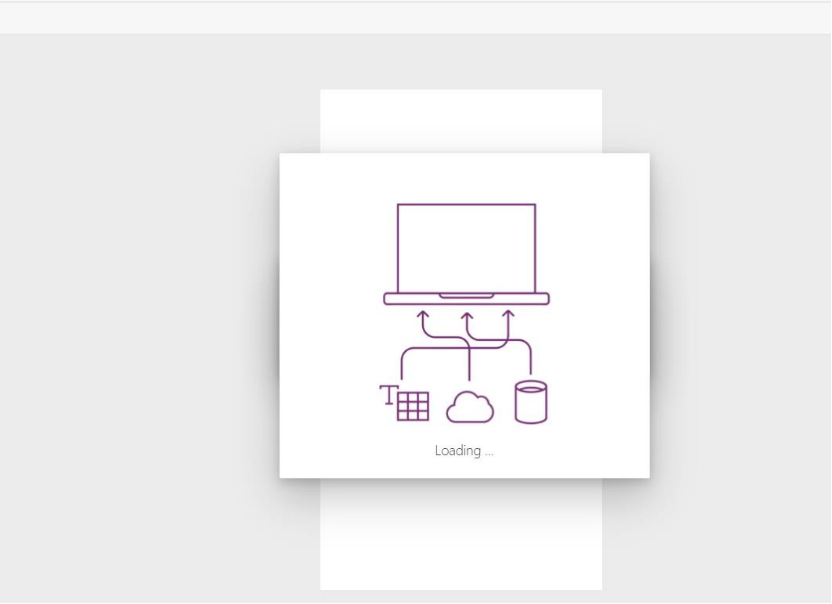
- Select **Microsoft Dataverse** and click **Create**



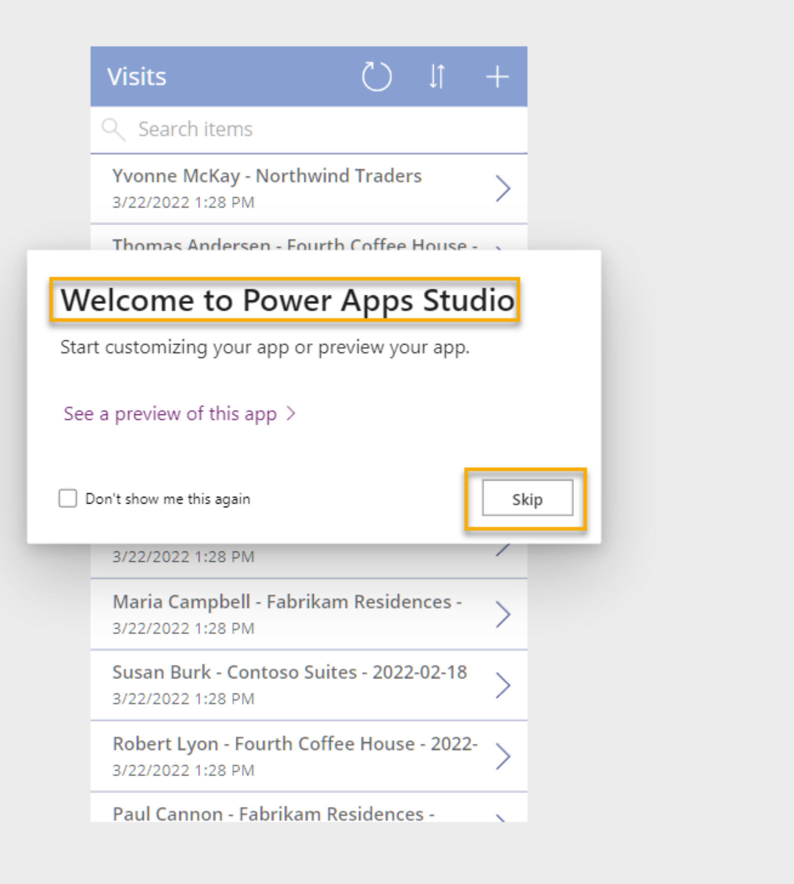
- Locate and select your **Visits** table
- Select **Connect**



- 3 screen app



3. The **Welcome to Power Apps Studio** window may appear. Click **Skip**.



Visits

Search items

Yvonne McKay - Northwind Traders
3/22/2022 1:28 PM

Thomas Andersen - Fourth Coffee House -

Welcome to Power Apps Studio

Start customizing your app or preview your app.

See a preview of this app >

☐ Don't show me this again

3/22/2022 1:28 PM

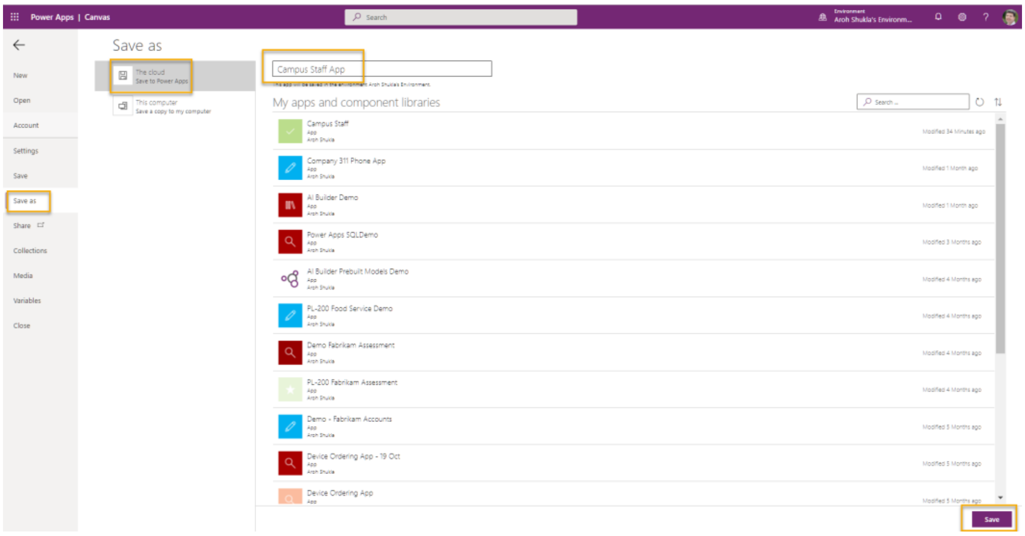
Maria Campbell - Fabrikam Residences -
3/22/2022 1:28 PM

Susan Burk - Contoso Suites - 2022-02-18
3/22/2022 1:28 PM

Robert Lyon - Fourth Coffee House - 2022-
3/22/2022 1:28 PM

Paul Cannon - Fabrikam Residences -

4. Save application
   - Click **File > Save**.
   - Enter [Your Last Name] Campus Staff as the **App name**.
   - Press **Save**.



Save as

Campus Staff App

This app will be saved in the environment Aroh Shukla's Environment.

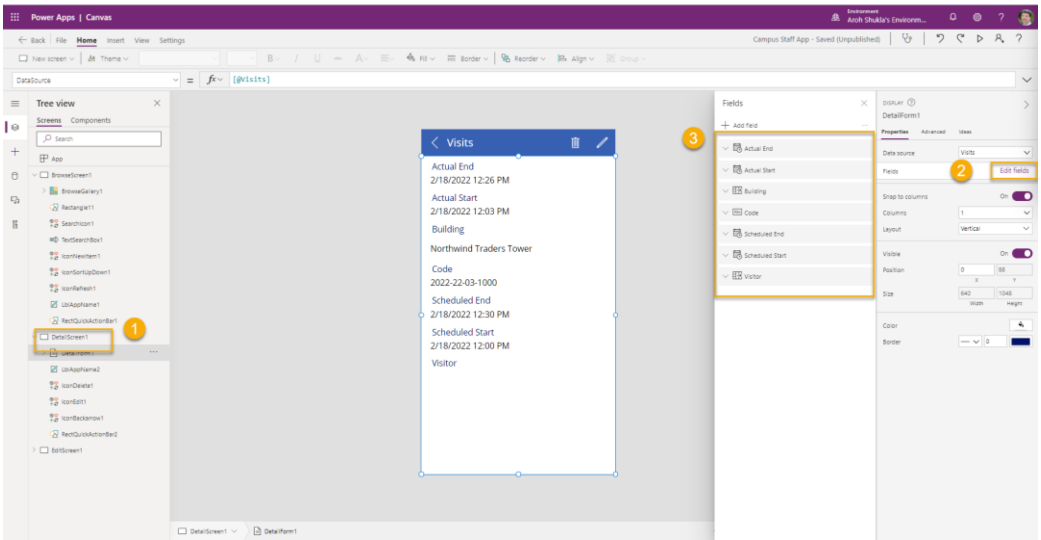
My apps and component libraries

Campus Staff	App	Aroh Shukla	Modified 34 Minutes ago
Company 311 Phone App	App	Aroh Shukla	Modified 1 Month ago
AI Builder Demo	App	Aroh Shukla	Modified 1 Month ago
Power Apps SQLDemo	App	Aroh Shukla	Modified 3 Months ago
AI Builder Prebuilt Models Demo	App	Aroh Shukla	Modified 4 Months ago
PL-200 Food Service Demo	App	Aroh Shukla	Modified 4 Months ago
Demo Fabrikam Assessment	App	Aroh Shukla	Modified 4 Months ago
PL-200 Fabrikam Assessment	App	Aroh Shukla	Modified 4 Months ago
Demo - Fabrikam Accounts	App	Aroh Shukla	Modified 5 Months ago
Device Ordering App - 19 Oct	App	Aroh Shukla	Modified 5 Months ago
Device Ordering App	App		Modified 5 Months ago

Task #2: Configure Visits Detail Form

In this task, you will configure the Detail form to view information about individual visit records.

1. Select the **Back** arrow at the top left to go back to the app definition.
2. Expand **DetailScreen1** under **Tree view**
3. Select **DetailForm1**
4. Select **Edit fields** next to **Fields** in the right-hand panel.
5. Click **Add field**
6. Select the following fields:
    - Actual End
    - Actual Start
    - Building
    - Code
    - Scheduled End
    - Scheduled Start
    - Visitor



DataSource = [@Visits]

Visits

Actual End
2/18/2022 12:26 PM

Actual Start
2/18/2022 12:03 PM

Building
Northwind Traders Tower

Code
2022-22-03-1000

Scheduled End
2/18/2022 12:30 PM

Scheduled Start
2/18/2022 12:00 PM

Visitor

Data source: Visits
Snap to columns: On
Columns: 1
Layout: Vertical
Visible: On
Position: 0 (X), 88 (Y)
Size: 640 (Width), 1048 (Height)
Border: 0

7. Click **Add**
8. Rearrange fields in the **Fields** pane by dragging and dropping field names up or down. Recommended order is:
    - Code, Name, Building, Visitor, Scheduled Start, Scheduled End, Actual Start, Actual End

Tip: You can collapse each field by clicking the down arrow beside the field name.

9. Remove the **Created On** field by clicking the ellipses (**...**) beside the field name and selecting **Remove**.

10. Close the **Fields** pane.

11. To preserve work in progress, click **File** then click **Save**. Use the back arrow to return to the app.

Task #3: Configure Visits Edit Form

In this task, you will configure a form to edit information about individual visit rows.

1. Expand **EditScreen1** under **Tree view**

2. Select **EditForm1**

3. Select **Created On** field and press **Del** key to remove the field

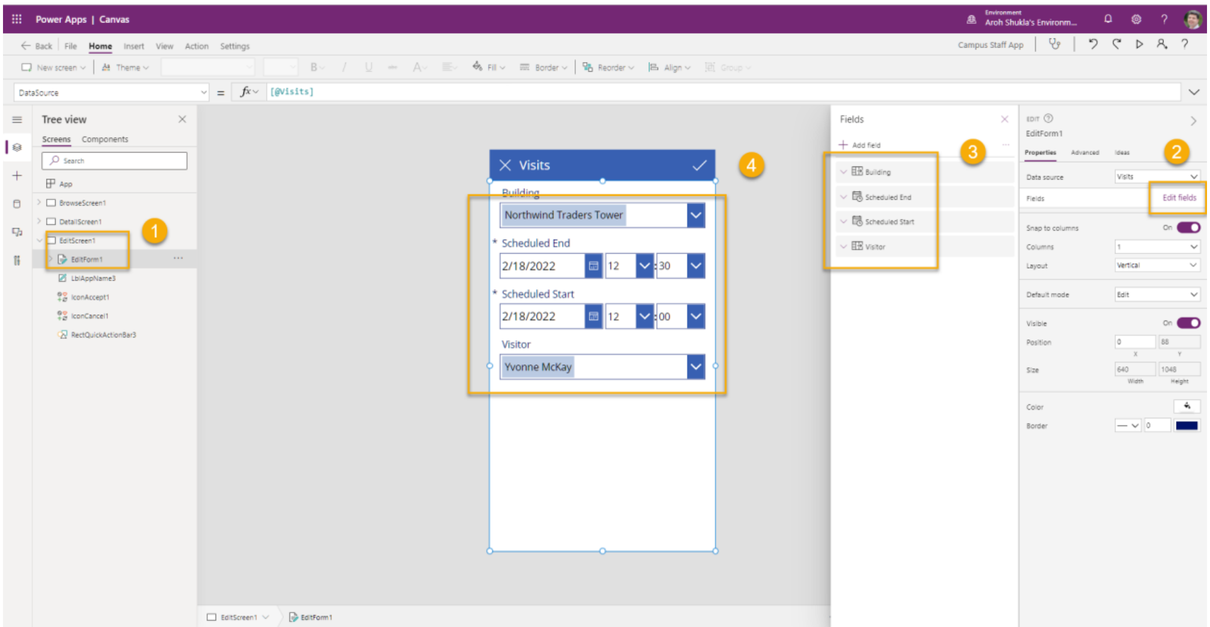
4. Select **Edit fields** in the properties panel

5. Click **Add field**

6. Select the following fields:

    - Building
    - Scheduled End
    - Scheduled Start
    - Visitor

7. Click **Add**



DataSource = [@Visits]

Building: Northwind Traders Tower

* Scheduled End: 2/18/2022 12 : 30

* Scheduled Start: 2/18/2022 12 : 00

Visitor: Yvonne McKay

Data source: Visits

Snap to columns: On

Columns: 1

Layout: Vertical

Default mode: Edit

Visible: On

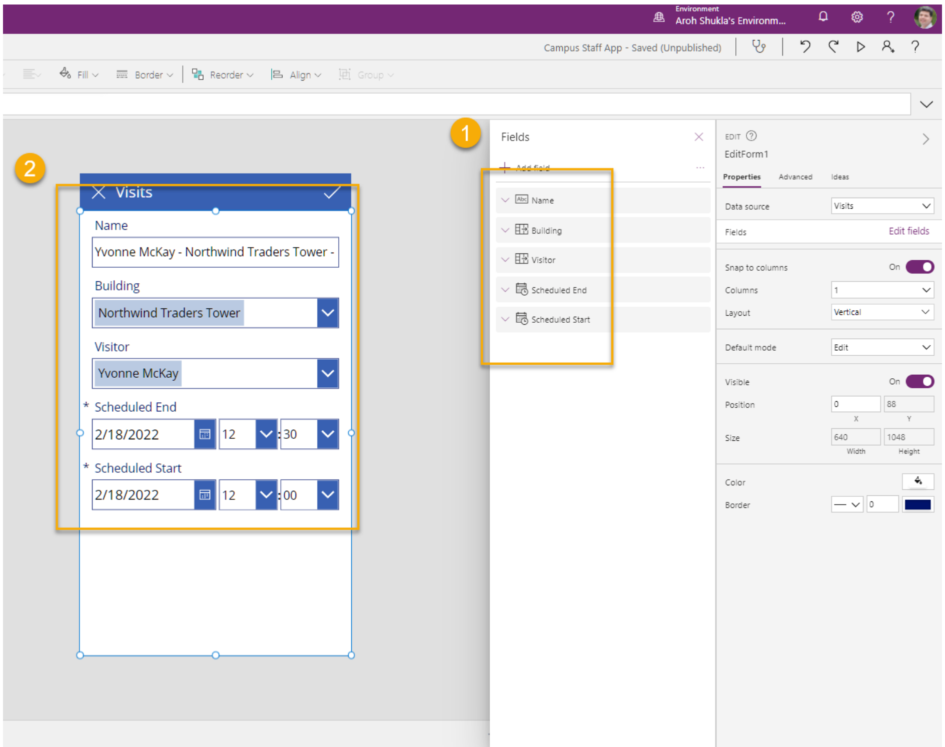
Position: 0 (X), 88 (Y)

Size: 640 (Width), 1048 (Height)

Border: 0

8. Rearrange fields in the **Fields** pane by dragging and dropping field names up or down. Recommended order is:

    - Name, Building, Visitor, Scheduled Start, Scheduled End



Name: Yvonne McKay - Northwind Traders Tower -

Building: Northwind Traders Tower

Visitor: Yvonne McKay

* Scheduled End: 2/18/2022 12 : 30

* Scheduled Start: 2/18/2022 12 : 00

EditForm1

Data source: Visits

Snap to columns: On

Columns: 1

Layout: Vertical

Default mode: Edit

Visible: On

Position: 0 (X) 88 (Y)

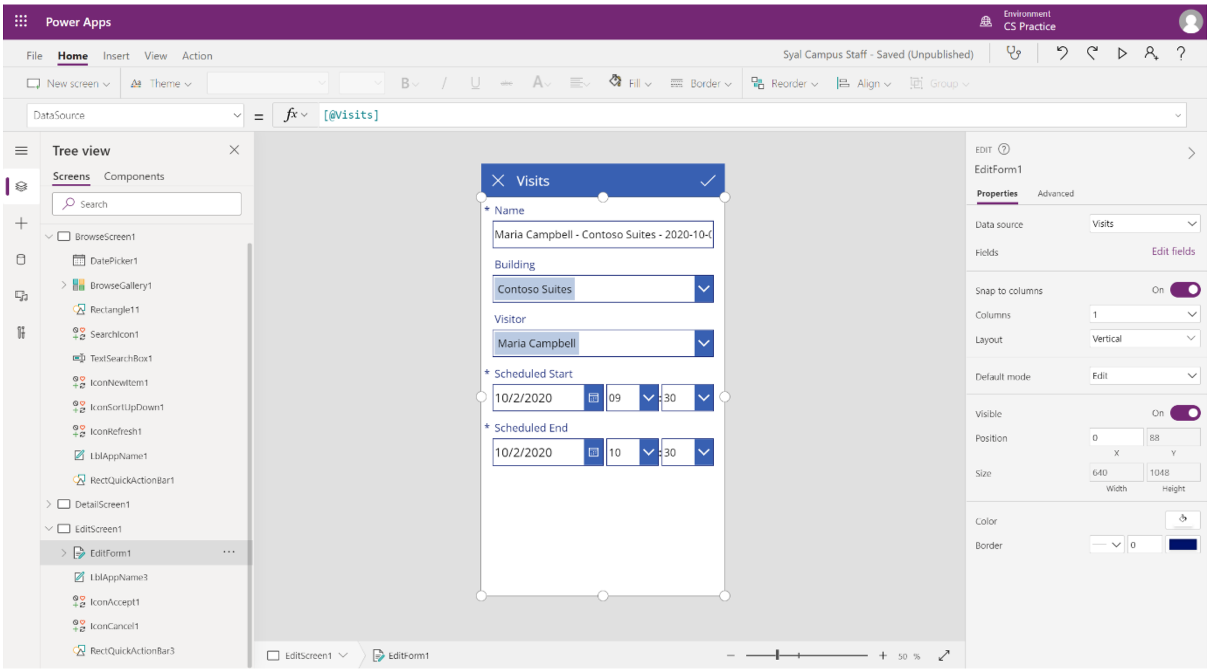
Size: 640 (Width) 1048 (Height)

Border: — 0

Tip: You can collapse each field by clicking the down arrow beside the field name.

9. Close the **Fields** pane.
10. To preserve work in progress, click **File** then click **Save**. Use the back arrow to return to the app.

Your screen should look approximately like the following:



DataSource = fx [@Visits]

Name: Maria Campbell - Contoso Suites - 2020-10-(

Building: Contoso Suites

Visitor: Maria Campbell

* Scheduled Start: 10/2/2020 09 :30

* Scheduled End: 10/2/2020 10 :30

Data source: Visits

Fields: Edit fields

Snap to columns: On

Columns: 1

Layout: Vertical

Default mode: Edit

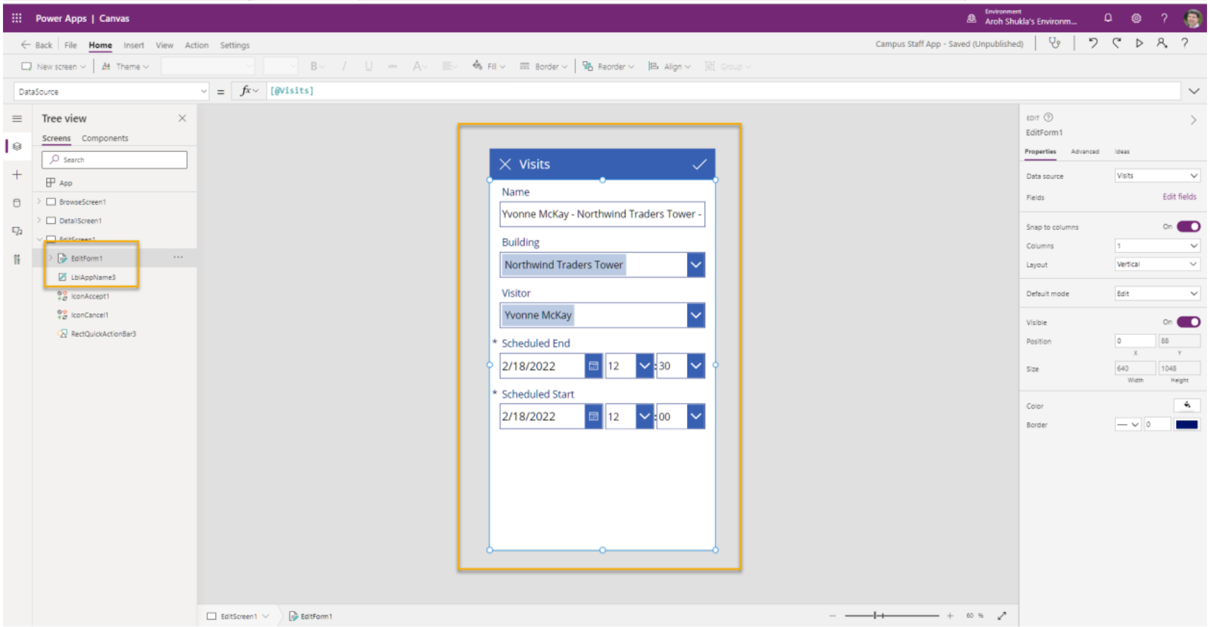
Visible: On

Position: 0 (X), 88 (Y)

Size: 640 (Width), 1048 (Height)

Color

Border: 0



DataSource = fx [@Visits]

Name: Yvonne McKay - Northwind Traders Tower -

Building: Northwind Traders Tower

Visitor: Yvonne McKay

* Scheduled End: 2/18/2022 12 :30

* Scheduled Start: 2/18/2022 12 :00

Data source: Visits

Fields: Edit fields

Snap to columns: On

Columns: 1

Layout: Vertical

Default mode: Edit

Visible: On

Position: 0 (X), 88 (Y)

Size: 640 (Width), 1048 (Height)

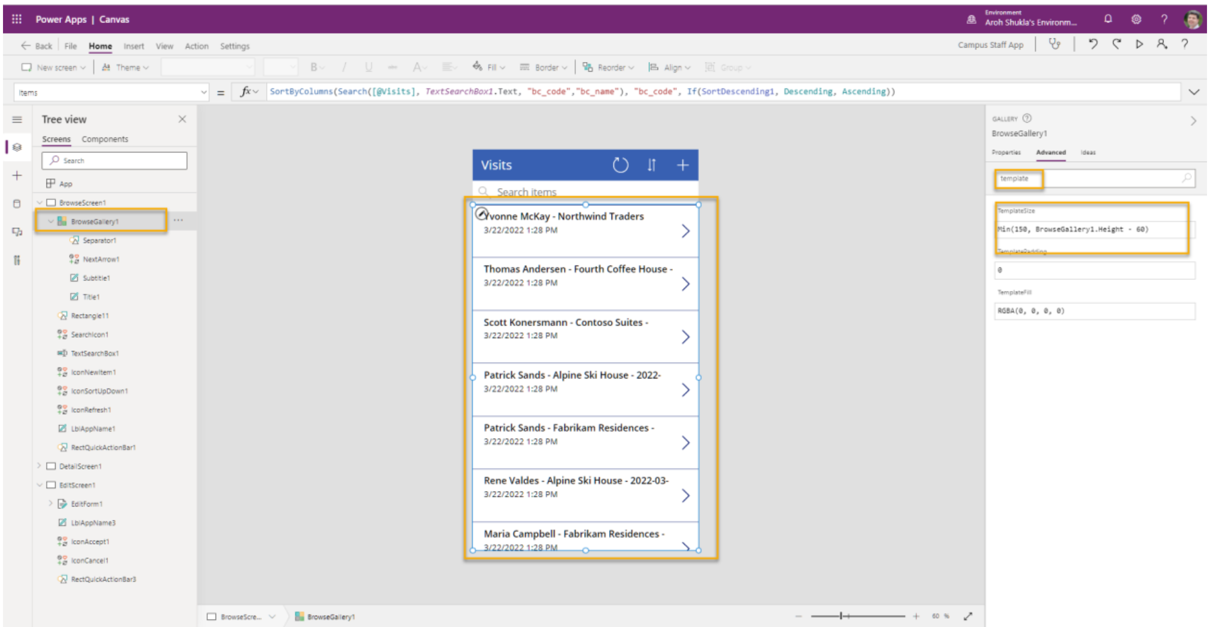
Color

Border: 0

Task #4: Configure Visits gallery

In this task, you will configure the pre-generated gallery to display the title, start date and end date for the visit.

1. Expand **BrowseScreen1** under **Tree view**
2. Select **BrowseGallery1**
3. Select **TemplateSize** property from in the Advanced Properties panel on the right
4. Replace the expression with the following Min(150, BrowseGallery1.Height - 60). That will ensure sufficient space for additional information.



Items = SortByColumns(Search([@Visits], TextSearchBox1.Text, "bc_code","bc_name"), "bc_code", If(SortDescending1, Descending, Ascending))

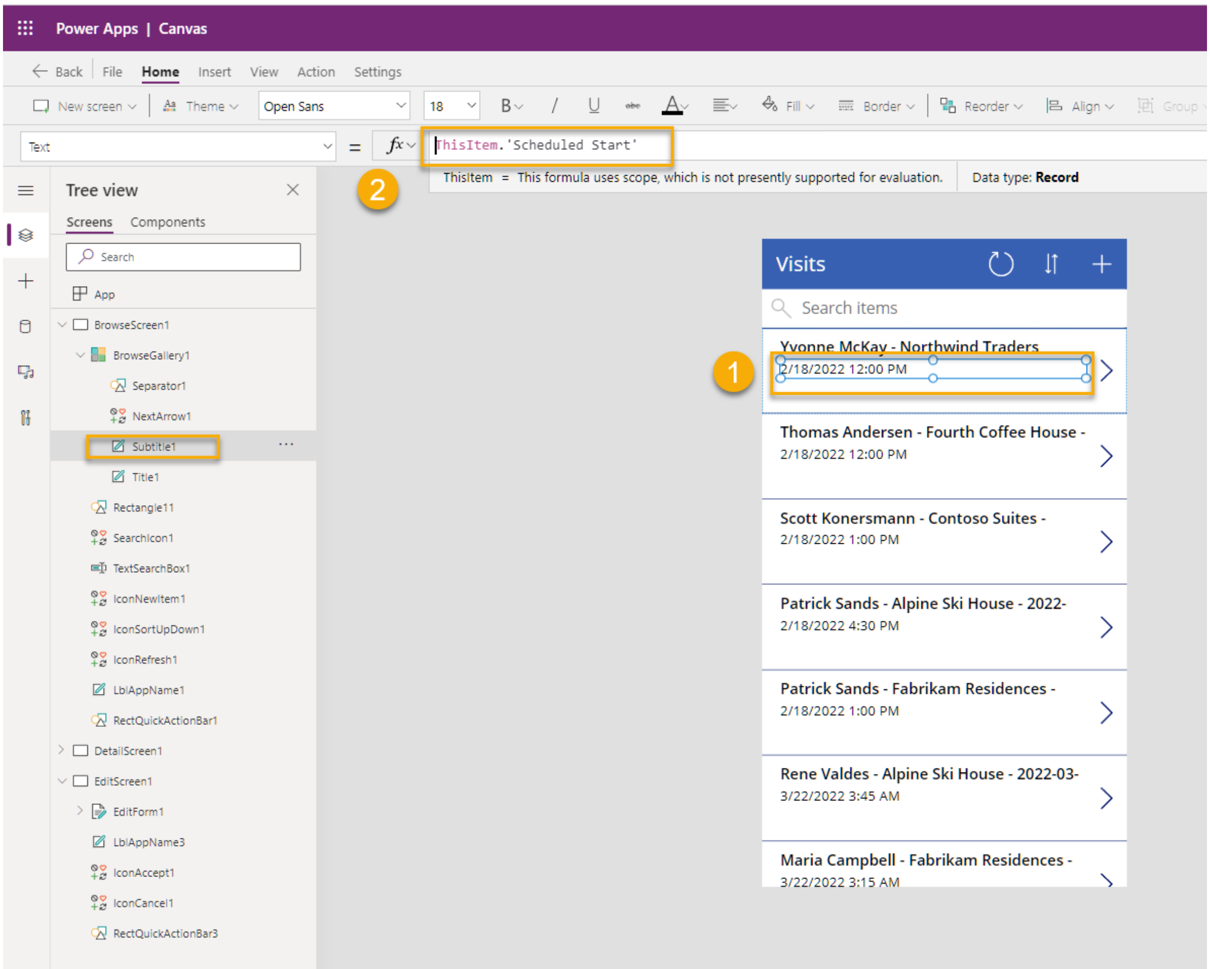
TemplateSize: Min(150, BrowseGallery1.Height - 60)

TemplatePadding: 0

TemplateFill: RGBA(0, 0, 0, 0)

5. In the app preview, select the first Date Time field in the gallery.

6. In the formula bar at the top, change **ThisItem.'Created On'**to ThisItem.'Scheduled Start'



Text = ThisItem.'Scheduled Start'

ThisItem = This formula uses scope, which is not presently supported for evaluation. Data type: **Record**

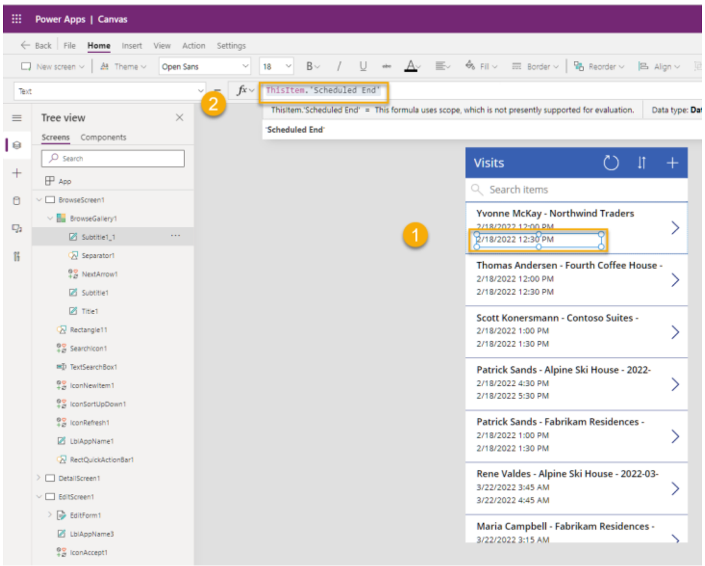
Power Apps | Canvas
2
1
Tree view
Subtitle1
Visits
Yvonne McKay - Northwind Traders
2/18/2022 12:00 PM
Thomas Andersen - Fourth Coffee House -
2/18/2022 12:00 PM
Scott Konersmann - Contoso Suites -
2/18/2022 1:00 PM
Patrick Sands - Alpine Ski House - 2022-
2/18/2022 4:30 PM
Patrick Sands - Fabrikam Residences -
2/18/2022 1:00 PM
Rene Valdes - Alpine Ski House - 2022-03-
3/22/2022 3:45 AM
Maria Campbell - Fabrikam Residences -
3/22/2022 3:15 AM

7. Select the field again

8. Press **CTRL-C** then **CTRL-V** to create a copy of the field.

9. Using either mouse or keyboard, move the copied control down and align it with the other controls in the gallery, beneath the other Date Time field.

10. In the formula bar at the top, change **ThisItem.'Scheduled Start'** to ThisItem.'Scheduled End'



```
ThisItem.'Scheduled End'
```

ThisItem.'Scheduled End' = This formula uses scope, which is not presently supported for evaluation. Data type: Da

'Scheduled End'

Visits

Yvonne McKay - Northwind Traders
2/18/2022 12:00 PM
2/18/2022 12:30 PM

Thomas Andersen - Fourth Coffee House -
2/18/2022 12:00 PM
2/18/2022 12:30 PM

Scott Konersmann - Contoso Suites -
2/18/2022 1:00 PM
2/18/2022 1:30 PM

Patrick Sands - Alpine Ski House - 2022-
2/18/2022 4:30 PM
2/18/2022 5:30 PM

Patrick Sands - Fabrikam Residences -
2/18/2022 1:00 PM
2/18/2022 1:30 PM

Rene Valdes - Alpine Ski House - 2022-03-
3/22/2022 3:45 AM
3/22/2022 4:45 AM

Maria Campbell - Fabrikam Residences -
3/22/2022 3:15 AM

11. To preserve work in progress, click **File** then click **Save**. Use the back arrow to return to the app.

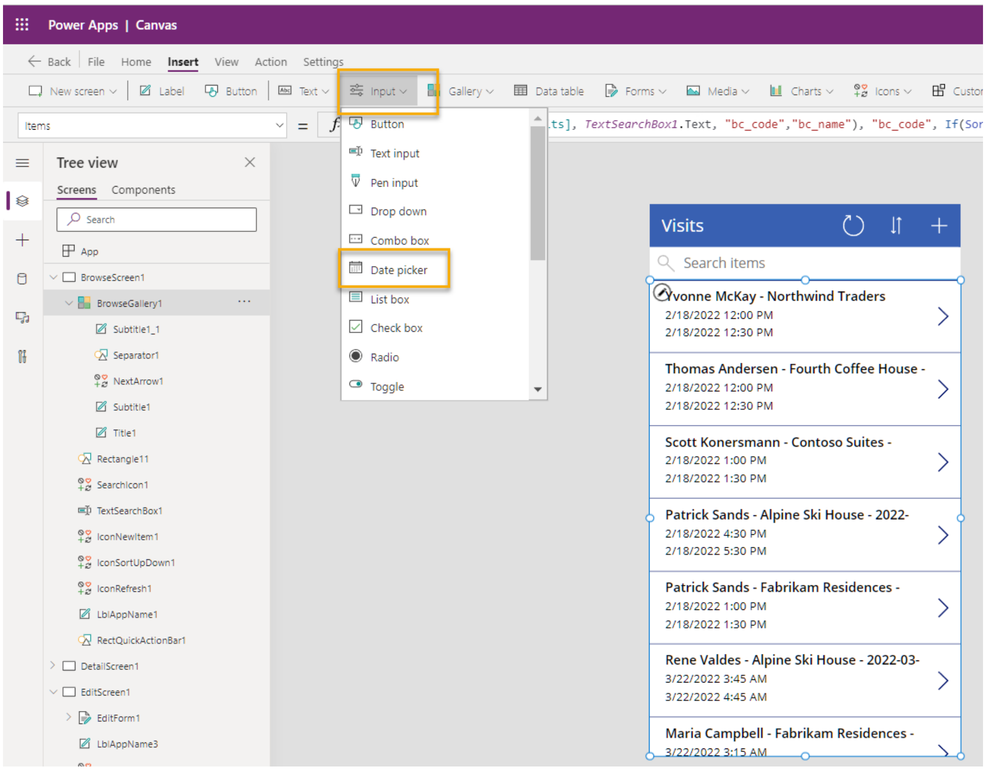
Task #5: Add date filter

Because number of visits continuously grows, users need a feature to filter the visits gallery. For example, the user may want to see only the future visits. In this task, you will add ability to show visits only after a date selected by the user.

1. Select **BrowseScreen1**

2. Select **Insert** menu at the top.

3. Click **Input** and select **Date picker**.



```
ts], TextSearchBox1.Text, "bc_code","bc_name"), "bc_code", If(Sor
```

Yvonne McKay - Northwind Traders
2/18/2022 12:00 PM
2/18/2022 12:30 PM

Thomas Andersen - Fourth Coffee House -
2/18/2022 12:00 PM
2/18/2022 12:30 PM

Scott Konersmann - Contoso Suites -
2/18/2022 1:00 PM
2/18/2022 1:30 PM

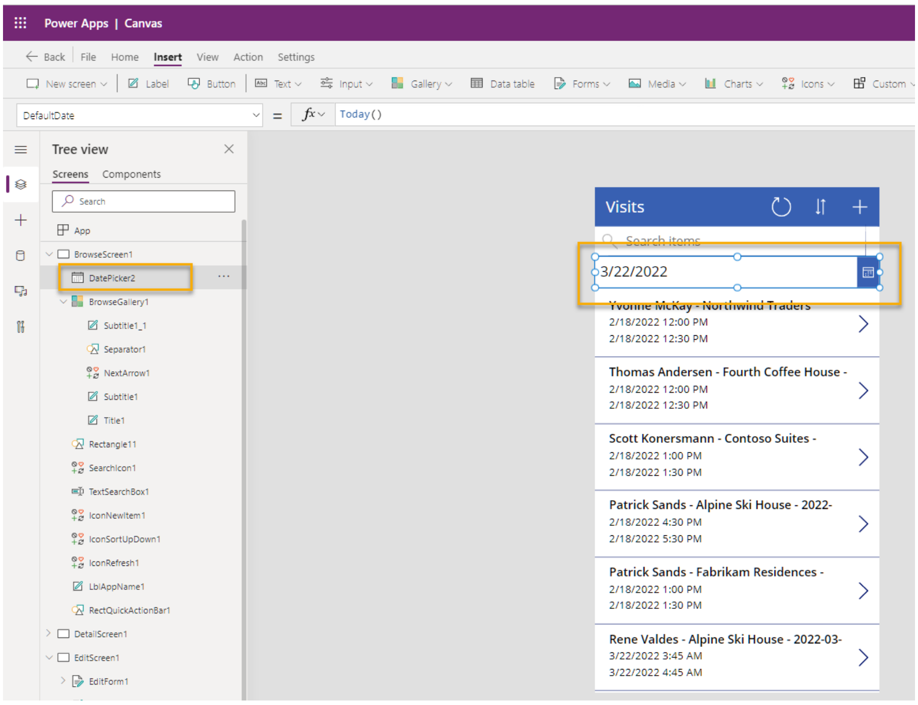
Patrick Sands - Alpine Ski House - 2022-
2/18/2022 4:30 PM
2/18/2022 5:30 PM

Patrick Sands - Fabrikam Residences -
2/18/2022 1:00 PM
2/18/2022 1:30 PM

Rene Valdes - Alpine Ski House - 2022-03-
3/22/2022 3:45 AM
3/22/2022 4:45 AM

Maria Campbell - Fabrikam Residences -
3/22/2022 3:15 AM

4. Using either keyboard or mouse, position the control below the search box.



DefaultDate = Today()

3/22/2022

Yvonne McKay - Northwind Traders
2/18/2022 12:00 PM
2/18/2022 12:30 PM

Thomas Andersen - Fourth Coffee House -
2/18/2022 12:00 PM
2/18/2022 12:30 PM

Scott Konersmann - Contoso Suites -
2/18/2022 1:00 PM
2/18/2022 1:30 PM

Patrick Sands - Alpine Ski House - 2022-
2/18/2022 4:30 PM
2/18/2022 5:30 PM

Patrick Sands - Fabrikam Residences -
2/18/2022 1:00 PM
2/18/2022 1:30 PM

Rene Valdes - Alpine Ski House - 2022-03-
3/22/2022 3:45 AM
3/22/2022 4:45 AM

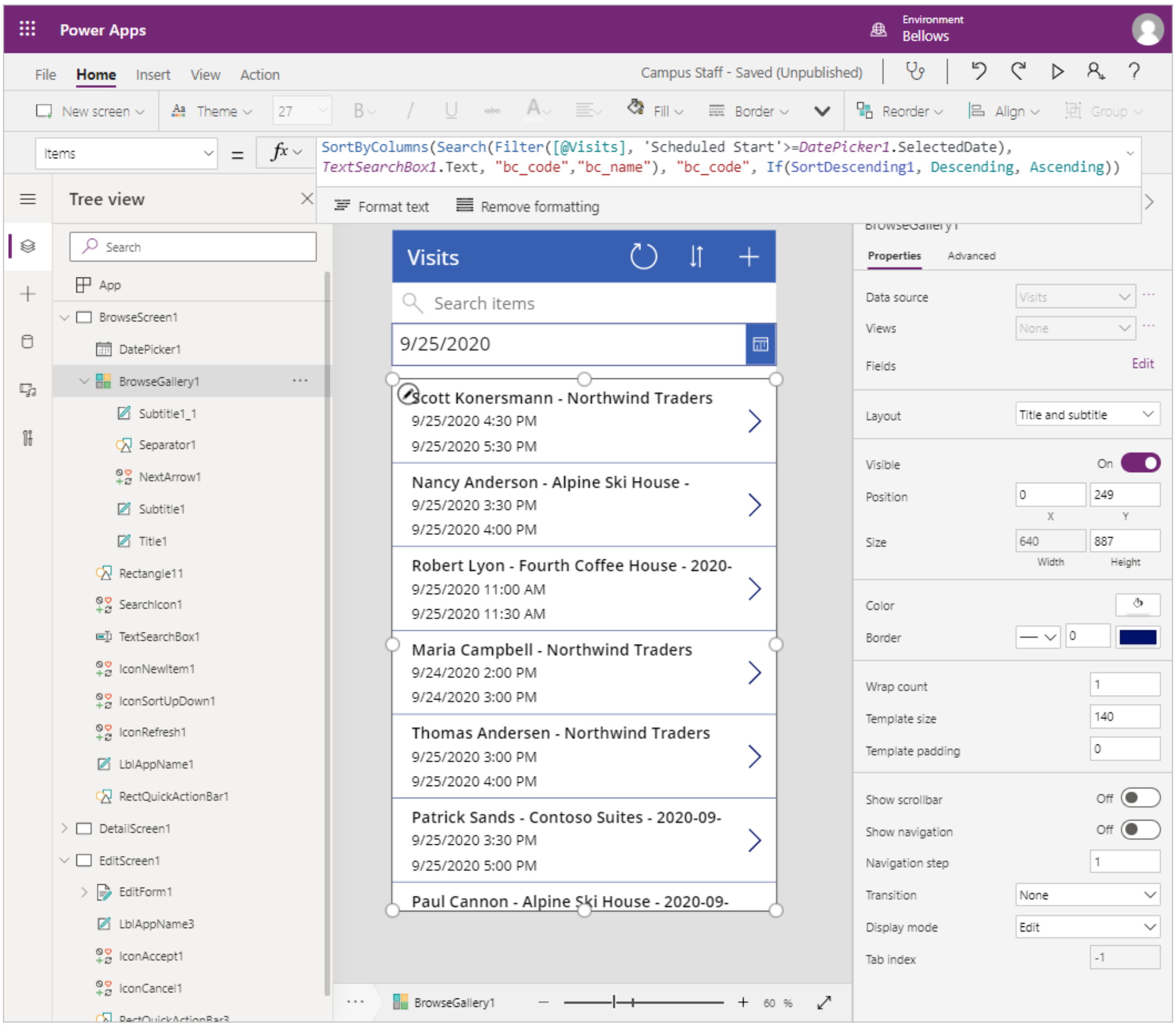
5. Select **BrowseGallery1**

6. Resize and move the gallery control so that it is located under the date picker and covers the screen. You can do this by clicking the resize icon at the top center of the gallery control and resizing the control to start after the date picker.

7. With **BrowseGallery1** selected, click the **Advanced** tab of the Properties pane.

8. Locate the **Items** property and click in the text box.
9. In the expression, locate **[@Visits]** and replace it with Filter(Visits,'Scheduled End' >= DatePicker1.SelectedDate). The full expression should look like the following:
10. SortByColumns(
11. Search(
12. Filter(
13. Visits,
14. 'Scheduled End' >= DatePicker1.SelectedDate
15.),
16. TextSearchBox1.Text,
17. "bc_code","bc_name"
18.),
19. "bc_scheduledstart",
20. If(SortDescending1, Descending, Ascending)
21.)
22. To preserve work in progress, click **File** then click **Save**. Use the back arrow to return to the app.

Your screen should look approximately like the following:



Items =

```
SortByColumns(Search(Filter([@Visits], 'Scheduled Start'>=DatePicker1.SelectedDate),
TextSearchBox1.Text, "bc_code","bc_name"), "bc_code", If(SortDescending1, Descending, Ascending))
```

Visits

Search items

9/25/2020

Scott Konersmann - Northwind Traders
9/25/2020 4:30 PM
9/25/2020 5:30 PM

Nancy Anderson - Alpine Ski House -
9/25/2020 3:30 PM
9/25/2020 4:00 PM

Robert Lyon - Fourth Coffee House - 2020-
9/25/2020 11:00 AM
9/25/2020 11:30 AM

Maria Campbell - Northwind Traders
9/24/2020 2:00 PM
9/24/2020 3:00 PM

Thomas Andersen - Northwind Traders
9/25/2020 3:00 PM
9/25/2020 4:00 PM

Patrick Sands - Contoso Suites - 2020-09-
9/25/2020 3:30 PM
9/25/2020 5:00 PM

Paul Cannon - Alpine Ski House - 2020-09-

BrowseGallery1

Properties | Advanced

Data source	Visits
Views	None
Fields	Edit
Layout	Title and subtitle
Visible	On
Position	0 X, 249 Y
Size	640 Width, 887 Height
Color	
Border	0
Wrap count	1
Template size	140
Template padding	0
Show scrollbar	Off
Show navigation	Off
Navigation step	1
Transition	None
Display mode	Edit
Tab index	-1

Exercise #2: Complete the App

In this exercise you will test the application and, once successful, you will add it to your solution.

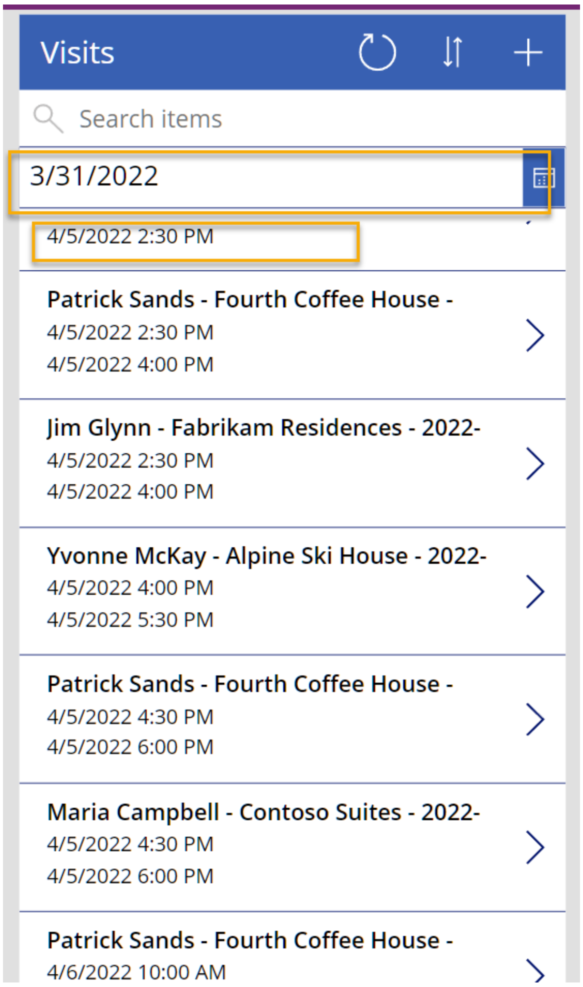
Task #1: Test App

1. Start the application

   - Select the **BrowseScreen1** and press Function **F5**, or click the **Play** icon at the upper-right corner to preview the app.

   - The application should load and show a list of visits.

- Test the filter by selecting different **dates in the date picker control**



3/31/2022

4/5/2022 2:30 PM

Patrick Sands - Fourth Coffee House -
4/5/2022 2:30 PM
4/5/2022 4:00 PM

Jim Glynn - Fabrikam Residences - 2022-
4/5/2022 2:30 PM
4/5/2022 4:00 PM

Yvonne McKay - Alpine Ski House - 2022-
4/5/2022 4:00 PM
4/5/2022 5:30 PM

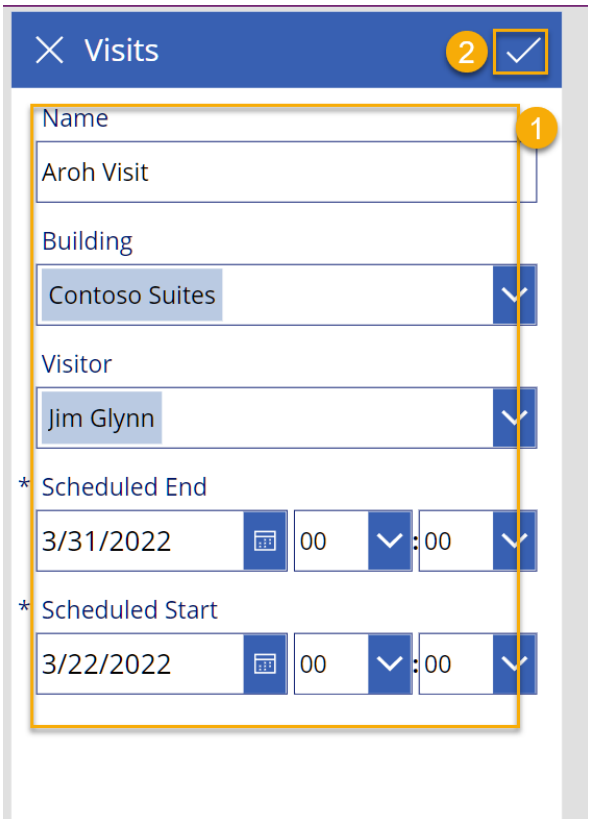
Patrick Sands - Fourth Coffee House -
4/5/2022 4:30 PM
4/5/2022 6:00 PM

Maria Campbell - Contoso Suites - 2022-
4/5/2022 4:30 PM
4/5/2022 6:00 PM

Patrick Sands - Fourth Coffee House -
4/6/2022 10:00 AM

- Select a visit and verify that display form is working properly

- Return to the gallery and press **+** to create a new visit. Verify that edit form contains required columns including visitor, building, and scheduled start and end dates.



Visits

Name

Aroh Visit

Building

Contoso Suites

Visitor

Jim Glynn

* Scheduled End

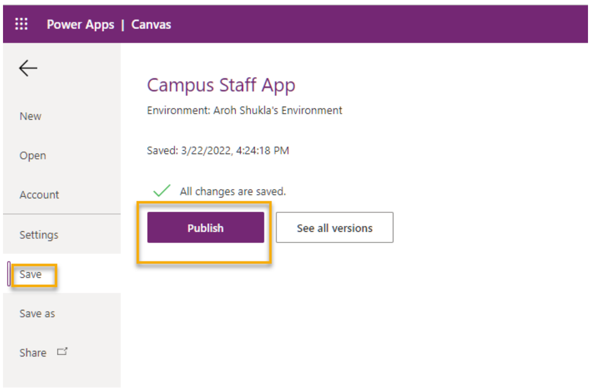
3/31/2022 00 :00

* Scheduled Start

3/22/2022 00 :00

- Fill in the information and submit. Verify that the new record appears in the gallery.
- Create at least 2 more visits.
- Press **ESC** key or click the **X** icon to close preview mode.

2. Save and publish the application
   - Click **File** and, if the Save button is displayed, click **Save**.
   - Click **Publish**



Campus Staff App

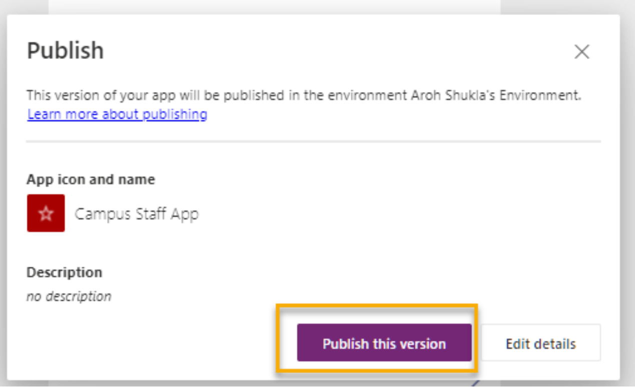
Environment: Aroh Shukla's Environment

Saved: 3/22/2022, 4:24:18 PM

All changes are saved.

.

- Click **Publish this Version**.



Publish

This version of your app will be published in the environment Aroh Shukla's Environment.
Learn more about publishing

App icon and name

Campus Staff App

Description

no description

- Click the **Back** arrow to navigate back to the app.

- Close the **Designer** browser window or tab.

- Click **Leave** if prompted when tried to close the browser window.

Task #2: Add App to Solution and publish

1. Open the Campus Management solution.

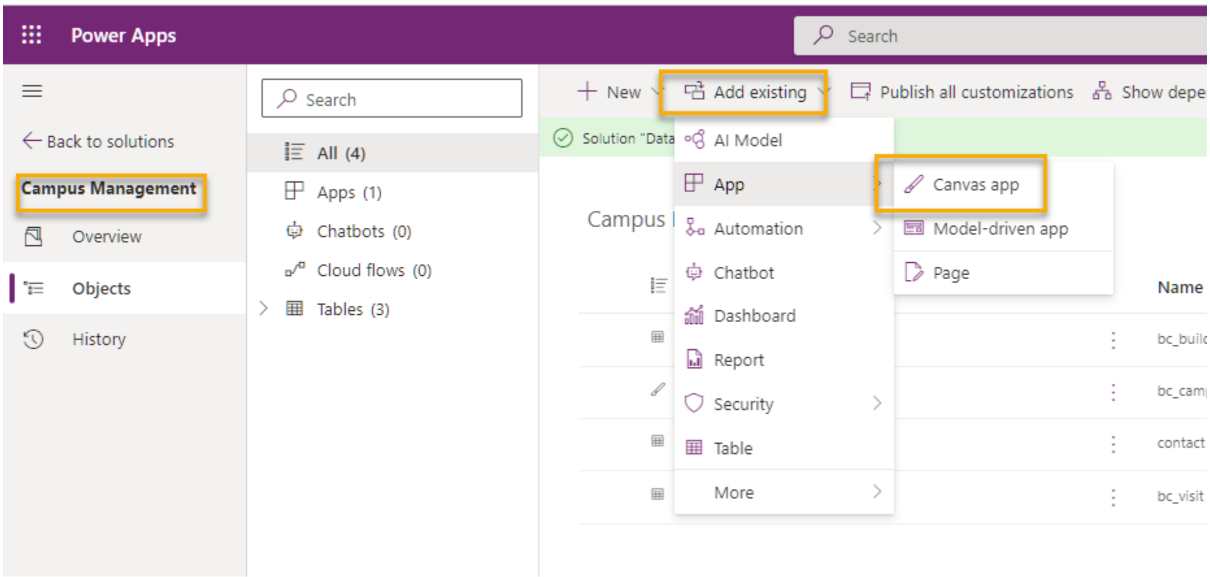
    - Sign in to https://make.powerapps.com

    - If the Environment displayed in the top right is not your Practice environment, select your **Environment**.

    - Select **Solutions**.

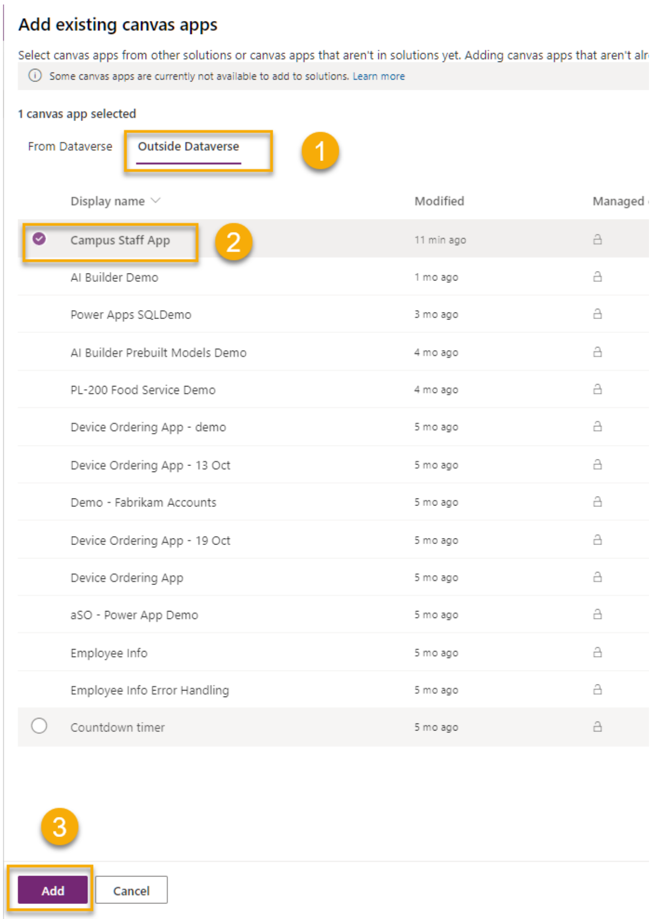
    - Click to open your **Campus Management** solution.

2. Select **Add existing**, then click **App**, and then click **Canvas app**.



3. Select **Outside Dataverse** tab.

4. Select your **Campus Staff** app, click **Add**.



Add existing canvas apps

Select canvas apps from other solutions or canvas apps that aren't in solutions yet. Adding canvas apps that aren't alr

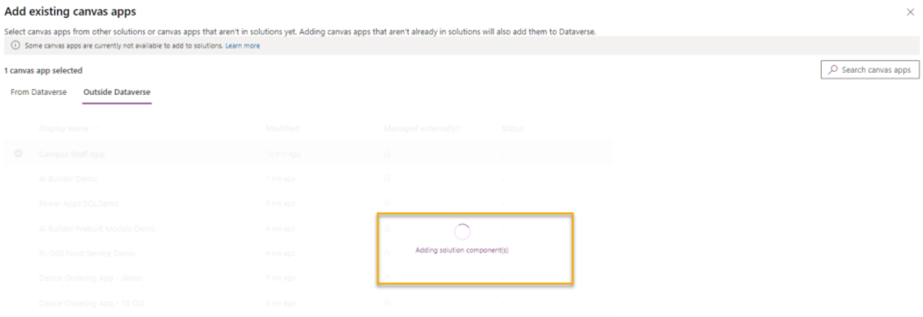
ⓘ Some canvas apps are currently not available to add to solutions. Learn more

1 canvas app selected

From Dataverse | Outside Dataverse

	Display name	Modified	Managed
●	Campus Staff App	11 min ago	🔒
	AI Builder Demo	1 mo ago	🔒
	Power Apps SQLDemo	3 mo ago	🔒
	AI Builder Prebuilt Models Demo	4 mo ago	🔒
	PL-200 Food Service Demo	4 mo ago	🔒
	Device Ordering App - demo	5 mo ago	🔒
	Device Ordering App - 13 Oct	5 mo ago	🔒
	Demo - Fabrikam Accounts	5 mo ago	🔒
	Device Ordering App - 19 Oct	5 mo ago	🔒
	Device Ordering App	5 mo ago	🔒
	aSO - Power App Demo	5 mo ago	🔒
	Employee Info	5 mo ago	🔒
	Employee Info Error Handling	5 mo ago	🔒
○	Countdown timer	5 mo ago	🔒

5. Select **Publish all customizations**.



Add existing canvas apps

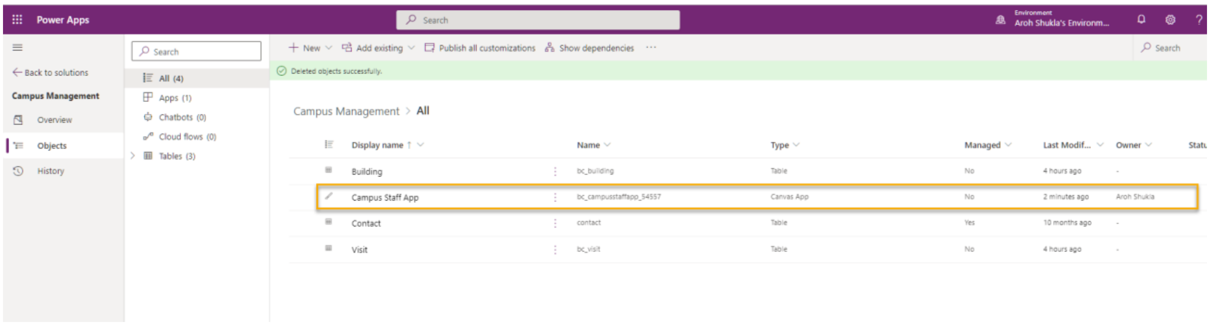
Select canvas apps from other solutions or canvas apps that aren't in solutions yet. Adding canvas apps that aren't already in solutions will also add them to Dataverse.

ⓘ Some canvas apps are currently not available to add to solutions. Learn more

1 canvas app selected

From Dataverse | Outside Dataverse

Adding solution component(s)



✓ Deleted objects successfully.

Campus Management > All

Display name ↑	Name	Type	Managed	Last Modif...	Owner	Statu
Building	bc_building	Table	No	4 hours ago	-	
Campus Staff App	bc_campusstaffapp_54557	Canvas App	No	2 minutes ago	Aroh Shukla	
Contact	contact	Table	Yes	10 months ago	-	
Visit	bc_visit	Table	No	4 hours ago	-	

Challenges

- Calendar view of all visits and filtering by date range
- Ability to create and manage contacts as part of the app
- How to display multiple meetings during a single visit

Module 3: Get started with Power Apps (Canvas Apps – Part 2)

Lab 2: How to build a canvas app, part 2

Scenario

Bellows College is an educational organization with multiple buildings on campus. Campus visits are currently recorded in paper journals. The information is not captured consistently, and there are no means to collect and analyze data about the visits across the entire campus.

Campus administration would like to modernize their visitor registration system where access to the buildings is controlled by security personnel and all visits are required to be pre-registered and recorded by their hosts.

Throughout this course, you will build applications and perform automation to enable the Bellows College administration and security personnel to manage and control access to the buildings on campus.

In part 2 of this lab, you will create design and build a Power Apps canvas app that the security personnel will use at the building entrances to quickly confirm and register the visitors.

High-level lab steps

You will follow the below outline to design the canvas app:

- Create the app using the **phone form factor**
- Connect **to Dataverse as a data source**
- Capture the **input (visitor code) and locate the visitor row**
- Configure **a form viewer control to show the visitor information**
- Use **a Dataverse view to populate the gallery**
- Handle checking-in and checking-out process for a visitor

Prerequisites

- Completion of **Module 0 Lab 0 - Validate lab environment**
- Completion of **Module 2 Lab 1 - Introduction to Microsoft Dataverse**

Things to consider before you begin

- What information would a security officer need quick access to?

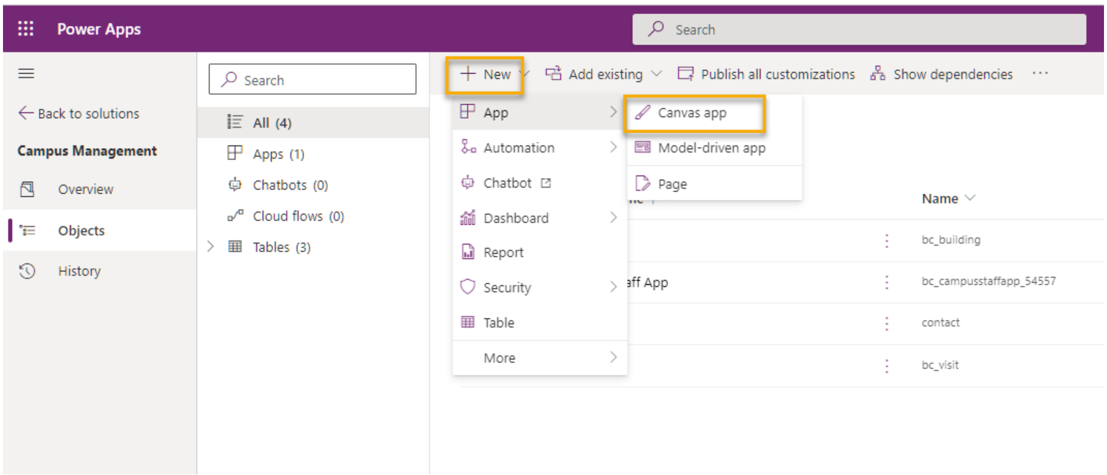
- What should happen if visitor code is invalid?
- What should happen if the visitor arrives outside of the scheduled hours?

Exercise #1: Create Security Canvas App

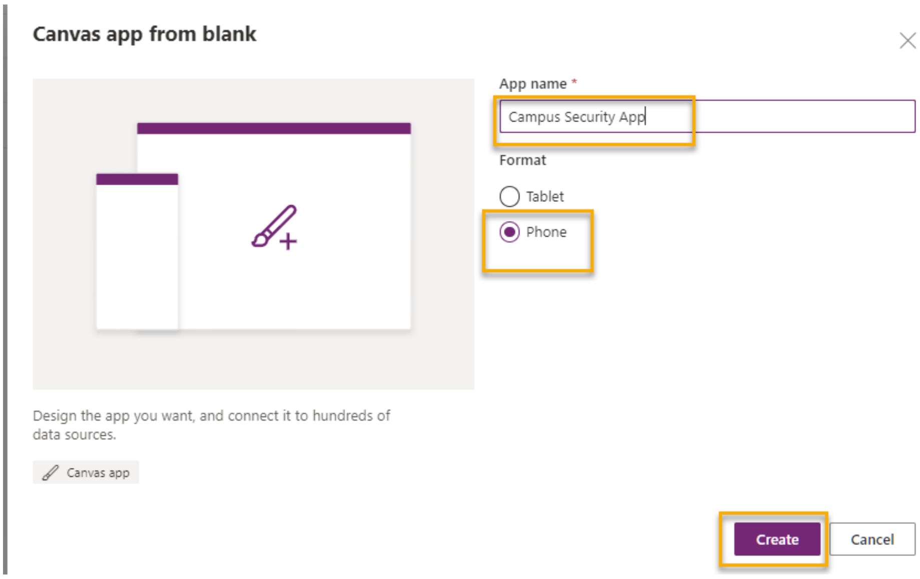
Objective: In this exercise, you will create a canvas app.

Task #1: Create Canvas App

1. Open your Campus Management solution.
   - Sign in to https://make.powerapps.com
   - If the Environment displayed in the top right is not your Practice environment, select your **Environment**.
   - Select **Solutions**.
   - Click to open your **Campus Management** solution.
2. Create new canvas application
   - Click **New** and select **App | Canvas App**.



   - In the Canvas app from blank window, enter **[Your Last Name] Campus Security** in the App name field.
   - Select **Phone** in the Format field.
   - Click **Create**. This will open the App Editor in a New window.



Canvas app from blank

App name *: Campus Security App

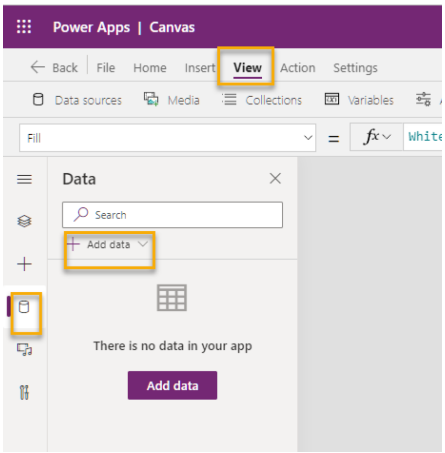
Format: ○ Tablet ● Phone

Design the app you want, and connect it to hundreds of data sources.

- ○ Click **Skip** if presented with the Welcome to Power Apps Studio dialogue.

3. Save the canvas app
   - ○ Click **File** and select **Save As**.
   - ○ Check if **The cloud** is selected click **Save**.
   - ○ Verify **[Your Last Name] Campus Security** for Name and click **Save**.
   - ○ Click the **Back** arrow at the top left (below Power Apps) to return to the app.

4. Connect to data source (Visits)
   - ○ Click **View | Data sources**
   - ○ Click **+ Add Data**

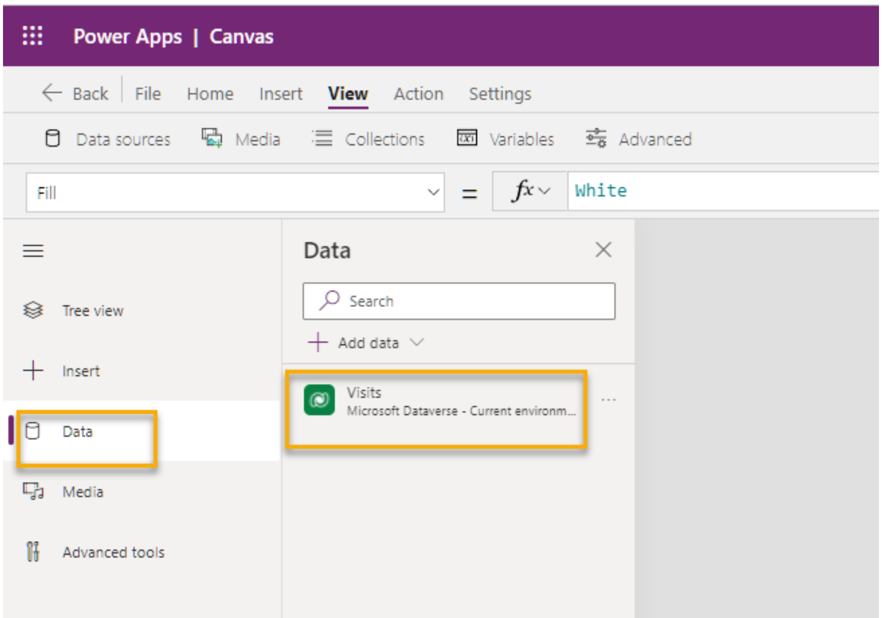


Fill = White

There is no data in your app

   - ○ Click **See all tables**

- Select **Visits** and wait for the Visit table to display on the Data tab.

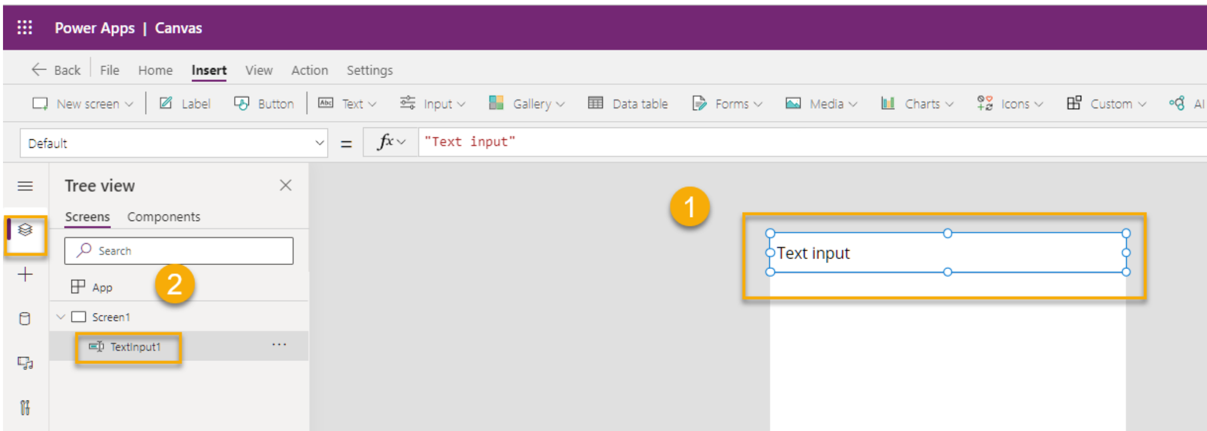


5. To preserve work in progress, click **File** then click **Save**. Use the back arrow to return to the app.

Task #2: Display Visitor information

1. Add search box

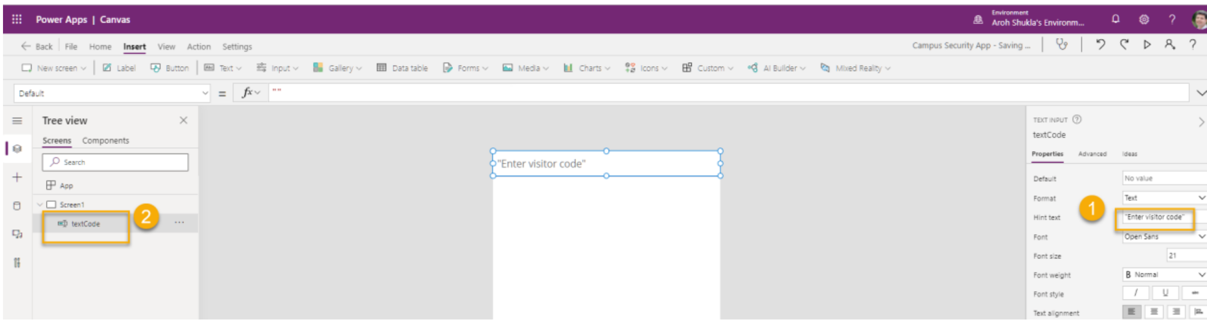
   - Select the **Tree View** tab on the left navigation bar.
   - Select **Screen1**.
   - Go to the **Insert** tab.
   - Click **Text** and select **Text input**.



2. Edit the text input object

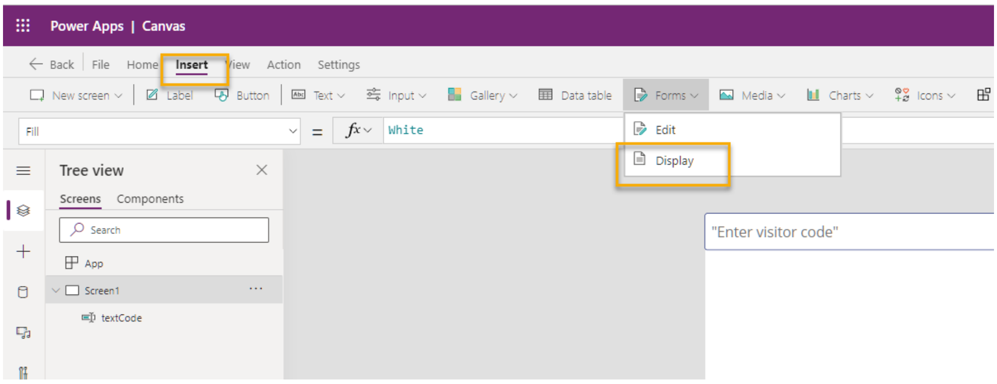
   - While still selecting the Text input object, select the text in the **Default** property and clear the value.
   - Select **Hint Text** property and enter "Enter visitor code" as the value (including double quotes)

- Click on **...** next to the control name in tree view (TextInput1), select **Rename**, change the name to **textCode**



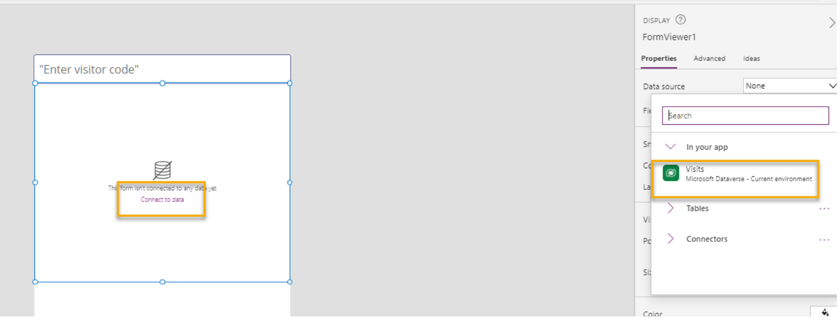
3. Add a form view

- On **Insert** tab click **Forms** then select **Display** (you may need to click the down arrow on the right side of the ribbon to see Forms)

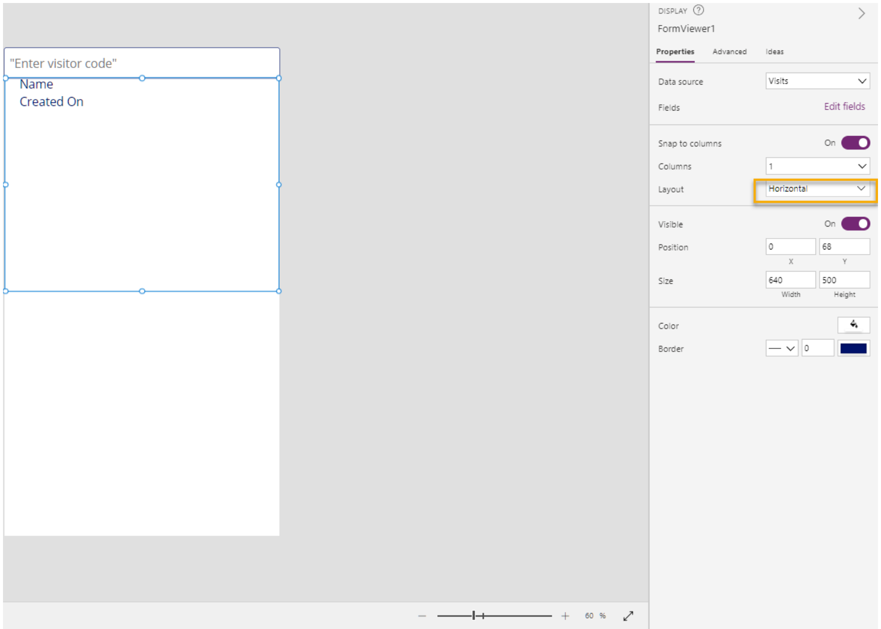


- Drag to position the form and align with the bottom of the screen

- While still selecting the new form, select **DataSource** property and select **Visits**

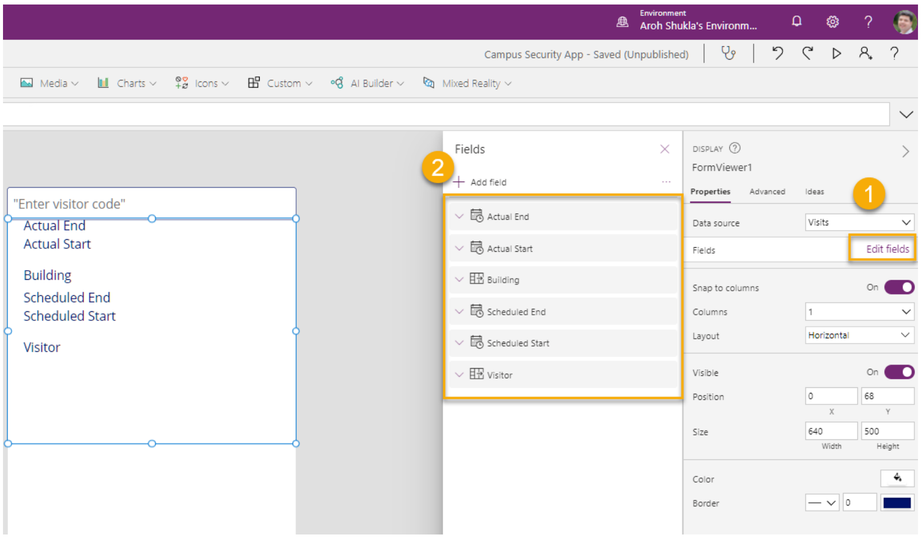


- In the properties pane select **Horizontal** as **Layout**



4. Edit form view

    - While still selecting the new form, click **Edit fields**
    - Remove both the **Name** and **Created On** fields
    - Click **Add field** and select the following fields: **Actual End**, **Actual Start**, **Building**, **Scheduled End**, **Scheduled Start**, **Visitor**
    - Press **Add**



    - Change the order of the selected fields by dragging the field cards in the list. Recommended order is: Visitor, Building, Scheduled Start, Scheduled End, Actual Start, Actual End (you can collapse the fields to make them easier to drag)
    - Click the **X** to close the Fields pane

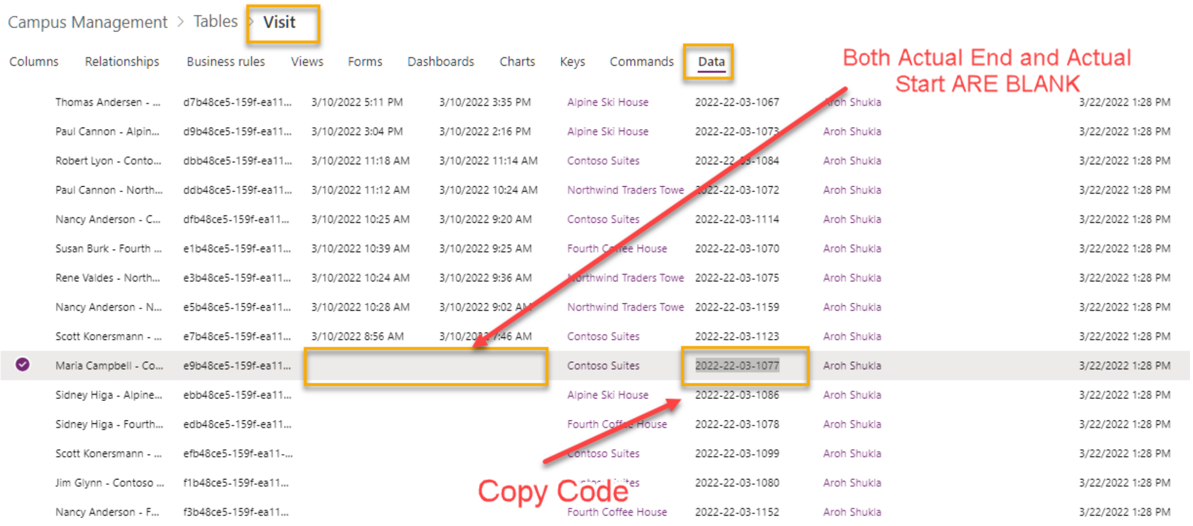
5. While still selecting the **form view**, select the **Advanced tab** on the Properties pane. Select **Item** property and enter *LookUp(Visits, Code = textCode.Text)*

6. To preserve work in progress, click **File** then click **Save**. Use the back arrow to return to the app.

7. Prepare to test the app

   - Switch to the browser tab containing the solution
   - Click **Done** in the pop-up window
   - Select **Visit** table
   - Select **Data** tab
   - Open the View Selector in the top right by clicking the current View name, **Active Visits**
   - Change the View to **All columns**

   Locate a Visit row that does not have an **Actual Start** or **Actual End** value (i.e., both columns are blank). Select and copy the **Code** for this Visit.



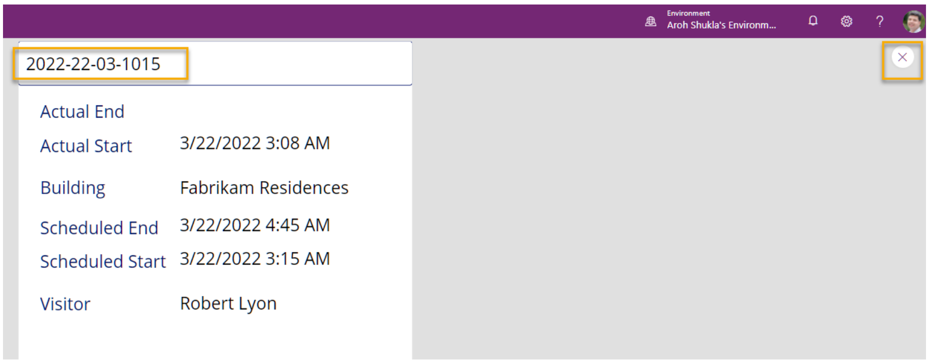
Both Actual End and Actual Start ARE BLANK

Copy Code

Thomas Andersen - ...	d7b48ce5-159f-ea11...	3/10/2022 5:11 PM	3/10/2022 3:35 PM	Alpine Ski House	2022-22-03-1067	Aroh Shukla	3/22/2022 1:28 PM
Paul Cannon - Alpin...	d9b48ce5-159f-ea11...	3/10/2022 3:04 PM	3/10/2022 2:16 PM	Alpine Ski House	2022-22-03-1073	Aroh Shukla	3/22/2022 1:28 PM
Robert Lyon - Conto...	dbb48ce5-159f-ea11...	3/10/2022 11:18 AM	3/10/2022 11:14 AM	Contoso Suites	2022-22-03-1084	Aroh Shukla	3/22/2022 1:28 PM
Paul Cannon - North...	ddb48ce5-159f-ea11...	3/10/2022 11:12 AM	3/10/2022 10:24 AM	Northwind Traders Towe	2022-22-03-1072	Aroh Shukla	3/22/2022 1:28 PM
Nancy Anderson - C...	dfb48ce5-159f-ea11...	3/10/2022 10:25 AM	3/10/2022 9:20 AM	Contoso Suites	2022-22-03-1114	Aroh Shukla	3/22/2022 1:28 PM
Susan Burk - Fourth ...	e1b48ce5-159f-ea11...	3/10/2022 10:39 AM	3/10/2022 9:25 AM	Fourth Coffee House	2022-22-03-1070	Aroh Shukla	3/22/2022 1:28 PM
Rene Valdes - North...	e3b48ce5-159f-ea11...	3/10/2022 10:24 AM	3/10/2022 9:36 AM	Northwind Traders Towe	2022-22-03-1075	Aroh Shukla	3/22/2022 1:28 PM
Nancy Anderson - N...	e5b48ce5-159f-ea11...	3/10/2022 10:28 AM	3/10/2022 9:02 AM	Northwind Traders Towe	2022-22-03-1159	Aroh Shukla	3/22/2022 1:28 PM
Scott Konersmann - ...	e7b48ce5-159f-ea11...	3/10/2022 8:56 AM	3/10/2022 7:46 AM	Contoso Suites	2022-22-03-1123	Aroh Shukla	3/22/2022 1:28 PM
Maria Campbell - Co...	e9b48ce5-159f-ea11...			Contoso Suites	2022-22-03-1077	Aroh Shukla	3/22/2022 1:28 PM
Sidney Higa - Alpine...	ebb48ce5-159f-ea11...			Alpine Ski House	2022-22-03-1086	Aroh Shukla	3/22/2022 1:28 PM
Sidney Higa - Fourth...	edb48ce5-159f-ea11...			Fourth Coffee House	2022-22-03-1078	Aroh Shukla	3/22/2022 1:28 PM
Scott Konersmann - ...	efb48ce5-159f-ea11-...			Contoso Suites	2022-22-03-1099	Aroh Shukla	3/22/2022 1:28 PM
Jim Glynn - Contoso ...	f1b48ce5-159f-ea11...			Contoso Suites	2022-22-03-1080	Aroh Shukla	3/22/2022 1:28 PM
Nancy Anderson - F...	f3b48ce5-159f-ea11...			Fourth Coffee House	2022-22-03-1152	Aroh Shukla	3/22/2022 1:28 PM

8. Test the app

   - Switch to the browser tab with the app, press **F5** or click the **Play** icon at the upper-right corner to preview the app.
   - **Paste the copied value into** the search textbox, **verify that the record** is displayed in the form.



2022-22-03-1015

Actual End	
Actual Start	3/22/2022 3:08 AM
Building	Fabrikam Residences
Scheduled End	3/22/2022 4:45 AM
Scheduled Start	3/22/2022 3:15 AM
Visitor	Robert Lyon

9. Clear the search textbox contents.

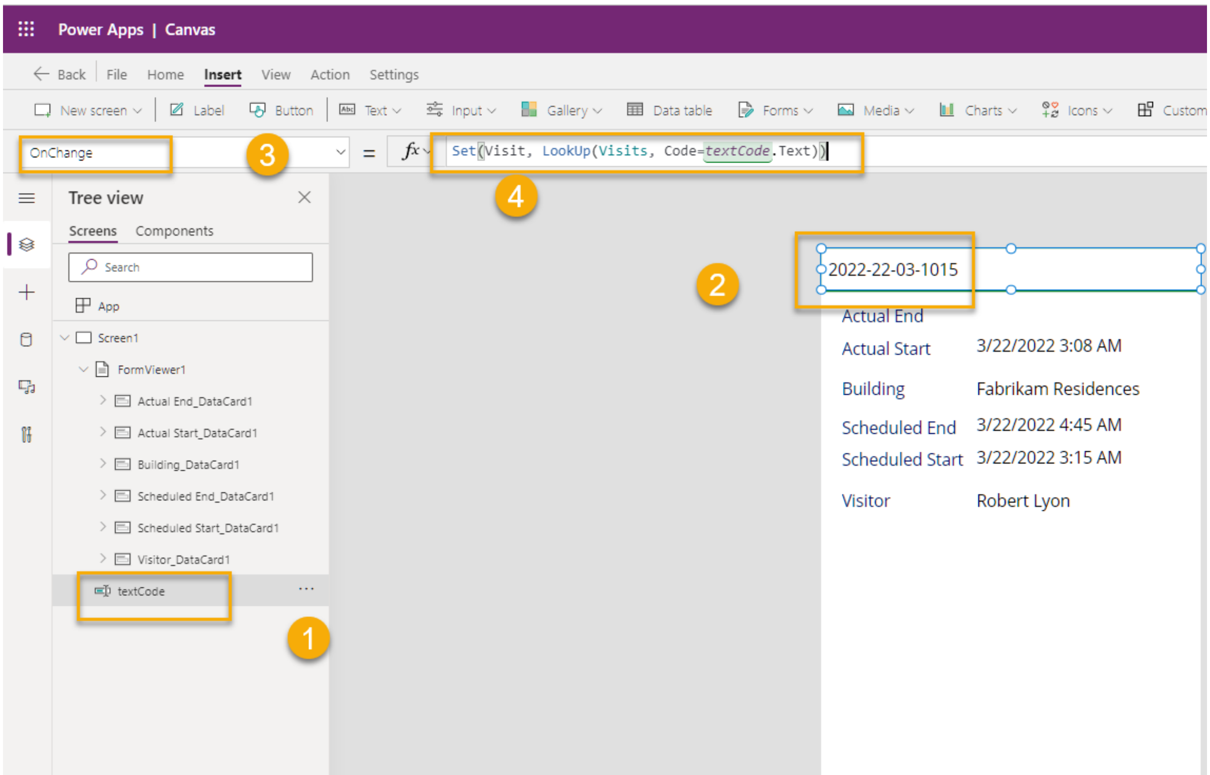
10. Press **ESC** to exit the running app.

Task #3: Add Check In and Check Out Buttons

In this task, we will create buttons for the user to check in and check out of their Visit.

1. Save search results in a **variable** to **reuse** across the control
    - Select **textCode** control
    - In the properties pane, select the **Advanced** tab and select **OnChange** property
    - Enter the following expression *Set(Visit, LookUp(Visits, Code = textCode.Text))*

This will **save the visit in a global variable** when a user searches in the textCode searchbox. That allows us to use the variable *Visit* throughout the app without the need to re-enter the entire lookup expression.



OnChange = *fx*

```
Set(Visit, LookUp(Visits, Code=textCode.Text))
```

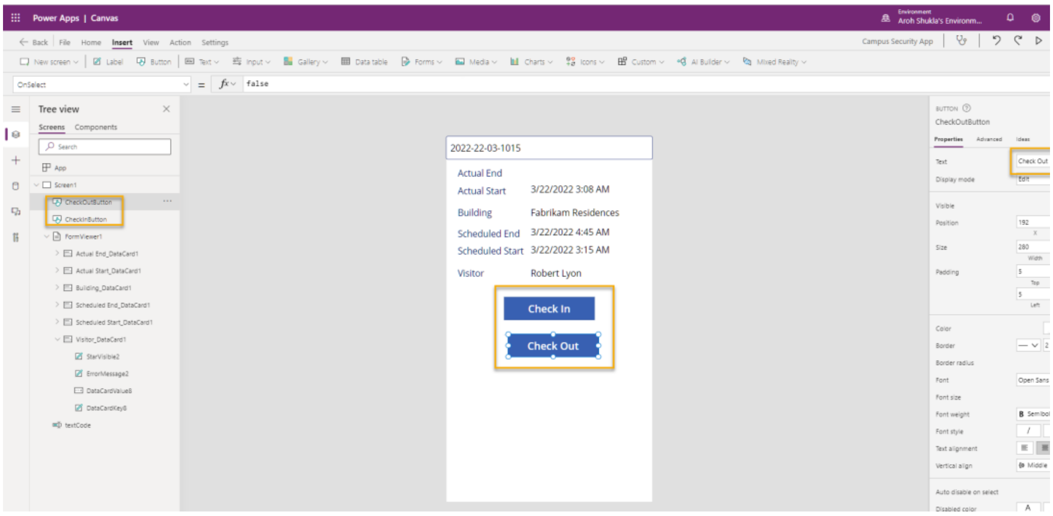
2022-22-03-1015

Actual End	
Actual Start	3/22/2022 3:08 AM
Building	Fabrikam Residences
Scheduled End	3/22/2022 4:45 AM
Scheduled Start	3/22/2022 3:15 AM
Visitor	Robert Lyon

2. Add Check In Button
    - Select **Insert** tab
    - Click **Button**
    - In the properties pane, change the button **Text** property to "Check In" (you can type within the existing quotes)
    - Click on **...** next to the button name in tree view (Button1), select **Rename**, change the name to CheckInButton

3. Add Check Out Button

- Click **Button** on the Insert tab to insert another button
- In the properties pane, change the button **Text** property to "Check Out" (you can type within the existing quotes)
- Rename the button as CheckOutButton
- Position the buttons below the search box, with **Check In** above **Check Out**



OnSelect = false

2022-22-03-1015

Actual End

Actual Start 3/22/2022 3:08 AM

Building Fabrikam Residences

Scheduled End 3/22/2022 4:45 AM

Scheduled Start 3/22/2022 3:15 AM

Visitor Robert Lyon

BUTTON CheckOutButton

Text: Check Out

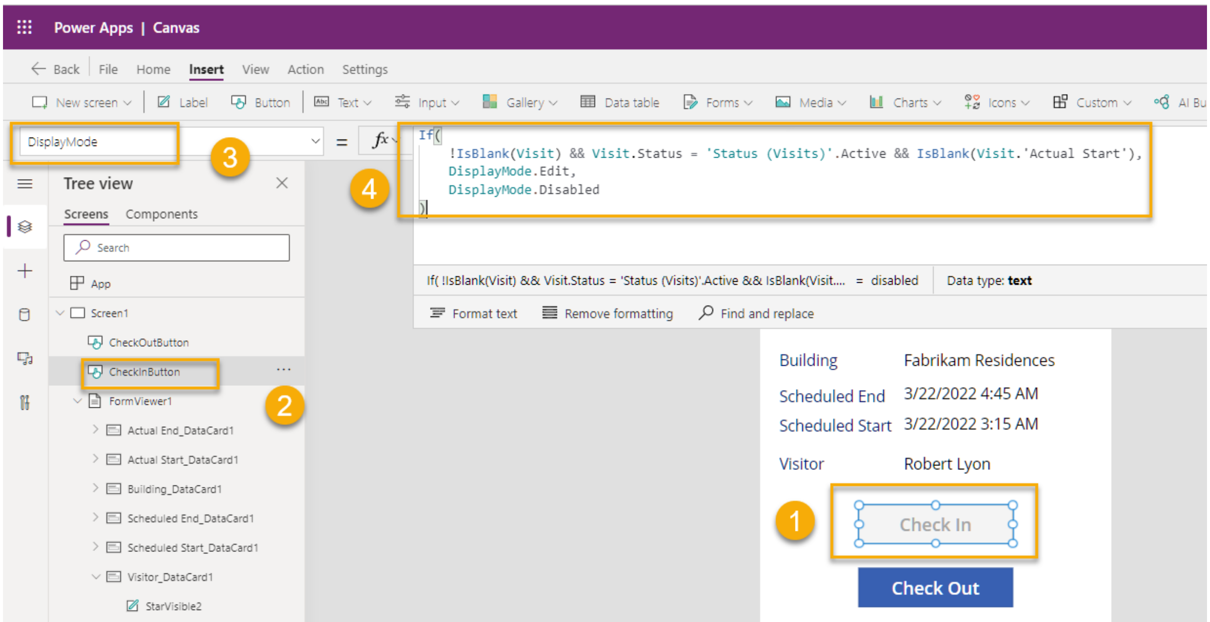
Display mode: Edit

Task #4: Enable and disable buttons depending on visit data

Once users have looked up the visit, we would like them to use the Check In button to check in for that visit. We would like to enable **Check In** button when the visit record has been located (not blank), record status is active, and the visit has not started yet, i.e. the actual start value is blank.

1. Select the **Check In button** and click on the **Display Mode** property of the button in the Properties tab
2. Enter the expression below in the function bar:
3. If(!IsBlank(Visit)
4. && Visit.Status = 'Status (Visits)'.Active
5. && IsBlank(Visit.'Actual Start'),
6. DisplayMode.Edit,
7. DisplayMode.Disabled

8.)



```
If(
    !IsBlank(Visit) && Visit.Status = 'Status (Visits)'.Active && IsBlank(Visit.'Actual Start'),
    DisplayMode.Edit,
    DisplayMode.Disabled
)
```

If(!IsBlank(Visit) && Visit.Status = 'Status (Visits)'.Active && IsBlank(Visit.... = disabled   Data type: text

Building	Fabrikam Residences
Scheduled End	3/22/2022 4:45 AM
Scheduled Start	3/22/2022 3:15 AM
Visitor	Robert Lyon

The expression can be broken down as following:

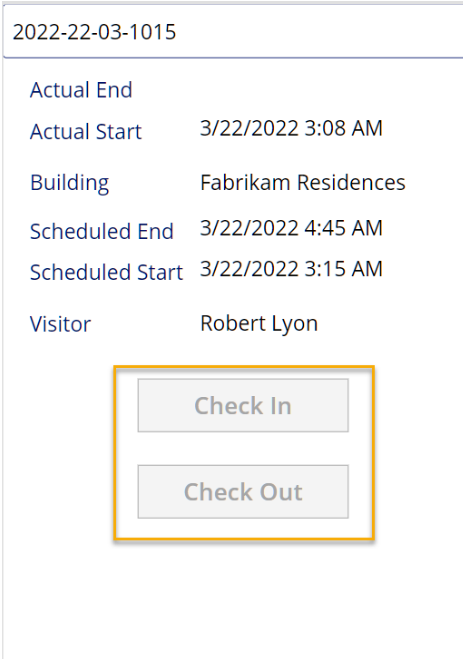
- **!IsBlank(Visit)** - visit record was found
- **&&** - logical AND operator
- **Visit.Status = 'Status (Visits)'.Active** status of the record is *Active*
- **IsBlank(Visit.'Actual Start')** - Active Start field does not have any data in it
- **DisplayMode.Edit, DisplayMode.Disabled** - If the above conditions are met, the button will become editable. If not, the button will remain disabled.

We would like to enable **Check Out** button when the visit record has been located (not blank), record status is active, and the visit has already started, i.e. the actual start value is not blank.

3. Select the Check Out button and click on the **Display Mode** property of the button in the Properties tab
4. Enter the expression below in the function bar:
5. If(!IsBlank(Visit)
6. && Visit.Status = 'Status (Visits)'.Active
7. && !IsBlank(Visit.'Actual Start'),
8.   DisplayMode.Edit,
9.   DisplayMode.Disabled
10.)
11. To preserve work in progress, click **File** then click **Save**. Use the back arrow to return to the app.

12. Press **F5** to run the app.

13. Both buttons should be disabled. Enter the code value you copied previously and press **Tab** to move the focus away from the textbox (or click outside of the textbox). The **Check In** button should become enabled.



2022-22-03-1015

Actual End	
Actual Start	3/22/2022 3:08 AM
Building	Fabrikam Residences
Scheduled End	3/22/2022 4:45 AM
Scheduled Start	3/22/2022 3:15 AM
Visitor	Robert Lyon

14. Clear the search box contents.

15. Press **ESC** to exit the running app.

Task #5: Complete Check In and Check Out Process

To perform the check in and check out process we need to update Dataverse visit data as following:

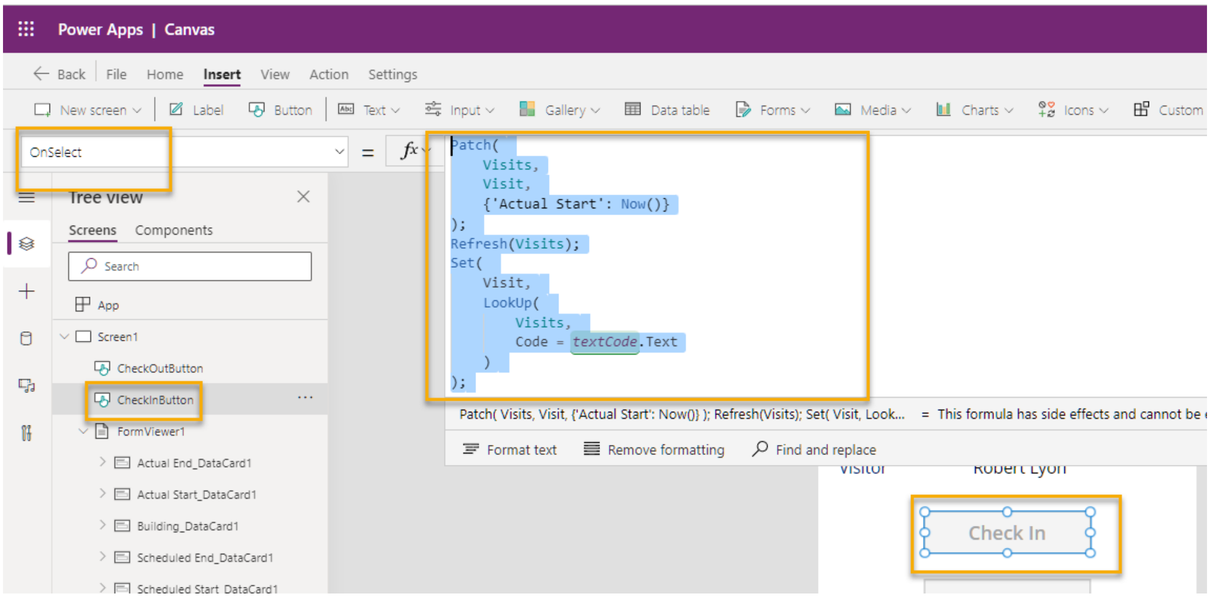
- When **visitor checks in**, set ***Actual Start*** field to the **current date and time**
- When **visitor checks out**, set *Actual End* field to the current date and time.
- After check out, set the record status to inactive, indicating that the visit has been completed

1. Select **Check In** button.
2. Set **OnSelect** property on the Advanced tab to the following expression.
3. Patch(
4.   Visits,
5.   Visit,
6.   {'Actual Start': Now()}
7.);
8. Refresh([@Visits]);
9. Set(Visit, LookUp(Visits, Code = textCode.Text));

This expression contains the following parts:

- **Patch(Visits, Visit, {'Actual Start': Now()});**. *Patch* method updates **Visits** table, the row identified by **Visit** variable (which is the current visit). The expression sets the value of *Actual Start* column to the current date and time (*Now()* method).
- **Refresh([@Visits]);**. This expression refreshes the visit rows, as the underlying values have changed
- **Set(Visit, LookUp(Visits, Code = textCode.Text));** This expression updates the *Visit* variable with fresh data from Dataverse.

When a user clicks this button, the Actual Start of the Visit will be set to the current date and time and the data will refresh.



OnSelect = fx

```
Patch(
    Visits,
    Visit,
    {'Actual Start': Now()}
);
Refresh(Visits);
Set(
    Visit,
    LookUp(
        Visits,
        Code = textCode.Text
    )
);
```

Patch(Visits, Visit, {'Actual Start': Now()}); Refresh(Visits); Set(Visit, Look... = This formula has side effects and cannot be

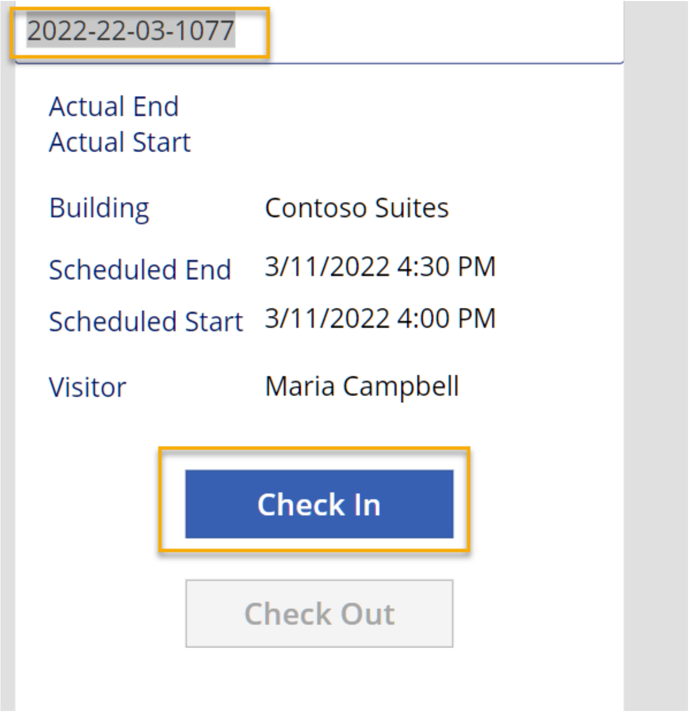
10. Select **Check Out** button.
11. Set **OnSelect** property on the Advanced tab to the following expression:
12. Patch(
13. [@Visits],
14. Visit,
15. {
16. 'Actual End': Now(),
17. Status: 'Status (Visits)'.Inactive
18. }
19.);
20. Refresh([@Visits]);
21. Set(Visit, LookUp(Visits, Code = textCode.Text));

When a user clicks this button, the Actual End will be set to the current date and time, the Status of the Visit will be set to Inactive, and the data will refresh.

22. To preserve work in progress, click **File** then click **Save**. Use the **Back** arrow to return to the app.

23. Press **F5** or click the Play button to run the app. Enter the code value you copied previously and press **Tab** to move the focus away from the textbox. The **Check In** button should become enabled.

    2022-22-03-1077



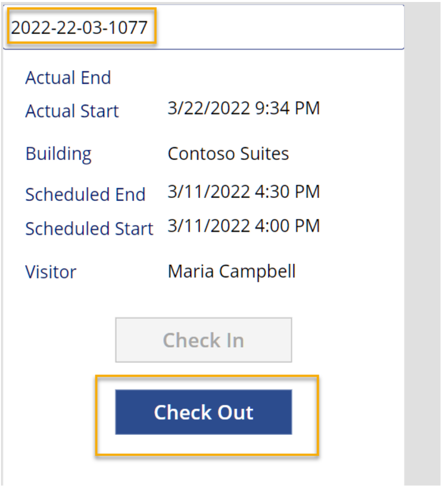
2022-22-03-1077

Actual End
Actual Start

Building	Contoso Suites
Scheduled End	3/11/2022 4:30 PM
Scheduled Start	3/11/2022 4:00 PM
Visitor	Maria Campbell

24. Press **Check In** button. The following should happen:
    - **Actual Start** is set to the current date and time
    - **Check In** button is disabled

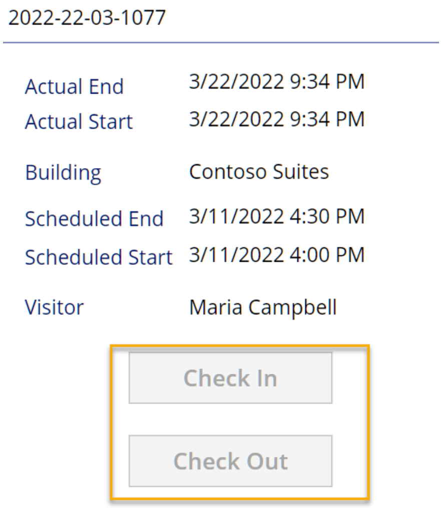
- **Check Out** button is enabled



2022-22-03-1077

Actual End	
Actual Start	3/22/2022 9:34 PM
Building	Contoso Suites
Scheduled End	3/11/2022 4:30 PM
Scheduled Start	3/11/2022 4:00 PM
Visitor	Maria Campbell

25. Press **Check Out** button.
    - **Actual End** is set to the current date and time
    - Both buttons are disabled



2022-22-03-1077

Actual End	3/22/2022 9:34 PM
Actual Start	3/22/2022 9:34 PM
Building	Contoso Suites
Scheduled End	3/11/2022 4:30 PM
Scheduled Start	3/11/2022 4:00 PM
Visitor	Maria Campbell

26. Clear the search box contents.
27. Press **ESC** to exit the running app.

Task #6: Add visual indicators

Usability of a mobile app significantly improves when visual indicators are provided. In this task, we will add an icon indicating if a visitor can be checked in or checked out.

1. Select **Insert** tab
2. Select **Icons | Add**. Select an Icon. At this point it does not matter which icon we select as we want the value to be dynamic.
3. Resize and place the icon to the left of the buttons

4. In the Advanced tab for the Icon, select **Icon** property (in the Design section) and enter the following expression

5. If(

6.   CheckInButton.DisplayMode = DisplayMode.Disabled

7. && CheckOutButton.DisplayMode = DisplayMode.Disabled,

8.   Icon.EmojiFrown,

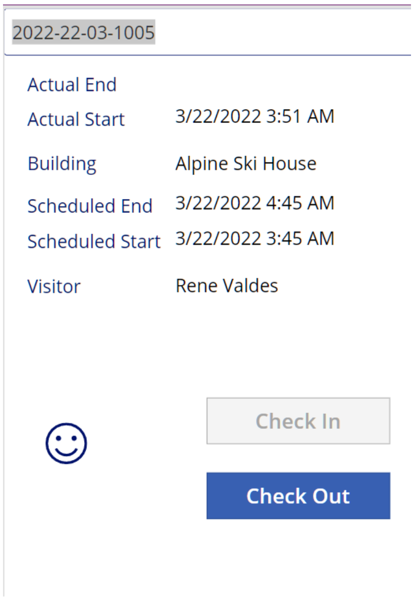
9.   Icon.EmojiSmile

10.)

11. To preserve work in progress, click **File** then click **Save**. Use the **Back** arrow to return to the app.

12. Press **F5** to run the app. Enter the code value you copied previously and press **Tab** to move the focus away from the textbox. Verify the icon displays a frown emoji.

13. Find a **different code** value that has not been used before (it should not have an Actual Start or Actual End value).
    *****
    2022-22-03-1005
    *****



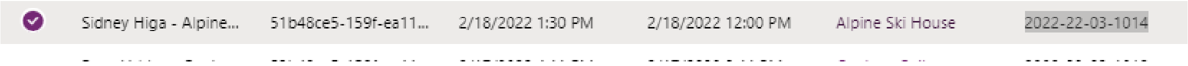
2022-22-03-1005

Actual End	
Actual Start	3/22/2022 3:51 AM
Building	Alpine Ski House
Scheduled End	3/22/2022 4:45 AM
Scheduled Start	3/22/2022 3:45 AM
Visitor	Rene Valdes

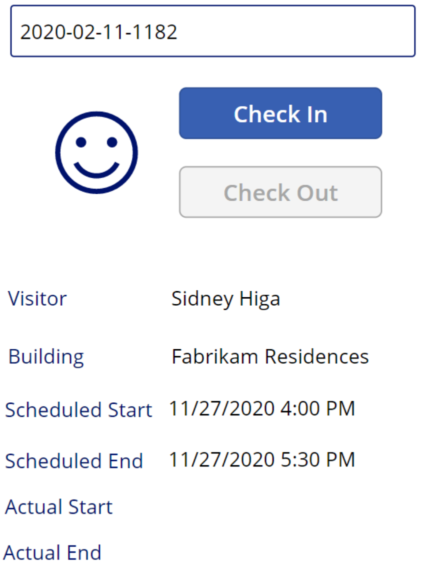
You can navigate to the previous tab to copy another Code from one of the Visits you have created. You also have the option to run your **Campus Staff** app created previously to create new visit records. Verify the icon displays a smile emoji for this code.

Your running app should look approximately like the following:

2022-22-03-1014



Sidney Higa - Alpine...	51b48ce5-159f-ea11...	2/18/2022 1:30 PM	2/18/2022 12:00 PM	Alpine Ski House	2022-22-03-1014



2020-02-11-1182

Visitor	Sidney Higa
Building	Fabrikam Residences
Scheduled Start	11/27/2020 4:00 PM
Scheduled End	11/27/2020 5:30 PM
Actual Start	
Actual End	

8. Press **ESC** to exit the running app.

Task #7: Publish the app

1. You should still have the Campus Security app open in your browser. If not, select **Campus Security** app and click **Edit**.
2. Select **File | Publish**
3. Select **Publish this version**

Challenges

- Avoid manual entry of the visit code
- Add building validation for the visit
- Add validation of the visit actual time vs visit scheduled time (too early, too late, etc)
- Add detailed status of the visit, e.g. email display and validation for the visitor, reason for denying building access, etc
- Multiple buildings/meetings/checkings during a single campus visit. For example, someone may visit campus for a day and during that day they will meet staff members in multiple buildings at different time of the day. Would you consider bringing *appointment* entity into the solution?

Module 3: Get started with Power Apps (Model Driven App)

Lab 3: How to build a model-driven app

Scenario

Bellows College is an educational organization with multiple buildings on campus. Campus visitors are currently recorded in paper journals. The information is not captured consistently, and there are no means to collect and analyze data about the visits across the entire campus.

Campus administration would like to modernize their visitor registration system where access to the buildings is controlled by security personnel and all visits are required to be pre-registered and recorded by their hosts.

Throughout this course, you will build applications and perform automation to enable the Bellows College administration and security personnel to manage and control access to the buildings on campus.

- In this lab, you will build a **Power Apps model-driven app** to allow the **Backoffice campus staff** to manage visit records across the entire campus.

High-level lab steps

As part of creating the model-driven app, you will complete the following:

- Create a new model-driven app named **Campus Management**
- Edit the app navigation to reference the required tables
- Customize the **forms and views of the required tables** for the app

We will work with the following components:

- **Views**: Views allow the user to display the existing data in the form table.
- **Forms**: This is where the user creates/updates new rows in the tables.

Both will be integrated to the model-driven app for a better user-experience.

Prerequisites

- Completion of **Module 0 Lab 0 - Validate lab environment**
- Completion of **Module 2 Lab 1 - Introduction to Microsoft Dataverse**

Things to consider before you begin

- What changes should we make to improve the user experience?
- What should we include in a **model-driven app based on the data model** we have built?
- What customizations can be made on the sitemap of a model-driven app?

Exercise #1: Customize Views and Forms

Objective: In this exercise, you will customize views and forms of the custom created tables that will be used in the model-driven app.

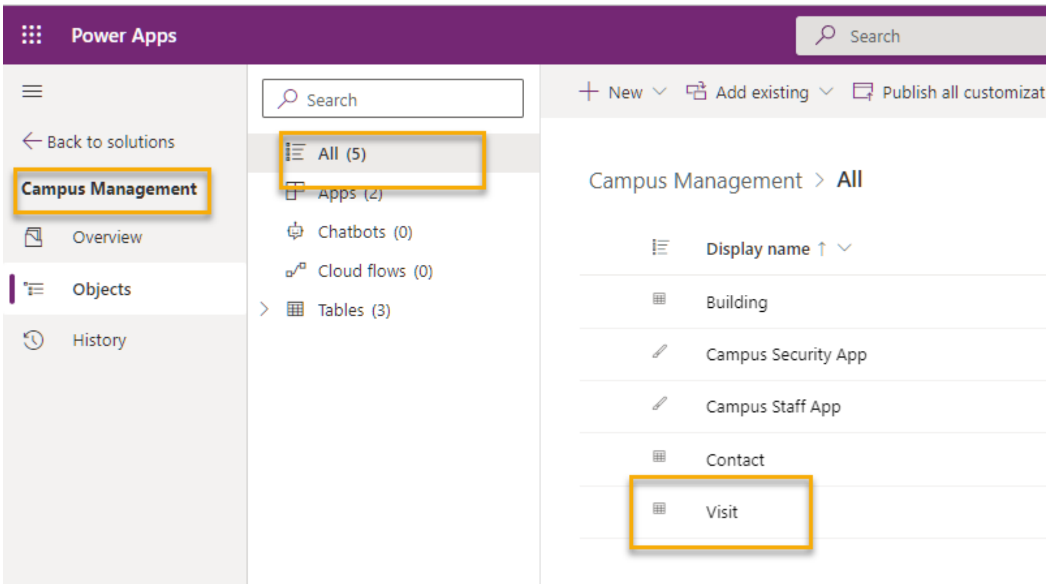
Task #1: Edit Visit Form

1. Sign in to https://make.powerapps.com if you are not already signed in.
2. Select your **environment.**

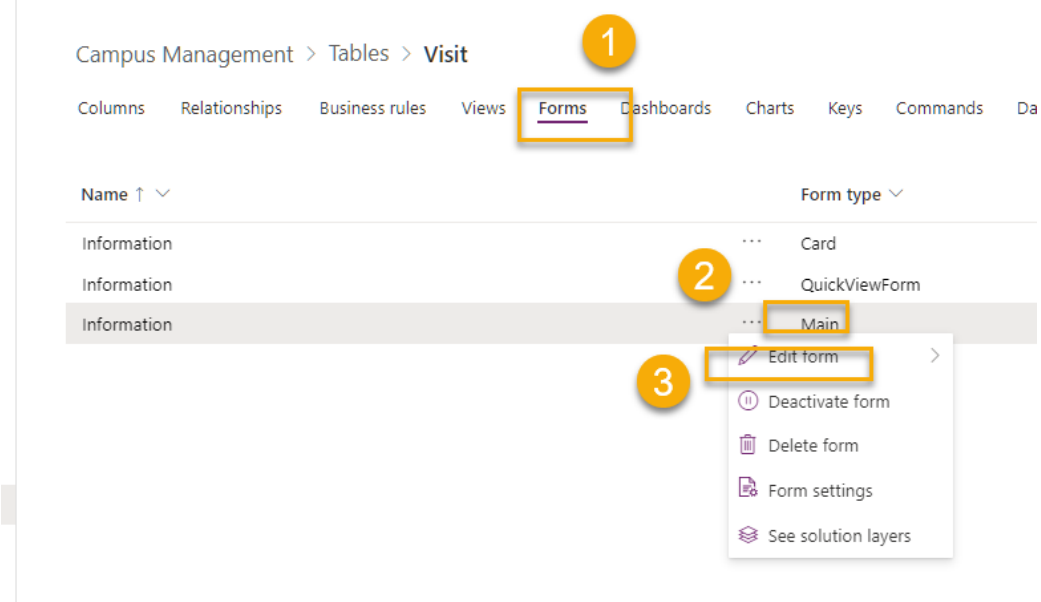
3. Select **Solutions**.

4. Click to open your **Campus Management** solution.

5. Click to open the **Visit** entity.



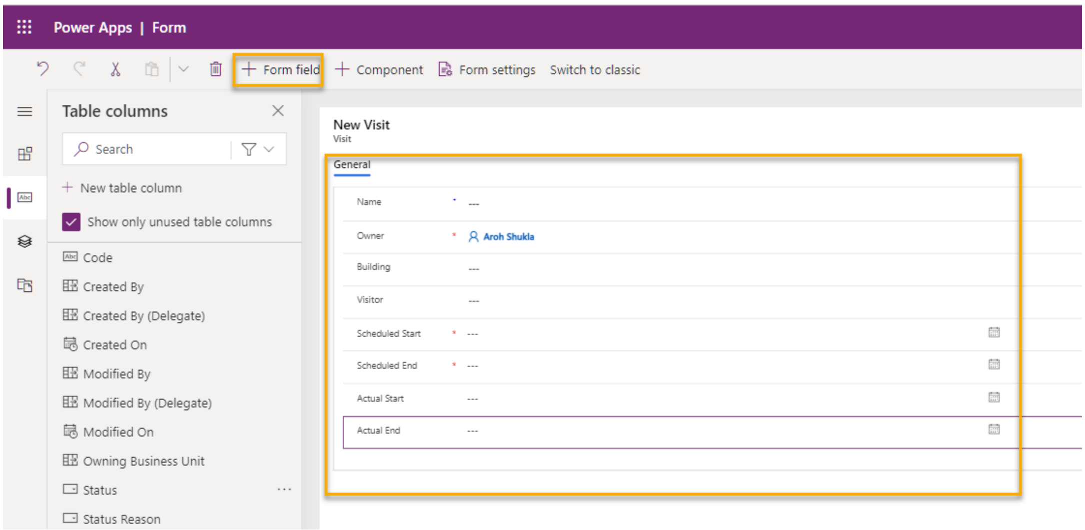
6. Select the **Forms** tab and select the **Main** form type and click **Edit form**.



By default, the form has two fields: Name (Primary Field) and Owner.

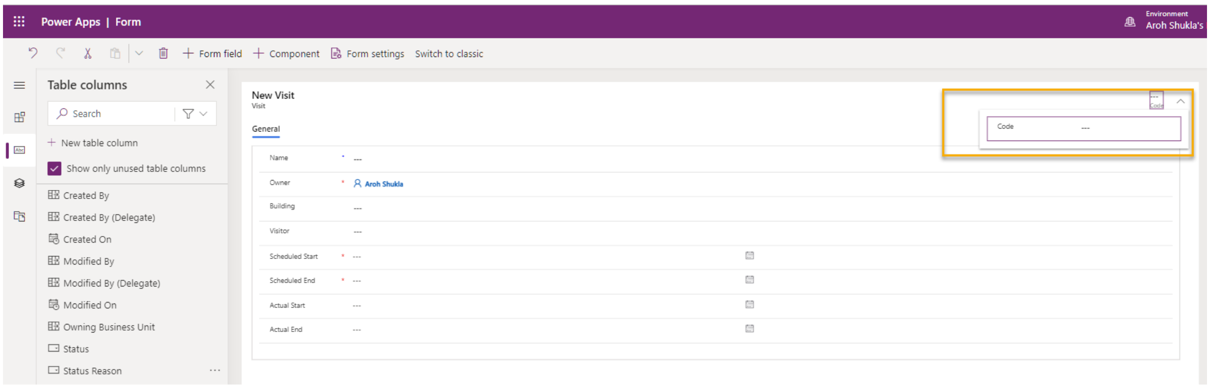
7. Select **+ Form field** and add the following fields below the **Owner** field by dragging columns to the form or simply clicking column names:
   - **Building**
   - **Visitor**
   - **Scheduled Start**

- **Scheduled End**
- **Actual Start**
- **Actual End**



Name * ---
Owner * Aroh Shukla
Building ---
Visitor ---
Scheduled Start * ---
Scheduled End * ---
Actual Start ---
Actual End ---

8. Drag the **Code** column and drop it in the form header.

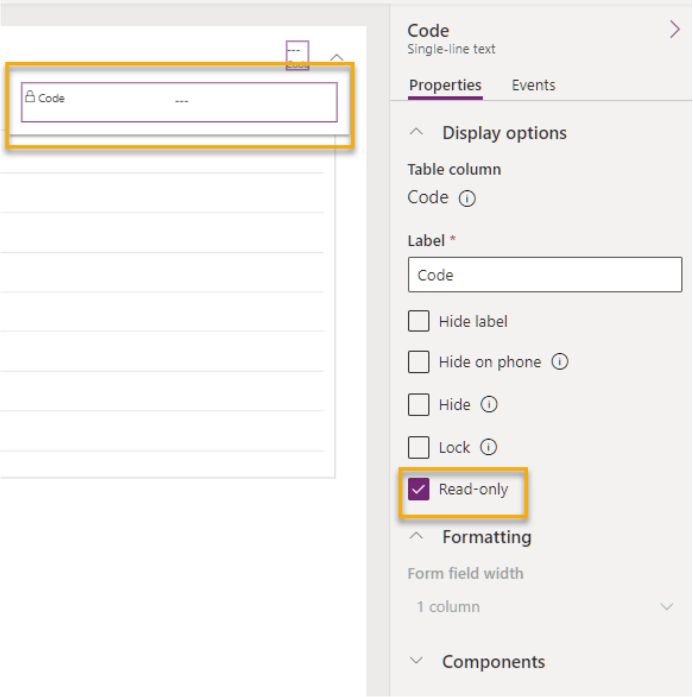


Code ---

Name * ---
Owner * Aroh Shukla
Building ---
Visitor ---
Scheduled Start * ---
Scheduled End * ---
Actual Start ---
Actual End ---

The header is the top right area of the form. You may need to minimize the Properties panel on the right side of the screen to see the field on the form.

9. With the **Code** field still selected, check the checkbox for **Read-only** in the Properties panel.



Code ---

Code
Single-line text

Properties Events

Display options

Table column
Code ⓘ

Label *
Code

☐ Hide label

☐ Hide on phone ⓘ

☐ Hide ⓘ

☐ Lock ⓘ

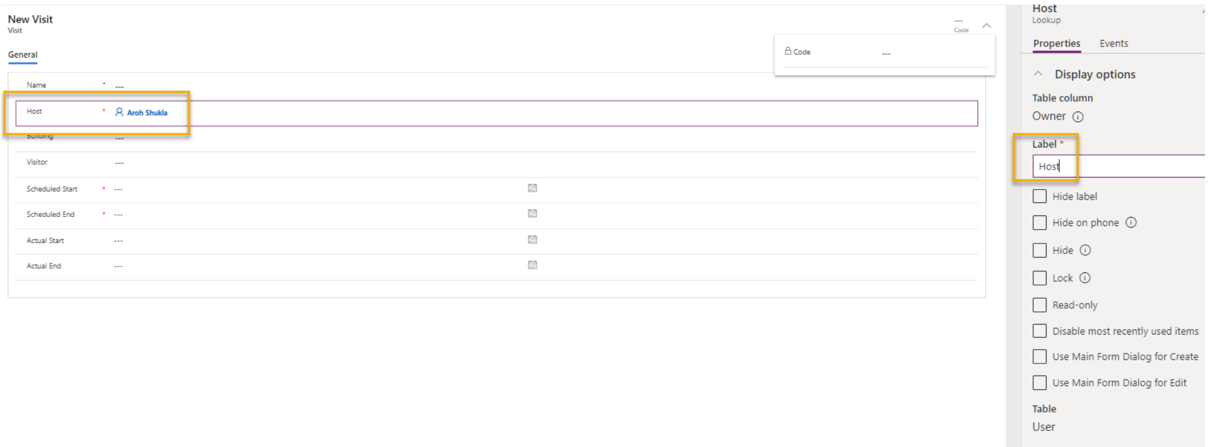
☑ Read-only

Formatting

Form field width
1 column

Components

10. Select **Owner** field. In the Properties panel, change the **Field label** to **Host**



New Visit
Visit

General

Name * ---
Host * Aroh Shukla
Building ---
Visitor ---
Scheduled Start * ---
Scheduled End * ---
Actual Start ---
Actual End ---

Code ---

Host
Lookup

Properties Events

Display options

Table column
Owner ⓘ

Label *
Host

☐ Hide label

☐ Hide on phone ⓘ

☐ Hide ⓘ

☐ Lock ⓘ

☐ Read-only

☐ Disable most recently used items

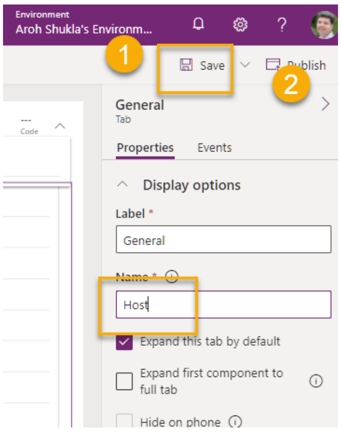
☐ Use Main Form Dialog for Create

☐ Use Main Form Dialog for Edit

Table
User

11. Click **Save** at the top right and wait for the save to complete.

12. Click **Publish** at the top right and wait for the publishing to complete.



Label * General

Name * Host

☑ Expand this tab by default

□ Expand first component to full tab

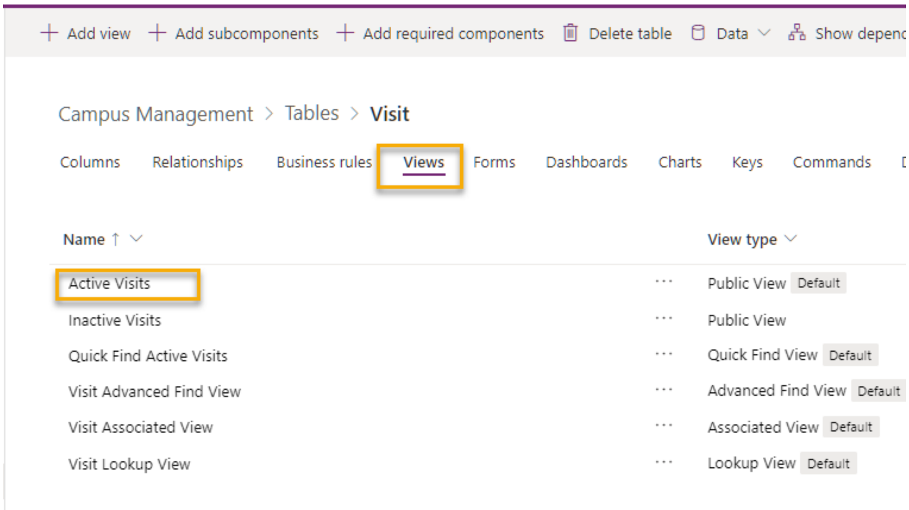
□ Hide on phone

13. If the edit view opened in a new tab, close the tab. Otherwise, click **Back** at the top left of the screen. You should now be back to the Visit entity Forms Tab.

Task #2: Edit Visit Views

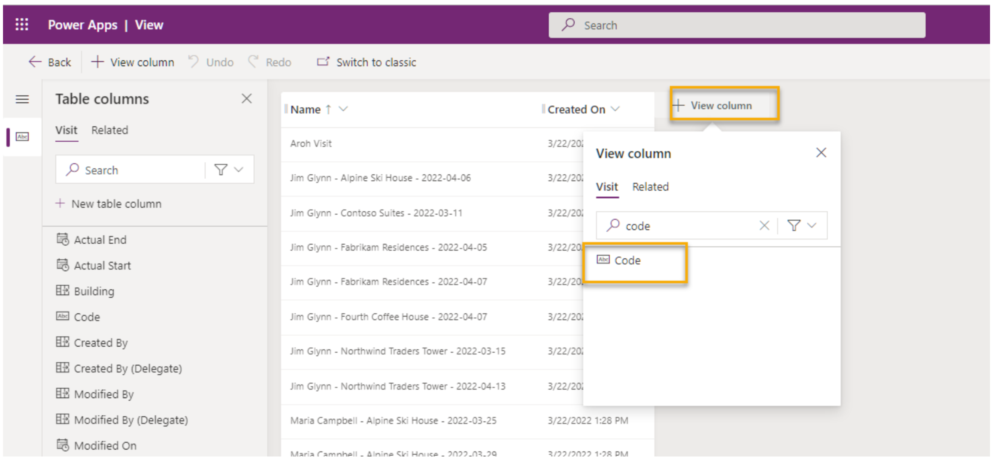
In this task, we will modify the default Active Visits view and create a new view for today's visits.

1. Select the **Views** tab and click to open the **Active Visits** view.

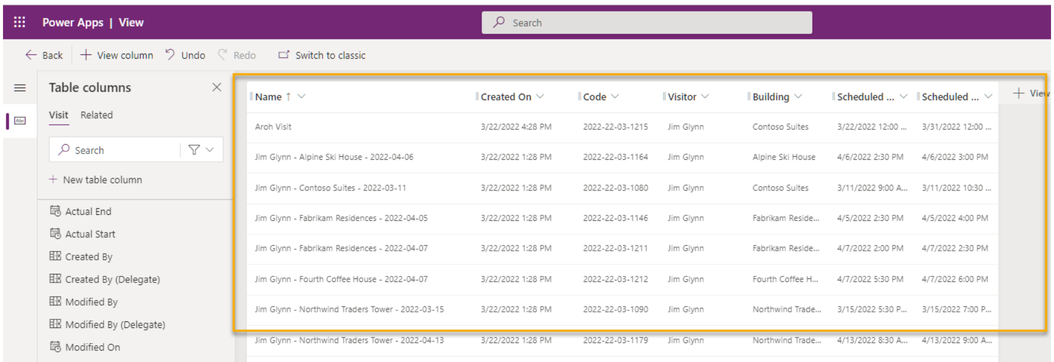


Name ↑	View type
Active Visits	Public View Default
Inactive Visits	Public View
Quick Find Active Visits	Quick Find View Default
Visit Advanced Find View	Advanced Find View Default
Visit Associated View	Associated View Default
Visit Lookup View	Lookup View Default

2. Add the following fields to the view by either clicking or dragging and dropping the fields:
   - **Code**
   - **Visitor**
   - **Building**
   - **Scheduled Start**
   - **Scheduled End**

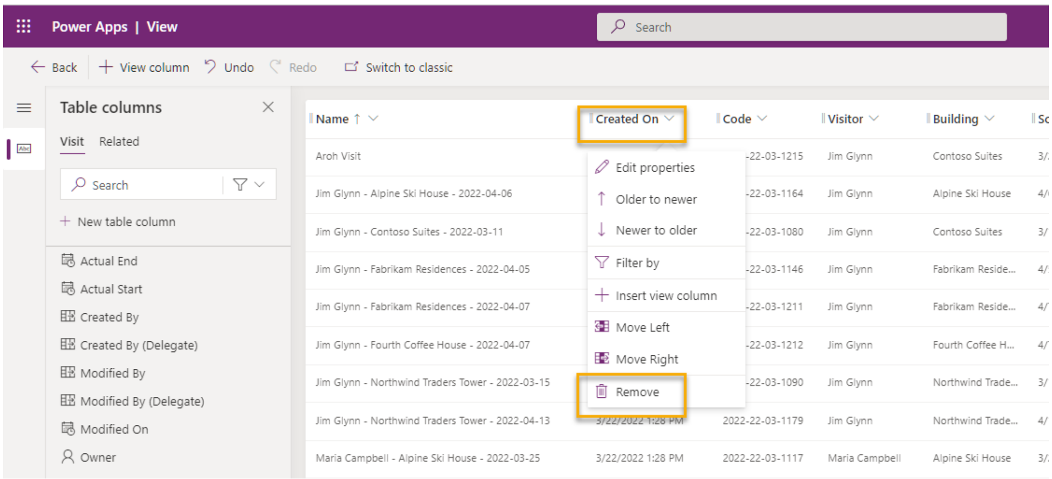


Name ↑	Created On
Aroh Visit	3/22/202
Jim Glynn - Alpine Ski House - 2022-04-06	3/22/202
Jim Glynn - Contoso Suites - 2022-03-11	3/22/202
Jim Glynn - Fabrikam Residences - 2022-04-05	3/22/20
Jim Glynn - Fabrikam Residences - 2022-04-07	3/22/20
Jim Glynn - Fourth Coffee House - 2022-04-07	3/22/202
Jim Glynn - Northwind Traders Tower - 2022-03-15	3/22/202
Jim Glynn - Northwind Traders Tower - 2022-04-13	3/22/202
Maria Campbell - Alpine Ski House - 2022-03-25	3/22/2022 1:28 PM
Maria Campbell - Alpine Ski House - 2022-03-29	3/22/2022 1:28 PM



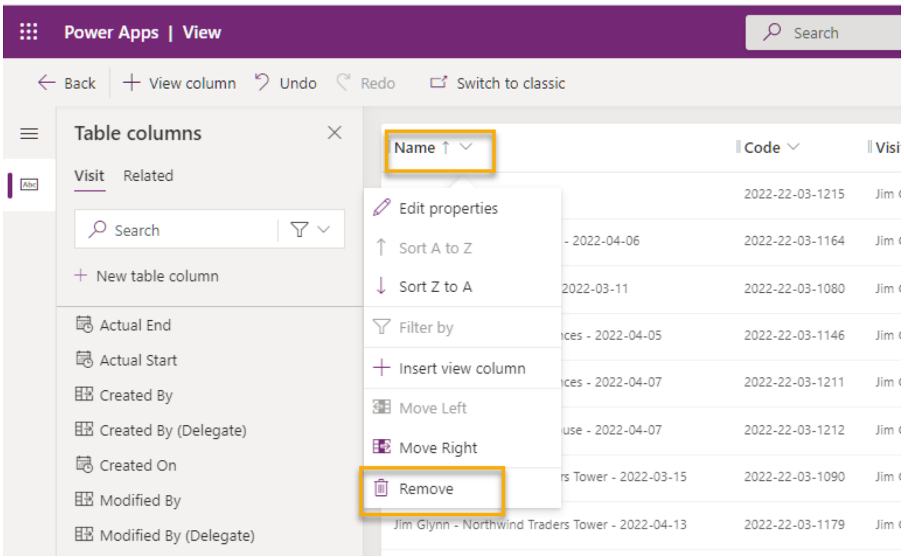
Name ↑	Created On	Code	Visitor	Building	Scheduled ...	Scheduled ...
Aroh Visit	3/22/2022 4:28 PM	2022-22-03-1215	Jim Glynn	Contoso Suites	3/22/2022 12:00 ...	3/31/2022 12:00 ...
Jim Glynn - Alpine Ski House - 2022-04-06	3/22/2022 1:28 PM	2022-22-03-1164	Jim Glynn	Alpine Ski House	4/6/2022 2:30 PM	4/6/2022 3:00 PM
Jim Glynn - Contoso Suites - 2022-03-11	3/22/2022 1:28 PM	2022-22-03-1080	Jim Glynn	Contoso Suites	3/11/2022 9:00 A...	3/11/2022 10:30 ...
Jim Glynn - Fabrikam Residences - 2022-04-05	3/22/2022 1:28 PM	2022-22-03-1146	Jim Glynn	Fabrikam Reside...	4/5/2022 2:30 PM	4/5/2022 4:00 PM
Jim Glynn - Fabrikam Residences - 2022-04-07	3/22/2022 1:28 PM	2022-22-03-1211	Jim Glynn	Fabrikam Reside...	4/7/2022 2:00 PM	4/7/2022 2:30 PM
Jim Glynn - Fourth Coffee House - 2022-04-07	3/22/2022 1:28 PM	2022-22-03-1212	Jim Glynn	Fourth Coffee H...	4/7/2022 5:30 PM	4/7/2022 6:00 PM
Jim Glynn - Northwind Traders Tower - 2022-03-15	3/22/2022 1:28 PM	2022-22-03-1090	Jim Glynn	Northwind Trade...	3/15/2022 5:30 P...	3/15/2022 7:00 P...
Jim Glynn - Northwind Traders Tower - 2022-04-13	3/22/2022 1:28 PM	2022-22-03-1179	Jim Glynn	Northwind Trade...	4/13/2022 8:30 A...	4/13/2022 9:00 A...

3. Click the **Created On** column and select **Remove**. Field **Created On** will now be removed from the view.

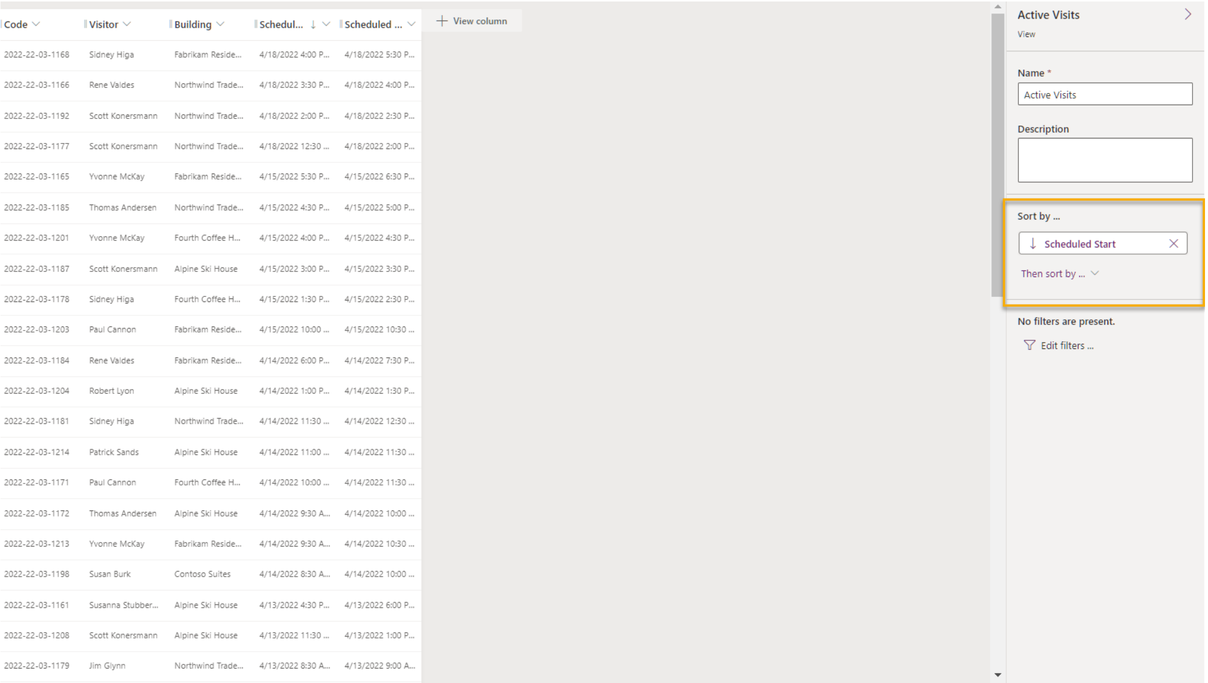


Name ↑	Created On	Code	Visitor	Building	Sc
Aroh Visit		-22-03-1215	Jim Glynn	Contoso Suites	3/
Jim Glynn - Alpine Ski House - 2022-04-06		-22-03-1164	Jim Glynn	Alpine Ski House	4/
Jim Glynn - Contoso Suites - 2022-03-11		-22-03-1080	Jim Glynn	Contoso Suites	3/
Jim Glynn - Fabrikam Residences - 2022-04-05		-22-03-1146	Jim Glynn	Fabrikam Reside...	4/
Jim Glynn - Fabrikam Residences - 2022-04-07		-22-03-1211	Jim Glynn	Fabrikam Reside...	4/
Jim Glynn - Fourth Coffee House - 2022-04-07		-22-03-1212	Jim Glynn	Fourth Coffee H...	4/
Jim Glynn - Northwind Traders Tower - 2022-03-15		-22-03-1090	Jim Glynn	Northwind Trade...	3/
Jim Glynn - Northwind Traders Tower - 2022-04-13	3/22/2022 1:28 PM	2022-22-03-1179	Jim Glynn	Northwind Trade...	4/
Maria Campbell - Alpine Ski House - 2022-03-25	3/22/2022 1:28 PM	2022-22-03-1117	Maria Campbell	Alpine Ski House	3/

Click the **Name** column and select **Remove**. Field **Name** will now be removed from the view.



4. In the Properties panel on the right, click **Sort by ...** and select **Scheduled Start**. Click on **Scheduled Start** again to change the order to descending.



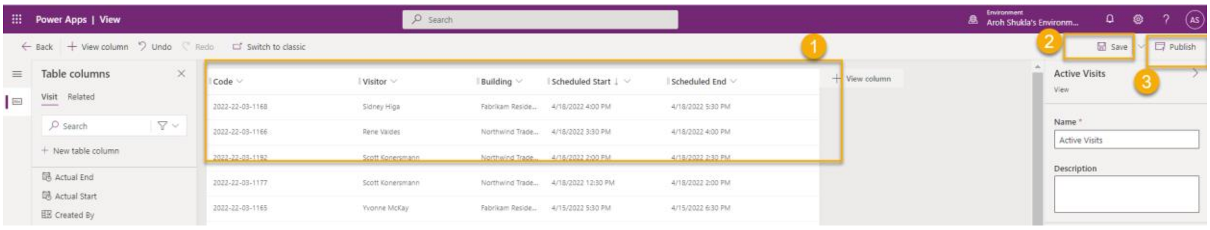
Code	Visitor	Building	Schedul... ↓	Scheduled ...
2022-22-03-1168	Sidney Higa	Fabrikam Reside...	4/18/2022 4:00 P...	4/18/2022 5:30 P...
2022-22-03-1166	Rene Valdes	Northwind Trade...	4/18/2022 3:30 P...	4/18/2022 4:00 P...
2022-22-03-1192	Scott Konersmann	Northwind Trade...	4/18/2022 2:00 P...	4/18/2022 2:30 P...
2022-22-03-1177	Scott Konersmann	Northwind Trade...	4/18/2022 12:30 ...	4/18/2022 2:00 P...
2022-22-03-1165	Yvonne McKay	Fabrikam Reside...	4/15/2022 5:30 P...	4/15/2022 6:30 P...
2022-22-03-1185	Thomas Andersen	Northwind Trade...	4/15/2022 4:30 P...	4/15/2022 5:00 P...
2022-22-03-1201	Yvonne McKay	Fourth Coffee H...	4/15/2022 4:00 P...	4/15/2022 4:30 P...
2022-22-03-1187	Scott Konersmann	Alpine Ski House	4/15/2022 3:00 P...	4/15/2022 3:30 P...
2022-22-03-1178	Sidney Higa	Fourth Coffee H...	4/15/2022 1:30 P...	4/15/2022 2:30 P...
2022-22-03-1203	Paul Cannon	Fabrikam Reside...	4/15/2022 10:00 ...	4/15/2022 10:30 ...
2022-22-03-1184	Rene Valdes	Fabrikam Reside...	4/14/2022 6:00 P...	4/14/2022 7:30 P...
2022-22-03-1204	Robert Lyon	Alpine Ski House	4/14/2022 1:00 P...	4/14/2022 1:30 P...
2022-22-03-1181	Sidney Higa	Northwind Trade...	4/14/2022 11:30 ...	4/14/2022 12:30 ...
2022-22-03-1214	Patrick Sands	Alpine Ski House	4/14/2022 11:00 ...	4/14/2022 11:30 ...
2022-22-03-1171	Paul Cannon	Fourth Coffee H...	4/14/2022 10:00 ...	4/14/2022 11:30 ...
2022-22-03-1172	Thomas Andersen	Alpine Ski House	4/14/2022 9:30 A...	4/14/2022 10:00 ...
2022-22-03-1213	Yvonne McKay	Fabrikam Reside...	4/14/2022 9:30 A...	4/14/2022 10:30 ...
2022-22-03-1198	Susan Burk	Contoso Suites	4/14/2022 8:30 A...	4/14/2022 10:00 ...
2022-22-03-1161	Susanna Stubber...	Alpine Ski House	4/13/2022 4:30 P...	4/13/2022 6:00 P...
2022-22-03-1208	Scott Konersmann	Alpine Ski House	4/13/2022 11:30 ...	4/13/2022 1:00 P...
2022-22-03-1179	Jim Glynn	Northwind Trade...	4/13/2022 8:30 A...	4/13/2022 9:00 A...

Active Visits
View
Name *
Active Visits
Description
Sort by ...
Scheduled Start
Then sort by ...
No filters are present.
Edit filters ...

5. Resize the individual column widths to fit the data.

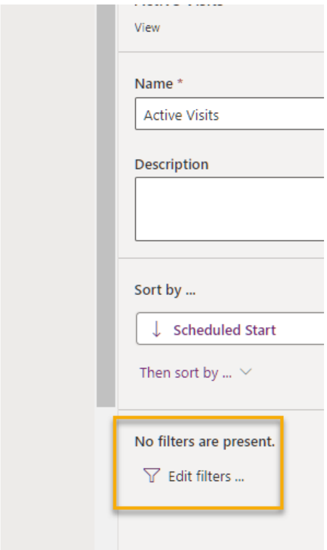
6. Click **Save** and wait until the changes are saved.

7. Click **Publish** and wait for the publishing to complete.

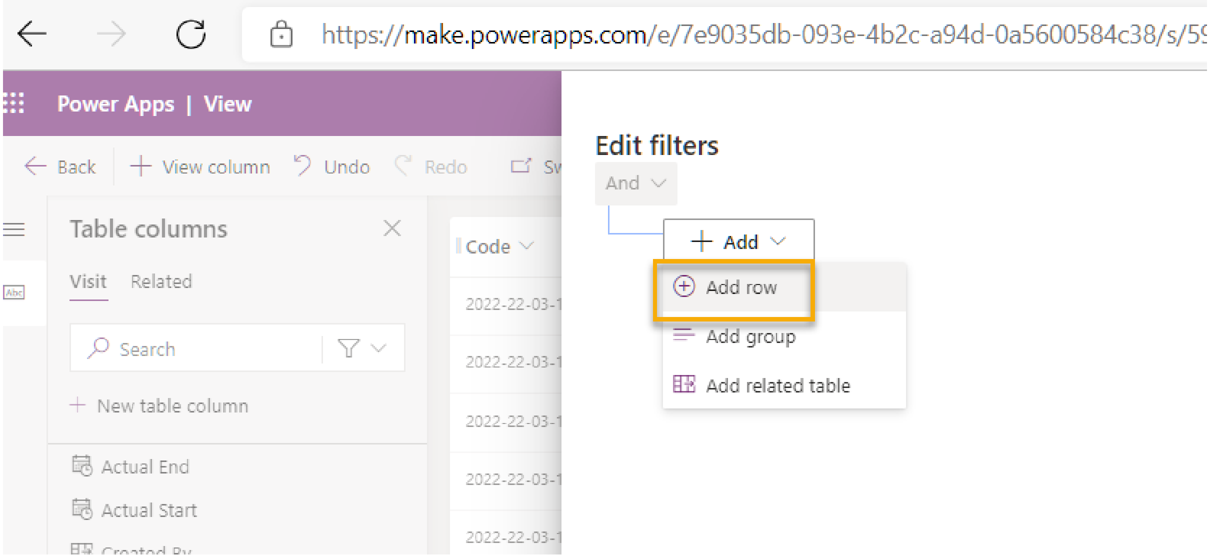


Now, we will clone the view to create a new view for today's visits.

9. Press **Edit filters** link in the Properties panel.

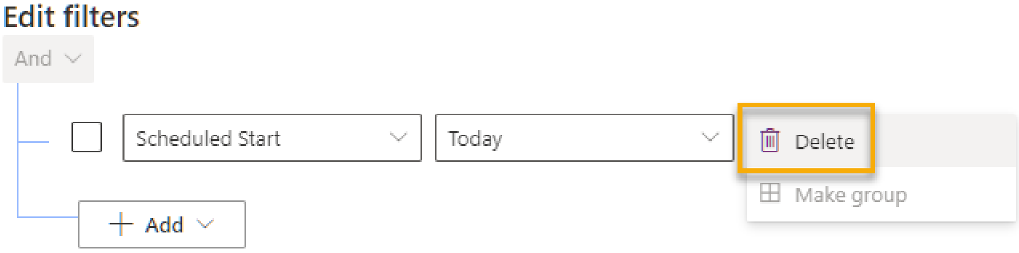


10. Click **Add**, select **Add row**.



11. Select **Scheduled Start** as a field, then select **Today** as the condition in the drop-down.

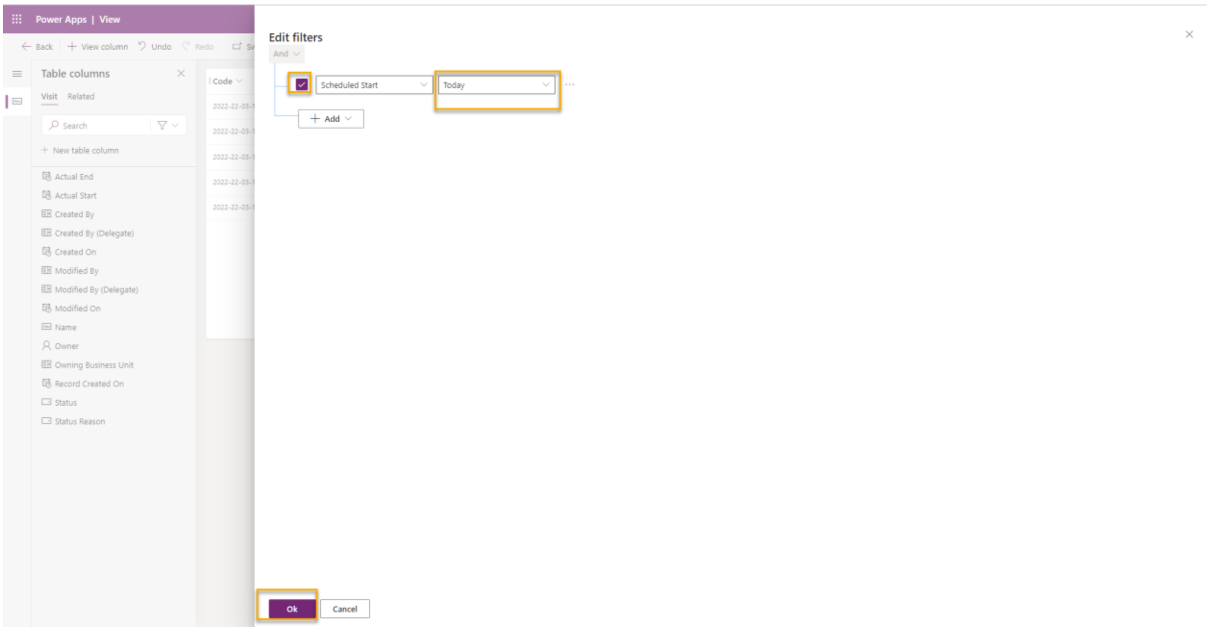
12. Click the **...** on the **Status** row and click **Delete**.


Edit filters

And

□ Scheduled Start | Today

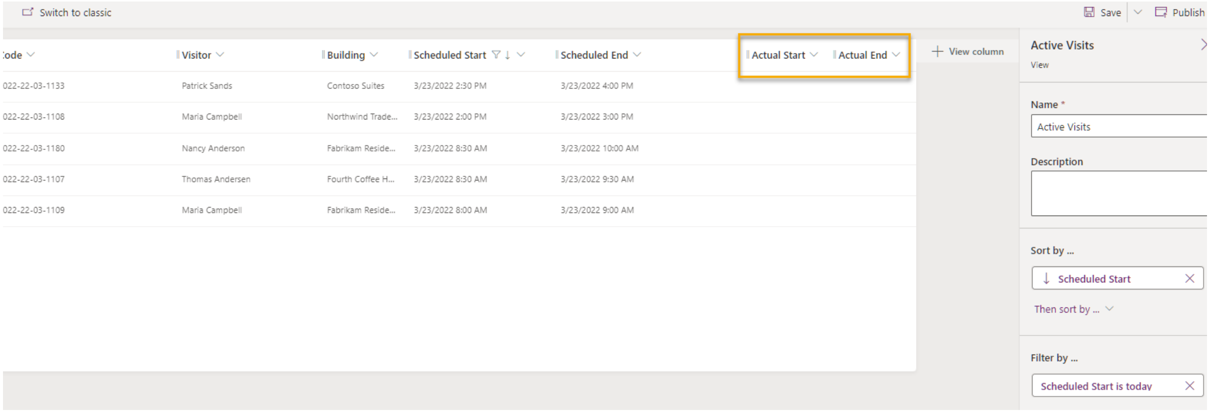
13. Press **Ok** to save the condition. The view is now filtered to show only records where the Scheduled Start date is today.


Edit filters

And

☑ Scheduled Start | Today

14. Add **Actual Start** and **Actual End** fields to the view.


:ode	Visitor	Building	Scheduled Start	Scheduled End	Actual Start	Actual End
022-22-03-1133	Patrick Sands	Contoso Suites	3/23/2022 2:30 PM	3/23/2022 4:00 PM		
022-22-03-1108	Maria Campbell	Northwind Trade...	3/23/2022 2:00 PM	3/23/2022 3:00 PM		
022-22-03-1180	Nancy Anderson	Fabrikam Reside...	3/23/2022 8:30 AM	3/23/2022 10:00 AM		
022-22-03-1107	Thomas Andersen	Fourth Coffee H...	3/23/2022 8:30 AM	3/23/2022 9:30 AM		
022-22-03-1109	Maria Campbell	Fabrikam Reside...	3/23/2022 8:00 AM	3/23/2022 9:00 AM		

Active Visits

View

Name * Active Visits

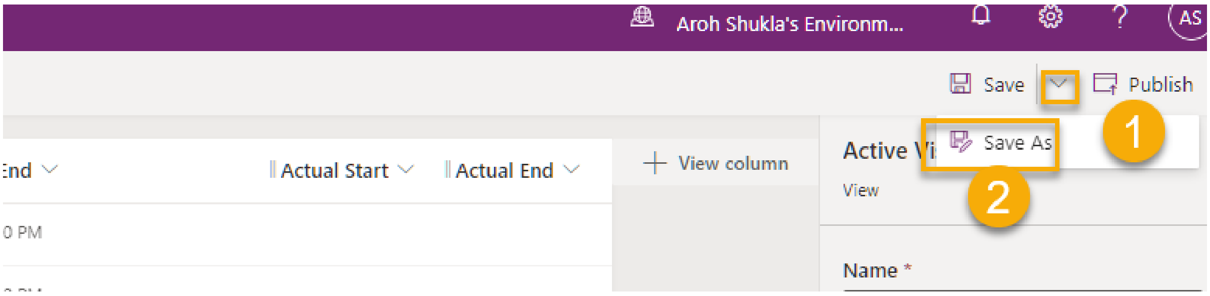
Description

Sort by ... Scheduled Start

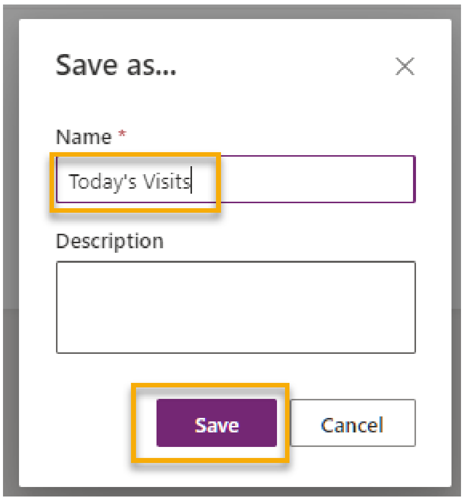
Filter by ... Scheduled Start is today

> **Note:** Since we no longer filter on the view status, we will get all today's visits including completed ones. These fields will help to differentiate completed visits and visits in progress.

15. Click on the **dropdown arrow** by the Save button (be careful not to press the button itself) and select **Save As**.

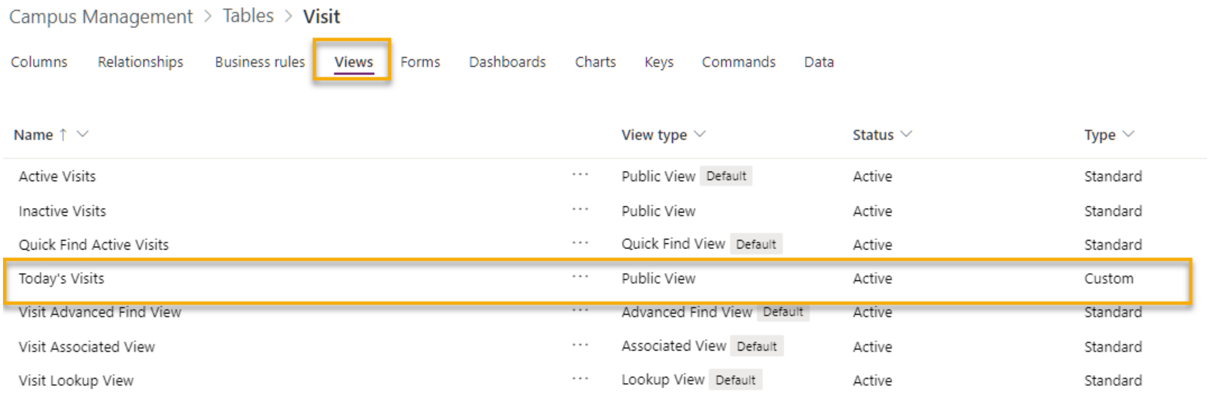


16. Change the name to **Today's Visits** and press **Save**.



Name *: Today's Visits

17. Click **Publish** and wait for the publishing to complete.



Name ↑	View type	Status	Type
Active Visits	Public View Default	Active	Standard
Inactive Visits	Public View	Active	Standard
Quick Find Active Visits	Quick Find View Default	Active	Standard
Today's Visits	Public View	Active	Custom
Visit Advanced Find View	Advanced Find View Default	Active	Standard
Visit Associated View	Associated View Default	Active	Standard
Visit Lookup View	Lookup View Default	Active	Standard

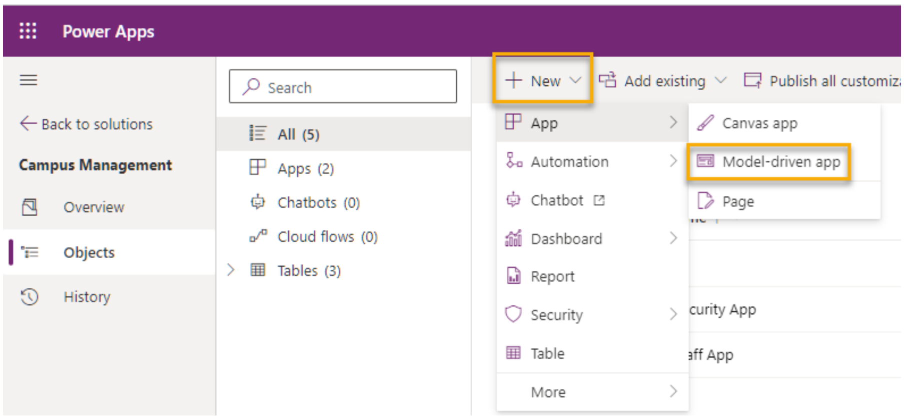
Exercise #2: Create Model-Driven Application

Objective: In this exercise, you will create the model-driven app, customize the sitemap, and test the app.

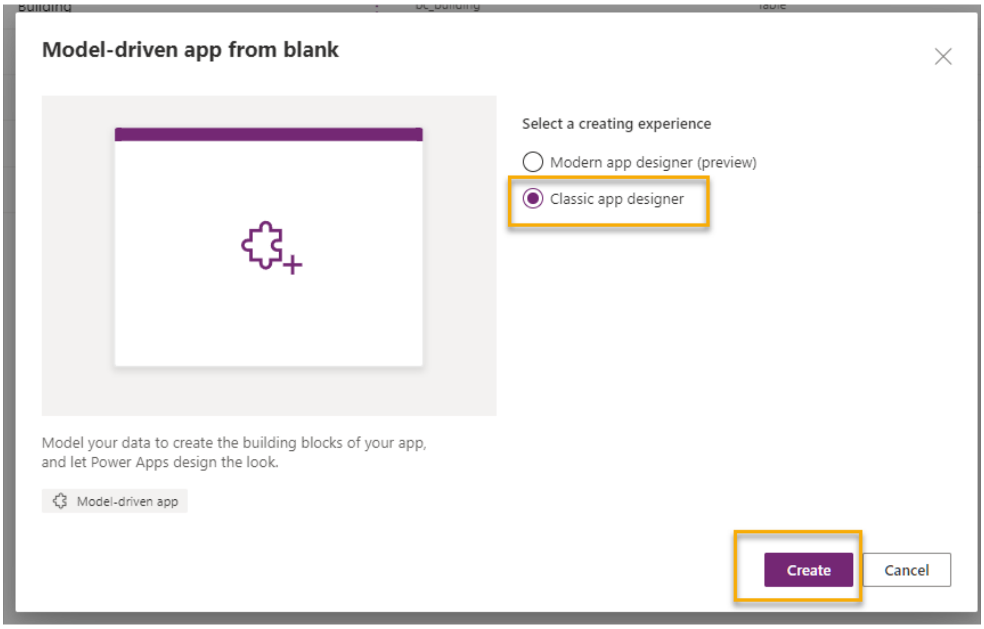
You will see several fields not addressed as you build out your application, particularly on the sitemap steps. We have taken some short cuts in the interest of doing the labs. In a real implementation, you would give these items logical names.

Task #1: Create Application

1. Open your Campus Management solution if you are not already in it.
   - Sign in to https://make.powerapps.com
   - While in your environment, click to open your **Campus Management** solution.
2. Create the Model-Driven Application
   - Click **New** and select **App** and then **Model-driven app**.

- 

- In the Model-driven app from blanks screen, click **Create**.



Model-driven app from blank

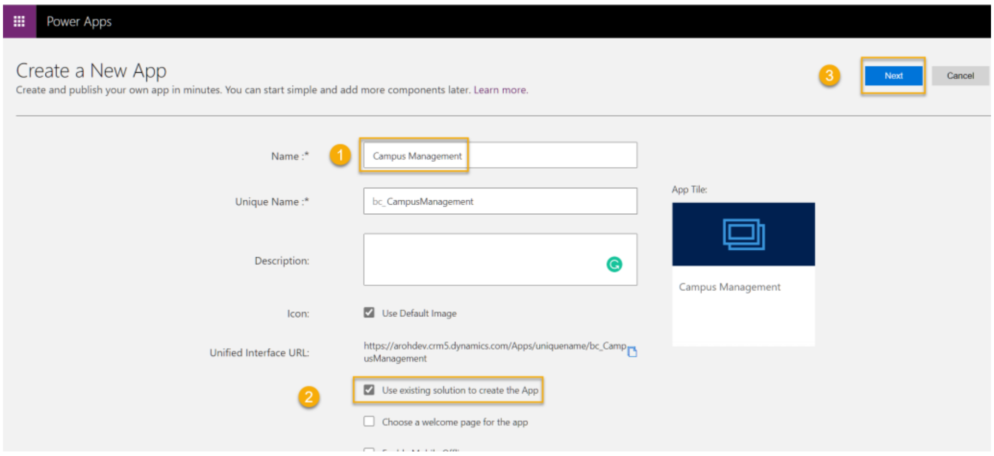
Select a creating experience

○ Modern app designer (preview)

● Classic app designer

Model your data to create the building blocks of your app, and let Power Apps design the look.

- Enter **[Your Last Name] Campus Management** for Name.
- Select **Use existing solution to create the App** checkbox
- Select **Next**



Create a New App

Create and publish your own app in minutes. You can start simple and add more components later. Learn more.

Name :* Campus Management

Unique Name :* bc_CampusManagement

Description:

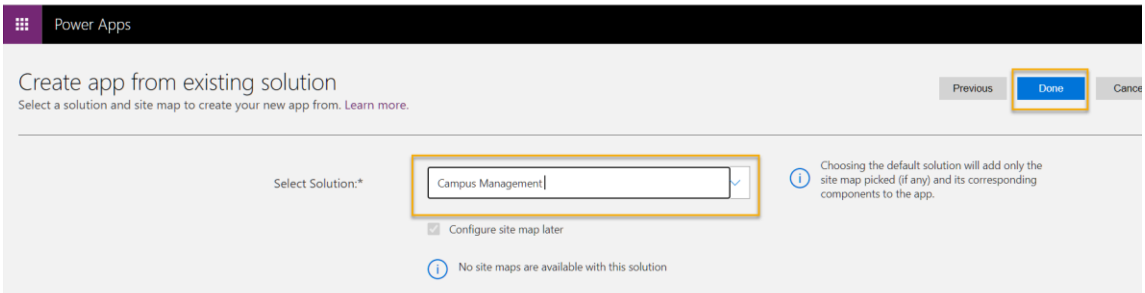
Icon: ☑ Use Default Image

Unified Interface URL: https://arohdev.crm5.dynamics.com/Apps/uniquename/bc_CampusManagement

☑ Use existing solution to create the App

□ Choose a welcome page for the app

- Select your **Campus Management** solution
- Click **Done**



Create app from existing solution

Select a solution and site map to create your new app from. Learn more.

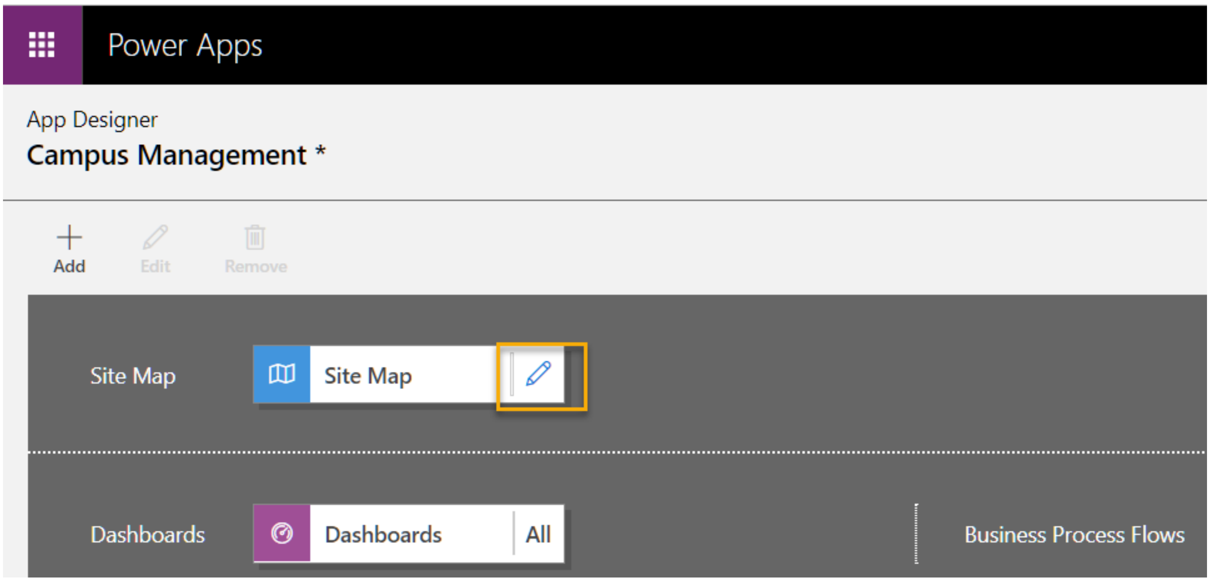
Select Solution:* Campus Management

☑ Configure site map later

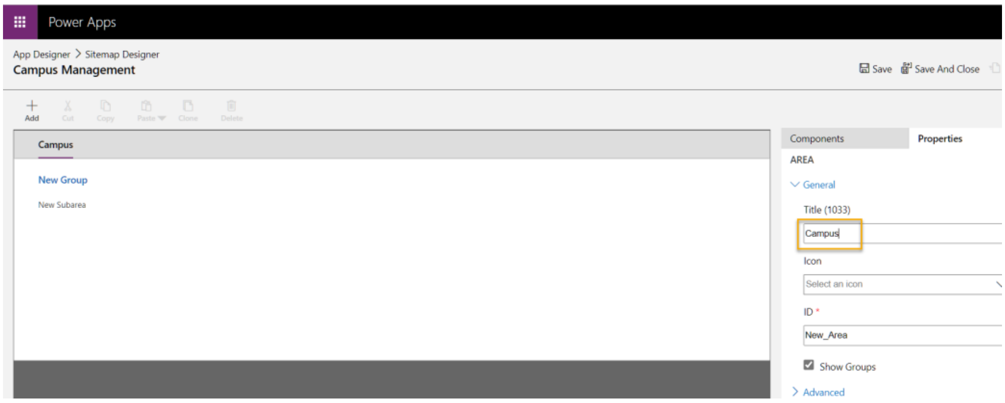
Choosing the default solution will add only the site map picked (if any) and its corresponding components to the app.

No site maps are available with this solution

3. Click the pencil icon next to **Site Map.**



4. Edit the default titles
    - Select **New Area**.
    - Change the Title of the New Area to **Campus** in the properties pane on the right.



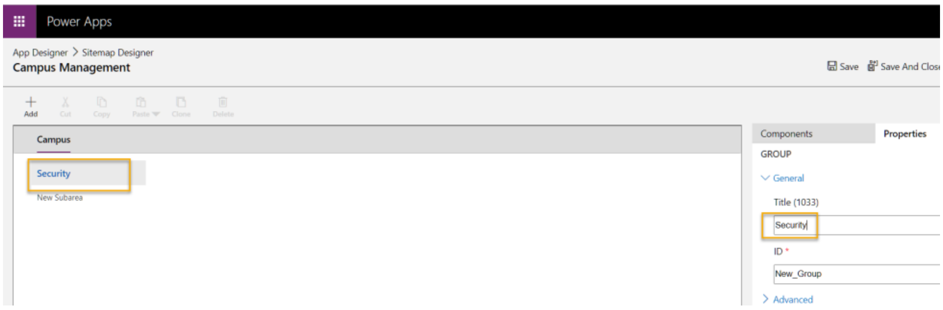
Title (1033)
Campus

Icon
Select an icon

ID *
New_Area

☑ Show Groups

    - Select **New Group**.
    - Change the Title of the New Group to **Security** in the properties pane on the right.

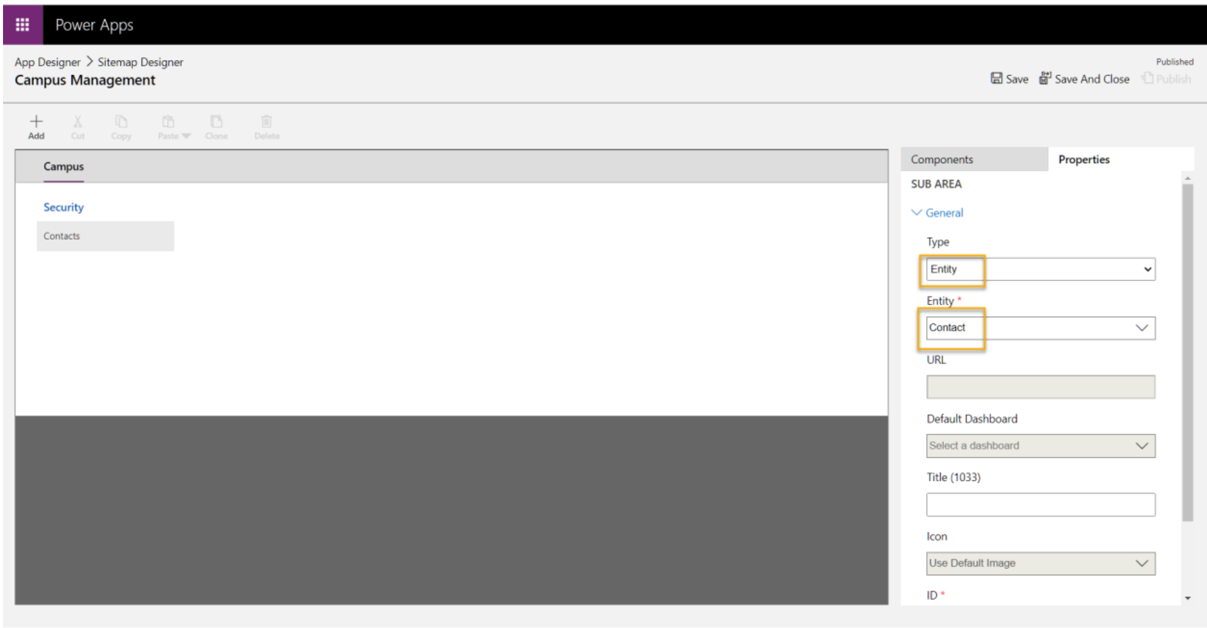


Title (1033)
Security

ID *
New_Group

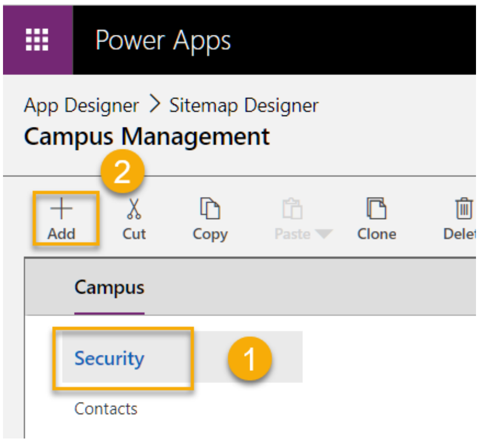
5. Add the Contact table to the sitemap
    - Select **New Subarea**.
    - In the **Properties** pane, select **Entity** from the dropdown for **Type**.

- Search for **Contact** table from the dropdown for **Entity**.

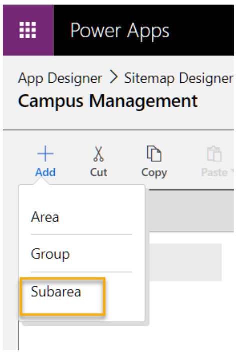


6. Add the Visit table to the sitemap

- Select **Security** group and click **Add**.

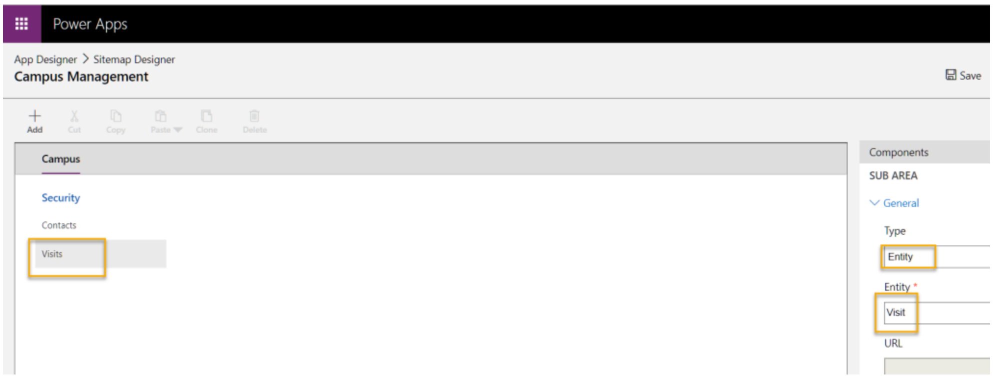


- Select **Subarea**.



- Go to the **Properties** pane.

- Select **Entity** from the dropdown for **Type** and search for **Visit** table from the dropdown for **Entity**.

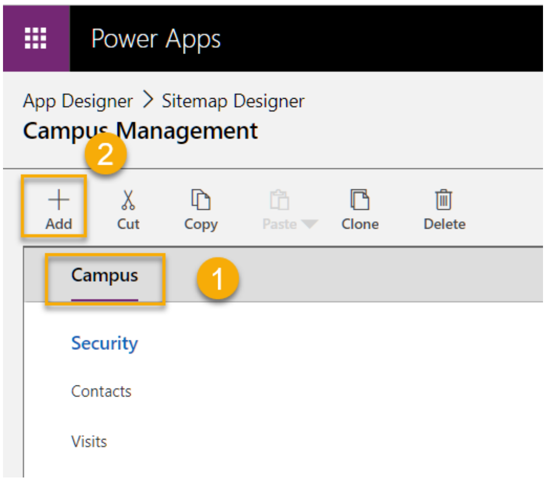


Type: Entity

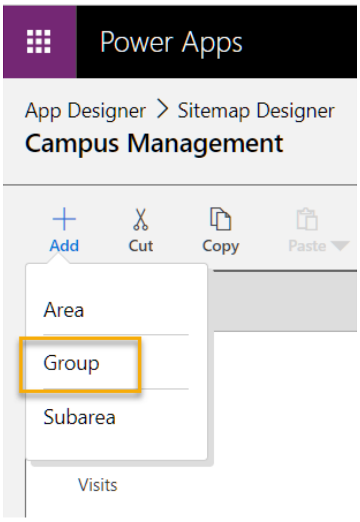
Entity *: Visit

7. Add the Building table to the sitemap

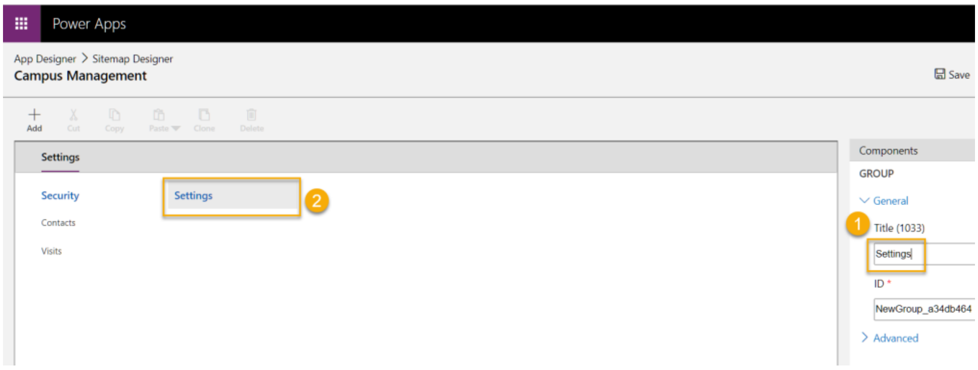
- Select **Campus** area and click **Add**.



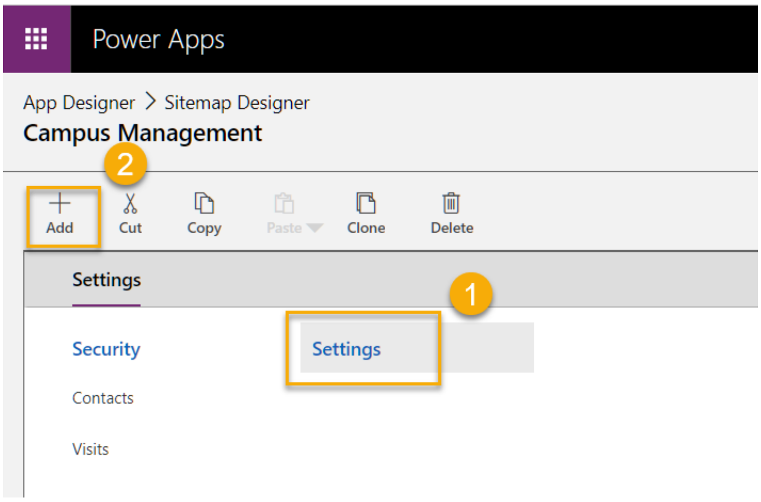
- Select **Group**.



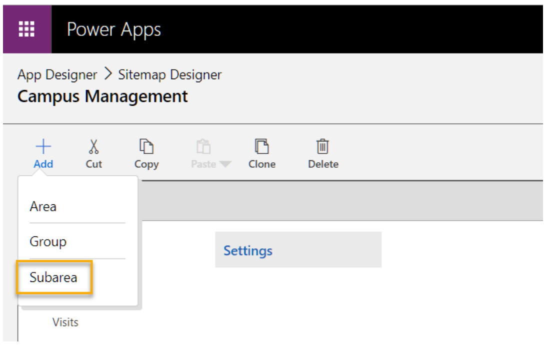
- Enter **Settings** for **Title** in the **Properties** pane.



- With the **Settings** group still selected, click **Add**.

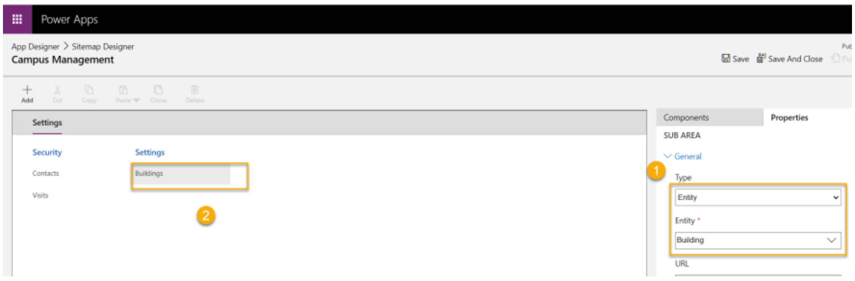


- Select **Subarea**.



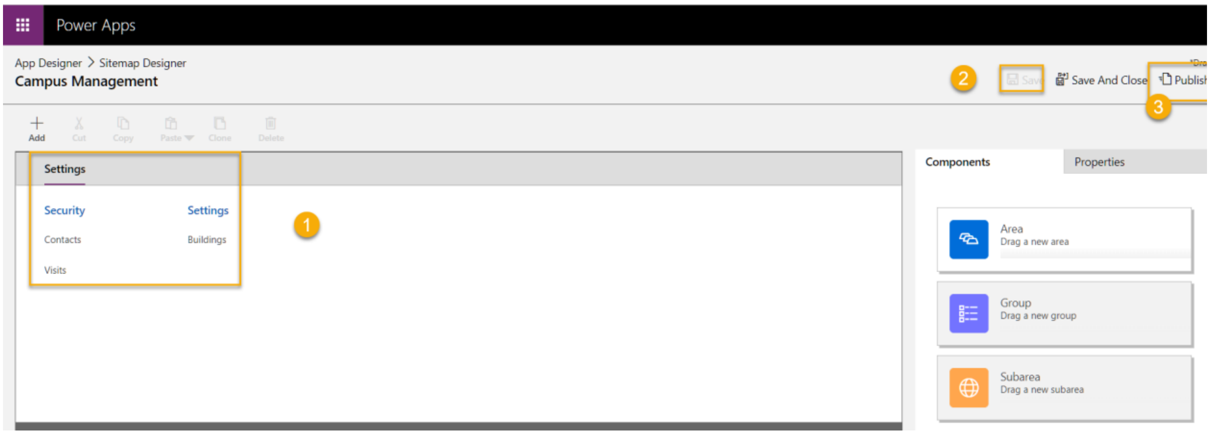
- Go to the **Properties** pane.

- Select **Entity** from the dropdown for **Type** and search for **Building** table from the dropdown for **Entity**.

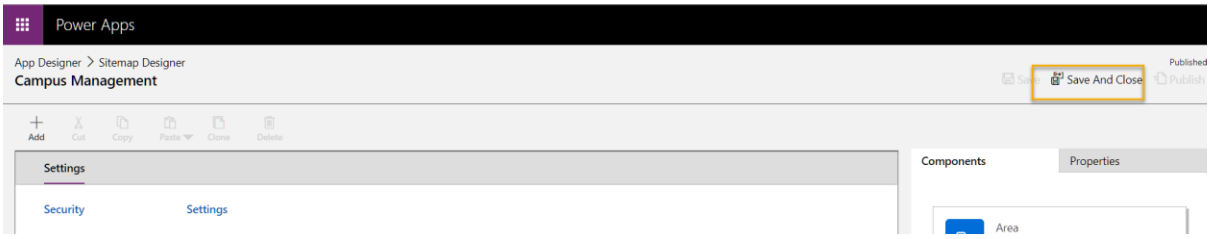


8. Click **Save**. This will show the loading screen while the changes are getting saved.

9. Click **Publish** to publish the sitemap and wait for the publishing to complete.

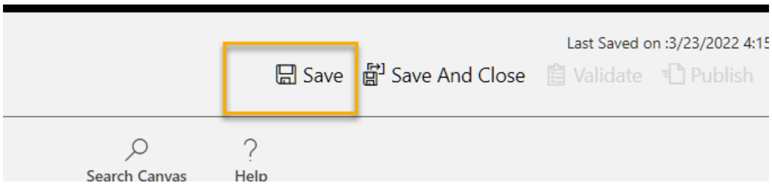


10. Click **Save and Close** to close the sitemap editor.

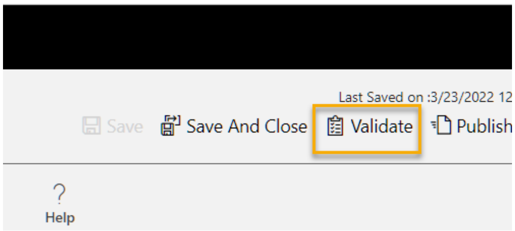


> You will see the assets for the entities that were added to the sitemap are now in the application.

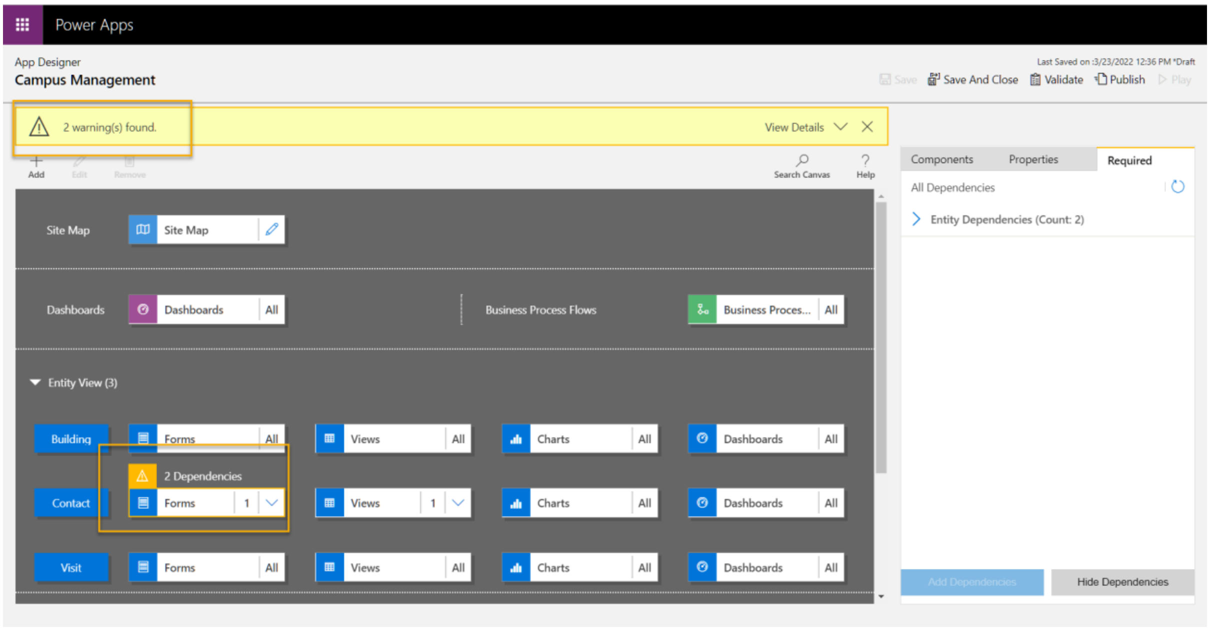
11. Click **Save** on the App Designer.



12. Click **Validate** to validate the changes done in the application.

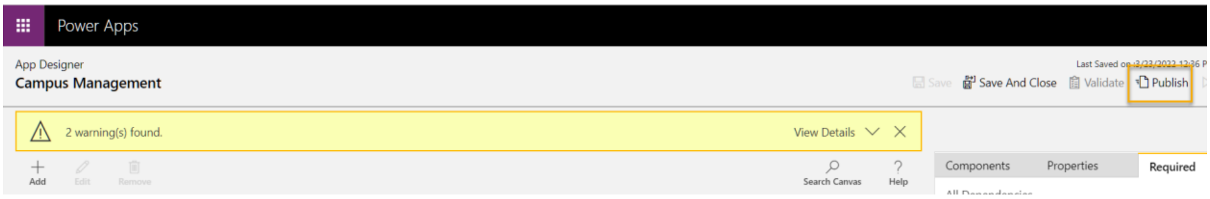


> This will show some warnings but we can ignore them, since we have not referenced a specific View and Form for the entities and the users will have access to all the Views and Forms for **Visit** and **Building** entities.



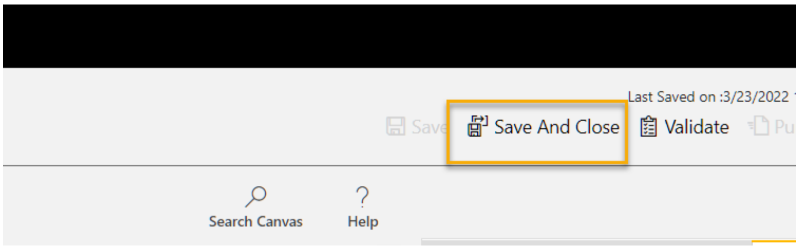
2 warning(s) found.

13. Click **Publish**

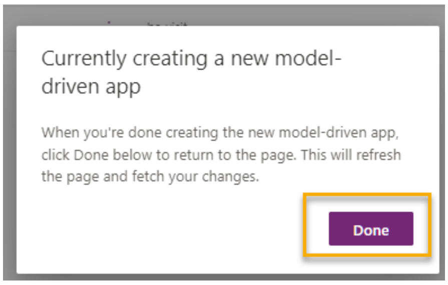


2 warning(s) found.

14. Click **Save and Close** to close the app designer.



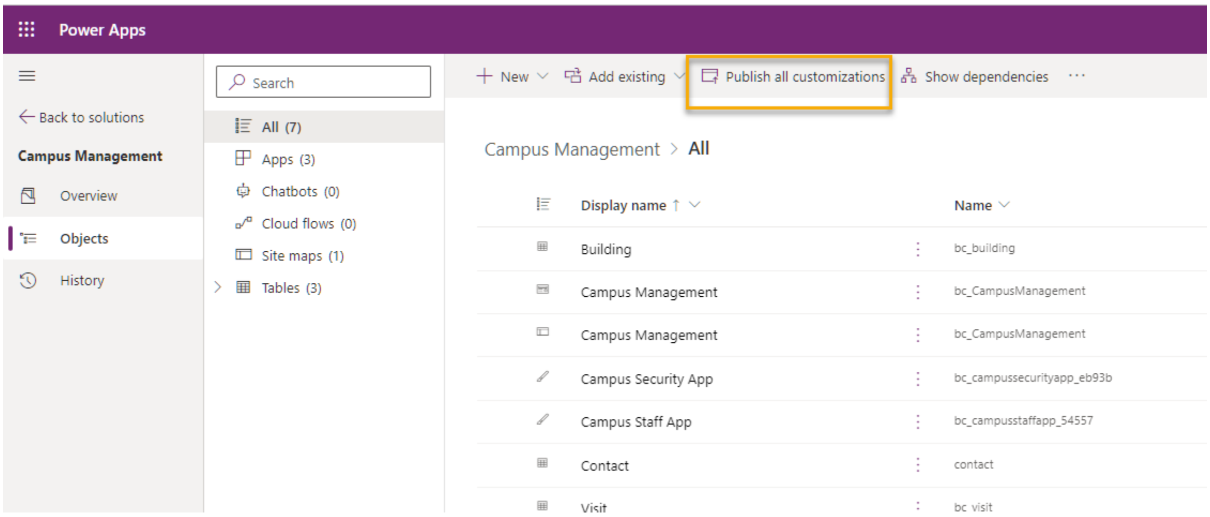
15. Click **Done**.



Currently creating a new model-driven app

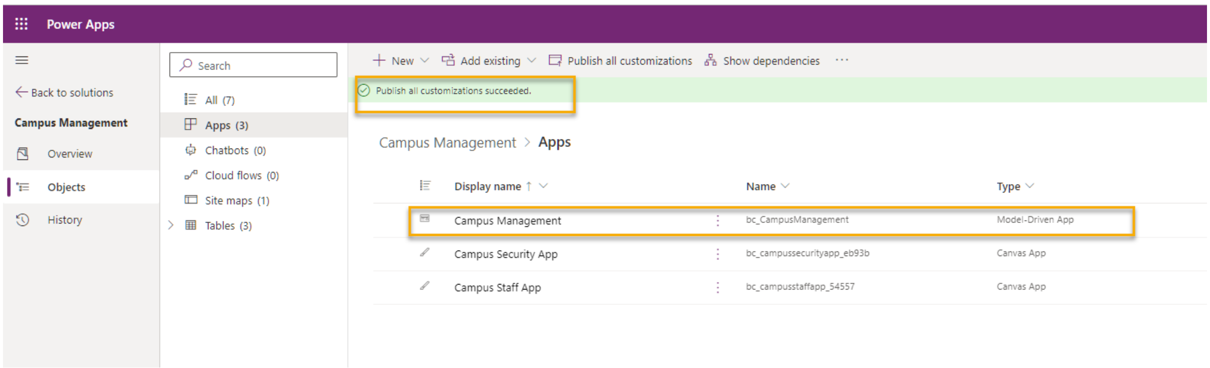
When you're done creating the new model-driven app, click Done below to return to the page. This will refresh the page and fetch your changes.

16. Select **Solutions** and select **Publish all Customizations.**



Display name ↑	Name
Building	bc_building
Campus Management	bc_CampusManagement
Campus Management	bc_CampusManagement
Campus Security App	bc_campussecurityapp_eb93b
Campus Staff App	bc_campusstaffapp_54557
Contact	contact
Visit	bc_visit

17. Select **Apps** and your application should now be listed.



Publish all customizations succeeded.

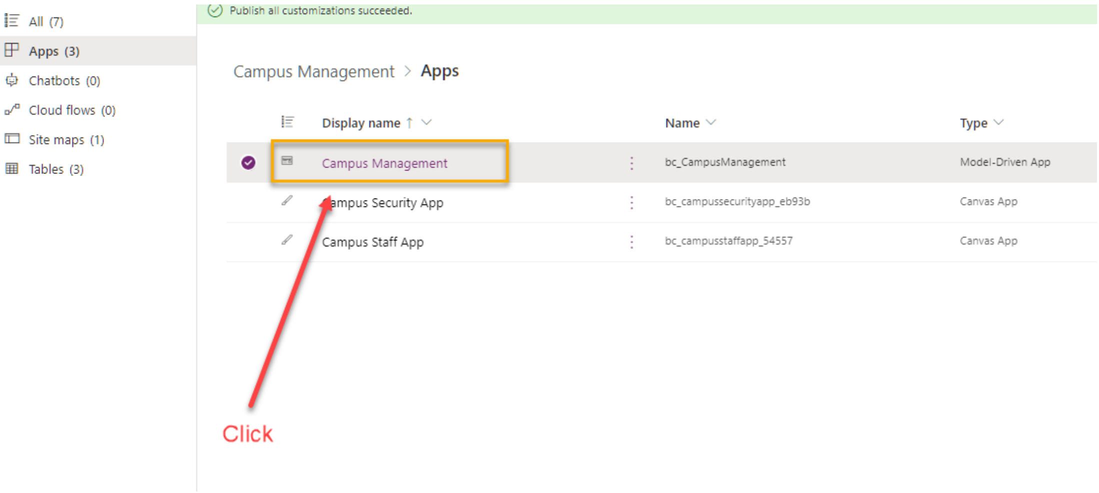
Display name ↑	Name	Type
Campus Management	bc_CampusManagement	Model-Driven App
Campus Security App	bc_campussecurityapp_eb93b	Canvas App
Campus Staff App	bc_campusstaffapp_54557	Canvas App

Task #2: Test Application

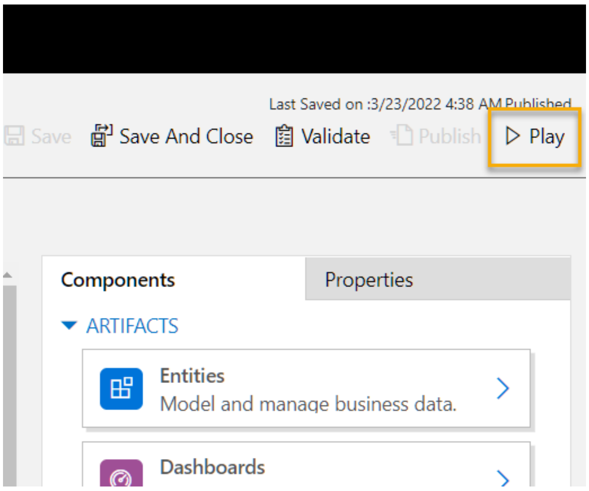
1. Start the application

   - Select **Apps** and click on your **Campus Management** app. (If you don't see your app at first, you may need to refresh your browser.)

   - The application should open in a new window.



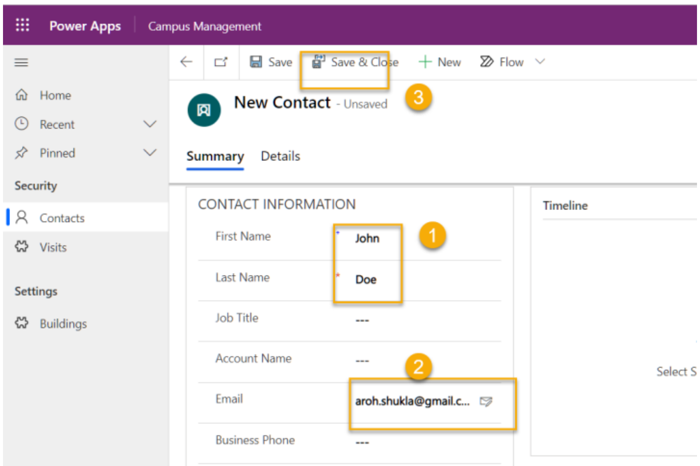
- Click on **Play**



2. Create new Contact

- The app should open to the **Active Contacts** view
- Click **New** from the top menu.
- Provide **First Name** as John and **Last Name** as Doe.
- Provide your personal email as **Email**. This will be used in a future lab.

- Click **Save and Close**.

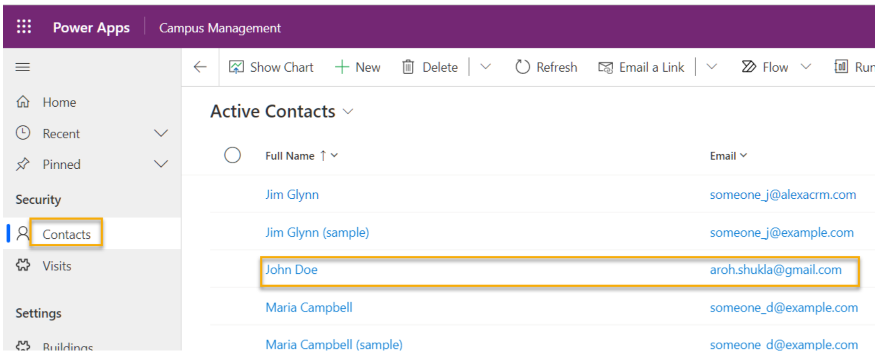


New Contact - Unsaved

CONTACT INFORMATION

First Name	John
Last Name	Doe
Job Title	---
Account Name	---
Email	aroh.shukla@gmail.c...
Business Phone	---

- You should now see the created contact on the **Active Contacts** view.

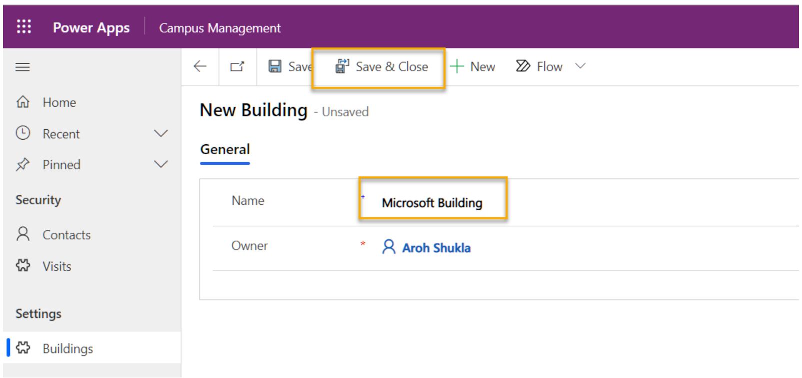


Active Contacts

Full Name ↑	Email
Jim Glynn	someone_j@alexacrm.com
Jim Glynn (sample)	someone_j@example.com
John Doe	aroh.shukla@gmail.com
Maria Campbell	someone_d@example.com
Maria Campbell (sample)	someone_d@example.com

3. Create new Building

- Select **Buildings** from the sitemap.
- Click **New**.
- Enter the **Name** as Microsoft Building
- Click **Save and Close**. This will show the newly created record on the Active Buildings View.



New Building - Unsaved

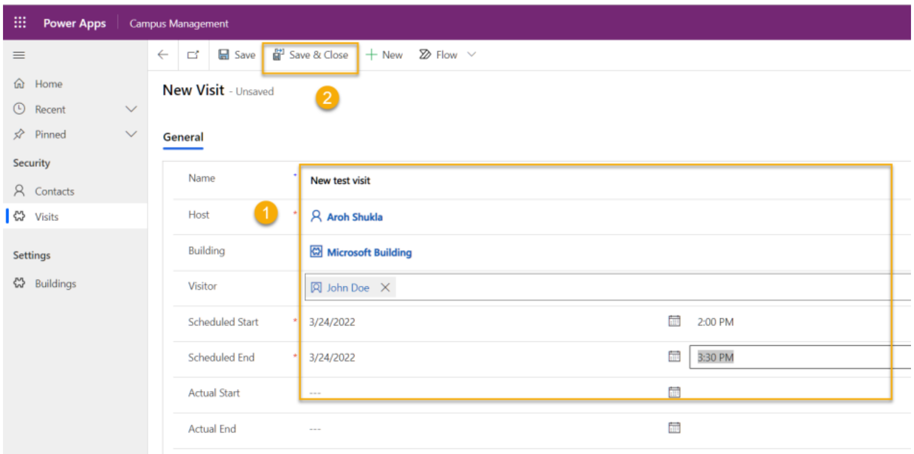
General

Name	Microsoft Building
Owner	Aroh Shukla

4. Create new Visit

- Select **Visits** from the sitemap.

- Click **New**.
- Enter the fields as following
  - **Name**: New test visit
  - **Building**: Alpine Ski House
  - **Visitor**: select John Doe
  - **Scheduled Start**: select tomorrow's date and 2:00 PM as start time
  - **Scheduled End**: select tomorrow's date and 3:30 PM as end time
- Click **Save and Close**. This will create the Visit and you should be able to see it on the Active Visits View.

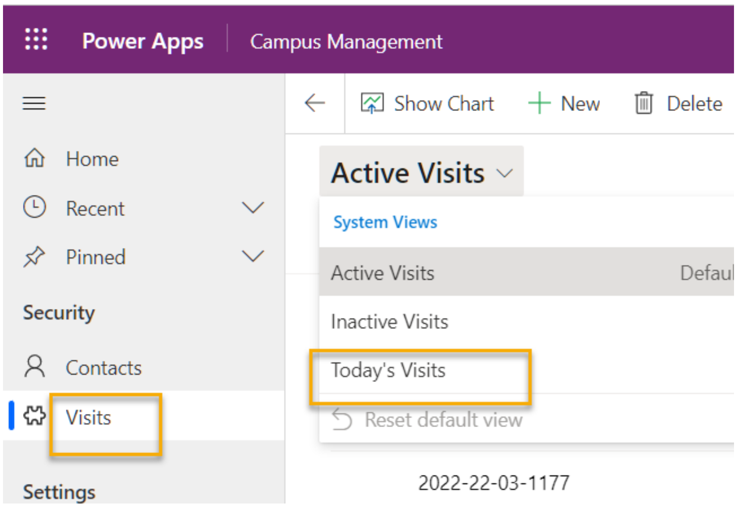


New Visit - Unsaved

General

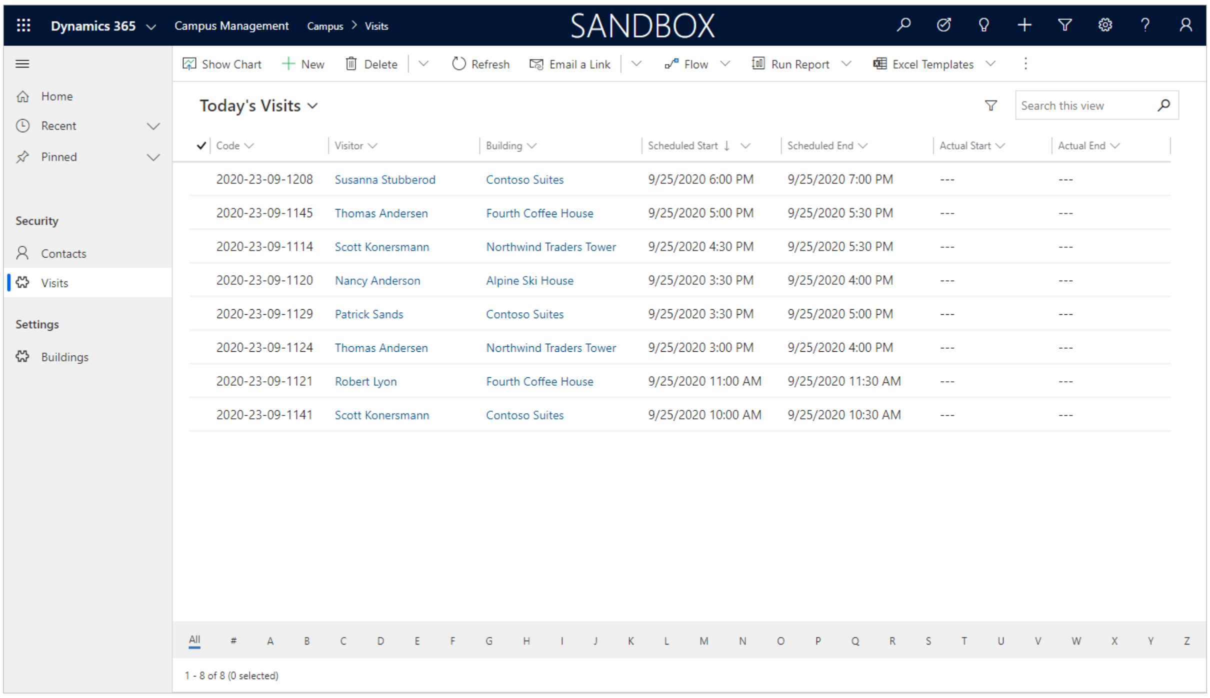
Name	New test visit
Host	Aroh Shukla
Building	Microsoft Building
Visitor	John Doe
Scheduled Start	3/24/2022 2:00 PM
Scheduled End	3/24/2022 3:30 PM
Actual Start	---
Actual End	---

- Change view to **Today's Visits**. You should no longer see the new visit in the view, since it is scheduled for tomorrow.



5. You may add more test records.

Your running app should look approximately like the following:



Today's Visits

Code	Visitor	Building	Scheduled Start ↓	Scheduled End	Actual Start	Actual End
2020-23-09-1208	Susanna Stubberod	Contoso Suites	9/25/2020 6:00 PM	9/25/2020 7:00 PM	---	---
2020-23-09-1145	Thomas Andersen	Fourth Coffee House	9/25/2020 5:00 PM	9/25/2020 5:30 PM	---	---
2020-23-09-1114	Scott Konersmann	Northwind Traders Tower	9/25/2020 4:30 PM	9/25/2020 5:30 PM	---	---
2020-23-09-1120	Nancy Anderson	Alpine Ski House	9/25/2020 3:30 PM	9/25/2020 4:00 PM	---	---
2020-23-09-1129	Patrick Sands	Contoso Suites	9/25/2020 3:30 PM	9/25/2020 5:00 PM	---	---
2020-23-09-1124	Thomas Andersen	Northwind Traders Tower	9/25/2020 3:00 PM	9/25/2020 4:00 PM	---	---
2020-23-09-1121	Robert Lyon	Fourth Coffee House	9/25/2020 11:00 AM	9/25/2020 11:30 AM	---	---
2020-23-09-1141	Scott Konersmann	Contoso Suites	9/25/2020 10:00 AM	9/25/2020 10:30 AM	---	---

1 - 8 of 8 (0 selected)

Challenges

- Select specific views and forms for Visits and Buildings
- Security personnel typically work in a single building. How would you provide an easy way for them to display visits only for a selected building?
- Restrict access to specific entities, e.g. Buildings should be read-only for all staff members except the administrators
- What Dashboards would you consider adding to the app?

Module 3: Get started with Power Apps (Power Apps Portal)

Lab 4: How to build a Power Apps portal

Scenario

Bellows College is an educational organization with multiple buildings on campus. Campus visits are currently recorded in paper journals. The information is not captured consistently, and there are no means to collect and analyze data about the visits across the entire campus.

Campus administration would like to provide the visitors with the information about the buildings on campus. The visitors will be able to view the buildings list on a website, which will be built using a Power Apps portal.

In this lab,

- you will provision **a Power Apps portal** and **create a portals webpage** that will show a listing of the buildings on campus.

High-level lab steps

You will follow the below outline to design the Power Apps portal:

- Provision a Power Apps portal in the Dataverse environment
- Create and configure a webpage to show a list of the buildings
- Create a new theme and apply it to the portal

Prerequisites

- Completion of **Module 0 Lab 0 - Validate lab environment**
- Completion of **Module 2 Lab 1 - Introduction to Microsoft Dataverse**

Things to consider before you begin

- Power Apps portals apps are always started from a template instead of a blank application. Your portal should have been created in Module 0 Lab 0. Once you provision a portal, it will already have pages, menus and a default theme.

Exercise #1: Create a Portal Webpage

Objective: In this exercise, you will create a new webpage that will display some static content as well as a list of buildings from Dataverse.

Task #1: Navigate to Portal

1. Navigate to https://make.powerapps.com.
2. Verify that you are in your Practice Environment. If you are not, change the environment at the top right.
3. Click on **Apps**
4. Locate the app that has the **Type** of **Portal**
5. Click on the app name to open the portal

You should be redirected to your portal website landing page with a welcome message. Navigate your portal to see what was created by default when you provisioned your portal.

Task #2: Create a Webpage

1. Open Power Apps portals Studio
    - Sign in to https://make.powerapps.com (you may still have this open in your tabs)
    - Select **Apps**
    - Locate the app that has the **Type** of **Portal**
    - Click on the ellipses (**...**) to the right of the portals app name and choose **Edit**

You are now in the Power Apps portals Studio. This is where you can modify and create portal content.

2. Create a new page

- From the command bar, select **New page**
- Select **Landing page**

3. In the properties pane, under **Display** change the **Name** from **New page (1)** to Building Directory
4. In the **Partial URL** change the value to building-directory, press the Tab key (to initiate auto-save)

The title of the page should now read **Building Directory**

Task #3: Add Static Content

1. Add a section to the webpage
    - On the canvas (area showing webpage), select a section of the page that is not a column.
    - On the toolbelt (left side), select the **Components** icon
    - Choose **Two columns section** from the **Section layout** area
2. Add Static Text
    - On the canvas (area showing webpage), select the left column
    - On the toolbelt (left side), select the **Components** icon
    - Choose **Text** from the **Portal components** area
    - In the new text area, enter the following text:
    - The following is the building directory.
    - Select the text box above the one you just edited, and click **Delete** on the command bar to remove the default text.
3. Add an Image
    - On the canvas (area showing webpage), select the right column
    - On the toolbelt (left side), select the **Components** icon
    - Choose **Image** from the **Portal components** area
    - In the properties pane, click **Select an image**. Locate and select the **Pages.png**
    - In the properties pane, click the **Formatting** section drop-down and change the **Width** to 70% (be sure to type the %). You can play around with the sizing of the image until it is as desired.
4. Configure rights to display the the building list
    - From the left menu, click on Settings (gear symbol) and choose **View more settings**. This will open additional settings in a new tab.
    - In the left menu, scroll down to **Security** and select **Table Permissions**.
    - Click **New** and add following values:

        - **Name**: Show Building List
        - **Table Name**: From the dropdown on the right side select Building (bc_building)
        - **Website**: Click on the Magnifier and select your website (Bellows College Visitors – [your naming])
        - **Access Type**: Global
        - **Privileges**: Read
    - From the top menu, select **Save**.
    - Scroll down to the **Web Roles** section and **Add Existing Web Role**.
    - Click on the magnifier, select **Anonymous Users** and click **Add**.
    - From the top menu, select **Save & Close**.
    - Go back to the previous tab.

5. Click **Browse website** to view the page so far. Notice that there is now the **Building Directory** option on the main menu.

You may need to configure your browser to allow pop-ups.

Task #4: Add a List Component

1. Navigate to the previous tab and continue to step #2. If not available, follow the below steps to return to this location.
    - Sign in to https://make.powerapps.com (you may still have this open in your tabs)
    - Locate the app that has the **Type** of **Portal**
    - Click on the ellipses (**...**) and choose **Edit**
    - On the toolbelt (left hand side), choose the **Pages** option
    - Locate and select the **Building Directory** page you created earlier
2. Add a list component to the Building Directory page
    - Select the section with two columns.
    - On the toolbelt (left side), select the **Components** icon
    - Choose **One column section** from the **Section layout** area (a section will appear below the image and text on the webpage)
    - Select the new column section on the canvas
    - On the toolbelt (left side), select the **Components** icon
    - Choose **List** from the **Portal Components** area (a list component will appear in the new section)
3. Configure the list component

- Select the list component on the canvas
- In the properties pane (right side), enter in Buildings List in the **Name** field
- In the **Table** field, choose **Building (bc_building)** from the drop-down list
- In the **Views**, choose **Active Buildings**
- Leave the remaining default settings

4. Click **Browse website** to view the page.

You should see the list of Buildings from your Dataverse database appear on the webpage.

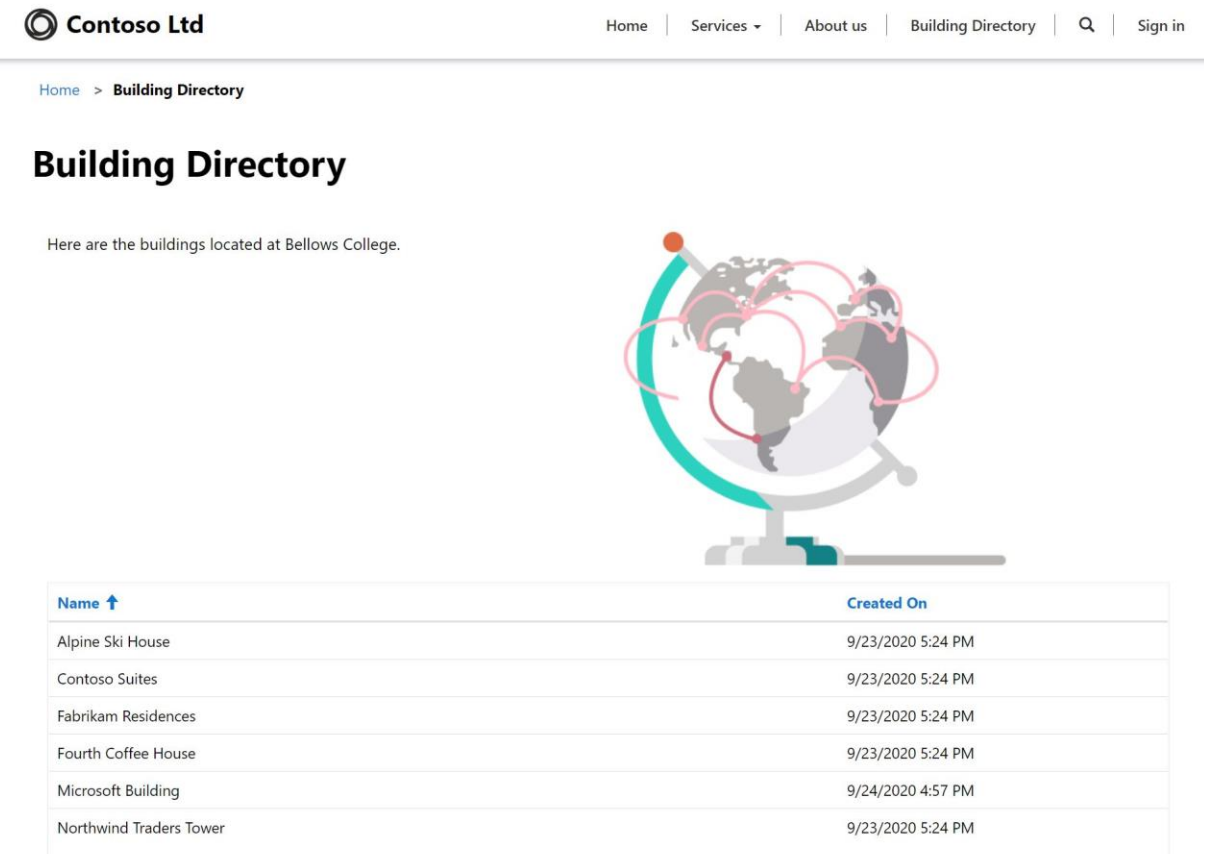
Exercise #2: Change the Portal Theme

Objective: In this exercise, you will create a new theme that will alter the color scheme of your portal.

Task #1: Apply and Edit a Theme

1. Navigate to the previous tab and continue to step #2. If not available, follow the below steps to return to this location.
   - Sign in to https://make.powerapps.com (you may still have this open in your tabs)
   - Locate the app that has the **Type** of **Portal**
   - Click on the ellipses (**...**) and choose **Edit**
2. Apply and customize a basic theme
   - On the toolbelt (left side), select the **Themes** icon
   - Ensure that the toggle for **Enable basic theme** is set to on.
   - On one of presets, click the ellipses (**...**) and choose **Customize**
   - A copy of the basic theme has been created.
   - On the properties pane, play around with changing the colors and exploring the impact of these changes to your portal.
   - Rename your theme
3. On the command bar, click **Sync configuration**

Your app layout should look similar to the following structure:



Building Directory

Here are the buildings located at Bellows College.

Name ↑	Created On
Alpine Ski House	9/23/2020 5:24 PM
Contoso Suites	9/23/2020 5:24 PM
Fabrikam Residences	9/23/2020 5:24 PM
Fourth Coffee House	9/23/2020 5:24 PM
Microsoft Building	9/24/2020 4:57 PM
Northwind Traders Tower	9/23/2020 5:24 PM

Challenges

- Create a different view of Buildings that just displays the Building Name. You will need to select **Browse website** from the Portal studio to see the changes.
- On the toolbelt, click on the **Themes** icon and edit the CSS of your custom theme.
- Create a page with the **Form** component and modify a **List** component to add or edit Dataverse rows with the form.
- Enable **Entity Permissions** in a **List** component **Settings**, what happens to the data?
- In the Portal studio, select the Source Code Editor icon </> to view the page source. If you are comfortable with HTML, make some modifications and view the results.

Module 4: Get Started with Power Automate

Lab: How to build an automated solution

Scenario

Bellows College is an educational organization with multiple buildings on campus. Campus visitors are currently recorded in paper journals. The information is not captured consistently, and there are no means to collect and analyze data about the visits across the entire campus.

Campus administration would like to modernize their visitor registration system where access to the buildings is controlled by security personnel and all visits are required to be pre-registered and recorded by their hosts.

Throughout this course, you will build applications and perform automation to enable the Bellows College administration and security personnel to manage and control access to the buildings on campus.

In this lab,

- you will create **Power Automate flows** to automate **various parts of the campus** management.

High-level lab steps

The following have been identified as requirements you must implement to complete the project:

- The **unique code assigned to each visitor** must be made available to them prior to their visit.
- **Security personnel need to receive notifications** of visitors overstaying their scheduled timeslots.

Prerequisites

- Completion of **Module 0 Lab 0 - Validate lab environment**
- Completion of **Module 2 Lab 1 - Introduction to Microsoft Dataverse**
- Campus Staff app created in **Module 3 Lab 2 – How to build a canvas app, part 2** (for testing)
- John Doe contact created with a personal email address in **Module 3 Lab 4 - How to build a model-driven app** (for testing)

Things to consider before you begin

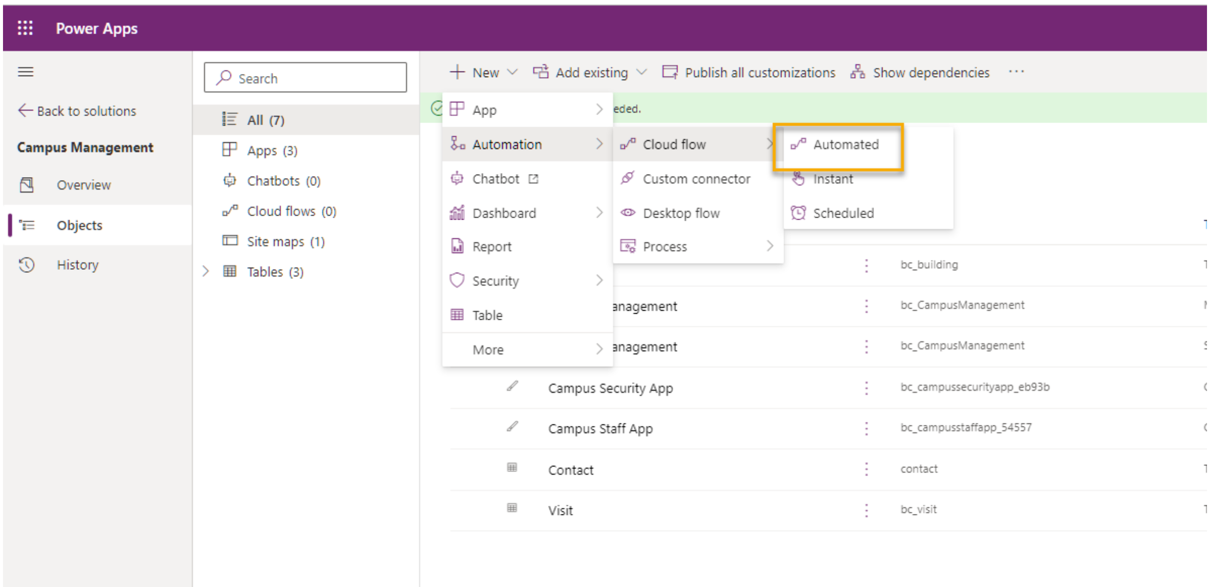
- What is the most appropriate distribution mechanism for the visitor codes?
- How could overstays be measured and strict policies enforced?

Exercise #1: Create Visit Notification flow

Objective: In this exercise, you will create a Power Automate flow that implements the requirement. The visitor should be sent an email that includes the unique code assigned to the visit.

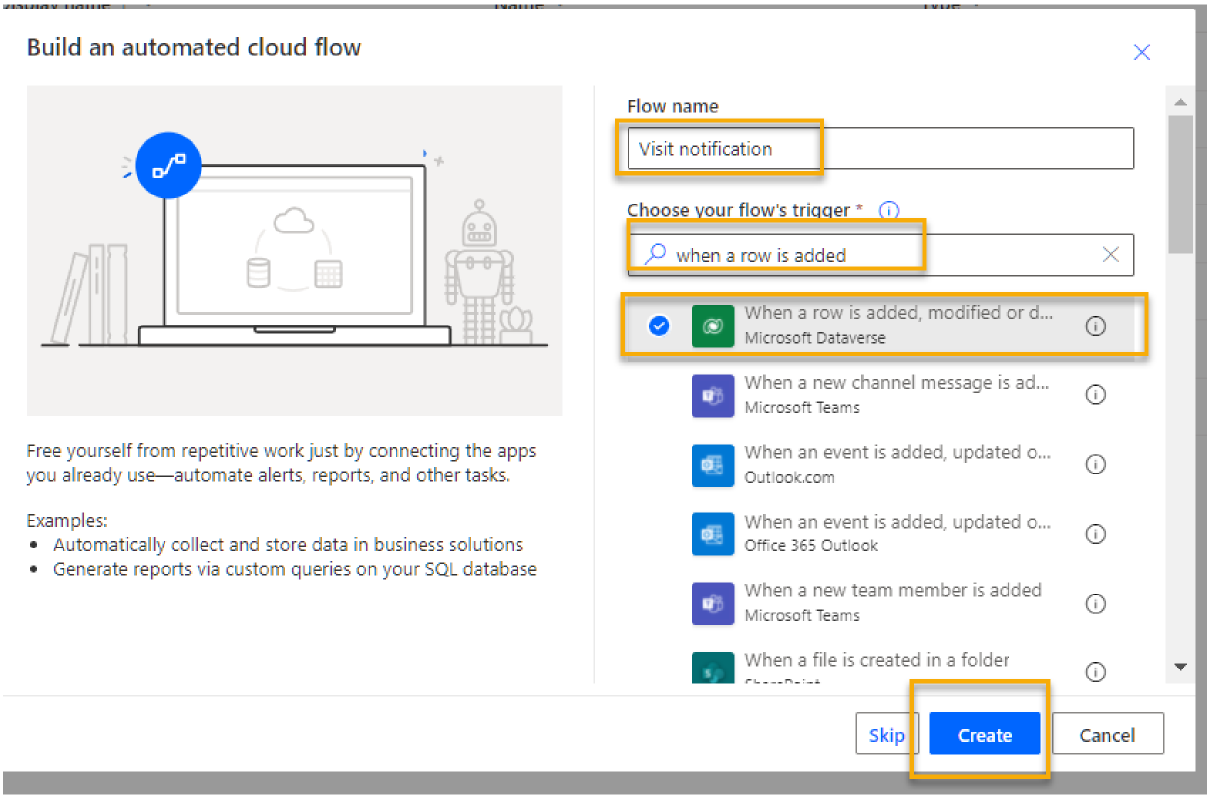
Task #1: Create flow

1. Open your Campus Management solution.
    - Sign in to https://make.powerapps.com
    - Select your **environment.**
    - Select **Solutions**.
    - Click to open your **Campus Management** solution.
2. Click **New** and select **Automation**, **Cloud flow** and then **Automated**. This will open the Power Automate flow editor in a new window.



3. In **Choose your flow's trigger**, search for **Microsoft Dataverse**.

4. Select the trigger **When a row is added, modified or deleted**, and then click **Create**.



Build an automated cloud flow

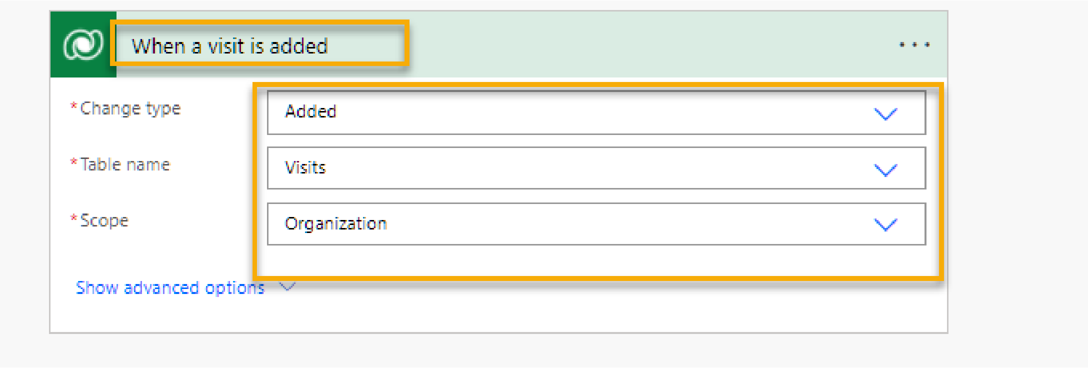
Flow name: Visit notification

Choose your flow's trigger *: when a row is added

Free yourself from repetitive work just by connecting the apps you already use—automate alerts, reports, and other tasks.
Examples:
Automatically collect and store data in business solutions
Generate reports via custom queries on your SQL database
When a row is added, modified or d...
Microsoft Dataverse
When a new channel message is ad...
Microsoft Teams
When an event is added, updated o...
Outlook.com
When an event is added, updated o...
Office 365 Outlook
When a new team member is added
Microsoft Teams
When a file is created in a folder
SharePoint
Skip
Create
Cancel

- ○ Select **Added** for **Change type**
- ○ Select **Visits** for **Table name**
- ○ Select **Organization** for **Scope**
- ○ On the trigger step, click the ellipsis (**...**) and click **Rename**. Rename this trigger **"When a visit is added"**. This is a good practice, so you and other flow

editors can understand the purpose of the step without having to dive into the details.



When a visit is added

*Change type: Added

*Table name: Visits

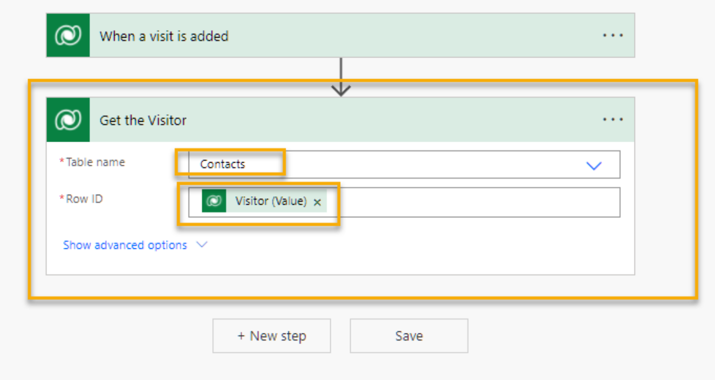
*Scope: Organization

5. Select **New Step**. This step is required to retrieve visitors information, including email address.

6. Search for **Microsoft Dataverse**.

7. Select **Get a row by ID** action.

    - Select **Contacts** as **Table name**
    - In the **Row ID** field, select **Visitor (Value)** from the Dynamic content list.
    - On this action, click the ellipsis (**...**) and click **Rename**. Rename this action **"Get the Visitor"**. This is a good practice, so you and other flow editors can understand the purpose of the step without having to dive into the details.



When a visit is added

Get the Visitor

*Table name: Contacts

*Row ID: Visitor (Value)

8. Click **New Step**. This is the step that will create and send email to the visitor.

9. Search for *mail*, select **Office 365 Outlook** connector and **Send an email (V2)** action.

    - If asked to Accept terms and conditions for using this action, click **Accept**.
    - Select **To** field, select **Email** from the Dynamic content list. Notice that it is beneath the **Get the Visitor** header. This means you are selecting the Email that is related to the Visitor that you looked up in the previous step.
    - Enter **Your scheduled visit to Bellows College** in the **Subject** field.
    - Enter the following text in **Email Body**:

Dynamic content needs to be placed where fields are named in brackets. It is recommended to copy & paste all text first and then add dynamic content in the correct places.

Dear {First Name},

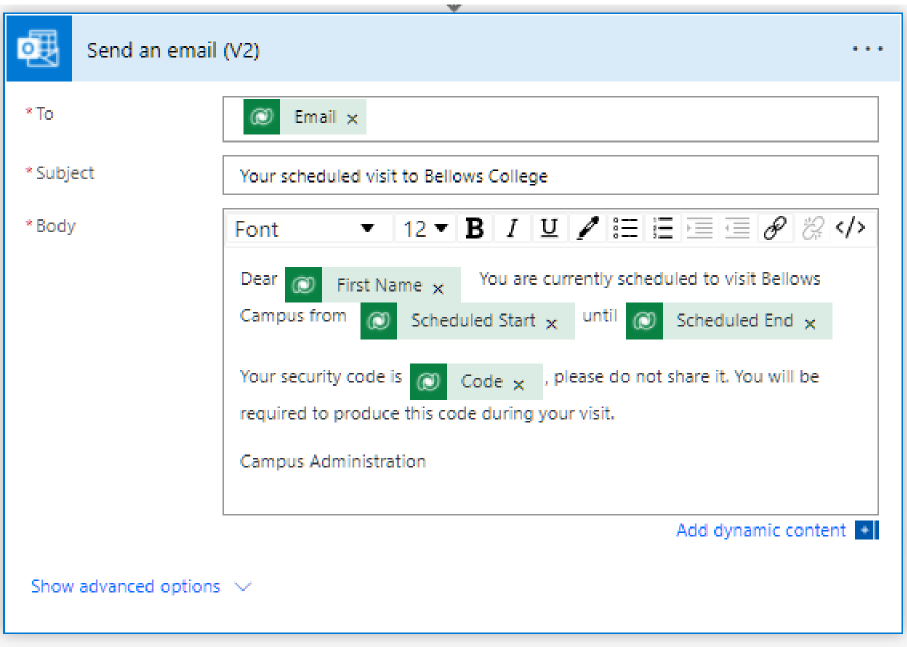
You are currently scheduled to visit Bellows Campus from {Scheduled Start} until {Scheduled End}.

Your security code is {Code}, please do not share it. You will be required to produce this code during your visit.

Best regards,

Campus Administration

Bellows College



Send an email (V2)

* To: Email

* Subject: Your scheduled visit to Bellows College

* Body: Dear First Name You are currently scheduled to visit Bellows Campus from Scheduled Start until Scheduled End

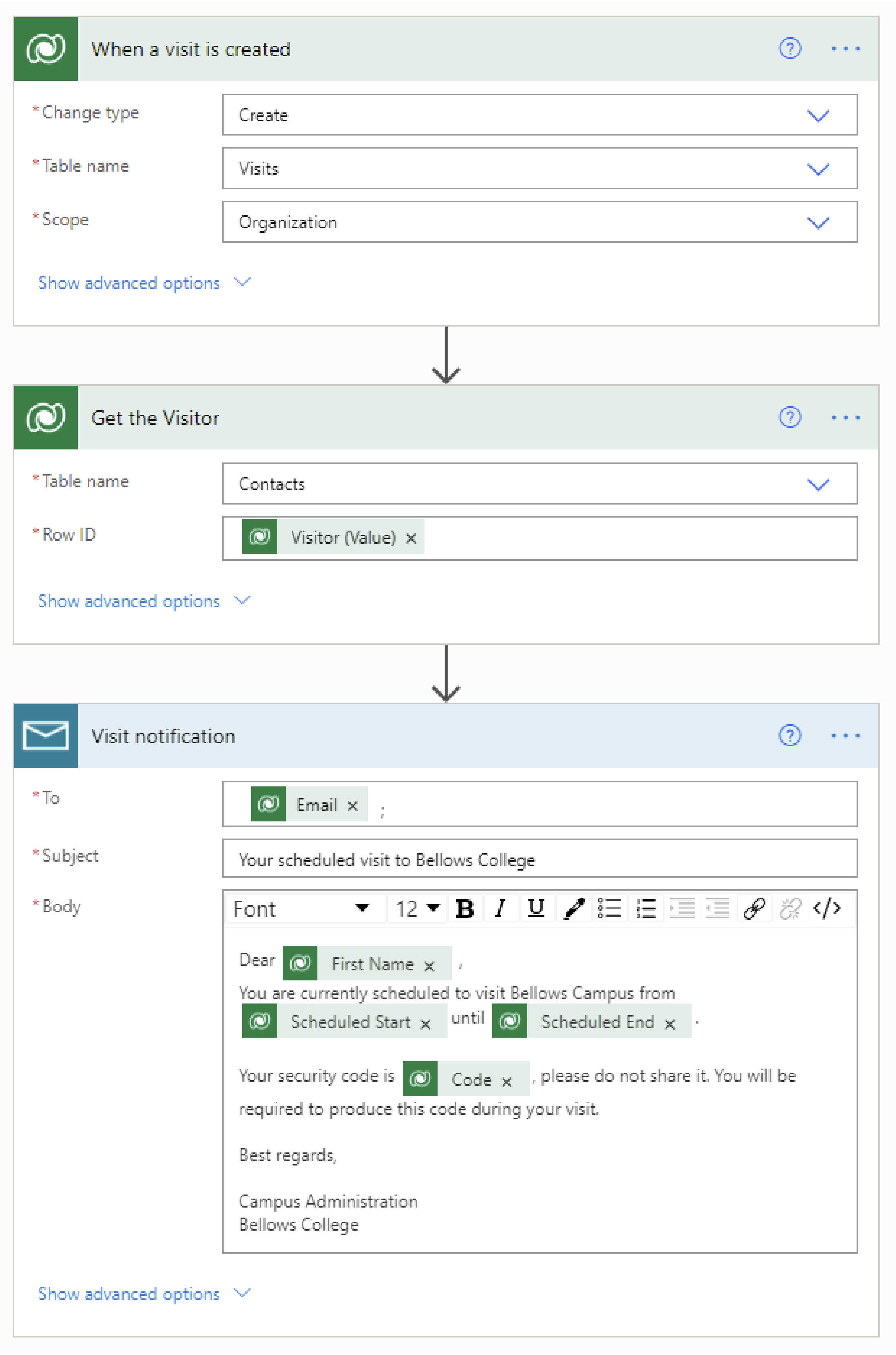
Your security code is Code , please do not share it. You will be required to produce this code during your visit.

Campus Administration

10. Select the **Untitled** flow name at the top and rename it to Visit notification

11. Press **Save**

Leave this flow tab open for the next task. You flow should look approximately like the following:



When a visit is created

*Change type: Create

*Table name: Visits

*Scope: Organization

Show advanced options

Get the Visitor

*Table name: Contacts

*Row ID: Visitor (Value) ×

Show advanced options

Visit notification

*To: Email × ;

*Subject: Your scheduled visit to Bellows College

*Body:

Dear First Name × ,
You are currently scheduled to visit Bellows Campus from Scheduled Start × until Scheduled End × .

Your security code is Code × , please do not share it. You will be required to produce this code during your visit.

Best regards,

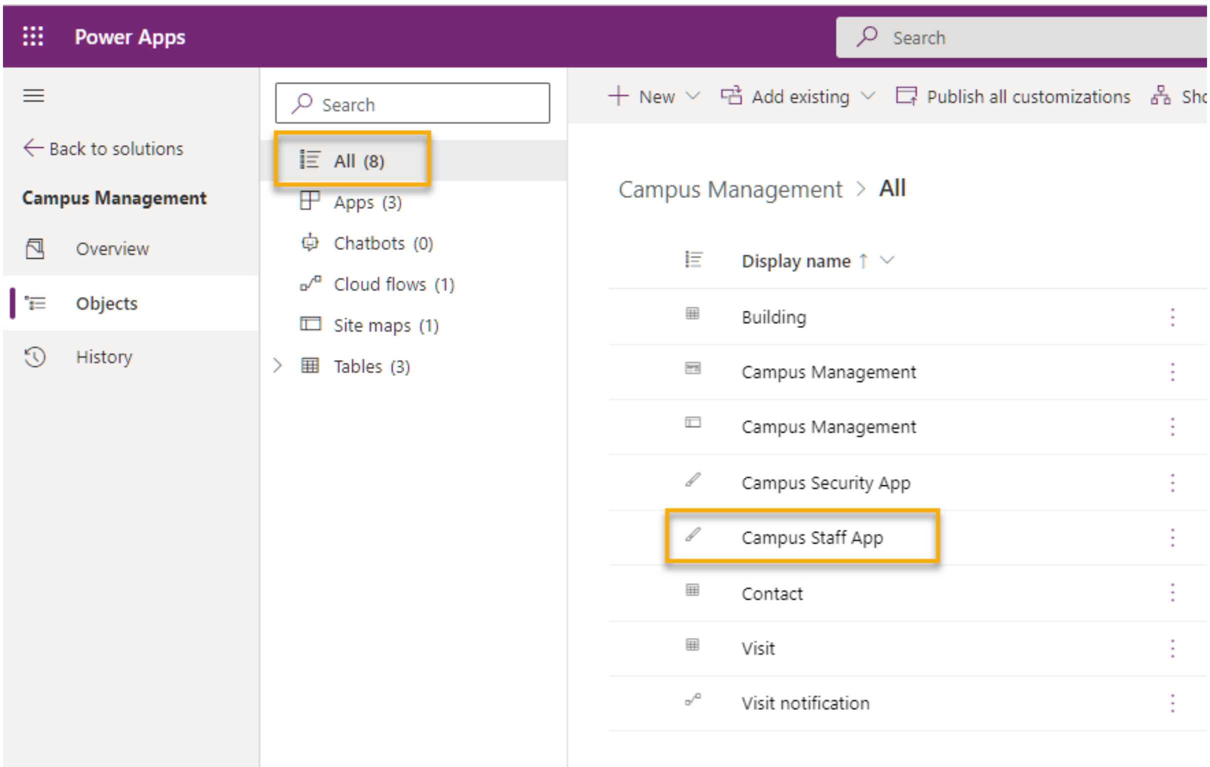
Campus Administration
Bellows College

Show advanced options

Task #2: Validate and test the flow

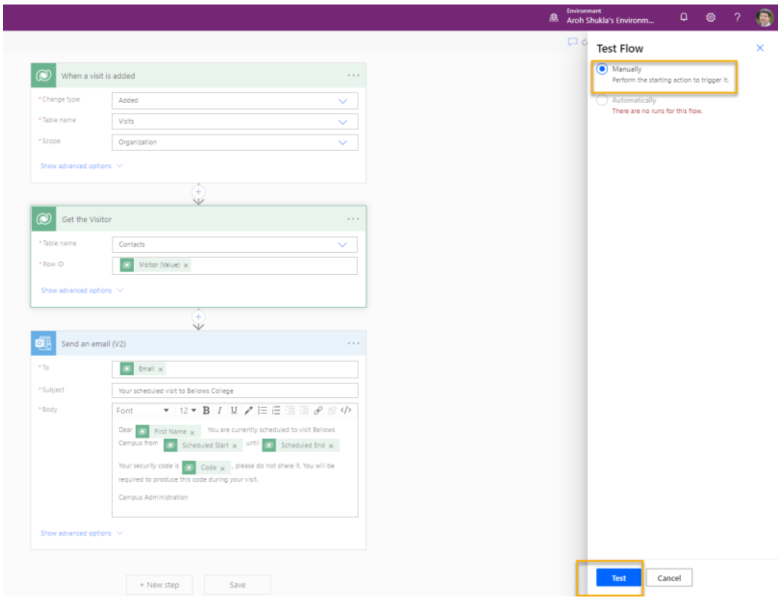
1. Open a new tab in your browser and navigate to https://make.powerapps.com

2. Click **Apps** and select the **Campus Staff** app you created



3. Leaving this tab open, navigate back to the previous tab with your flow.

4. On the command bar, click **Test**. Select **Manually** and then **Save & Test**.



When a visit is added

*Change type: Added

*Table name: Visits

*Scope: Organization

Get the Visitor

*Table name: Contacts

*Row ID: Visitor (Value)

Send an email (V2)

*To: Email

*Subject: Your scheduled visit to Bellows College

*Body: Dear First Name You are currently scheduled to visit Bellows Campus from Scheduled Start until Scheduled End

Your security code is Code , please do not share it. You will be required to produce this code during your visit.

Campus Administration

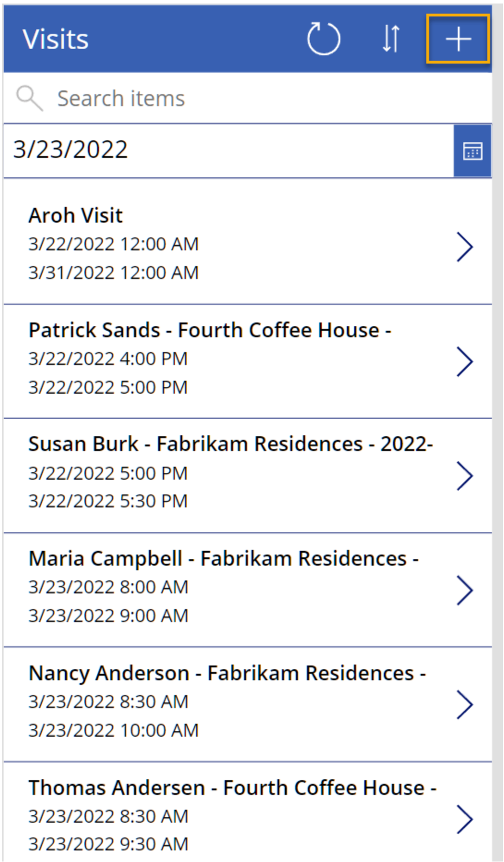
Test Flow

● Manually
Perform the starting action to trigger it.

○ Automatically
There are no runs for this flow.

5. Leaving the flow tab open, navigate back to the previous tab with the **Campus Staff** app.

6. Press **+** to add a new Visit record



Visits

Search items

3/23/2022

Aroh Visit
3/22/2022 12:00 AM
3/31/2022 12:00 AM

Patrick Sands - Fourth Coffee House -
3/22/2022 4:00 PM
3/22/2022 5:00 PM

Susan Burk - Fabrikam Residences - 2022-
3/22/2022 5:00 PM
3/22/2022 5:30 PM

Maria Campbell - Fabrikam Residences -
3/23/2022 8:00 AM
3/23/2022 9:00 AM

Nancy Anderson - Fabrikam Residences -
3/23/2022 8:30 AM
3/23/2022 10:00 AM

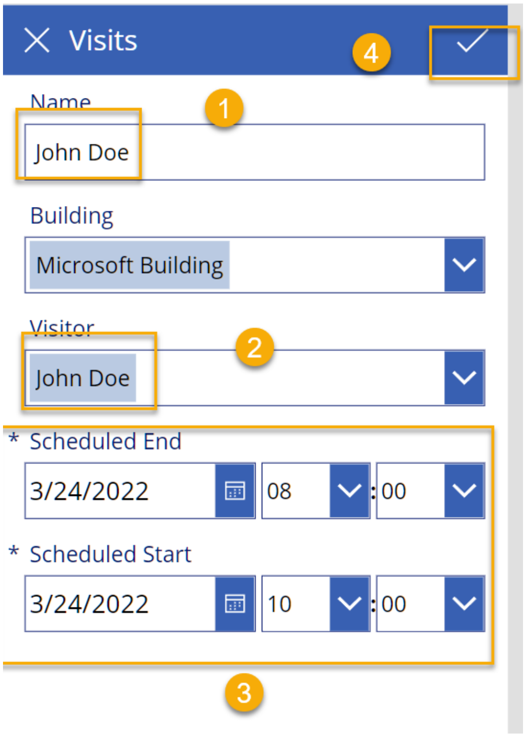
Thomas Andersen - Fourth Coffee House -
3/23/2022 8:30 AM
3/23/2022 9:30 AM

7. Enter **John Doe** as **Name** and choose any **Building**

8. Choose **John Doe** as the **Visitor**

9. Choose the **Scheduled Start** and **Scheduled End Dates** to any dates in the future.

10. Press the **Checkmark** icon to save the new visit



Name
John Doe

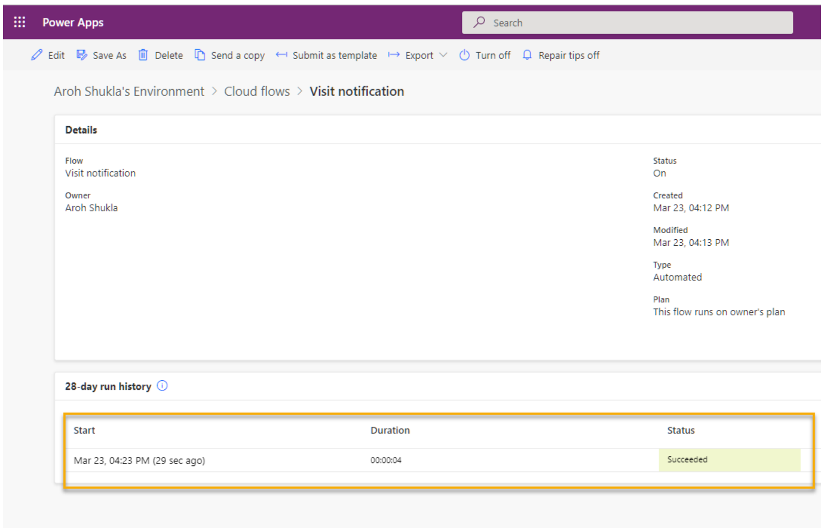
Building
Microsoft Building

Visitor
John Doe

* Scheduled End
3/24/2022 08 : 00

* Scheduled Start
3/24/2022 10 : 00

11. Navigate back to the previous tab with the flow being tested. Watch as the flow is run. If there are any errors, go back and compare your flow to the example above. If the email is sent successfully, you will receive it in your inbox.



Aroh Shukla's Environment > Cloud flows > Visit notification

Details

Flow
Visit notification

Owner
Aroh Shukla

Status
On

Created
Mar 23, 04:12 PM

Modified
Mar 23, 04:13 PM

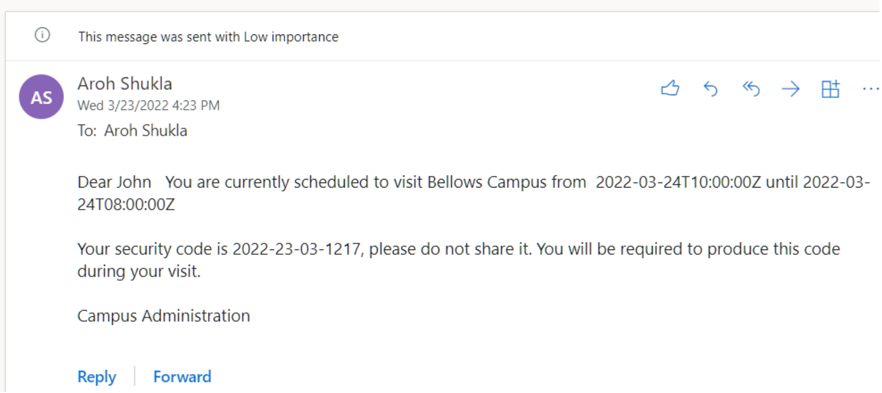
Type
Automated

Plan
This flow runs on owner's plan

28-day run history

Start	Duration	Status
Mar 23, 04:23 PM (29 sec ago)	00:00:04	Succeeded

Email:



This message was sent with Low importance

Aroh Shukla
Wed 3/23/2022 4:23 PM
To: Aroh Shukla

Dear John   You are currently scheduled to visit Bellows Campus from 2022-03-24T10:00:00Z until 2022-03-24T08:00:00Z

Your security code is 2022-23-03-1217, please do not share it. You will be required to produce this code during your visit.

Campus Administration

12. Click the back arrow on the command bar

13. In the **Details** section, notice that the **Status** is set to **On**. This means your flow will run whenever a new Visit is created, until you turn it off. Any time the flow runs, you will see it added to the **28-day run history** list.

14. Turn the flow off by clicking **Turn off** on the command bar. You may need to press the ellipses (**...**) to see this option.

15. Close this window.

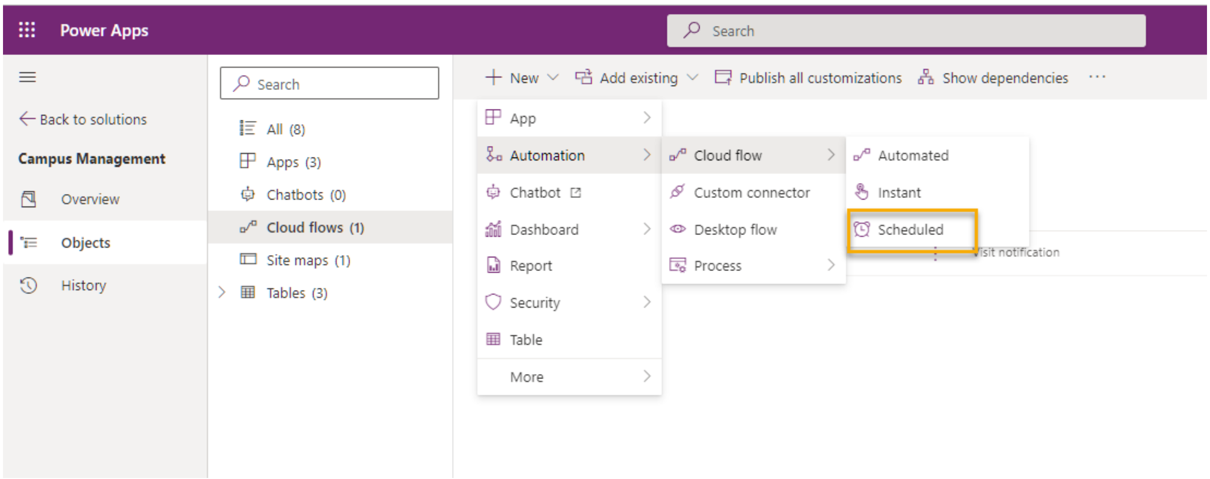
Exercise #2: Create Security Sweep flow

- **Objective:** In this exercise, you will create a Power Automate flow that implements the requirement.
- **A security sweep needs to be performed every 15 minutes**, and security should be notified if any of the visitors **overstayed** their scheduled time.

Task #1: Create flow to retrieve records

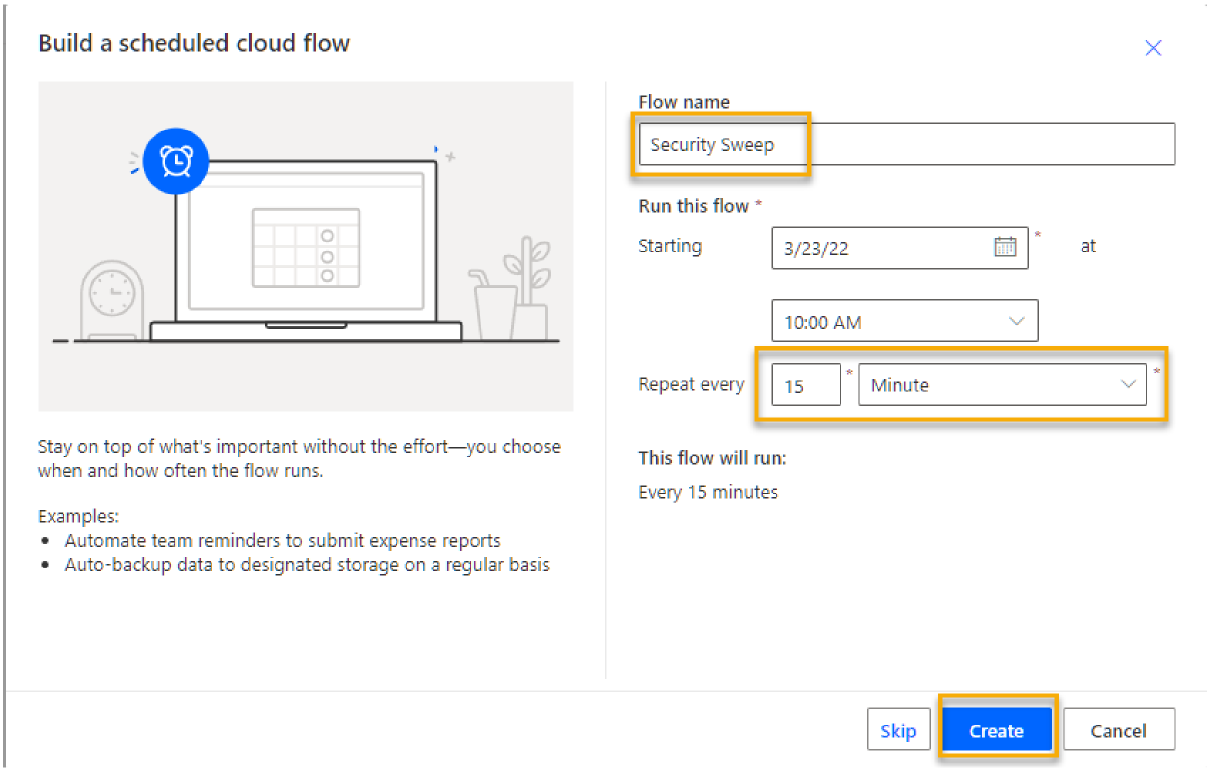
1. Open your Campus Management solution.
   - Sign in to https://make.powerapps.com
   - Select your **Environment.**
   - Select **Solutions**.
   - Click to open your **Campus Management** solution.

2. Click **New** and select **Automation**, **Cloud flow** and then **Scheduled**. This will open the Power Automate flow editor in a new window.



3. Set the flow to repeat every **15** minutes.

4. Click **Create**.



Build a scheduled cloud flow

Stay on top of what's important without the effort—you choose when and how often the flow runs.

Examples:

- Automate team reminders to submit expense reports
- Auto-backup data to designated storage on a regular basis

Flow name: Security Sweep

Run this flow *

Starting: 3/23/22 * at 10:00 AM

Repeat every: 15 * Minute *

This flow will run:

Every 15 minutes

5. Click **New step**. Search for *Current* and select **Microsoft Dataverse** connector. Select **List rows** action.

   ○ Enter **Visits** as **Table name**

   ○ Click **Show advanced options**

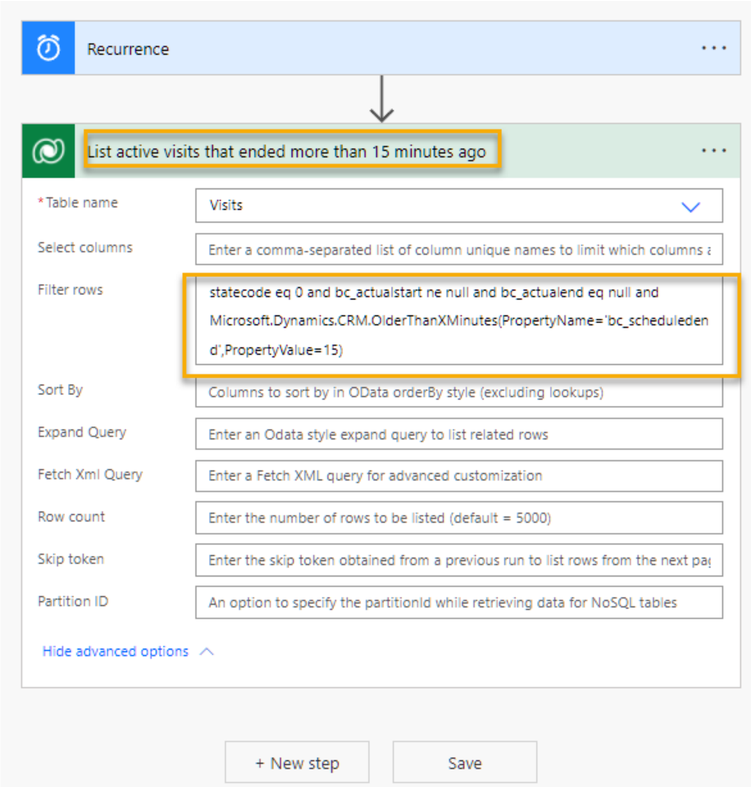
   ○ Enter the following expression as **Filter rows**

6. statecode eq 0 and bc_actualstart ne null and bc_actualend eq null and Microsoft.Dynamics.CRM.OlderThanXMinutes(PropertyName='bc_scheduledend',PropertyValue=15)

    - To break it down:

        - **statecode eq 0** filters active visits (where Status equal Active)
        - **bc_actualstart ne null** restricts search to visits where Actual Start has a value, i.e. there was a checkin
        - **bc_actualend eq null** restricts search to visits where there was no check out (Actual End has no value)
        - **Microsoft.Dynamics.CRM.OlderThanXMinutes(PropertyName='bc_scheduledend',PropertyValue=15)** restricts visits where visits meant to complete more than 15 minutes ago.

    - On this action, click the ellipsis (**...**) and click **Rename**. Rename this action **"List active visits that ended more than 15 minutes ago"**. This is a good practice, so you and other flow editors can understand the purpose of the step without having to dive into the details.



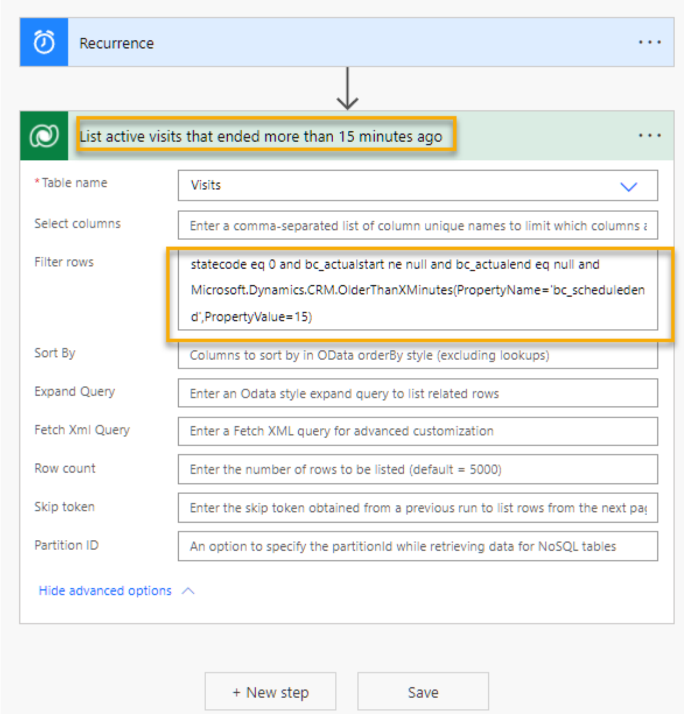
Recurrence

List active visits that ended more than 15 minutes ago

*Table name	Visits
Select columns	Enter a comma-separated list of column unique names to limit which columns a
Filter rows	statecode eq 0 and bc_actualstart ne null and bc_actualend eq null and Microsoft.Dynamics.CRM.OlderThanXMinutes(PropertyName='bc_scheduledend',PropertyValue=15)
Sort By	Columns to sort by in OData orderBy style (excluding lookups)
Expand Query	Enter an Odata style expand query to list related rows
Fetch Xml Query	Enter a Fetch XML query for advanced customization
Row count	Enter the number of rows to be listed (default = 5000)
Skip token	Enter the skip token obtained from a previous run to list rows from the next pa
Partition ID	An option to specify the partitionId while retrieving data for NoSQL tables

7. Click **New step**. Search for *Apply*, select **Apply to each** action

8. Select **value** from dynamics content in the **Select an output from previous steps** field. Notice that it is beneath the **List active visits that ended more than 15 minutes ago** gray header. This means you are selecting the list of visits that you looked up in the previous step.


Recurrence

List active visits that ended more than 15 minutes ago

*Table name: Visits

Select columns: Enter a comma-separated list of column unique names to limit which columns a

Filter rows:

```
statecode eq 0 and bc_actualstart ne null and bc_actualend eq null and
Microsoft.Dynamics.CRM.OlderThanXMinutes(PropertyName='bc_scheduleden
d',PropertyValue=15)
```

Sort By: Columns to sort by in OData orderBy style (excluding lookups)

Expand Query: Enter an Odata style expand query to list related rows

Fetch Xml Query: Enter a Fetch XML query for advanced customization

Row count: Enter the number of rows to be listed (default = 5000)

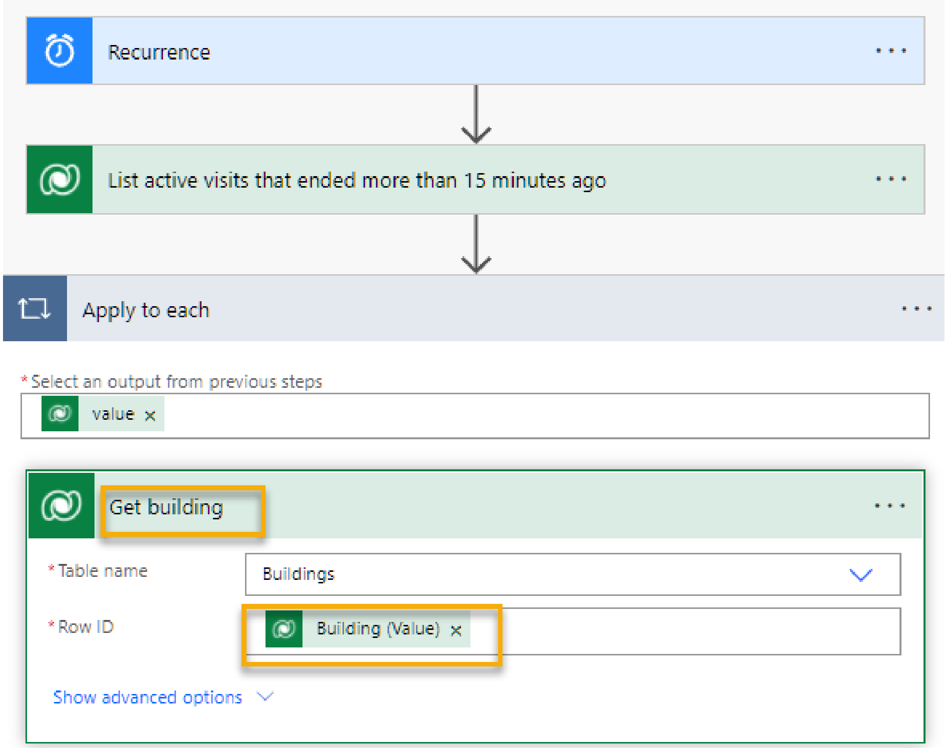
Skip token: Enter the skip token obtained from a previous run to list rows from the next pa

Partition ID: An option to specify the partitionId while retrieving data for NoSQL tables

9. Retrieve Building data for related record

    - Click **Add an action** inside the Apply to Each loop.
    - Select **Microsoft Dataverse**.
    - Select **Get a row by ID** action.
    - Select **Buildings** as **Table name**
    - Select **Building (Value)** as **Row ID** from the Dynamic content

- Click **...** beside **Get a record**, select **Rename**. Enter **Get building** as step name



Recurrence

List active visits that ended more than 15 minutes ago

Apply to each

*Select an output from previous steps: value

Get building

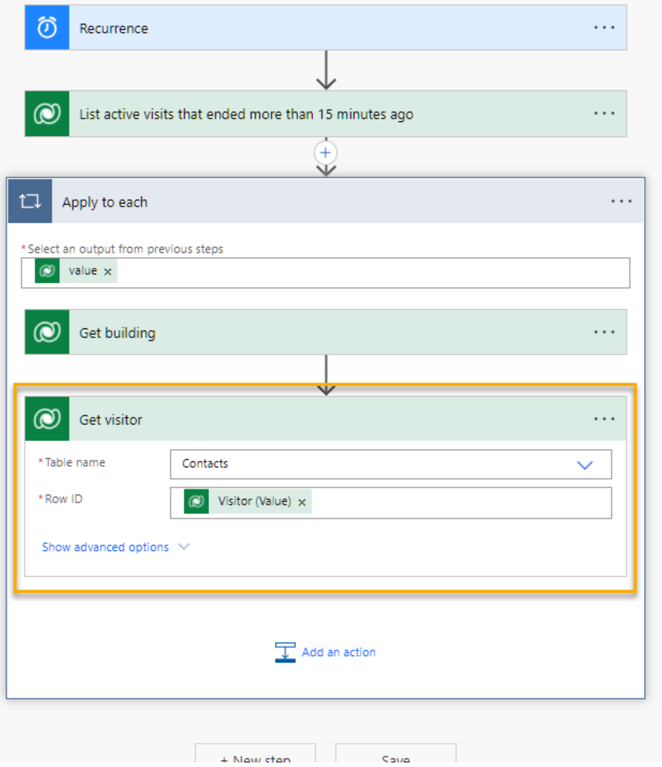
*Table name: Buildings

*Row ID: Building (Value)

10. Retrieve Visitor data for related record

    - Click **Add an action** inside the Apply to Each loop.
    - Select **Microsoft Dataverse**.
    - Select **Get a row by ID** action.
    - Select **Contacts** as **Table name**
    - Select **Visitor (Value)** as **Row ID** from the Dynamic content

- Click **...** beside **Get a record**, select **Rename**. Enter **Get visitor** as step name



Recurrence

List active visits that ended more than 15 minutes ago

Apply to each

*Select an output from previous steps: value

Get building

Get visitor

*Table name: Contacts

*Row ID: Visitor (Value)

11. Send email notification

    - Click **Add an action** inside the Apply to Each loop. Add **Send an email (V2)** action from **Office 365 Outlook** connection.

12. Enter your email address as **To**

13. Enter the following in the **Subject** field. **Full Name** is a dynamic content from the **Get visitor** step.

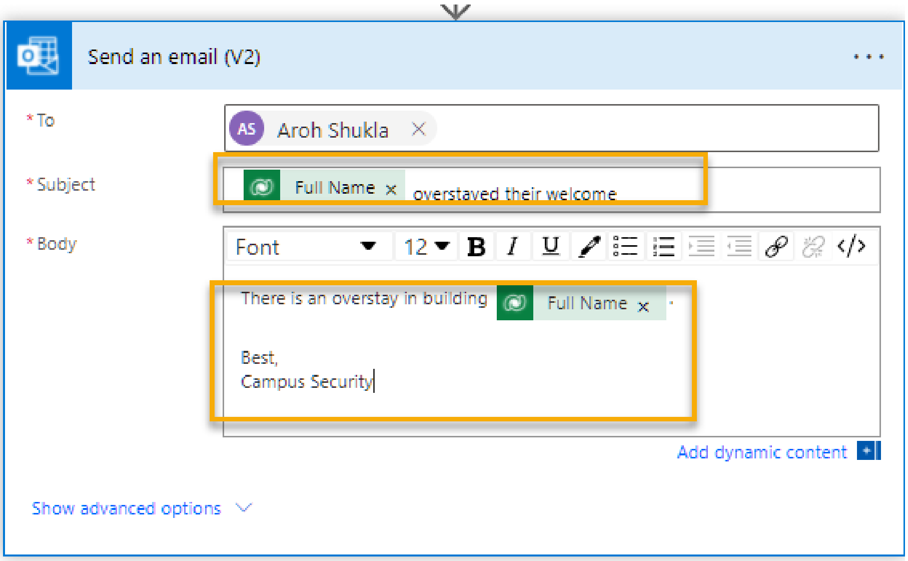
{Full Name} overstayed their welcome

13. Enter the following in the **Body** field. **Name** is a dynamic content from **Get building** step. You may need to scroll to the bottom of the list.

There is an overstay in building {Name}.

Best,

Campus Security



Send an email (V2)

* To: Aroh Shukla

* Subject: Full Name overstayed their welcome

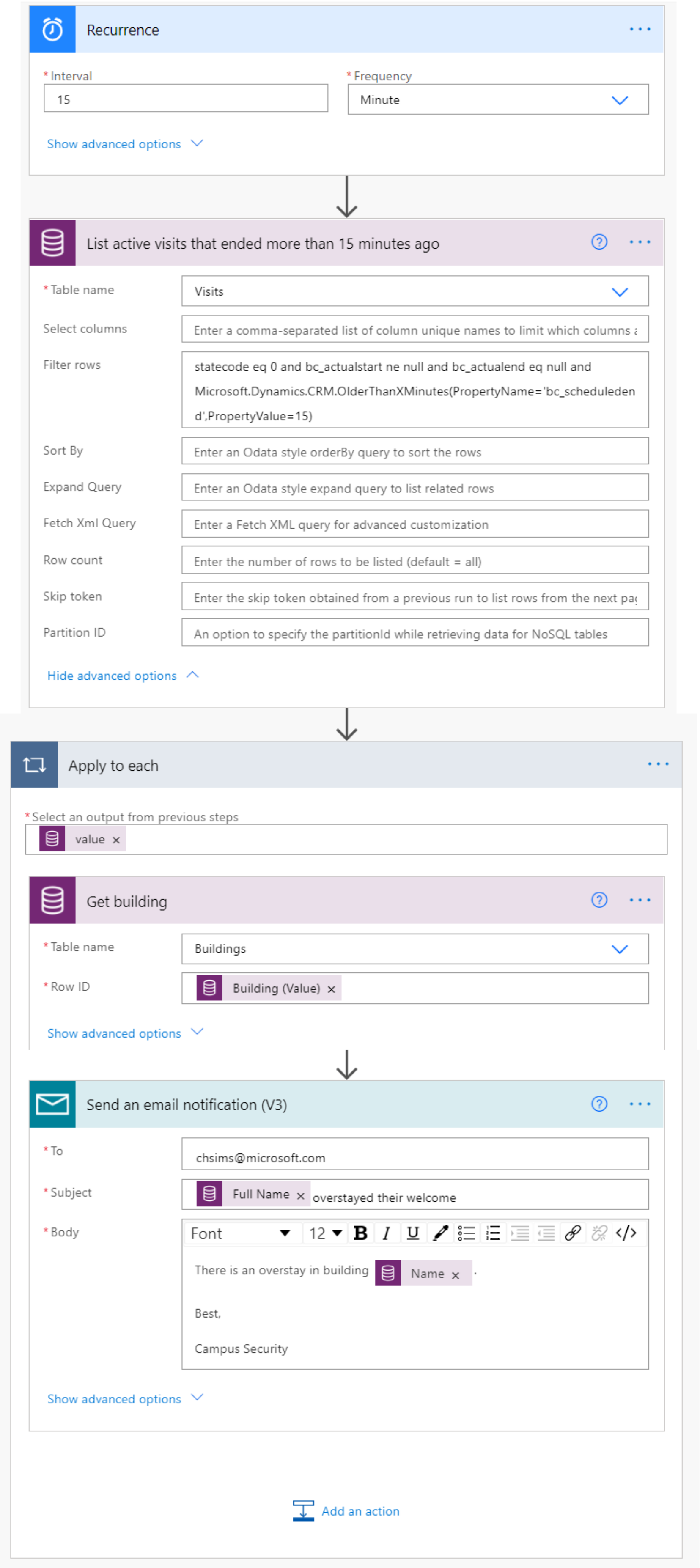
* Body:

There is an overstay in building Full Name

Best,
Campus Security

14. Select flow name **Untitled** in the upper left corner and rename it to **Security Sweep**
15. Press **Save**

Your flow should look approximately like the following:



Recurrence

* Interval: 15

* Frequency: Minute

Show advanced options

List active visits that ended more than 15 minutes ago

* Table name: Visits

Select columns: Enter a comma-separated list of column unique names to limit which columns a

Filter rows: statecode eq 0 and bc_actualstart ne null and bc_actualend eq null and Microsoft.Dynamics.CRM.OlderThanXMinutes(PropertyName='bc_scheduledend',PropertyValue=15)

Sort By: Enter an Odata style orderBy query to sort the rows

Expand Query: Enter an Odata style expand query to list related rows

Fetch Xml Query: Enter a Fetch XML query for advanced customization

Row count: Enter the number of rows to be listed (default = all)

Skip token: Enter the skip token obtained from a previous run to list rows from the next pa

Partition ID: An option to specify the partitionId while retrieving data for NoSQL tables

Hide advanced options

Apply to each

* Select an output from previous steps: value ×

Get building

* Table name: Buildings

* Row ID: Building (Value) ×

Show advanced options

Send an email notification (V3)

* To: chsims@microsoft.com

* Subject: Full Name × overstayed their welcome

* Body:

There is an overstay in building Name × .

Best,

Campus Security

Show advanced options

Task #2: Validate and test the flow

Your flow will begin sending you emails (to the email you specified when creating the John Doe contact previously) if there are visits that meet the requirements laid out in the flow.

1. Validate that you have visit records that:

   i. Have active status

   ii. Scheduled End is in the past (by more than 15 minutes)

   iii. Actual Start has a value.

Note: To view this data, navigate to make.powerapps.com in a new tab. Click Solutions on the left pane to locate your solution. Select the Visit entity, then select the Data tab. Click Active Visits in the top right-hand corner to display the view selector, then select All fields.

2. Navigate to your **Security Sweep** flow, if not already there.
3. When your flow opens, click **Test**.
4. Select **Manually**.
5. Click **Save & Test** and **Run Flow**.
6. When flow competes, click **Done**.
7. Expand **Apply to each**, then expand the **Send an email notification** step. Check the **Subject**, **Email Body** values.
8. Select the back arrow to the Security Sweep flow details. Select **Turn off** on the command bar. This is to prevent flow from executing on a schedule on the test system.

Challenges

- Add Actual Start and Scheduled End to the email body.
- How could you ensure user-friendly date formatting is used in the email body?
- Is it possible to generate a table with overstay information and send only a single email?
- Can you generate barcode for the visit code? When will that be useful?

Module 5: Get Started with Power BI

Lab: How to build a simple dashboard

Scenario

Bellows College is an educational organization with multiple buildings on campus. Campus visitors are currently recorded in paper journals. The information is not captured consistently, and there are no means to collect and analyze data about the visits across the entire campus.

Campus administration would like to modernize their visitor registration system where access to the buildings is controlled by security personnel and all visits are required to be pre-registered and recorded by their hosts.

Throughout this course, you will build applications and perform automation to enable the Bellows College administration and security personnel to manage and control access to the buildings on campus.

In this lab,

- you will build a **Power BI dashboard** that **visualizes data** about campus visits.

High-level lab steps

We will follow the below steps to design and create the Power BI dashboard:

- Connect to Dataverse
- Transform the data to include user-friendly descriptions for the related rows (lookups)
- Create and publish a report with various visualizations of the campus visits information
- Utilize a user natural language query to build additional visualizations
- Build a mobile view of the Power BI dashboard

Prerequisites

- Completion of **Module 0 Lab 0 - Validate lab environment**
- Completion of **Module 2 Lab 1 - Introduction to Microsoft Dataverse**

Things to consider before you begin

- Who is the target audience of the report?
- How will the audience consume the report? Typical device? Location?
- Do you have sufficient data to visualize?
- What are the possible characteristics you can use to analyze data about the visits?

Exercise #1: Create Power BI Report

Objective: In this exercise, you will create a Power BI report based on data from your Dataverse database.

Task #1: Install Power BI Desktop / Prepare Power BI service

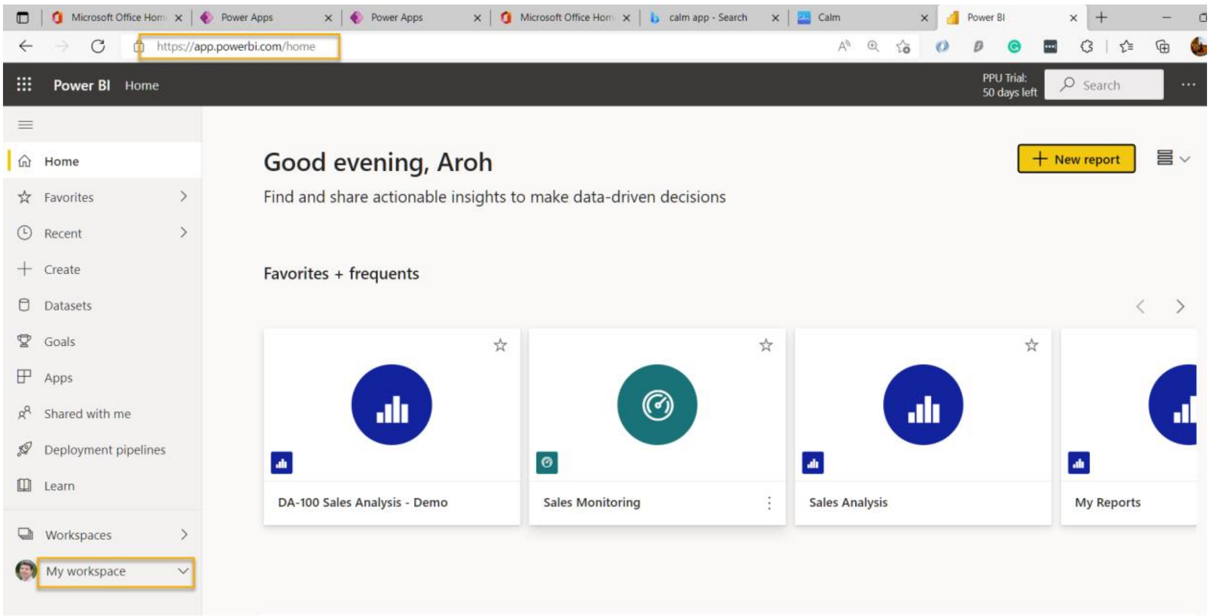
1. Follow the below instructions to setup Power BI:
   - If Power BI Desktop is **already** installed, please skip to Task #2.
   - If you do not have Power BI Desktop installed, complete **Step #2**.
   - If you do not have required permissions or encounter issues with running Power BI Desktop, continue to **Step #4**.
2. Navigate to https://aka.ms/pbidesktopstore to download and install Power BI Desktop.

[!IMPORTANT] If you experience issues installing Power BI Desktop using Microsoft Store, try standalone installer that can be downloaded from https://aka.ms/pbiSingleInstaller.

3. If you successfully installed Power BI Desktop, you can now skip to Task #2; otherwise, continue to the next step.

If you do not have required permissions to install desktop applications or experience difficulties in running or configuring Power BI Desktop, complete the task steps below.

4. Download visits.pbix and save on your computer.
5. Navigate to https://app.powerbi.com/ and click **Sign in**.

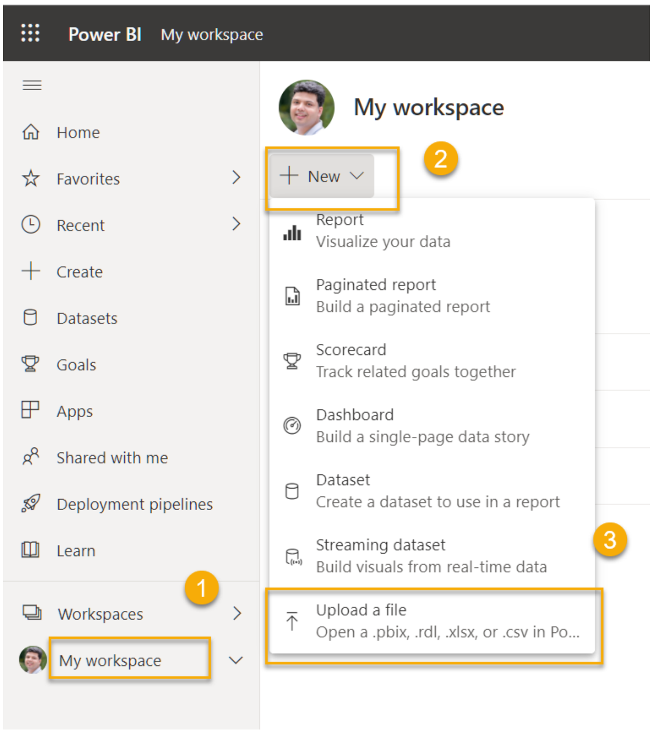


Good evening, Aroh

Find and share actionable insights to make data-driven decisions

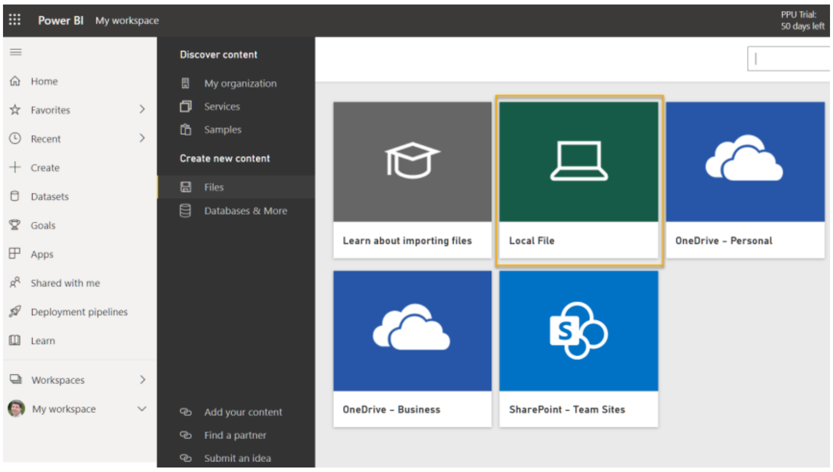
6. Click **My Workspace**.
7. If presented with the **Get Data** page, click **Skip**.

8. Expand **+New** and select **Upload a file**.

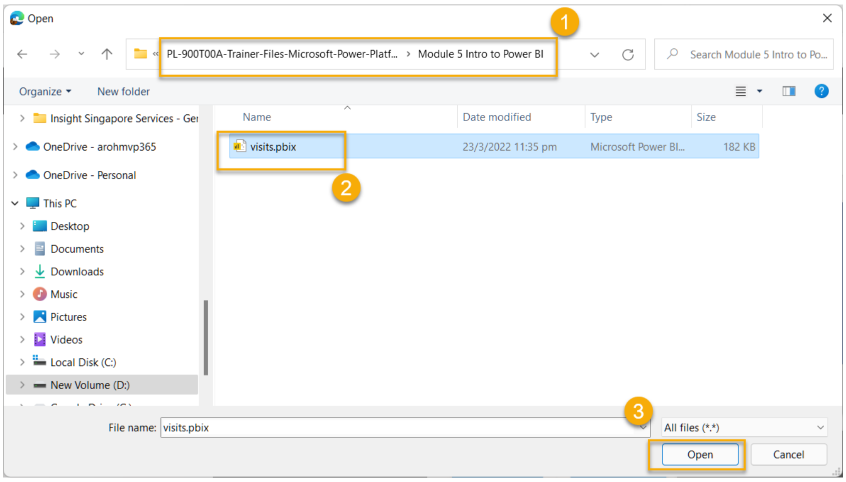


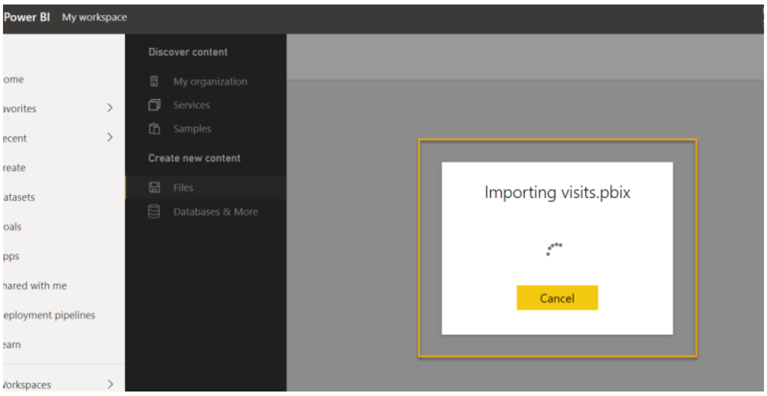
[!IMPORTANT] If you don't see **+New**, you may need to activate the new look for Power BI. Be sure to toggle the **New look** to **On** at the top of your screen.

9. Select **Local File**.

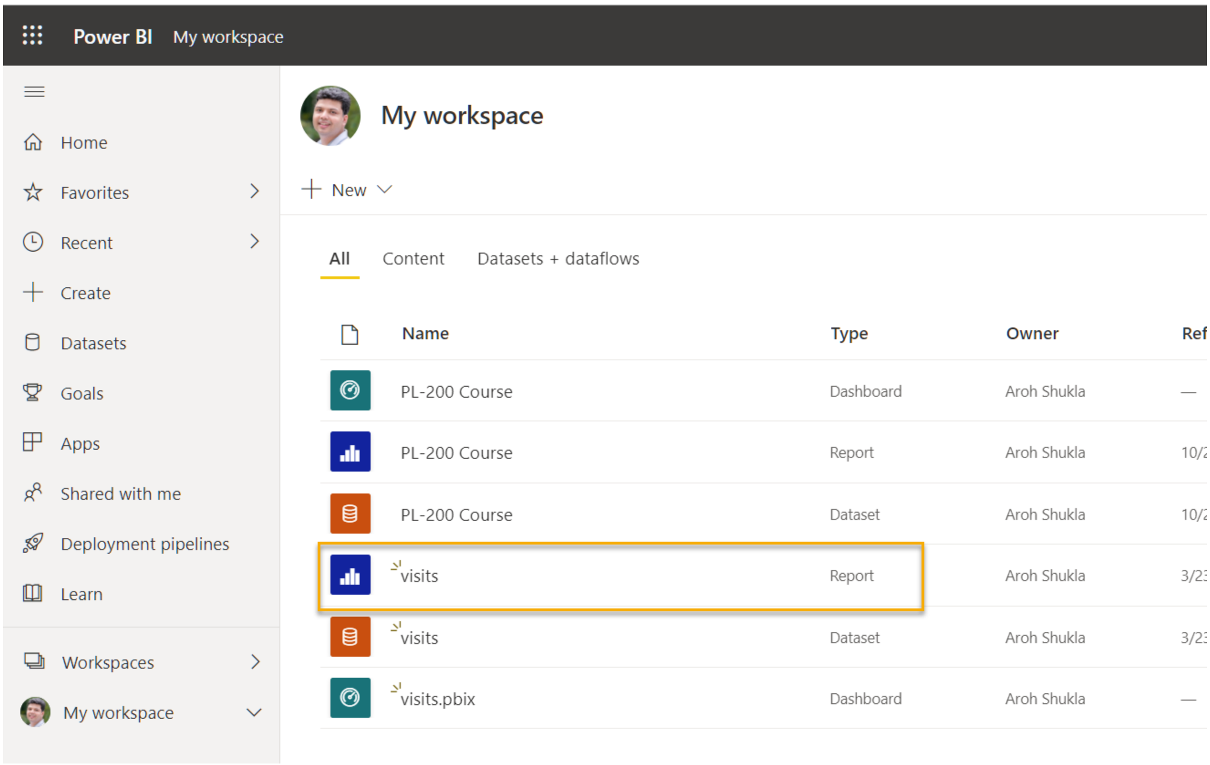


10. Locate and select **visits.pbix** file you've downloaded earlier.



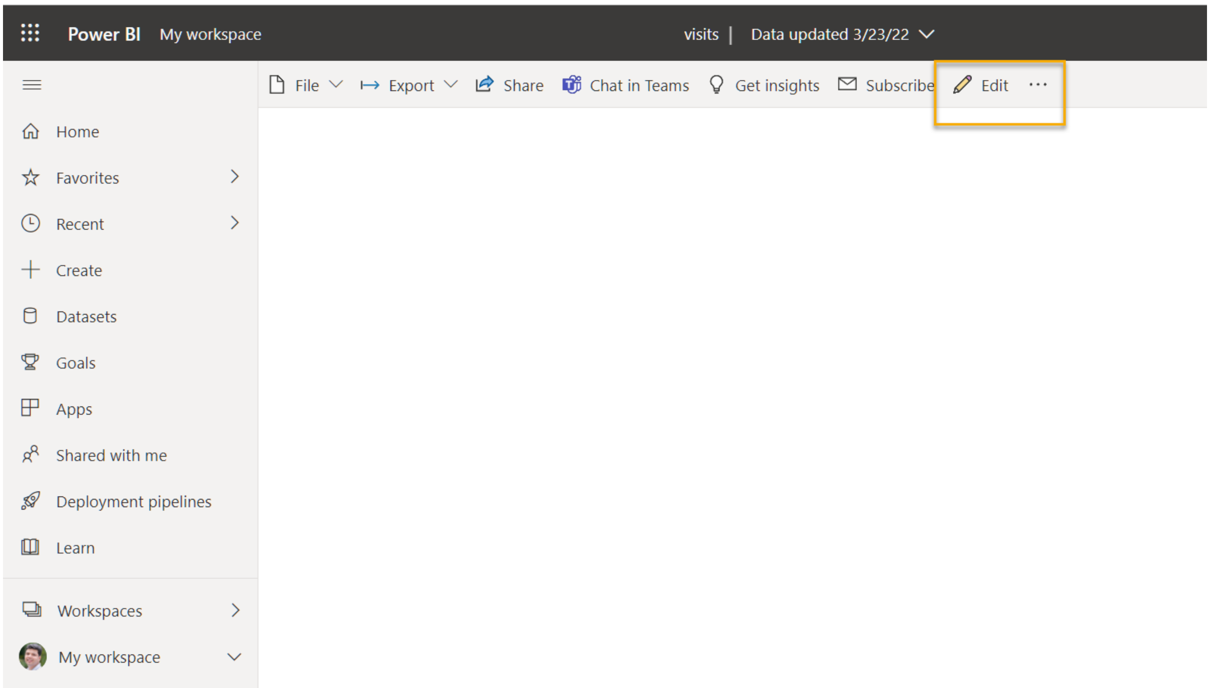


11. Once data load is complete, select **visits** report (notice that the Type is set to **Report**).



Name	Type	Owner	Ref
PL-200 Course	Dashboard	Aroh Shukla	—
PL-200 Course	Report	Aroh Shukla	10/
PL-200 Course	Dataset	Aroh Shukla	10/
visits	Report	Aroh Shukla	3/2
visits	Dataset	Aroh Shukla	3/2
visits.pbix	Dashboard	Aroh Shukla	—

12. Click **Edit**. If **Edit** menu item is not visible click **...** and then select **Edit**.

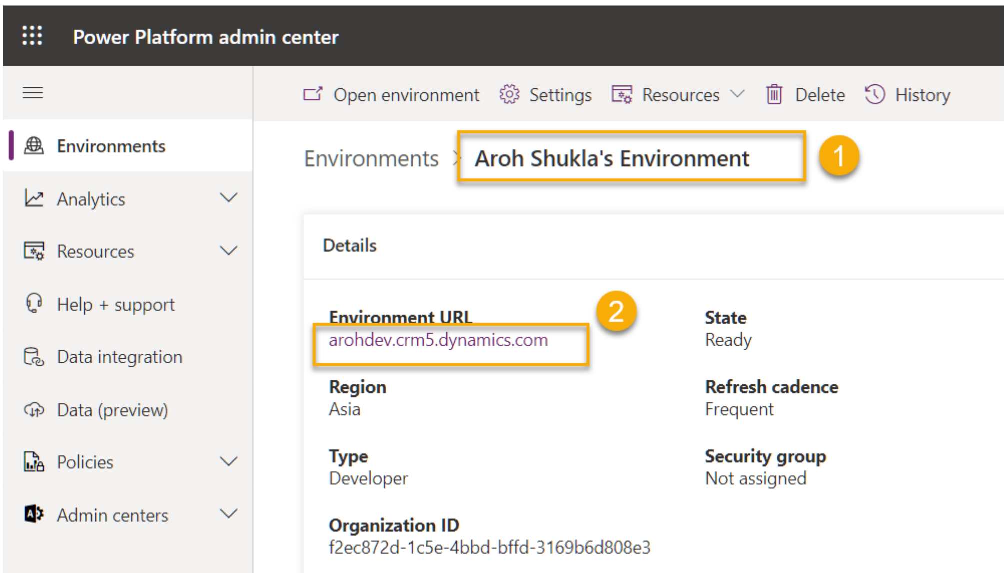


13. You have now setup Power BI service to use for your labs. Continue to Task #3, but use the online Power BI service at https://app.powerbi.com instead of Power BI Desktop throughout the lab.

Task #2: Prepare Data

1. Find out your organization URL

   - In a new tab, navigate to Power Platform Admin Center at https://admin.powerplatform.com
   - In the left navigation page, select Environments, and then open your Practice environment.
   - Right mouse click **Environment URL** on the **Details** panel, then select **Copy link address**.



Details

Environment URL
arohdev.crm5.dynamics.com

State
Ready

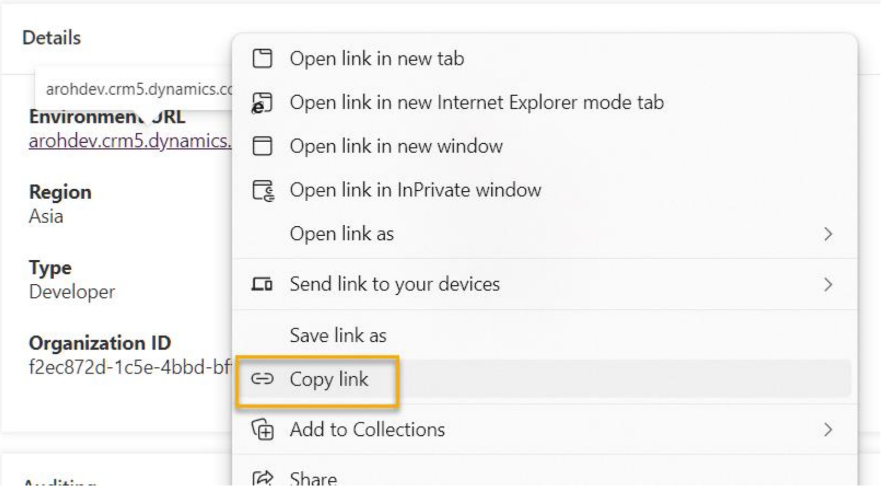
Region
Asia

Refresh cadence
Frequent

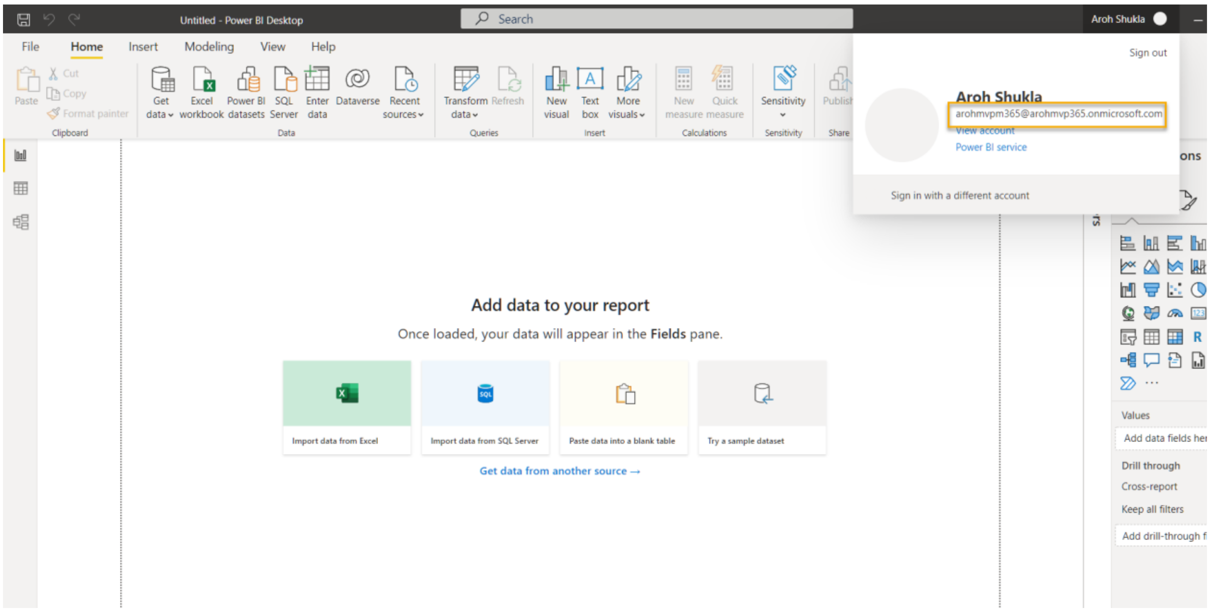
Type
Developer

Security group
Not assigned

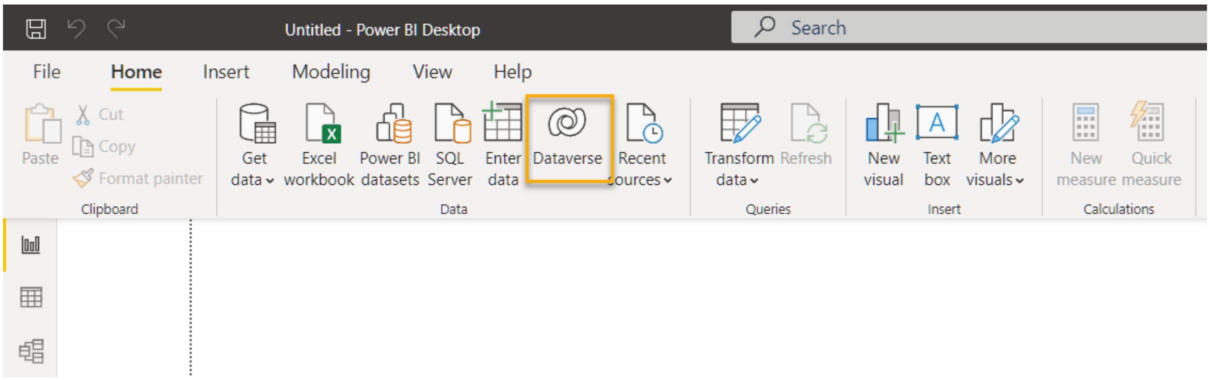
Organization ID
f2ec872d-1c5e-4bbd-bffd-3169b6d808e3

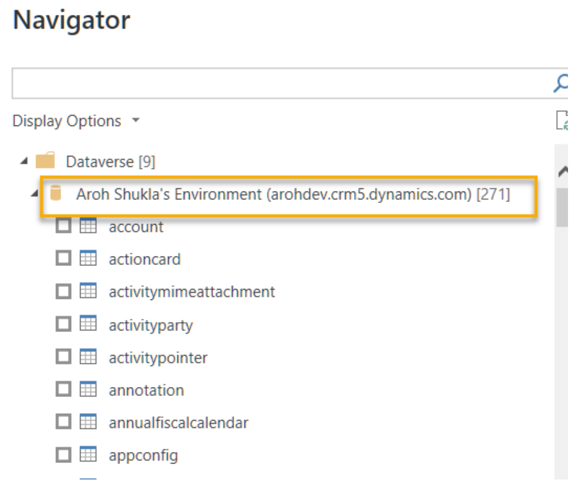


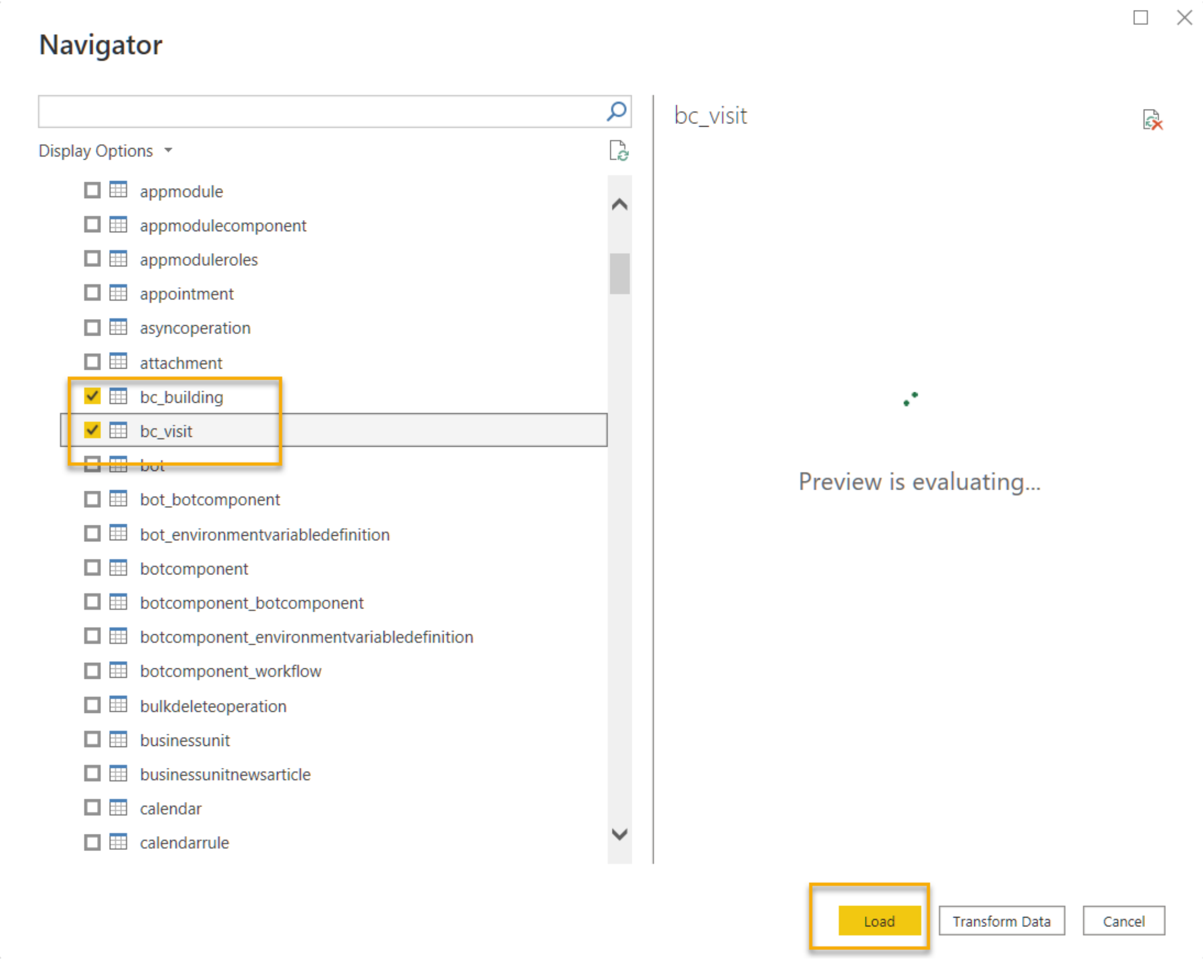
2. Open **Power BI Desktop**, **sign in** with your provided credentials if prompted.



3. Select **Get data** and then select **more....**







Navigator

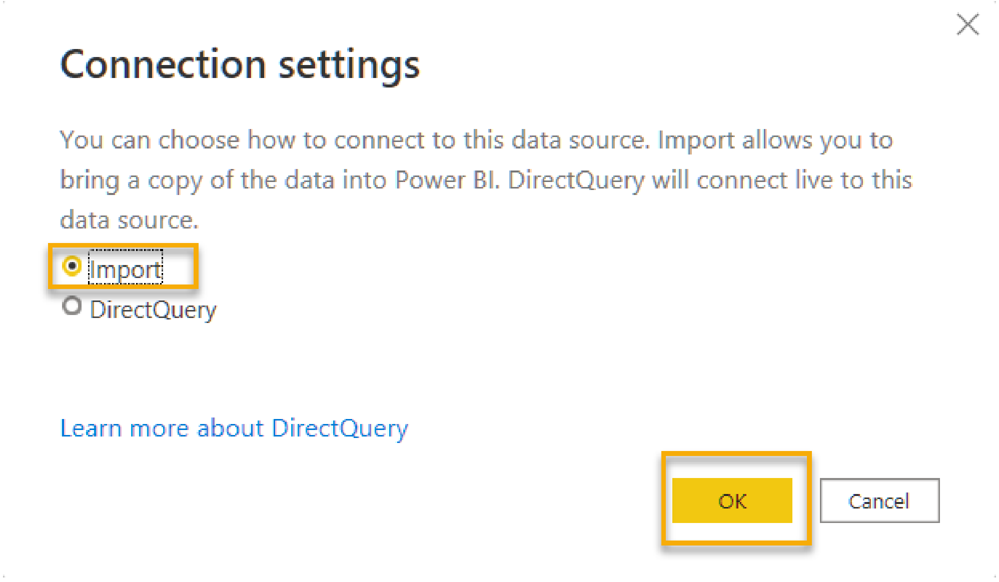
Display Options

☐ appmodule
☐ appmodulecomponent
☐ appmoduleroles
☐ appointment
☐ asyncoperation
☐ attachment
☑ bc_building
☑ bc_visit
☐ bot
☐ bot_botcomponent
☐ bot_environmentvariabledefinition
☐ botcomponent
☐ botcomponent_botcomponent
☐ botcomponent_environmentvariabledefinition
☐ botcomponent_workflow
☐ bulkdeleteoperation
☐ businessunit
☐ businessunitnewsarticle
☐ calendar
☐ calendarrule

bc_visit

Preview is evaluating...

4.

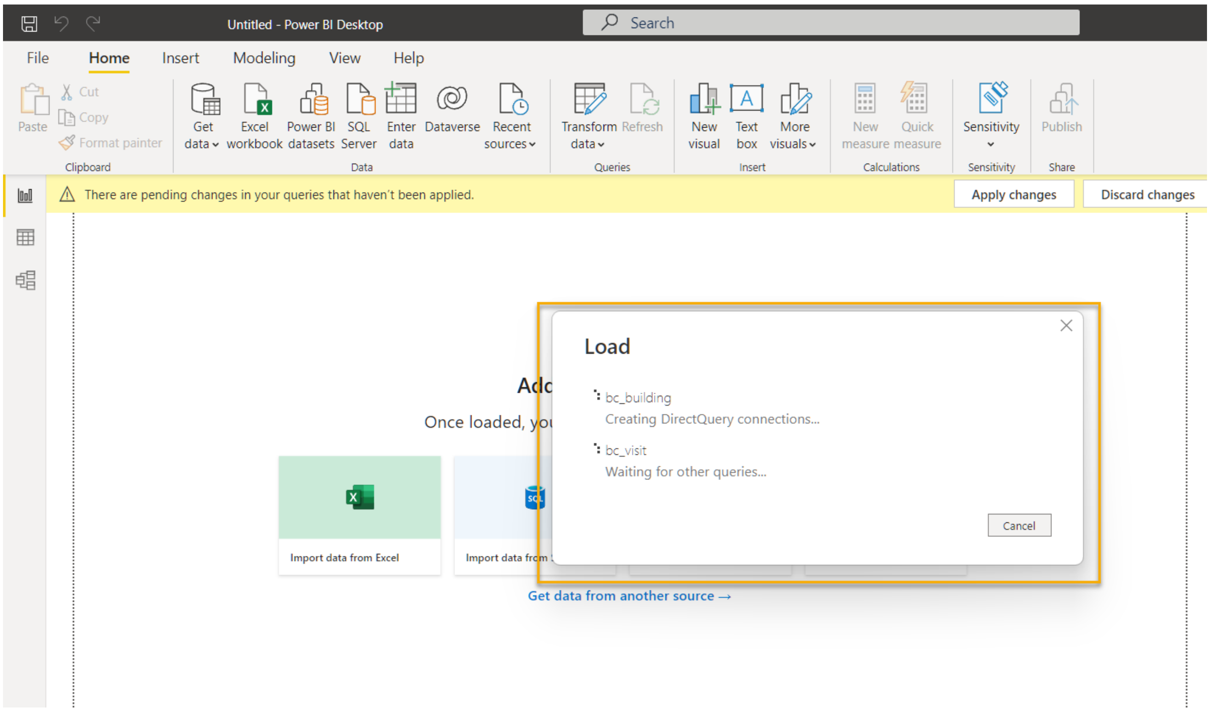


Connection settings

You can choose how to connect to this data source. Import allows you to bring a copy of the data into Power BI. DirectQuery will connect live to this data source.

● Import
○ DirectQuery

Learn more about DirectQuery



There are pending changes in your queries that haven't been applied.

Load

bc_building
Creating DirectQuery connections...

bc_visit
Waiting for other queries...

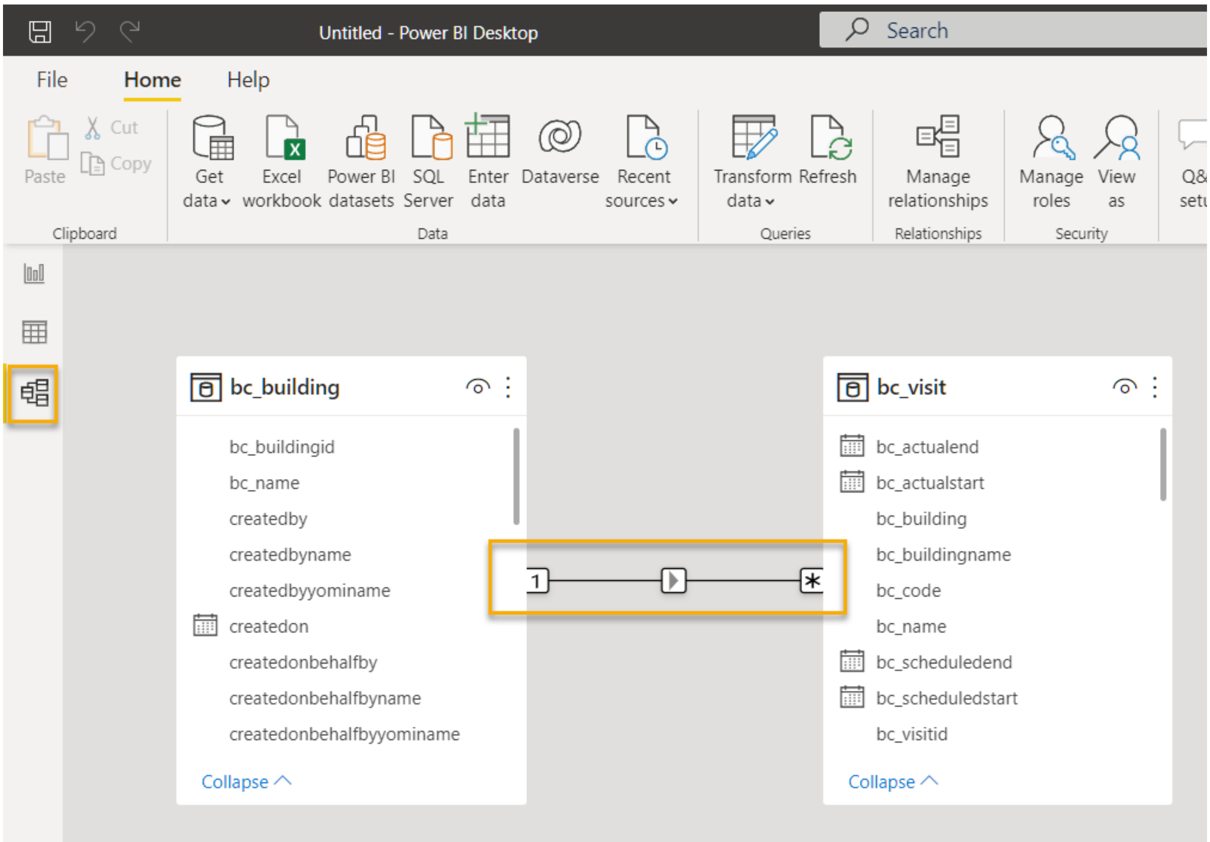
5. Select **Power Platform** on the left, then select **Common Data Service (Legacy)**, and press **Connect**. If prompted, sign in with your provided credentials and click **Connect**.

6. Paste the environment URL you copied earlier into the **Server URL** field, press **OK**.

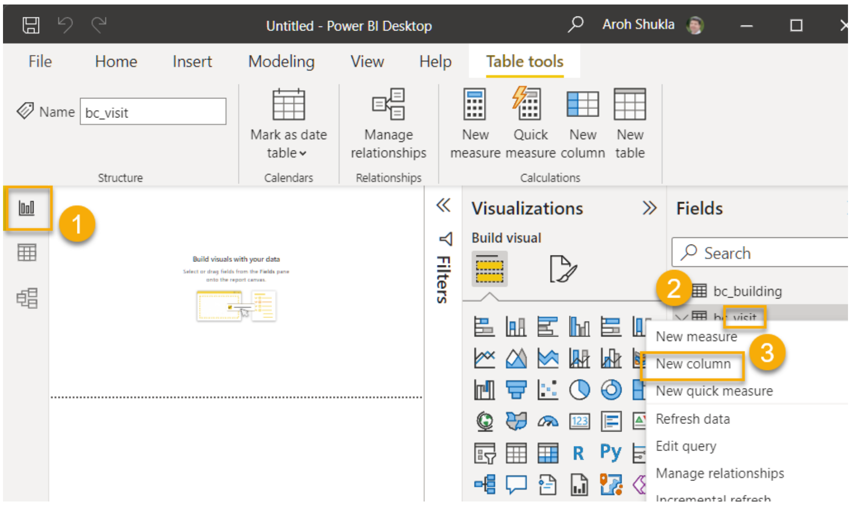
7. Expand **Entities** node, select **bc_Building** and **bc_Visit** entities, click **Load**.

8. Click **Model** icon on the left vertical toolbar.

9. Drag **bc_buildingid** column from **bc_Building** table and drop it to **bc_building** column in **bc_Visit** table. That will create a relationship between the two tables that Power BI will be able to use to display related data.



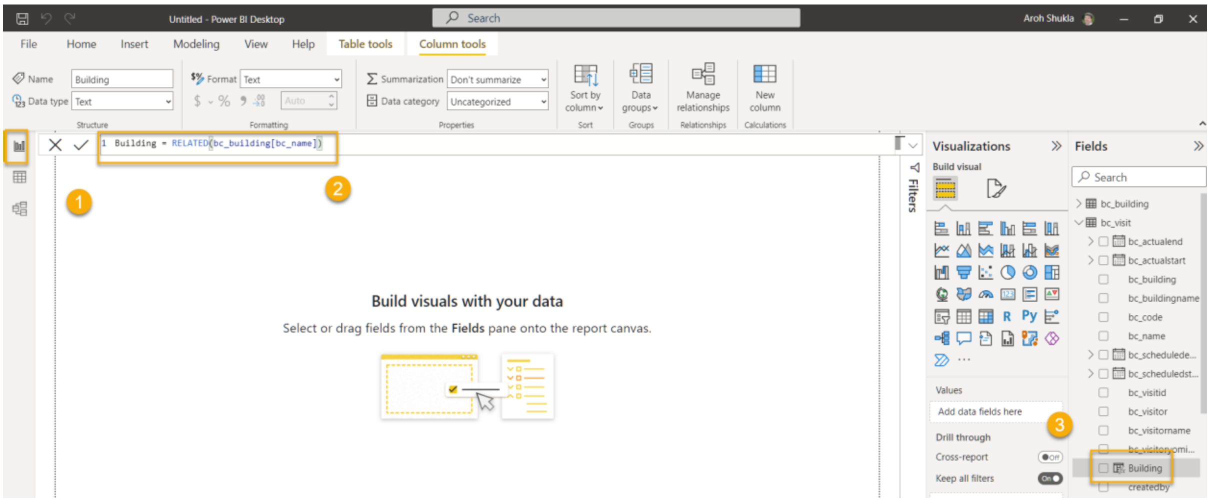
10. Select **Report** icon on the left toolbar.
11. Expand **bc_Visit** node in the **Fields** panel.
12. Click **...** beside **bc_Visit** and select **New Column**.



13. Complete the formula as following:
14. *Column = RELATED(bc_Building[bc_name])*

and press ENTER. That will add a new field with the building name into the visits data.

15. Click **...** next to the **Column** field that you just created and select **Rename**. Enter **Building** as the field name.



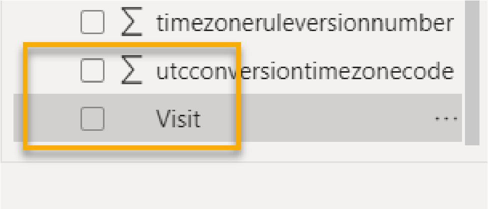
Name: Building
Data type: Text
Format: Text
Summarization: Don't summarize
Data category: Uncategorized

```
Building = RELATED(bc_building[bc_name])
```

Build visuals with your data

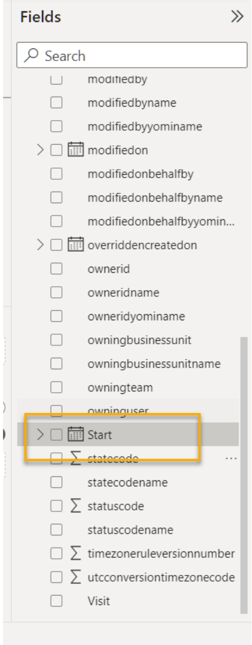
Select or drag fields from the **Fields** pane onto the report canvas.

16. Click **...** next to the **bc_visitid** field and select **Rename**. Enter **Visit** as the field name.



☐ ∑ timezoneruleversionnumber
☐ ∑ utcconversiontimezonecode
☐ Visit ...

17. Click **...** next to the **bc_scheduledstart** field and select **Rename**. Enter **Start** as the field name.



Fields

Search

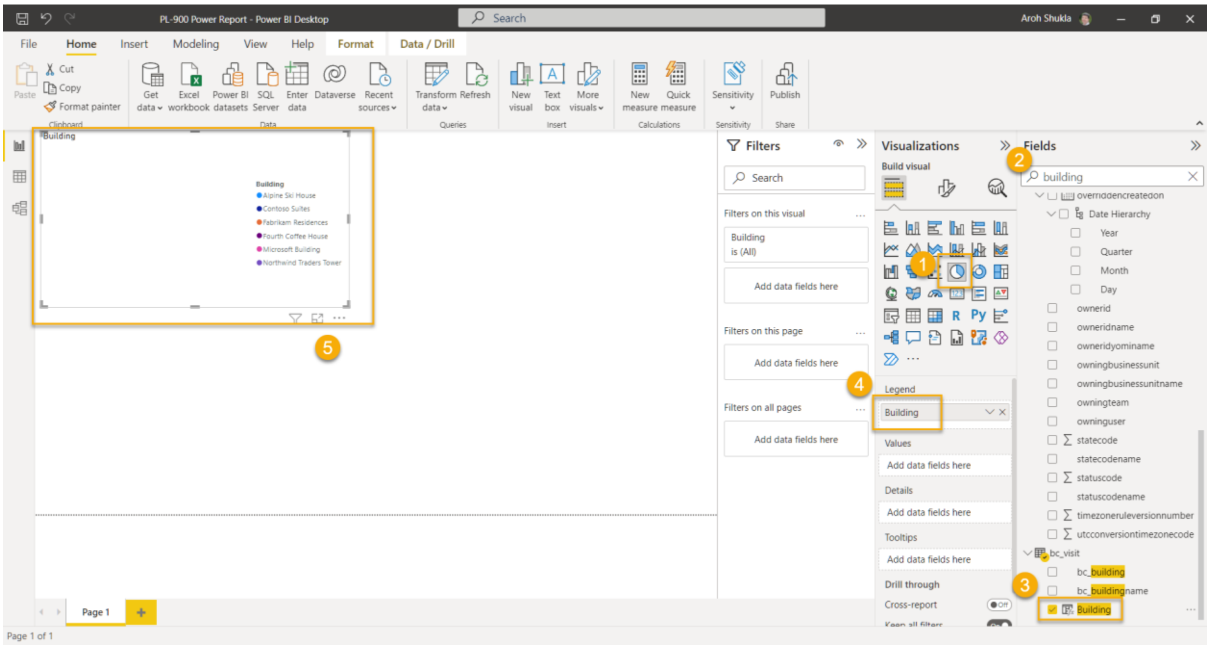
☐ modifiedby
☐ modifiedbyname
☐ modifiedbyyominame
☐ modifiedon
☐ modifiedonbehalfby
☐ modifiedonbehalfbyname
☐ modifiedonbehalfbyyomin...
☐ overriddencreatedon
☐ ownerid
☐ owneridname
☐ owneridyominame
☐ owningbusinessunit
☐ owningbusinessunitname
☐ owningteam
☐ owninguser
☐ Start
☐ ∑ statecode ...
☐ statecodename
☐ ∑ statuscode
☐ statuscodename
☐ ∑ timezoneruleversionnumber
☐ ∑ utcconversiontimezonecode
☐ Visit

18. Save work in progress by pressing **File | Save** and entering a filename of your choice.

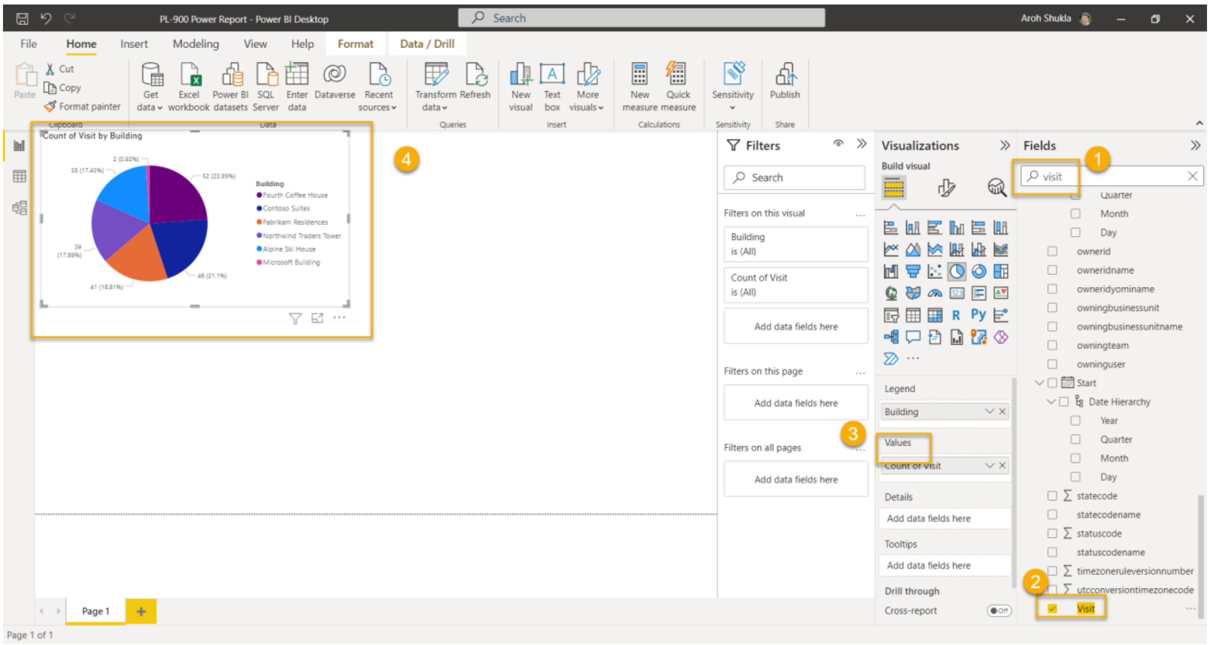
Task #3: Create Chart and Time Visualizations

1. Press the **pie chart icon** in the **Visualizations** panel to insert a chart.

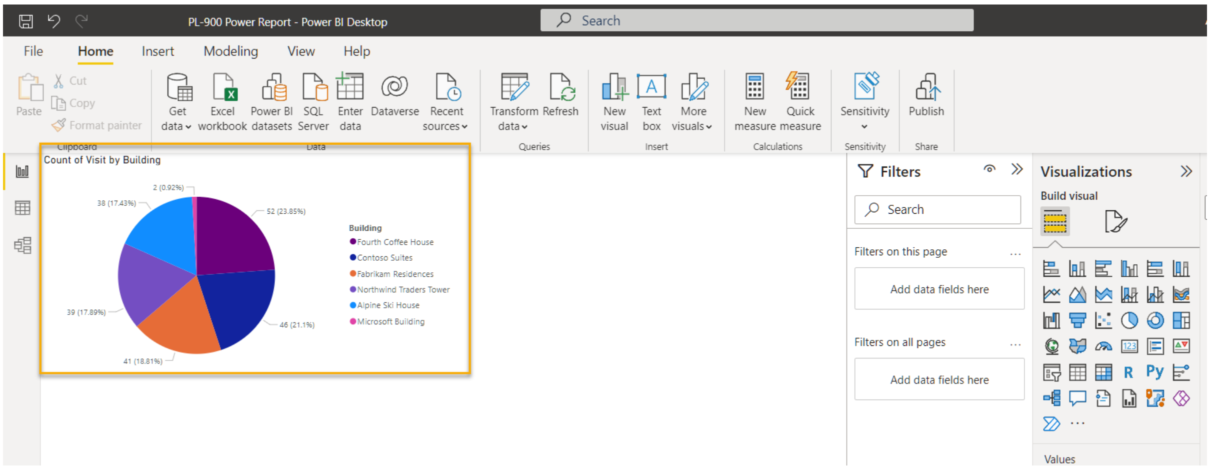
2. Drag the **Building** field and drop it into **Legend** box.



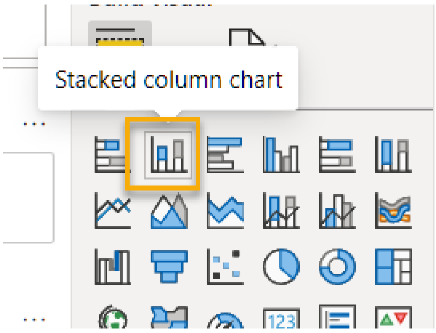
3. Drag the **Visit** field and drop it into **Values** target box.



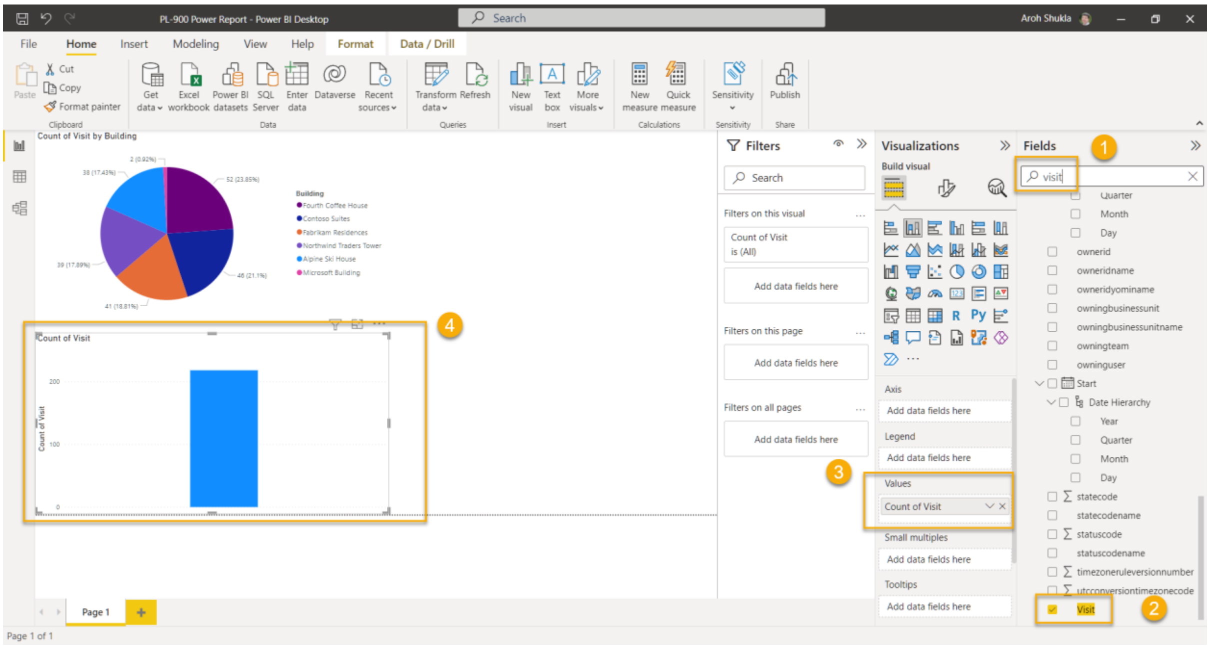
4. Resize the **pie chart** using corner handles so that all chart components are visible.



5. Click on the report outside of the pie chart to deselect it and select stacked column chart in **Visualizations** pane.

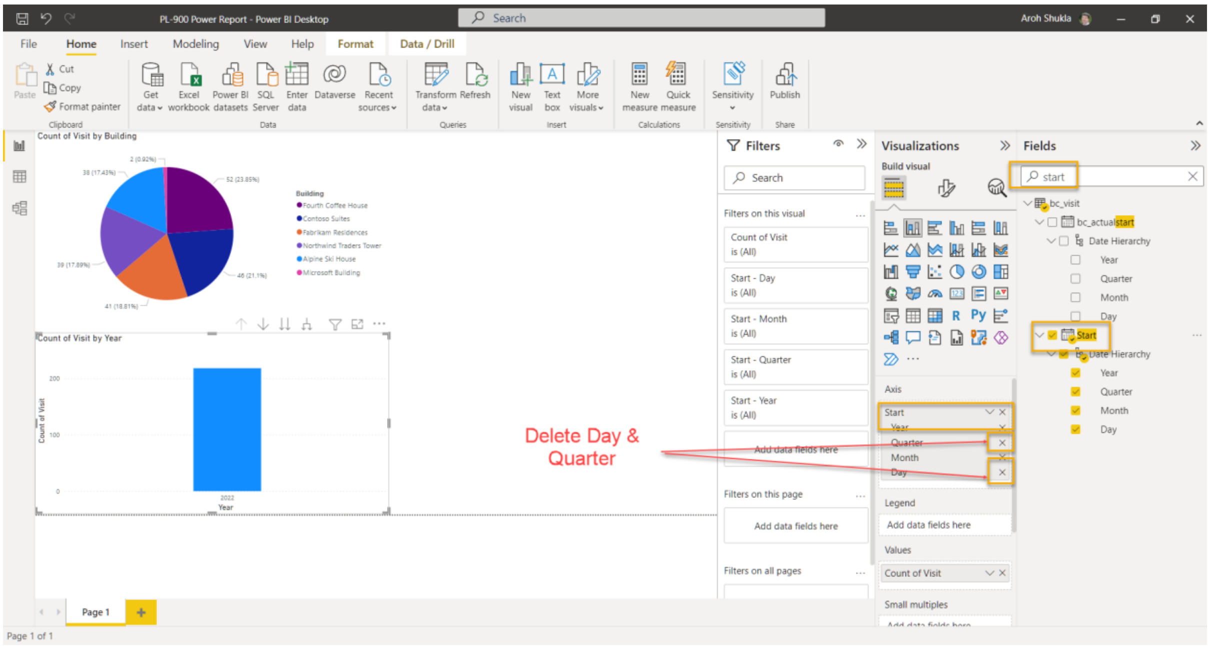


6. Drag **Visit** field and drop it into **Values** target box.

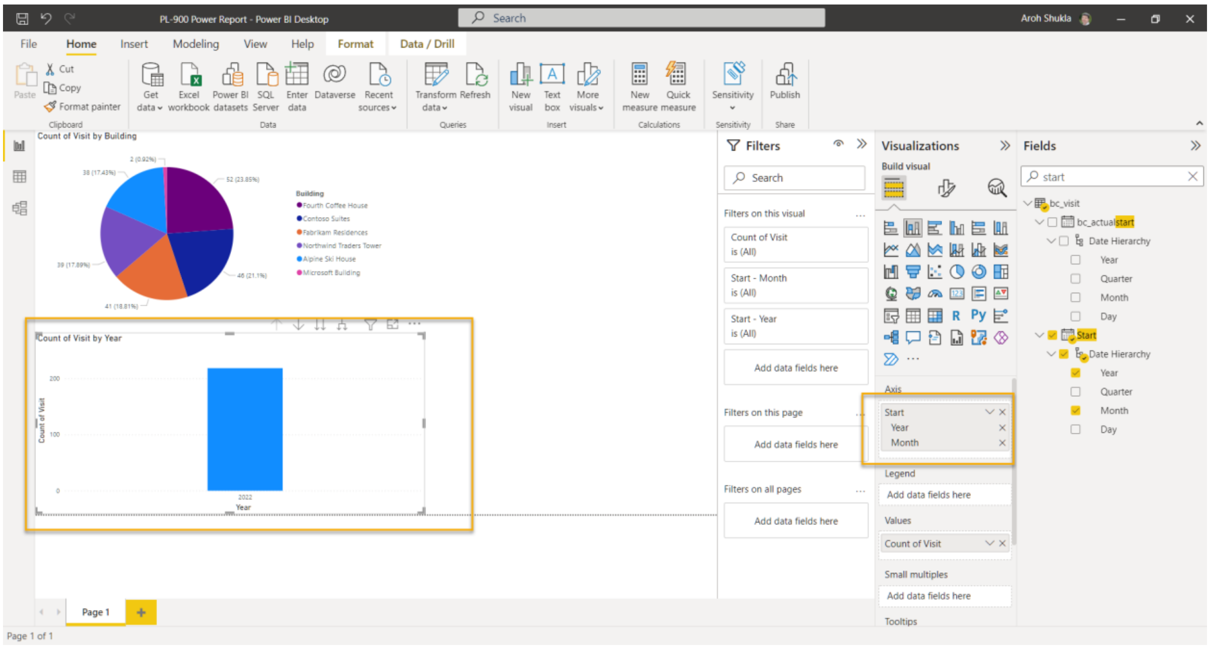


7. Drag **Start** field and drop it into **Axis** target box.

8. In the Visualizations pane, click **x** next to **Day** and **Quarter** to leave only **Year** and **Month** totals for the Axis.



Delete Day & Quarter

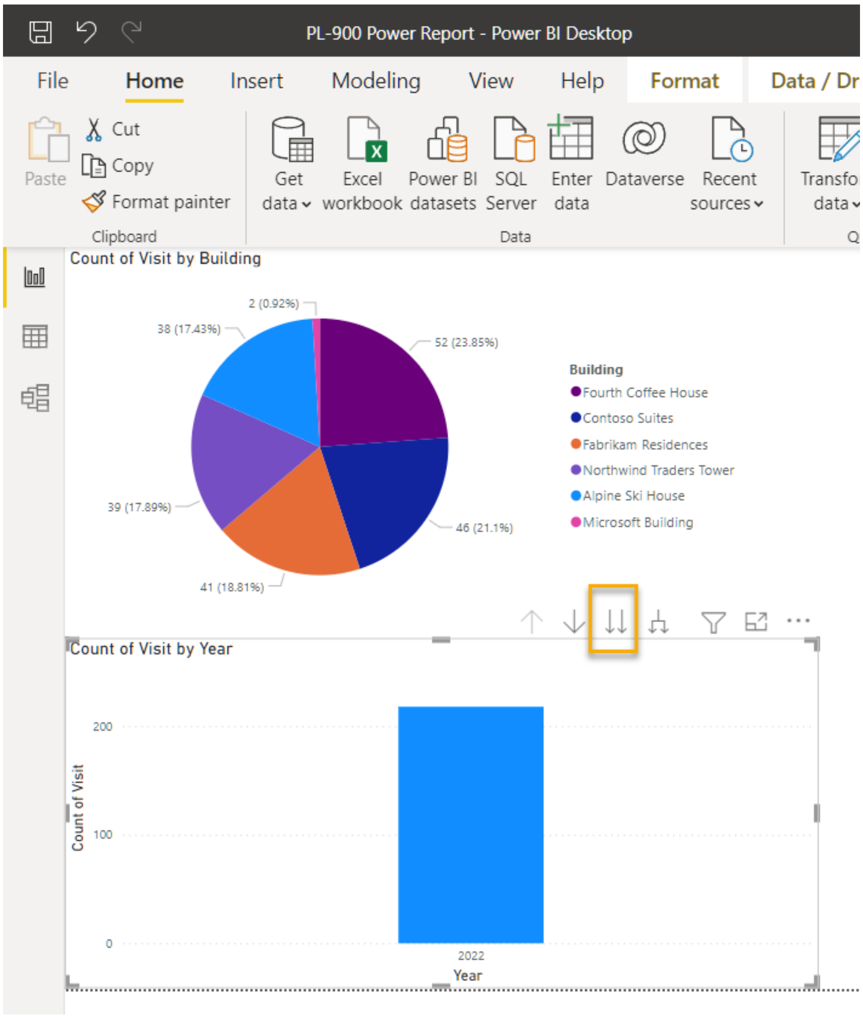


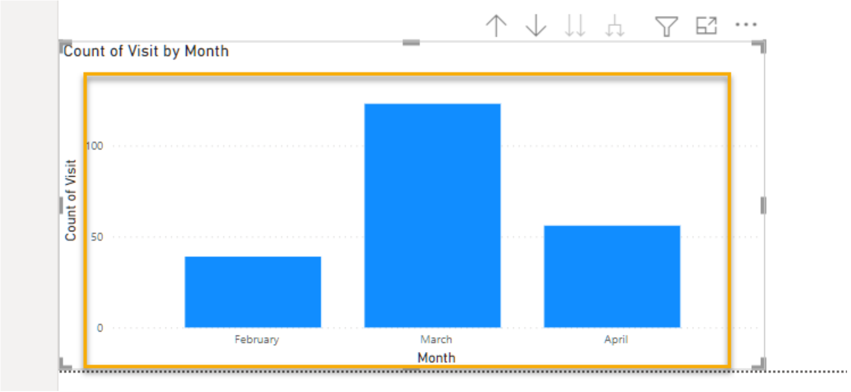
9. Resize the chart as desired using the corner handles.

10. Test the report interactivity:

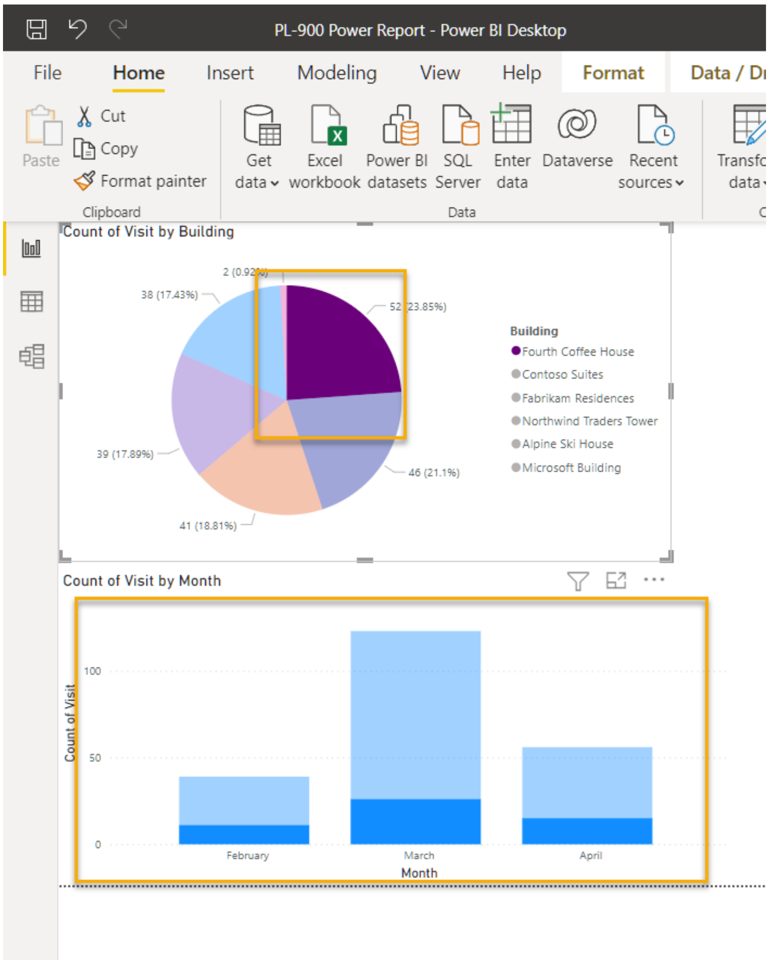
   - Select various building slices on the pie chart and observe changes on the time report.

   - Click on the column chart. Press the down arrow to turn on **Drill down** mode, then press the column to drill down to the next level (months). Another way to do this is to click **Data/Drill | Expand next level** on the ribbon.





- Drill up and down and select various bars on the time column chart to observe changes on the **pie report.**

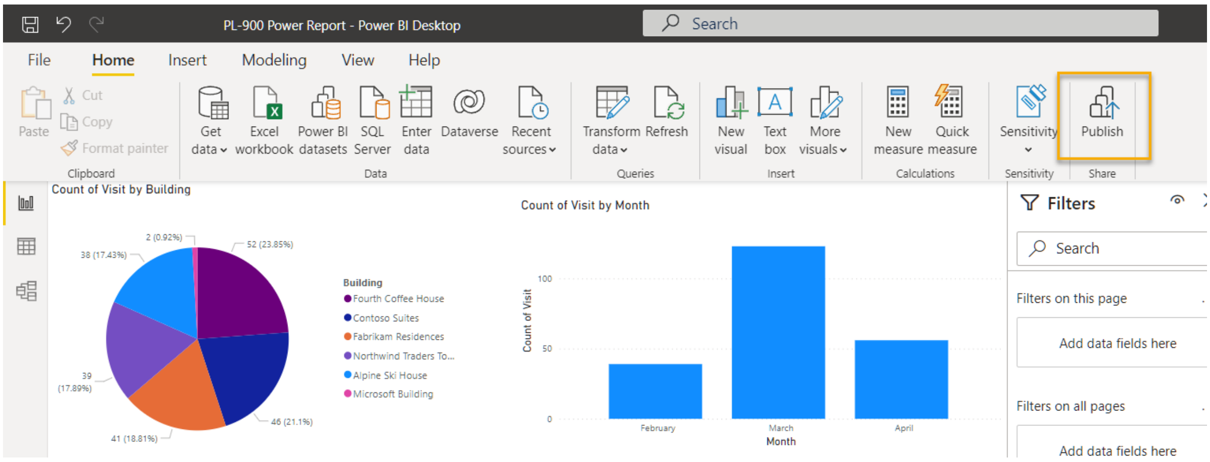


11. Save work in progress by pressing **File | Save**.

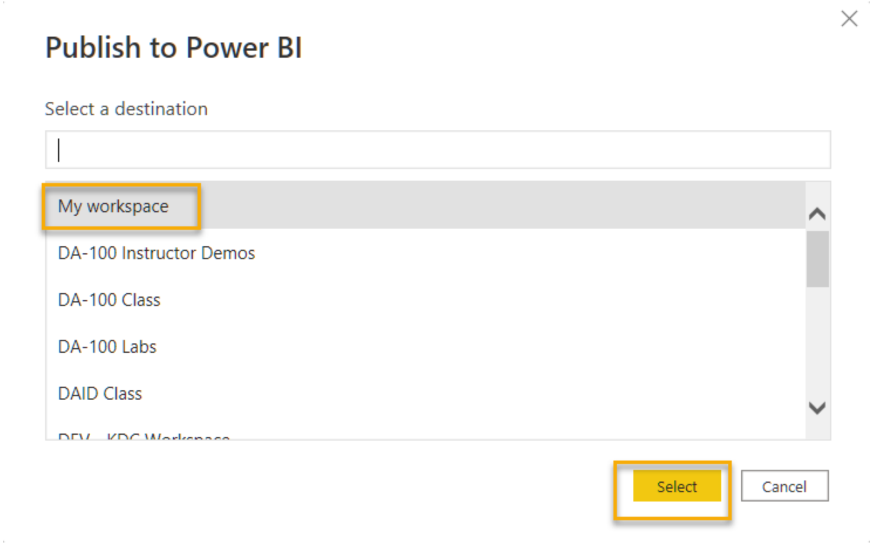
Exercise #2: Create Power BI Dashboard

Task #1: Publish Power BI Report

1. Press **Publish** button on the Home tab of the ribbon.



2. Select **My workspace** as the destination, then press **Select**.



Publish to Power BI

Select a destination

My workspace

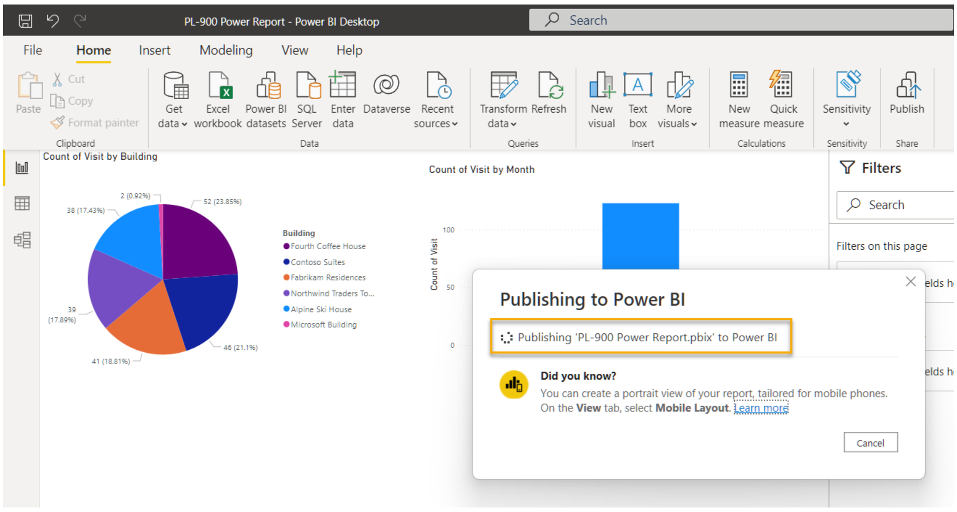
DA-100 Instructor Demos

DA-100 Class

DA-100 Labs

DAID Class

DEV - KDC Workspace



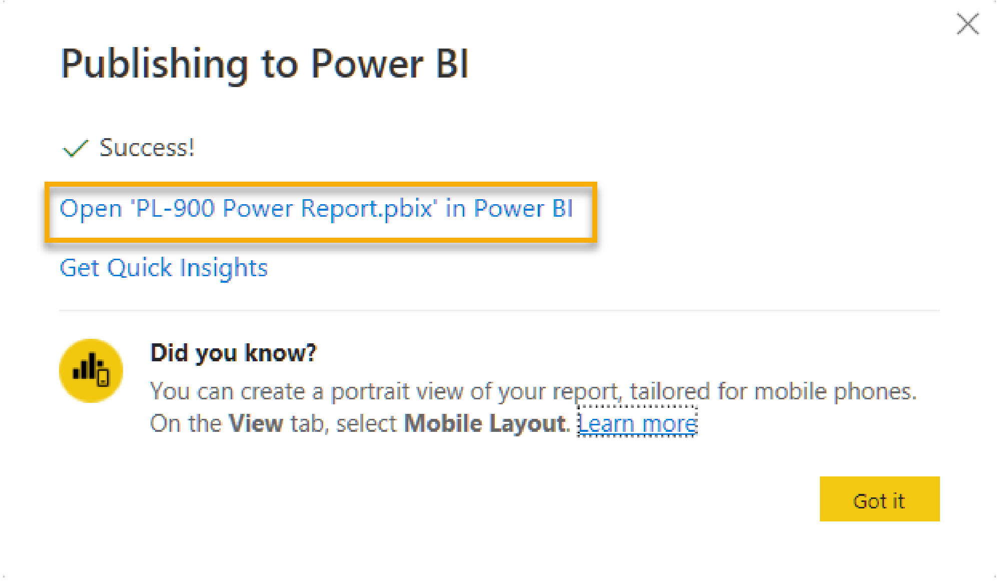
Publishing to Power BI

Publishing 'PL-900 Power Report.pbix' to Power BI

Did you know?

You can create a portrait view of your report, tailored for mobile phones. On the **View** tab, select **Mobile Layout**. Learn more

3. Wait until publishing is complete and click **Open <name of your report>.pbix in Power BI**.



Publishing to Power BI

✓ Success!

Open 'PL-900 Power Report.pbix' in Power BI

Get Quick Insights

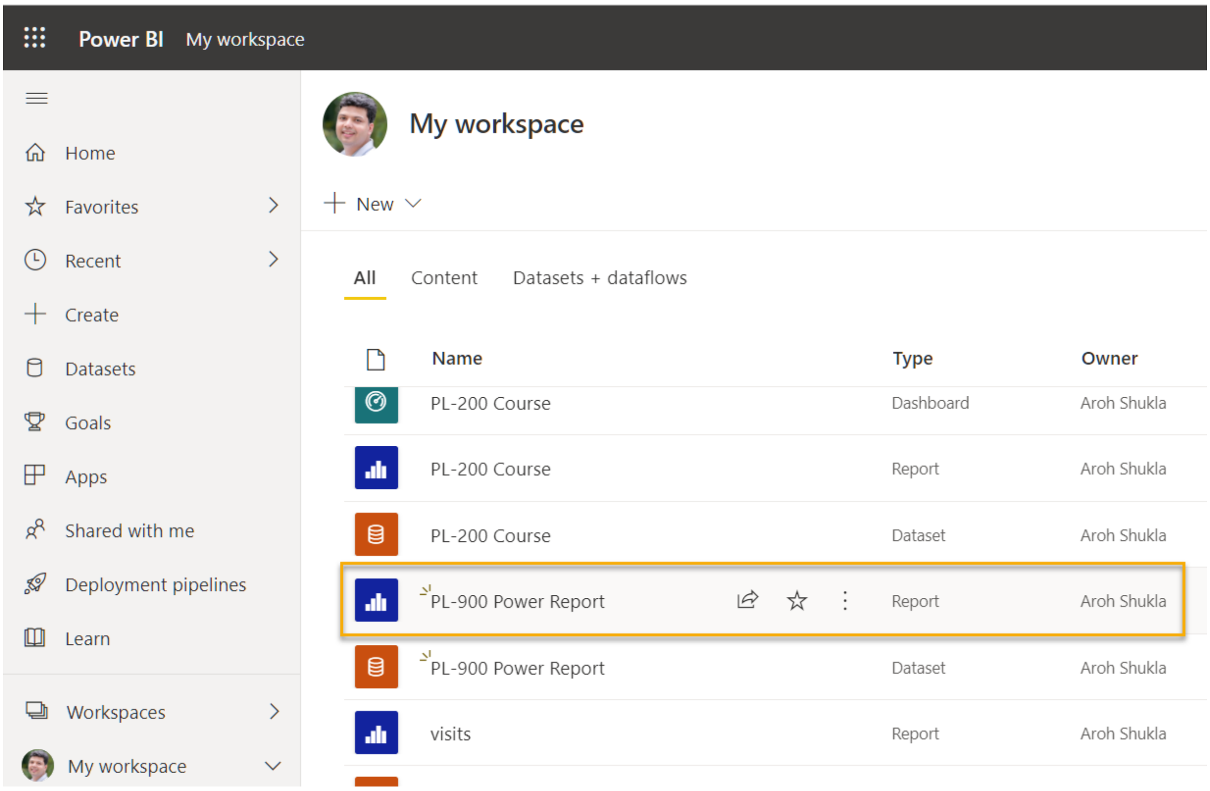
Did you know?

You can create a portrait view of your report, tailored for mobile phones. On the **View** tab, select **Mobile Layout**. Learn more

Task #2: Create Power BI Dashboard

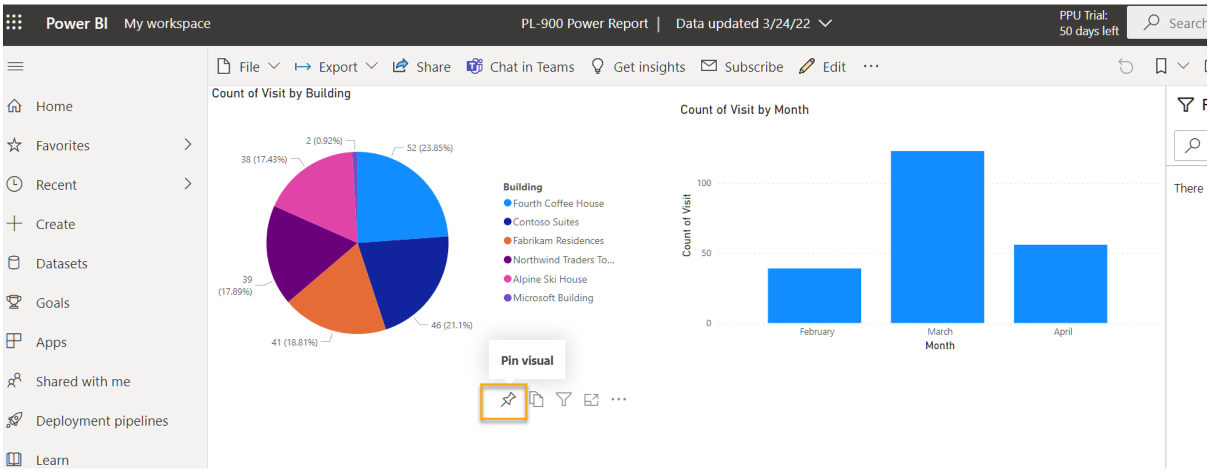
1. You should have the report open from the previous task.

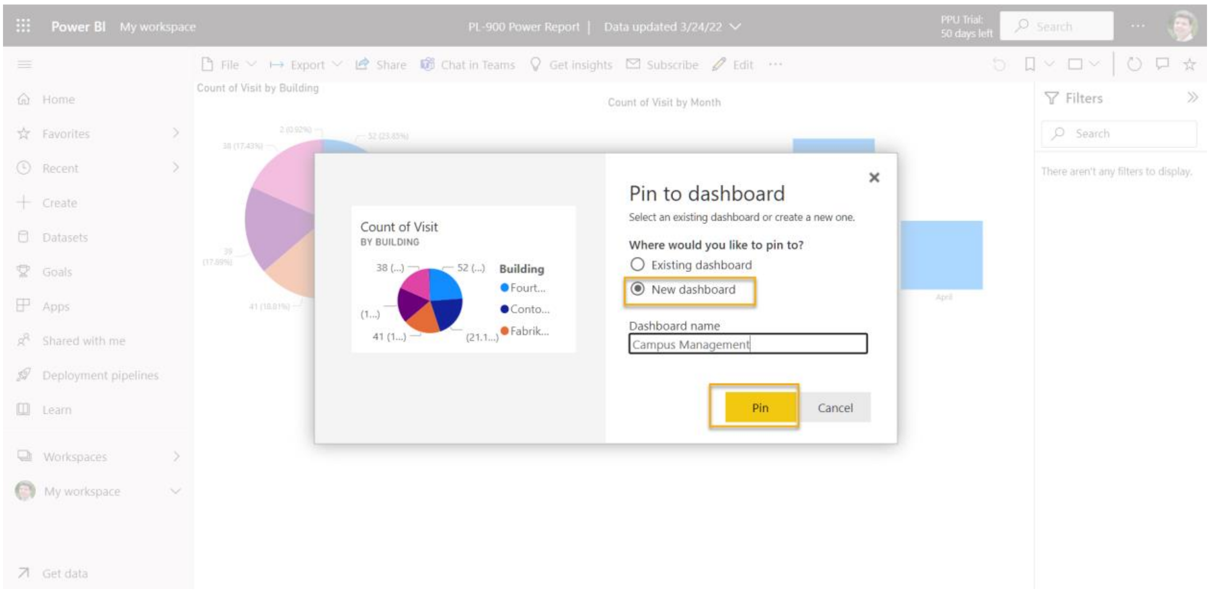
2. Select **Pin to a dashboard** on the menu. Depending on the layout you may need to press **...** to show additional menu items.



Name	Type	Owner
PL-200 Course	Dashboard	Aroh Shukla
PL-200 Course	Report	Aroh Shukla
PL-200 Course	Dataset	Aroh Shukla
PL-900 Power Report	Report	Aroh Shukla
PL-900 Power Report	Dataset	Aroh Shukla
visits	Report	Aroh Shukla

3. Select **New dashboard** on **Pin to dashboard** prompt.





Pin to dashboard

Select an existing dashboard or create a new one.

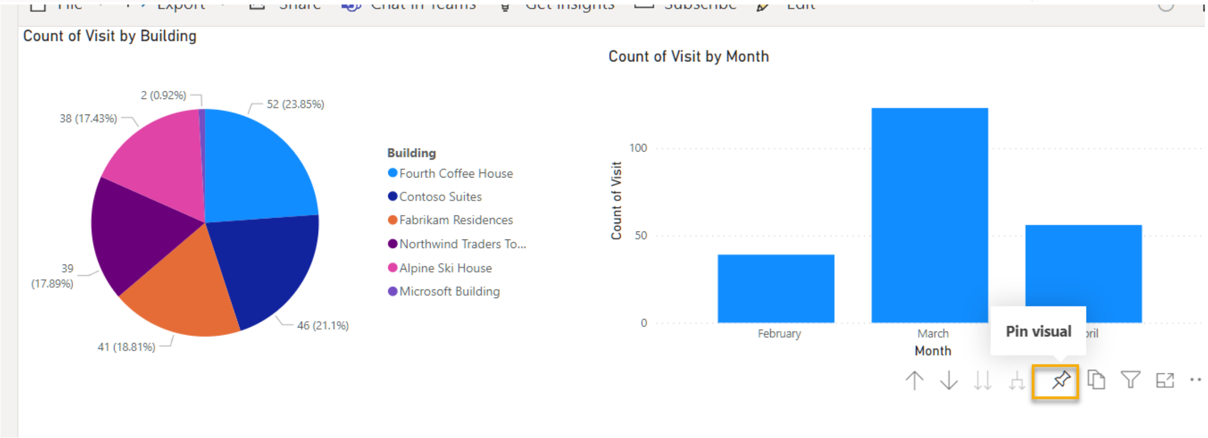
Where would you like to pin to?

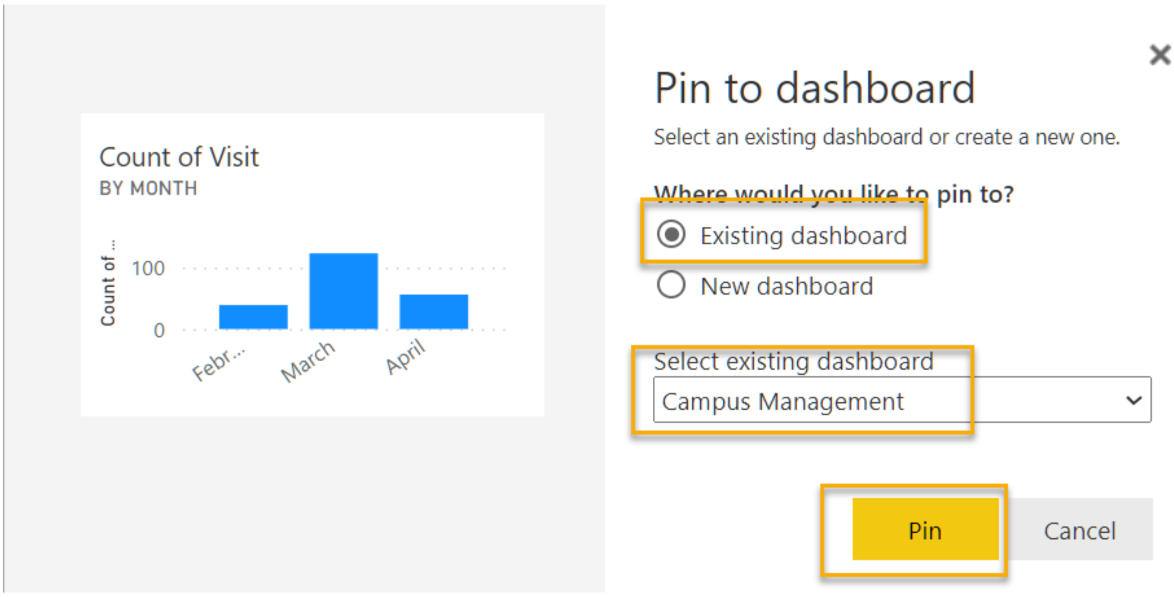
○ Existing dashboard

● New dashboard

Dashboard name: Campus Management

Pin | Cancel





Pin to dashboard

Select an existing dashboard or create a new one.

Where would you like to pin to?

● Existing dashboard

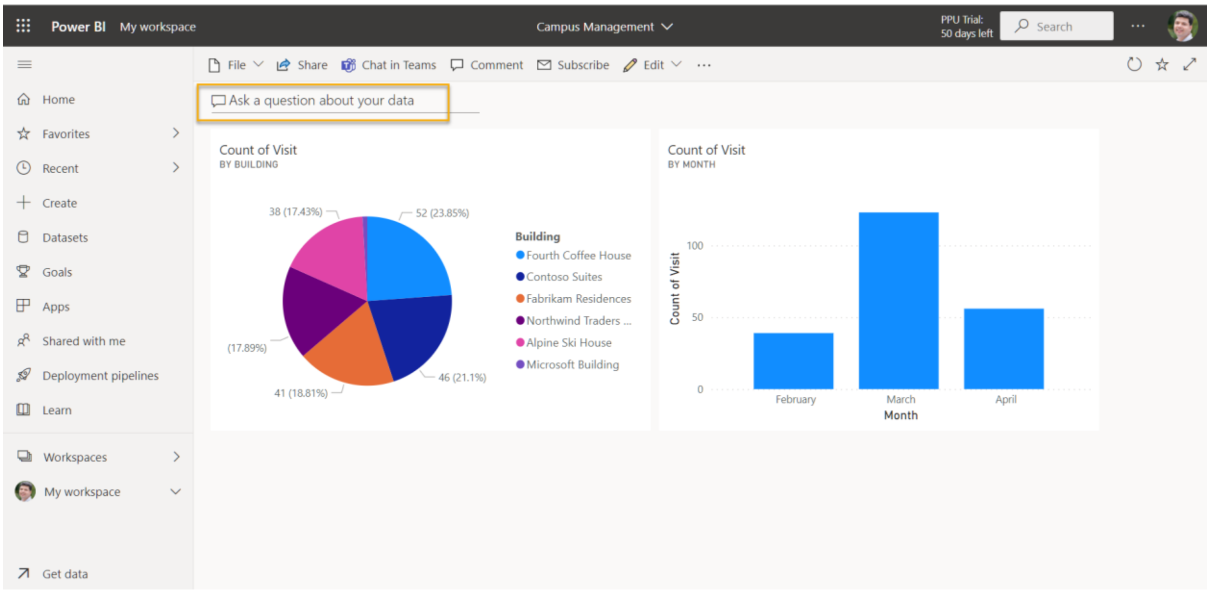
○ New dashboard

Select existing dashboard: Campus Management

Pin | Cancel

4. Enter **[Your Last Name] Campus Management** as a **Dashboard name**, press **Pin live**.

5. Select **My workspace** at the top, select **[Your Last Name] Campus Management** dashboard



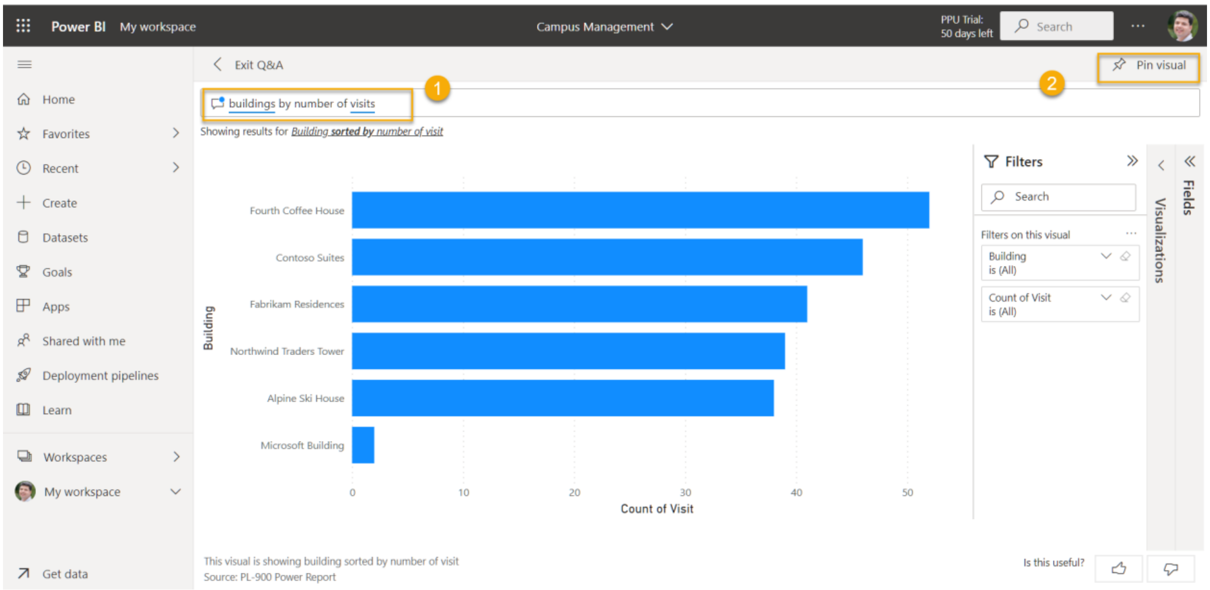
.

6. Test interactivity of the pie and bar charts displayed.

Task #3: Add Visualizations Using Natural Language

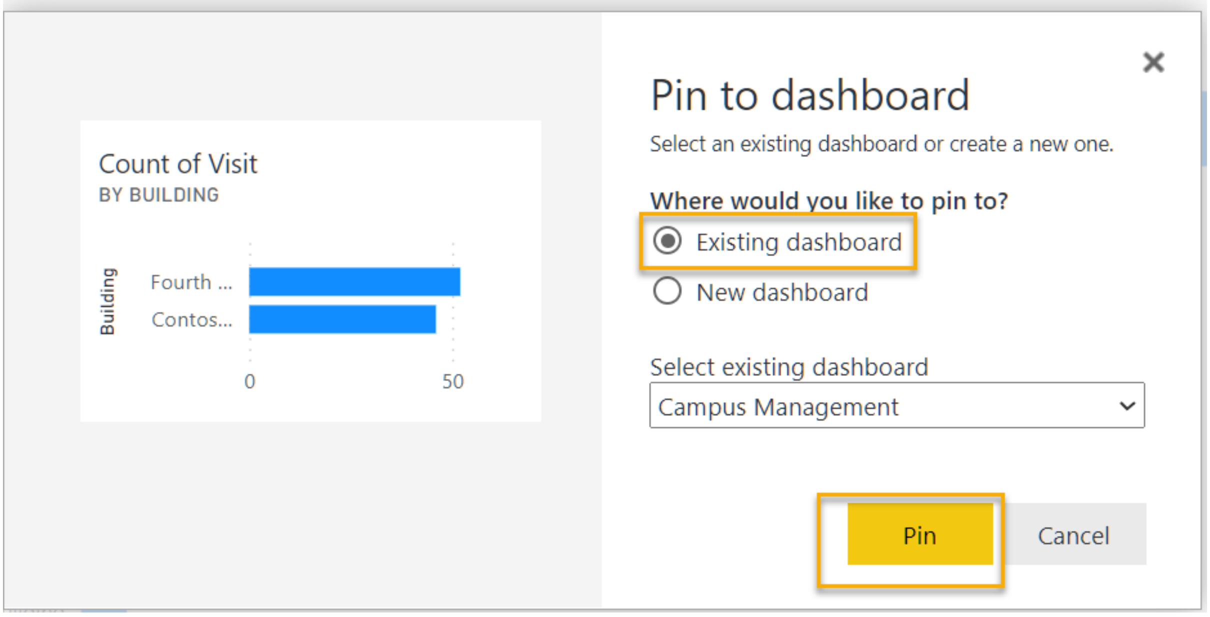
1. Within your **Campus Management** dashboard, select **Ask a question about your data** bar at the top.

2. Enter **buildings by number of visits** in Q&A area. The bar chart will be displayed.



3. Select **Pin visual**.

4. Select **Existing dashboard**, select your **[Your Last Name] Campus Management** dashboard, press **Pin**.



Pin to dashboard

Select an existing dashboard or create a new one.

Where would you like to pin to?

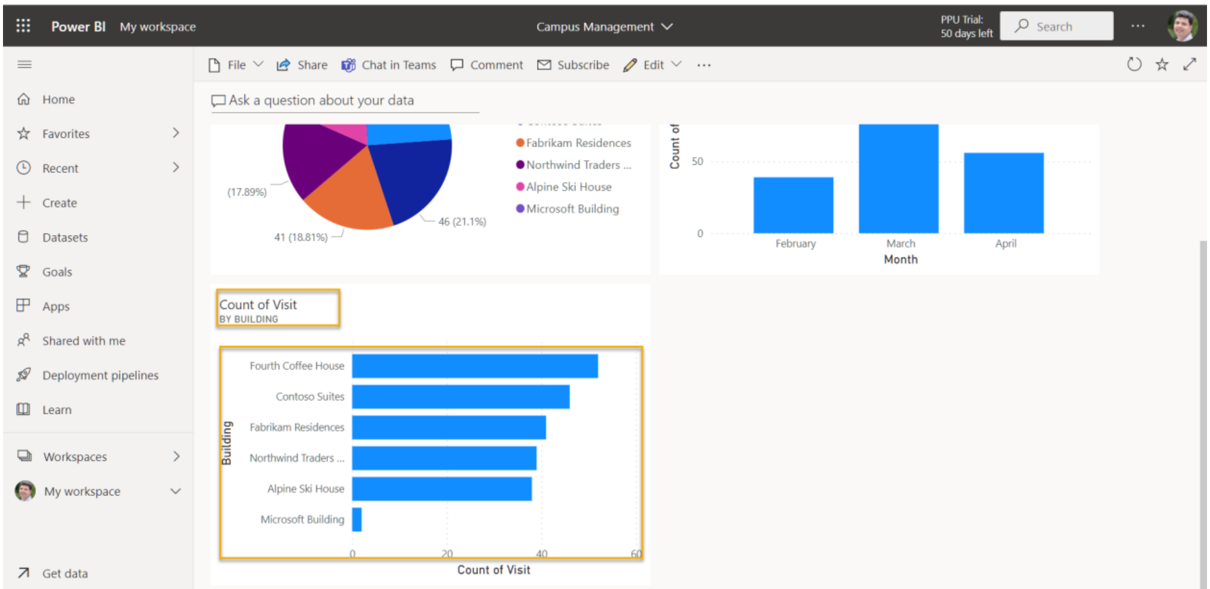
● Existing dashboard

○ New dashboard

Select existing dashboard

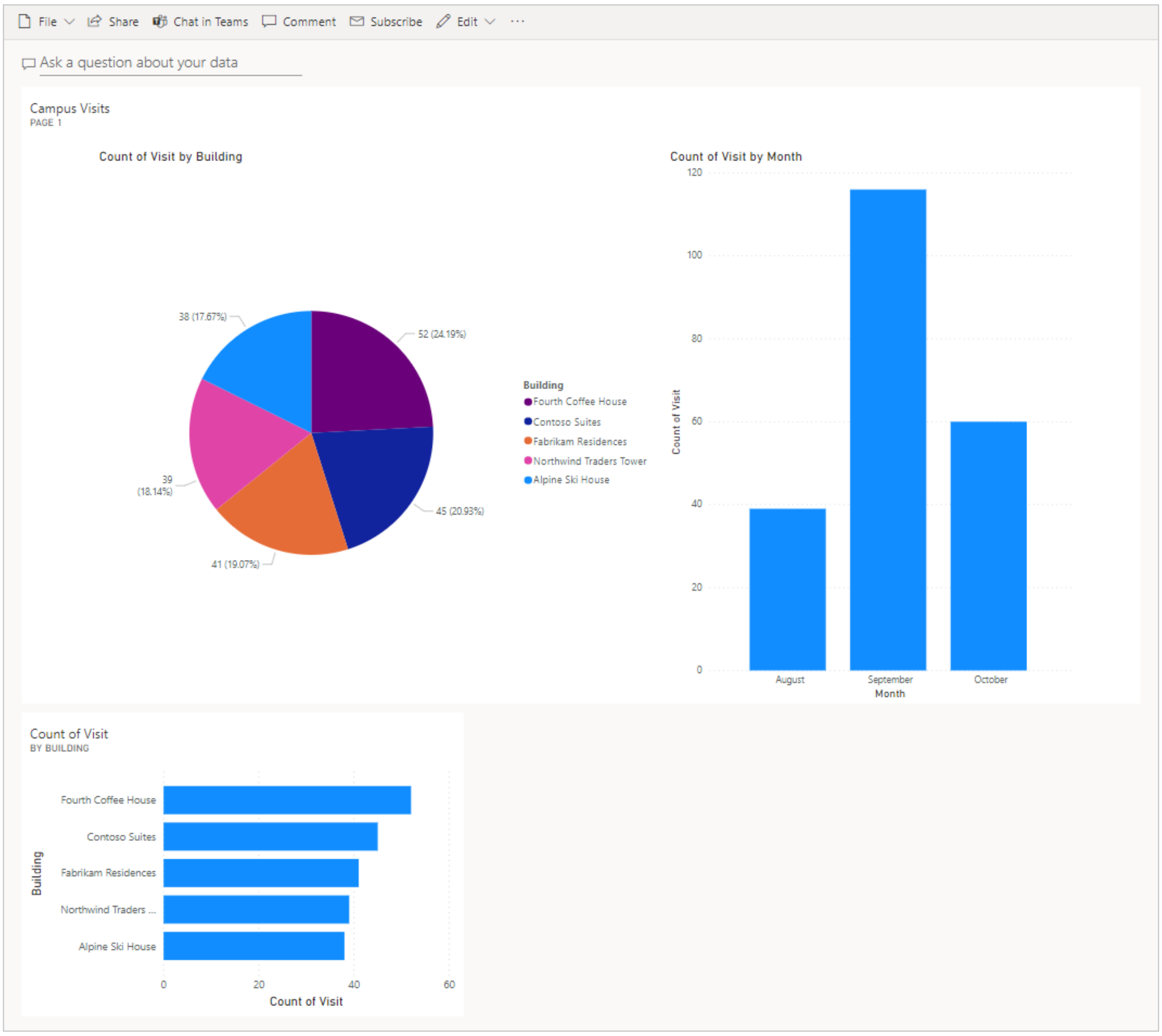
Campus Management

5. Click **Exit Q&A**.



Your **[Your Last Name] Campus Management** dashboard should be displayed. You may have to scroll down to see the new Q&A visual.

Your dashboard should look similar to the following:



Task #4: Build Mobile Phone View and Share a Report with a QR Code

1. In the Dashboard, select **Edit | Mobile Layout**.
2. Rearrange tiles as desired.
3. Click **Mobile layout** at the top right and change the View to **Web layout**.
4. Select **My Workspace** at the top, and select your **Report**.
5. Select **Edit** and then select **... | Generate a QR Code**.
6. *Optional:* If you have a mobile device, scan the code using a QR scanner app available on both iOS and Android platforms, or the camera app if your phone supports it. Log in to your account if prompted. Navigate and explore the report on a mobile device.

Challenges

- Dashboards and reports to include your campus and building plans
- Report and analyze visiting patterns and trends
- Overstaying visualization
- Streaming Power BI for near real-time processing for a large campus

Module 6: Intro to Power Virtual Agents

Lab: How to build a basic chatbot

Scenario

Bellows College is an educational organization with multiple buildings on campus. Campus visits are currently recorded in paper journals. The information is not captured consistently, and there are no means to collect and analyze data about the visits across the entire campus.

Like most organizations, Bellows College is quickly responding to concerns with misinformation about COVID-19, best practices, schedules, and so on. In this lab, you will build a Power Virtual Agent chatbot that will point to the Center for Disease Control page with questions and answers regarding the current status of the pandemic. The college will want this setup so that it can be embedded on their portal site, as well made available ad hoc as departments make their own planned reopening.

High level steps

We will follow the below outline to build our Power Virtual Agent:

- Sign up for a trial of Power Virtual Agent
- Build a bot using FAQs
- Test the bot
- Change the default greeting
- Publish the bot
- **Bonus Challenge:** Embed bot in your portal

Prerequisites

The following have been identified as requirements you must implement to complete the project:

- Completion of **Module 0 Lab 0 - Validate lab environment**
- Completion of **Module 2 Lab 1 - Introduction to Microsoft Dataverse**
- Bonus exercise only: Completion of **Module 6 Lab 4 - Introduction to Power Apps portals**

Things to consider before you begin

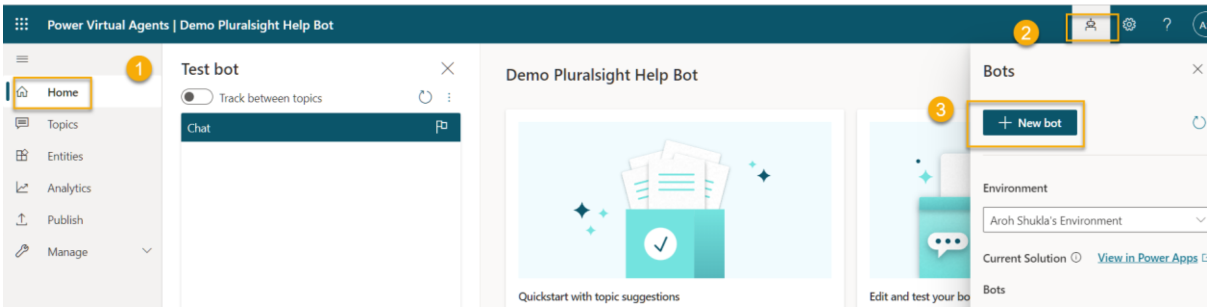
Bots can be very useful in many different scenarios. Based on what you know so far about Bellows College, consider where else in the organization a bot might be of use.

Exercise #1: Sign up for PVA and Create a New Bot

In this exercise, you will sign up for Power Virtual Agents trial.

1. Navigate to Power Virtual Agents
2. Click **Start Free Trial**.

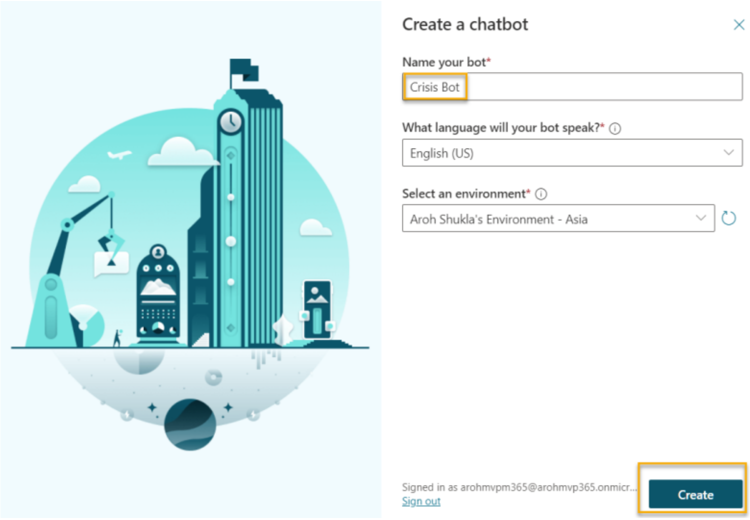
3. Sign in, if required.



4. The **Create new bot** window should appear.

5. Enter **Crisis Bot** for **Name** and select a language.

6. Select your Practice environment to create the bot in and click **Create**.


Create a chatbot

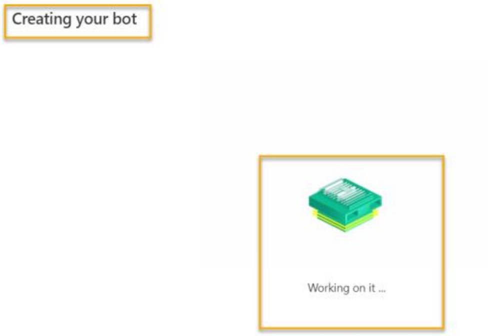
Name your bot*: Crisis Bot

What language will your bot speak?*: English (US)

Select an environment*: Aroh Shukla's Environment - Asia

Signed in as arohmvpm365@arohmvp365.onmicr...
Sign out

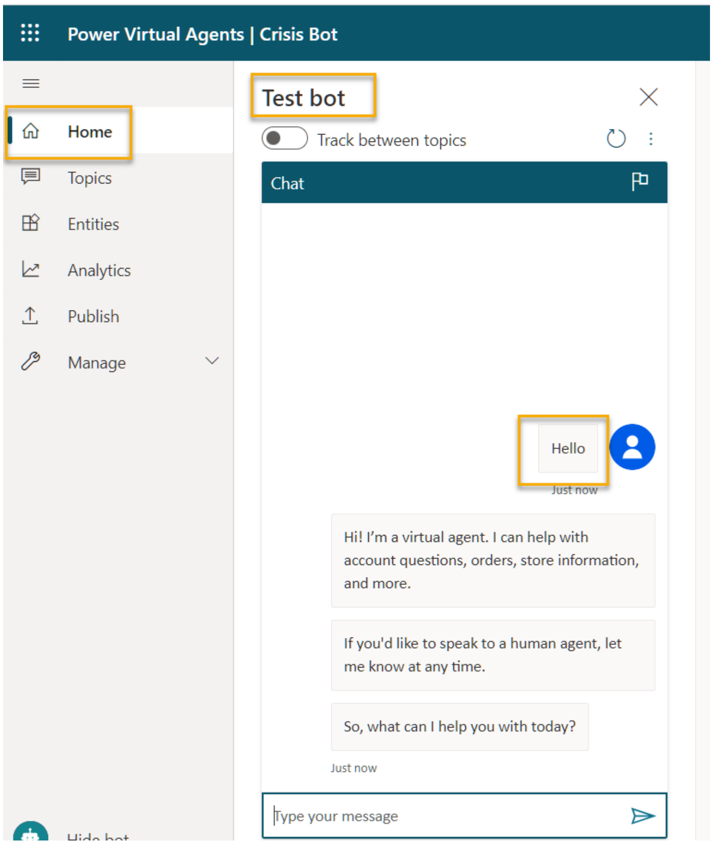
Wait for the bot to be created.



Click **Explore bot** if prompted.

7. Test the bot. Type **Hello** in the message box and click **Send**. The bot should greet you and tell you what it can do.

8. Close the **Chat**.



Hello

Just now

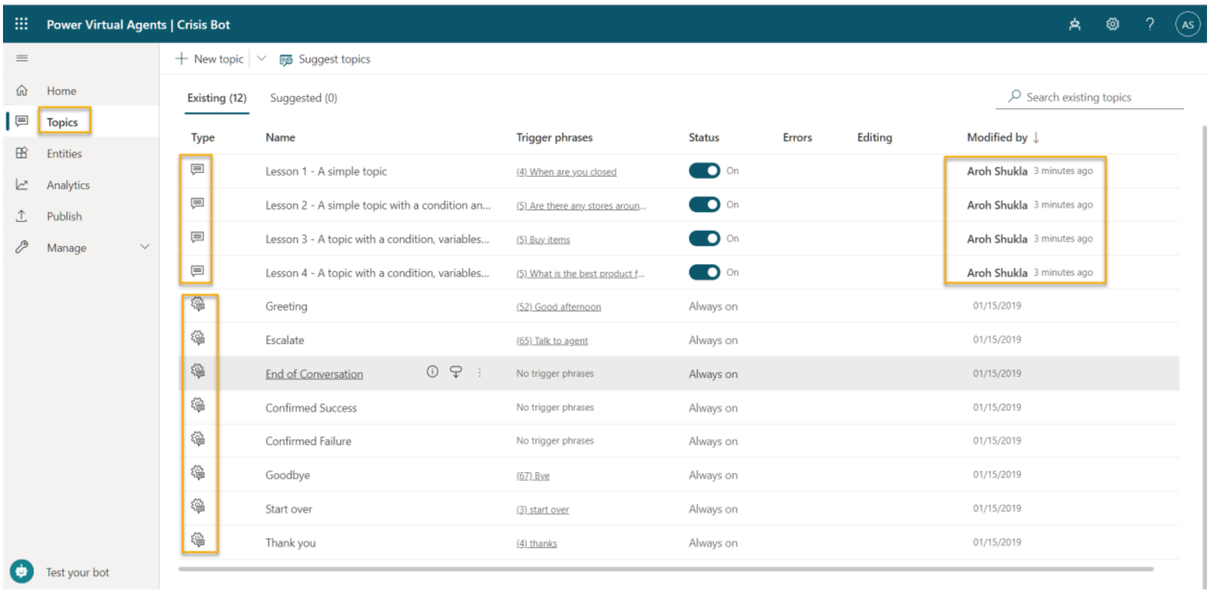
Hi! I'm a virtual agent. I can help with account questions, orders, store information, and more.

If you'd like to speak to a human agent, let me know at any time.

So, what can I help you with today?

Just now

9. Select **Topics**. The bot comes with some sample user topics and some system topics. The default greeting came from the system topics.



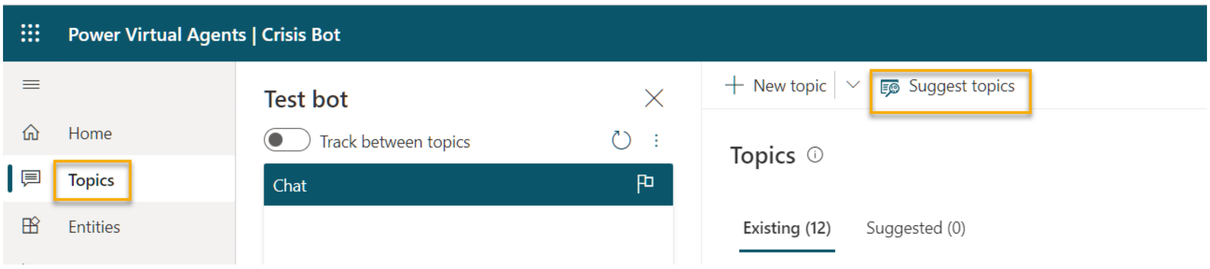
Type	Name	Trigger phrases	Status	Errors	Editing	Modified by ↓
	Lesson 1 - A simple topic	(4) When are you closed	On			Aroh Shukla 3 minutes ago
	Lesson 2 - A simple topic with a condition an...	(5) Are there any stores aroun...	On			Aroh Shukla 3 minutes ago
	Lesson 3 - A topic with a condition, variables...	(5) Buy items	On			Aroh Shukla 3 minutes ago
	Lesson 4 - A topic with a condition, variables...	(5) What is the best product f...	On			Aroh Shukla 3 minutes ago
	Greeting	(52) Good afternoon	Always on			01/15/2019
	Escalate	(65) Talk to agent	Always on			01/15/2019
	End of Conversation	No trigger phrases	Always on			01/15/2019
	Confirmed Success	No trigger phrases	Always on			01/15/2019
	Confirmed Failure	No trigger phrases	Always on			01/15/2019
	Goodbye	(67) Bye	Always on			01/15/2019
	Start over	(3) start over	Always on			01/15/2019
	Thank you	(4) thanks	Always on			01/15/2019

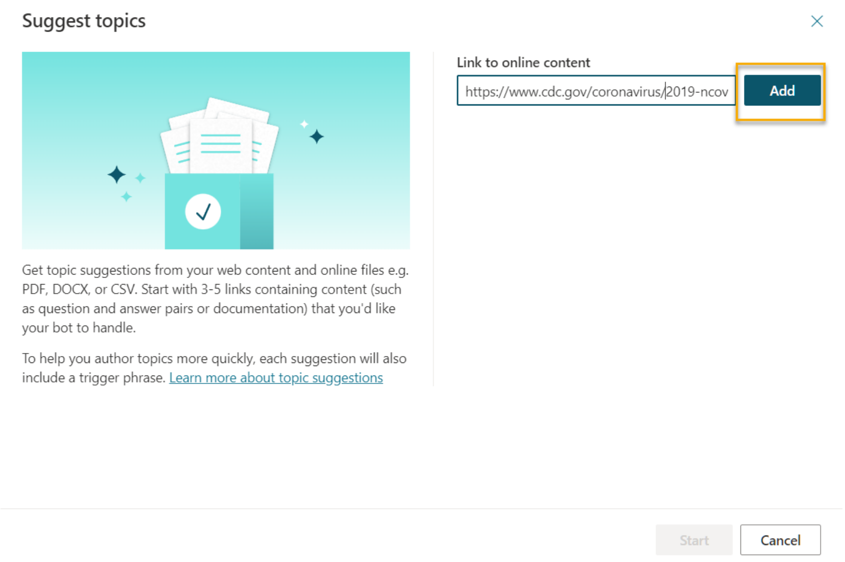
In the next exercise, you will generate your own topics from the CDC FAQ site. Do not navigate away from this browser window.

Exercise #2: Create Topics

In this exercise, you will generate topics from the CDC FAQ site.

1. In a new tab, navigate to the CDC FAQ site and examine what is on the site. You will generate your topics from these FAQs.
2. Copy the URL.
3. Go back to Power Virtual Agents and make sure you still have **Topics** selected.
4. Select the **Suggested** tab, below **Topics**.

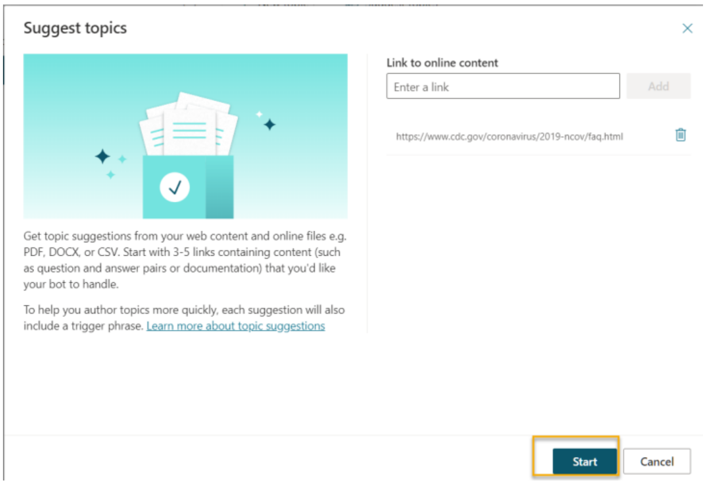




Get topic suggestions from your web content and online files e.g. PDF, DOCX, or CSV. Start with 3-5 links containing content (such as question and answer pairs or documentation) that you'd like your bot to handle.

To help you author topics more quickly, each suggestion will also include a trigger phrase. Learn more about topic suggestions

5. Click **Get started.**
6. Paste the URL you copied in the **Link to online content** textbox and click **Add**. Note that if you copied the full URL, https:// will be listed twice. Ensure that the URL only lists the protocol once.



Suggest topics

Get topic suggestions from your web content and online files e.g. PDF, DOCX, or CSV. Start with 3-5 links containing content (such as question and answer pairs or documentation) that you'd like your bot to handle.

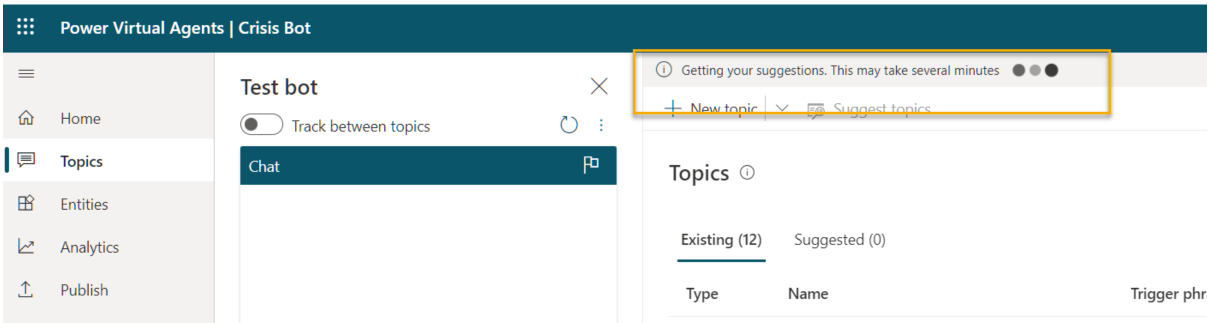
To help you author topics more quickly, each suggestion will also include a trigger phrase. Learn more about topic suggestions

Link to online content

Enter a link

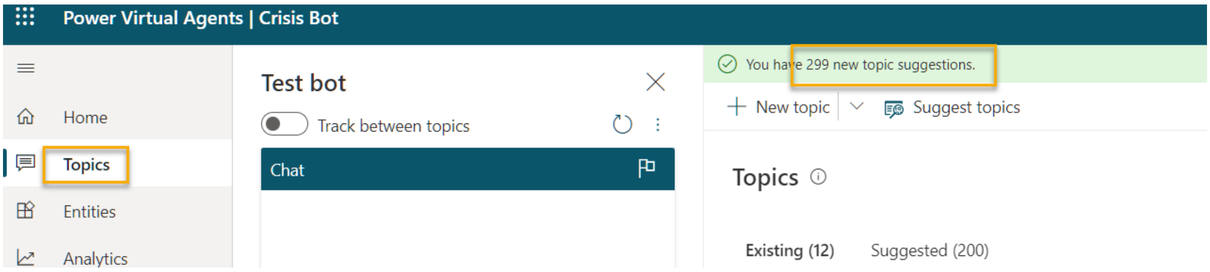
https://www.cdc.gov/coronavirus/2019-ncov/faq.html

7. Click **Start** and wait. This can take a few minutes.



Power Virtual Agents | Crisis Bot

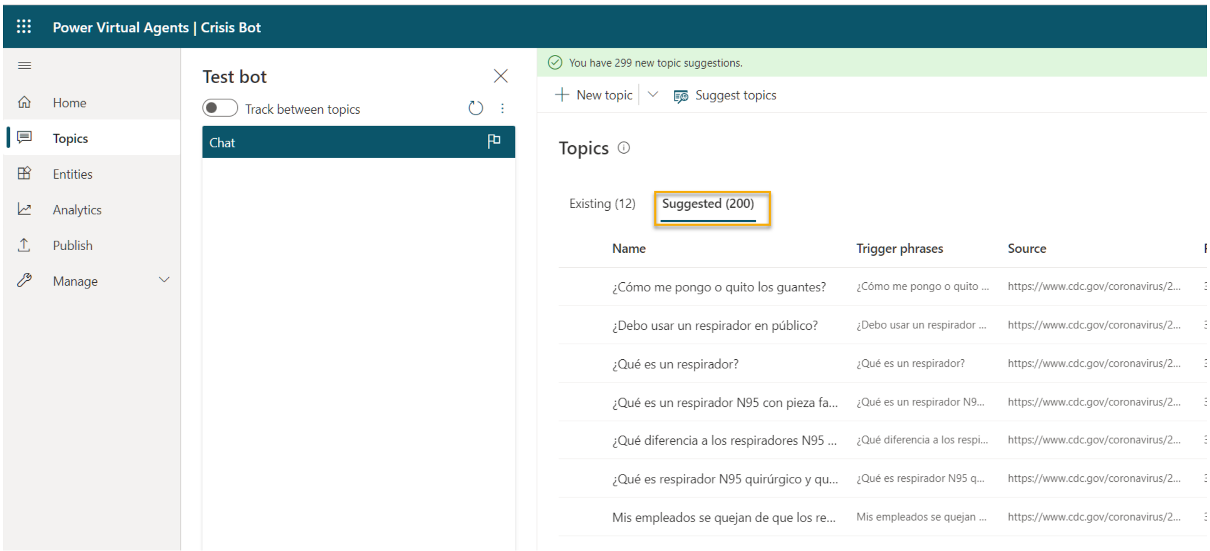
Getting your suggestions. This may take several minutes



Power Virtual Agents | Crisis Bot

You have 299 new topic suggestions.

8. You should get some **suggested topics** created for you. Click to open one of **the suggested topics**.



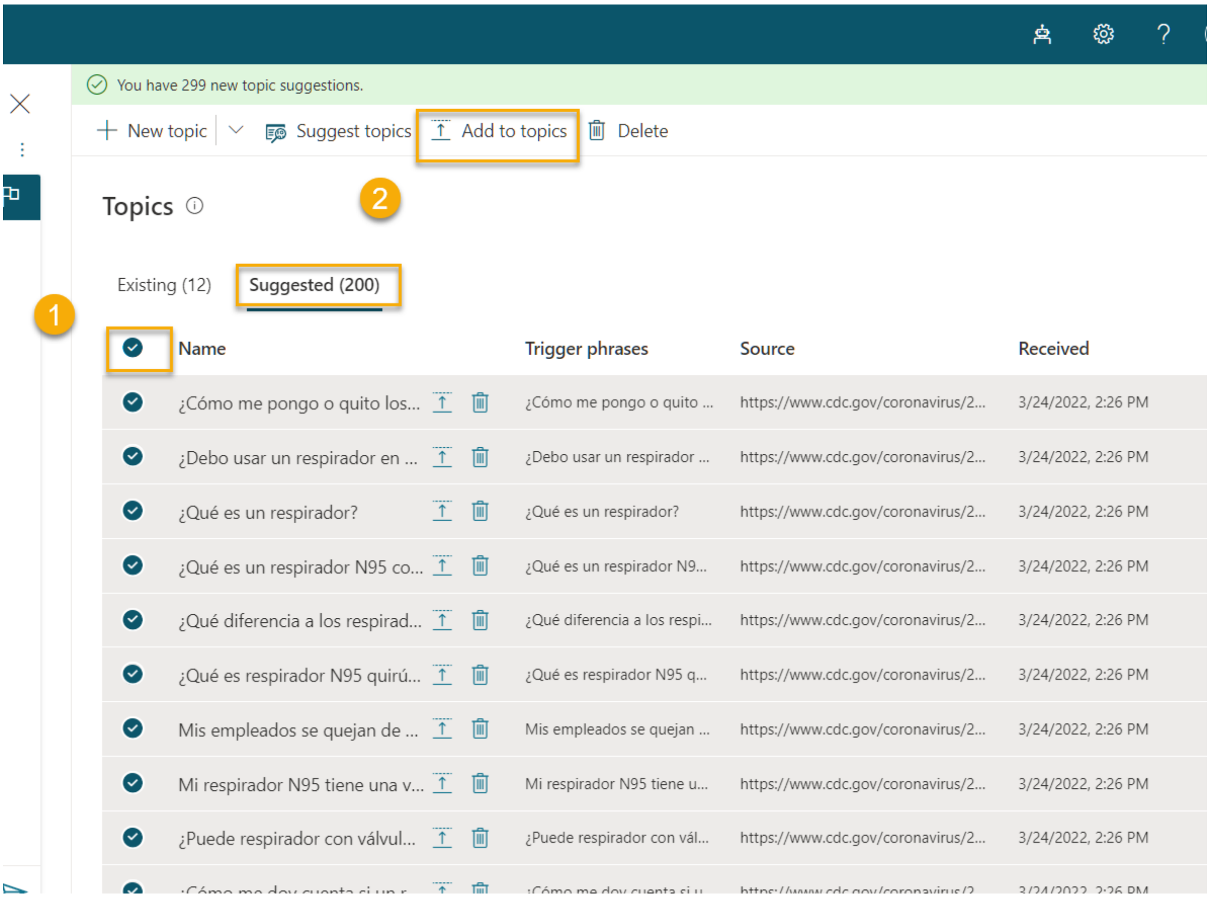
You have 299 new topic suggestions.

Topics

Name	Trigger phrases	Source
¿Cómo me pongo o quito los guantes?	¿Cómo me pongo o quito ...	https://www.cdc.gov/coronavirus/2...
¿Debo usar un respirador en público?	¿Debo usar un respirador ...	https://www.cdc.gov/coronavirus/2...
¿Qué es un respirador?	¿Qué es un respirador?	https://www.cdc.gov/coronavirus/2...
¿Qué es un respirador N95 con pieza fa...	¿Qué es un respirador N9...	https://www.cdc.gov/coronavirus/2...
¿Qué diferencia a los respiradores N95 ...	¿Qué diferencia a los respi...	https://www.cdc.gov/coronavirus/2...
¿Qué es respirador N95 quirúrgico y qu...	¿Qué es respirador N95 q...	https://www.cdc.gov/coronavirus/2...
Mis empleados se quejan de que los re...	Mis empleados se quejan ...	https://www.cdc.gov/coronavirus/2...

9. You should see the trigger phrase and what the bot reply will be. **Click Add to topics.**

10. The suggested topic should be added to your topics. Select all the suggested topics and click **Add to topics**

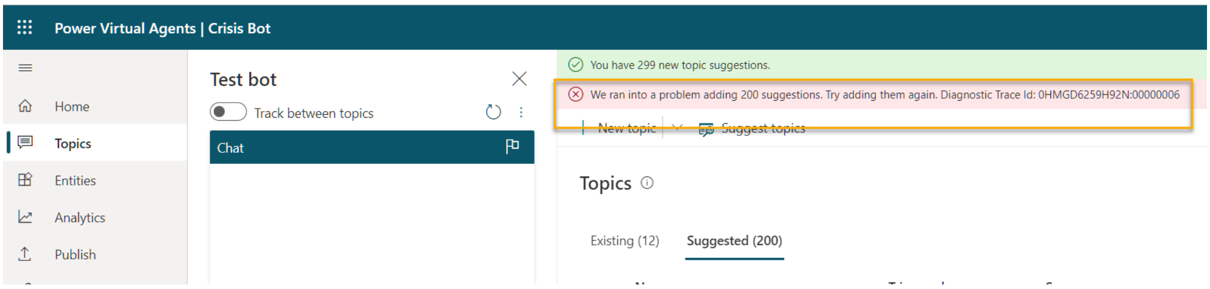


You have 299 new topic suggestions.

Topics

Name	Trigger phrases	Source	Received
¿Cómo me pongo o quito los...	¿Cómo me pongo o quito ...	https://www.cdc.gov/coronavirus/2...	3/24/2022, 2:26 PM
¿Debo usar un respirador en ...	¿Debo usar un respirador ...	https://www.cdc.gov/coronavirus/2...	3/24/2022, 2:26 PM
¿Qué es un respirador?	¿Qué es un respirador?	https://www.cdc.gov/coronavirus/2...	3/24/2022, 2:26 PM
¿Qué es un respirador N95 co...	¿Qué es un respirador N9...	https://www.cdc.gov/coronavirus/2...	3/24/2022, 2:26 PM
¿Qué diferencia a los respirad...	¿Qué diferencia a los respi...	https://www.cdc.gov/coronavirus/2...	3/24/2022, 2:26 PM
¿Qué es respirador N95 quirú...	¿Qué es respirador N95 q...	https://www.cdc.gov/coronavirus/2...	3/24/2022, 2:26 PM
Mis empleados se quejan de ...	Mis empleados se quejan ...	https://www.cdc.gov/coronavirus/2...	3/24/2022, 2:26 PM
Mi respirador N95 tiene una v...	Mi respirador N95 tiene u...	https://www.cdc.gov/coronavirus/2...	3/24/2022, 2:26 PM
¿Puede respirador con válvul...	¿Puede respirador con vál...	https://www.cdc.gov/coronavirus/2...	3/24/2022, 2:26 PM
¿Cómo me doy cuenta si un r...	¿Cómo me doy cuenta si u...	https://www.cdc.gov/coronavirus/2...	3/24/2022, 2:26 PM

You can select all topics by using the icon to the left of the Name column. If you receive an error message, please try again.



You have 299 new topic suggestions.

We ran into a problem adding 200 suggestions. Try adding them again. Diagnostic Trace Id: 0HMGD6259H92N:00000006

11. Once the Suggested topics have been added, select the **Existing** tab. You should see the new topics with their status set to Off.

12. Use the toggle button in the **Status** column to turn some of the topics to **On**.

13. Write down the trigger phrase for one of the topics that you have turned on so that you can test with this later.

Do not navigate away from this browser window.

Exercise #3: Test Topics

In this task, you will test the topics you added.

1. Click **Test your bot** at the bottom left.

2. Click **Reset**.

3. Type the trigger phrase that you recorded from the previous task and click **Send**.

4. The bot should give you the correct information and ask if it answered your question. Click **Yes**.

5. The bot should ask you the rate how it did. Give it an excellent rating.

6. The bot should ask if it can help you with anything else. Click **No, thanks**.

7. The bot should conclude the chat session.

8. Type **hello** and click **Send**.

9. The bot should greet you and tell you what it can do. Your bot can now help users with COVID-19 FAQs, so you will need to change the greeting message in the next task. Do not navigate away from this browser window.

Exercise #4: Change the Greeting

In this task, you will change the greeting to COVID-19 specific.

1. Make sure you have **Topics** selected and select the **Existing** tab.

2. Collapse the **User Topics** section.

3. Click to open the **Greeting** topic of the System Topics. You can also use the search box to **Search existing topics**.

4. The greeting topic has 52 trigger phrases, click **Go to authoring canvas**.

5. Go to the first message and replace it with Hi, I'm a virtual agent. I can tell you about how COVID-19 spreads, how to protect yourself, preparing your home and family for COVID-19, symptoms, testing, and more.

6. Click **Save**.

7. Click **Test Bot** if your bot is not still open. Click **Reset** to reset the chat.

8. Type hello and click **Send**.

9. The bot should now reply with the new greeting.

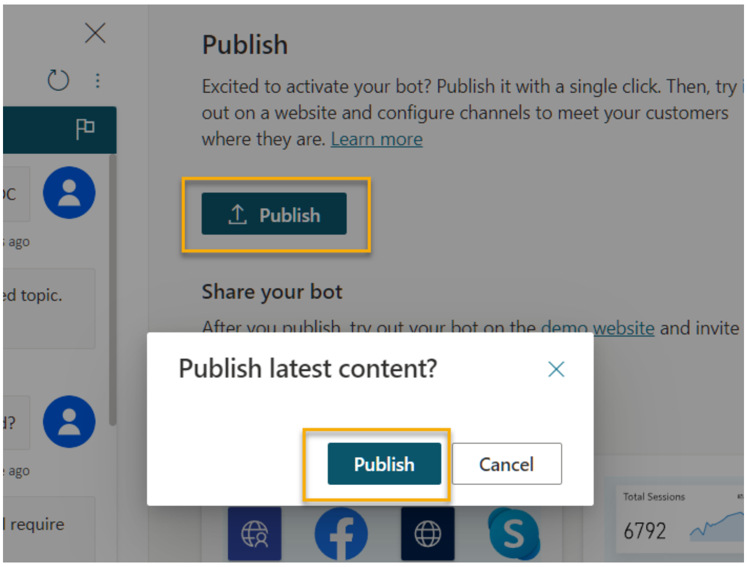
Exercise #5: Publish the Bot

In this exercise, you will publish the bot.

1. Select **Publish** on the left navigation bar.

2. Click **Publish**.

3. Click **Publish** again and wait for the publishing to complete.



Publish

Excited to activate your bot? Publish it with a single click. Then, try i out on a website and configure channels to meet your customers where they are. Learn more

Share your bot

After you publish, try out your bot on the demo website and invite

Publish latest content?

4. Expand **Manage** on the left navigation bar and select **Channels**.

5. You will get list of available channels you can publish your bot to. Select **Demo website**.

6. Change the welcome message to Try my COVID-19 FAQ bot.

7. Enter the following in **Conversation starters**:

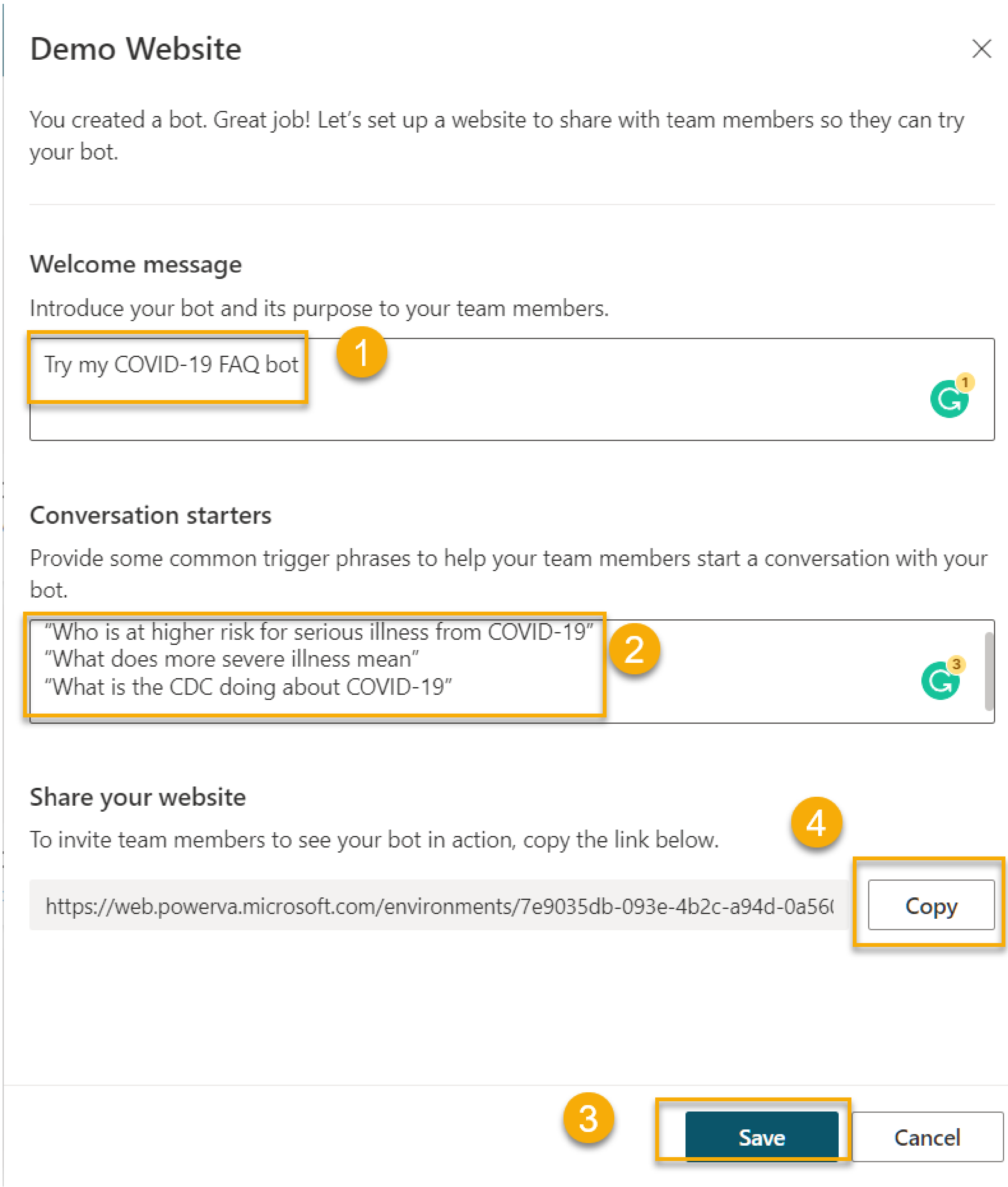
8. "Who is at higher risk for serious illness from COVID-19"

9. "What does more severe illness mean"

10. "What is the CDC doing about COVID-19"

11. Click **Save**.

12. Copy the **URL**.



Demo Website

You created a bot. Great job! Let's set up a website to share with team members so they can try your bot.

Welcome message

Introduce your bot and its purpose to your team members.

Try my COVID-19 FAQ bot

Conversation starters

Provide some common trigger phrases to help your team members start a conversation with your bot.

"Who is at higher risk for serious illness from COVID-19"
"What does more severe illness mean"
"What is the CDC doing about COVID-19"

Share your website

To invite team members to see your bot in action, copy the link below.

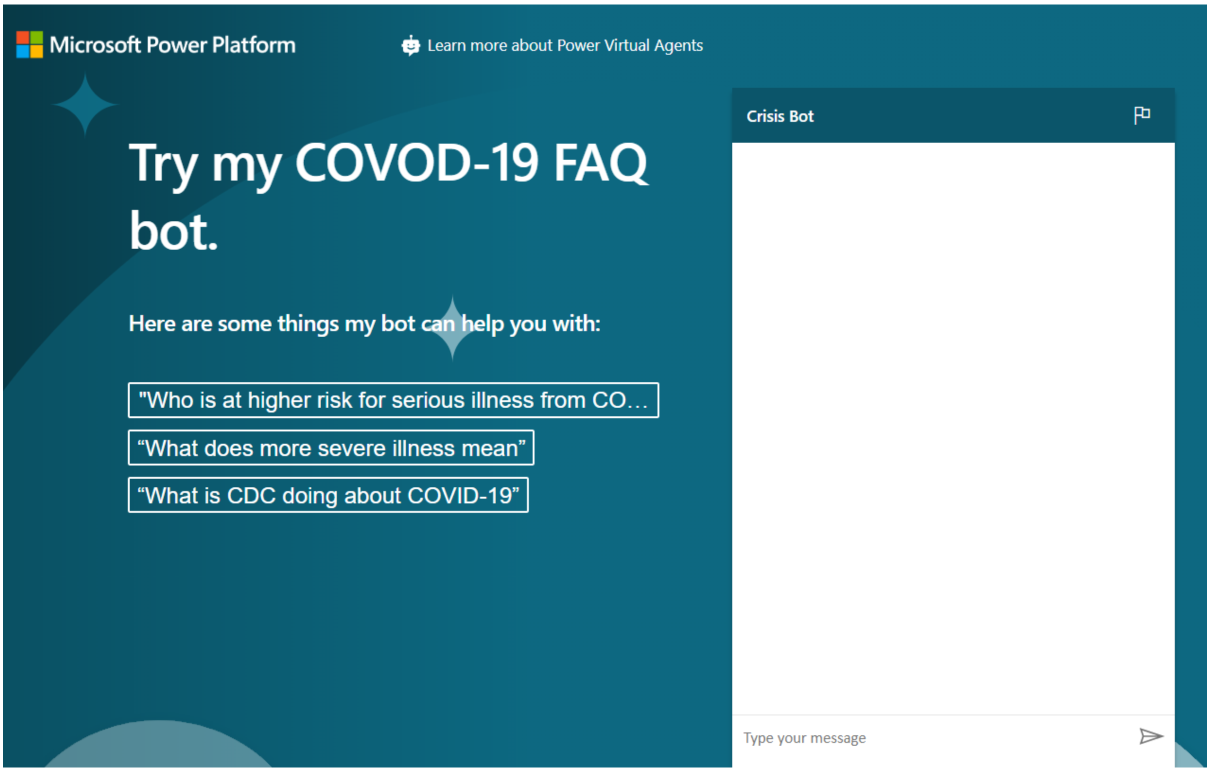
https://web.powerva.microsoft.com/environments/7e9035db-093e-4b2c-a94d-0a56(

You can share the URL with your colleagues and get feedback from them.

10. Start a new browser window or tab and navigate to the URL you copied. The demo website should like the image below.

11. Go ahead and start chatting with the bot.

When completed, your published bot should look similar to this:



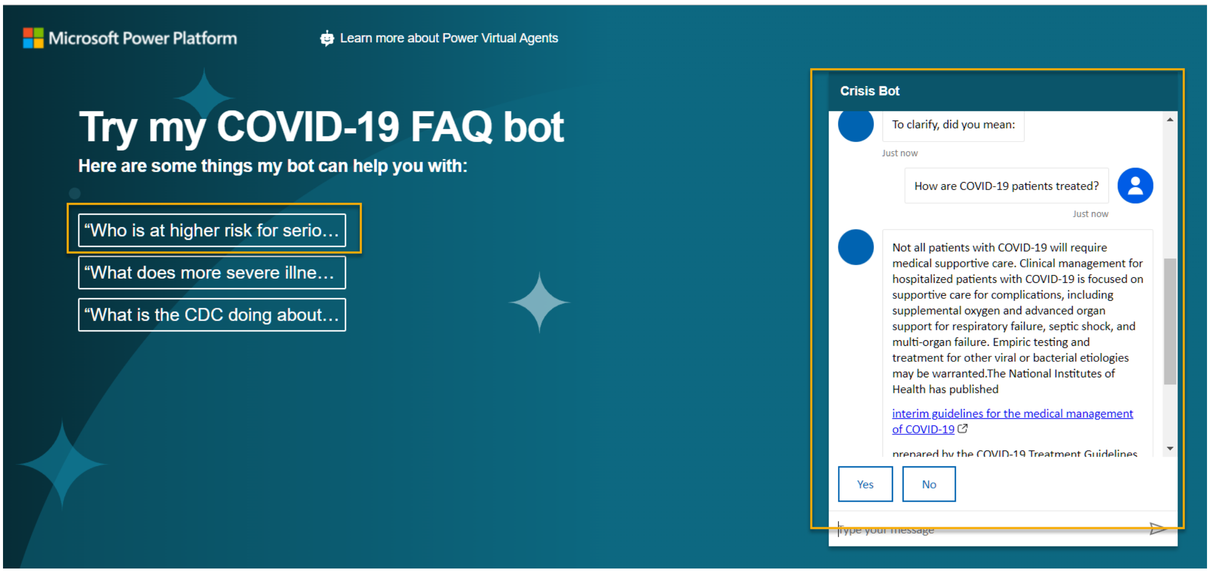
Try my COVOD-19 FAQ bot.

Here are some things my bot can help you with:

"Who is at higher risk for serious illness from CO…

"What does more severe illness mean"

"What is CDC doing about COVID-19"



Try my COVID-19 FAQ bot

Here are some things my bot can help you with:

"Who is at higher risk for serio…

"What does more severe illne…

"What is the CDC doing about…

To clarify, did you mean:

How are COVID-19 patients treated?

Not all patients with COVID-19 will require medical supportive care. Clinical management for hospitalized patients with COVID-19 is focused on supportive care for complications, including supplemental oxygen and advanced organ support for respiratory failure, septic shock, and multi-organ failure. Empiric testing and treatment for other viral or bacterial etiologies may be warranted.The National Institutes of Health has published

interim guidelines for the medical management of COVID-19

prepared by the COVID-19 Treatment Guidelines

Challenges

- Embed your chatbot on your Bellows College Visitors portal (more information on how to do this under **Add bot to Power Apps** here.)