



Power Platform

App in a Day

Module 1: Power Apps Canvas App

Hands-on Lab Step-by-Step

August 2022

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Power Apps Canvas App

Lab Prerequisites

Follow the pre-requisite steps described in the document: **00-AppInADay Lab Overview.pdf**, that is included in the lab package. Before beginning this lab, confirm that you have provisioned an environment where you will save your apps, flows and database tables.

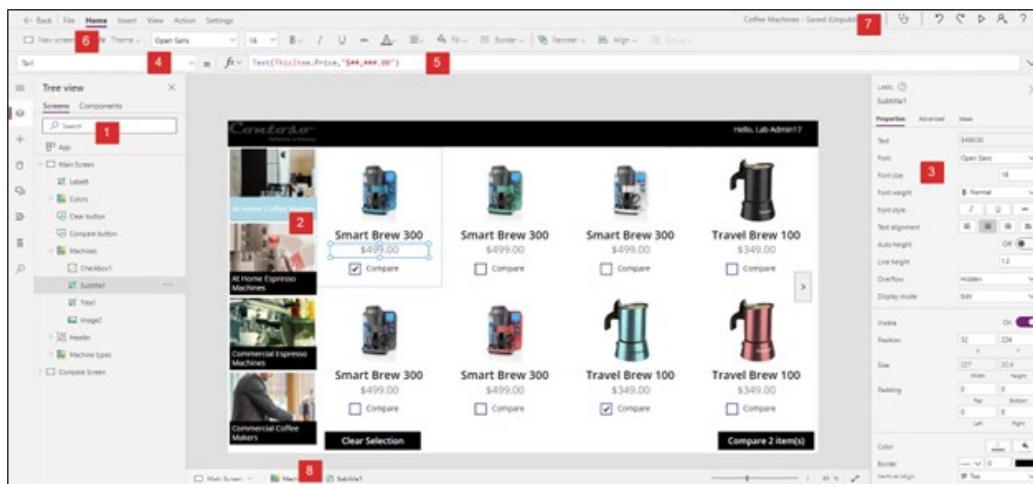
IMPORTANT: Do not proceed before going through the lab pre-requisite steps

Power Apps Canvas Studio Layout

Power Apps Canvas Studio is available as a web application ([Make Power Apps](#)) that you can use in any modern browser.

Power Apps Studio is designed to have a user interface familiar to users of the Office suite. It has three panes and a ribbon that make app creation feel **like building a slide deck in PowerPoint**. Formulas are entered within a function  bar that is like Excel. Studio components:

1. **Left navigation pane**, which shows all the screens, data sources, and controls in your app
2. **Middle pane**, which contains the app screen you are working on
3. **Right-hand pane**, where you configure properties for controls, bind to data, create rules, and set additional advanced settings
4. **Property drop-down list**, where you select the property for the selected control that you want to configure
5. **Formula bar**, where you add formulas (like in Excel) that define the behavior of a selected control
6. **Ribbon**, where you perform common actions including customizing design elements
7. **Additional items**, here you will find your environment selection, app checker, and the preview app functionality.
8. **Breadcrumbs**, you can navigate up the tree view.



Goals for this lab

After this lesson you will be able to:



- Create a Canvas App
- Add screens to your app
- Use formulas in your app
- Navigate between screens
- Customize galleries on your screens
- Capture a collection from your app



The time to complete this lab is [60] minutes.

Introduction: Coffee Machine Ordering Scenario

Imagine an organization where every few years the employees request an updated coffee machine for their employee break room. The organization would like to build a customized app that runs on the web and mobile devices, which will help streamline the machine order and approval process. Moreover, they do not have traditional development resources available, such as a .NET, Xamarin or custom website developer, to create this application.

Solution overview

The Microsoft Power Platform technologies enable tech-savvy business users (aka "citizen developers") to build a customized machine ordering solution. The application user interface and interaction logic are built in Power Apps, the approval workflow is automated using Power Automate, and the machine order data is stored in Microsoft Dataverse.

Key features of the solution:

- a. Ability to browse through a selection of coffee machines.
- b. Select machines to compare
- c. View detailed specs for the selected machines on a second comparison screen
- d. Select a machine to order
- e. Enter order details into a customized form, including an image
- f. By default, have the approver set to the logged in user's manager
- g. Capture additional default properties, such as the date of the request
- h. Store machine orders in a secure and scalable Cloud database
- i. Enable an admin to view all machine orders
- j. Follow a customized procurement process to place purchase orders for machines
- k. Send an automated approval request email when the order is placed
- l. Allow the approver to approve or reject an order and add comments without leaving their email inbox
- m. View all sent and received approval requests on the web and mobile
- n. Notify the user via email when their order is approved or rejected

This document will walk through creating a Power Apps Canvas Studio basics to enable features (a) thru (d).

When you are done with this first portion of the lab, your app will look like this:

The screenshot displays two views of a Power Apps Canvas App. The left view, titled 'Machine Ordering', shows a grid of coffee makers: Smart Brew 300, Smart Brew 300, Smart Brew 300, and Travel Brew 100. Each item has a price (\$499.00) and a 'Compare' button. A 'Clear Selection' button is at the bottom. The right view, also titled 'Machine Ordering', shows a detailed comparison between Smart Brew 300 and Travel Brew 100. It includes descriptions like 'Auto-Brew', average cups per week, and espresso per week. A large text block highlights the features of each machine. A 'Submit device request' button is at the bottom right.

Locale-specific difference in formulas



Before you begin, please note that if your computer has its regional settings set to use the comma ',' for its decimal separator (like in much of Europe) your formulas will need to use a semicolon ';' instead of a comma in your formulas. For example:

En-US `Filter(Machines, 'Machine Type Gallery'.Selected.MFR=MFR)`

de-DE `Filter(Machines; 'Machine Type Gallery'.Selected.MFR=MFR)`

These localized formats are indicated with the symbol throughout the document. If you are in the en-us locale, you can ignore any of the formulas indicated by the locale symbol.

Exercise 1: Create the app in Power Apps

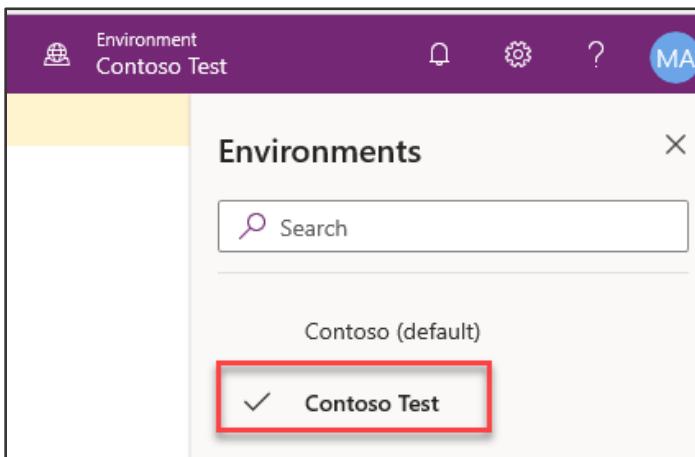
IMPORTANT: Do not proceed before going through the lab pre-requisite steps

Task 1: Sign-in to Power Apps web studio

1. Go to [Power Apps](#) and click Sign-in. You may also directly navigate to [Make Power Apps](#).



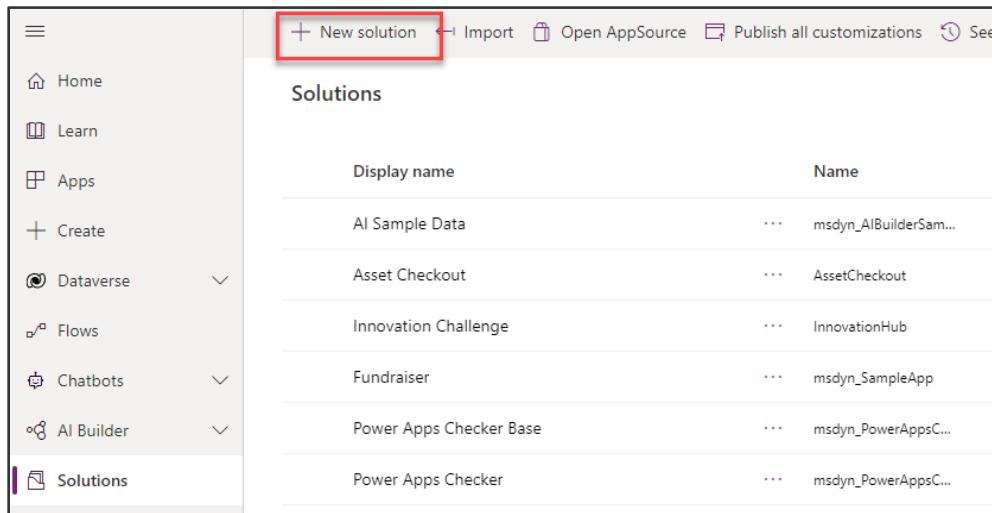
2. Login to with your training account.
3. Before creating an app, let's switch to the correct environment. Click the Environment drop-down in the top right of the screen to switch to the new environment. (If your environment doesn't show up, try logging out and logging in again)



Task 2: Create a new solution

In this task, you will create a new solution and a publisher. The solution will contain and track all your work.

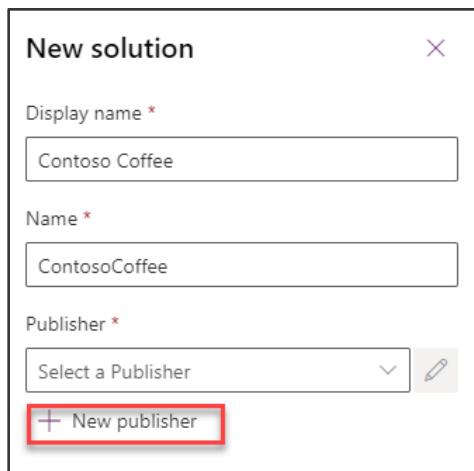
1. Select **Solutions** and click **+ New solution**.



The screenshot shows the 'Solutions' section of the Microsoft Power Platform canvas app. On the left, there's a navigation sidebar with options like Home, Learn, Apps, Create, Dataaverse, Flows, Chatbots, AI Builder, and Solutions. The 'Solutions' option is selected and highlighted with a purple bar. At the top, there are buttons for '+ New solution', 'Import', 'Open AppSource', 'Publish all customizations', and 'See'. The main area displays a table of existing solutions:

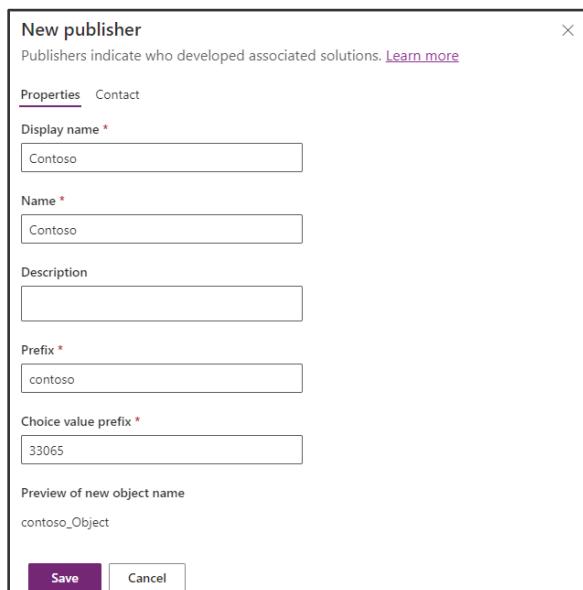
Display name	Name
AI Sample Data	msdyn_AIBuilderSam...
Asset Checkout	AssetCheckout
Innovation Challenge	InnovationHub
Fundraiser	msdyn_SampleApp
Power Apps Checker Base	msdyn_PowerAppsC...
Power Apps Checker	msdyn_PowerAppsC...

2. Enter **Contoso Coffee** for Display name and click on the **+ New publisher** button.



The screenshot shows the 'New solution' dialog box. It has fields for 'Display name' (containing 'Contoso Coffee'), 'Name' (containing 'ContosoCoffee'), and 'Publisher'. The 'Publisher' field is a dropdown menu labeled 'Select a Publisher' with a pencil icon. Below it is a button labeled '+ New publisher' which is highlighted with a red box.

3. Enter **Contoso** for Display name, **Contoso** for Name, **contoso** for Prefix, and click **Save**.



The screenshot shows the 'New publisher' dialog box. It has fields for 'Display name' (containing 'Contoso'), 'Name' (containing 'Contoso'), 'Description' (empty), 'Prefix' (containing 'contoso'), 'Choice value prefix' (containing '33065'), and a 'Preview of new object name' field (containing 'contoso_Object'). At the bottom are 'Save' and 'Cancel' buttons.

4. Select the **Contoso** publisher you created for Publisher and click **Create**.

New solution

Display name *

Contoso Coffee

Name *

ContosoCoffee

Publisher *

Contoso (Contoso)

+ New publisher

Version *

1.0.0.0

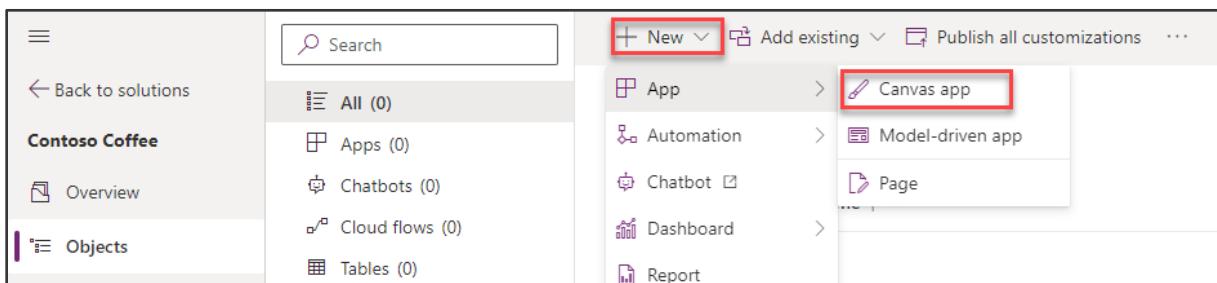
More options ▾

Create Cancel

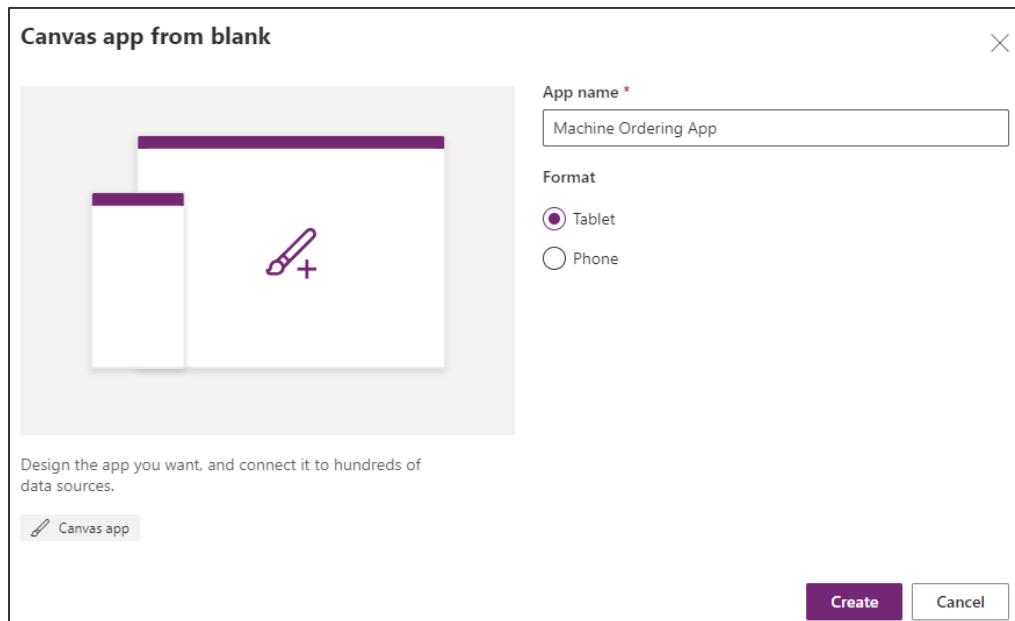
5. Click to open the **Contoso Coffee** solution you just created.
6. Do not navigate away from this page.

Task 3: Create a new application

1. Make sure you are in the **Contoso Coffee** solution.
2. Click **+ New** and select **App | Canvas app**.



3. Enter **Machine Ordering App** for App name, select **Tablet** for Format, and click **Create**.

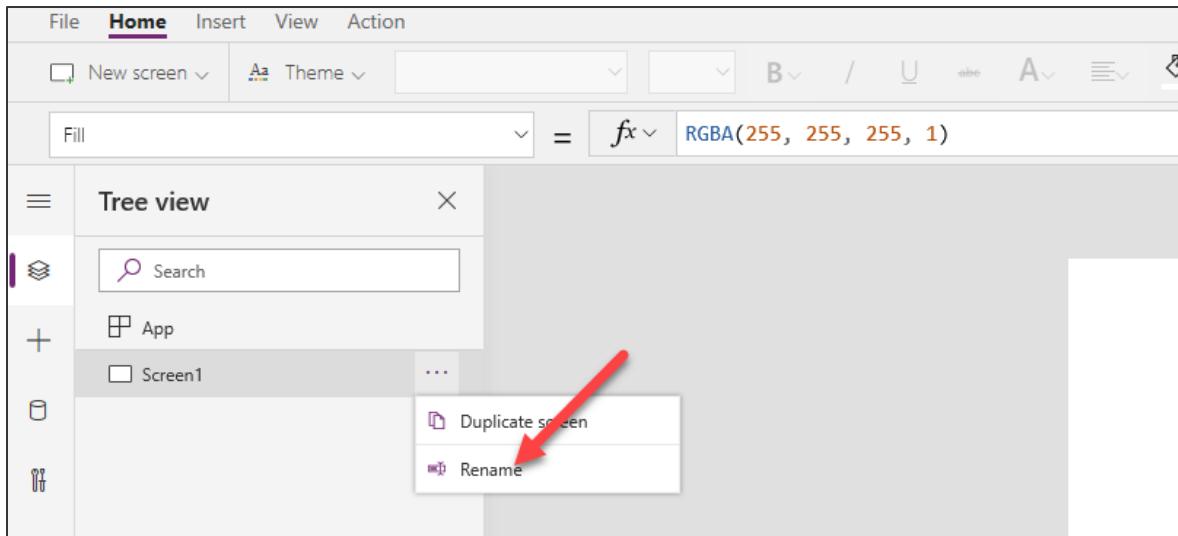


4. If prompted, select your region, then click **Get started**.
5. Click **Skip** if you receive the **Welcome to Power Apps Studio** prompt.

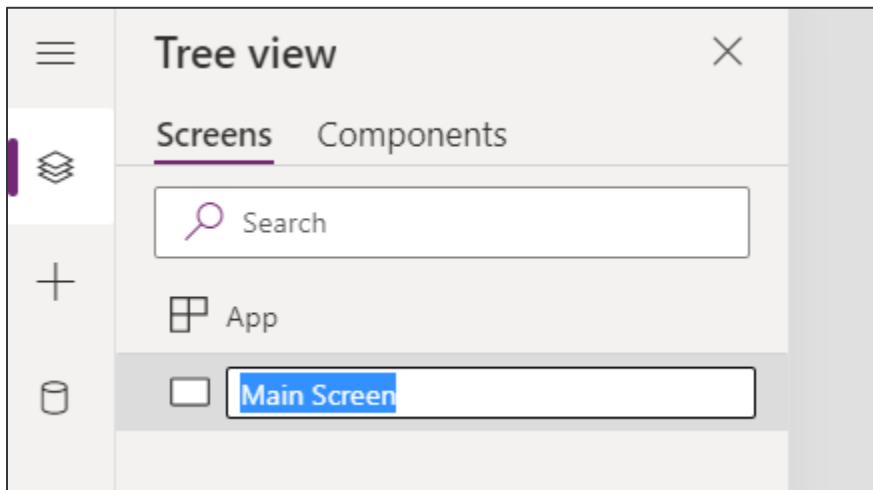
Task 4: Rename the screen

In this task, you will rename Screen1 to Main Screen.

1. Select the screen by clicking the **Screen1** tile in the **Tree view**.
2. Click “...” next to **Screen1** (or right click **Screen1**) and select the **Rename** option.



3. Change the name to **Main Screen**.

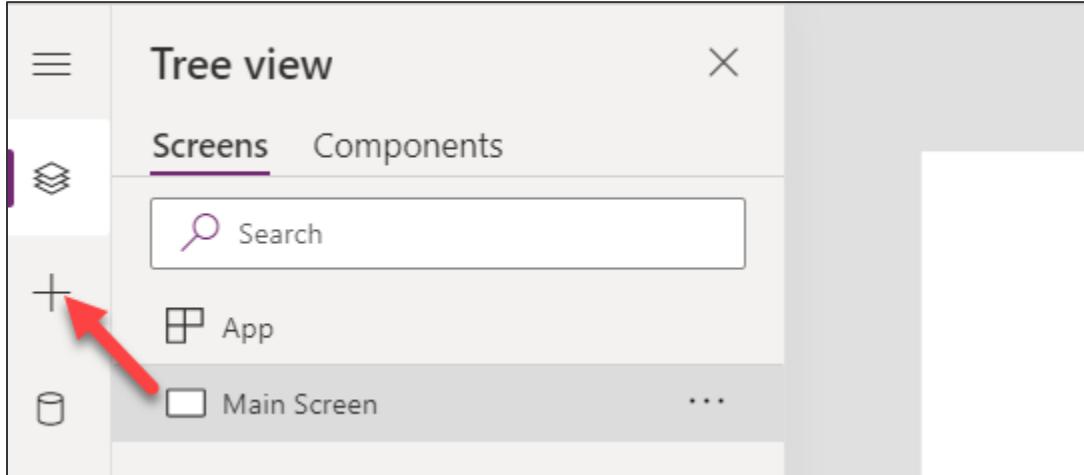


Note: You can also rename the screen by clicking on the screen name in the right pane and selecting the edit icon, or double clicking on it.

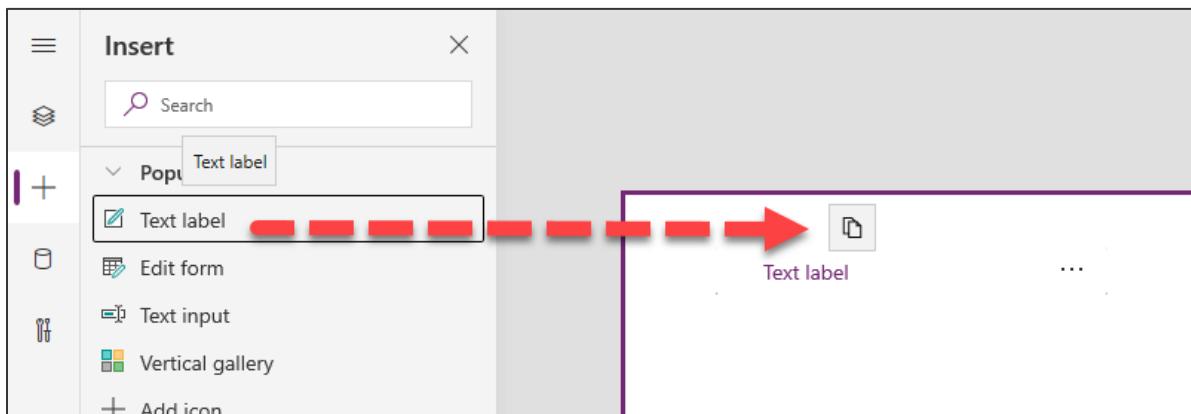
Tip: It is a good practice to rename screens and controls as you create them, so they are easier to locate as you work with formulas that reference different controls. In this lab, you will be prompted to rename screens and some of the controls. For the others, you may rename them as you please on your own. It is important that you rename screens as prompted in this lab as future steps may rely on specific screen names.

Task 5: Add a header containing the app name and logged in user's name

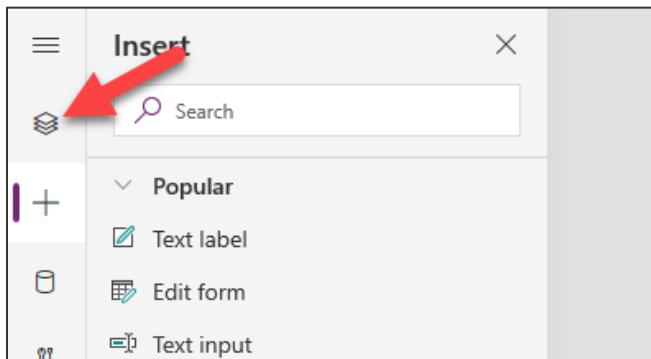
- With Main Screen selected, click on the **+ Insert** button.



- Drag **Text Label** from the Insert pane and drop it on the Main Screen.

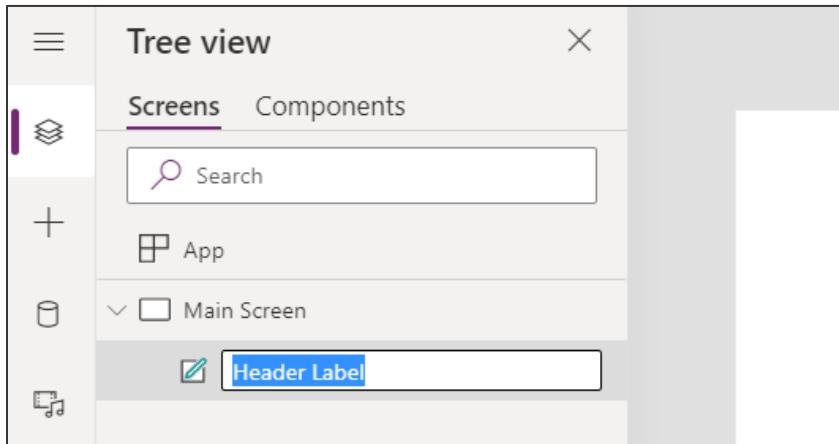


- Select the **Tree View** tab.

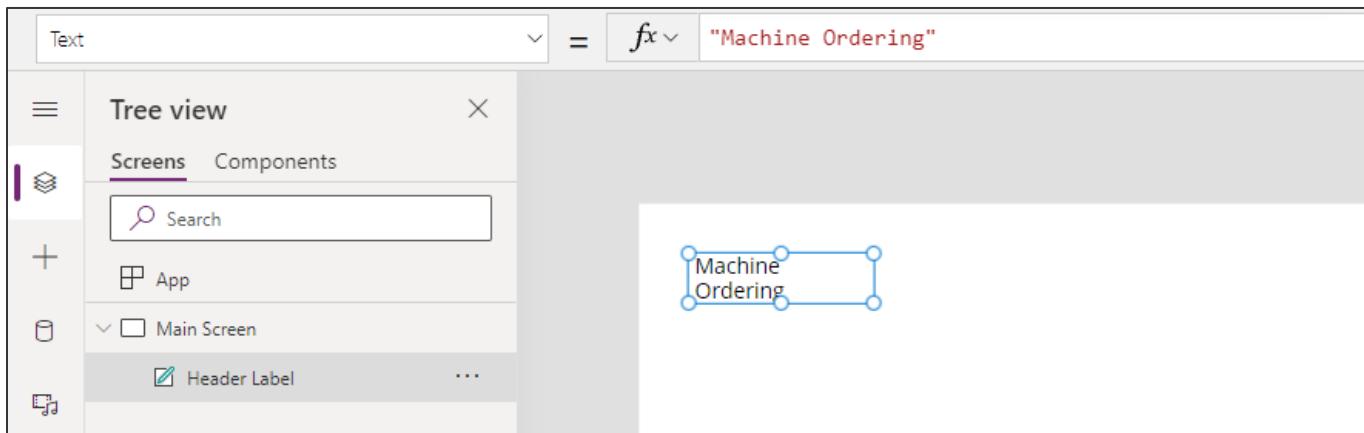


- Rename Label1 to **Header Label**, see the previous task on renaming controls.

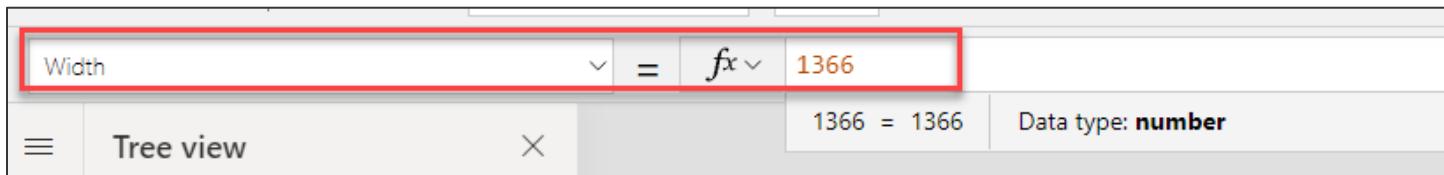
NOTE: It is IMPORTANT to rename this label correctly, so subsequent instructions in the lab work as expected.



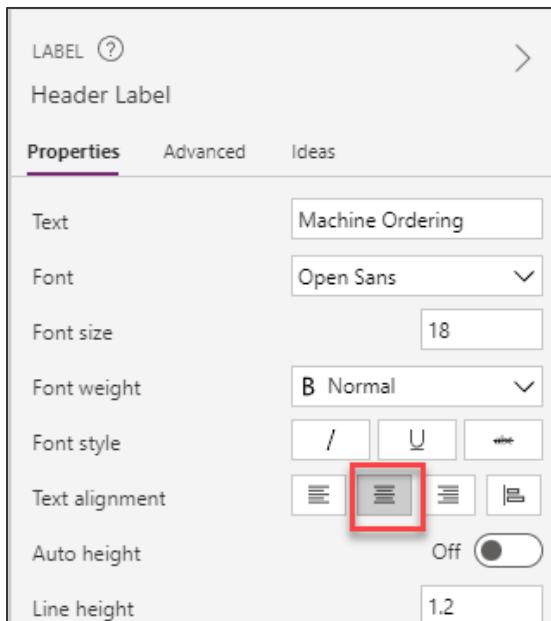
5. Select **Text** from the property drop-down list and enter "**Machine Ordering**" in the formula bar. You can also type directly in the label.



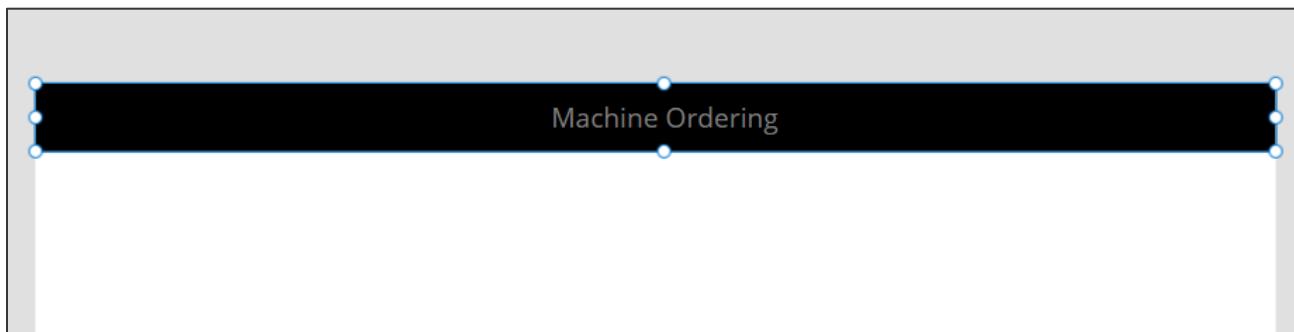
6. Set the **Width** of the Header Label to **1366**.



7. Set the **X** and **Y** values of the Header Label to **0**.
8. Set the **Color** value of the Header Label to **Gray**.
9. Set the **Fill** value of the Header Label to **Black**.
10. Set the **Size** value of the Header Label to **18**.
11. Set the **Height** value of the Header Label to **60**.
12. Go to the Properties pane and select Align center for Text alignment.

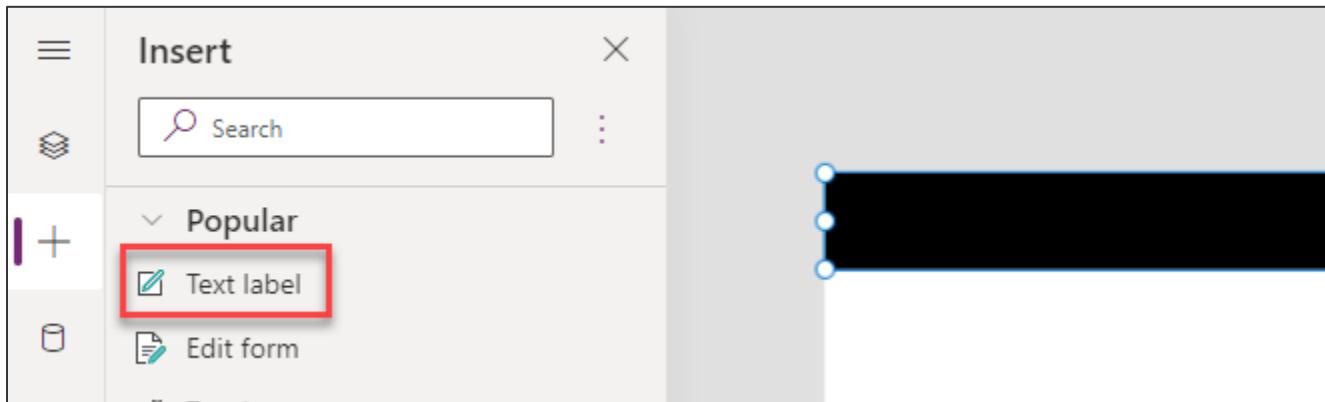


13. The header label should now look like the image below.



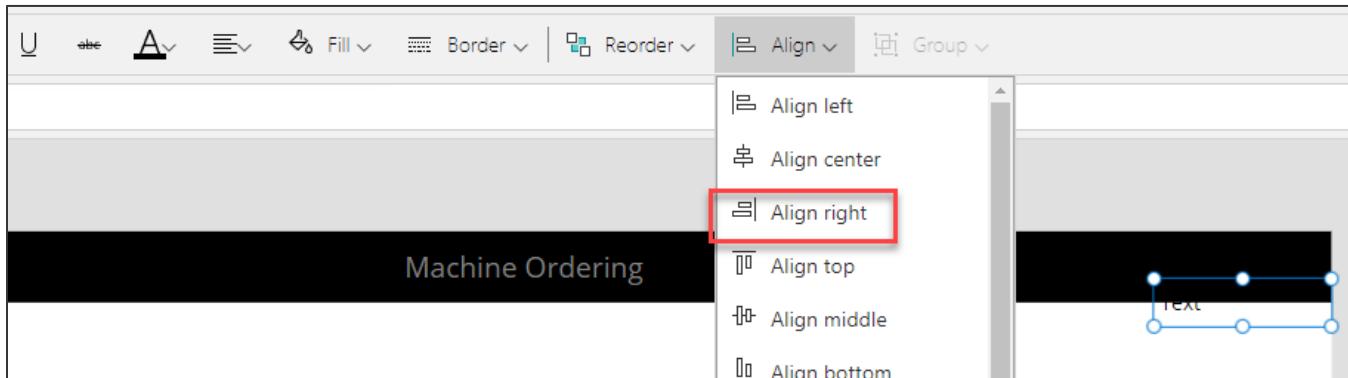
Tip: You can also use the formula bar above or the Advanced tab on the far right of the screen to enter specific values or formulas for any property on a control.

14. Select + **Insert** button and add another **Text Label** to the Main Screen. You will use this label to display the logged in user's name.



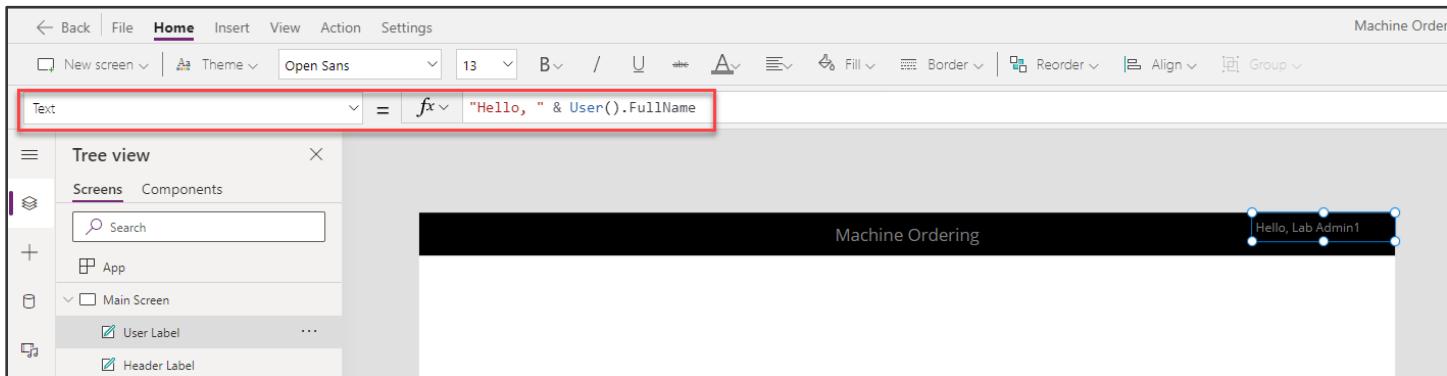
15. Rename the label to **User Label**.

16. Select the User Label, click **Align** and select **Align right**.



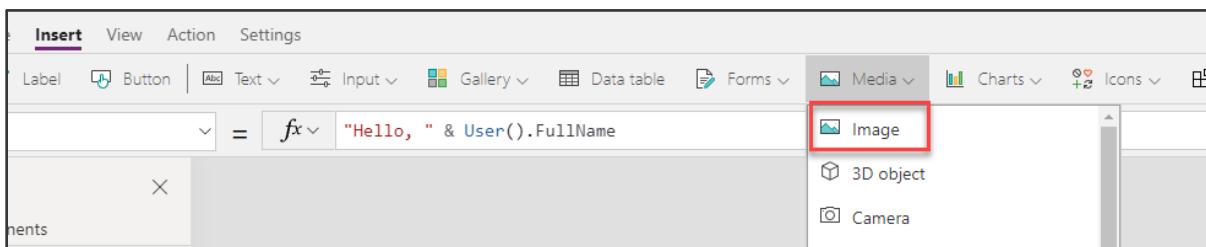
17. Set the **Y** value of the User Label to **0**.
18. Set the **Width** value of the User Label to **200**.
19. Set the **Color** value of the User Label to **Gray**.
20. Set the **Text** value of the User Label to the formula below.

```
"Hello, " & User().FullName
```

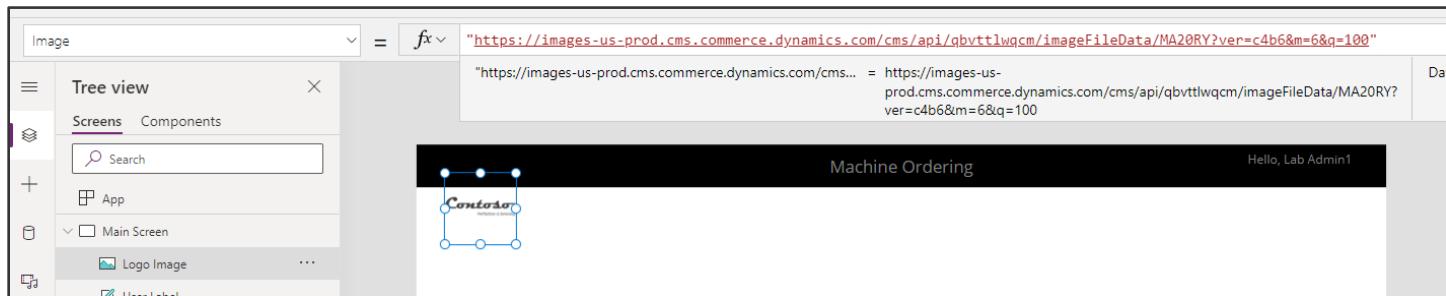


Note: All functions in Power Apps are case sensitive. As you start typing "User" you will see a drop-down of available choices. It is a good idea to pick from the autocomplete options. You will also notice help text at the top showing the required parameters, in this case, it requires no input parameters.

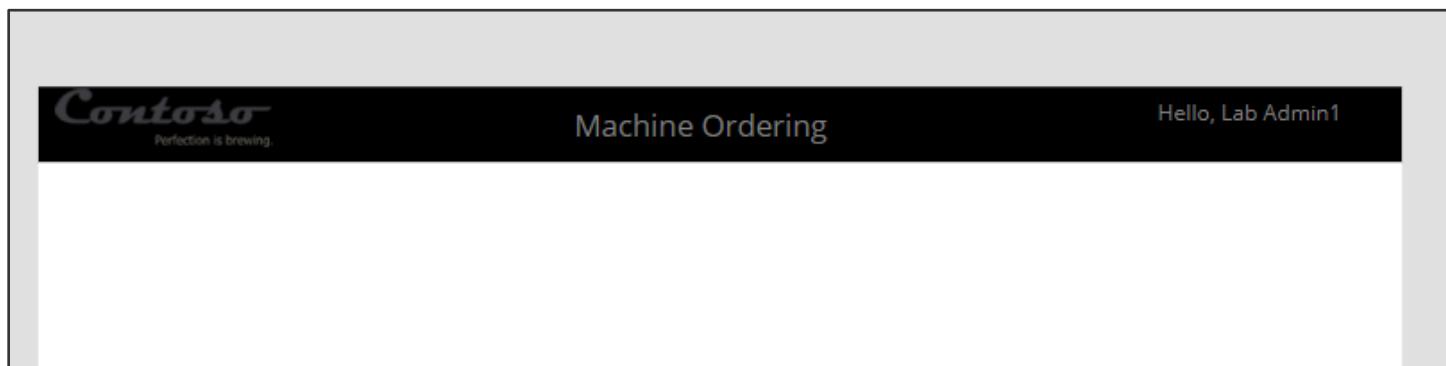
21. Select the **Insert** tab.
22. Click **Media** and select **Image**.



23. Rename the image **Logo Image**.
24. Set the **Image** value of the Logo Image to "<https://images-us-prod.cms.commerce.dynamics.com/cms/api/qbvttlwqcm/imageFileData/MA20RY?ver=c4b6&m=6&q=100>".



25. Set the **X** and **Y** values of the Logo Image to **0**.
26. Set the **Height** value of the Logo Image to **60**.
27. Set the **Width** value of the Logo Image to **200**.
28. The top part of the screen should now look like the image below.

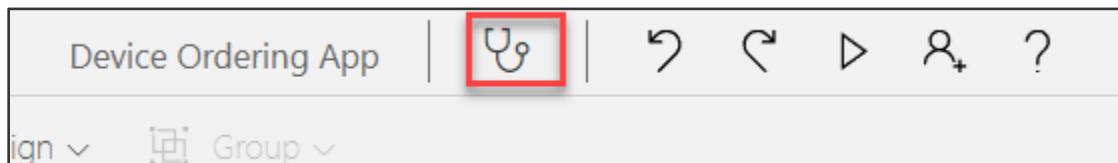


Note: The **User()** function in Power Apps allows you to retrieve the Email, Full Name, and Picture for the currently logged in user. App users will always be logged in with their business or school account (Azure Active Directory (AAD) credentials), so this information will always be available for any Power Apps app.

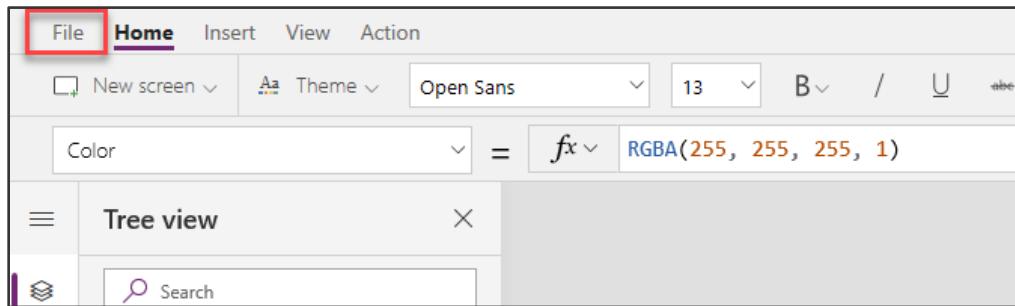
Task 6: Save the Application

In this task, you will save an initial version of the app. It is a good practice to keep saving app updates at regular intervals.

1. First, you will check if there are any errors. Click on the **App Checker** icon.



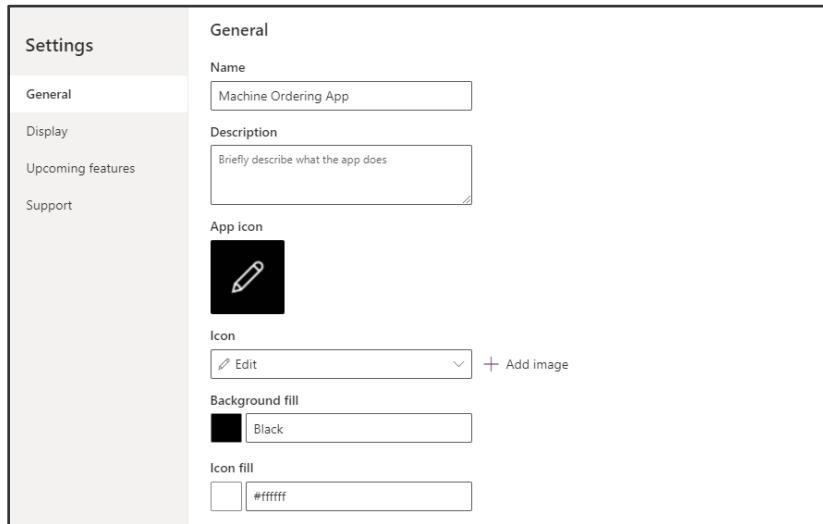
2. The **App Checker** pane will come to view. Errors will be displayed here if there are any.
3. Close the **App Checker** pane.
4. Click **File**.



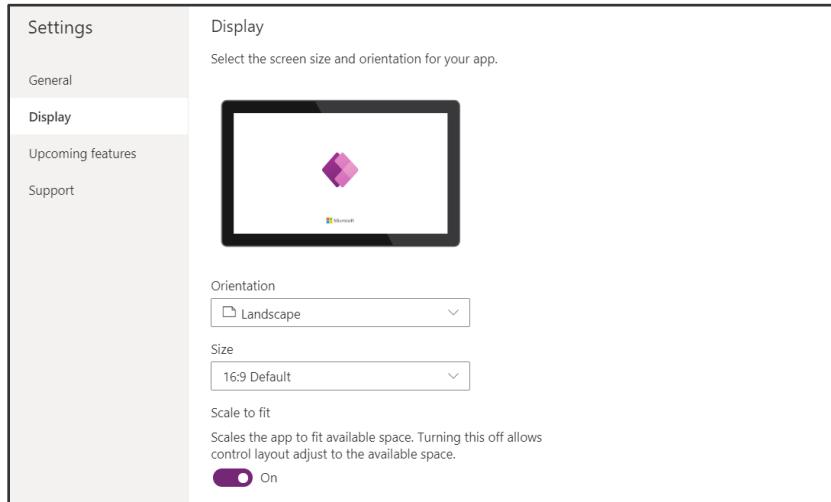
5. Select **Settings**.
6. Change the Background fill to **Black**.

In the application settings page, you can:

- Change your app name
- Customize the app icon – choose a background color and icon



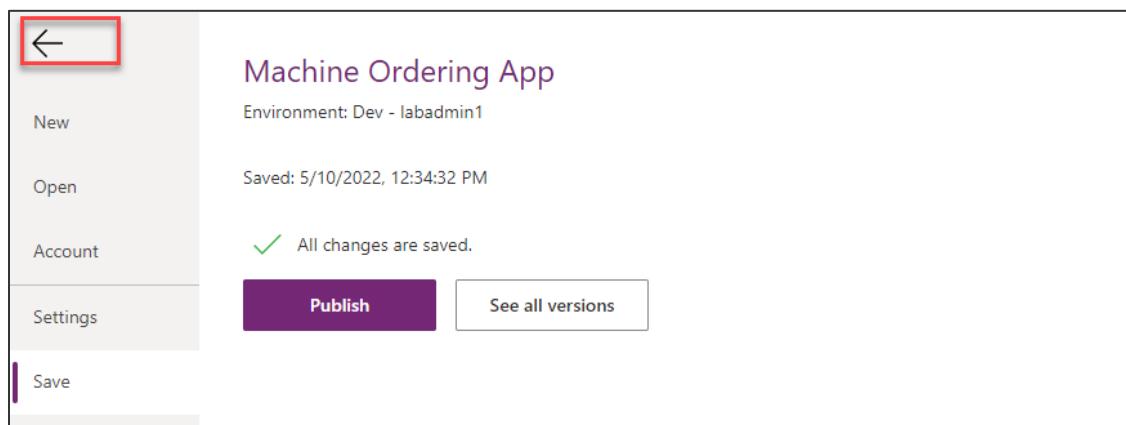
7. Select the **Display** tab to view the available screen orientation and aspect ratio settings. For this app, we will leave it at the default setting of Landscape with 16:9 aspect ratio.



8. Close the **Settings**.

9. Click **File** again and select **Save**.

10. After the app is saved, click the **Back** arrow in the top left to get back to the studio.



Tip: In Power Apps when you save a version of your app the first version is published by default and available to everyone you share the app with. Subsequent saves are only visible to the app maker in the studio. You must explicitly publish it for all app users to get the update. For more details on saving, publishing and sharing apps, see:

[Publish App](#)

[Share App](#)

[Save and Publish App](#)

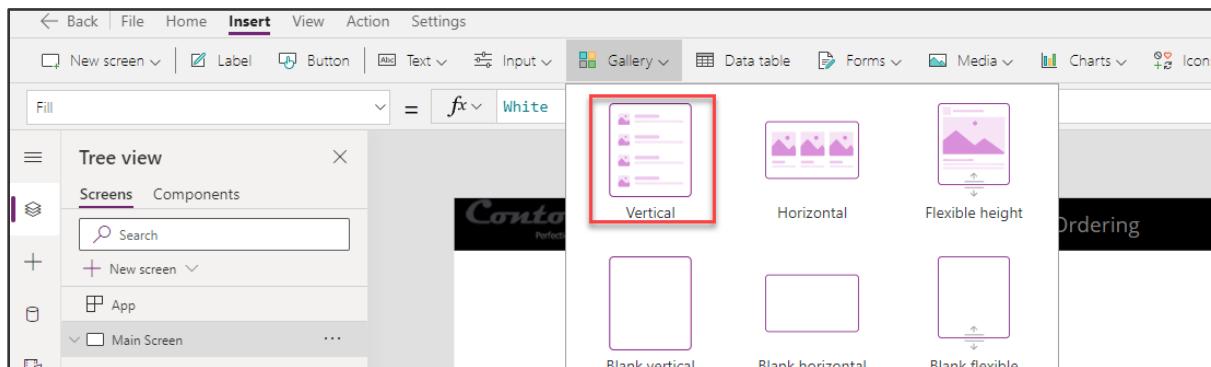
Exercise 2: Add Machine Gallery and Connect to Data Source

In this exercise, you will add a gallery of all available machines making it easy for users to browse the list and get a quick overview of the machines available.

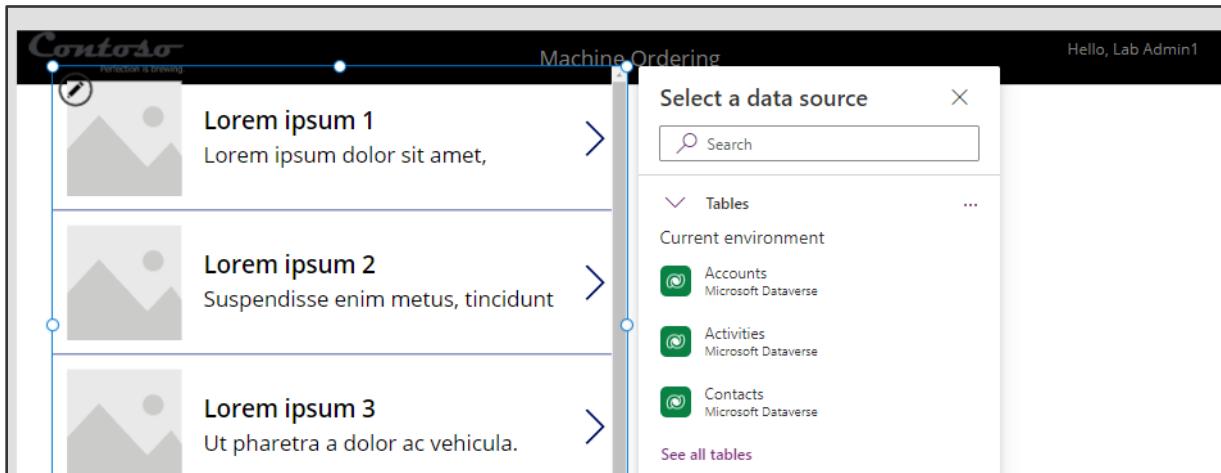
Task 1: Add machine type gallery

In this task, you will add a gallery that will list the machine types. This will be a single column vertical gallery down the left side of the screen, with each cell displaying an image of the machine type. This gallery will later be used as a filter for the Machine gallery you will create.

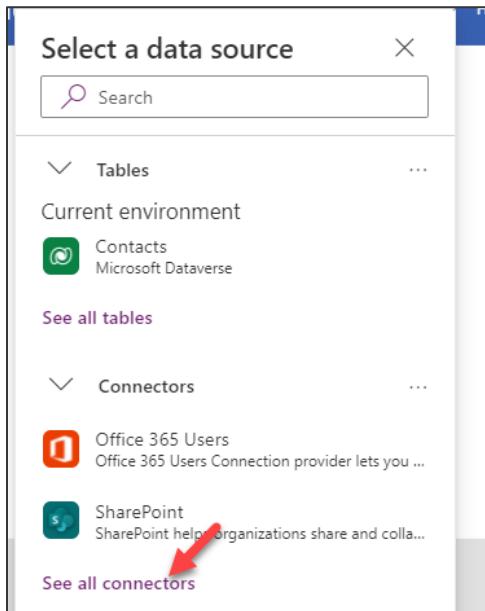
1. Select the **Main Screen**.
2. Select the **Insert** tab on the ribbon and open the **Gallery** drop-down, then select **Vertical**.



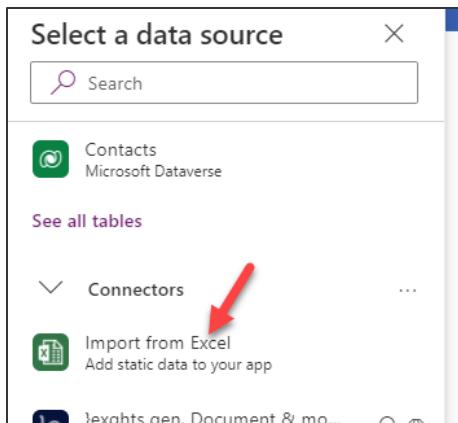
This will add a gallery called **Gallery1** onto the screen. Notice the control tree view on the left displays this gallery with three controls within it – two labels and an image. A data pane will pop up on the right.



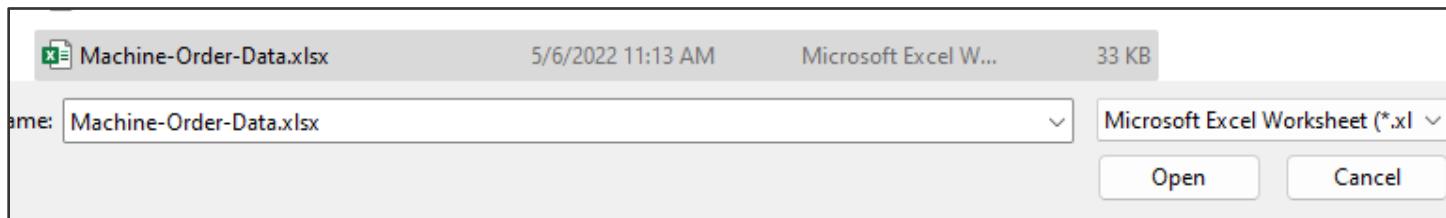
1. Expand **Connectors**, then click **Show all connectors**.



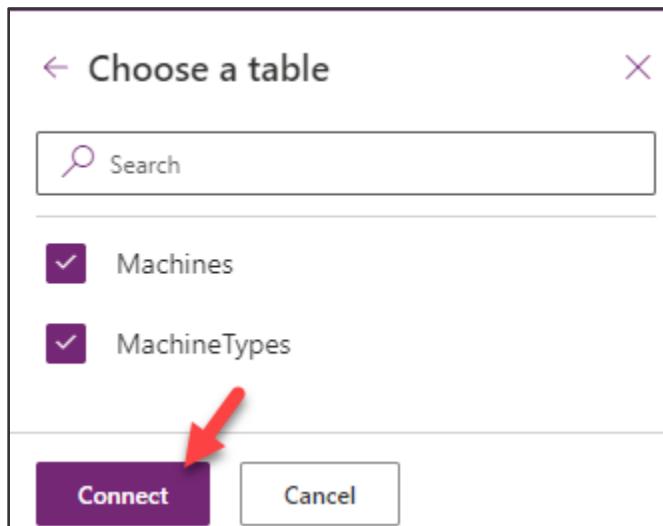
2. Select **Import from Excel**.



- In the File Open dialog, browse to the location where you unzipped the data file (for example C:\AIAD\PAHandsOnLabContent\ and select **Machine-Order-Data.xlsx** to load it.

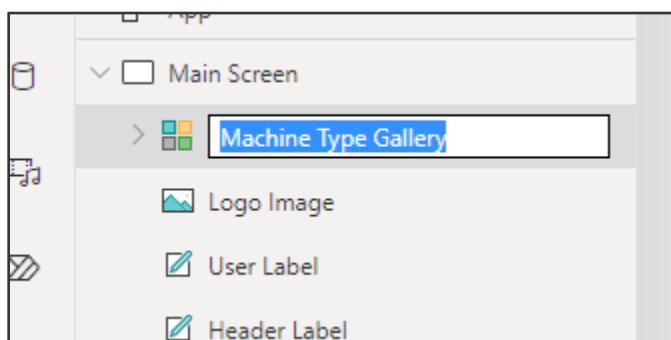


- Select both tables, **Machines** and **MachineTypes**, and click the **Connect** button. This will add both these tables as static data into the application.



Note: In this lab, you will work with tables imported from a static data file and embedded as resources in the app. If you were building a real solution, the same tables would likely be stored in the cloud, such as in a SharePoint list, a SQL table, or a Microsoft Dataverse table.

- Rename the gallery **Machine Type Gallery**.



Tips on working with galleries:

Galleries provide a powerful way to visualize tabular data in Power Apps. It is important to become familiar with customizing a gallery. Key components of a gallery: the gallery control, the template cell (first cell), and controls within the template cell.

To select the **entire gallery** – click on the gallery in the tree view on the left or click on the second or third cell. Clicking any cell that is not the first cell of the gallery will select the entire gallery. Now you can specify properties that apply to the entire gallery, such as the Items property which is the data source, the gallery fill color, borders, etc.

To customize how each item is displayed in the gallery, you will customize the template cell. Select the template by clicking in the first cell of the gallery or click on the pencil icon  in the top left corner when the entire gallery is selected.

You can now add, remove and customize the controls within the template cell. These changes will then repeat across each item or row in the table.

Go ahead and select the machine image in the template cell and **change its size**. Notice how the size of the image changes in all the cells.

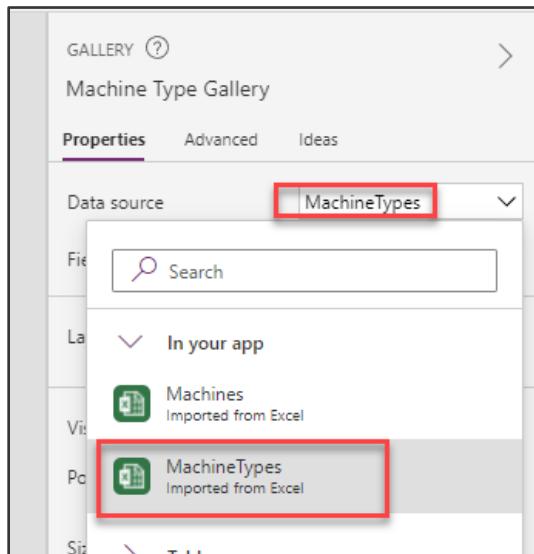
You can also test your gallery right on the canvas by holding down the Alt key to activate.

You will customize the machine gallery in subsequent steps.

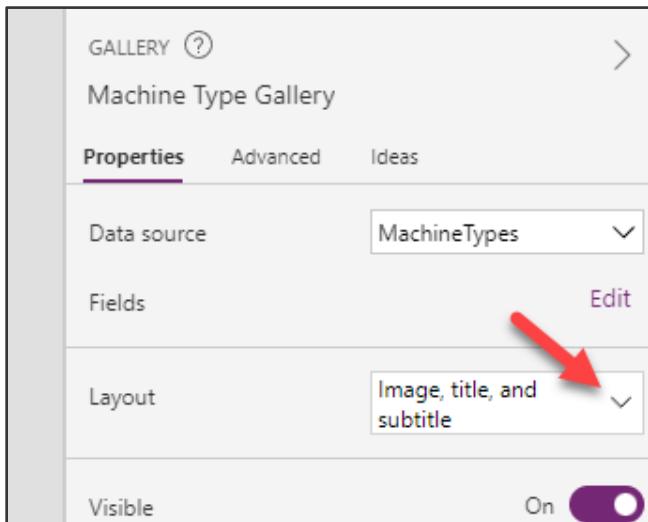
Don't worry about making the gallery pixel perfect, the purpose of this exercise is to get your app working with a good enough UX. You can always repeat these labs to practice your pixel perfect skills.

When working with control positioning X refers to horizontal positioning and Y refers to vertical positioning.

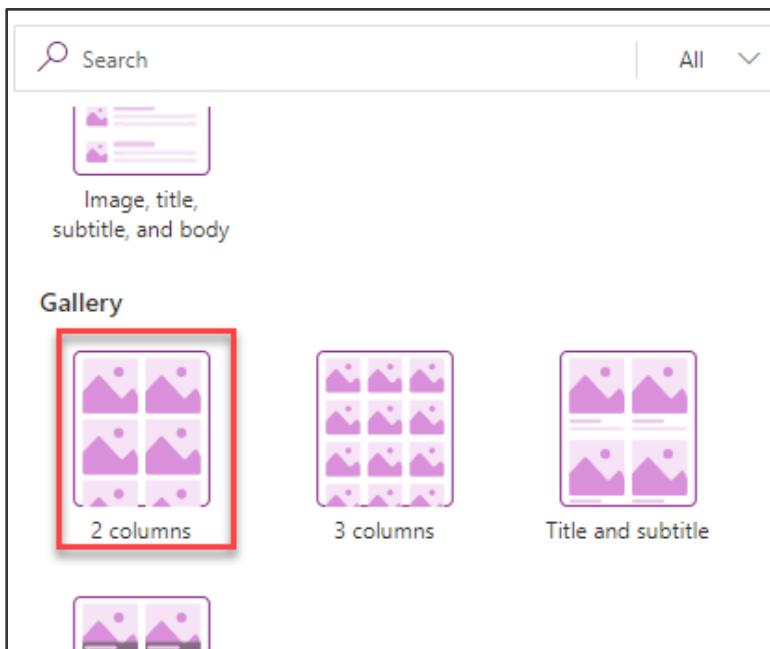
6. Select the **Machine Type Gallery**, go to the Properties pane and select **MachineTypes** as Data source.



7. Set the **X** value of the Machine Type Gallery to **0**.
8. Set the **Y** value of the Machine Type Gallery to **60**.
9. Set the **Height** value of the Machine Type **710**.
10. Set the **Width** value of the Machine Type **200**.
11. Select **Machine Type Gallery**, in the **Properties** tab on the right, click **Layout**.



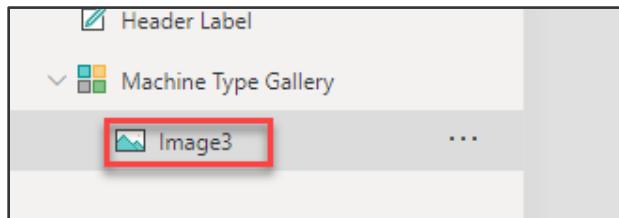
12. Scroll down to the **Gallery** section and select **2 Columns**.



13. Change the **Wrap Count** from **2** to **1**. This will change it to a single column gallery.



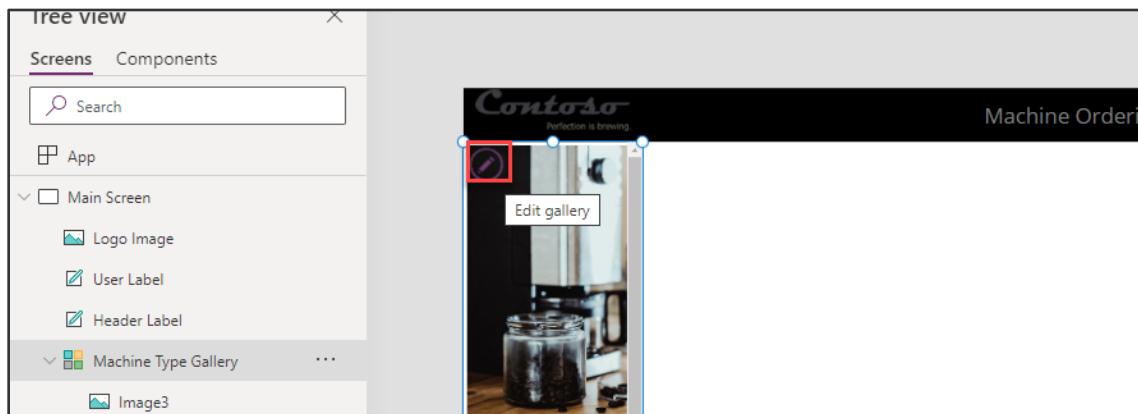
14. Select the **image control** within the gallery.



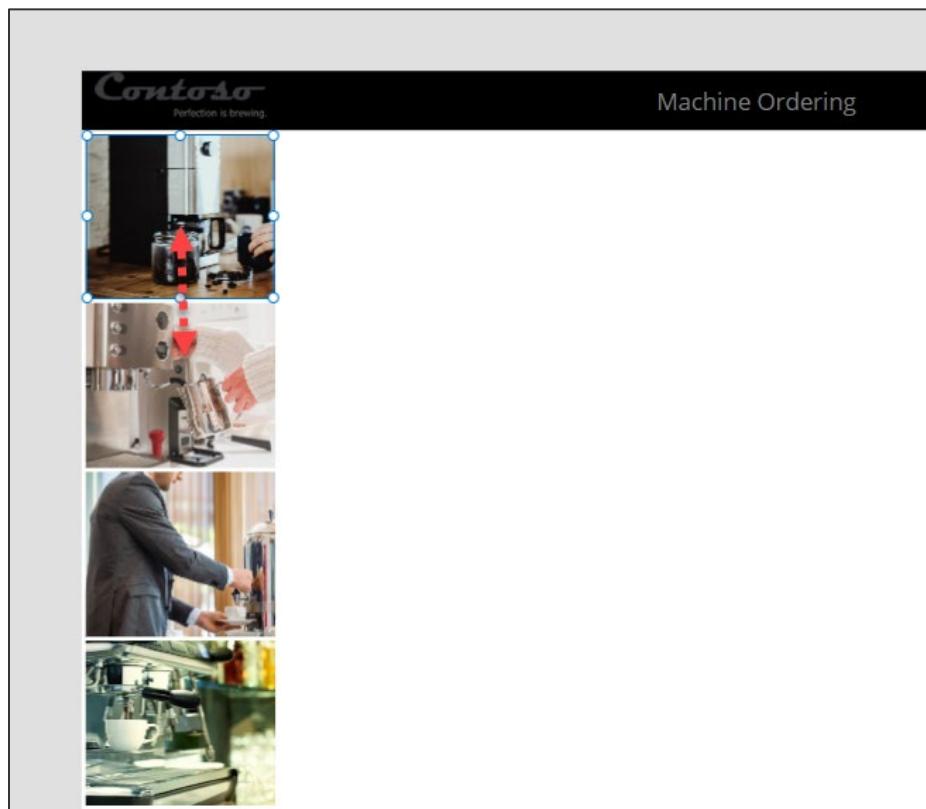
15. Set the Image value to the formula below. This formula will set the image value to the photo URL.

```
ThisItem.Photo
```

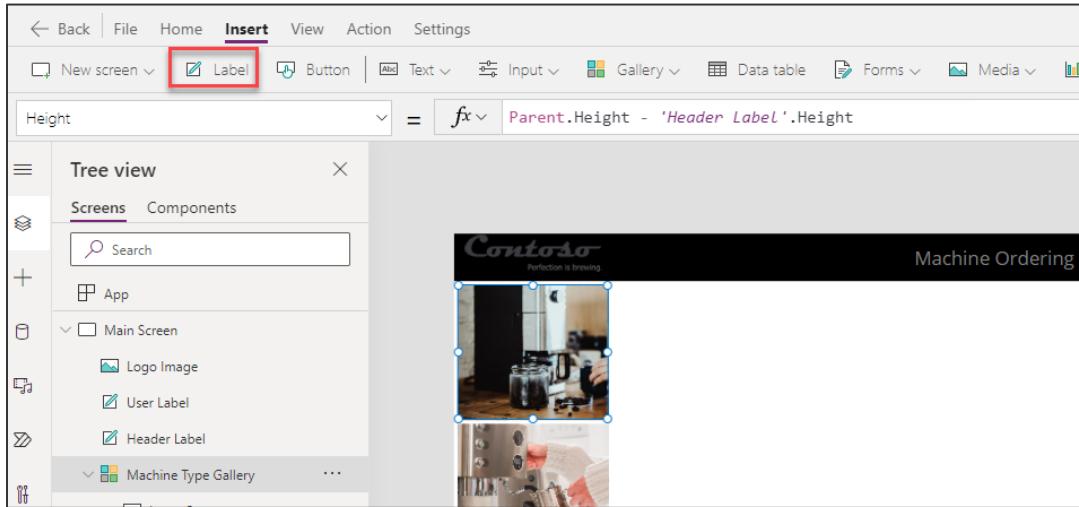
16. Select the **Machine Type Gallery** and then click on the edit button. This action will put the gallery in edit mode.



17. Reduce the height of the template cell only the four images occupy the gallery without scrolling. We want the image to occupy the entire cell.

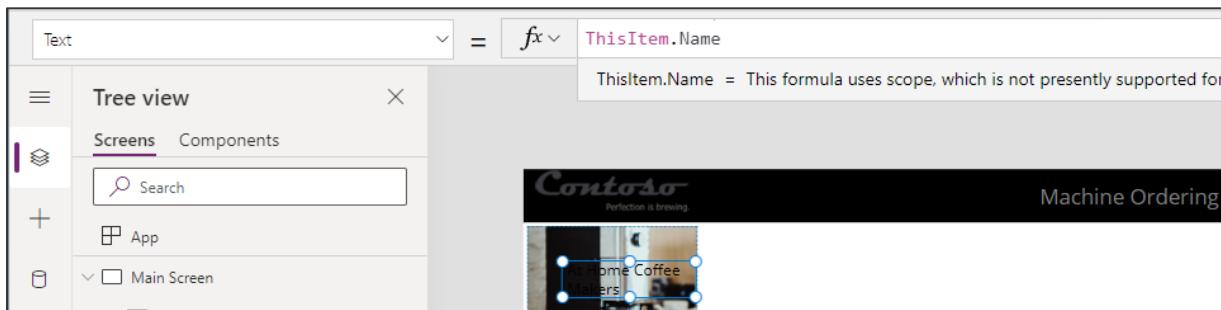


18. Make sure the gallery is in edit mode. Go to the **Insert** tab and select **Label**.



19. Set the **Text** value of the label to the formula below.

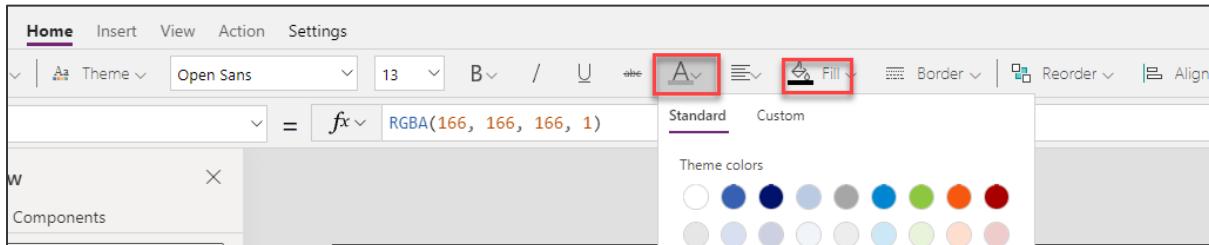
`ThisItem.Name`



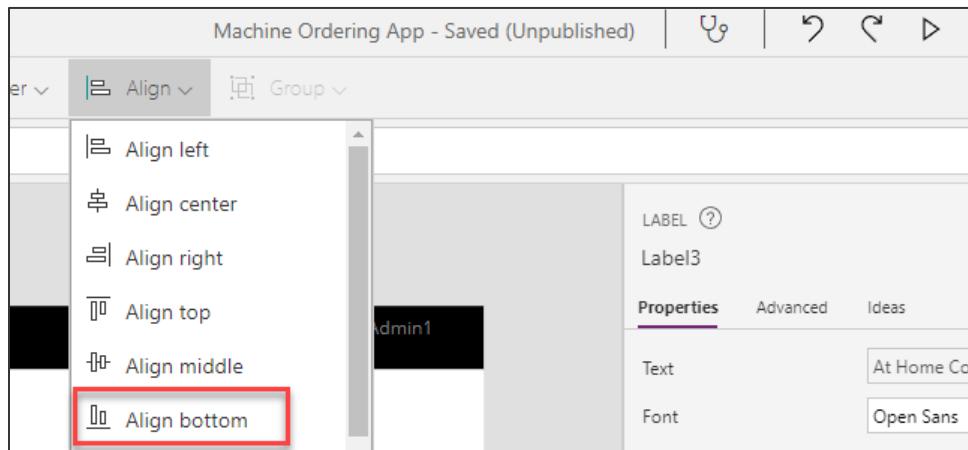
20. Set the **Width** value of the label to **190**.

21. Set the **X** value of the label to **0**.

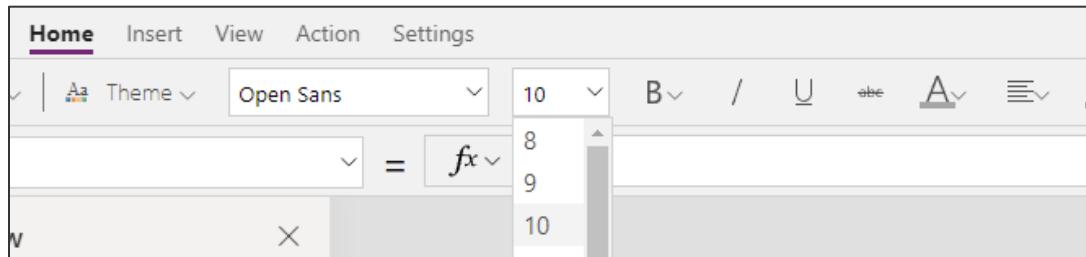
22. Make sure you still have the label selected. Go to the **Home** tab, change the **Color** to **Gray** and **Fill** to **Black**.



23. Click **Align** and select **Align bottom**.



24. Change the Size to **10**.



25. The main screen should now look like the image below.



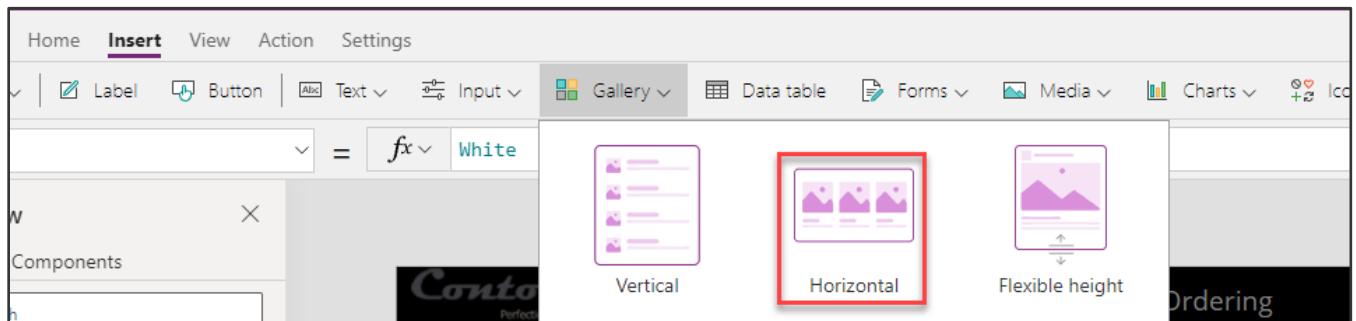
26. Click **File** and **Save** the application.

27. Click on the **Back** arrow.

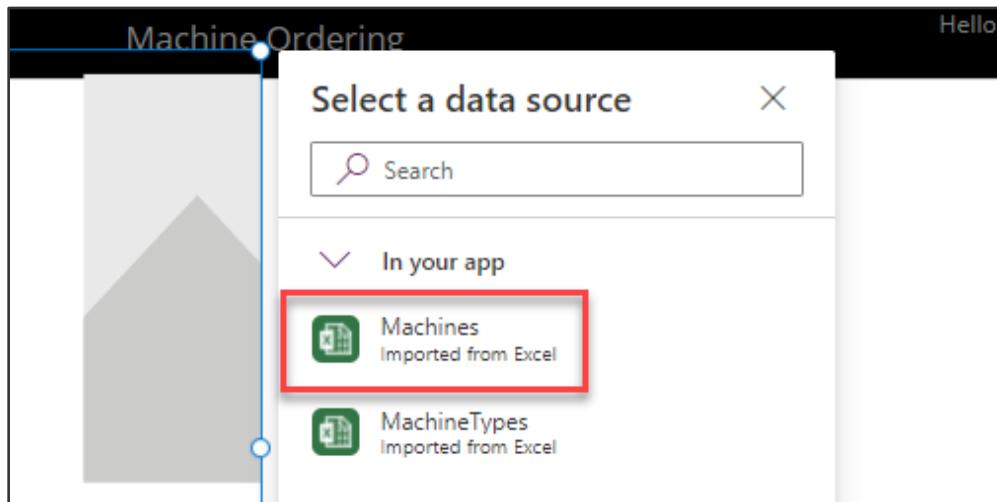
Task 2: Add machine gallery

1. With Main Screen selected, select the **Insert** tab.

2. Click **Gallery** and select **Horizontal**.



3. Select **Machines** as Data source.

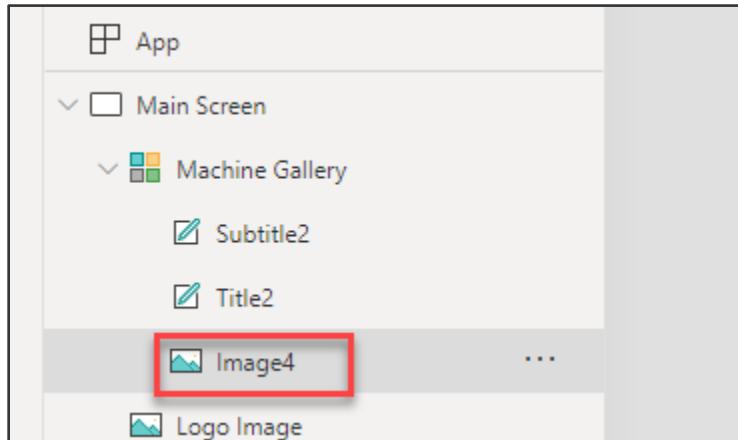


4. Rename the gallery **Machine Gallery**.



Task 3: Arrange the machine gallery

1. Expand the **Machine Gallery** and select the **Image**.



2. Set the **Image** value if the image to the formula below.

`ThisItem.Photo`

3. Expand the **Machine Gallery** and select the **Title**.

4. Set the **Text** value if the title to the formula below.

`ThisItem.'Machine Name'`

5. Expand the **Machine Gallery** and select the **Subtitle**.

6. Set the **Text** value if the subtitle to the formula below.

`ThisItem.Price`

7. Select the **Machine Gallery**.

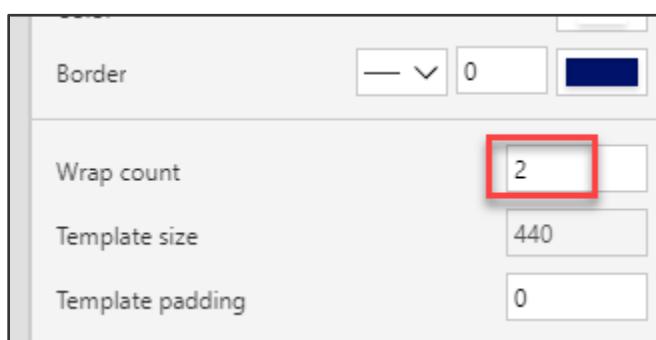
8. Set the **X** value of the Machine Gallery to **200**.

9. Set the **Y** value of the Machine Gallery to **60**.

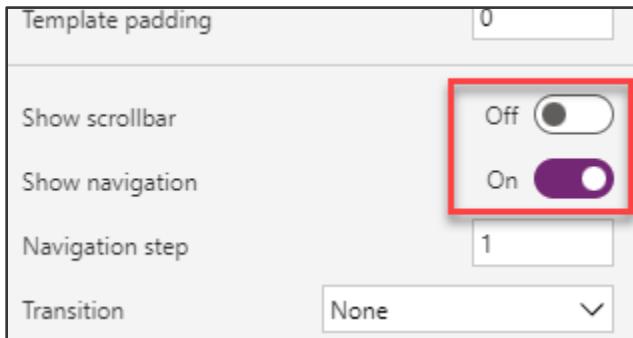
10. Set the **Height** value of **650**.

11. Set the **Width** value of the Machine Gallery to **1165**.

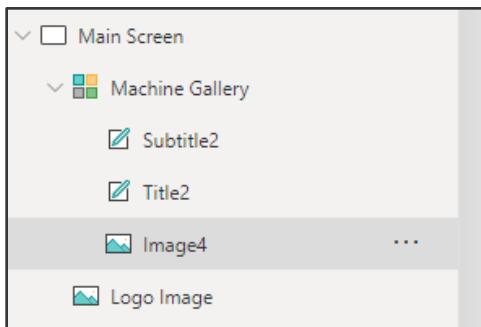
12. Select the **Machine Gallery**, go to the properties pane and set the Wrap count to **2**.



13. Set Show scroll to **Off** and Show navigation to **On**.



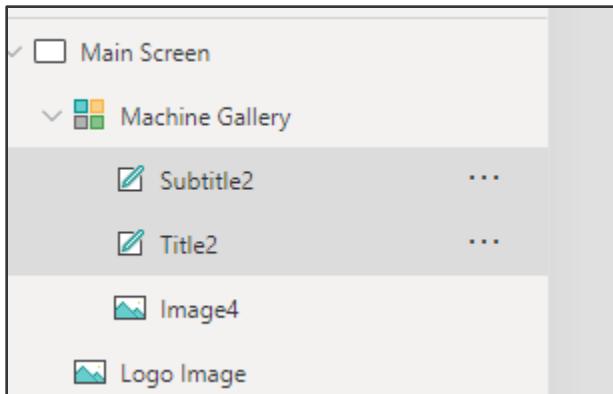
14. Select the image inside the Machine Gallery.



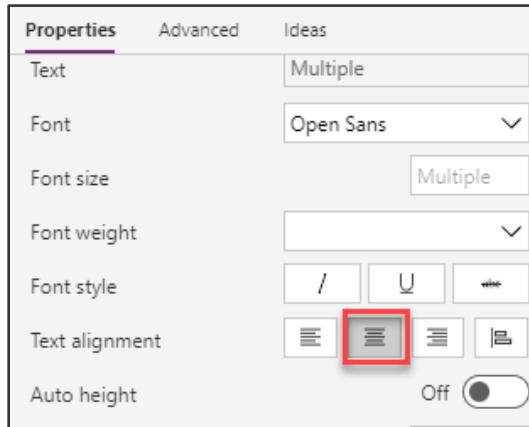
15. Set the **Width** value of the image to **200**.

16. Set the **Height** value of the image to **170**.

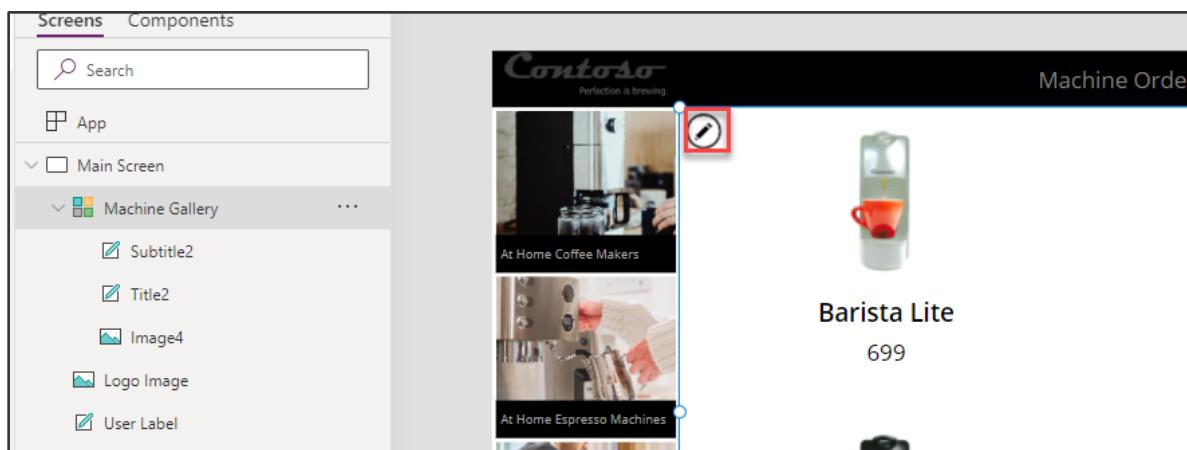
17. Select the **Title** and **Subtitle** inside the gallery. Hold the [CONTROL] key to select multiple controls.



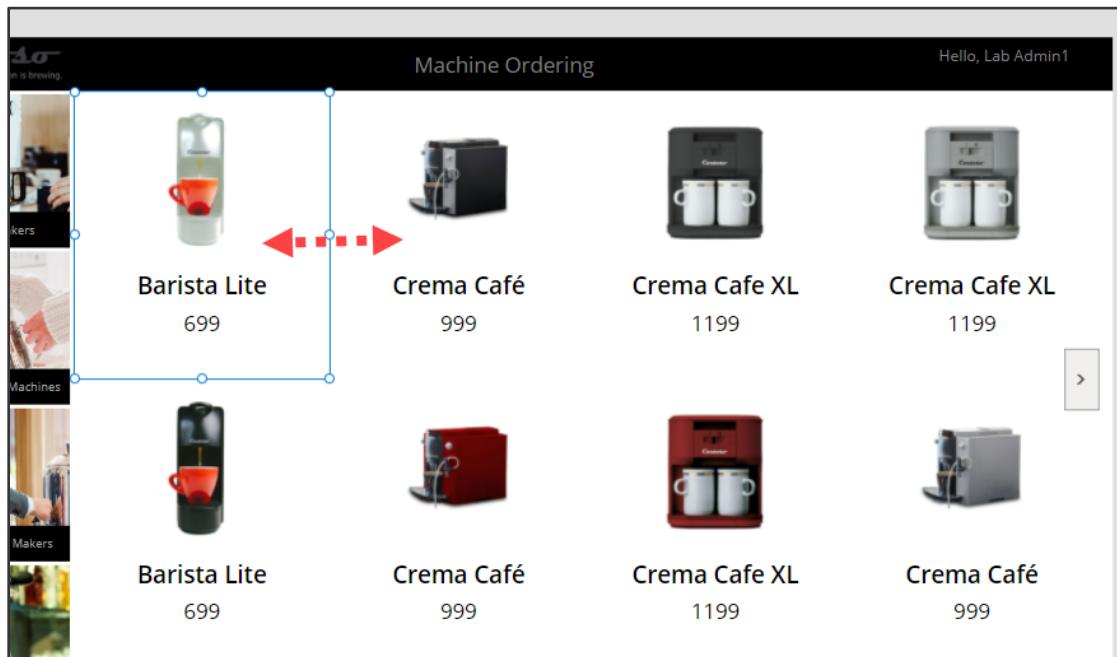
18. Go to the properties and select **Center** for Text alignment.



19. Select the **Machine Gallery** and click on the **Edit** gallery button.



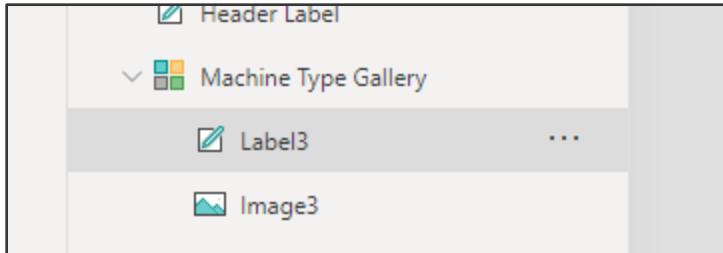
20. Make the template narrower until you can see total of **8** machines.



Task 4: Highlight the selected item in the gallery

In this task, you will use the **TemplateFill** property of the Machine Type Gallery to specify a highlight color for the selected item. You can decide how you want to indicate the selected item. We will change the label fill for this gallery.

1. Expand the **Machine Type Gallery** and select the Label.



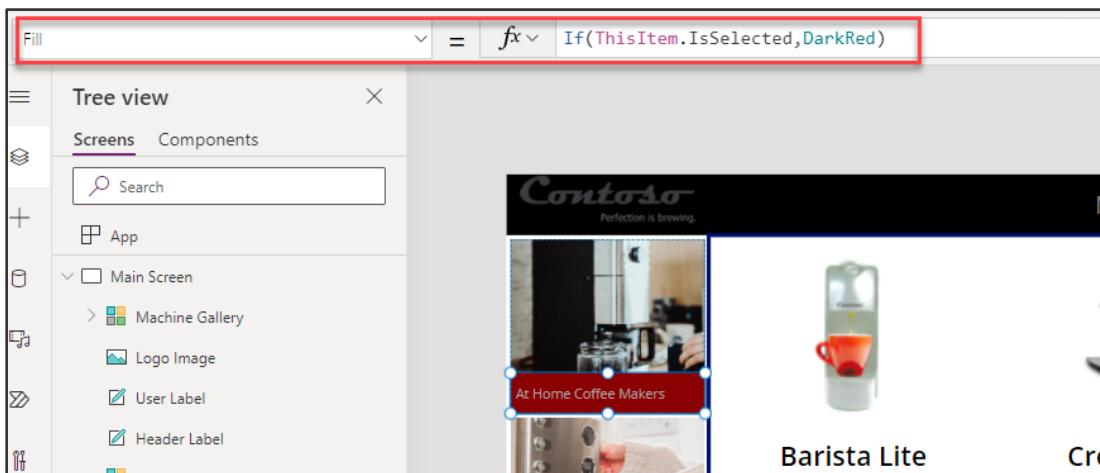
2. Change the **Fill** value of the label to the formula below. This formula will set the label fill to dark red for the selected item.

```
If(ThisItem.IsSelected,DarkRed)
```

Alternately, you could set the Fill property to:

```
If(ThisItem.IsSelected,ColorFade ('Header Label'.Fill,75%))
```

This approach is recommended so the fill color matches the header label with a 75% fade. If you change the fill color of header label, the fill color of the selected item in the gallery will automatically change.



3. Now try using the preview mode to perform a quick test of this highlighting. You can enable preview mode by holding down the Alt key (also known as the Option key) and clicking a few different manufacturers in the gallery, notice the selected item in the manufacturer gallery is highlighted in a light blue color. The preview mode ends when you stop holding the key.

Alternatively, you could click the Play (▶) button to enter preview mode, and to exit this you would hit the X in the upper right corner or use the Esc key.

Task 5: Filter the machine gallery based on selected machine type

In this task, you will use the **Filter()** function to filter the items in the **Machine Gallery** to only display machines that match the selected item in the **Machine Type Gallery**.

1. Select the **Machine Gallery**.
2. Set the Items value to the formula below.

`Filter(Machines, 'Machine Type ID' = 'Machine Type Gallery'.Selected.'Type ID')`



for alternate/European locales:

`Filter(Machines; 'Machine Type ID' = 'Machine Type Gallery'.Selected.'Type ID')`

The screenshot shows the Power Apps canvas editor interface. The formula bar at the top has 'Items' selected and a formula 'Filter(Machines, 'Machine Type ID' = 'Machine Type Gallery'.Selected.'Type ID')' entered. To the right of the formula, it says 'Data type: Table'. Below the formula bar is a 'Tree view' pane on the left containing 'Screens' and 'Components' sections, with 'Main Screen' expanded to show 'Machine Gallery'. On the right is the main canvas area titled 'Machine Ordering' which displays a gallery of coffee makers. A red box highlights the formula in the formula bar.

3. The Machine Gallery should now show machines that match the selected item of the machine types.

The screenshot shows the 'Machine Ordering' app preview. The screen has a header with the Contoso logo and 'Hello, Lab Admin1'. On the left, there's a sidebar with categories: 'At Home Coffee Makers' (selected), 'At Home Espresso Machines', 'Commercial Coffee Makers', and 'Other'. The main area displays a grid of coffee makers. The first row shows four items: 'Smart Brew 300' (499), 'Smart Brew 300' (499), 'Smart Brew 300' (499), and 'Travel Brew 100' (349). The second row shows four more items: 'Smart Brew 300' (499), 'Smart Brew 300' (499), 'Travel Brew 100' (349), and 'Travel Brew 100' (349). Each item has a small image, the name, and the price.

4. Click on the Preview the app button.



5. The app should load.
6. Select an item from the machine type gallery.
7. The machine gallery should show machines that match the selected machine type.

Model	Price
Barista Lite	699
Crema Café	999
Crema Cafe XL	1199
Crema Cafe XL	1199
Barista Lite	699
Crema Café	999
Crema Cafe XL	1199
Crema Café	999

8. Close the preview.

Note: If you get an error when entering the `Filter` command, check the name of the machine type gallery. The name in the filter command must match the name of your gallery.

More details on the `Filter()` function is available at [Filter Lookup](#).

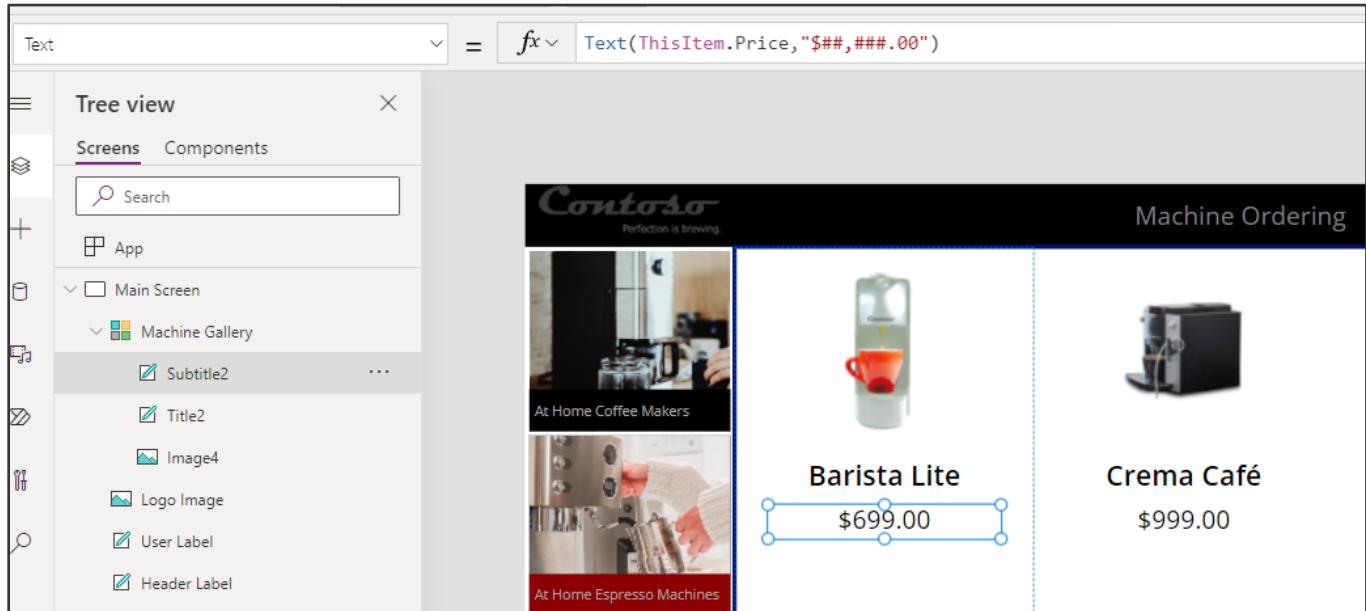
A complete set of expressions is available at [Formula Reference](#).

Task 6: Configure text labels in the machine gallery

1. Expand the **Machine Gallery** and select the **Subtitle**.
2. To add the \$ to the Subtitle, use the Text format expression.

`Text(ThisItem.Price, "$##,###.00")`
 Or for alternate/European locales: `Text(ThisItem.Price; "###.###,00")`

Note: After you enter the above value in the formula bar, it will automatically resolve to include your locale, e.g. [\$-en-US]. If you see an error here, it might be because your locale is not yet supported, in which case as a workaround, manually change it to [\$-en-US]:

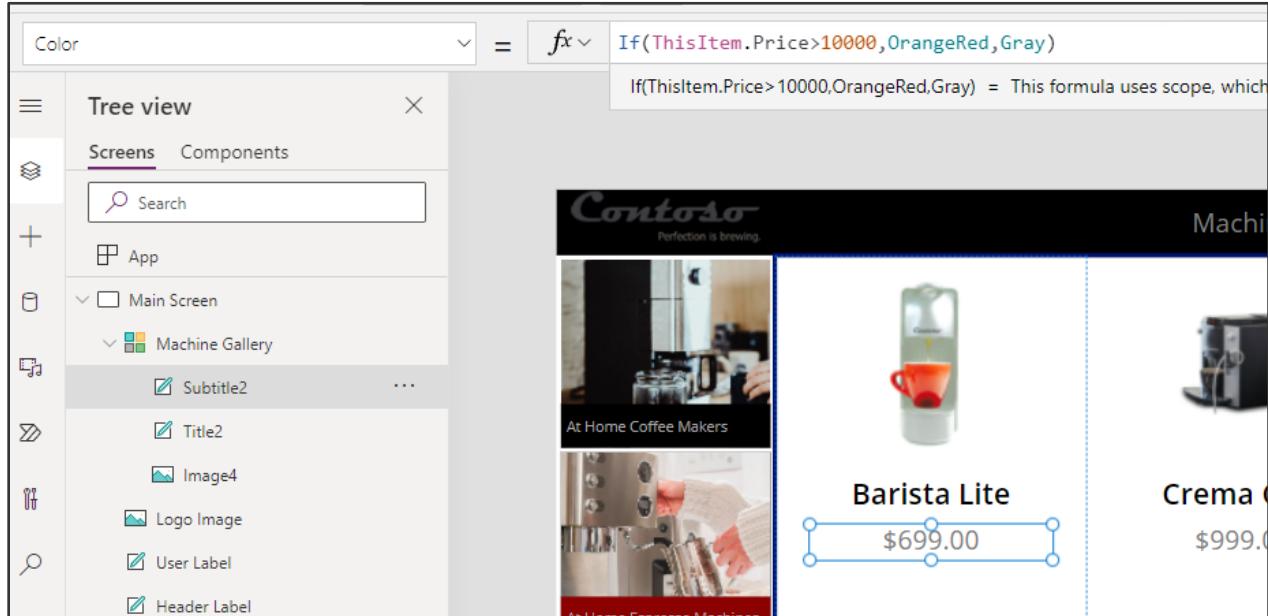


Task 7: Conditional formatting to highlight machine above \$10,000

We can make it easy to spot machines that cost more than \$10,000, by displaying the price in Red.

1. Select the label in the template cell that displays the price and set the **Color** to
`If(ThisItem.Price>10000,OrangeRed,Gray)`

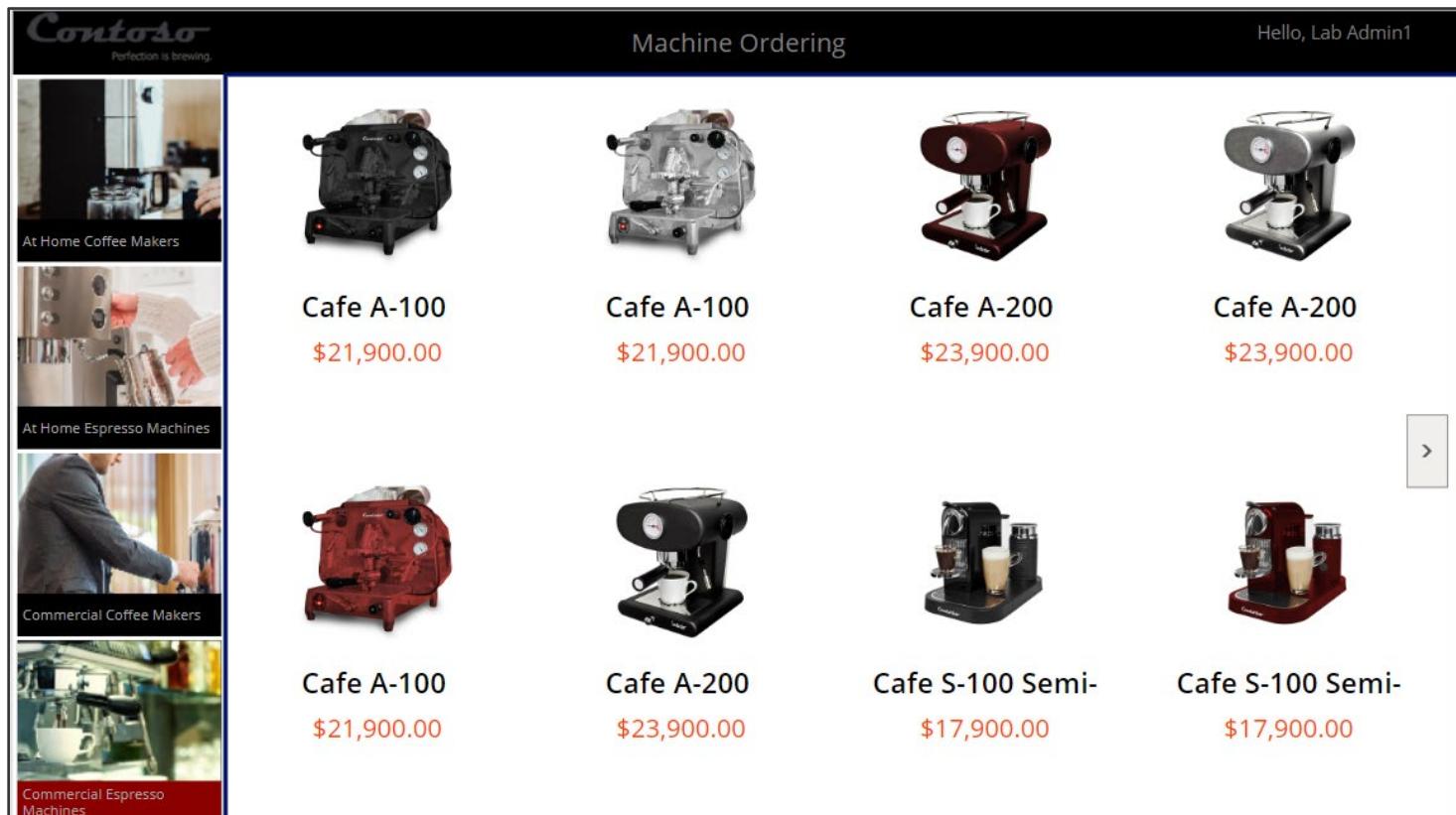
or for alternate/European locales: `If(ThisItem.Price>10000;OrangeRed;Gray)`



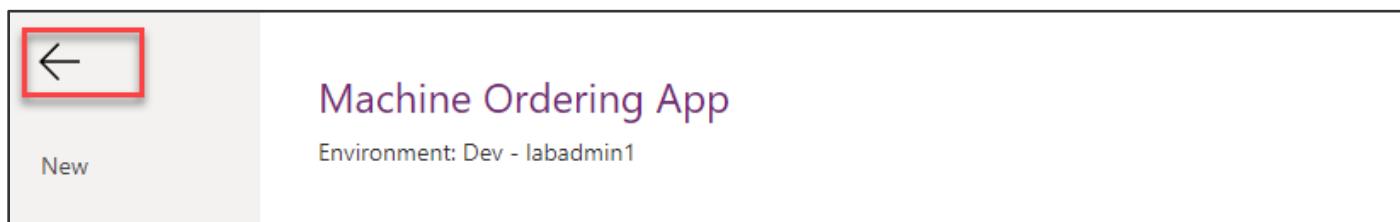
Note: As you are typing this formula notice that the autosuggest shows a choice of matching colors. Power Apps comes with a set of standard colors that you can easily reference in any property that accepts a color value. You can also set specific RGB values.

For a full list of Color functions and colors, see [Function Colors](#)

1. Click **Preview the app**.
2. Select Commercial Espresso Machines from the machine type gallery. The price for machine that are over 10,000 should become red.



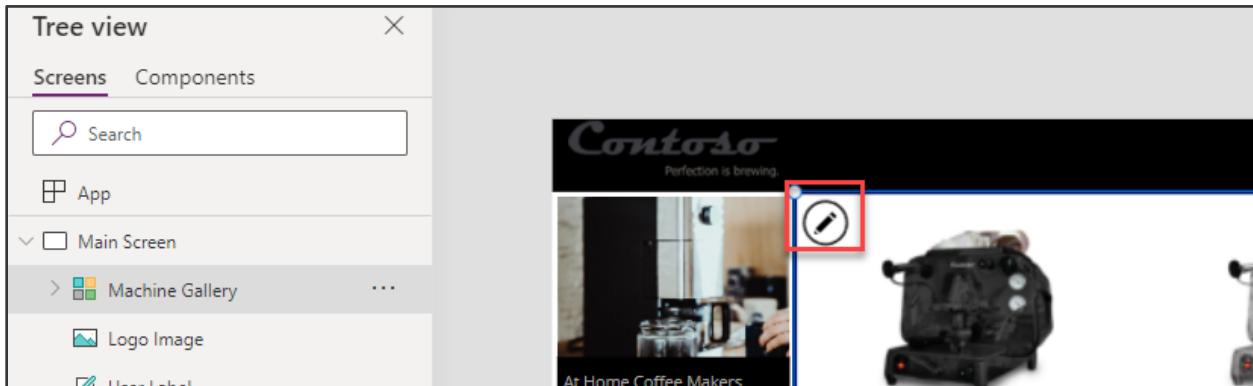
3. Close the preview.
4. Click **File** and select **Save**.
5. Click the back arrow.



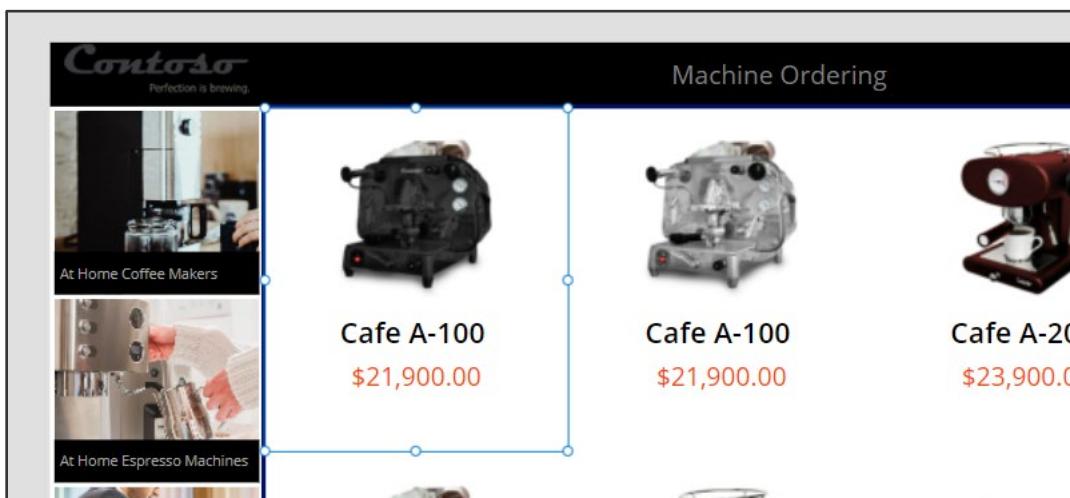
Task 8: Add a checkbox to add a machine to the Compare list

We want to allow users to select multiple machines to compare before making a final selection on the next screen.

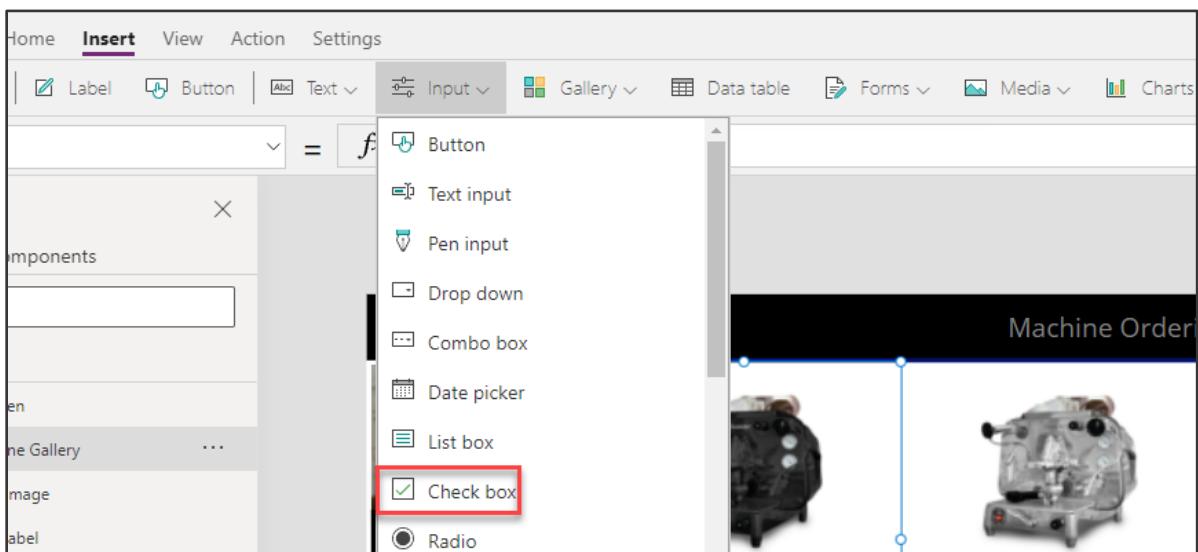
1. Select the **Machine Gallery**, click the Pencil edit icon in the top left of the gallery to select the template cell.



2. Make sure that only the first item in the gallery is selected (not the entire gallery).



3. Add a checkbox by clicking **Insert -> Input -> Checkbox**.



4. Move the inserted checkbox below the price.



5. Change the checkbox text to “**Compare**”. You can do this by setting the **Text** property.

Task 9: Create a collection for the selected machines

When a user selects a machine to compare, we will add it to a collection called **CompareList**. You can think of this as an in-memory collection of machines that have been selected for comparison.

1. Select the **Checkbox** control and click on the **Action** tab in the ribbon, click **OnCheck** and set the value to the formula below.

```
Collect(CompareList,ThisItem)
```

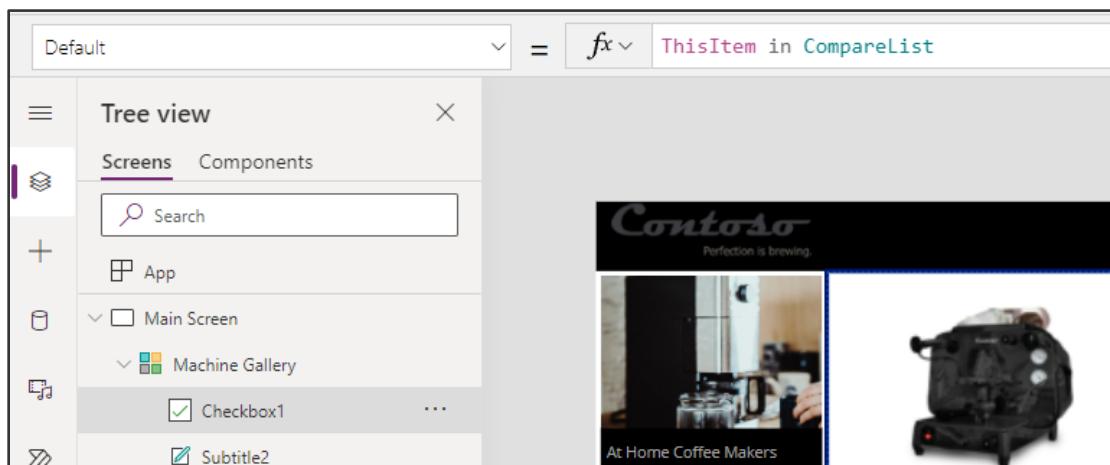
2. Set the **OnUncheck** value to the formula below.

```
Remove(CompareList, ThisItem)
```

This is required to make sure the unchecked items are removed from the collection.

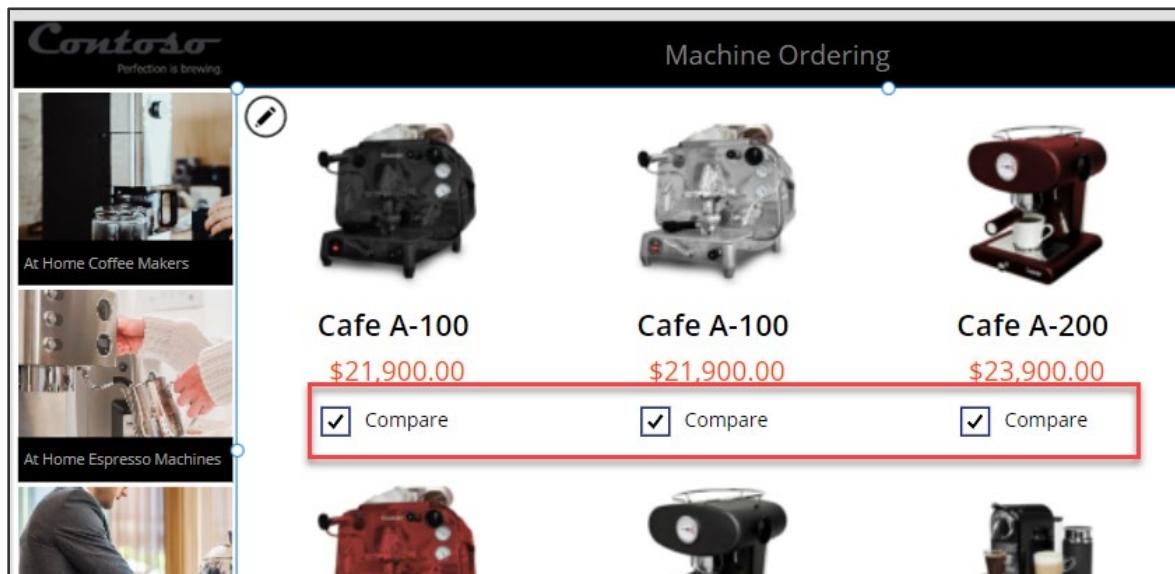


3. Set the **Default** property of the checkbox to the formula: `ThisItem in CompareList`



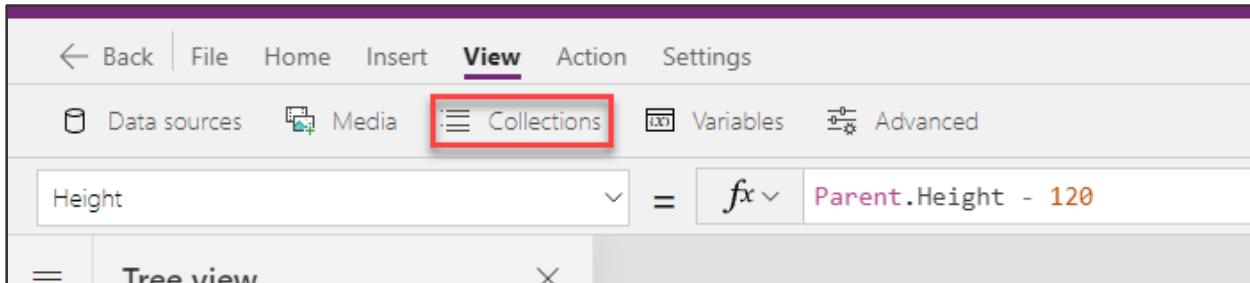
The **Default** setting of the checkbox is a Boolean true or false value that determines if the checkbox should be checked or not by default. Setting it to this formula will ensure that the checkbox is checked by default if the item has already been added to the collection since the result will be true, i.e. this item *is* in CompareList.

4. Let's test out adding items to a collection by running the app in Preview (F5) or by clicking the Preview button on the top right. Click on the checkboxes of three machines.



5. Close the preview.

6. Click the **View** tab and select **Collections**.



7. You will see the **CompareList** collection and the three items you selected.

(Do Not Modify)	(Do Not Modify) Modified On	Avg. Cups/Week	Avg. Espressos/Week	Color
fa9c3091-96c0-4000-d3a142f6e	5/5/2022 12:01 PM	1-50	100-200	Black
fc9c3091-96c0-4000-d3a142f6e	5/5/2022 12:01 PM	1-50	100-200	Silver
fe9c3091-96c0-4000-d3a142f6e	5/5/2022 12:02 PM	1-50	100-200	Red

Note that each item in the collection has all the information for each machine that we get from the **Machines** data source, not just the fields we display in the Machine Gallery.

8. Click the back arrow on the top left to get back to the main view.
9. Click **Preview** again.
10. Uncheck all the checked items and click on close the preview.

11. Click the **View** tab and select **Collections**.
12. All items will be removed from the **CompareList** collection.
13. Click on then back arrow.

For more information on working with Collections in Power Apps, see:

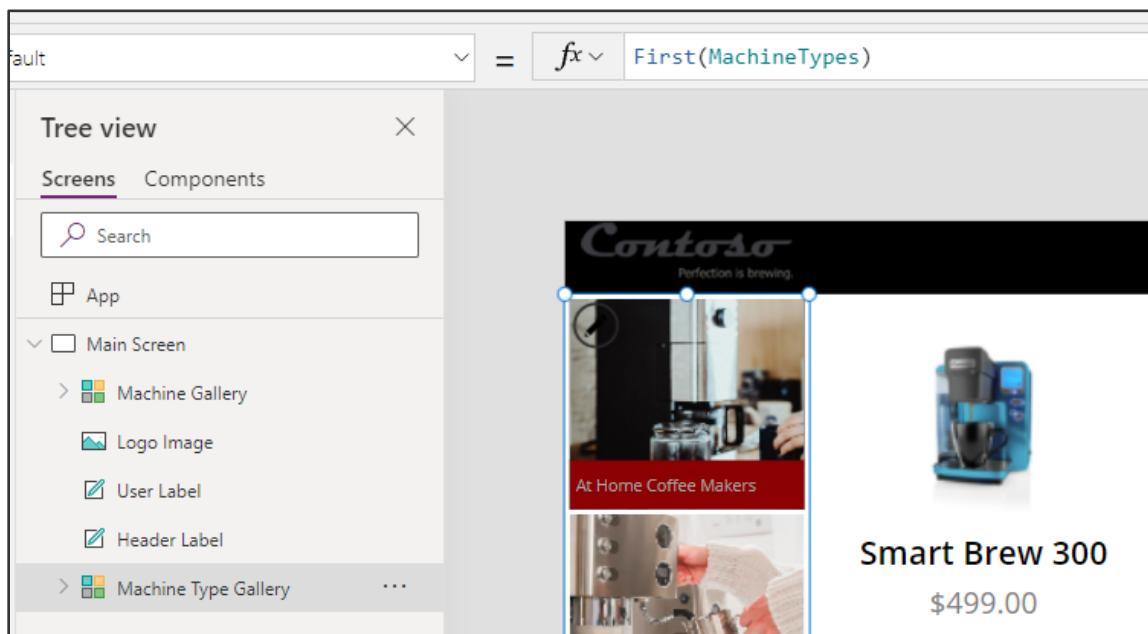
[Create Update Collections](#) and

[Clear Collections](#)

Task 10: Set the default selection to the first machine type and test the app

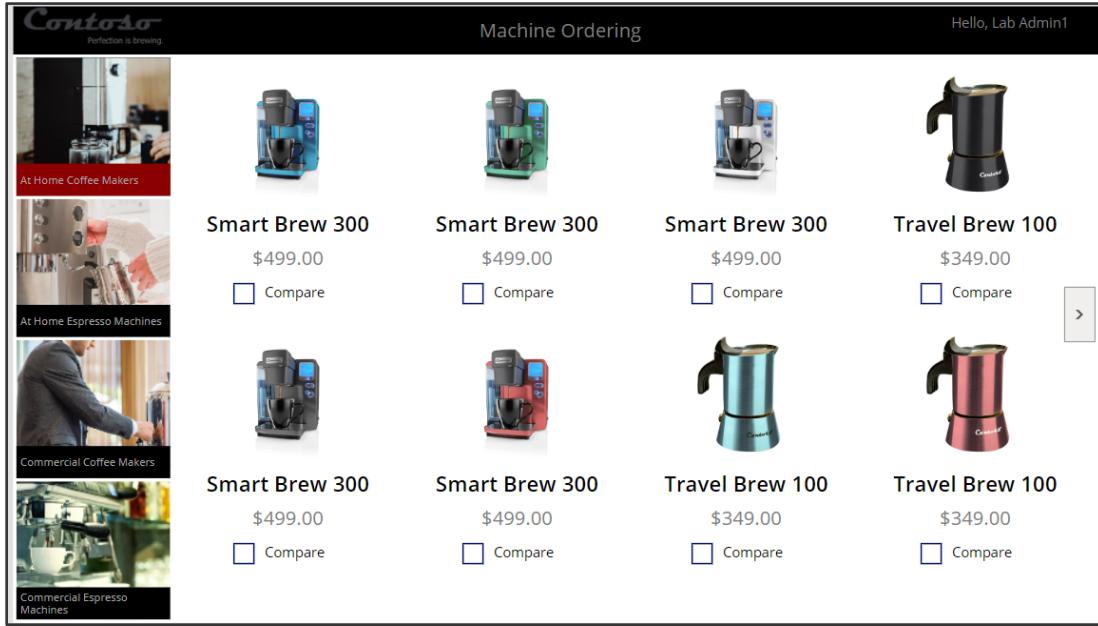
To avoid getting a blank list of machines when the app starts, set the default selected item in the Machine Type Gallery to be the first item.

1. Select the entire gallery (by clicking **Machine Type Gallery** in the tree view on the left) and set the **Default** property of the gallery in the formula bar to: `First(MachineTypes)`



This will set it to the first item in the table.

2. To preview the app, press the Preview button on the upper right of the top menu. Pressing the F5 key will also preview the application. **Note:** You can also test your app right on the canvas by holding down the Alt key to activate buttons and other controls, as well as double-clicking to type into controls.
3. Your app should look like the image below.



4. To exit preview mode, click the X in the top right corner.
5. Click **File** and save your changes.
6. Click on the ← back button.
7. Do not navigate away from this page.

Exercise 3: Add Compare Screen

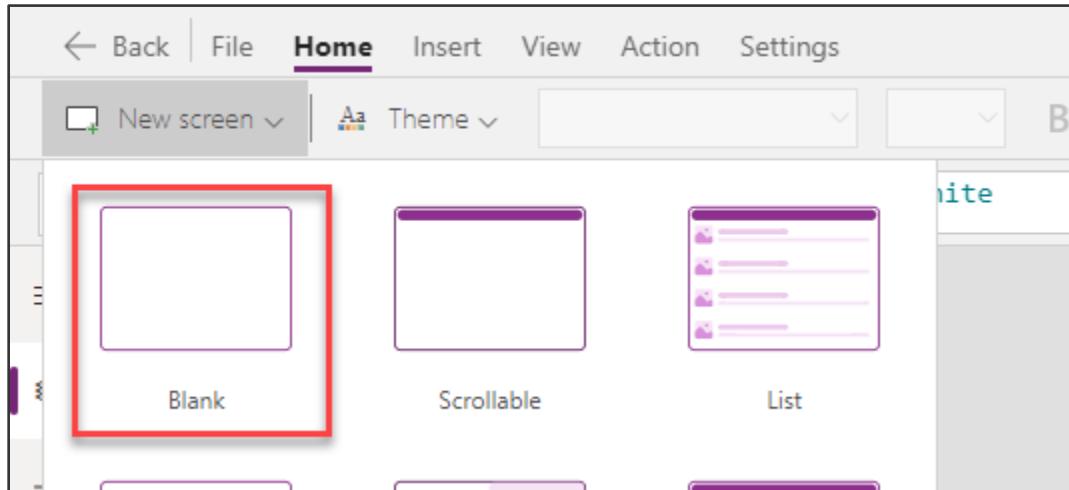
The second screen is where users compare the selected machines and then choose the one they wish to submit for approval. This screen will include:

- A back button for navigation back to the main screen.
- A list of selected machines for comparison (carried over from the main screen).
- Additional details for each machine.
- Highlighting the selected machine

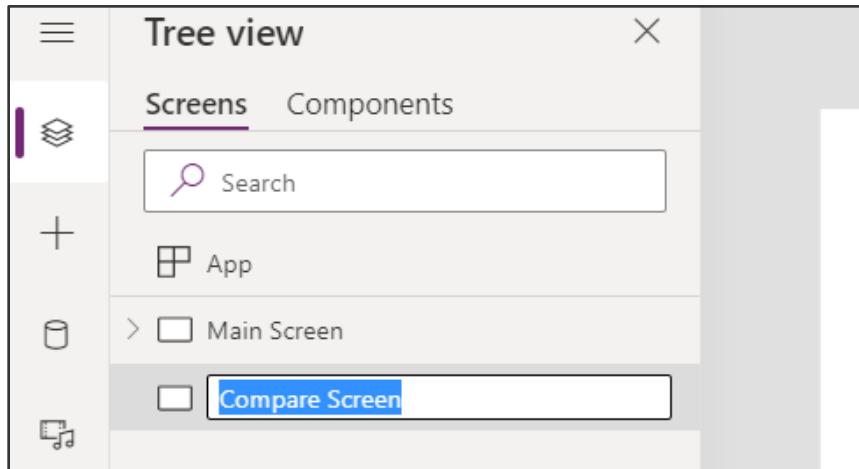
In a subsequent lab, you will create the database tables to store the machine orders and add an edit form to this screen to enter additional information and submit the request.

Task 1: Add screen

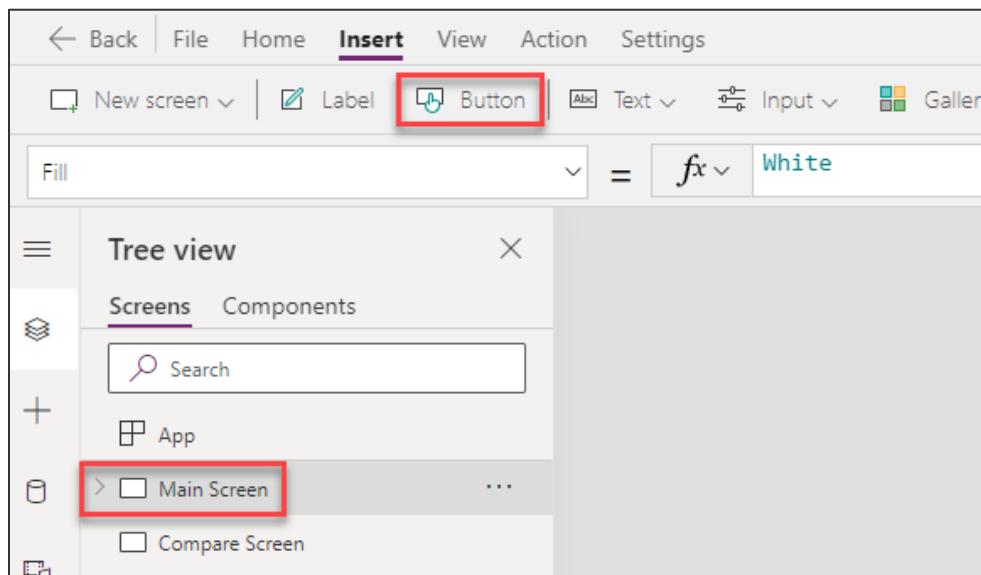
1. From the ribbon click **Home** and **New Screen** and choose **Blank**.



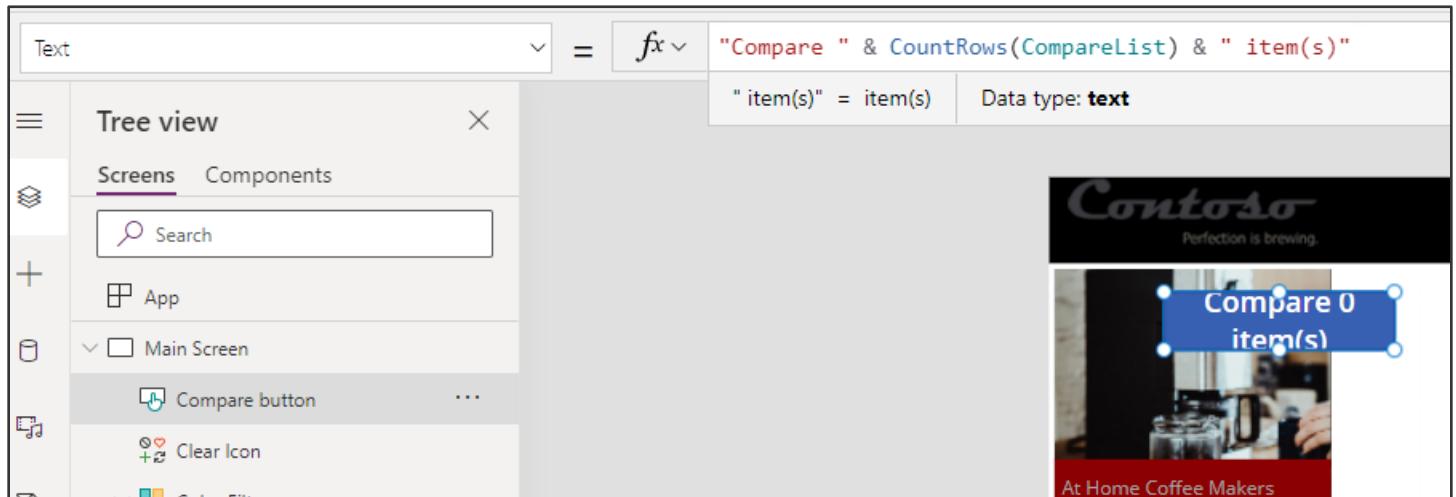
2. Rename the screen to **Compare Screen**.



3. In the left tree view, select the **Main Screen**, click on the **Insert** tab on the ribbon and select **Button** to add a button to the screen.



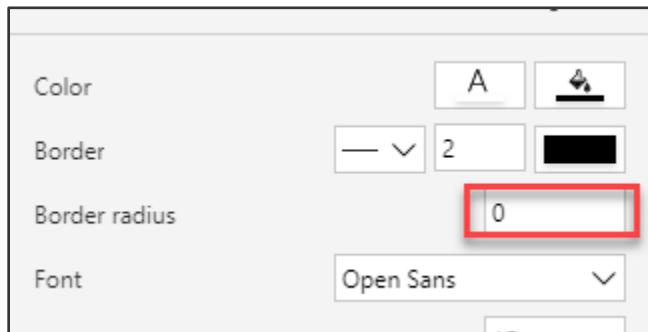
4. Rename the button **Compare Button**.
5. Select the **Compare button**.
6. Set the button's **Text** property to: "Compare " & CountRows(CompareList) & " item(s)"



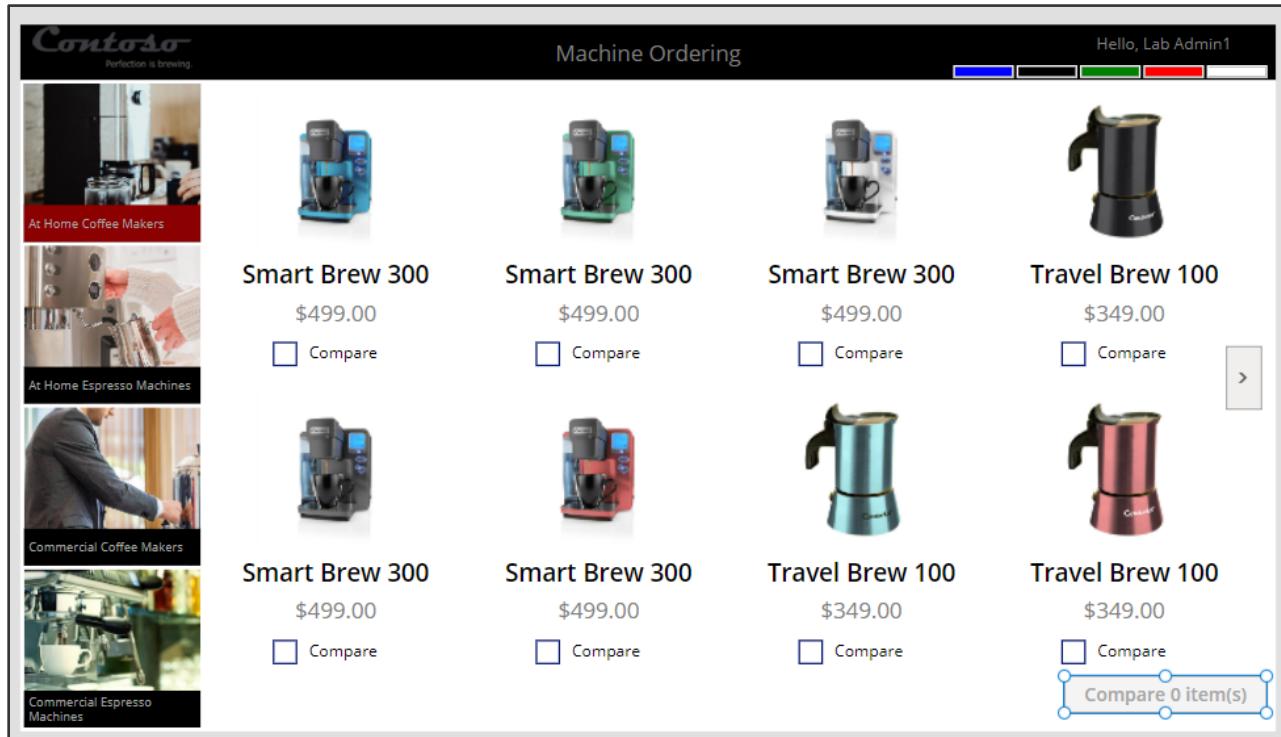
7. Set the **Fill** value of the Compare Button to **Black**.
8. Set the **Width** value of the Compare Button to **220**.
9. Set the **Height** value of the Compare Button to **40**.
10. Set the **X** value of the Compare Button to **1150**.
11. Set the **Y** value of the Compare Button to **720**.
12. Set the **DisplayMode** of the Compare Button to the formula below. This formula will disable the button if there are no items selected and enable it if at least one item is selected.

```
If(CountRows(CompareList) > 0, DisplayMode.Edit, DisplayMode.Disabled)
```

13. Select the **Compare Button**, go to the **Properties** pane and set the **Border radius** to **0**.



14. Unselect all machines – notice the button is grayed.

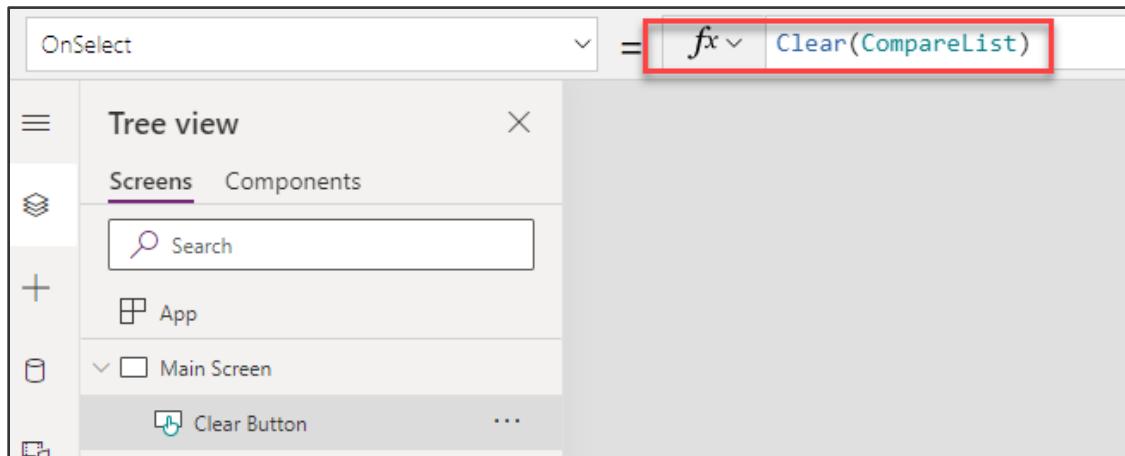


15. Select the **Compare Button** and **copy (Ctrl-C)** this button.
16. **Paste (Ctrl-V)** the button on the same screen.
17. Rename the button **Clear Button**.
18. Set the **X** value of the Clear button to **300**.

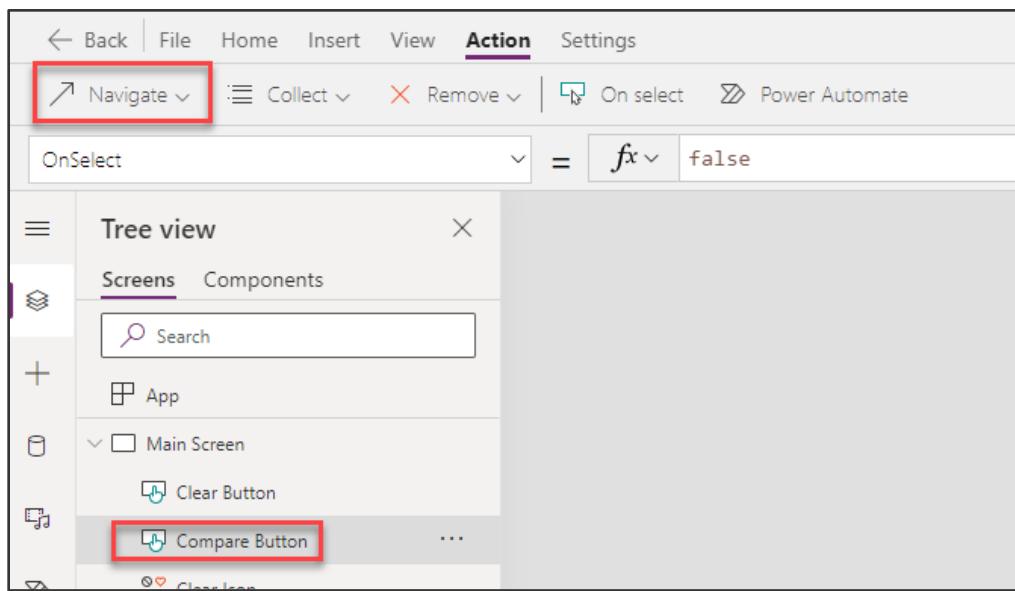


19. Change the **Text** value of the Clear Button to **Clear Selection**.
20. Set the **OnSelect** value of the Clear Button to the formula below. This formula will remove all the items in the CompareList collection.

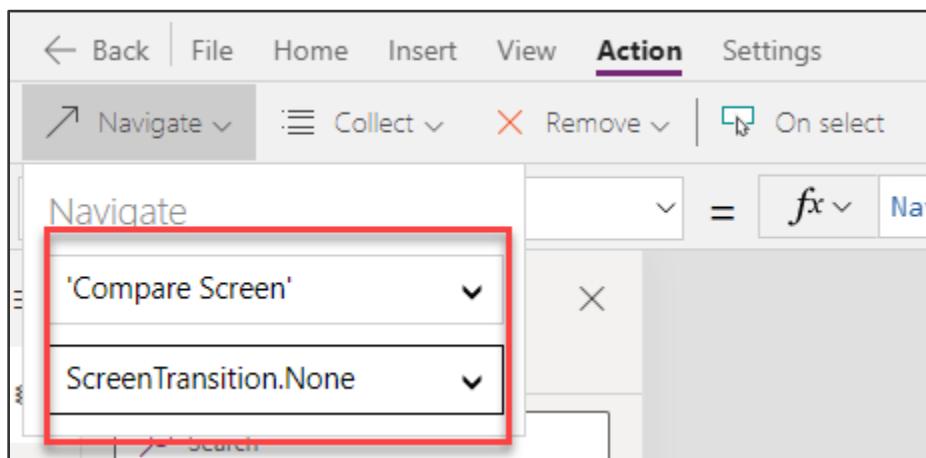
```
Clear(CompareList)
```



21. Select the **Compare Button**, click on the **Action** tab and select **Navigate**.

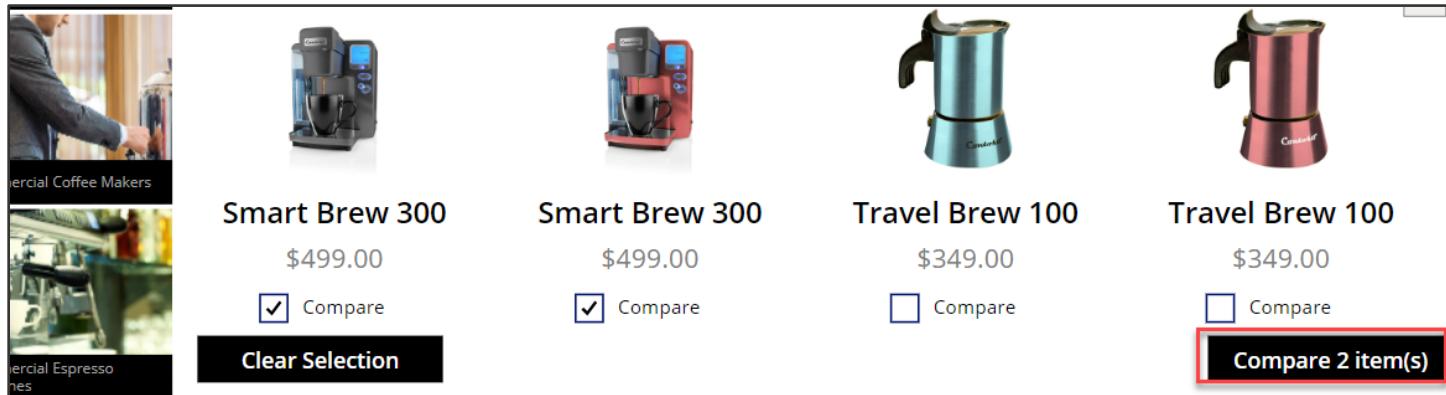


22. Select **Compare Screen** from the drop-down and **ScreenTransition.None** for transition type.

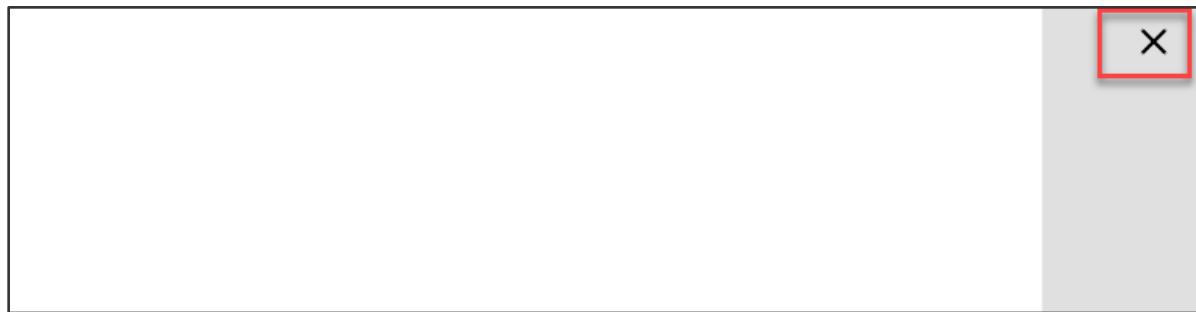


23. Click **Preview the app**.

24. Select a couple of machines and click the **Compare** button and verify that it takes you to the second screen.

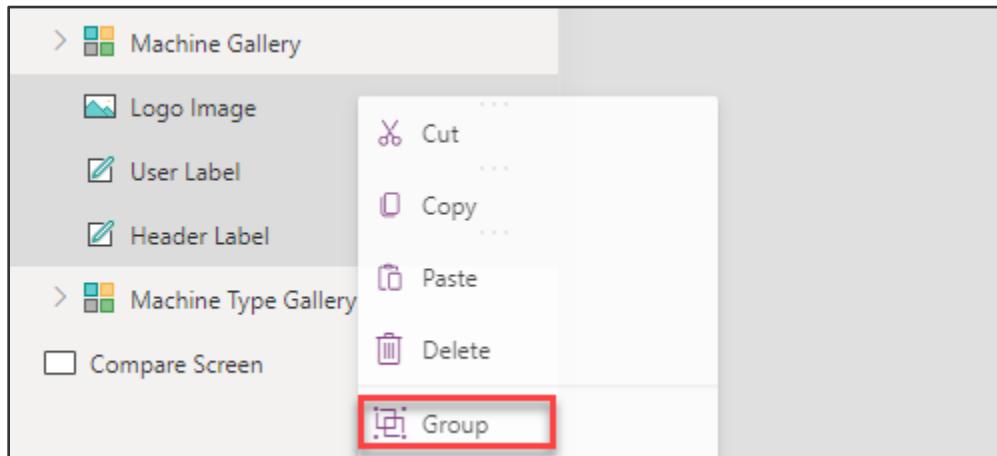


25. You should navigate to the new empty screen. Close the preview.



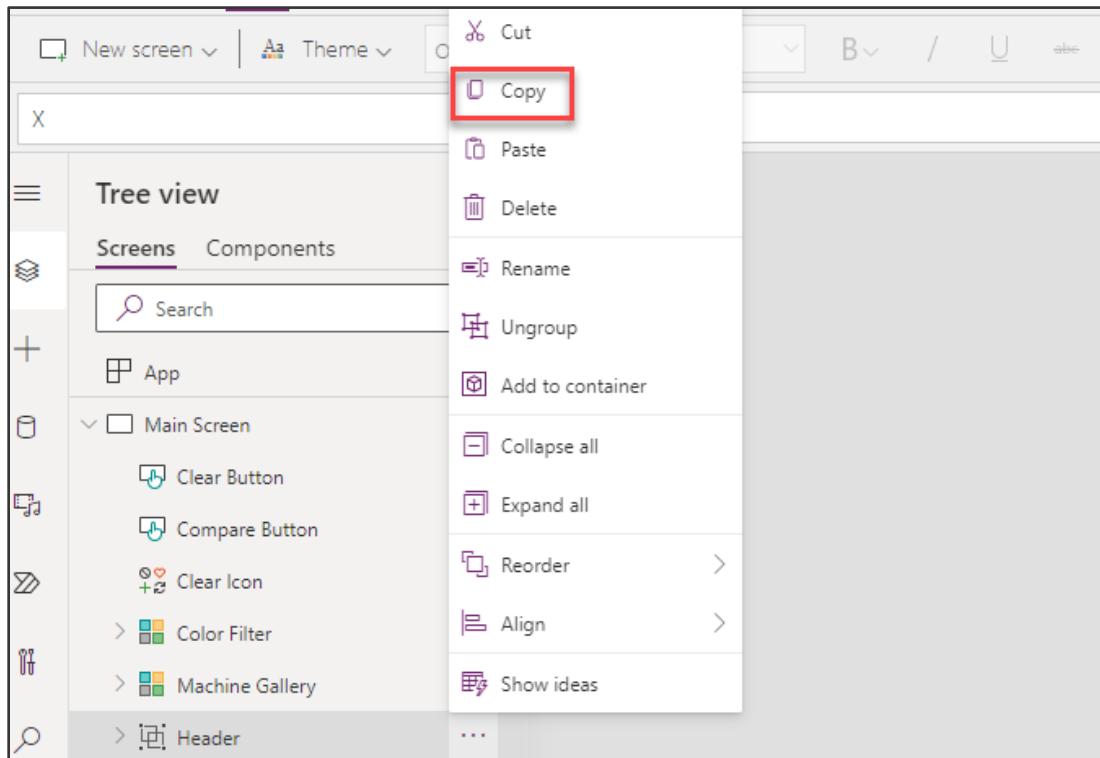
26. Select the **Main Screen** in the tree view.

27. Select the **User Label**, **Header Label**, and **Logo Image** right click and select **Group**.

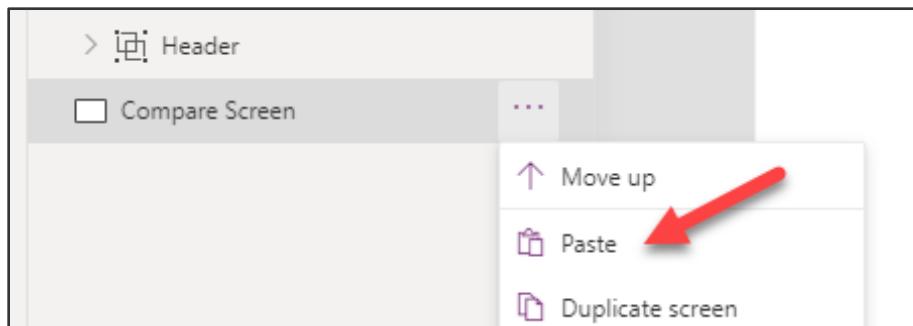


28. Rename the group **Header**.

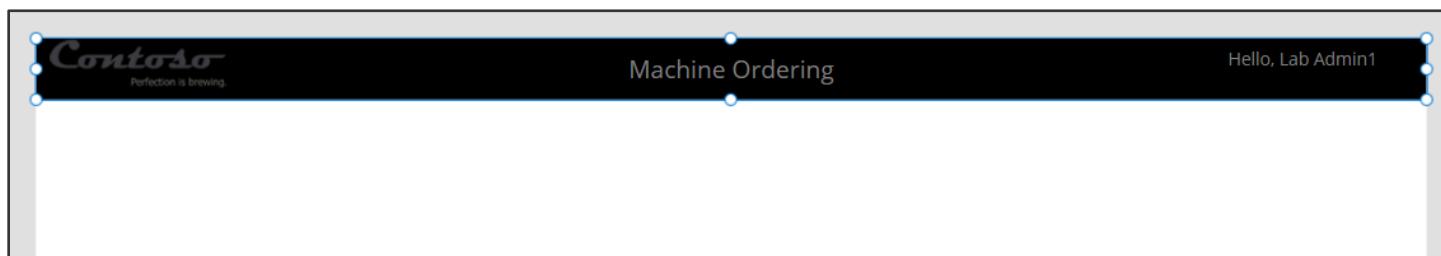
29. Click on the ... button of the **Header** and select **Copy**.



30. Right click on the **Compare Screen** by and select **Paste**.



31. The **Header** in the **Compare Screen** should look like the image below.



32. Copy **Machine Gallery** from the **Main Screen** and paste it in the **Compare Screen**.

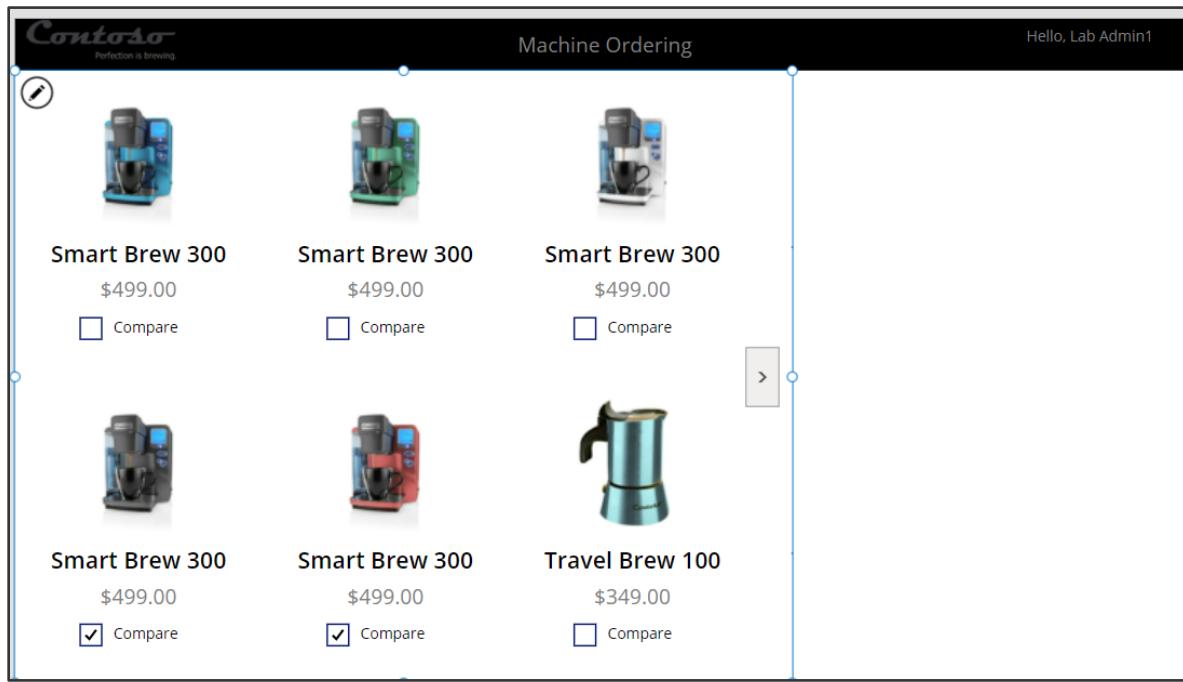
33. Rename the gallery in the Compare Screen **Compare List Gallery**.

34. Set the **X** value of the Compare List Gallery to **0**.

35. Set the **Width** value of the Compare List Gallery to **840**.

36. Set the **Height** value of the Compare List Gallery to **710**.

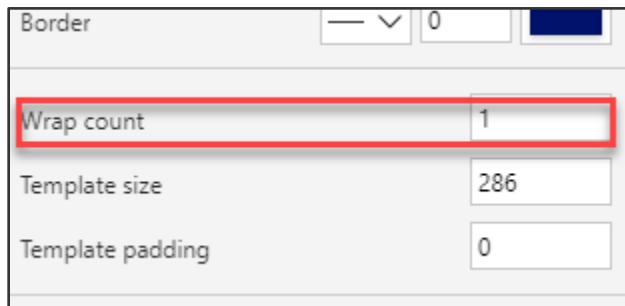
37. The gallery should now look like image below.



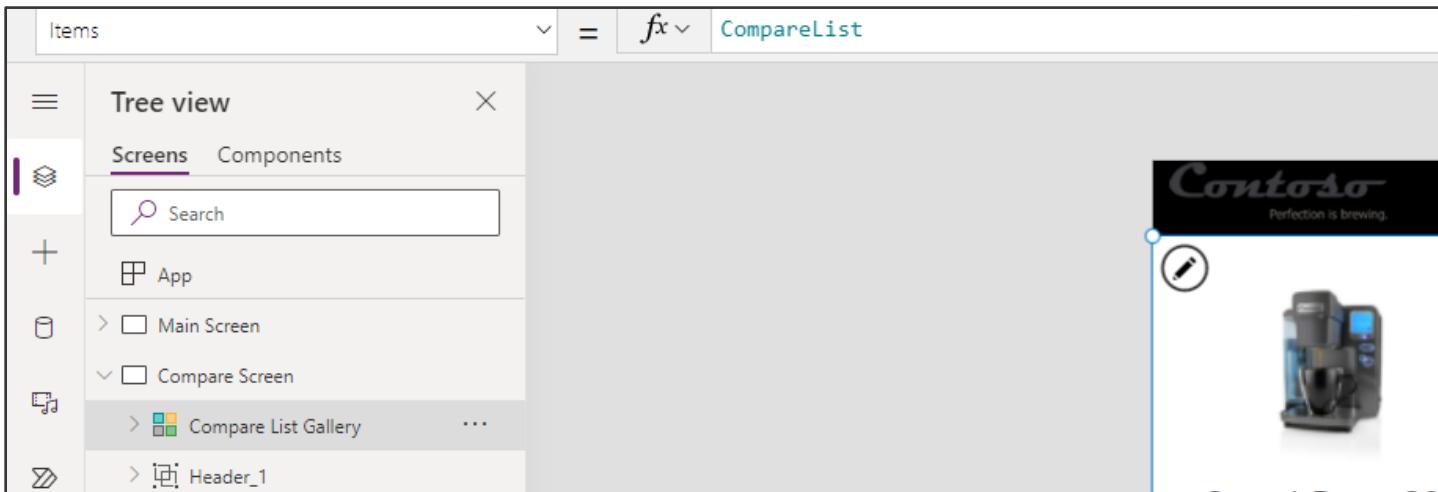
Task 2: Configure the gallery

In this task, you will configure the gallery to show machines that were selected from the comparison gallery on the Main Screen.

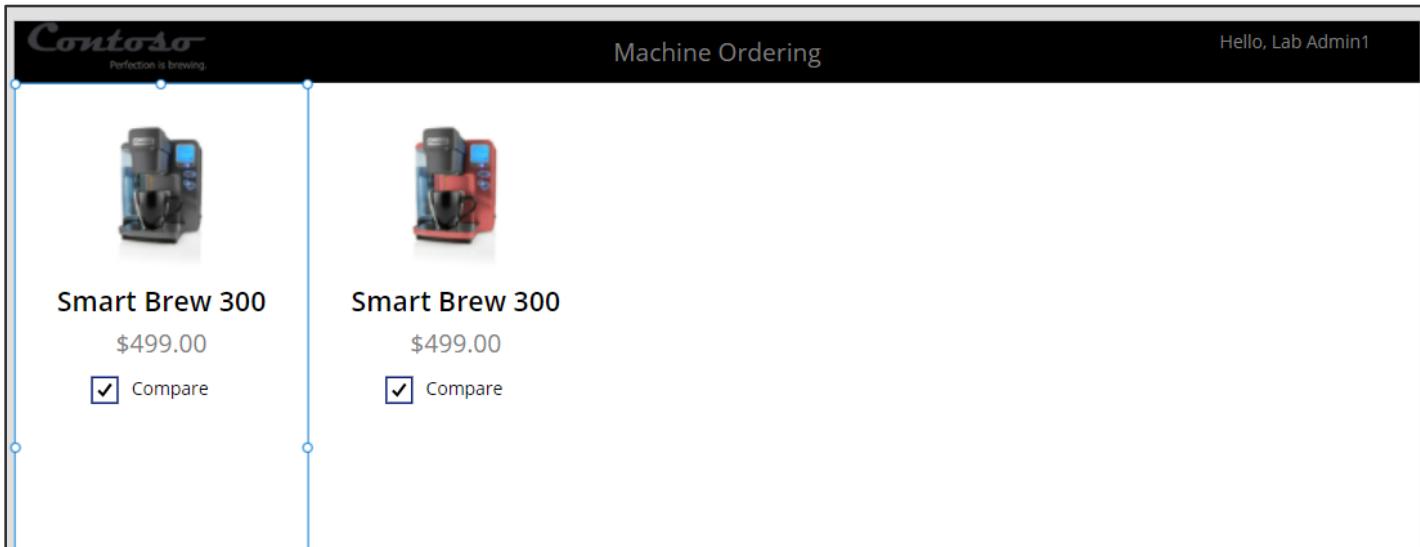
1. Select the new **Compare List Gallery**.
2. Go to the **Properties** pane and change the **Wrap count** to 1.



3. Select **Items** in the property drop-down list and change the data source in the formula bar to `CompareList`.



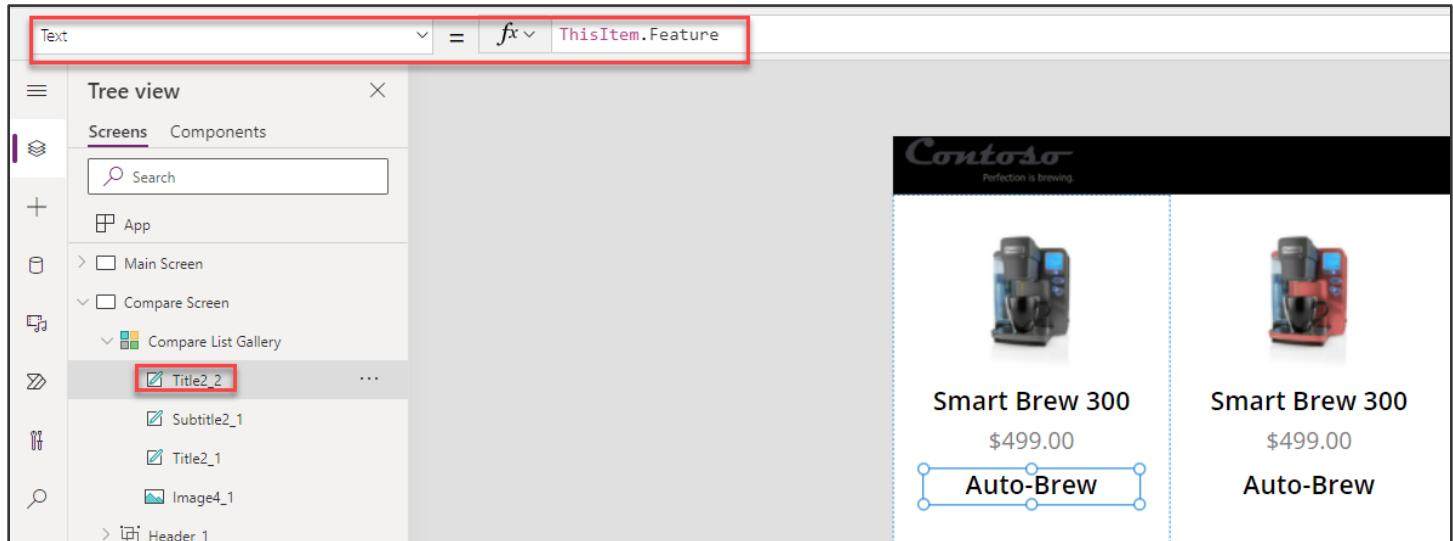
- The gallery will now show the selected items from the Main Screen.



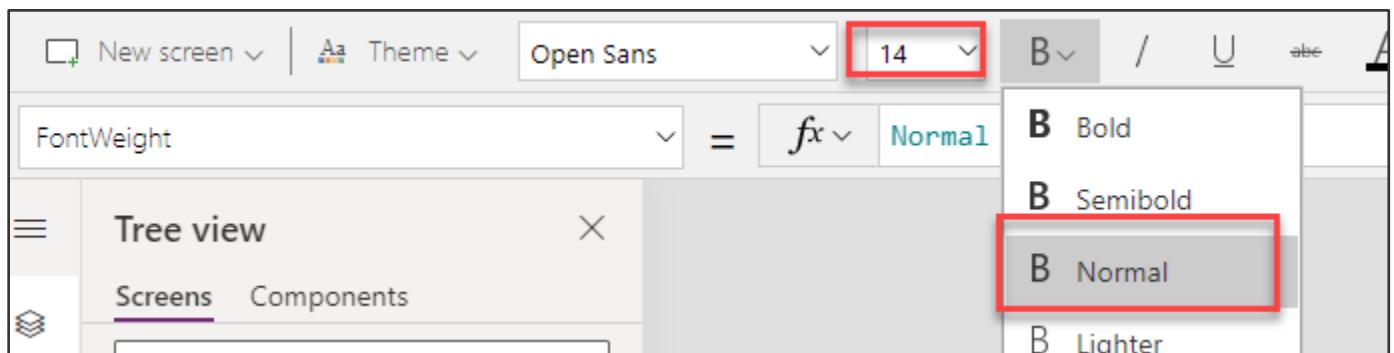
Task 3: Remove and add controls to the gallery

In the **Compare Screen** we are selecting a given item to get approved, so we do not need a Compare checkbox.

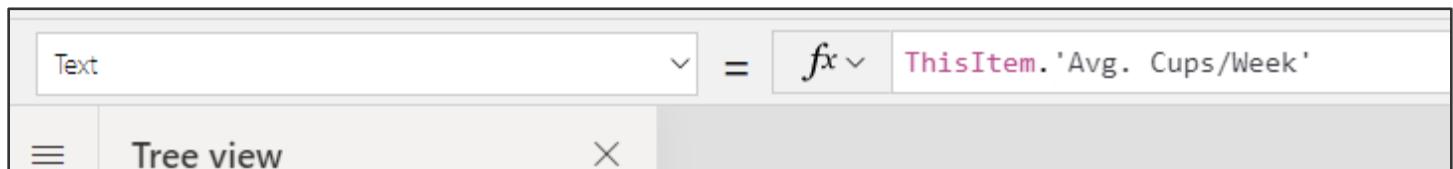
- Select the **Compare checkbox** on the left most template cell and press the **Delete** key to delete the checkbox.
- Now let's add a few labels to display additional attributes about the machine. A good way to do this is to copy paste. Select the first label in the gallery that is displaying the machine name. Copy it (Ctrl-C) and paste it (Ctrl-V). Rename these labels as you go for ease of use later.
- Move the new label so that it is just below the price. Set the **Text** property to: `ThisItem.Feature`.



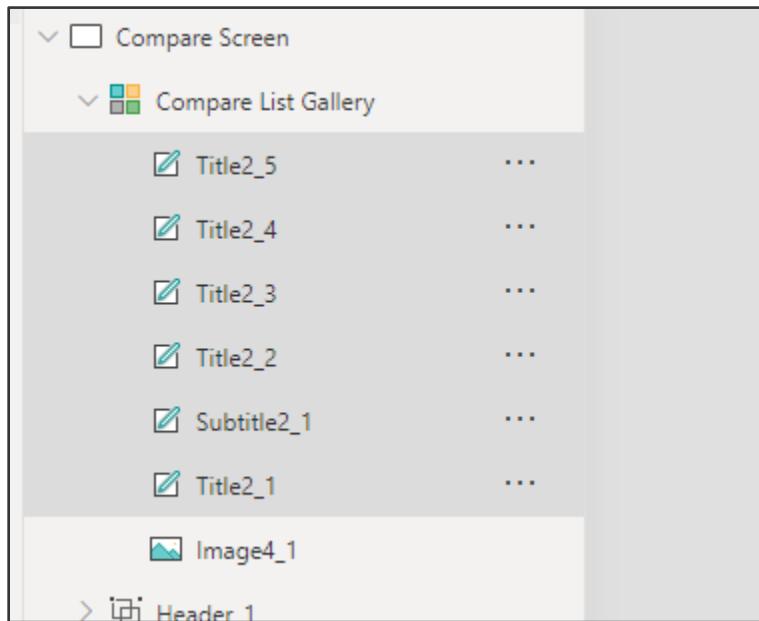
4. Use the ribbon to change the font weight from **Semibold** to **Normal** and change the **Size** property to **14**.



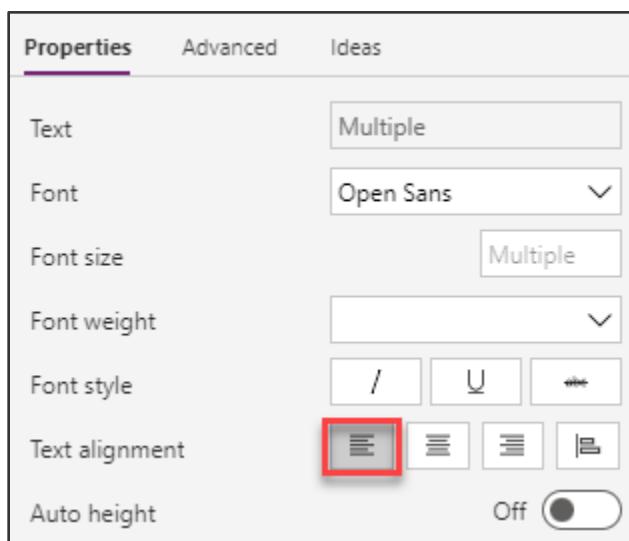
5. Copy and paste this label and move the new fourth label below the third label. Set its **Text** property to: `ThisItem.'Avg. Cups/Week'`



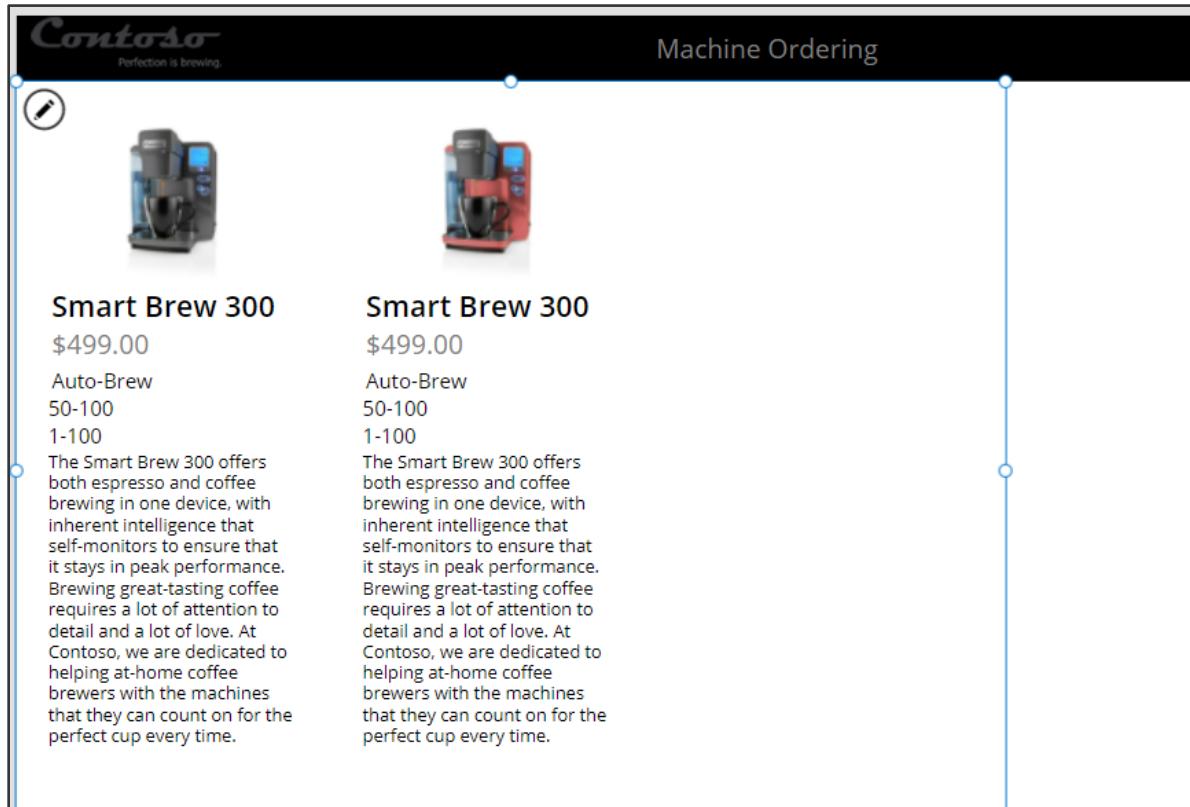
6. Repeat this and add text boxes to display the additional machine properties – Avg. Espressos/Week and Description. Feel free to customize the labels by changing their Size, Color, Fill and Font Weight properties.
7. Select the **Description** label inside the gallery.
8. Change the **Size** of the Description to **12**.
9. Change the **AutoHeight** value of the Description to **true**.
10. Select all the labels inside the gallery.



11. Go to the **Properties** pane and set the **Text alignment** to **Align left**.



12. The gallery should now look like the image below.



Note: For this lab, to save time you may add one or two of these additional properties and skip adding all the additional machine properties.

Task 4: Highlight the selected machine

1. Select the **Compare List Gallery**.
2. With the whole gallery selected, set the **TemplateFill** property to:

```
If(ThisItem.IsSelected,ColorFade('Header Label'.Fill, 75%))
```

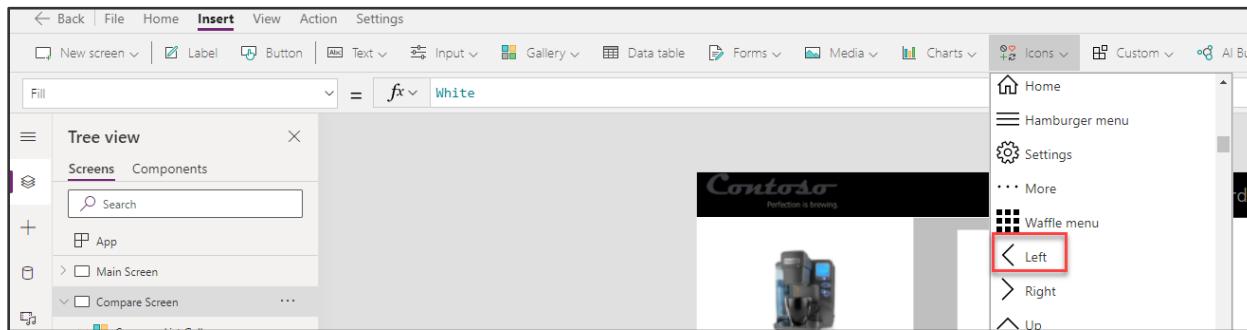
This is conditionally setting a Fill color if the cell is selected.

You could have set a specific color or RGB value, but we recommend using the ColorFade function, so it matches the header label with a 75% fade. If you change the fill color of header label, this template fill color will automatically change.

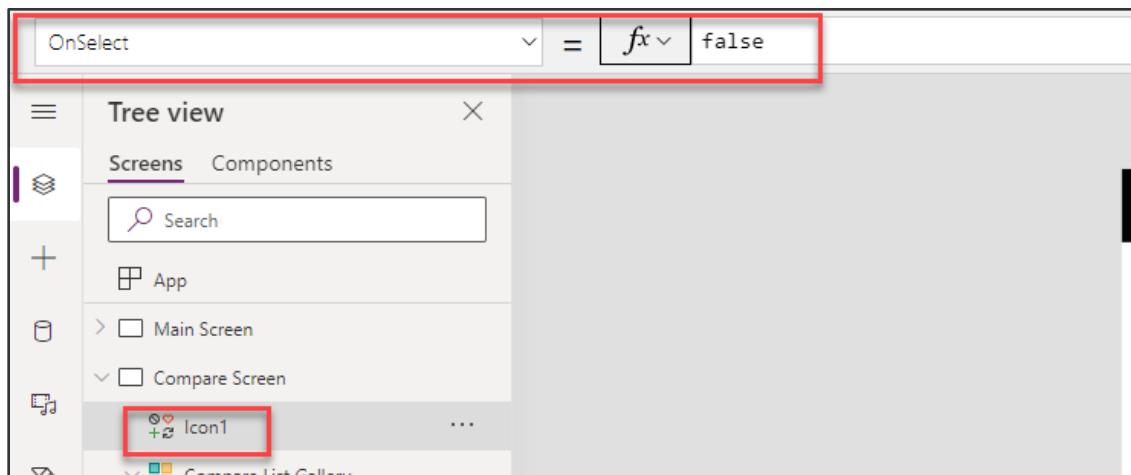
3. Holding down **Alt**, click a different item in the gallery, notice the selected item is highlighted in a light gray color.

Task 5: Add an icon to navigate to the first screen

1. Select the **Compare Screen**.
2. Go to **Insert**, then **Icons** and select the **Left** icon.



3. Set the **Color** of the icon you just added to **Gray**.
4. Set the **Height** of the icon to **40**.
5. Set the **Width** of the icon to **40**.
6. Set the **Y** of the icon to **10**.
7. Set the **X** of the icon to **220**.
8. Set the **OnSelect** action for the icon to `Back()`. This will cause navigation back to the previous screen.



Optional UI enhancement:

Add **padding around the icon** using the Properties pane. Set the padding values to 10 each for Top, Bottom, Left, and Right. This will make the icon look smaller but still have a larger hit target for the click action. This is a good pattern to use for most icons.

Task 6: Test the app

Let's save the app by selecting **File -> Save**. It is a good idea to save your app regularly. **Note:** You can also test your app right on the canvas by holding down the Alt key to activate buttons and other controls, as well as double-clicking to type into controls.

1. Go to the **Main Screen** and **Preview** the app by hitting the **Play** button in the top right.
2. Uncheck if there are any checked machines.
3. Select one of the Machine types.
4. Check the compare checkbox on a few machines on the main screen.
5. Click the compare button to navigate to the compare screen.
6. Tap or click on different machines in the gallery and verify that the selection highlight works.
7. Click the **Back** button and confirm you get back to the main screen.

Machine Type	Price	Brewing Capacity	Description
Airpot	\$399.00	Auto-Brew 1-100 1-100	Serving large-batch gourmet coffee just got a whole lot easier! With precision
Airpot XL	\$499.00	Auto-Brew 1-100 50-100	The Airpot XL provides flexibility in high-volume, large sized venues such as
Airpot Duo	\$499.00	Auto-Brew 1-100 1-100	The Airpot Duo coffee brewer offers the user precise control over brewing aspects

8. Click **Clear Selection**.

Machine Type	Price	Capacity	Status
Airpot Duo	\$499.00	1-100	<input checked="" type="checkbox"/> Compare
Airpot	\$399.00	1-100	<input checked="" type="checkbox"/> Compare
Airpot XL	\$499.00	50-100	<input checked="" type="checkbox"/> Compare
Airpot	\$399.00	1-100	<input type="checkbox"/> Compare
Airport Lite	\$349.00	1-100	<input type="checkbox"/> Compare
Airpot XL	\$499.00	50-100	<input type="checkbox"/> Compare
Airpot	\$399.00	1-100	<input type="checkbox"/> Compare
Airport Lite	\$349.00	1-100	<input type="checkbox"/> Compare

9. The **CompareList** should clear, and the **Compare** button should become disabled.

Commercial Coffee Makers	Airport Lite	Airpot XL	Airpot	Airport Lite
	\$349.00	\$499.00	\$399.00	\$349.00
<input type="checkbox"/> Compare	<input type="checkbox"/> Compare	<input type="checkbox"/> Compare	<input type="checkbox"/> Compare	
	Clear Selection			Compare 0 item(s)

10. Close the preview.

11. Click File and save your changes.

Task 7: Test the app on a mobile device

Congratulations! You've created your Power Apps app. Now let's publish and test it on a mobile device.

1. **File -> Save**.
2. Click the **Publish** button.
3. Click **Publish this version** on the confirmation prompt.

This version of your app will be published in the environment Dev - labadmin1.
[Learn more about publishing](#)

App icon and name
Machine Ordering App

Description
no description

[Publish this version](#) [Edit details](#)

This action will publish the latest saved version of the app.

4. Go to your device's app store application. Search for "**Power Apps**" and install the Power Apps application. Launch the app.

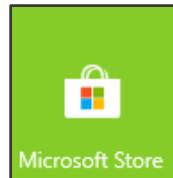
Android:



iOS:



Microsoft Store:



5. When the app starts, it will prompt for your business or school account credentials. **Log in** with the same account that you used to create the Power Apps app. You should see the app you just created in the list of apps. **Run the app**.

Task 8: [Optional] Share the application with a colleague

You may optionally share the application with another user within the same organizational tenant as the user who created the app. So, if you had logged in as meganb@contoso.com, you may share the app with any other User, Security Group or Distribution Group within the @contoso.com tenant.

1. To share the app, go to [Make Power Apps](#). Log in if prompted for credentials.
2. Select **Apps** in the left pane, look for your Machine Ordering App in the app list, click the three dots (...) next to the app to bring up the context menu. Click the **Share** option.

The screenshot shows the 'Apps' section of the Power Apps portal. A table lists several apps: 'Machine Ordering App' (selected), 'Asset Checkout', 'Innovation Challenge', and 'Fundraiser'. For the selected 'Machine Ordering App', a context menu is open, showing options: 'Edit', 'Play', and 'Share'. A red arrow points to the 'Share' option. The table columns are 'Name', 'Modified', and 'Owner'.

Name	Modified	Owner
Machine Ordering App	20 sec ago	Lab Admin 1
Asset Checkout		First Lat
Innovation Challenge		First Lat
Fundraiser		First Lat

3. In the share screen, enter the name or email of the user you would like to share the app with. You may also share it with a user group.

The screenshot shows the 'Share Machine Ordering App' dialog. It has a search bar with 'lab' typed in. Below the search bar, a list of users is shown: 'Lab Admin 2' (highlighted with a purple border), 'Lab Admin 3', and 'Lab Admin 4'. To the right of the list is a button labeled 'Select or add a user to set their permissions'.

4. Select the user or group; this will add it to the **Shared with** list below. You may provide this user/group either **Can use** or **Can edit** permissions.

Enter a name, email address, or Everyone

New users

L1 Lab User 10 User

L5 Lab User 50 Owner

Shared with Sort by Name

Lab User 10

This user can use this app.

Co-owner

Can use, edit, share app but not delete or change owner.

Data permissions ⓘ

Make sure your users have access to the data used in your app, including gateways, APIs, connectors, and entities.

5. If the **Send an email invitation** is checked, when you hit **Save**, the user or all users in the group will receive an email letting them know that the app has been shared with them, along with a link to open the app.

Send an email invitation to new users

Next steps

Now that you have learned the basics of creating an app, take a little time to think about what you would like to create next. What made you most excited about the coffee machine ordering app? What would you have done differently?

References

App in a Day introduces some of the key capabilities available in Power Apps. For a list of learning resources, see [Power Apps Resources](#) and [Power Automate Resources](#).

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