

Exercise - Add a machine gallery and connect to the data source

25 minutes

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

ⓘ Note

To complete the exercises, you'll need to use a few files. Download the [App in a Day files](#) for use in this module. The file folders that are in this download include:

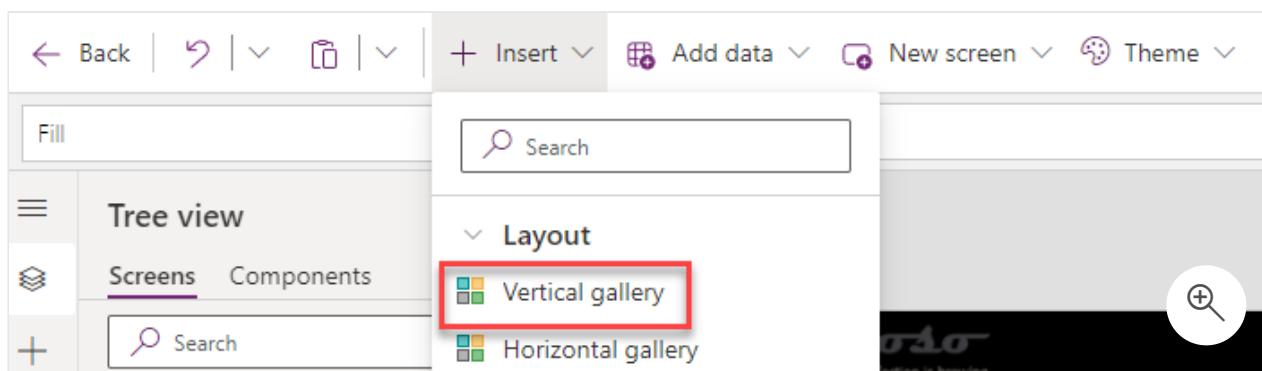
- **Completed modules with instructions** - Package files to import the completed exercise steps.
- **Machine-Order-Data.xlsx** - File used in the exercises.

Task: Add a machine type gallery

In this task, you add a gallery that lists the machine types. This gallery is a single-column, vertical gallery down the left side of the screen, with each cell displaying an image of the machine type. You use this gallery later as a filter for the machine gallery that you create.

1. Select the **Main Screen**.

2. Select + **Insert**, expand the **Layout** group, and then select **Vertical gallery**.



This action adds a gallery called **Gallery1** on the screen. The control tree view on the left will display this gallery with three controls within it: two labels and an image. A data pane

appears on the right.

The screenshot shows a Microsoft Power Platform canvas with three cards. Each card has a placeholder image of a mountain and a sun, followed by placeholder text: "Lorem ipsum 1", "Lorem ipsum dolor sit amet,", "Lorem ipsum 2", "Suspendisse enim metus, tincidunt", "Lorem ipsum 3", and "Ut pharetra a dolor ac vehicula.". To the right of the cards is a "Select a data source" modal window. The modal includes a search bar, a "Create new table" button, a "Tables" section with "Current environment" tables (Accounts, Activities, Contacts), a "See all tables" link, and a "Connectors" section with a "See all connectors" link. A magnifying glass icon is located in the bottom right corner of the modal.

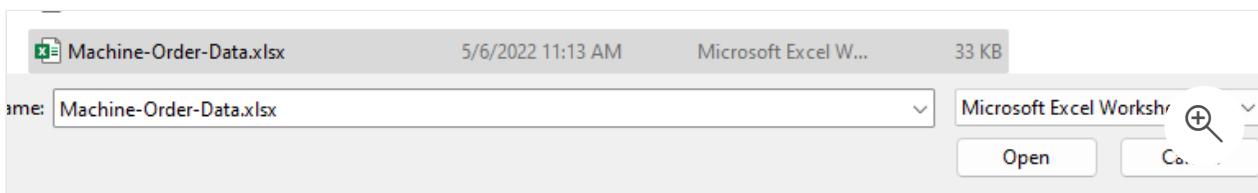
3. Expand Connectors and then select See all connectors.

This screenshot shows the "See all connectors" section of the "Select a data source" modal. It displays a list of connectors, starting with "Office 365 Users" from "Office 365". Below this is a link labeled "See all connectors", which is highlighted with a red rectangle. A magnifying glass icon is located in the bottom right corner of the modal.

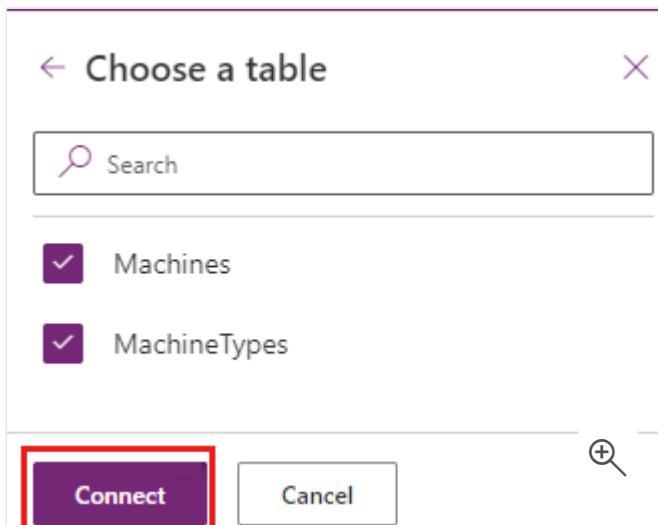
4. Select Import from Excel.

This screenshot shows the "Import from Excel" connector selected in the "Select a data source" modal. The connector is described as "Add static data to your app". A red rectangle highlights this connector. A magnifying glass icon is located in the bottom right corner of the modal.

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



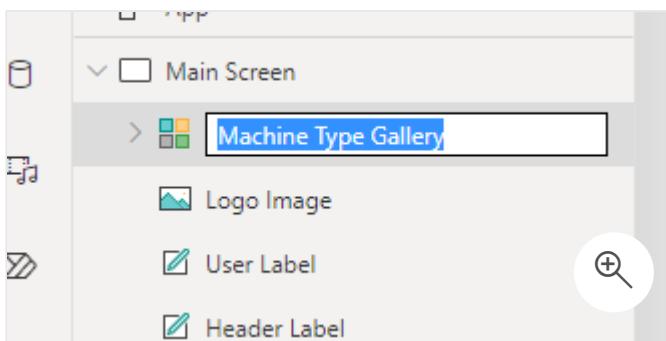
6. Select the **Machines** and **MachineTypes** tables and then select the **Connect** button. Now, both tables are added as static data into the application.



ⓘ Note

In this lab, you'll work with tables that are 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.

7. Rename the gallery as **Machine Type Gallery**.



Work with galleries

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

To select the entire gallery, select the gallery in the tree view on the left or select the second or third cell. Selecting any cell that isn't the first cell of the gallery selects 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, and more.

To customize how each item is displayed in the gallery, you customize the template cell. Select the template by selecting in the first cell of the gallery, or you can select the pencil icon in the upper-left corner when the entire gallery is selected.

Now, you can add, remove, and customize the controls within the template cell. These changes repeat across each item or row in the table.

If you select the machine image in the template cell, you can change its size. Notice how the size of the image changes in all cells.

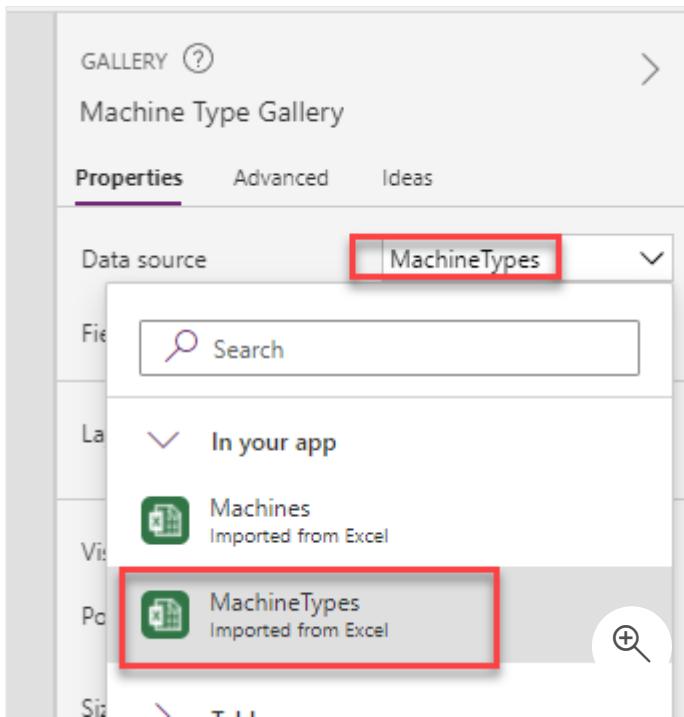
Additionally, you can test your gallery directly on the canvas by pressing the **Alt** key on your keyboard to activate.

You customize the machine gallery in subsequent steps.

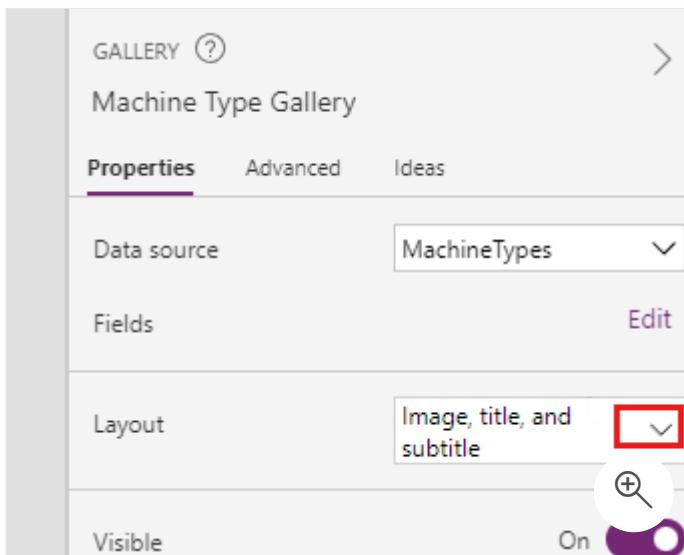
You don't need to make the gallery pixel perfect; the purpose of this exercise is to get your app working with an acceptable user experience (UX). You can always repeat these labs to practice your pixel-perfect skills.

When you're working with control positioning, **X** refers to horizontal positioning, and **Y** refers to vertical positioning.

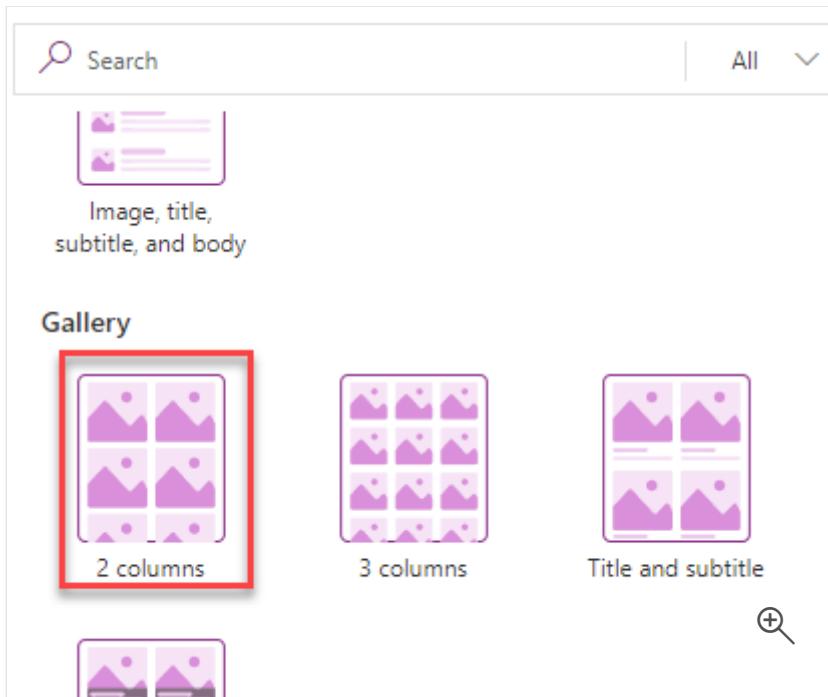
1. Select the **Machine Type Gallery**, go to the Properties pane, and select **MachineTypes** as the **Data source**.



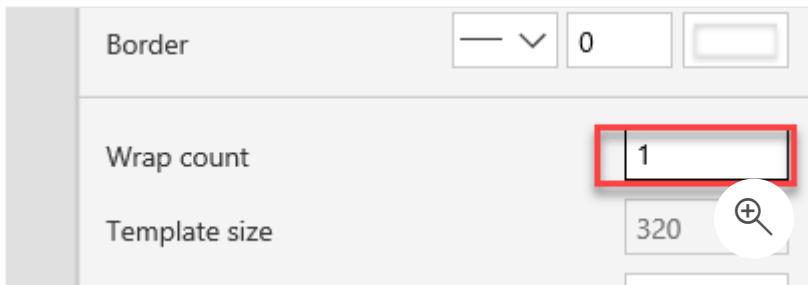
2. Set the **X** value of the Machine Type Gallery to 0.
3. Set the **Y** value of the Machine Type Gallery to 60.
4. Set the **Height** value of the Machine Type Gallery to 710.
5. Set the **Width** value of the Machine Type Gallery to 200.
6. Select **Machine Type Gallery**, and in the **Properties** tab on the right, select **Layout**.



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



8. Change the **Wrap count** from 2 to 1. This setting changes the gallery to a single-column gallery.



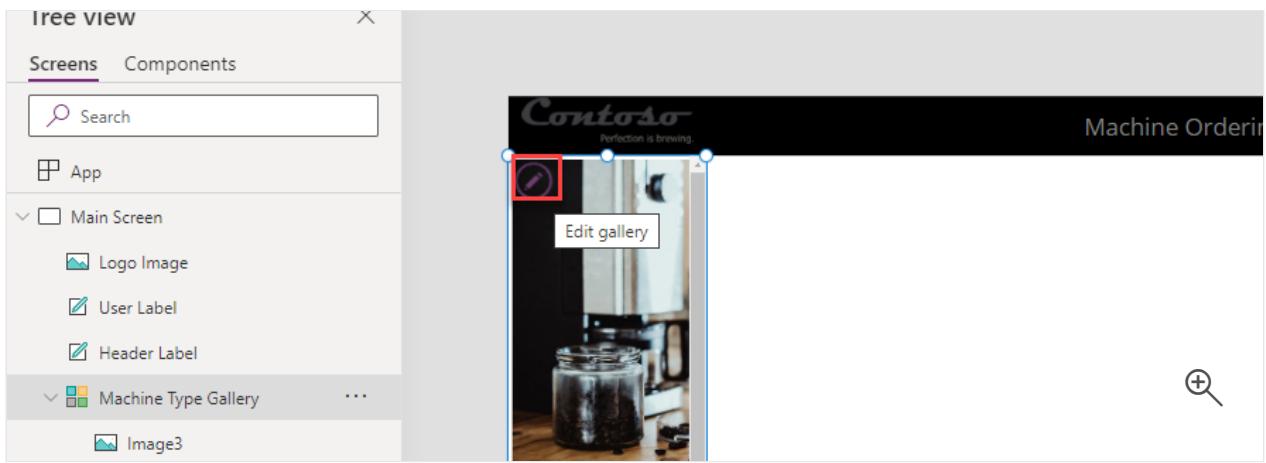
9. Select the **image control** within the gallery.



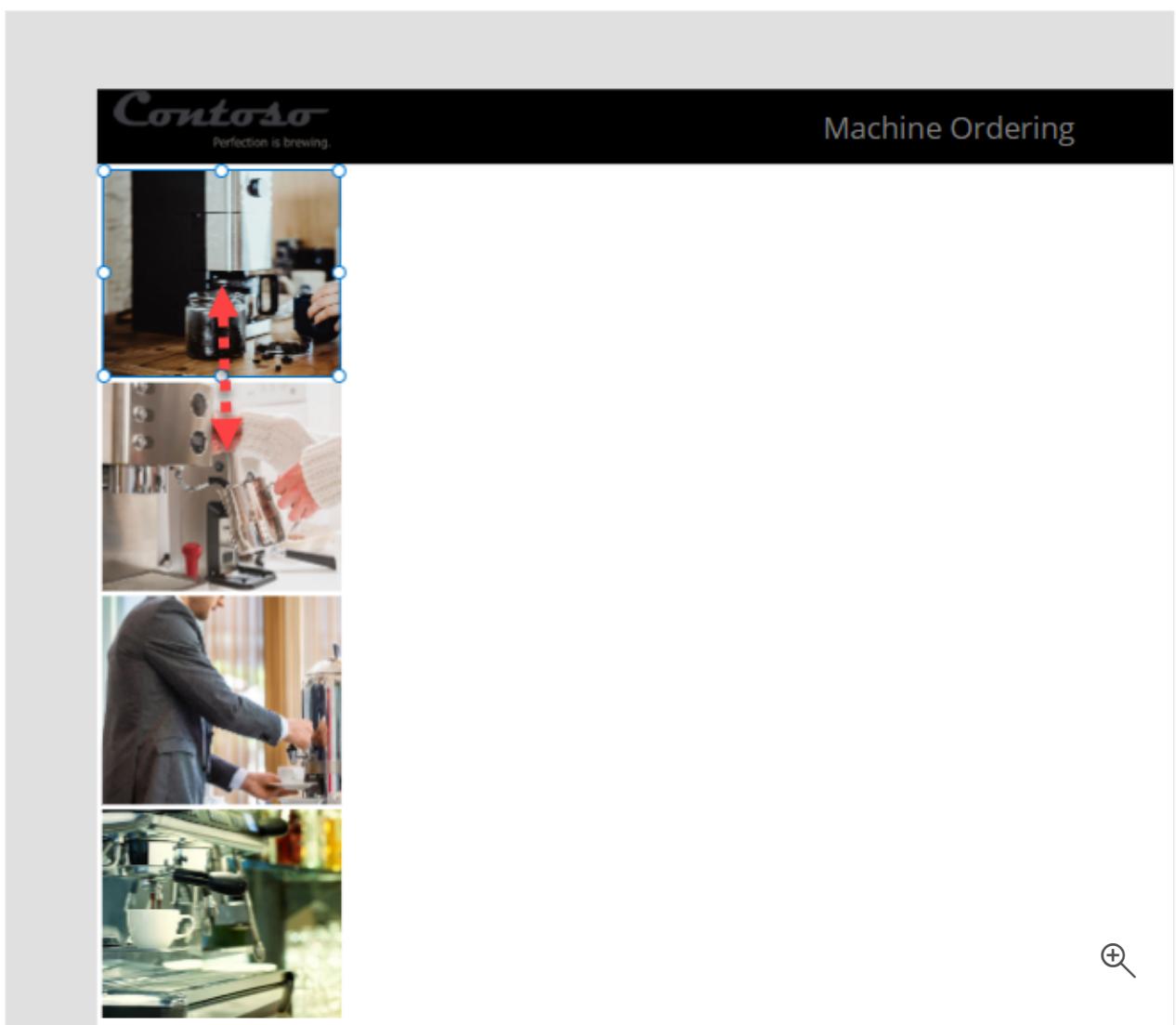
10. Set the **Image** value to the following formula, which will set the image value to the photo URL.

`ThisItem.Photo`

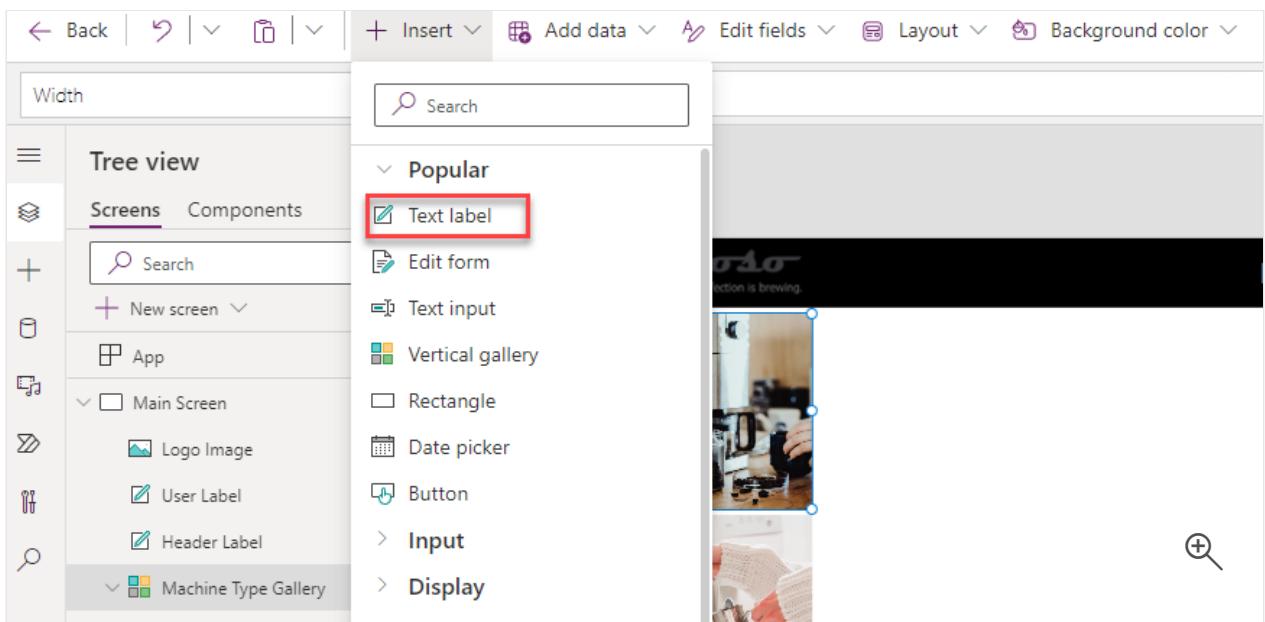
11. Select the **Machine Type Gallery** and then select the edit button to put the gallery in edit mode.



12. Reduce the height of the template cell so that all four images occupy the gallery without you having to scroll to view them. You want the image to occupy the entire cell.

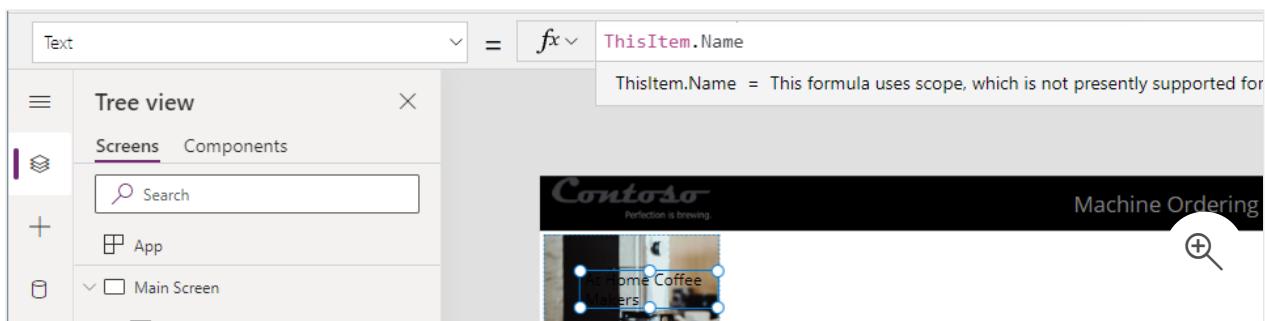


13. Make sure that the gallery is still in edit mode. Select **Insert** and then select **Text label**.



14. Set the **Text** value of the label to the following formula.

ThisItem.Name



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

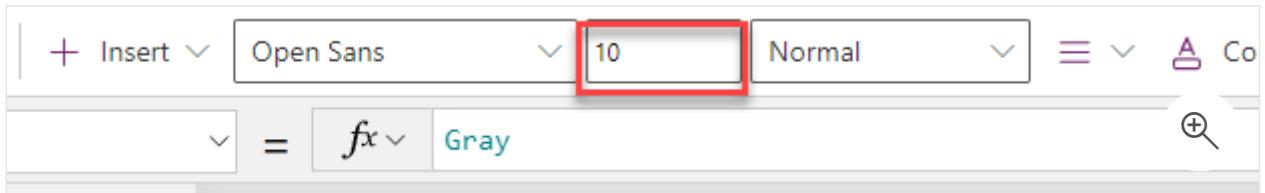
16. Set the **X** value of the label to **0**.

17. Set the **Y** value of the label to **130**.

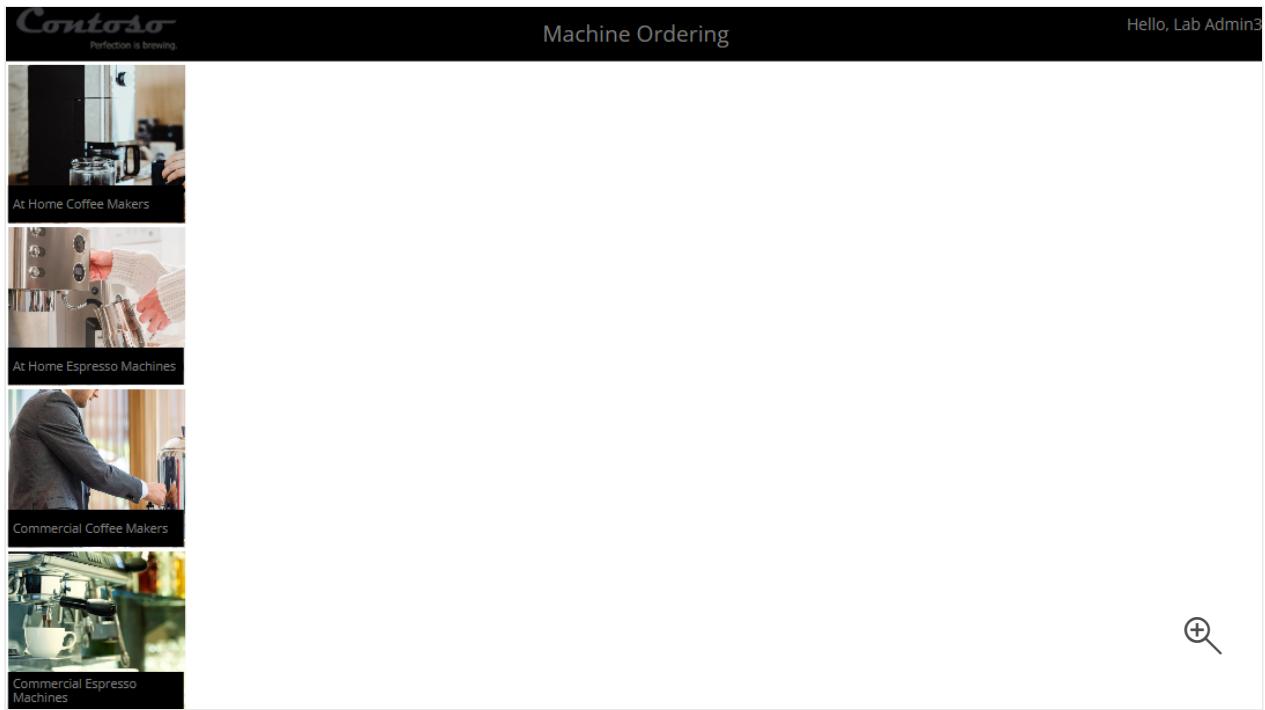
18. Change **Fill** color to **Black**.

19. Change **Color** to **Gray**.

20. Change the **Size** to **10**.



The main screen should now resemble the following image.

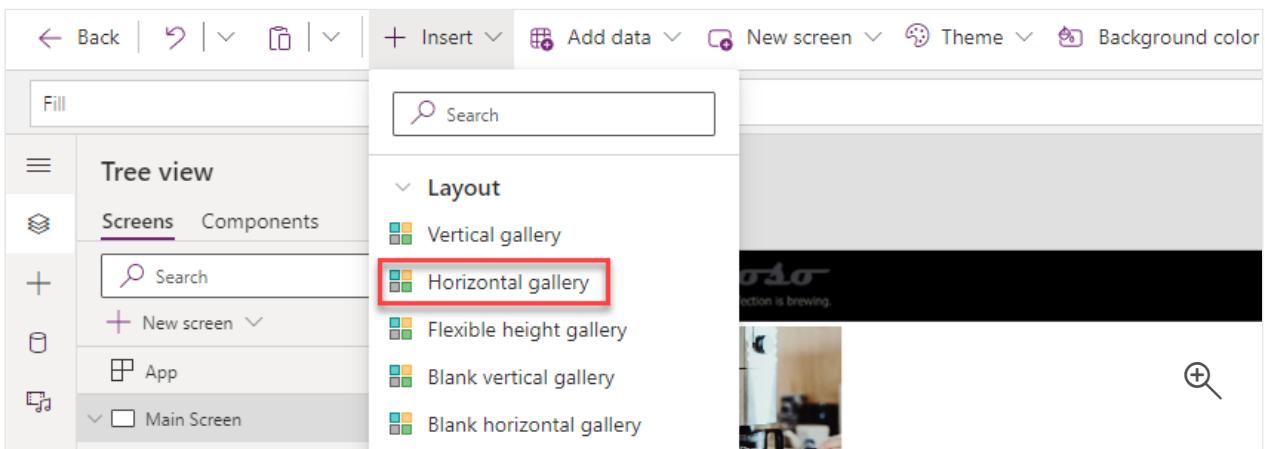


21. Select **Save** and then wait for the application to be saved.

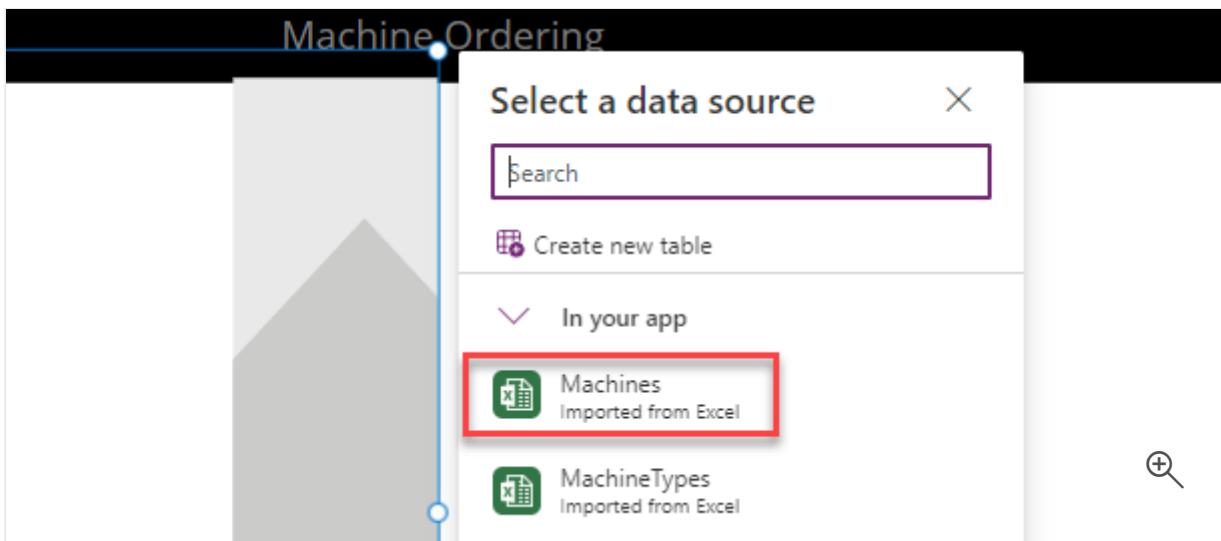
Task: Add a machine gallery

Follow these steps to add a machine gallery:

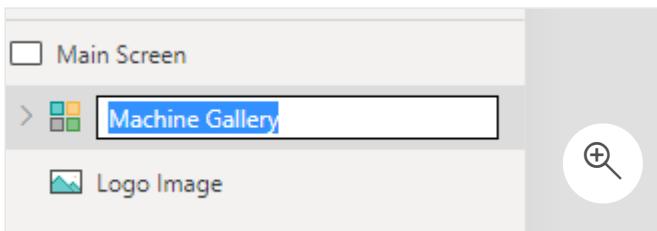
1. Select **Main Screen**, then Select **+ Insert**, expand the **Layout** group, and then select **Horizontal gallery**.



2. Select **Machines** as the data source.



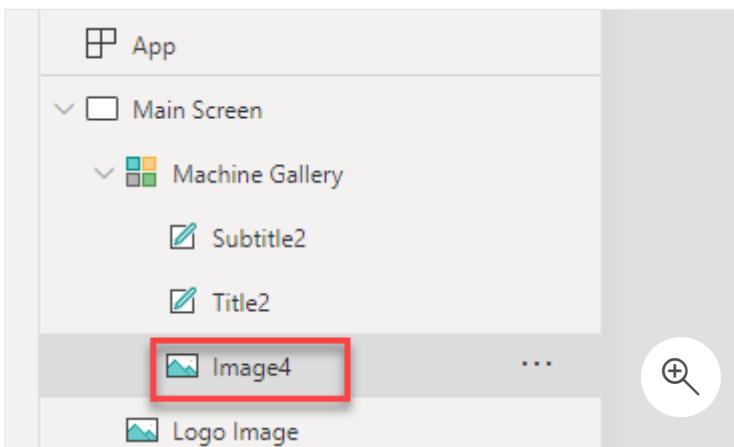
3. Rename the gallery to **Machine Gallery**.



Task: Arrange the machine gallery

To arrange the machine gallery, follow these steps:

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



2. Set the **Image** value of the image to the following formula.

`ThisItem.Photo`

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

4. Set the **Text** value of the title to the following formula.

ThisItem.'Machine Name'

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

6. Set the **Text** value of the subtitle to the following formula.

ThisItem.Price

7. Select the **Machine Gallery**.

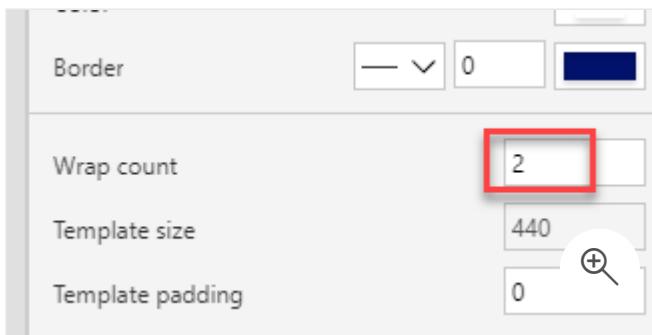
8. Set the **X** value of the Machine Gallery to 200.

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

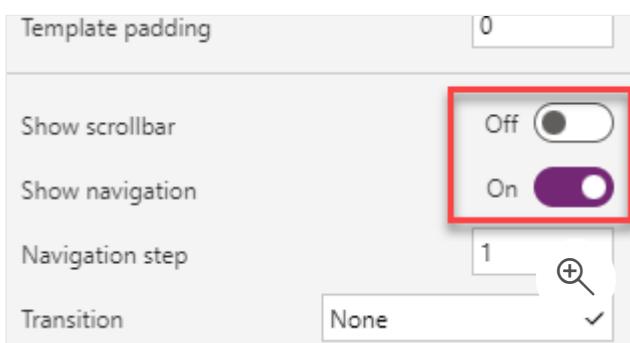
10. Set the **Height** value to 650.

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

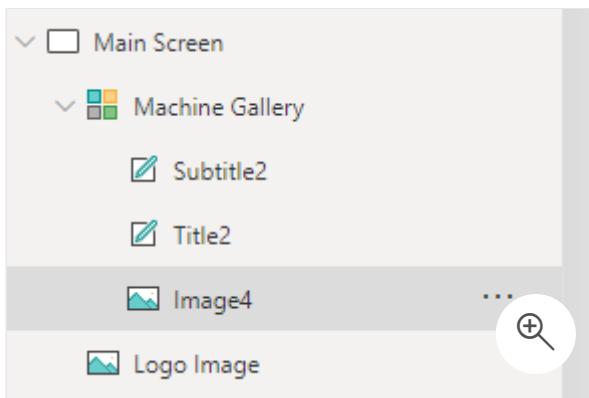
12. Select the **Machine Gallery**, go to the Properties pane, and set the **Wrap count** to 2.



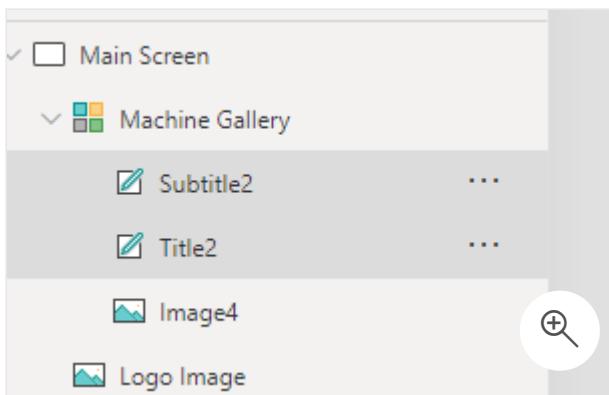
13. Set the **Show scrollbar** toggle to **Off** and the **Show navigation** toggle to **On**.



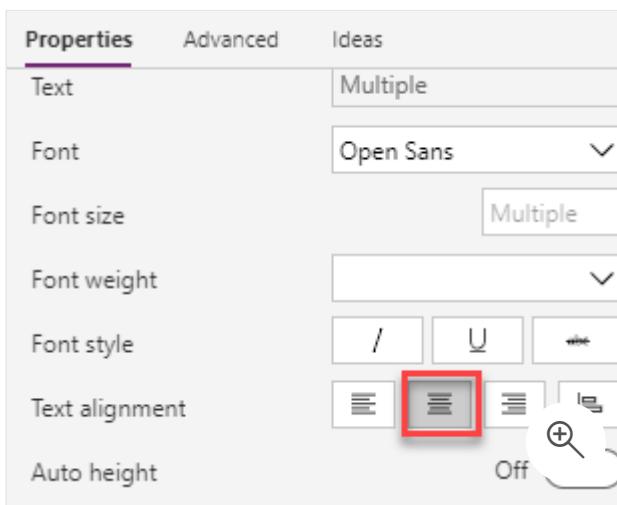
14. Select the image inside the **Machine Gallery**.



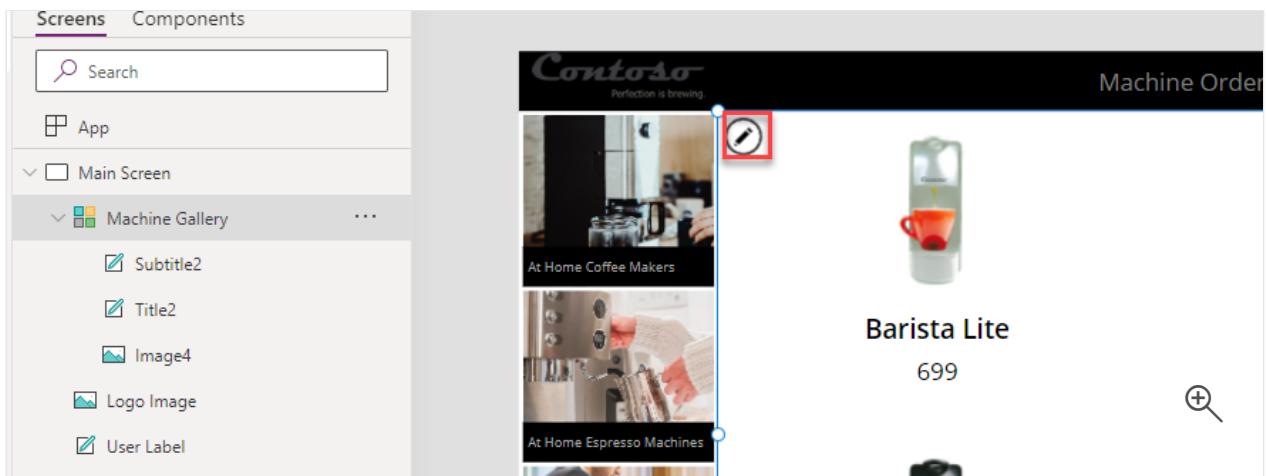
15. Set the **Width** value of the image to **200**.
16. Set the **Height** value of the image to **170**.
17. Select the **Title** and **Subtitle** inside the gallery. Press the **Ctrl** key to select multiple controls.



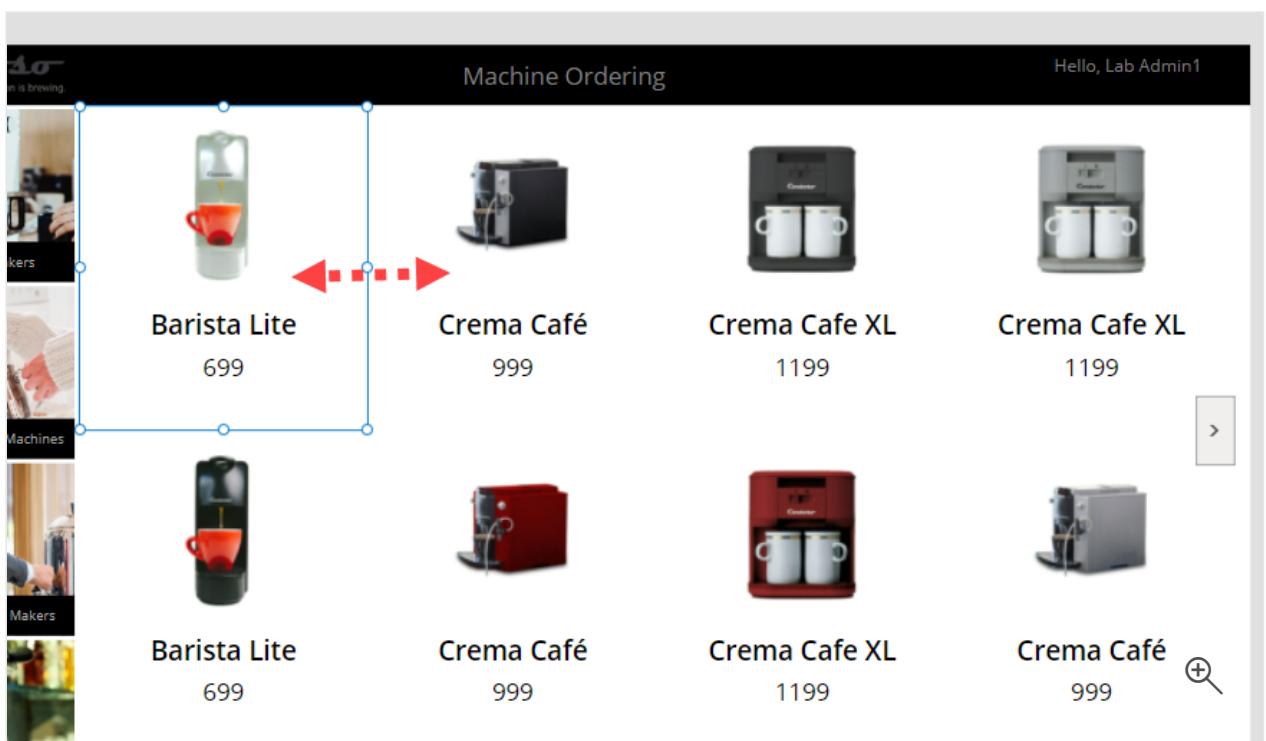
18. Go to the properties and select **Center** for **Text alignment**.



19. Select **Machine Gallery** and then select the **Edit gallery** button.



20. Make the template narrower until a total of 8 machines is visible.



Task: Highlight the selected item in the gallery

In this task, you 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. You'll also change the label fill for this gallery.

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

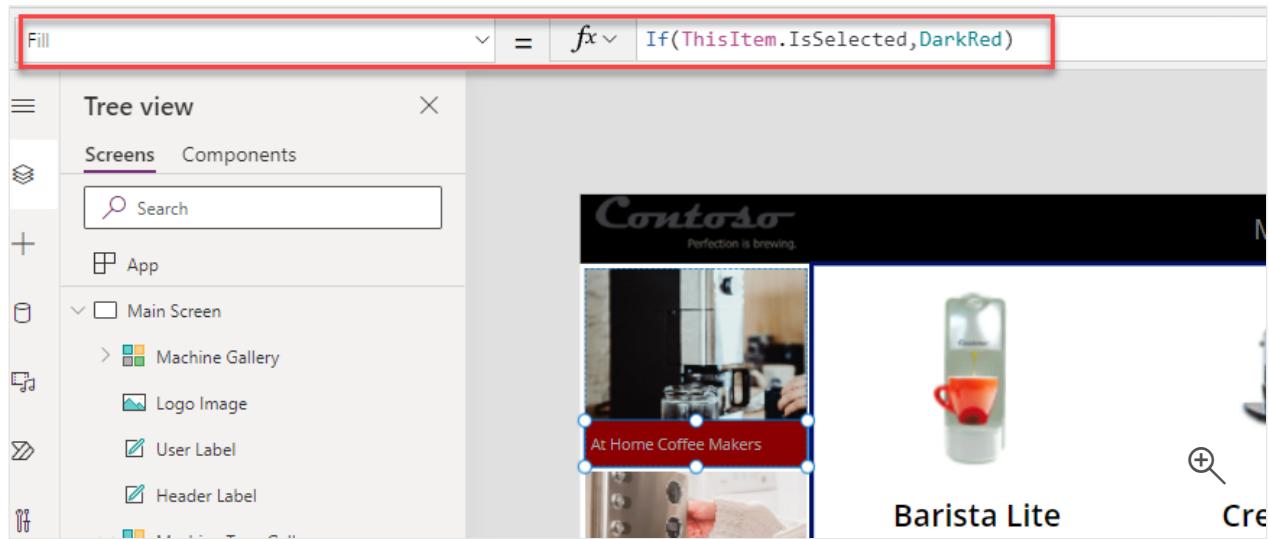


2. Change the **Fill** value of the label to the following formula. This Power Fx formula sets the label fill to dark red for the selected item.

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

Alternatively, you could set the **Fill** property to: `If(ThisItem.IsSelected,ColorFade('Header Label'.Fill,75%))`

We recommend that you use this approach so that the fill color matches the header label with a 75 percent fade. If you change the fill color of header label, the fill color of the selected item in the gallery will automatically change.



3. 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 selecting a few different manufacturers in the gallery. Notice that the selected item in the manufacturer gallery is highlighted. The preview mode ends when you stop holding the key.

Alternatively, you could select the **Play** button to enter preview mode. To exit preview mode, select the **X** in the upper-right corner or press the **Esc** key.

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

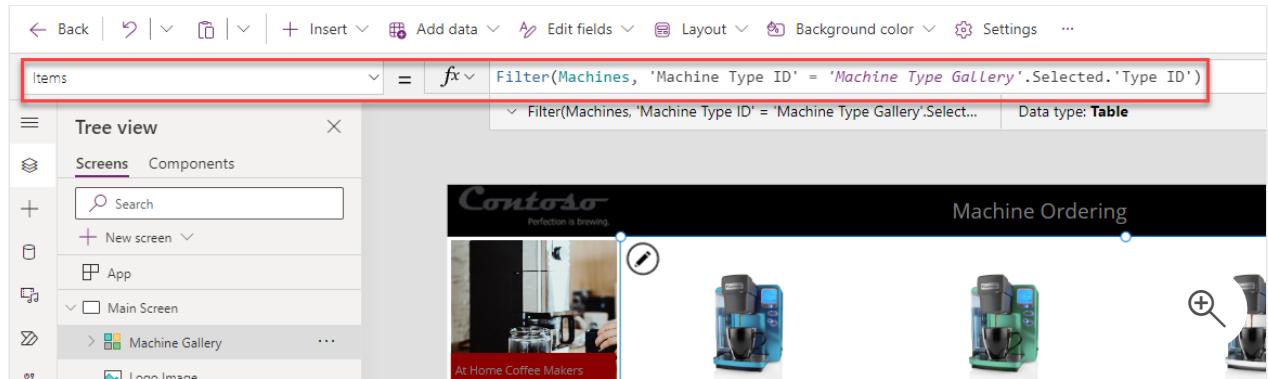
In this task, you use the **Filter()** function to filter items in the **Machine Gallery** to only display machines that match the selected item in the **Machine Type Gallery**.

1. Select the **Machine Gallery**.
2. Set the **Items** value and then enter the following formula.

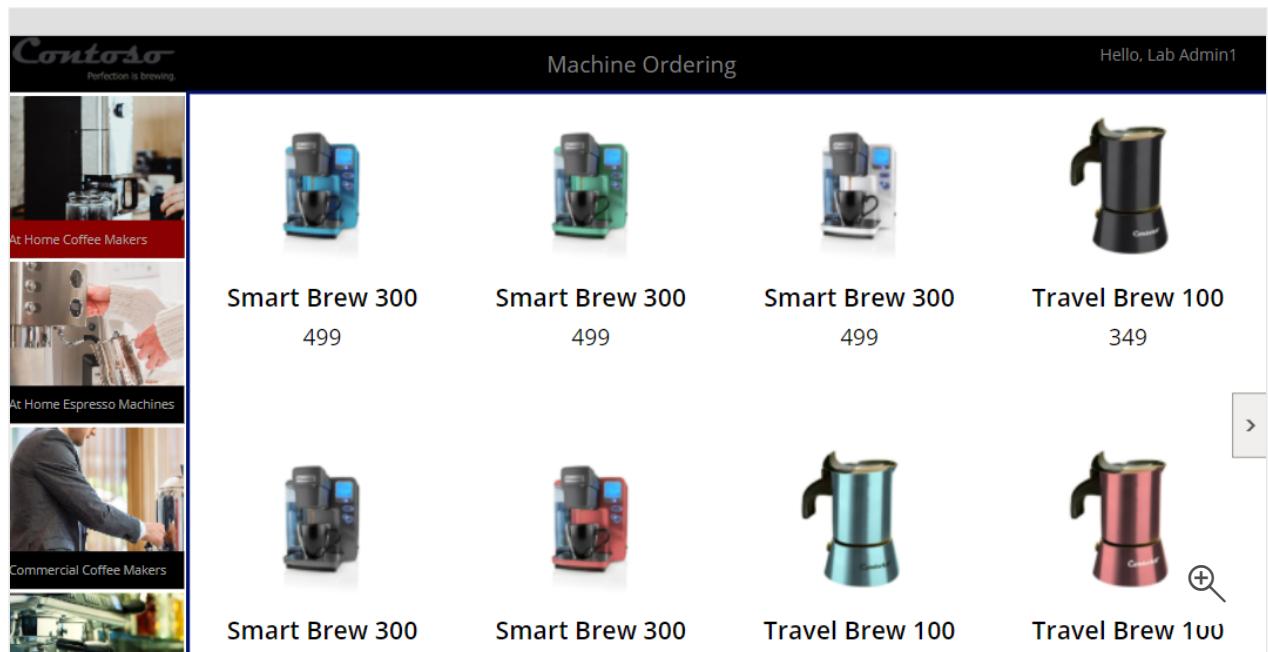
```
Filter(Machines, 'Machine Type ID' = 'Machine Type Gallery'.Selected.'Type ID')
```

For alternate/European locales, enter the following formula:

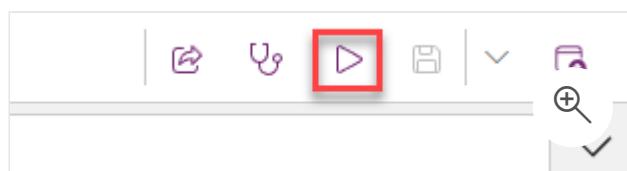
```
Filter(Machines; 'Machine Type ID' = 'Machine Type Gallery'.Selected.'Type ID')
```



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



3. Select the Preview the app button.



The app should load.

4. Select an item from the Machine Type Gallery.

The machine gallery should show machines that match the selected machine type.

Contoso
Perfection is brewing.

Machine Ordering

Hello, Lab Admin1

Category	Image	Name	Price	Action
At Home Coffee Makers		Barista Lite	699	
At Home Espresso Machines		Crema Café	999	
Commercial Coffee Makers		Crema Cafe XL	1199	
Commercial Espresso Machines		Crema Cafe XL	1199	

5. Close the preview.

Contoso
Perfection is brewing.

Machine Ordering

Hello, Lab Admin1

Category	Image	Name	Price	Action
At Home Coffee Makers		Barista Lite	699	
At Home Espresso Machines		Crema Café	999	
Commercial Coffee Makers		Crema Cafe XL	1199	
Commercial Espresso Machines		Crema Cafe XL	1199	

① 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.

For more information about the **Filter()** function, see [Filter lookup](#).

For a complete set of expressions, see [Power Fx formula reference](#).

Task: Set up text labels in the machine gallery

To set up text labels in the machine gallery, follow these steps:

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

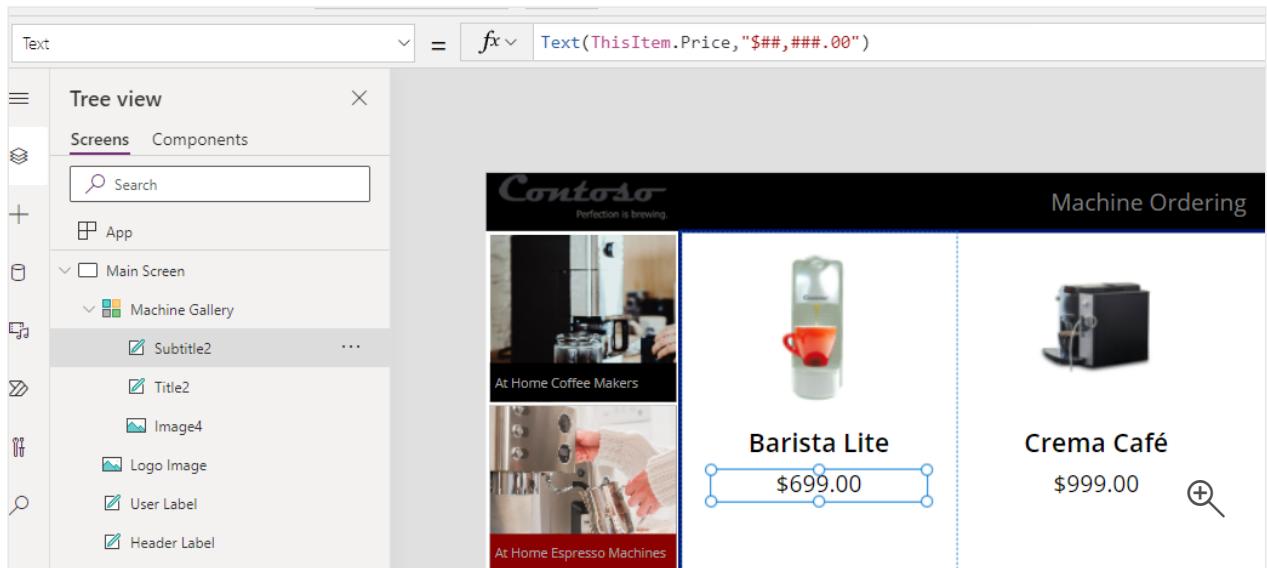
```
Text(ThisItem.Price,"$##,###.00")
```

For alternate/European locales, enter the following formula:

```
Text(ThisItem.Price;"$##.###,00")
```

!**Note**

After you've entered the preceding value in the formula bar, it will automatically resolve to include your locale, such as [\$-en-US]. If an error occurs, your locale might not be supported yet, in which case, as a workaround, you can manually change it to [\$-en-US].



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

You can make spotting machines that cost more than \$10,000 easier by displaying the price in red font.

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

For alternate/European locales, enter the following formula:

```
If(ThisItem.Price>10000;OrangeRed;Gray)
```

The screenshot shows the Power Apps Studio interface. On the left, there's a tree view of the app structure under 'Main Screen' / 'Machine Gallery'. A formula bar at the top has 'Color' selected, followed by an equals sign, an 'fx' button, and the formula `If(ThisItem.Price>10000,OrangeRed,Gray)`. To the right of the formula is a note: 'If(ThisItem.Price>10000,OrangeRed,Gray) = This formula uses scope, which means it applies to the current item in the loop.' The preview window on the right shows a 'Contoso' coffee machine app. It features a grid of coffee machines. One machine, 'Barista Lite', is highlighted with a red background and white text, indicating its price of '\$699.00' is over \$10,000.

⚠ Note

As you're entering this formula, notice that autosuggest shows a choice of matching colors. Power Apps comes with a set of standard colors that you can reference in any property that accepts a color value. You can also set specific RGB color values.

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

2. Select **Preview the app**.
3. Select **Commercial Espresso Machines** from the Machine Type Gallery. The price for machines that are over \$10,000 should become red.

The screenshot shows the 'Machine Ordering' app. On the left, there's a sidebar with navigation links: 'At Home Coffee Makers', 'At Home Espresso Machines', 'Commercial Coffee Makers', and 'Commercial Espresso Machines'. The main area is titled 'Machine Ordering' and shows a grid of coffee machines. Each machine has a small image, its name, and its price. The prices for the 'Cafe A-100' models are displayed in red, while the others are in black. The sidebar also shows 'Hello, Lab Admin1'.

Machine Type	Model	Price
At Home Coffee Makers	Cafe A-100	\$21,900.00
	Cafe A-100	\$21,900.00
At Home Espresso Machines	Cafe A-200	\$23,900.00
	Cafe A-200	\$23,900.00
Commercial Coffee Makers	Cafe A-100	\$21,900.00
	Cafe A-200	\$23,900.00
Commercial Espresso Machines	Cafe S-100 Semi-Auto	\$17,900.00
	Cafe S-100 Semi-Auto	\$17,900.00

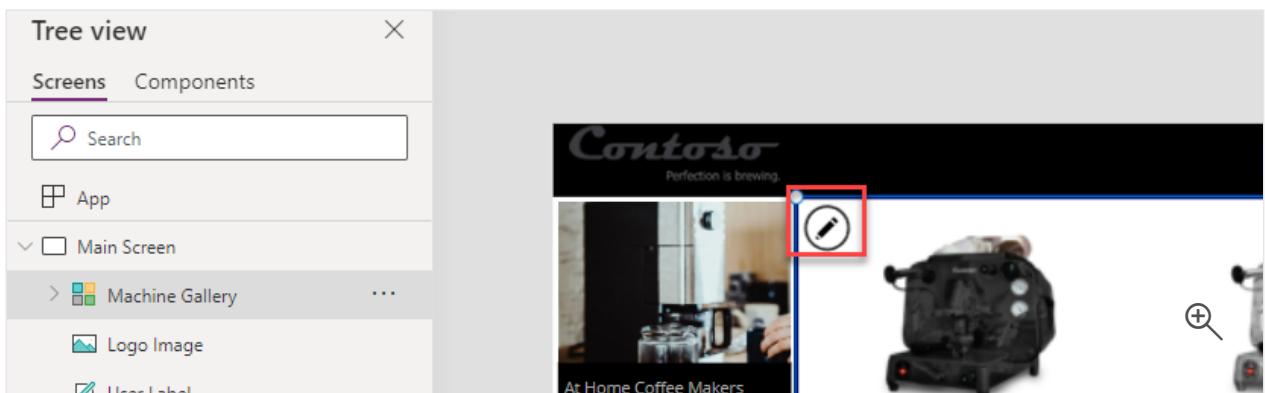
4. Close the preview.

5. Select **Save** and then wait for the application to be saved.

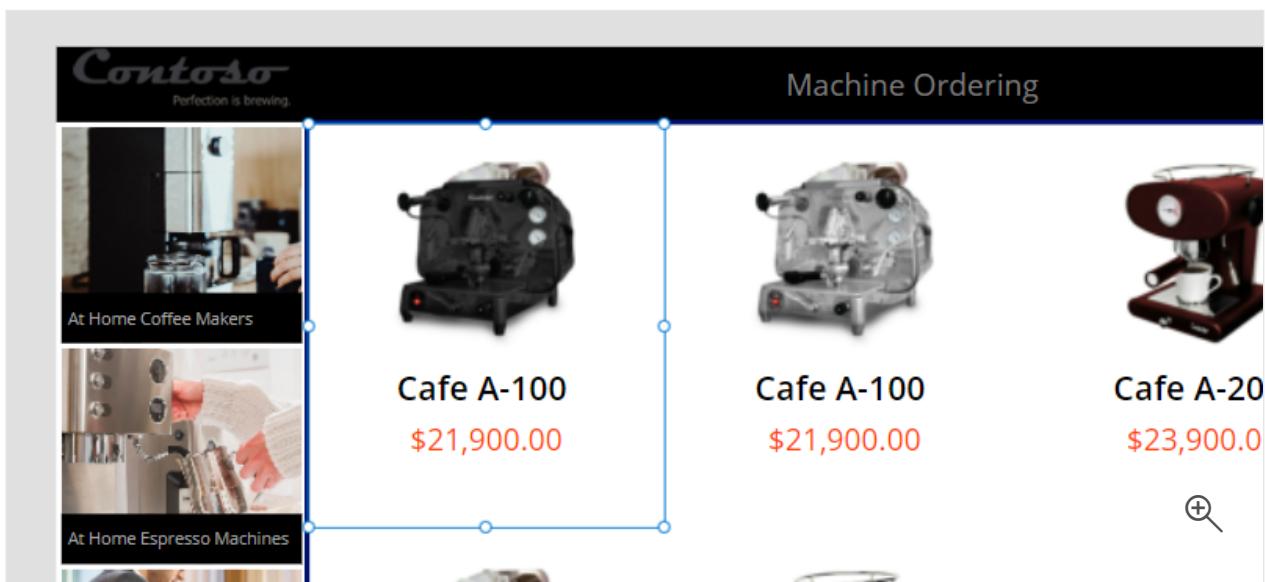
Task: Add a checkbox to add a machine to the Compare list

Now, you'll want to allow users to select multiple machines to compare before making a final selection on the next screen.

1. Select the **Machine Gallery** and then select the pencil edit icon in the upper 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. Select **+ Insert**, expand the **Input** group, and then select **Check box**.

Screenshot of a UI builder interface showing a sidebar with various input components and a main canvas displaying a product card for a 'Cafe A-100' espresso machine.

The sidebar on the left lists the following components:

- Search bar
- Date picker
- Button
- Input
 - Text input
 - Pen input
- Drop down
- Combo box
- Date picker
- List box
- Check box** (highlighted with a red border)
- Radio

The main canvas displays a product card for a 'Cafe A-100' espresso machine. The card includes:

- A small image of a person making coffee.
- A larger image of the 'Cafe A-100' machine.
- The product name: **Cafe A-100**.
- The price: **\$21,900.00**.
- A checkbox labeled 'Option'.
- A magnifying glass icon for search.

4. Move the inserted checkbox below the price.

Screenshot of the UI builder interface showing the product card after the checkbox has been moved below the price.

The product card now looks like this:

- A small image of a person making coffee.
- A larger image of the 'Cafe A-100' machine.
- The product name: **Cafe A-100**.
- The price: **\$21,900.00**.
- A checkbox labeled 'Option'.
- A magnifying glass icon for search.

5. Change the checkbox text to **Compare** by setting the **Text** property.

The screenshot shows the Power Apps Studio interface. On the left, there's a 'Tree view' component with a search bar and a list of components: App, Main Screen, Machine Gallery, Checkbox1, Subtitle2, Title2, Image4, Logo Image, and User Label. On the right, there's a 'Machine' screen with a header 'Contoso Perfection is brewing.' It displays two coffee makers: 'Cafe A-100' and 'Cafe A-10'. Each machine has a price (\$21,900.00 and \$2,700.00) and a 'Compare' button.

Task: Create a collection for the selected machines

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

1. Select the **Checkbox** control and change the **OnCheck** value to the following formula.

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

The screenshot shows the Power Apps Studio interface. The formula bar at the top has 'OnCheck' selected, and the formula 'Collect(CompareList, ThisItem)' is highlighted with a red box. The 'Tree view' component on the left shows 'Checkbox1' selected. The 'Machine' screen on the right shows the same layout as the previous screenshot, with the 'Compare' button highlighted.

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

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

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

OnUncheck = *f(x)* Remove([CompareList], ThisItem)

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

Default = *f(x)* ThisItem in CompareList

Tree view (Screenshot of the PowerApp Studio interface showing the app structure and the selected checkbox1 item.)

Screens Components

Search

App

Main Screen

Machine Gallery

Checkbox1

Subtitle2

Contoso Perfection is brewing.

At Home Coffee Makers

Machine Ordering

The **Default** setting of the checkbox is a Boolean true or false value that determines whether the checkbox should be checked by default or not. Setting this formula ensures that the checkbox is selected by default if the item has already been added to the collection because the result will be true, for example, this item *is* in `CompareList`.

4. To test the adding of items to a collection, you can run the app in Preview (F5) or you can select the Preview button in the upper right. Select the checkboxes of three machines.

At Home Coffee Makers

Cafe A-100 \$21,900.00

Cafe A-100 \$21,900.00

Cafe A-200 \$23,900.00

At Home Espresso Machines

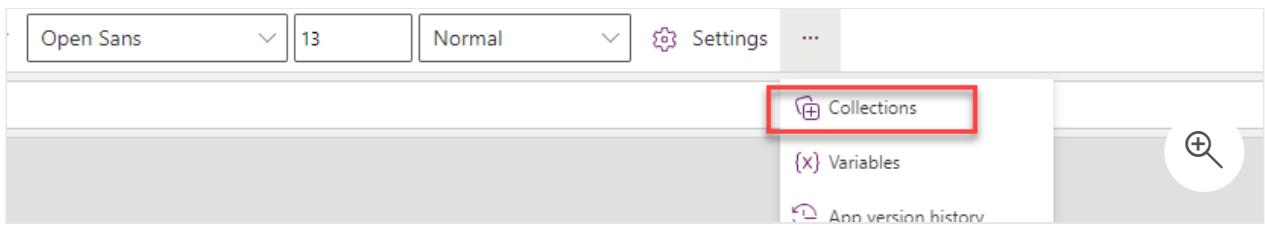
Compare

Compare

Compare

5. Close the preview.

6. Select the ellipsis (...) button next to the **Settings** button and then select **Collections**.



The **CompareList** collection and the three items that you selected will display.

(Do Not MC)	(Do Not Modify)	Modified On	Avg. Cups/Week	Avg. Espressos/Week	Color
fa9c3091-96c0-000d3a142f6e		5/5/2022 12:01 PM	1-50	100-200	Black
fc9c3091-96c0-000d3a142f6e		5/5/2022 12:01 PM	1-50	100-200	Silver
fe9c3091-96c0-000d3a142f6e		5/5/2022 12:02 PM	1-50	100-200	

Each item in the collection has the information for each machine that you've received from the **Machines** data source, not just the fields that you display in the Machine Gallery.

7. Select the arrow in the upper left to return to the main view.

8. Select **Preview** again.

9. Clear all items with check marks and then close the preview.

At Home Coffee Makers	Cafe A-100	Cafe A-100	Cafe A-200
At Home Espresso Machines	\$21,900.00	\$21,900.00	\$23,900.00
	<input type="checkbox"/> Compare	<input type="checkbox"/> Compare	<input type="checkbox"/> Compare

10. Select the ellipsis (...) button next to the **Settings** button and then select **Collections** again.

All items are removed from the **CompareList** collection.

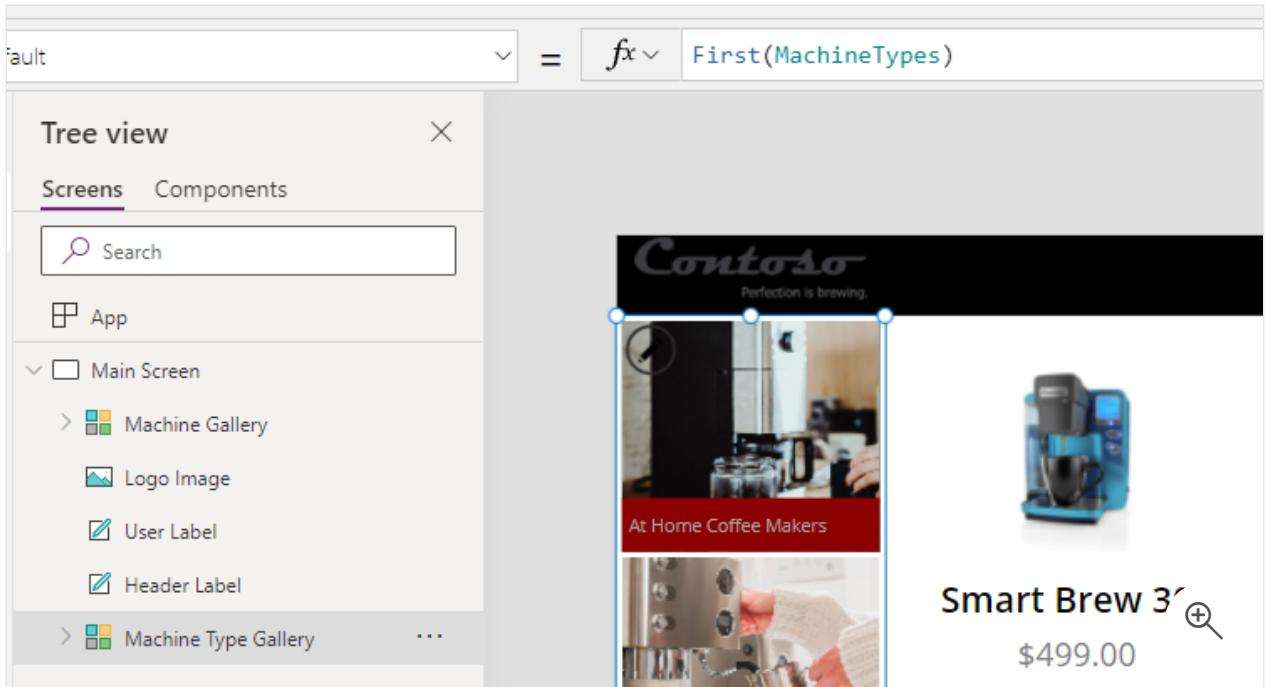
11. Select the back arrow.

Task: 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 selecting **Machine Type Gallery** in the tree view on the left) and then set the **Default** property of the gallery in the formula bar to:

`First(MachineTypes)`



This action sets the selected item to be the first item in the table.

2. To preview the app, select the **Preview** button on the upper right of the menu.

Alternatively, you can press the F5 key to preview the application. You can also test your app directly on the canvas by holding down the Alt key to activate buttons and other controls.

3. Your app should resemble the following image.



At Home Coffee Makers



Smart Brew 300

\$499.00

 Compare

Smart Brew 300

\$499.00

 Compare

Smart Brew 300

\$499.00

 Compare

Travel Brew 100

\$349.00

 Compare

At Home Espresso Machines



Smart Brew 300

\$499.00

 Compare

Smart Brew 300

\$499.00

 Compare

Travel Brew 100

\$349.00

 Compare

Travel Brew 100

\$349.00

 Compare

Commercial Coffee Makers



Smart Brew 300

\$499.00

 Compare

Smart Brew 300

\$499.00

 Compare

Travel Brew 100

\$349.00

 Compare

Commercial Espresso Machines

Smart Brew 300

\$499.00

 Compare

Smart Brew 300

\$499.00

 Compare

Travel Brew 100

\$349.00

 Compare

4. To exit preview mode, select the X in the upper-right corner.

5. Select **Save** and then wait for the application to be saved.

6. Don't navigate away from this page.

Next unit: Exercise - Add the compare screen

[Continue >](#)