



Power Platform

App in a Day

Module 2: Microsoft Dataverse

Hands-on Lab Step-by-Step

October 2022

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Microsoft Dataverse

Lab Prerequisites

This is the second lab in a series covering Power Apps Canvas Apps, Microsoft Dataverse, Power Apps Model-driven Apps, and Power Automate. The assumption is that you have successfully completed the initial part of setting up an environment as described in the overview document – “**00-AppInADay Lab Overview.pdf**”.

If you have not completed building the Power Apps Canvas App in Module 1, you can use the partially completed version of the lab package in the “\Completed\Module1” folder. Follow the instructions in the document “Importing Contoso Coffee” before proceeding with this module.

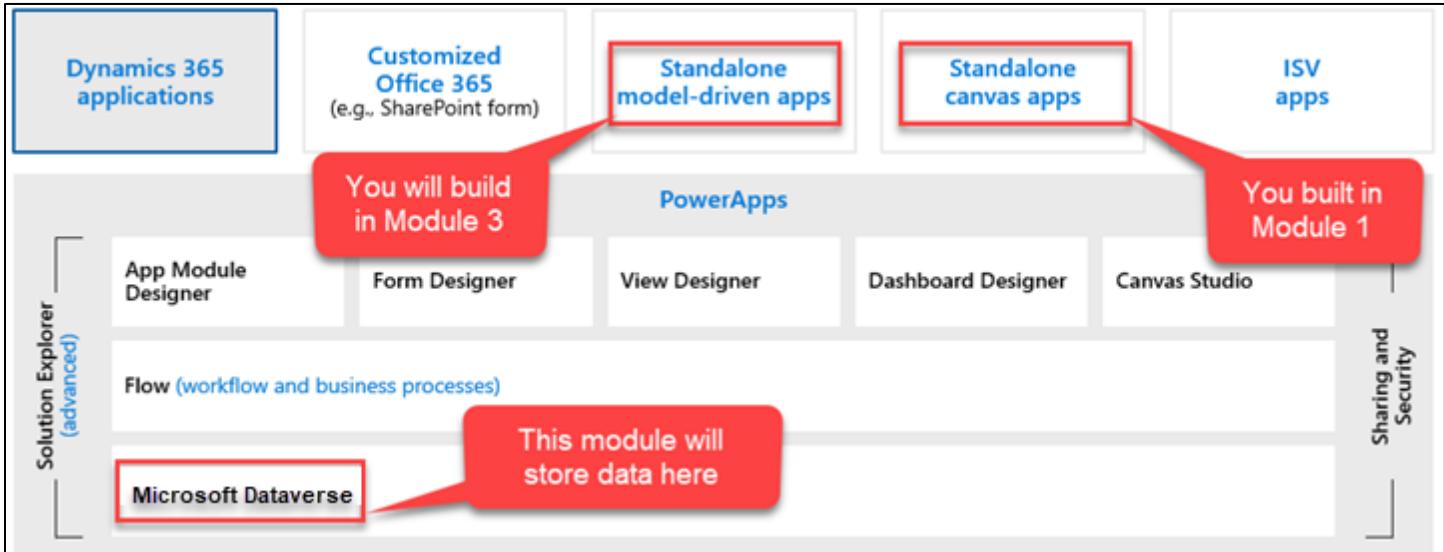
Before you begin

You must be connected to the internet.

1. **Have a Test Environment with permission to create a Microsoft Dataverse database:** You should have gone through the steps to create a new environment using the Admin center. In this lab, you will create a database in this environment, if you haven't already created one.
2. **Sign-in to Power Apps:** Go to [Power Apps](#) and **sign in** with the same account you used to complete the first lab. Make sure you switch to the environment where you created the app.

Overview

[Microsoft Dataverse](#) adds data storage and modeling capabilities to Power Apps that is scalable and easy to provision. In this module, you will be using Microsoft Dataverse to model and store the data from the machine ordering canvas app that you built in module 1. In the next module, you will be building a model-driven application using the same data that will be used by the back-office staff to process the machine orders. These apps that you build on Microsoft Dataverse use the same technology framework (Microsoft Dataverse) that Microsoft Dynamics 365 apps are built-on.



Goals for this lab

After this lesson you will be able to:



- Provision a Microsoft Dataverse database
- Create a custom table and add custom columns to it
- Use the Power Apps Form control to populate the table
- View the table data
- Create a calculated column
- Implement a server-side business rule



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

Exercise 1: Exploring Microsoft Dataverse

In this exercise, you will explore Microsoft Dataverse standard tables. Tables in Microsoft Dataverse are like tables in a database or worksheets in Microsoft Excel. Tables can be connected together with relationships that model real world interactions between the data. Each table contains multiple Rows (Records), each having data columns. For example, a "Project" table may have columns such as Name, Due Date, Status, etc. and it may be related to a "Project Owner" table which might have columns such as Name, Email, etc.

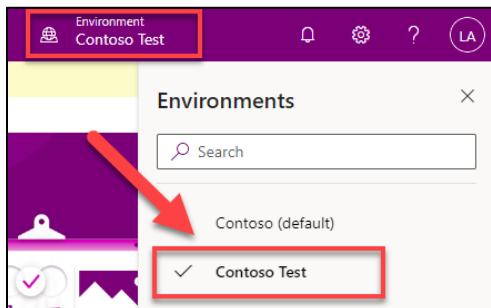
Microsoft Dataverse abstracts a lot of the typical low-level database management work to make it easier for you to configure a custom data model that fits your application.

In addition to allowing for the creation of custom Tables, Microsoft Dataverse contains a Common Data Model (CDM) consisting of hundreds of standard table definitions. You can find the current CDM schema at [Github Microsoft CDM](#) and you can browse the CDM using the CDM Visual Table Navigator located here [Github CDM](#). You can read more about the CDM here [Common Data Model Overview](#).

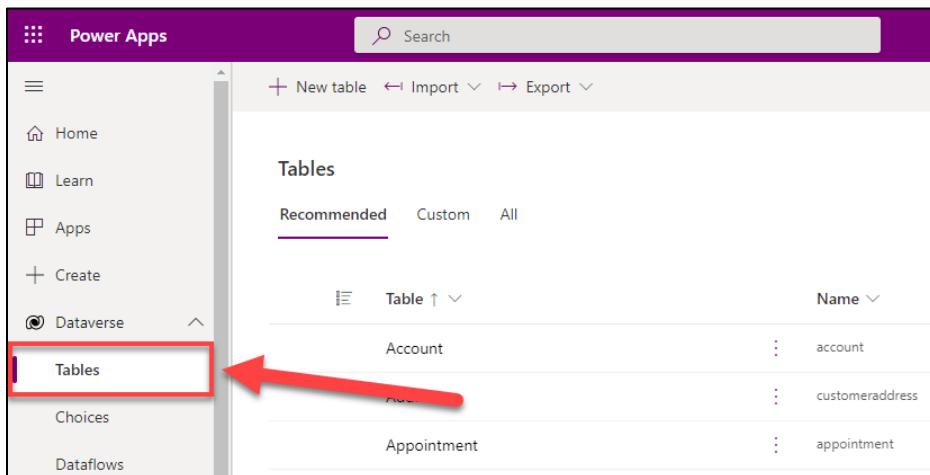
Task 1: Explore standard Tables

In this task, you will explore Microsoft Dataverse standard Tables.

Before beginning the exercises, navigate to [Make Power Apps](#) and confirm that you are in the desired environment for the labs.



1. In the menu pane to the left, expand **Dataverse** and select **Tables**.



Name	Description
Account	account
Appointment	appointment

2. This will load the list of tables for this environment. Select a few of the **Standard Tables** (for example, **Account**) to get familiar with some of the features of a table.

A screenshot of the Microsoft Dataverse Tables list page. The page has a header 'Tables' and a list of table names: Account, Activity, Address, Appointment, Attachment, Business Unit, and Contact. The 'Account' table is highlighted with a red arrow pointing to it from the left.

For detailed documentation on Microsoft Dataverse Tables, see <https://docs.microsoft.com/en-us/powerapps/developer/common-data-service/reference/about-entity-reference>

Table properties:

Here, you can find the table name, table type, table primary column, and table description. You can also copy table set name, schema name, or logical name via the tools button.

A screenshot of the Microsoft Dataverse Table Properties page for the 'Account' table. The top navigation bar includes 'New', 'Edit', 'Create an app', 'Using this table', 'Import', 'Export', 'Advanced', and 'Delete'. The main area shows 'Tables > Account' and a 'Table properties' section with columns for Name (Account), Primary column (Account Name), and Description (Business that represents a customer). To the right is a 'Properties' section with a 'Tools' dropdown menu containing options like 'Copy set name', 'Copy schema name', 'Copy logical name', 'API link to table definition', and 'API link to table data'. Below this is a 'Schema' section with links for 'Columns', 'Relationships', and 'Keys'. At the bottom, there's a grid titled 'Account columns and data' showing three rows of sample data: A. Datum Corporation (sample), Adventure Works (sample), and Alpine Ski House (sample).

Table schema:

Here, you can navigate to the table columns, relationships, and keys. From the **Table Schema** feature list, select **Columns**.

The screenshot shows the Microsoft Dataverse interface for the 'Tables > Account' page. At the top, there's a navigation bar with links like 'New', 'Edit', 'Create an app', 'Using this table', 'Import', 'Export', 'Advanced', and 'Delete'. Below the navigation is a 'Table properties' section showing details for the 'Account' table, such as its name, primary column (Account Name), and description (Business that represents a customer or potential customer). To the right of this is a 'Schema' button, which is highlighted with a red box and has a red arrow pointing to the 'Columns' link in its dropdown menu. Other options in the dropdown include 'Relationships' and 'Keys'. On the far right, there's a 'Data experiences' section with links for 'Forms', 'Views', 'Charts', and 'Dashboards'. Below the table properties is a section titled 'Account columns and data' containing a table with sample data rows for 'A. Datum Corporation (sample)' and 'Adventure Works (sample)'. The bottom right of this section has a '+138 more' link.

Columns:

A table has a list of columns. In the example below, the "Account" table has columns such as Account Name, Account Number, etc. Each column has a data type, such as Text, Number, etc. The data type is chosen when you create a column and is not changeable. The **data type** also defines many of the characteristics and behaviors of the column when your application runs. For example, a Choice column allows you to have a pre-defined list of values for use in your application. When this column is used on a form in a model-driven application the visual presentation is a drop-down control. The column helps to ensure data consistency and allows for built-in support for multi-language applications.

The screenshot shows the 'Tables > Account > Columns' page. The breadcrumb navigation at the top includes 'Tables', 'Account', and a red-highlighted 'Columns' link. The main area is a table listing columns with their properties. The columns are: Display name, Name, Data type, Managed, Customizable, Required, and Searchable. The 'Data type' column is highlighted with a red box. The table data is as follows:

Display name	Name	Data type	Managed	Customizable	Required	Searchable
(Deprecated) Process Stage	StageId	Unique identifier	Yes	No	No	No
(Deprecated) Traversed Path	TraversedPath	Single line of text	Yes	Yes	No	No
Account	AccountId	Unique identifier	Yes	Yes	Yes	Yes
Account Name <small>Primary name column</small>	Name	Single line of text	Yes	Yes	Yes	Yes
Account Number	AccountNumber	Single line of text	Yes	Yes	No	Yes

For a list of supported data types, see [Microsoft Dataverse Supported Data Types](#)

Navigate back to the **table** by selecting on the browser **back** button.

From the **Schema** feature list, select **Relationships**.

The screenshot shows the 'Tables > Account' page in the Microsoft Dataverse interface. The top navigation bar includes options like 'New', 'Edit', 'Create an app', 'Using this table', 'Import', 'Export', 'Advanced', and 'Delete'. On the left, there's a 'Table properties' panel with details about the 'Name' (Account), 'Primary column' (Account Name), 'Type' (Last modified), and 'Standard'. The central area has three main sections: 'Schema' (with 'Columns' and 'Relationships' options), 'Data experiences' (Forms, Views, Charts, Dashboards), and a search bar. A red box highlights the 'Relationships' option in the 'Schema' section, and a red arrow points down to the 'Relationships' section below it.

Relationships:

Relationships allows you to manage relationships between Tables. Relationships supported are One to Many (1:N), Many to One (N:1) and Many to Many (N:N). Relationships also define the behavior that happens when actions occur on the primary Row in a 1:N relationship. For example, if the parent Row is deleted you can configure the relationship behavior so that all child Rows are also deleted or simply remove the reference.

The screenshot shows the 'Tables > Account > Relationships' page. The top navigation bar includes 'New relationship'. The main table lists six relationships with columns for 'Display name', 'Name', 'Related table', 'Relationship type' (which is highlighted with a red box), 'Managed', and 'Customizable'. The 'Relationship type' column shows various configurations for each relationship.

Display name ↑	Name	Related table	Relationship type	Managed	Customizable
(Deprecated) Process Stage	: processstage_account	Process Stage	Many-to-one	Yes	No
Base Record ID	: Account_DuplicateBaseRecord	Duplicate Record	One-to-many	Yes	No
Company Name	: contact_customer_accounts	Contact	One-to-many	Yes	Yes
Connected From	: account_connections1	Connection	One-to-many	Yes	Yes
Connected To	: account_connections2	Connection	One-to-many	Yes	Yes
Created By	: lk_accountbase_createdby	User	Many-to-one	Yes	Yes

Navigate back to the **table** by selecting the browser **back** button.

From the **Schema** feature list, select **Keys**.

The screenshot shows the Microsoft Dataverse interface for the 'Account' table. At the top, there are navigation links: '+ New', 'Edit', 'Create an app', 'Using this table', 'Import', 'Export', 'Advanced', and 'Delete'. Below this is the 'Tables > Account' breadcrumb. On the left, the 'Table properties' section displays the table's name ('Account'), primary column ('Account Name'), and description ('Business that represents a customer or potential customer. The company that is billed in business transactions.'). The 'Type' is listed as 'Standard'. To the right, under the 'Schema' tab, there are options for 'Columns', 'Relationships', and 'Keys'. A red box highlights the 'Keys' button, and a red arrow points to it from below. The 'Data experiences' sidebar on the right includes 'Forms', 'Views', 'Charts', and 'Dashboards'. Below the table properties, the 'Account columns and data' section shows a grid of sample data:

Account Name*	Main Phone	Address 1: City	Primary Contact
A. Datum Corporation (sample)	555-0158	Redmond	Rene Valdes (sample)
Adventure Works (sample)	555-0152	Santa Cruz	Nancy Anderson (sample)

+138 more

Keys:

Allows you to view the lookup keys for the table. Keys can contain multiple columns to define a composite key. Keys enforce uniqueness, so they should not be used when there is a need to store duplicate values of columns used.

The screenshot shows the 'Keys' page for the 'Account' table. At the top, there are buttons for '+ New key', 'Refresh', and 'Search'. Below this is the breadcrumb 'Tables > Account > Keys'. The main area has a header with filter options: 'Display name ↑', 'Name ↓', 'Columns', 'Managed', 'Customizable', and 'Status'. A large circular icon with a grid pattern is centered on the page. Below it, the text 'We didn't find anything to show here' is displayed.

Navigate back to the **table** by selecting the browser **back** button.

Table Data experience:

Here, you can navigate to the table forms, views, charts, and dashboards. Select **Forms**.

The screenshot shows the Microsoft Dataverse interface for the 'Tables > Account' page. At the top, there's a navigation bar with options like 'New', 'Edit', 'Create an app', 'Using this table', 'Import', 'Export', 'Advanced', and 'Delete'. Below the navigation bar, the 'Table properties' section displays details about the 'Account' table, including its primary column ('Account Name'), description ('Business that represents a customer or potential customer. The company that is billed in business transactions.'), and type ('Standard'). To the right of the table properties is a 'Schema' section with links to 'Columns', 'Relationships', and 'Keys'. A large red box highlights the 'Data experiences' section, which contains links for 'Forms', 'Views', 'Charts', and 'Dashboards'. A red arrow points from the text above to the 'Forms' link. Below the table properties, there's a section titled 'Account columns and data' showing a preview of the table's data with columns for 'Account Name', 'Main Phone', 'Address 1: City', and 'Primary Contact'. A red box highlights the 'Account Name' column header.

Forms:

Forms provide the user interface that people use to interact with the data they need to do their work. It's important that the forms people use are designed to allow them to find or enter the information they need efficiently. You can create different types of forms like Quick Create, Quick View, Card, and a Main form. For some of these forms you can have more than one version, to accommodate for different user roles within your organization.

The screenshot shows the Microsoft Dataverse interface for the 'Tables > Account > Forms' page. At the top, there are buttons for 'New form' and 'Form settings'. Below that, the 'Name' column is sorted by ascending order. The table has five columns: 'Name', 'Form type', 'Status', 'Managed', and 'Customizable'. The 'Form type' column is highlighted with a red box. The data in the table is as follows:

Name	Form type	Status	Managed	Customizable
Account	Main	On	Yes	Yes
account card	Quick View	On	Yes	Yes
Account Card form	Card	On	Yes	Yes
Account for Interactive experience	Main	On	Yes	Yes

Navigate back to the **table** by selecting the browser **back** button.

Select **Views** from the Table Data experiences list.

The screenshot shows the Microsoft Dataverse interface for the 'Account' table. At the top, there are various navigation and management options like 'New', 'Edit', 'Create an app', 'Using this table', 'Import', 'Export', 'Advanced', and 'Delete'. Below this, the 'Tables > Account' path is displayed. On the left, the 'Table properties' section provides details about the table, including its name ('Account'), primary column ('Account Name'), description ('Business that represents a customer or potential customer. The company that is billed in business transactions.'), type ('Standard'), and last modified date. To the right of the table properties are sections for 'Schema' (Columns, Relationships, Keys) and 'Data experiences'. The 'Data experiences' section is highlighted with a red box and contains links for 'Forms', 'Views' (which is also highlighted with a red box and has a red arrow pointing to it), 'Charts', and 'Dashboards'. Below these sections, there's a preview of the 'Account columns and data' with two sample rows: 'A. Datum Corporation (sample)' and 'Adventure Works (sample)'.

Views:

Views will let you define how a list of Rows are shown in the app. You can create multiple custom views, each having their own filtering and sorting criteria. For example, you could create a view to see only the Rows created in the last week and another one to see Rows that haven't been updated in a year. Create views to make the application users more productive in filtering their data.

The screenshot shows the 'Tables > Account > Views' list page. At the top, there's a 'New view' button. The main area displays a table of existing views, each with columns for 'Name' (sorted by name), 'View type', 'Status', 'Managed', and 'Customizable'. The views listed are: 'Account Advanced Find View' (Advanced Find View, default, On, Yes, Yes), 'Account Associated View' (Associated View, default, On, Yes, Yes), 'Account BulkOperation View' (Associated View, On, Yes, Yes), 'Account List Member View' (Associated View, On, Yes, Yes), 'Account Lookup View' (Lookup View, default, On, Yes, Yes), 'Accounts: Influenced Deals That We Won' (Public View, On, Yes, Yes), and 'Accounts: No Campaign Activities in Last 3 Month' (Public View, On, Yes, Yes).

Navigate back to the **table** by selecting the browser **back** button.

Select **Charts** from the Data experiences list..

The screenshot shows the 'Tables > Account' page in Microsoft Dataverse. At the top, there are various navigation and management links. On the right side, under the 'Data experiences' section, there is a list of options: 'Forms', 'Views', 'Keys', and 'Charts'. The 'Charts' option is highlighted with a red box and a red arrow pointing to it. Below this section, there is a table titled 'Account columns and data' showing sample data for 'Account Name', 'Main Phone', 'Address 1: City', and 'Primary Contact' for two entries: 'A. Datum Corporation (sample)' and 'Adventure Works (sample)'. There is also a link to '+138 more'.

Charts:

Use Charts to display high-level view of your data in insightful and graphical ways.

The screenshot shows the 'Tables > Account > Charts' page. At the top, there is a 'New chart' button. Below it, the page title is 'Tables > Account > Charts'. The main content is a table listing four charts: 'Accounts by Industry', 'Accounts by Owner', 'Accounts by Owner - Tag Chart', and 'New Accounts By Month'. Each row in the table includes a manage icon, a 'Managed' column (all marked as 'Yes'), and a 'Customizable' column (all marked as 'Yes').

Name ↑	Managed	Customizable
Accounts by Industry	Yes	Yes
Accounts by Owner	Yes	Yes
Accounts by Owner - Tag Chart	Yes	Yes
New Accounts By Month	Yes	Yes

Navigate back to the **table** by selecting the browser **back** button.

Select **Dashboards** from the Data experiences list.

The screenshot shows the 'Tables > Account' page in Microsoft Dataverse. At the top, there are various navigation and management links. On the right side, there's a sidebar titled 'Data experiences' which includes options for 'Forms', 'Views', 'Charts', and 'Dashboards'. The 'Dashboards' link is highlighted with a red box and a red arrow pointing towards it. Below the sidebar, there's a table preview showing columns like 'Account Name', 'Main Phone', 'Address 1: City', and 'Primary Contact' with some sample data rows.

Dashboards:

Dashboards helps you bring your views, charts, and web resources together in one place.

The screenshot shows the 'Tables > Account > Dashboards' page. At the top, there's a 'New dashboard' button. Below that, there's a search bar and a breadcrumb trail. The main area is a table with columns for 'Name', 'Managed', and 'Customizable'. The table is currently empty, displaying the message 'We didn't find anything to show here'. There are also sorting and filtering options for the table headers.

Navigate back to the **table** by selecting the browser **back** button.

Table Customizations:

Here, you can navigate to the table business rules and commands. **Select Business rules.**

The screenshot shows the Microsoft Dataverse interface for managing a table. At the top, there are tabs for 'Advanced' and 'Delete'. Below these are sections for 'Properties' and 'Tools'. The main area is divided into four panels: 'Schema' (Columns, Relationships, Keys), 'Data experiences' (Forms, Views, Charts, Dashboards), 'Customizations' (selected), and 'Business rules' (Commands). A red arrow points from the text 'Select Business rules.' to the 'Business rules' section in the 'Customizations' panel. At the bottom, there's a table view with columns for Primary Contact and a sample row for Rene Valdes.

Business rules:

Building a Business Rule is like building a flowchart where you can define conditions and actions. You can learn more about Business rules in the link below.

Business Rules Recommendations: [Business Rules Recommendations](#)

The screenshot shows the 'Business Rules Recommendations' page. At the top, there's a 'New business rule' button. Below it, the navigation path is 'Tables > Account > Business rules'. The main area has columns for 'Name', 'Status', and 'Scope'. A circular icon with three horizontal lines is centered. Below it, the text 'We didn't find anything to show here' is displayed.

Navigate back to the **table** by selecting the browser **back** button.

Select **Commands** from the Customizations list.

The screenshot shows the Microsoft Dataverse interface with the 'Customizations' section selected. A red arrow points to the 'Commands' option under the 'Customizations' heading. The 'Customizations' section also contains 'Business rules' and 'Forms'. The 'Forms' section includes options for 'Forms', 'Views', 'Charts', and 'Dashboards'. The 'Edit' button is visible at the bottom right of the 'Customizations' panel.

Commands:

Microsoft Dataverse allows you to create your own command bar buttons. The commands added to this table will be listed here.

The screenshot shows the 'Commands' list for the 'Account' table. The page title is 'How to customize command bars'. The search bar is empty. The table has columns: Label, Name, Location, Button Type, Command Type, App, Hidden, Managed, and Customizable. There are no rows in the table, and a message at the bottom says 'We didn't find anything to show here'.

Navigate back to the **table** by selecting the browser **back** button.

Table columns and date:

Here, you will see the first 10 rows of the table data. You can also see more columns via the show existing columns button, add new column via the + new column button, edit table data via the edit button, and order columns to your liking by dragging and dropping columns.

Select the **Edit** button in the top right corner of the table.

The screenshot shows a table view in Microsoft Dataverse. At the top, there are several navigation and management buttons: 'Type' (Standard), 'Last modified' (empty), 'Relationships' (with a 'Keys' sub-item), 'Views' (with 'Charts' and 'Dashboards' sub-items), and 'Commands'. Below these are two main sections: 'Account columns and data' (highlighted with a red box) and an 'Edit' button in the top right corner of the table area (also highlighted with a red box). A large red arrow points from the 'Edit' button towards the 'Edit' button at the top of the page. The table itself contains five rows of sample account data, each with four columns: Account Name, Main Phone, Address 1: City, and Primary Contact.

Account Name	Main Phone	Address 1: City	Primary Contact
A. Datum Corporation (sample)	555-0158	Redmond	Rene Valdes (sample)
Adventure Works (sample)	555-0152	Santa Cruz	Nancy Anderson (sam)
Alpine Ski House (sample)	555-0157	Missoula	Paul Cannon (sample)
Blue Yonder Airlines (sample)	555-0154	Los Angeles	Sidney Higa (sample)
City Power & Light (sample)	555-0155	Redmond	Scott Konersmann (sa

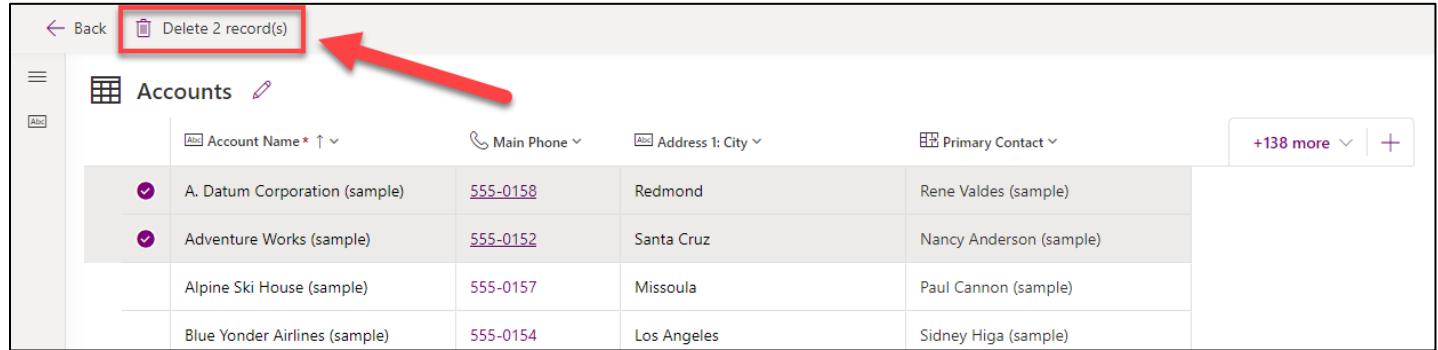
Table Edit:

Here you can create a new row, create a new column, refresh the data to see the latest rows, create an app from the data, and edit the table properties.

The screenshot shows the 'Edit' view of the Microsoft Dataverse table. At the top, there is a header bar with buttons for 'Back', 'New row', 'New column', 'Refresh', 'Create an app', and 'Edit table properties' (all highlighted with a red box). Below the header is a sidebar with a 'Tables' section and a 'Create' button. The main area displays the same table data as the previous screenshot, with the 'Edit' button highlighted in the top right corner of the table area. A large red arrow points from the 'Edit' button at the top of the page towards the 'Edit' button in the table header.

Account Name	Main Phone	Address 1: City	Primary Contact
A. Datum Corporation (sample)	555-0158	Redmond	Rene Valdes (sample)
Adventure Works (sample)	555-0152	Santa Cruz	Nancy Anderson (sample)
Alpine Ski House (sample)	555-0157	Missoula	Paul Cannon (sample)
Blue Yonder Airlines (sample)	555-0154	Los Angeles	Sidney Higa (sample)
City Power & Light (sample)	555-0155	Redmond	Scott Konersmann (sample)

You can delete one or more rows by selecting the row/s you would like to delete. As of right now, you DO NOT need to delete any rows.



The screenshot shows the Microsoft Dataverse interface for the 'Accounts' table. At the top, there is a header bar with a 'Back' button and a 'Delete 2 record(s)' button, which is highlighted with a red box and has a red arrow pointing to it. Below the header is a toolbar with icons for 'Add', 'Search', and sorting. The main area displays a table with four rows, each containing a checkmark icon in the first column, indicating they are selected for deletion. The columns represent 'Account Name', 'Main Phone', 'Address 1: City', and 'Primary Contact'. The data in the table is as follows:

	Account Name	Main Phone	Address 1: City	Primary Contact
<input checked="" type="checkbox"/>	A. Datum Corporation (sample)	555-0158	Redmond	Rene Valdes (sample)
<input checked="" type="checkbox"/>	Adventure Works (sample)	555-0152	Santa Cruz	Nancy Anderson (sample)
<input checked="" type="checkbox"/>	Alpine Ski House (sample)	555-0157	Missoula	Paul Cannon (sample)
	Blue Yonder Airlines (sample)	555-0154	Los Angeles	Sidney Higa (sample)

At the bottom right of the table area, there is a button labeled '+138 more' and a '+' sign.

Select the **← Back** button in the top left corner to navigate back to the Table Features screen.

Task 2: Explore Standard Choices

Just like standard tables, the Microsoft Dataverse includes a set of standard **Choices**. You can also create custom **Choices**. Later in this lab, we will create a custom **Choice** called **ApprovalStatus** to set the approval status of a machine order.

1. Select **Choices** from underneath the expanded **Dataverse** in the menu pane to the left of the screen.

The screenshot shows the Power Apps interface. On the left, there's a vertical menu with options like Home, Learn, Apps, Create, and Dataverse. Under Dataverse, 'Tables' and 'Choices' are listed; 'Choices' is highlighted with a red box and has a red arrow pointing to it from below. To the right of the menu is a list of standard choices, each with a 'Display name' and a 'Type'. The list includes: Activity Type, Approve Article, Assign type, Associated EntityType, Authentication Proto, A Yes or No boolean, Blocked Profile, and Boolean Option Set.

Display name ↑	Type
Activity Type	Standard
Approve Article	Standard
Assign type	Standard
Associated EntityType	Managed
Authentication Protocol	Standard
A Yes or No boolean	Standard
Blocked Profile	Standard

2. Examine the standard **Choices**.

The screenshot shows the 'Choices' list page. At the top, there are buttons for '+ New choice', 'All', and 'Search'. Below is a table with columns for 'Display name', 'Name', 'Type', and 'Customiza...'. The 'Type' column is highlighted with a red box. The table data is as follows:

Display name ↑	Name	Type	Customiza...
Activity Type	activitypointer...	Standard	
Approve Article	knowledgearti...	Standard	
Assign type	assigntype	Standard	
Associated EntityType	documentitem...	Managed	
Authentication Protocol	emailserverpr...	Standard	
A Yes or No boolean	field_security_...	Standard	
Blocked Profile	socialprofile_is...	Standard	✓

Exercise 2: Custom Tables and Columns

In this exercise, you will create a new custom table named **Machine Order** and add columns necessary to track the machine requests. You will also create a server-side Business Rule that will default the estimated ship date.

Task 1: Create a custom table

In this task, you will create a custom table to store machine order requests.

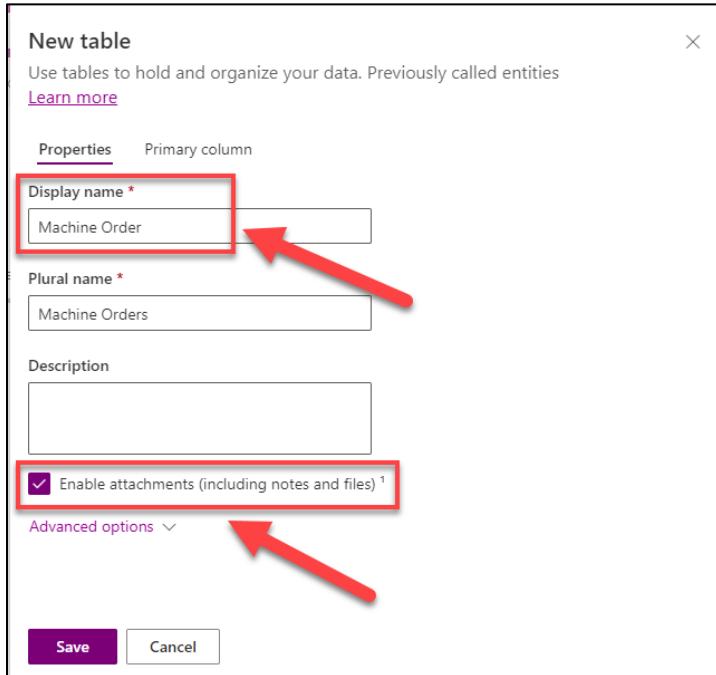
1. Select **Solutions** from the menu pane to the left of the screen and select the **Contoso Coffee** solution.

The screenshot shows the 'Solutions' page in the Microsoft Power Platform. On the left, there's a navigation bar with options like Home, Learn, Apps, Create, Dataverse, Flows, Chatbots, AI Builder, Cards (preview), and Solutions. The 'Solutions' option is selected. In the main area, there's a table with columns 'Display name' and 'Name'. The 'Contoso Coffee' solution is highlighted with a red box and a red arrow pointing to it from the 'Solutions' menu. Other solutions listed include AI Sample Data, Asset Checkout, Innovation Challenge, Fundraiser, and Power Apps Checker ...

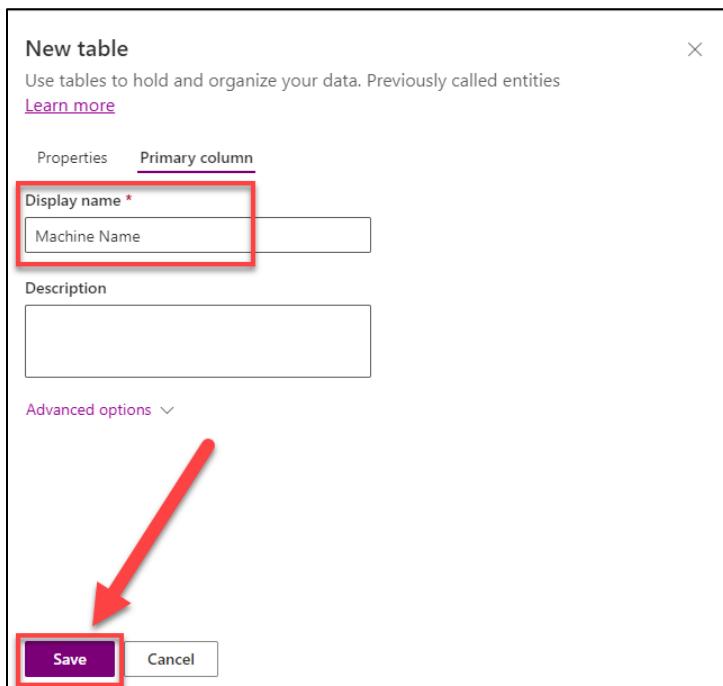
2. Select **+ New** and then select **Table**.

The screenshot shows the 'Objects' page in the Microsoft Power Apps. On the left, there's a navigation bar with options like Objects, Apps, Chatbots, Cloud flows, and Tables. The 'Objects' option is selected. In the top right, there's a 'New' button with a dropdown menu. The 'Table' option is highlighted with a red box and a red arrow pointing to it from the 'New' button. Other options in the dropdown include App, Automation, Chatbot, Dashboard, Report, Security, and More.

3. Enter **Machine Order** for **Display Name**. The Plural name will automatically populate based on your entry. These are editable in case you need to make any changes. The plural name is used by the system by default anytime a set of the Rows are shown. Check the **Enable attachments** since this will allow creating notes on the machine order.



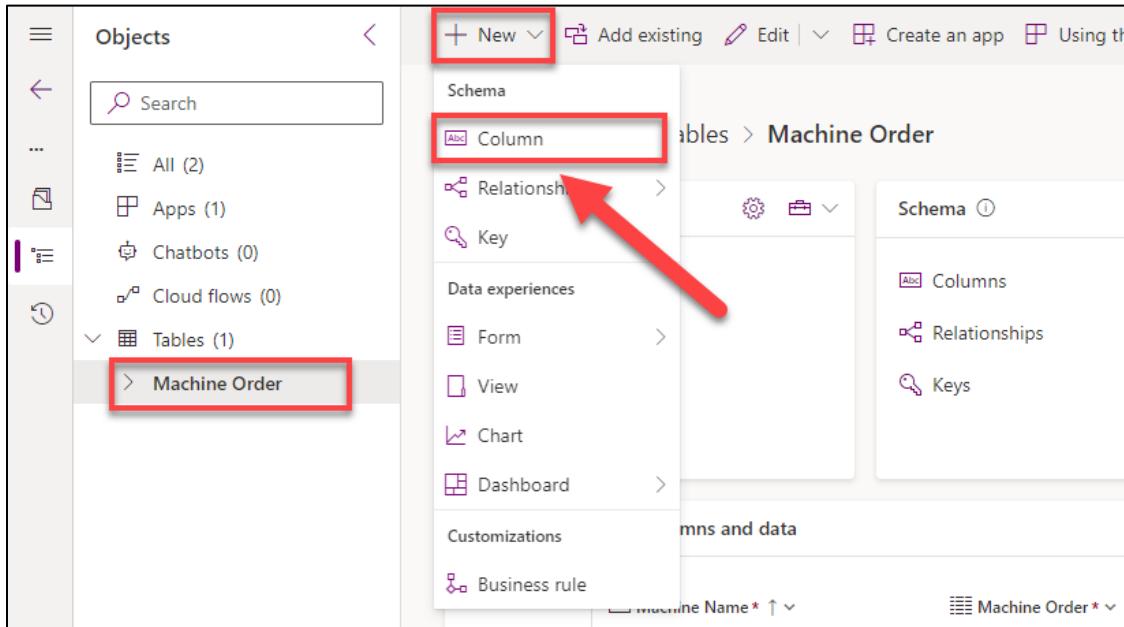
4. Select the **Primary column** tab within the New table dialog.
5. Change the **Display Name** to **Machine Name**. The primary column defaults to being named Name, for some scenarios that might not be the best label and you can customize it if needed. The primary column however is always a Text column, that is not changeable.
6. Select **Save** at the bottom of the New table pane.



Task 2: Create custom columns

In this task, you will create custom columns for the Machine Order table. It may take a few minutes for your new Machine Order table to provision. Begin these steps once it has finished.

1. Select the **Machine Order** table you created located in the **Objects** pane to the left of the screen.
2. Select **+ New** from the ribbon at the top of the screen and select **Column**.



3. Enter **Price** for **Display Name**, type **Machine Price** for description, select **Currency** for **Data Type**, make the column **Business Required** and **Searchable** and select **Advanced Options**.

Note: Currency is a special data type that allows you to build multi-currency solutions. For each currency column you add, another currency column is added with the prefix “_Base” on the name. This column stores the calculation of the value of the currency column you added and the base currency. For additional information on using the Currency column, see [here](#).

New column

Previously called fields. [Learn more](#)

Display name *

Price

Description ⓘ

Machine Price

Data type * ⓘ

Currency

Behavior ⓘ

Simple

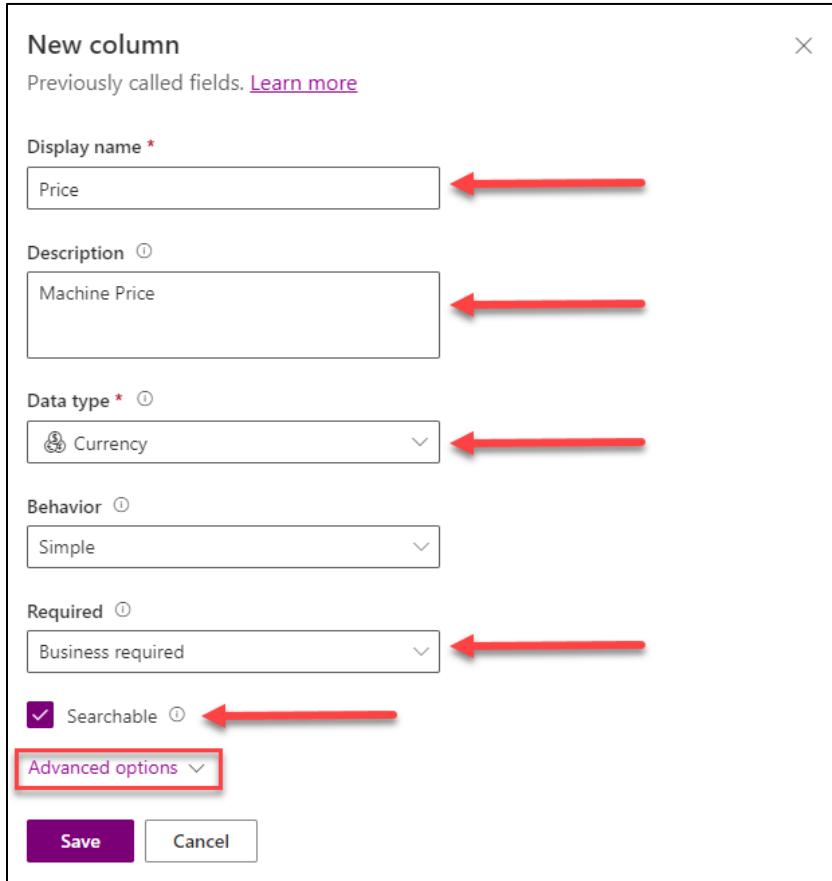
Required ⓘ

Business required

Searchable ⓘ

Advanced options ▾

Save Cancel



4. Enter **0** for **Minimum Value**, **50000** for **Maximum Value**, and then select **Save**.

Advanced options ^

Schema name * ⓘ

contoso_ Price

Minimum value *

0

Maximum value *

50,000

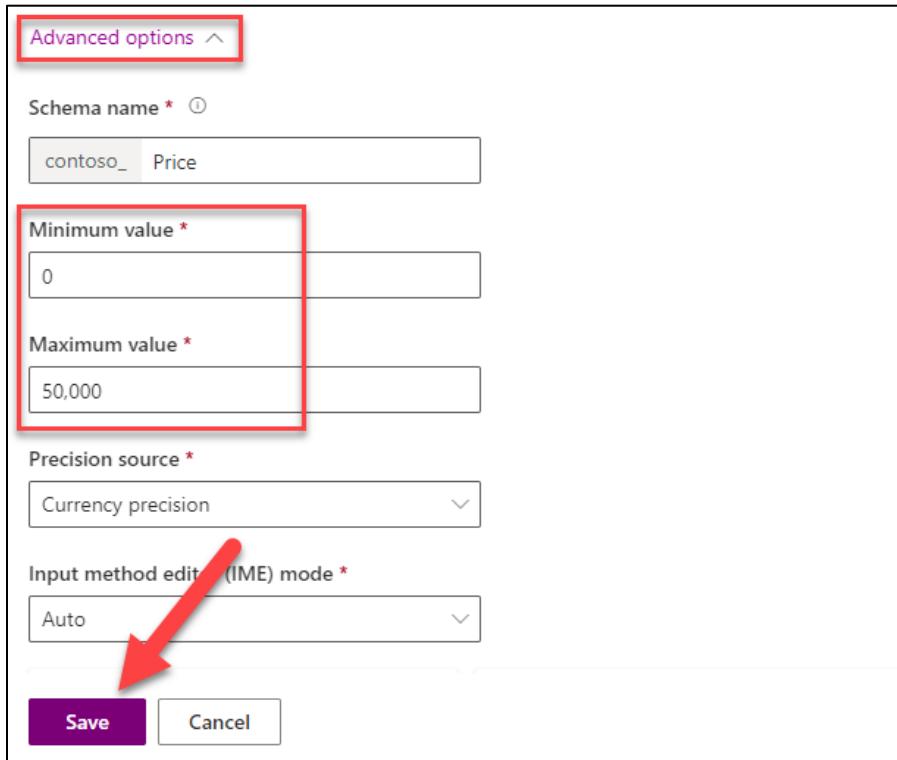
Precision source *

Currency precision

Input method editor (IME) mode *

Auto

Save Cancel



5. From the ribbon at the top of the screen, select + **New** and then select **Column** again.
6. Enter **Requested By** for **Display Name**, Single line of text for Data type, **Email** for **Format**, make the column **Searchable** and select **Save**.

New column

Previously called fields. [Learn more](#)

Display name *

Requested By

Description ⓘ

Data type * ⓘ

Single line of text

Format *

Email

Behavior ⓘ

Simple

Required ⓘ

Optional

Searchable ⓘ

Advanced options ↴

Save Cancel

7. Now repeat the **Add Column** process and add the following columns and entering in the data for the data types and formats for each column:

Display Name	Data type	Format
Request Date	Date and time	Date only
Approver	Single line of text	Email
Comments	Multiple lines of text	Text
Estimated Ship Date	Date and time	Date only
Approved Date	Date and time	Date only

Note: When entering the Data type for the **Comments** column, select the expansion to the right of the **Text** data type within the options list, then choose **Plain text** from the **Multiple lines of text** subsection.

8. Now we are going to create the **Approval Choice**. We are adding this as a Choice (as opposed to a Yes/No option) because it is likely in the future there will be more than Yes/No options for users to choose from. Select + New from the ribbon at the top of the screen and select **Column**.
9. Enter **Approval Status** for **Display Name**, select **Choice** for **Data Type**, select **No** for **Sync with global choice**, enter **Approve** for **Label** and select + **New choice**.

New column

Previously called fields. [Learn more](#)

Display name * Approval Status

Description

Data type * Choice

Behavior Simple

Required Optional

Searchable ⓘ

Selecting multiple choices is allowed

Sync with global choice? *

Yes (recommended)
Can be used in multiple tables, and will stay updated everywhere.

No
Creates a local choice that can only be used in one table. People using it can add new choices.

Choices	Sort
Label * Approve	Value * 330,650,000

+ New choice

Save Cancel

10. Enter **Reject** for **Label** and then select **Save**.

Choices

Label *	Value *
Approve	330,650,000
Reject	330,650,001

+ New choice

Default choice * None

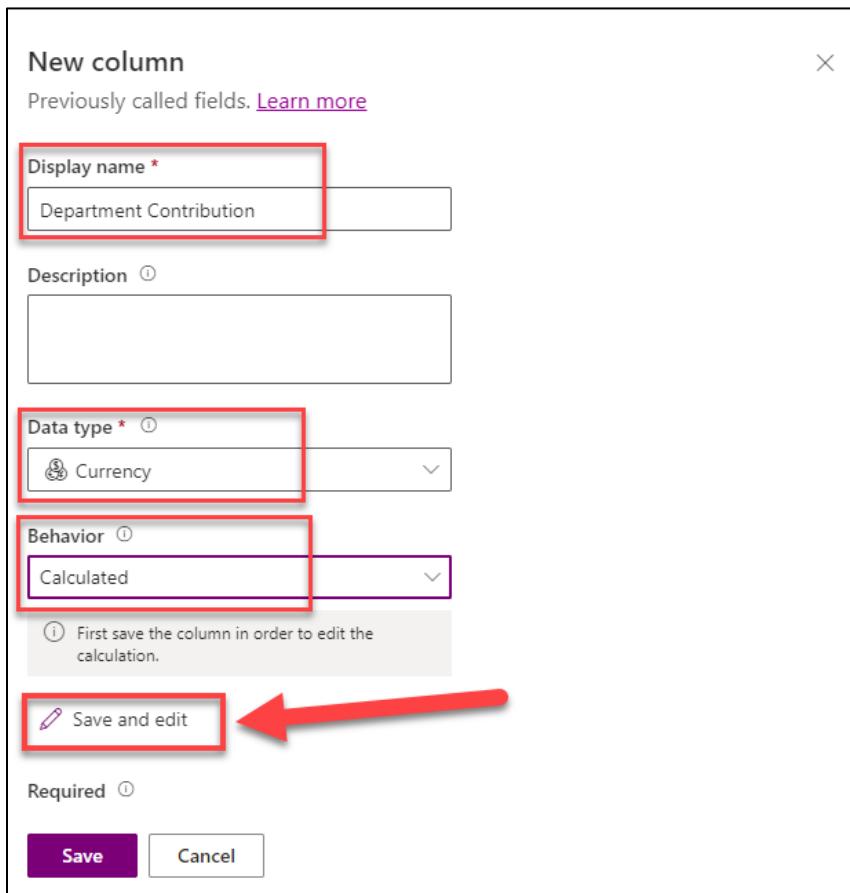
Advanced options

Save Cancel

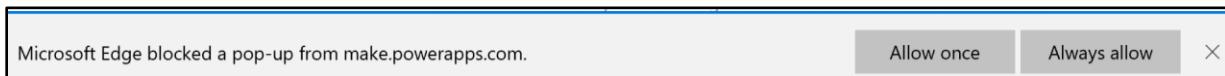
Task 3: Create a calculated column

In this task, you will add a **Department Contribution** column and set its value to 10% of the price. In our scenario, this is the amount that will come from the department manager's budget. Calculated columns are special columns that automatically perform the calculation when the data is retrieved. When you create or modify a calculated column you set the formula used in the calculation.

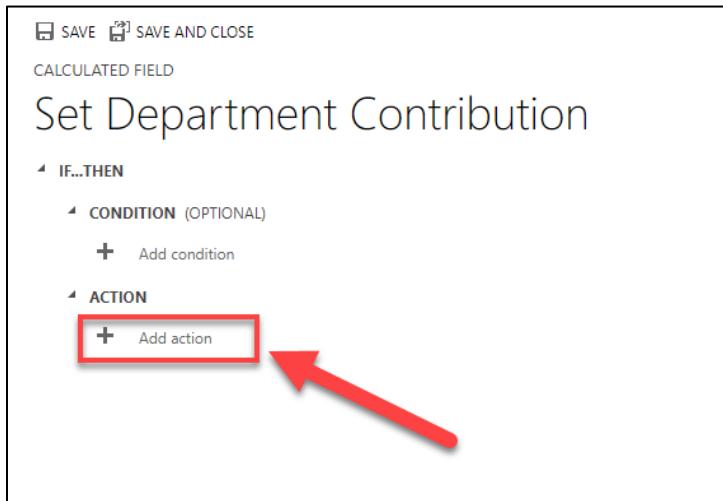
1. Select **+ New** from the ribbon at the top of the screen, and then select **Column**.
2. Enter **Department Contribution** for **Display Name**, **Currency** for **Data Type**, and select **Calculated** for **Behavior**.
3. Then, select **Save and Edit**.



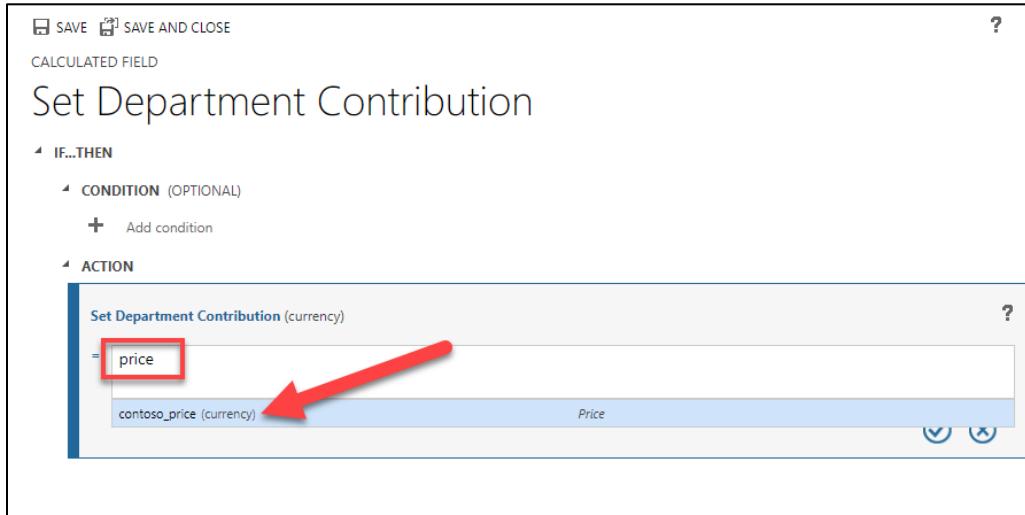
4. If you have not yet **allowed popups** from Power Apps, you will be prompted to do so now.



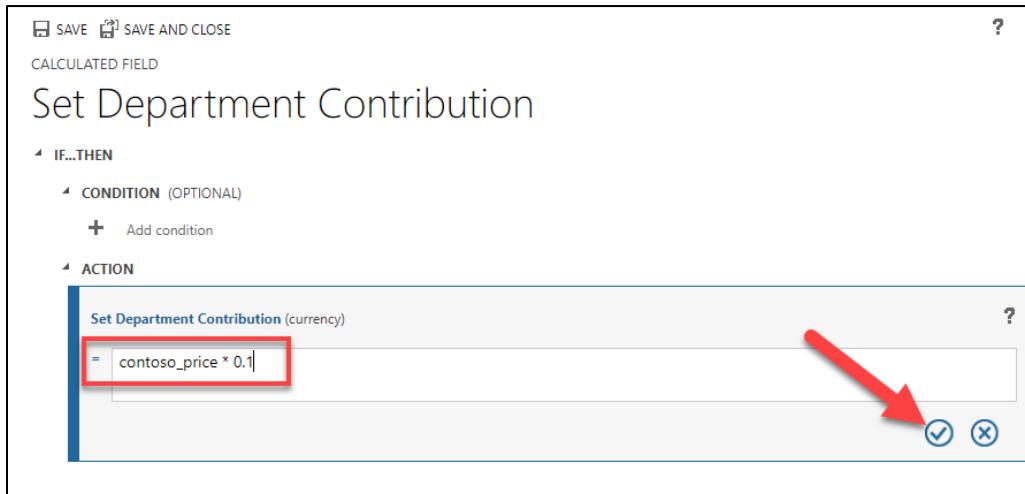
5. Within the Set Department Contribution dialog box, select **Add Action**.



6. Within the formula bar, type **price** and select the **Price** column you created.



7. Add * 0.1 after the price column and then select the **Check Mark** button.



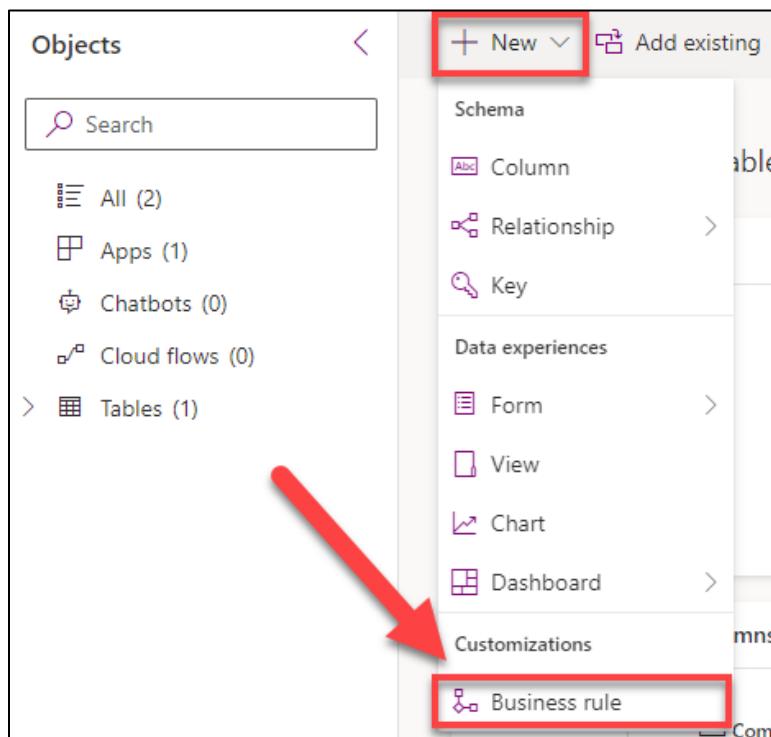
8. Select **Save and Close**.



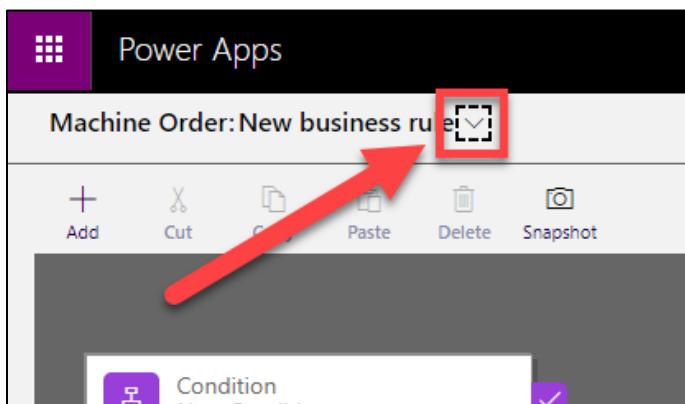
Task 4: Create a business rule

In this task, you will create a **Business rule** that will set the Estimated Delivery Date to 14 days after approval of the order.

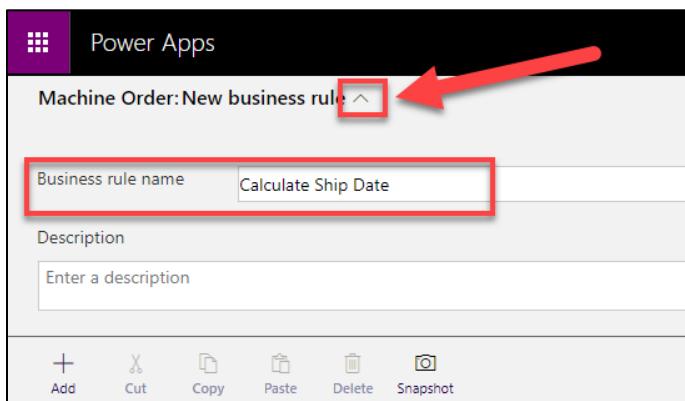
1. Select **+ New** from the ribbon at the top of the screen and select **Business rule**.



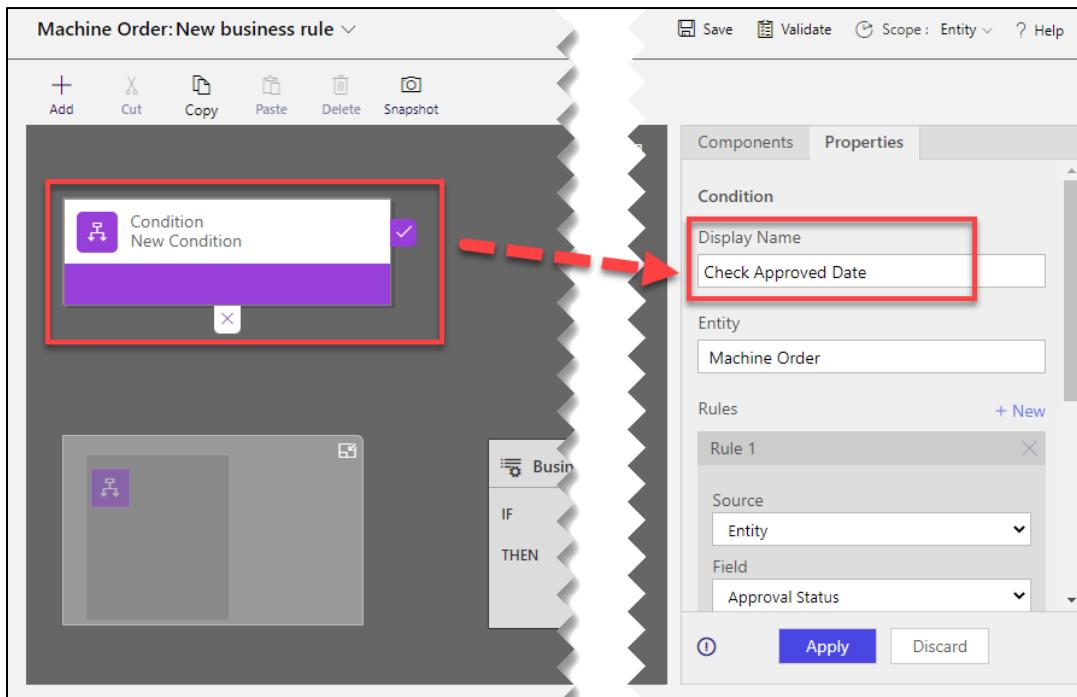
2. Select the arrow next to **New business rules** to **Show Details**.



3. Change the **Name** to **Calculate Ship Date** and select the arrow again to **Hide Details**.

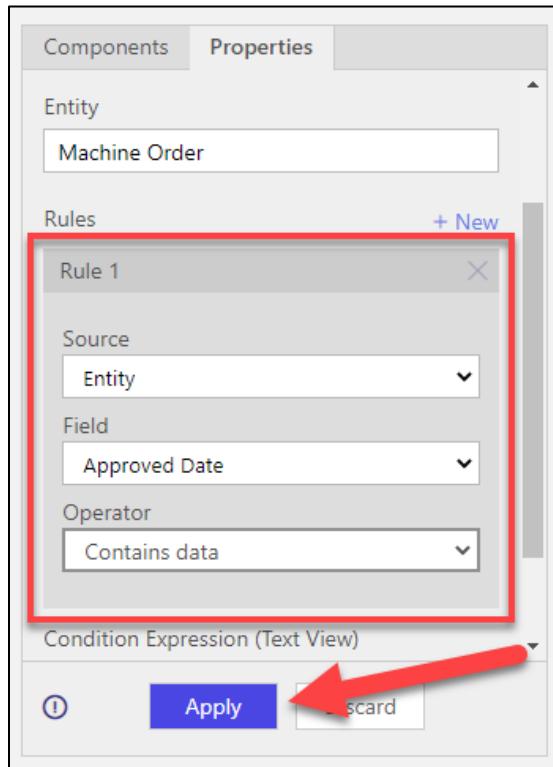


4. Select the **Condition**, then change the Display Name to **Check Approved Date**. Then click **Apply**.

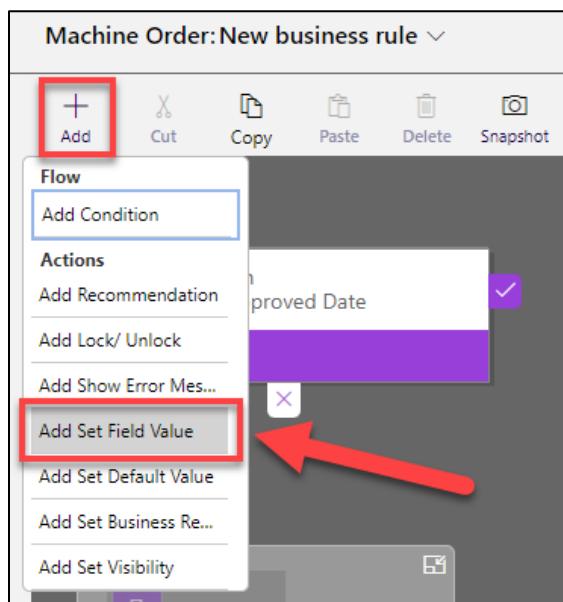


5. In the **Rule 1** section, select **Entity** for **Source**, **Approved Date** for **Field**, **Contains Data** for **Operator** and then select **Apply**.

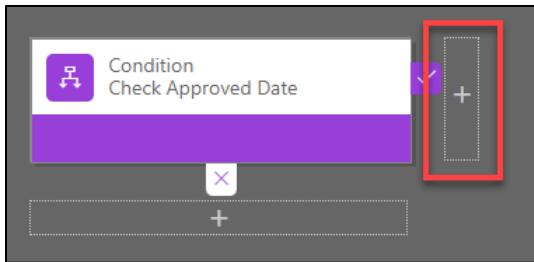
Note: You may need to scroll down to the bottom of all scroll bars to see the **Apply** button. You must click **Apply** after any change to the properties otherwise they will revert to the prior value. The Business Rule (Text View) will automatically update after you hit apply when you are done modifying the rule.



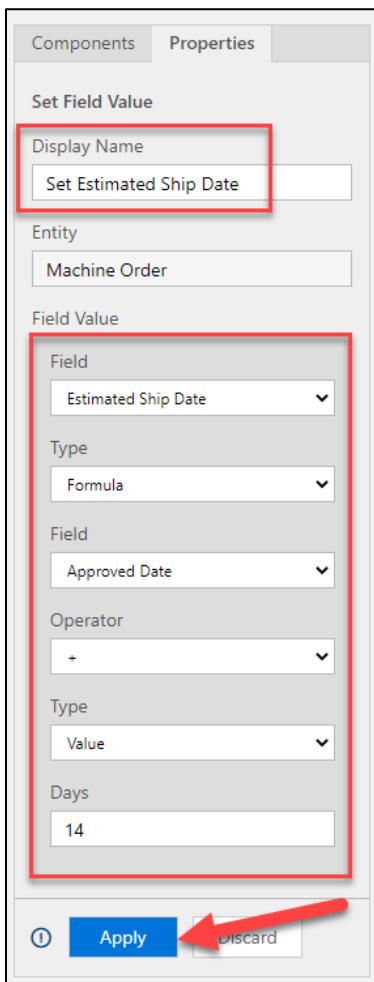
6. Select **Add** from the ribbon at the top of the screen, then choose **Add Set Field Value**.



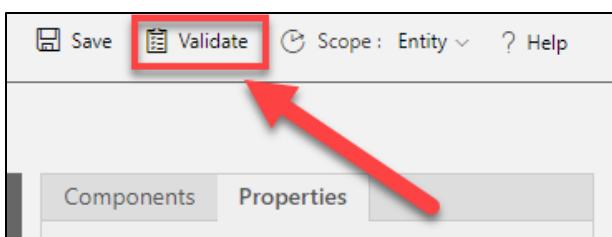
7. Select the **True** side of the condition.



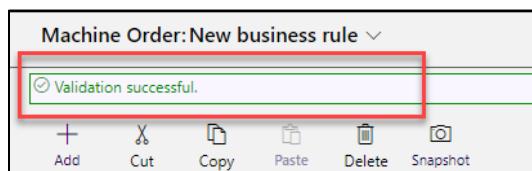
8. In the pane to the right of the screen, **Set Estimated Ship Date for Display Name**, select **Estimated Ship Date** for **Field**, **Formula** for **Type**, **Approved Date** for **Field**, **+** for **Operator**, **Value** for **Type**, **14** for **Days**. Then, select **Apply**.



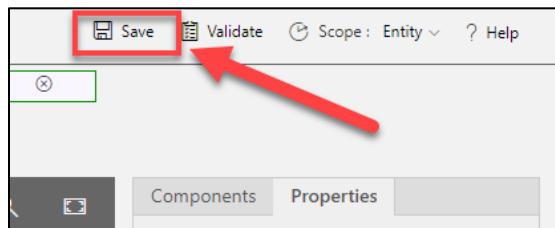
9. Select **Validate** from the top ribbon in the top right corner.



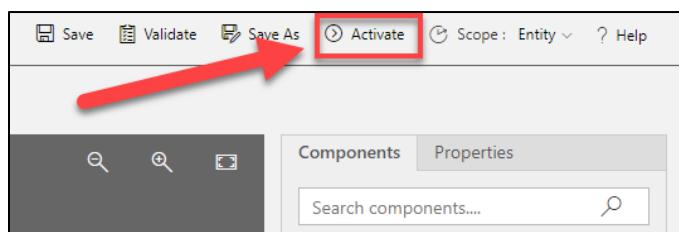
10. Make sure the validation **succeeds**.



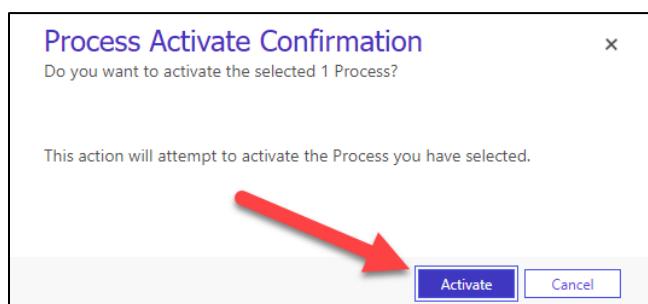
11. Select **Save** from the top ribbon in the top right corner.



12. Select **Activate** from the top ribbon in the top right corner.

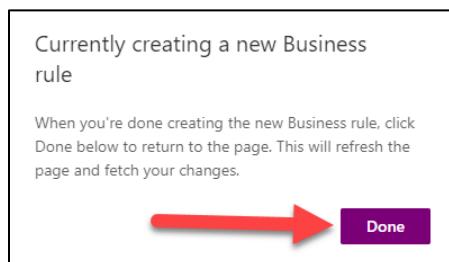


13. Confirm activation. Business rules only execute when they are activated. In the future, to make changes to rules you deactivate them, make the change, and then re-activate the rule.



14. **Close** the process editor browser window.

15. In the **Currently creating a new business rule** dialog box, select **Done**. The list should refresh showing the Business Rule you just created.



16. DO NOT navigate away from this page.

Exercise 3: Connect the data from the Canvas App

Now that you have created the table to store machine order requests let's connect your Machine Ordering Canvas app to this table and add a form to submit machine approval requests.

Task 1: Add Microsoft Dataverse table as a data source to the app

Before you begin, ensure that you are in the correct environment and then navigate to the **Solutions** sections using the pane to the left of the screen.

The screenshot shows the Microsoft Dataverse Solutions page. On the left, there is a navigation pane with various options like Home, Learn, Apps, Create, and Dataverse. Under Dataverse, there are sub-options for Flows, Chatbots, AI Builder, and Cards (preview). The 'Solutions' option is highlighted with a red box. The main area displays a list of solutions with columns for Display name, Name, and Created. The 'Contoso Coffee' solution is selected and highlighted with a red box. A red arrow points from the 'Solutions' section in the left pane to the 'Contoso Coffee' entry in the list.

Display name	Name	Created
Contoso Coffee	ContosoCoffee	6 days ago
AI Sample Da...	msdyn_AIBuilder...	1 week ago
Asset Checkout	AssetCheckout	1 week ago
Innovation Challenge	InnovationHub	1 week ago
Fundraiser	msdyn_SampleA...	1 week ago
Power Apps Checker ...	msdyn_PowerAp...	1 week ago

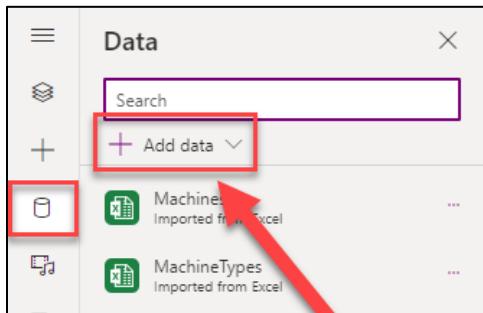
Open the **Machine Ordering App**. Make sure you are opening the version of the app that is in the newly created environment that has the Microsoft Dataverse database instance.

1. Select **Apps** from the pane to the left of the screen, select the checkmark bubble to the left of the **Machine Order App** you created in Module 1, and select **Edit** from the ribbon at the top of the screen.

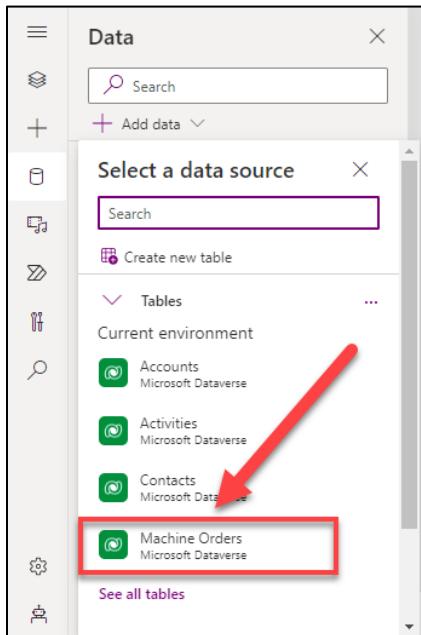
The screenshot shows the Microsoft Dataverse Apps page for the 'Contoso Coffee' environment. On the left, there is a navigation pane with objects like Objects, Chatbots, Cloud flows, and Tables. The 'Apps' option is highlighted with a red box. The main area displays a list of apps with columns for Display name, Name, and Type. The 'Machine Ordering App' is selected and highlighted with a red box. A red arrow points from the 'Edit' button in the ribbon to the selected app entry.

Display name	Name	Type
Machine Ordering App	contoso_machin...	Canvas App

2. Select the **Data sources** icon from the pane to the left of the screen to display the current sources. Select the **+ Add Data**.

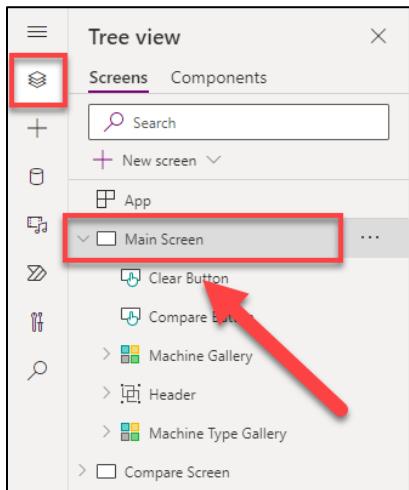


3. Select **Machine Orders** from the table list to include it as a data source for our app.



Task 2: Create the edit form

1. Switch to the **Tree view** using the icons to the left of the screen, then select the **Main Screen**.



2. Switch to the **Preview mode** using the button from the ribbon in the top right corner of the screen. Select a few machines from the gallery by selecting the compare box below each machine you wish to select.

Machine Ordering

At Home Coffee Makers

At Home Espresso Machines

Commercial Coffee Makers

Commercial Espresso Machines

Smart Brew 300 \$499.00 Compare

Smart Brew 300 \$499.00 Compare

Smart Brew 300 \$499.00 Compare

Travel Brew 100 \$349.00 Compare

Smart Brew 300 \$499.00 Compare

Smart Brew 300 \$499.00 Compare

Travel Brew 100 \$349.00 Compare

Travel Brew 100 \$349.00 Compare

Clear Selection

Compare 3 item(s)

3. Exit the **Preview mode** by selecting the X in the top right corner of the Machine Gallery. From the Tree view pane to the left of the screen, select the **Compare Screen**. You should now have the selected machines appear within the Compare Screen.

Tree view

Screens Components

+ Search

+ New screen

App

Main Screen

Clear Button

Compare Button

Machine Gallery

Header

Machine Type Gallery

Compare Screen

Machine Ordering

Smart Brew 300 \$499.00 Auto-Brew 50-100 1-100

The Smart Brew 300 offers both espresso and coffee brewing in one device, with inherent intelligence that self-monitors to ensure that it stays in peak performance. Brewing great-tasting coffee requires a lot of attention to detail and a lot of love. At Contoso, we are dedicated to helping all home coffee drinkers enjoy the machines that they can count on for the perfect cup every time.

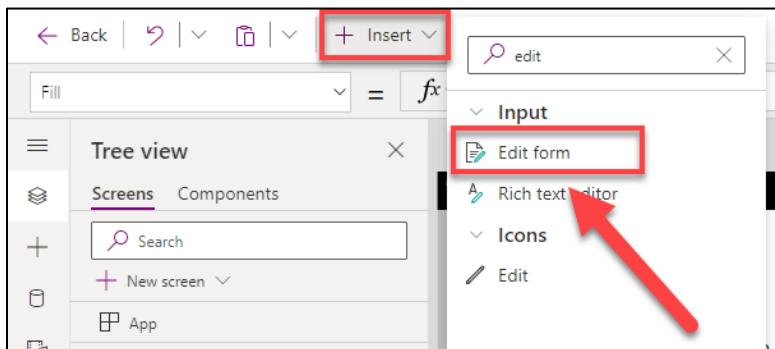
Smart Brew 300 \$499.00 Auto-Brew 50-100 1-100

The Smart Brew 300 offers both espresso and coffee brewing in one device, with inherent intelligence that self-monitors to ensure that it stays in peak performance. Brewing great-tasting coffee requires a lot of attention to detail and a lot of love. At Contoso, we are dedicated to helping all home coffee drinkers enjoy the machines that they can count on for the perfect cup every time.

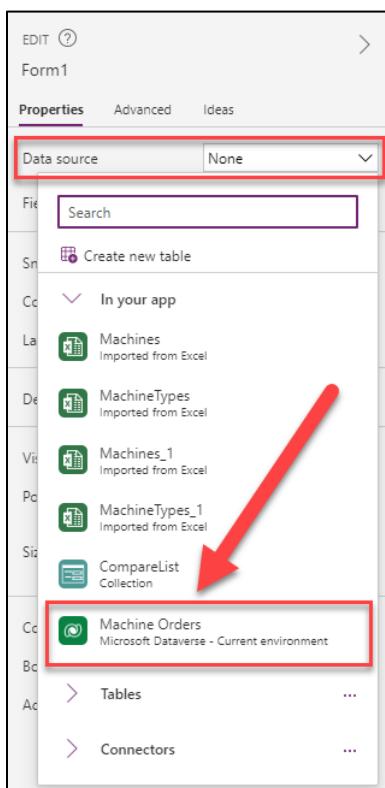
Smart Brew 300 \$499.00 Auto-Brew 50-100 1-100

The Smart Brew 300 offers both espresso and coffee brewing in one device, with inherent intelligence that self-monitors to ensure that it stays in peak performance. Brewing great-tasting coffee requires a lot of attention to detail and a lot of love. At Contoso, we are dedicated to helping all home coffee drinkers enjoy the machines that they can count on for the perfect cup every time.

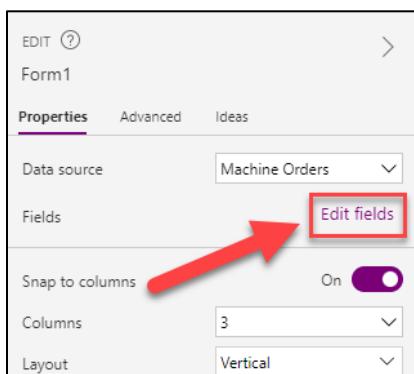
4. From the ribbon at the top of the screen, select the **+ Insert** tab, search for edit and select **Edit form**.



5. From the **Edit** pane to the right of the screen, under the **Properties** tab, select the **Data Source** drop-down. From the menu, select the **Machine Orders** table as the data source.

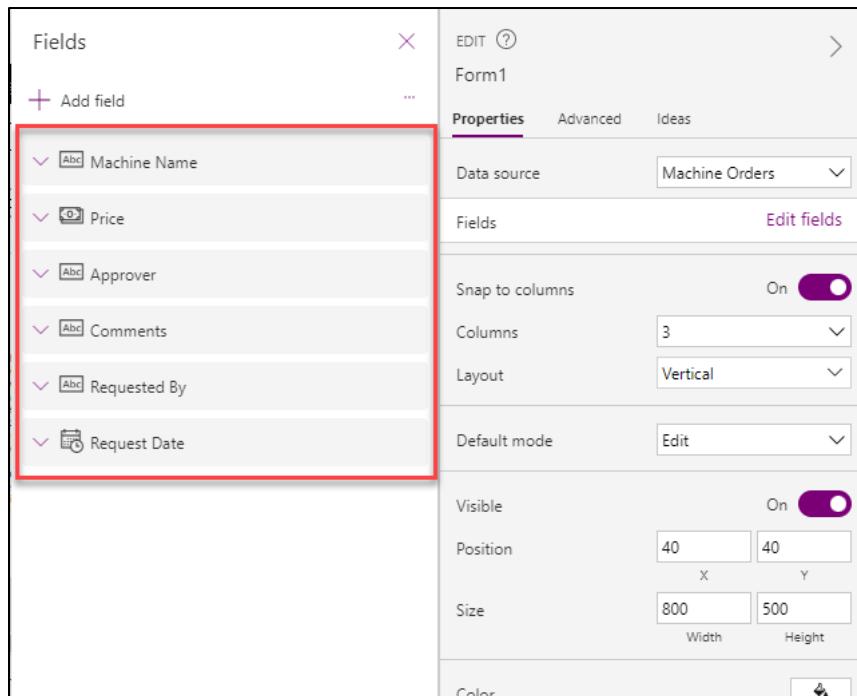


6. Then, select **Edit Fields**.

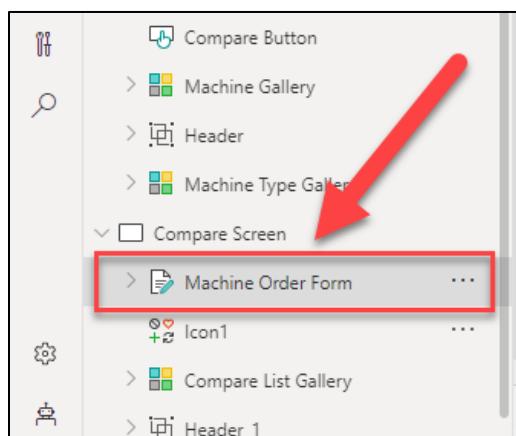


7. Within the **Fields** pane, **add**, **remove**, and **order** fields to look like the list below. The fields are added using the plus sign and can be reordered by dragging the field to the desired placement. To **delete** a field from the list, **hover** over the field you wish to remove, select the **ellipses (...)** to the right of the field name, and then select **remove** from the options menu.

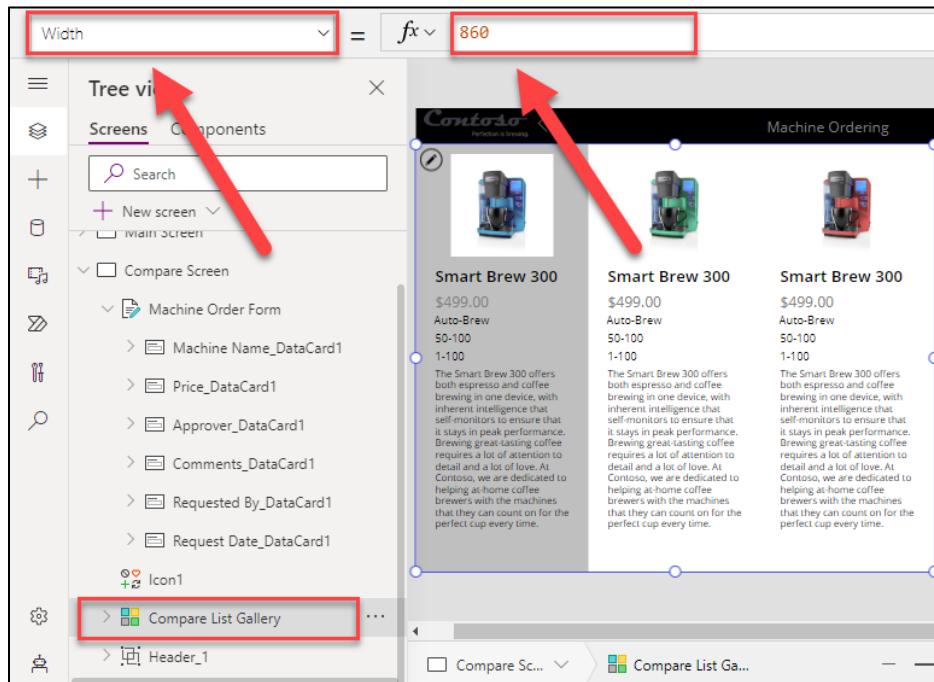
- a. Machine Name
- b. Price
- c. Approver
- d. Comments
- e. Requested By
- f. Request Date



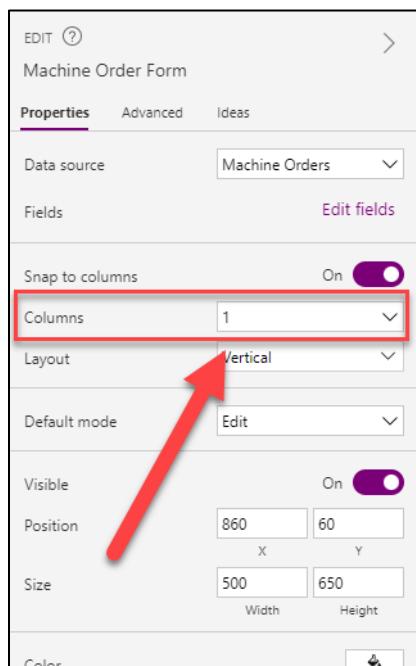
8. **Close** the **Fields** pane using the **X** in the top right corner of the pane.
9. Select the **ellipses (...)** to the right of the newly added form, within the Compare Screen, located in the Tree view pane to the left of the screen. Select the option to **Rename** and change the name of the form to **Machine Order Form**.



10. Select the **Compare List Gallery** from the Tree view pane to the left of the screen. Using the drop-down menu and the formula at the top of the screen, change the **Width** property value of the **Compare List Gallery** to **860**.



11. Select the **Machine Order Form** from the Tree view pane to the left of the screen.
12. Using the drop-down menu and the formula bar at the top of the screen, set the **X** property value of the **Machine Order Form** to **860**.
13. Set the **Y** property value of the **Machine Order Form** to **60**.
14. Set the **Width** property value of the **Machine Order Form** to **500**.
15. Set the **Height** property value of the **Machine Order Form** to **650**.
16. From the **Machine Order Form** pane to the right of the screen, under the **Properties** tab, change the **Snap to columns** setting from **3** to **1**. This will modify the layout of the edit form to be single column.



17. The form should now look like the figure below:

Machine Ordering

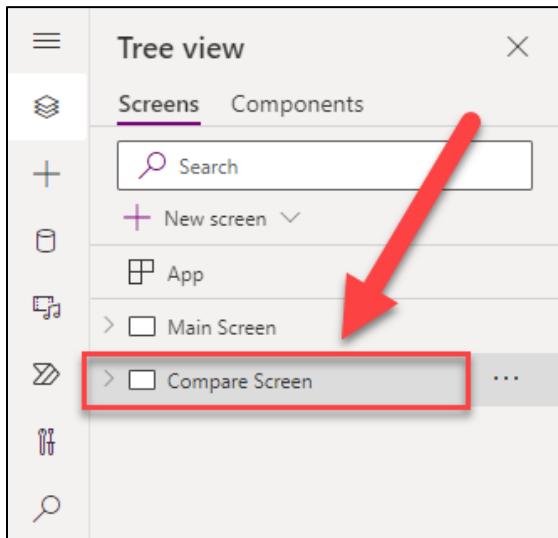
Contoso < Hello, Lab Admin1

Smart Brew 300 \$499.00 Auto-Brew 50-100 1-100 The Smart Brew 300 offers both espresso and coffee brewing in one device, with inherent intelligence that self-monitors to ensure that it stays in peak performance. Brewing great-tasting coffee requires a lot of attention to detail and a lot of love. At Contoso, we are dedicated to helping at-home coffee brewers with the machines that they can count on for the perfect cup every time.	Smart Brew 300 \$499.00 Auto-Brew 50-100 1-100 The Smart Brew 300 offers both espresso and coffee brewing in one device, with inherent intelligence that self-monitors to ensure that it stays in peak performance. Brewing great-tasting coffee requires a lot of attention to detail and a lot of love. At Contoso, we are dedicated to helping at-home coffee brewers with the machines that they can count on for the perfect cup every time.	Smart Brew 300 \$499.00 Auto-Brew 50-100 1-100 The Smart Brew 300 offers both espresso and coffee brewing in one device, with inherent intelligence that self-monitors to ensure that it stays in peak performance. Brewing great-tasting coffee requires a lot of attention to detail and a lot of love. At Contoso, we are dedicated to helping at-home coffee brewers with the machines that they can count on for the perfect cup every time.	* Machine Name <input type="text"/> * Price <input type="text"/> Approver <input type="text"/> Comments <input type="text"/> Requested By <input type="text"/> Request Date <input type="date"/> 12/31/2001
---	---	---	--

Note: You can always select controls, such as the Form1 control, from the tree view on the left to make sure you are selecting the correct control. To move it make sure you select the Form and not a control within the form.

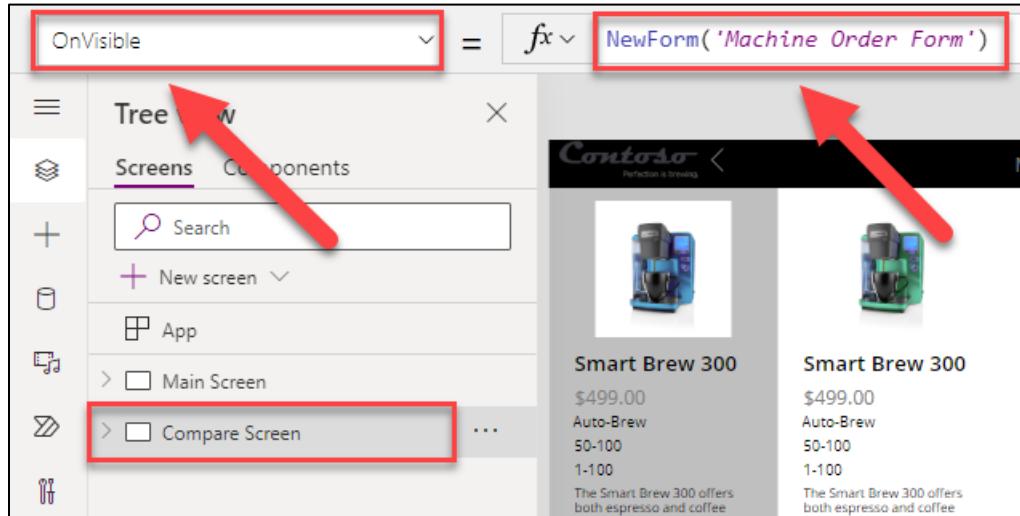
For more info on working with multi-column form layouts, see [Working with forms layout](#).

18. To create a new instance of the form when the screen is loaded, select the **Compare Screen** within the Tree view pane to the left of the screen.



19. Set the **OnVisible** property of the Compare Screen to the formula below:

```
NewForm('Machine Order Form')
```

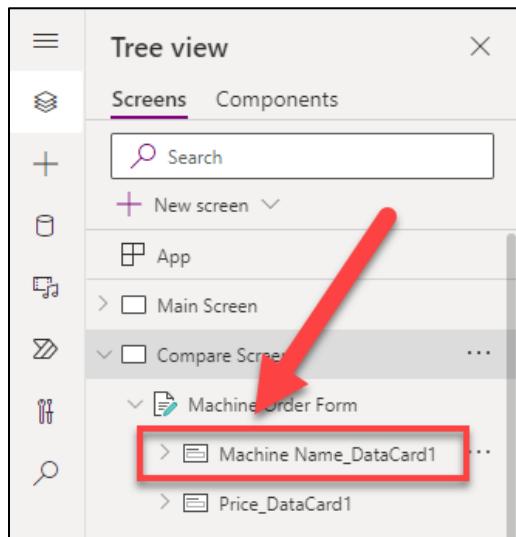


Task 3: Configure the title column

In the next few steps, you will configure each of the form Fields.

Let's start by configuring the **Title** to display the machine type and machine name for the selected machine. For example, if the user selects the Smart Brew 300 coffee makers, we want the machine order to have the title: "At home coffee makers – Smart Brew 300".

1. Expand the **Machine Name data card**, under the Machine Order Form, in the Compare screen, within the Tree view pane to the left of the screen.



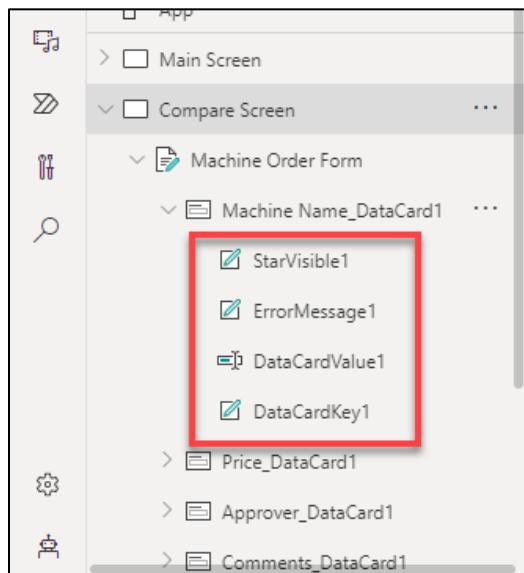
Notice that the default card contains a few controls:

StarVisible1: This is a label control that has an asterisk (*) which has its Visible property set to true or false depending on whether the Field is Required or not. Since the Title Field was marked as Required when you configured the table, its Required property is set to true.

ErrorMessage1: This is a label that is just below the main data entry Field which displays error messages.

DataCardValue1: This is the text input control where you can enter the Title. For this scenario, we will set the title based on the selected machine.

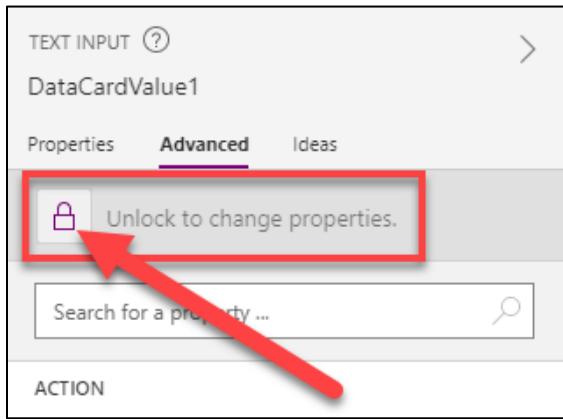
DataCardKey1: This is the label that displays the title of the Field.



2. Select **Machine Name DataCardValue** within the Machine Name data card from the Tree view pane. Then, select the **Advanced** tab within the DataCardValue pane to the right of the screen.

The screenshot shows the Power Platform canvas interface. On the left, the tree view pane shows the 'Machine Name_DataCard1' node highlighted with a red box. On the right, the properties pane for 'DataCardValue1' is open. The 'Advanced' tab is also highlighted with a red box. There is a red arrow pointing from the 'DataCardValue1' node in the tree view to the 'Advanced' tab in the properties pane.

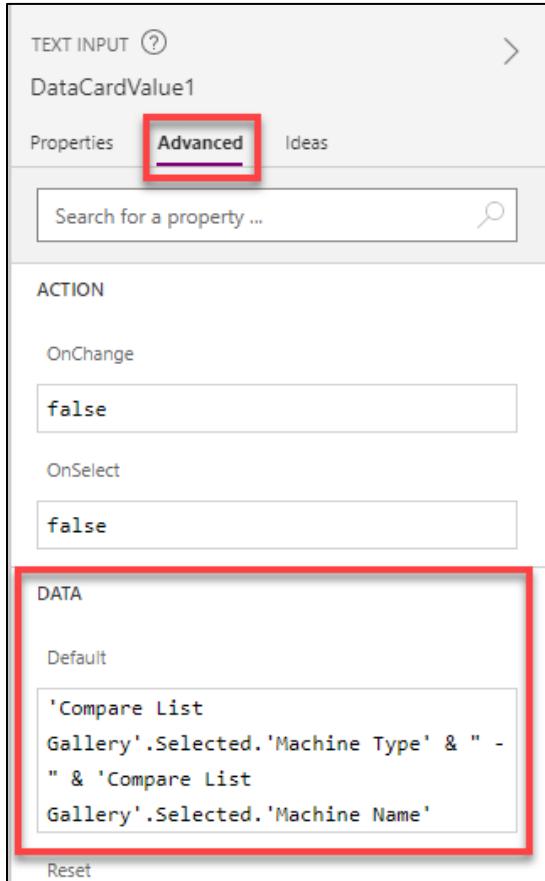
3. Select **Unlock** so you can customize the card.



For the next few steps, we will use the Advanced pane to customize control properties within the form, note that you can perform the same customizations using the property drop-down and formula bar in the top left of the studio.

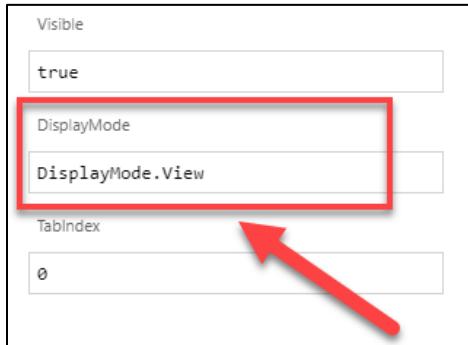
4. Navigate to the **Data** section under the Advanced tab and set the **Default** property to the formula below:

```
'Compare List Gallery'.Selected.'Machine Type' & " - " & 'Compare List  
Gallery'.Selected.'Machine Name'
```



5. Scroll down until you find the **DisplayMode** text box under the **Advanced** tab of the pane. Change the **DisplayMode** to the formula below. This will prevent users from changing the value within the text box:

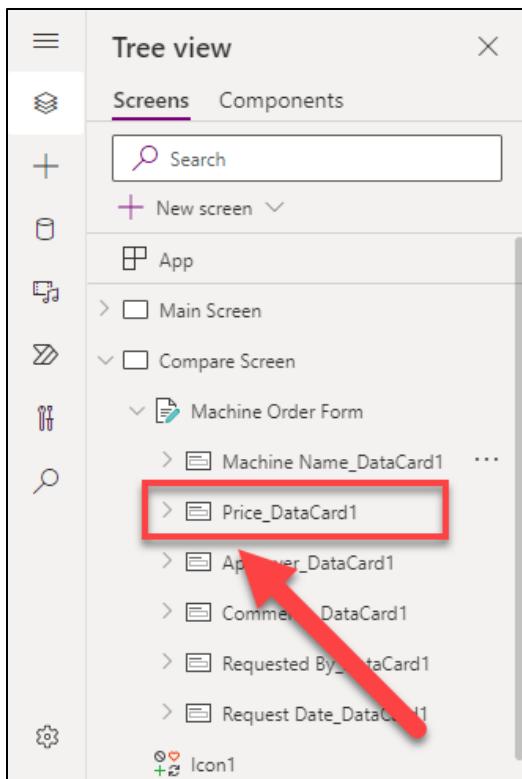
DisplayMode.View



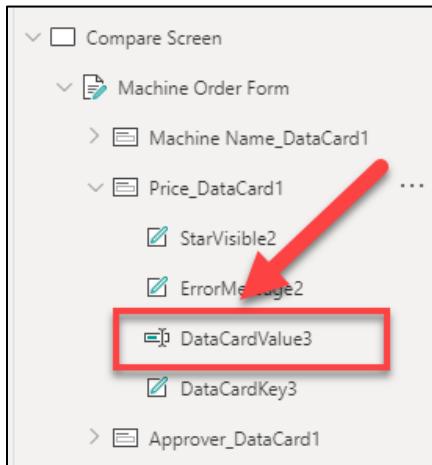
Task 4: Configure the price Field

In this task, we are going to set the price to the price of the item and then make it read-only.

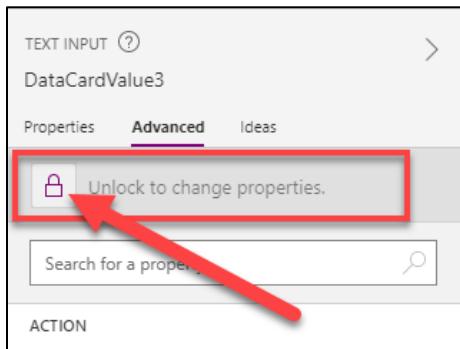
1. Expand the **Price data card**, under the Machine Order Form, within the Compare Screen, located in the Tree view pane to the left of the screen.



2. Select the **Data Card Value** within the Price Data Card.

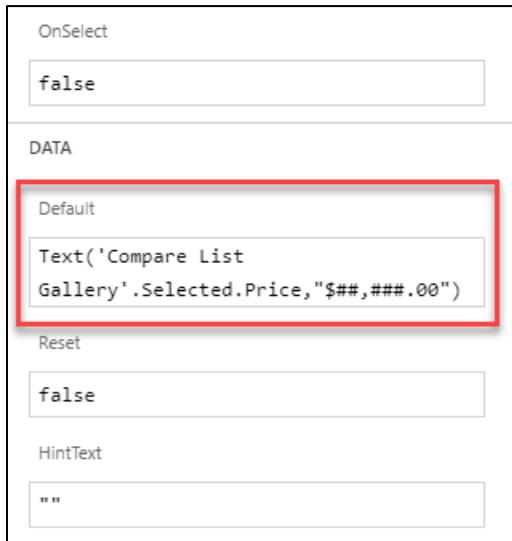


3. From the **DataCardValue** pane to the right of the screen, select the **Advanced** tab and select **Unlock**.

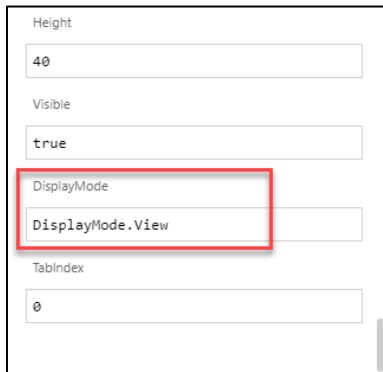


4. Change the **Default** property in the Data section to the formula below:

```
Text('Compare List Gallery'.Selected.Price,"$##,###.00")
```



5. While still in the Data Card Value pane to the right of the screen, scroll through the Advanced tab until you find the **DisplayMode** text box. Change the **DisplayMode** to the formula below:
DisplayMode.View

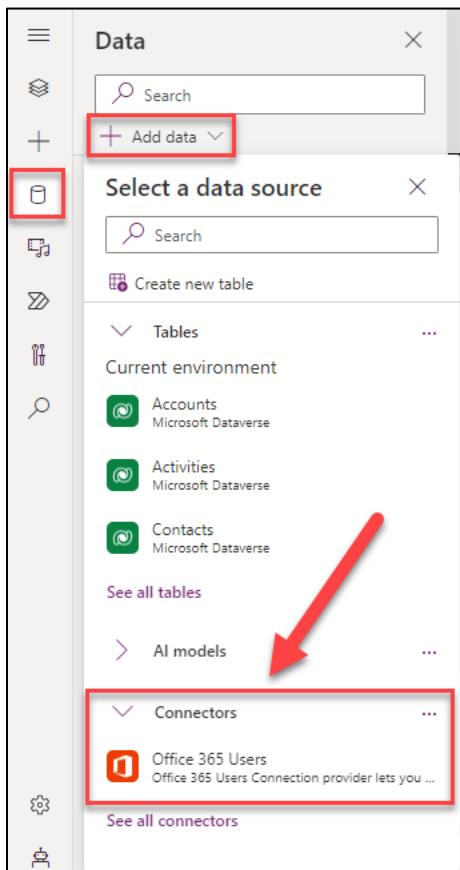


Task 5: Configure the Approval Field

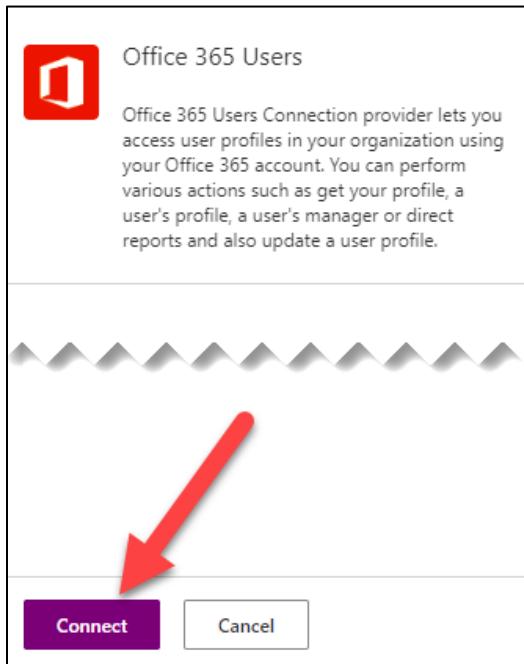
Let's set the **default** value for the **Approver** to be the email address of the **logged in user's manager**.

You will use the **Office 365 graph** to retrieve the manager's email. You can find more about the Office 365 Users Connection provider here [Office 365 Users Connection Provider](#)

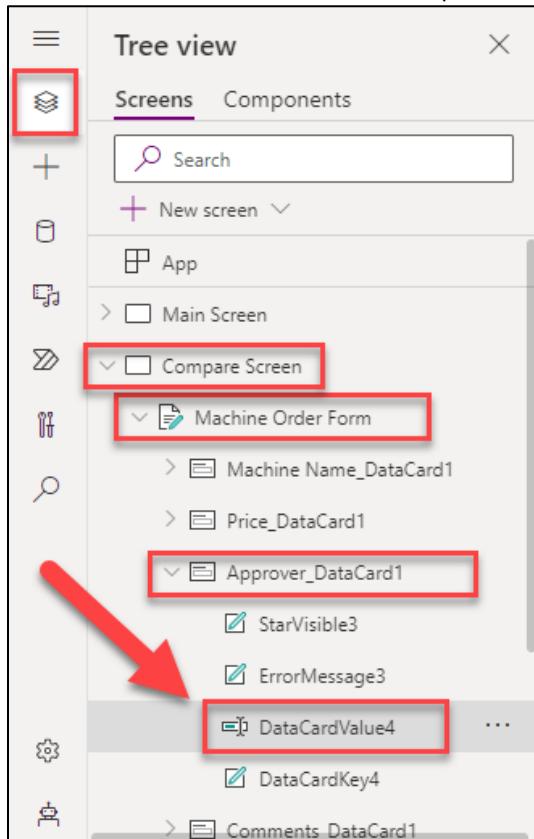
1. Select the **Data sources** icon from the pane to the left of the screen. Select + **Add data**, then expand **Connectors**. Select **Office 365 Users**.



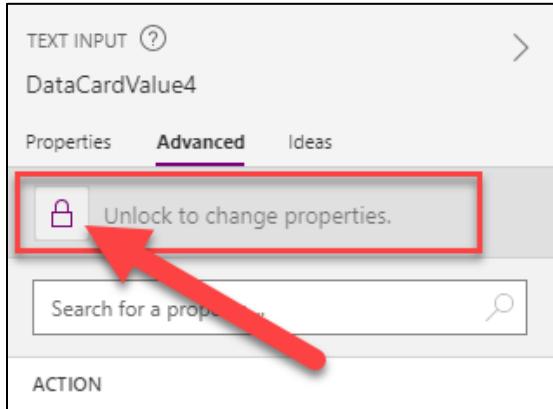
2. An Office 365 Users dialog pane will appear to the right of the screen. When prompted, select **Connect**.



3. Select the **Tree view icon** from the pane to the left of the screen. From the **Approver Data Card** within the Machine Order Form, within the Compare Screen, select the **Data Card Value**.

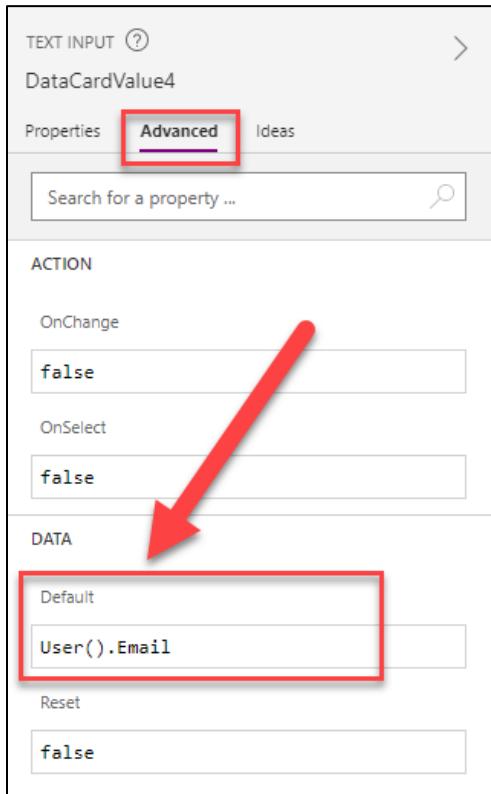


4. From the **Data Card Value pane** to the right of the screen, select the **Advanced** tab and then **Unlock** the properties in order to begin making changes.



5. Under the **Advanced** tab in the Data Card Value pane to the right of the screen, in the **Data** section, set the **Default** value to the formula below. This expression will use your user's email, so you won't accidentally e-mail your manager to approve your testing:

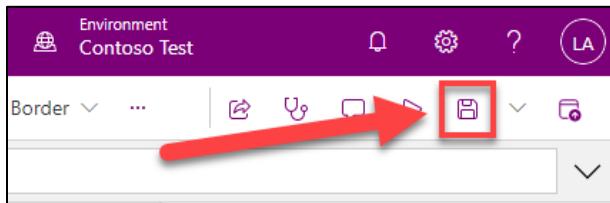
`User().Email`



In a real application or if you wanted to try the expression to use your managers email would be `Office365Users.Manager(User().Email).Mail` This would make an API call at runtime to get the manager's email address of the logged-on user.

If you try this and hit an error when calling the `Office365Users.Manager()` function, this may be because a manager is not set up in the system for the logged in Office 365 user. In that case, you can simply go back go `User().Email`.

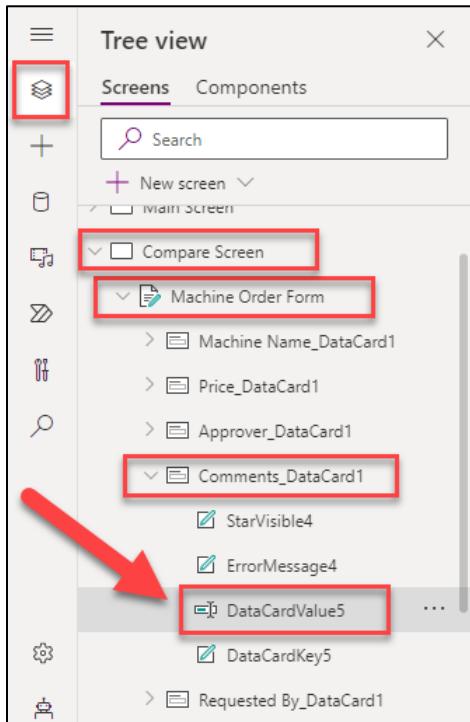
6. Save your work using the **Save** button in the top ribbon in the top right corner of the screen. Then, select the **Compare Screen** from the Tree view pane to the left of the screen.



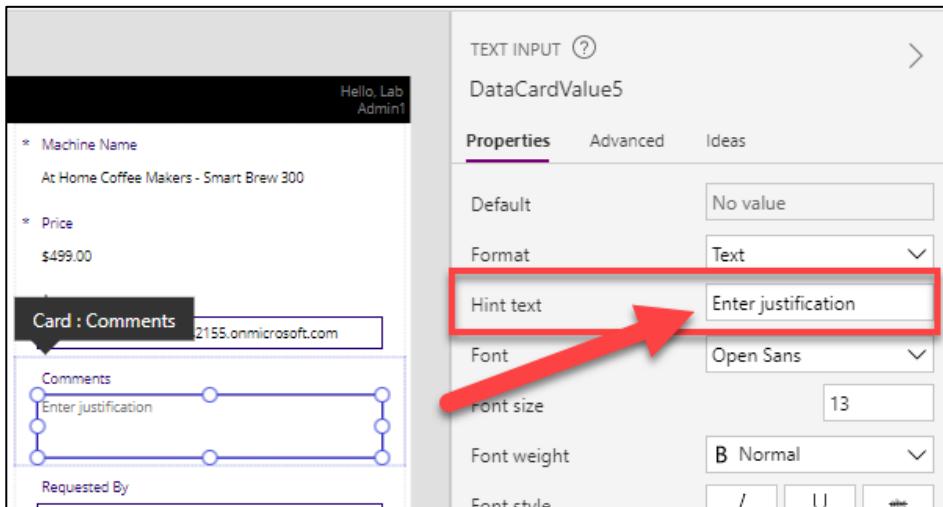
The Office 365 User connector has access to many other valuable types of information you can learn more about the other actions and data available here [Office 365 users Connector](#)

Task 6: Configure the Comment Field

1. From the Tree view pane to the left of the screen, expand the Compare screen, the Machine Order Form and the Comments Data Card, and then select the **Data Card Value**.



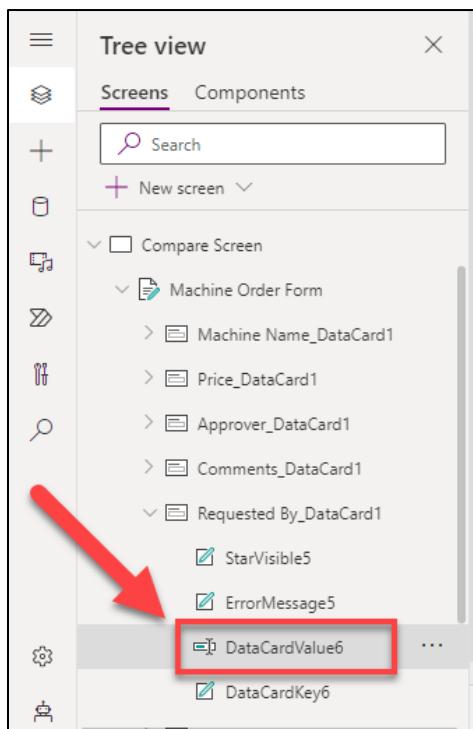
- From the **Data Card Value pane** to the left of the screen, under the **Properties** tab, set the **Hint text** property to **Enter justification**.



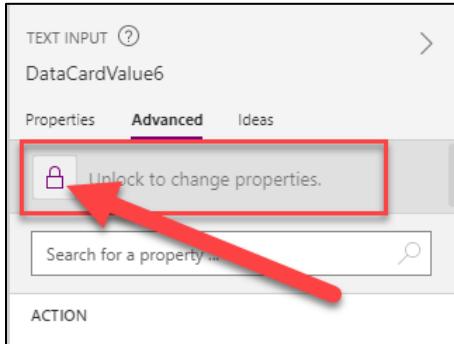
Task 7: Configure the Requested By Field

Let's set the **Requested By Field** to be the current logged on user's email and disable the control so the user cannot change this value.

- Expand the **Requested By** Data Card from the Tree view pane under the Machine Order Form, under the Compare Screen.
- Select the **DataCardValue** from the Requested By data card.

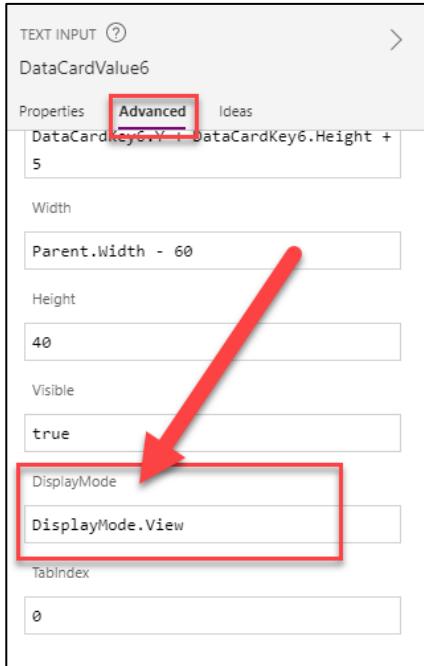


3. Within the **Data Card Value pane** to the right of the screen, select the **Advanced** tab. Then, **Unlock** the properties in order to begin making changes.



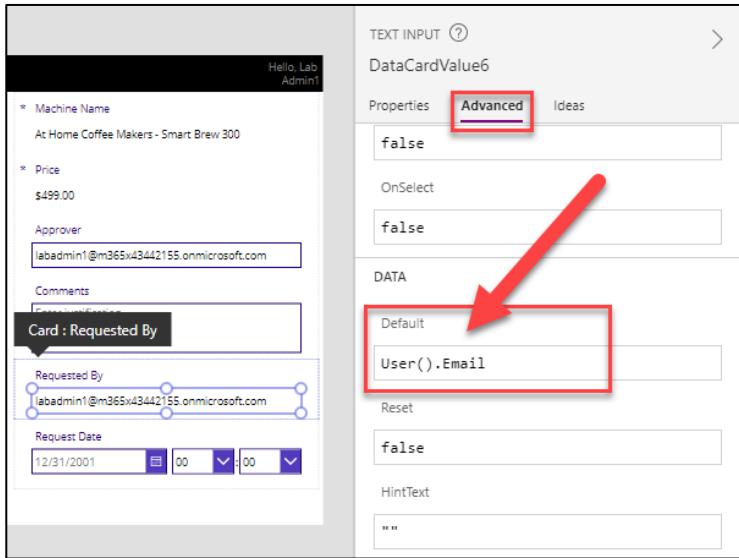
4. Scroll through the Advanced properties until you find the **DisplayMode** property. Change the **DisplayMode** property to the formula below:

`DisplayMode.View`



3. Next, scroll through the Advanced tab of the Data Card Value pane to find the Default value under the Data section. In the text box, change the Default value to the formula below:

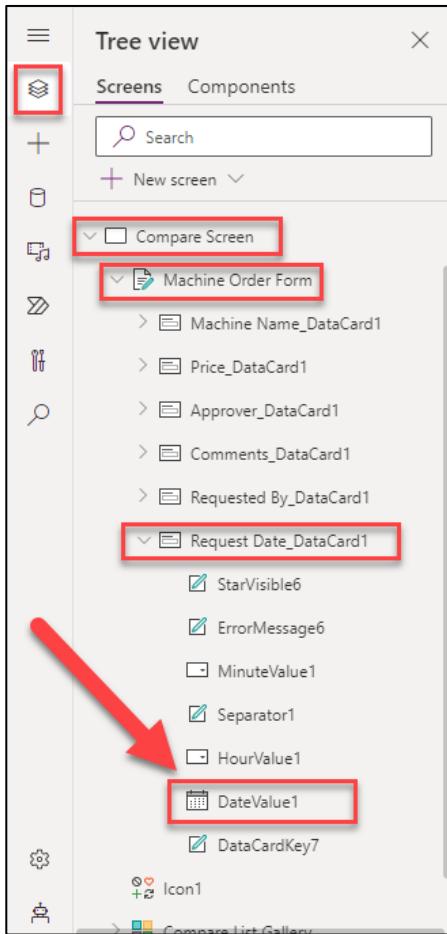
User().Email



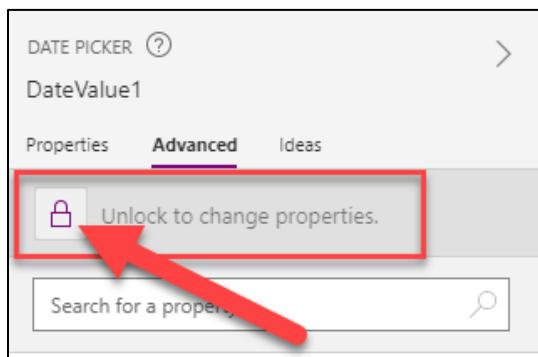
Task 8: Configure the requested date Field

Let's set the **Request Date** to be today's date.

1. Expand the **Request Date** card within the Machine Order Form, within the Compare Screen in the Tree view pane to the left of the screen.
2. Select the **DateValue** card within the Request Date card.

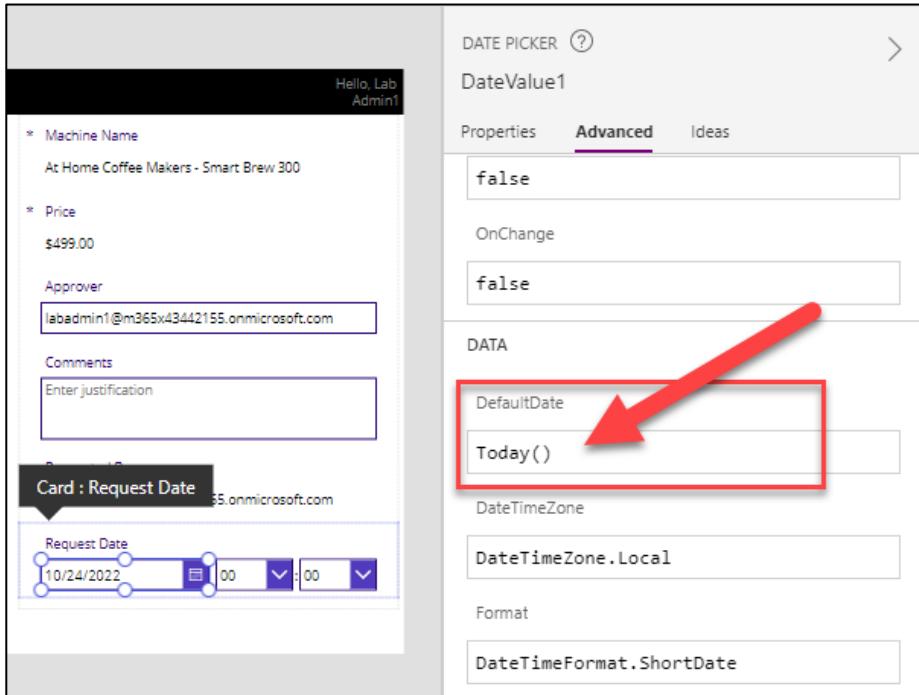


3. Next, from the **Advanced** tab in the **Date Value pane** to the right of the screen, **Unlock** the properties in order to begin making changes.



4. Scroll through the **Advanced** properties tab until you find the **DefaultDate** property in the **Data** section. Change the **DefaultDate** to the formula below:

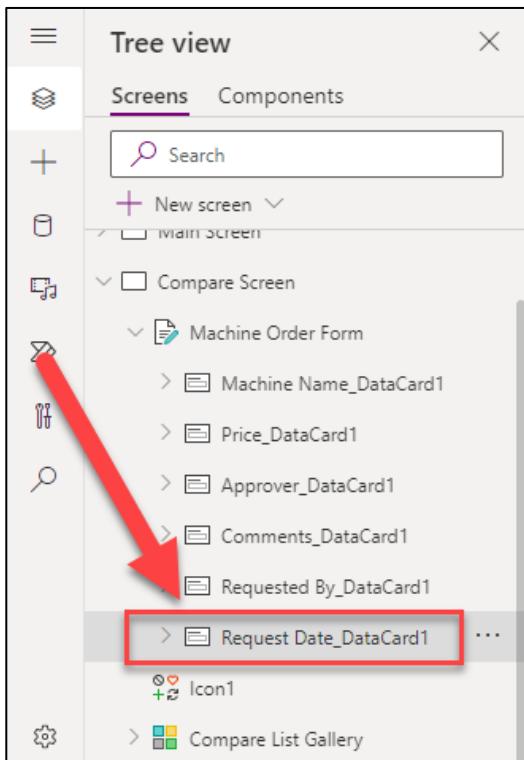
Today()



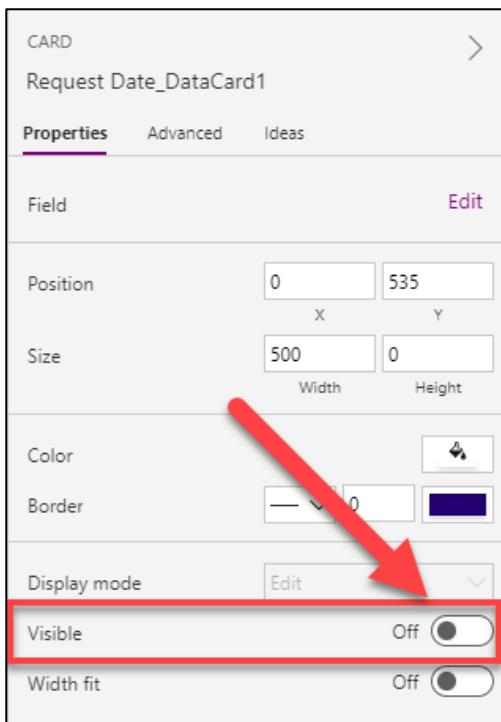
Notice that the date in the calendar control will change to today's date.

Now we will **hide** the **Request Date card**. We don't need to show this Field to the user. Since we have included it as part of the form, the Field will update as part of the form submit.

5. Select the **Request Date DataCard** from the Tree view pane within the Machine Order Form, under the Compare Screen, to the left of the screen.

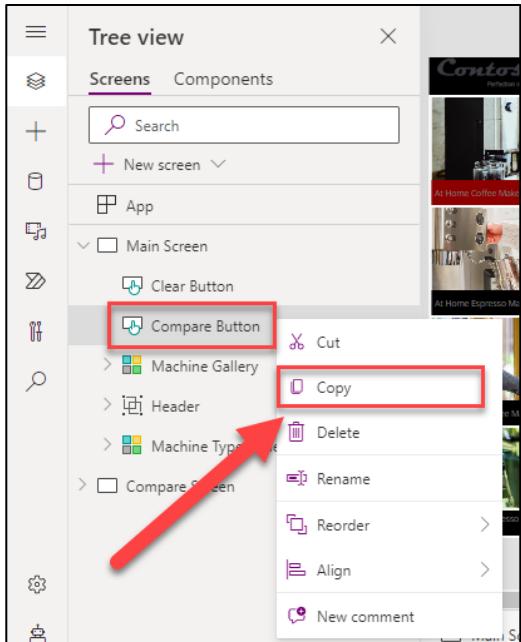


6. From the **Request Date Data Card** pane to the right of the screen, select the **Properties** tab.
7. Set the **Visible** toggle to **Off**.

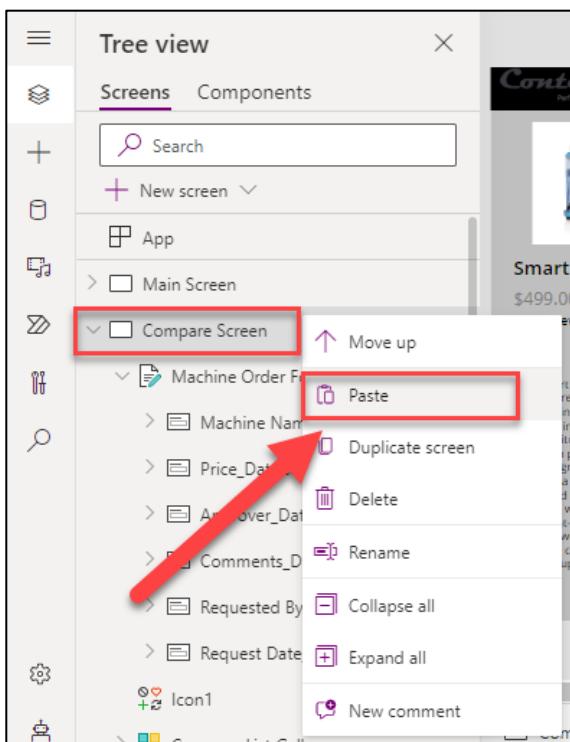


Task 9: Add a button to submit the form

1. Select the **Main Screen** from the Tree view pane to the left of the screen.
2. Right-click on the Compare button within the Main Screen. Select the option to **Copy** (Ctrl-C) the **Compare button**.

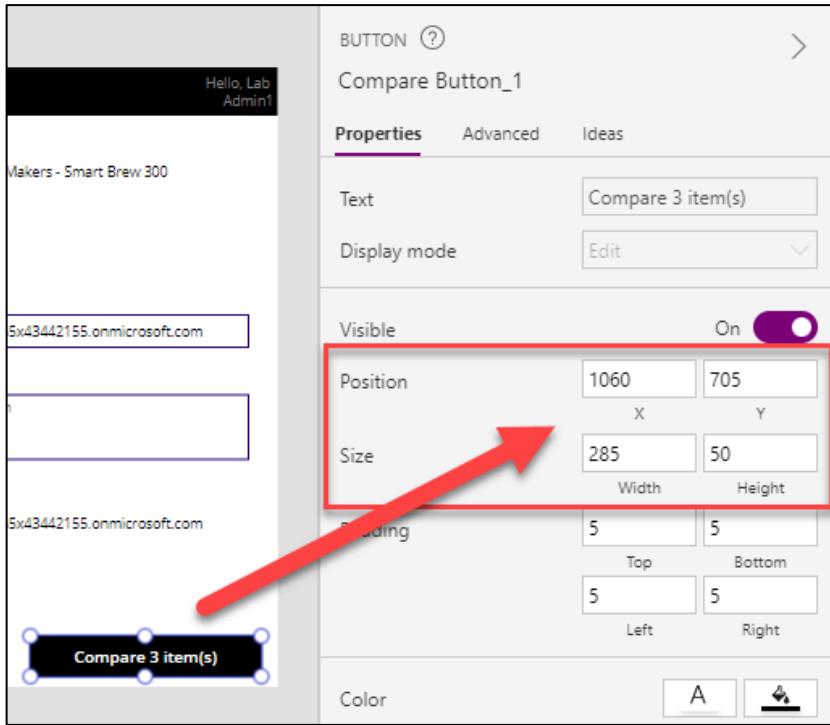


3. Navigate back to the **Compare Screen** and **paste** (Ctrl-V) the button.



4. **Resize** and **reposition** the button within the Compare Screen. Use the **Compare Button pane** to the right of the screen to change the **Width**, **Height**, **X** and **Y** property values of the button.

5. Set the **Width** property value to **285**.
6. Set the **Height** property value to **50**.
7. Set the **X** property value to **1060**.
8. Set the **Y** property value to **705**.

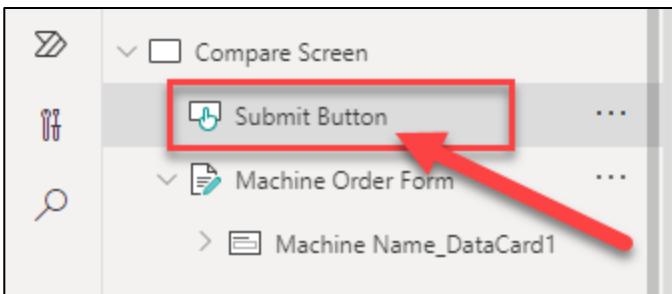


9. Using the **drop-down** and **formula bar** at the top of the screen, change the **Text** property of the **Compare Button** to the formula below:

"Submit machine request"

The screenshot shows the Power Platform canvas editor interface. The formula bar at the top has 'Text' followed by an equals sign and a formula bar icon, with the text '"Submit machine request"' entered. The tree view on the left shows 'Compare Button_1' selected. The properties panel on the right shows the 'Text' property of the 'Compare Button_1' component is set to 'Submit machine request'. A red box highlights 'Compare Button_1' in the tree view, and another red box highlights the 'Text' field in the formula bar.

10. Right-click on the **Compare Button** under the Compare Screen in the Tree view pane to the left of the screen. From the menu, select the **Rename** option. Change the name to **Submit Button**.



11. The button should be **enabled only** if a machine is **selected**. To do this, change the button's **DisplayMode** property, using the drop-down and formula bar at the top of the screen, to the formula below:

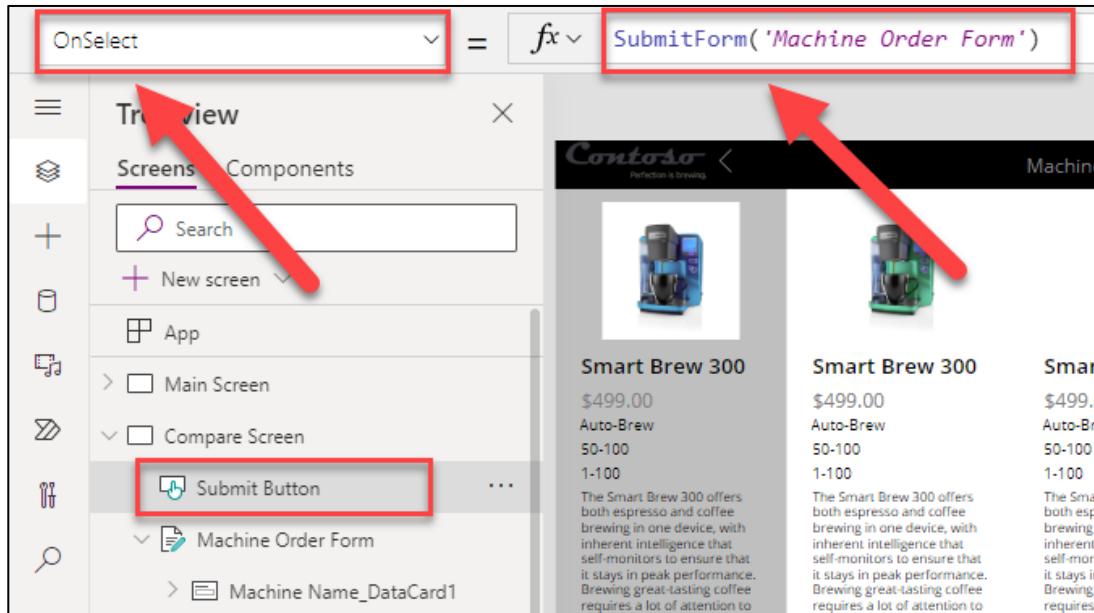
```
If(!IsBlank('Compare List Gallery'.Selected), DisplayMode.Edit, DisplayMode.Disabled)
```

The screenshot shows the Power Platform canvas interface. On the left, the tree view pane is open, showing 'Compare Screen' expanded, with 'Submit Button' selected and highlighted by a red box. On the right, the main screen displays a 'Machine Ordering' form for 'Contoso'. The 'Compare List Gallery' section shows three coffee makers: 'Smart Brew 300', 'Smart Brew 300', and 'Smart Brew 300'. The formula bar at the top has 'DisplayMode' selected in the dropdown, followed by an equals sign, an fx icon, and the formula 'If(!IsBlank('Compare List Gallery'.Selected), Edit, Disabled)'. Red arrows point from the formula bar to both the 'DisplayMode' dropdown and the formula itself, and another arrow points from the formula bar to the 'Compare List Gallery' component on the main screen.

Note: You might notice the exclamation mark (!) in the formula !IsBlank(). Normally if you just have IsBlank() the check is blank. Adding the exclamation mark (!) in front of it changes it to check if it is NOT blank.

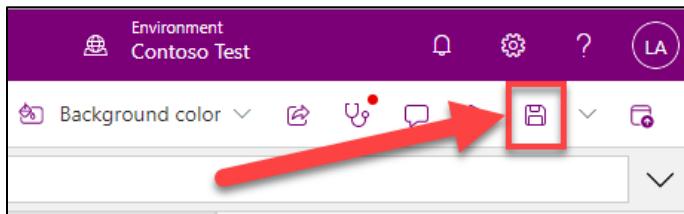
12. Next, we are going to configure what we want to happen when the button is selected. Using the drop-down and formula bar at the top of the screen, set the **OnSelect** property to the formula below:

```
SubmitForm('Machine Order Form')
```



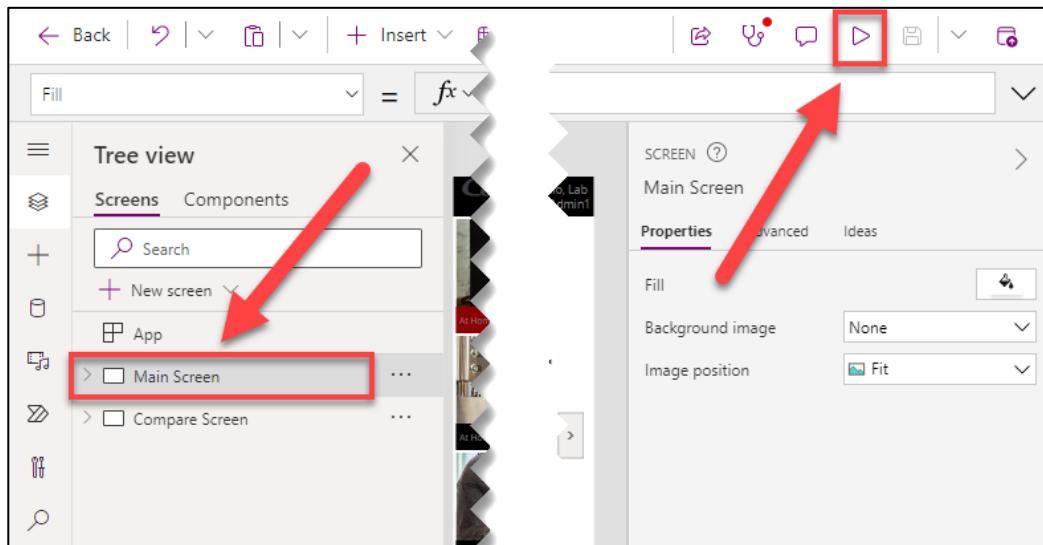
When the button is selected, the data form will be submitted to the Microsoft Dataverse.

13. **Save** your work using the button at the top of the screen in the ribbon and return to continue editing the app.



Task 10: Test the form

1. Select the **Main Screen** from the Tree view pane to the left of the screen.
2. Select the Preview mode button from the ribbon in the top right corner of the screen.



3. Select a few machines to compare, and then select **Compare**.

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

Commercial Coffee Makers

Smart Brew 300 \$499.00 Compare

Smart Brew 300 \$499.00 Compare

Travel Brew 100 \$349.00 Compare

Commercial Espresso Machines

Clear Selection

Compare 3 item(s)

4. Select **one** of the machines.

Smart Brew 300 \$499.00 Auto-Brew 50-100 1-100

The Smart Brew 300 offers both espresso and coffee brewing in one device, with inherent intelligence that self-monitors to ensure that it stays in peak performance. Brewing great-tasting coffee requires a lot of attention to detail and a lot of love. At Contoso, we are dedicated to helping at-home coffee brewers with the machines that they can count on for the perfect cup every time.

Smart Brew 300 \$499.00 Auto-Brew 50-100 1-100

The Smart Brew 300 offers both espresso and coffee brewing in one device, with inherent intelligence that self-monitors to ensure that it stays in peak performance. Brewing great-tasting coffee requires a lot of attention to detail and a lot of love. At Contoso, we are dedicated to helping at-home coffee brewers with the machines that they can count on for the perfect cup every time.

Smart Brew 300 \$499.00 Auto-Brew 50-100 1-100

The Smart Brew 300 offers both espresso and coffee brewing in one device, with inherent intelligence that self-monitors to ensure that it stays in peak performance. Brewing great-tasting coffee requires a lot of attention to detail and a lot of love. At Contoso, we are dedicated to helping at-home coffee brewers with the machines that they can count on for the perfect cup every time.

* Machine Name
At Home Coffee Makers - Smart Brew 300

* Price
\$499.00

Approver
labadmin1@m365x43442155.onmicrosoft.com

Comments
Enter justification

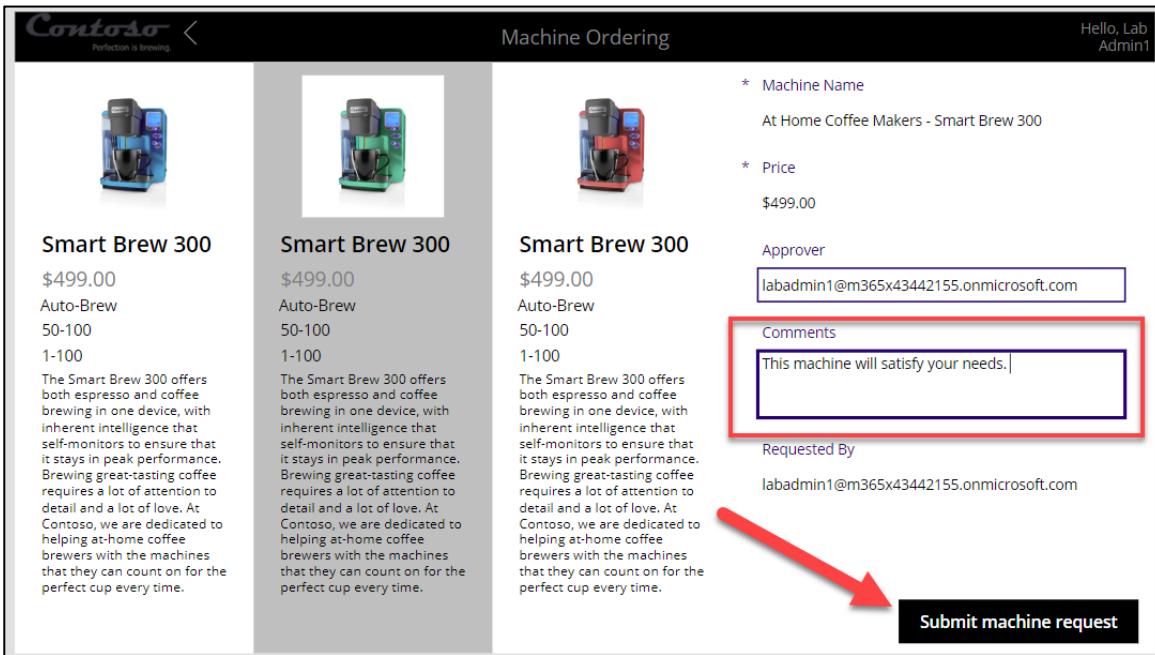
Requested By
labadmin1@m365x43442155.onmicrosoft.com

Submit machine request

Notice that the **Title**, **Price**, **Approver**, and **Requested By** Fields are already filled in.

5. Add some **Comments**, such as: "This machine will satisfy our needs."

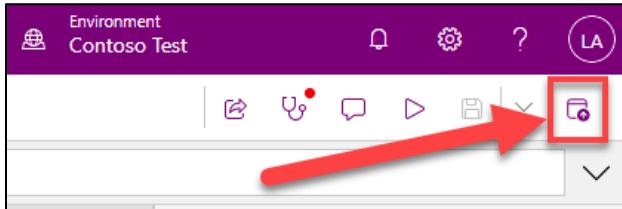
6. Then, select **Submit machine request**.



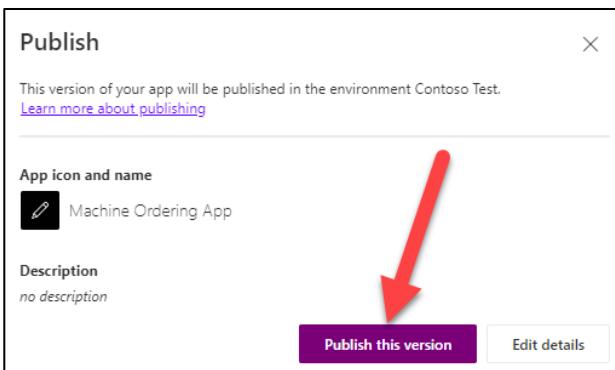
The button should turn disabled (gray) for a few seconds while it's submitting the request. If it does not do this there is likely an error. Select the **X** in top right corner to **exit** the Preview mode and navigate back to the design canvas.

If there is an error, you will see a yellow error icon next to the Submit button, hover over it to check the error.

7. **Exit the Preview mode** by selecting the **X** in the top right corner of the screen.
8. Select **Publish** from the ribbon at the top of the screen.



9. Within the dialog box, select **Publish this version** and wait for the application to finish publishing.



Task 11: Verify a new item was added to the Machine Order table

1. Open a browser window, and then go to [Make Power Apps](#).
2. Expand **Dataverse** from the menu to the left of the screen and select **Tables**.
3. Select the **Machine Order** table.

The screenshot shows the Power Apps portal interface. On the left, there's a navigation sidebar with options like Home, Learn, Apps, Create, and Dataverse. Under Dataverse, the 'Tables' option is selected and highlighted with a red box. The main area displays a list of tables: Email Template, Fax, Feedback, Letter, Machine Order, Mailbox, Organization, and Phone Call. The 'Machine Order' table is specifically highlighted with a red box and a red arrow points to it from the left side.

4. You should see a newly added row with your machine order details. This may take a few seconds to load.

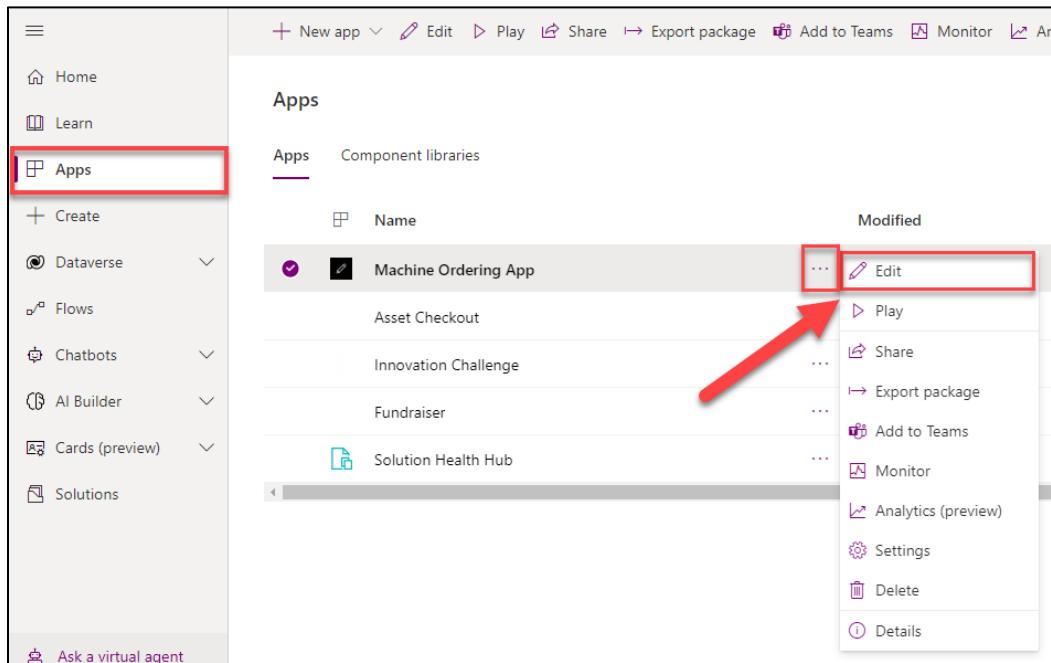
The screenshot shows the details view for the 'Machine Order' table. At the top, there's a header bar with 'Machine Order columns and data' and an 'Edit' button. Below the header, there's a table with two rows. The first row contains the 'Machine Name' (At Home Coffee Makers - Smart B...) and 'Created On' (10/24/2022 3:56 PM) fields, both of which are highlighted with a red box. The second row is a placeholder row with the text 'Enter text'.

Task 12: [Optional] Navigate to confirmation screen after the Form submit is successful

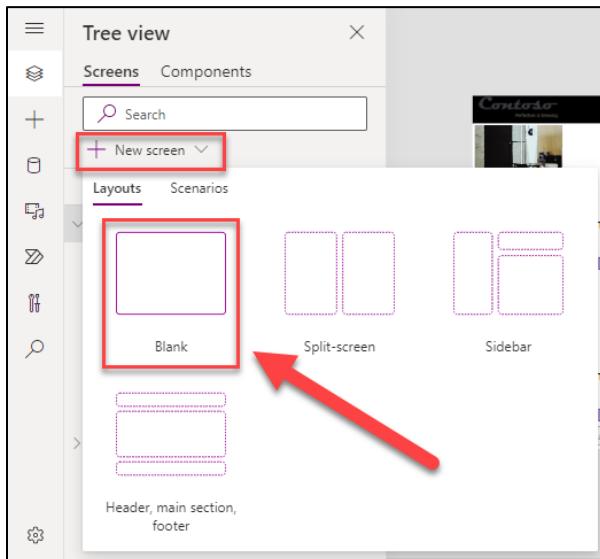
This step is optional, if you're short on time you may skip it and continue to the next module.

Once the Form has been successfully submitted, it's a good idea to show a confirmation screen and allow the user to navigate back to the main screen.

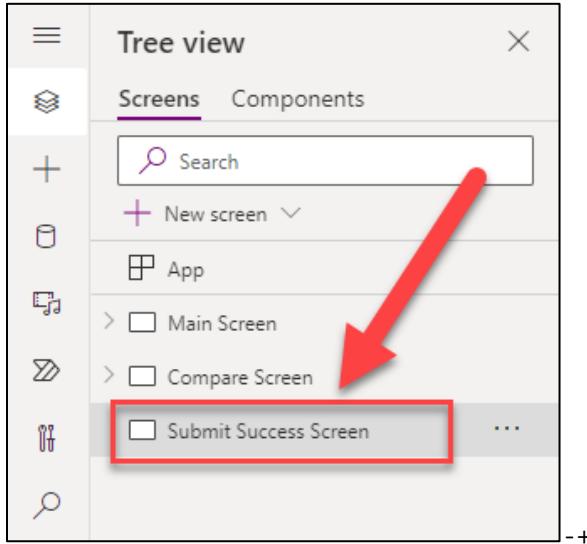
1. Open a browser window, and go to [Make Power Apps](#).
2. Select **Apps** from the menu pane to the left of the screen. Select the ellipses (...) to the right of the **Machine Ordering App**, and choose **Edit**.



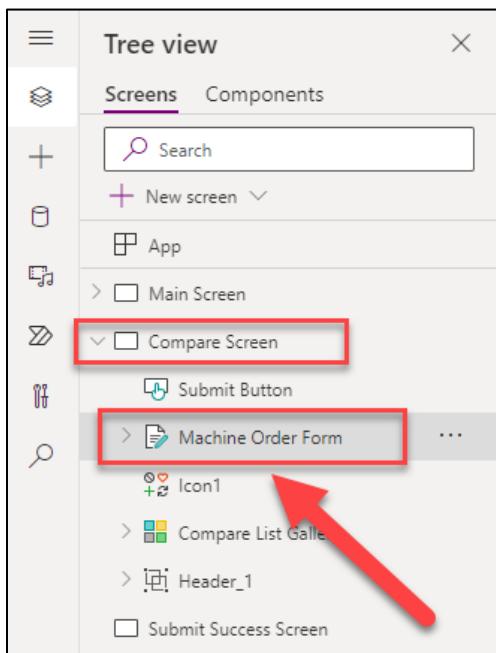
3. From the Tree view pane to the left of the screen, select the **+ New screen** drop-down, then choose **Blank**.



4. Select the **ellipses (...)** to the right of the new screen, select **Rename**, and change the name of the screen to **Submit Success Screen**.

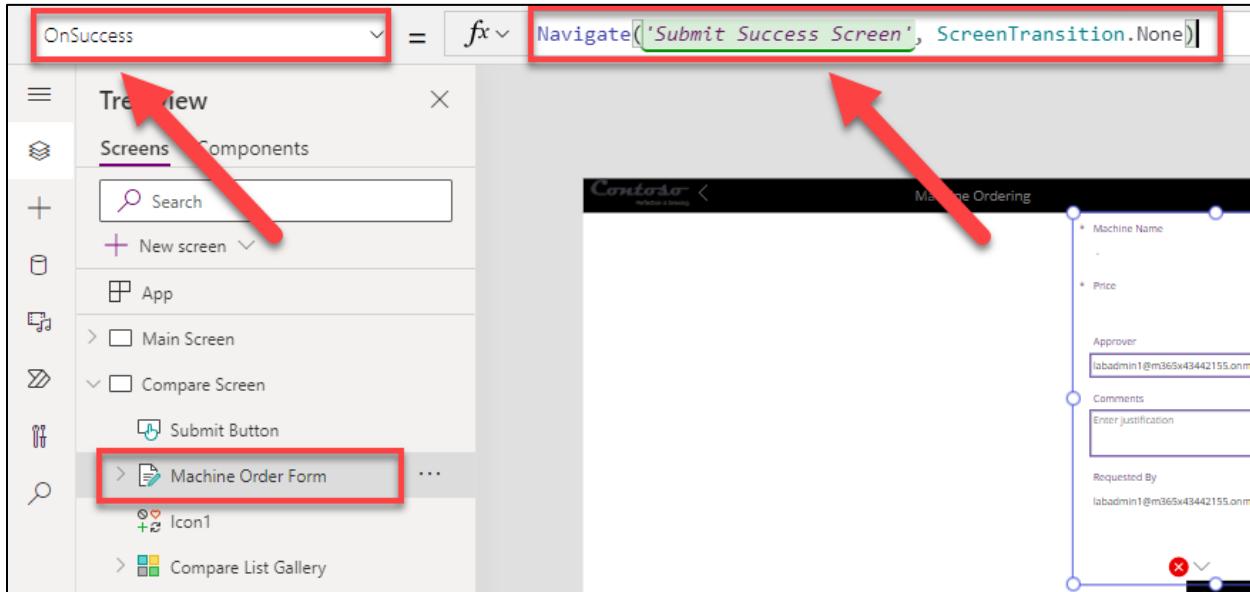


5. Expand the **Compare Screen** within the Tree view pane to the left of the screen.
6. Select the **Machine Order Form**.

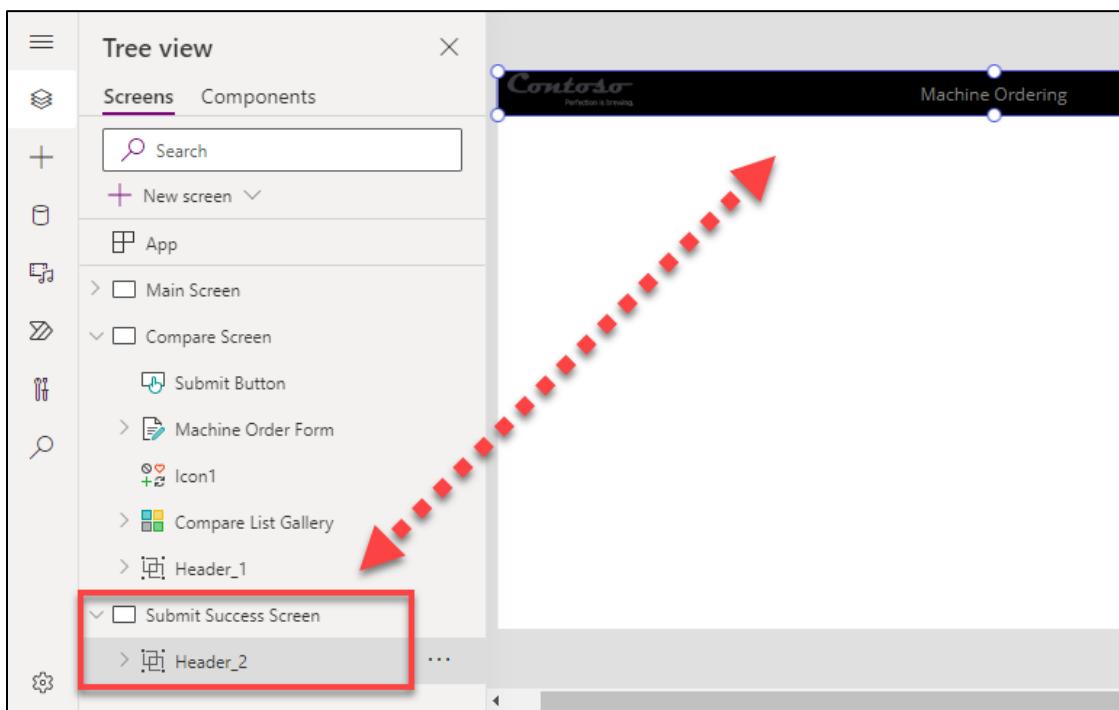


7. Using the drop-down box and the formula bar at the top of the screen, set the **OnSuccess** property of the **Machine Order Form** to the formula below:

```
Navigate('Submit Success Screen', ScreenTransition.None)
```

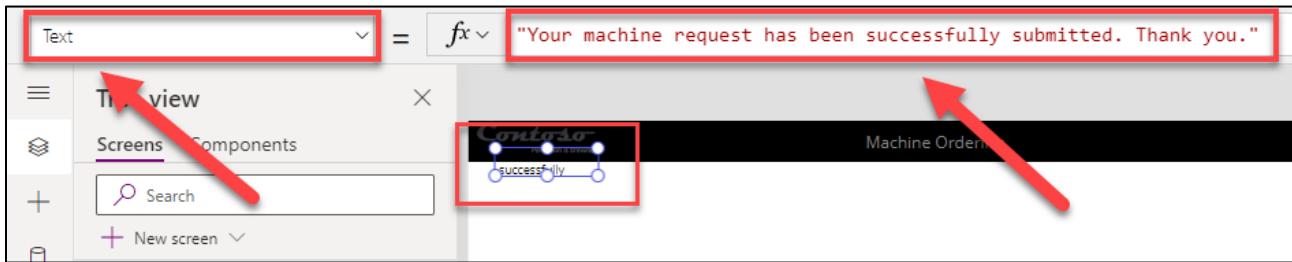


8. **Copy** (Ctrl-C) the **Header** from the **Compare Screen** in the Tree view pane by **right-clicking** on the Header or selecting the **ellipses** (...) to the right of the Header .
 9. Navigate to the to the **Submit Success Screen** located in the Tree view pane and **paste** the copied header within.

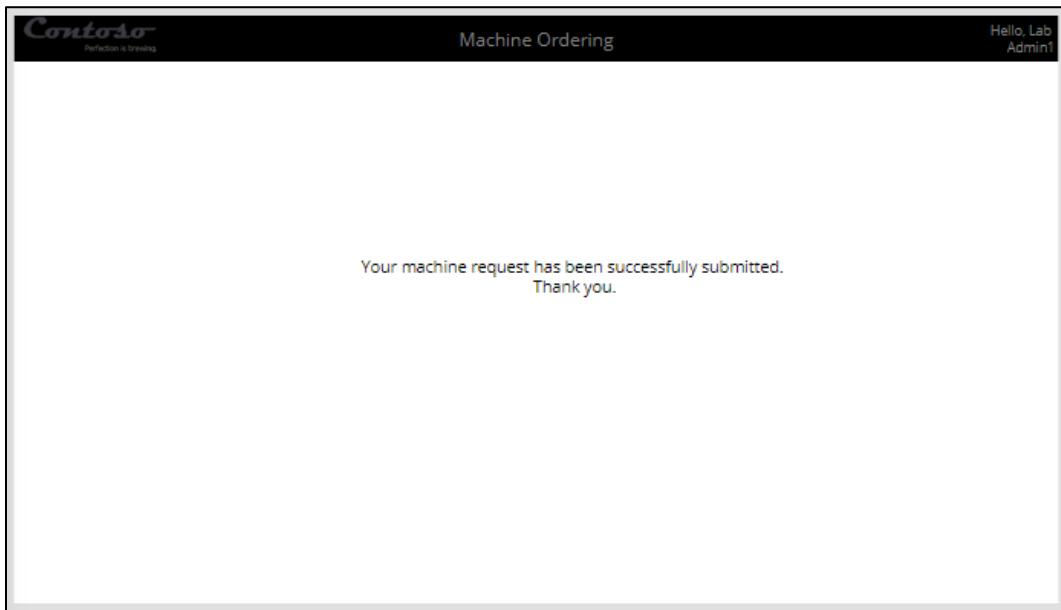


10. Using the options within the ribbon at the top of the screen, select the **+ Insert** drop down and select the **Text label** option.
 11. Using the drop-down text box and the formula bar at the top of the screen, set the **Text** property value of the newly inserted **text label** to the text below:

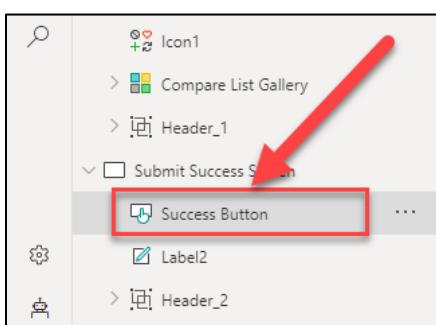
"Your machine request has been successfully submitted. Thank you."



12. Next, set the **Width** property value of the **label** to **600**.
13. Set the **Height** property value of the **label** to **80**.
14. Set the **Y** property value of the **label** to **300**.
15. Set the **X** property value of the **label** to **433**.
16. Change the **font** size of the **text** within the **label**, using the drop down at the top of the screen, to **16**.
17. Within the **Label** pane to the right of the screen, under the **Properties** tab, change the **Text alignment** within the **label** to be **aligned centered**.
18. Your Submit Success Screen should look like the figure below:



19. **Copy** the **Submit Button** from the **Compare Screen** within the Tree view pane and **paste** it within the **Submit Success Screen**.
20. Rename the button **Success Button**.



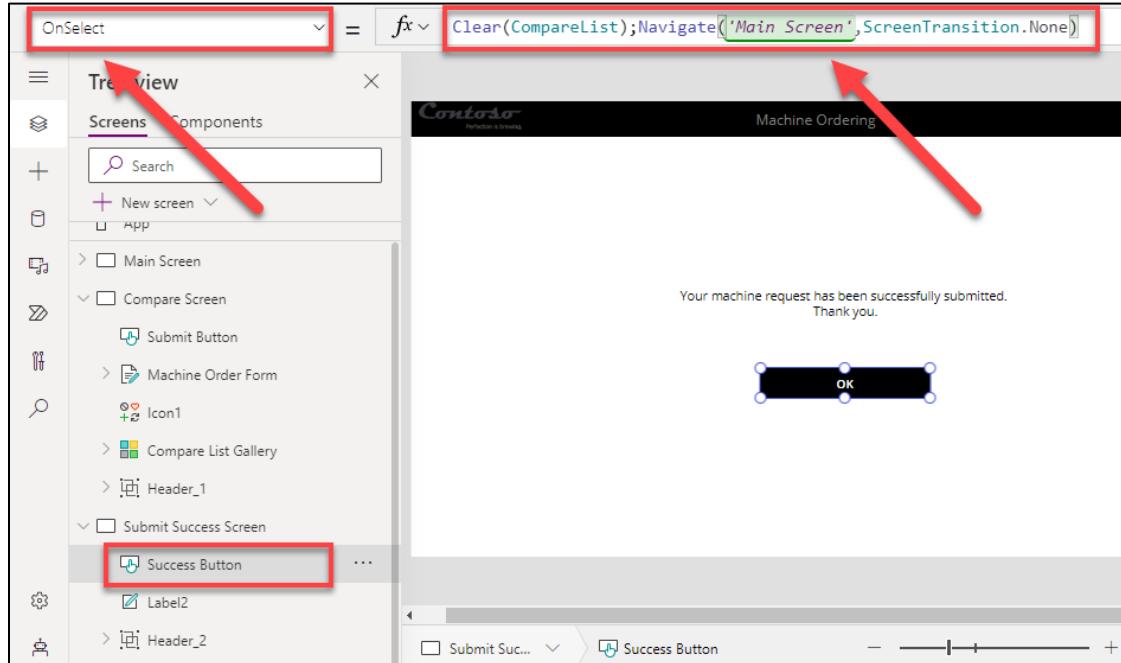
21. Change the **Text** property value of the **Success Button** to **OK**.
22. Change the **Display Mode** property value of the **Success Button** to the formula below:

DisplayMode.Edit

23. Set the **X** property value of the **Success Button** to **590**.
24. Set the **Y** property value of the **Success Button** to **450**.
25. When pressed, the button should **remove** items from the **CompareList** collection and navigate to the **Main Screen**.

26. Set the **OnSelect** property value of the **Success Button** to the formula below:

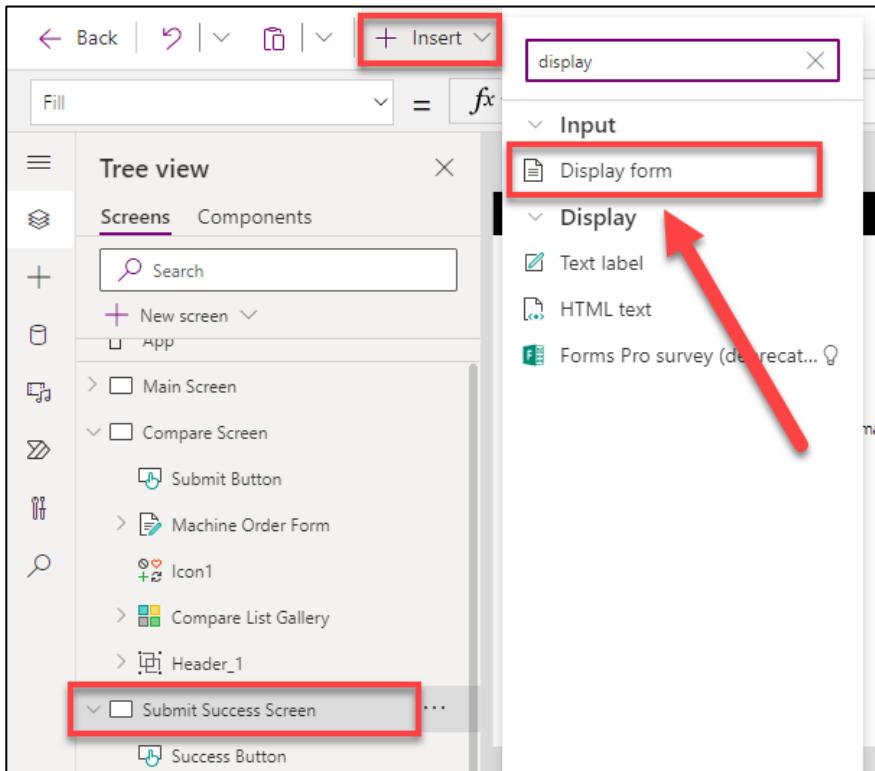
```
Clear(CompareList);Navigate('Main Screen',ScreenTransition.None)
```



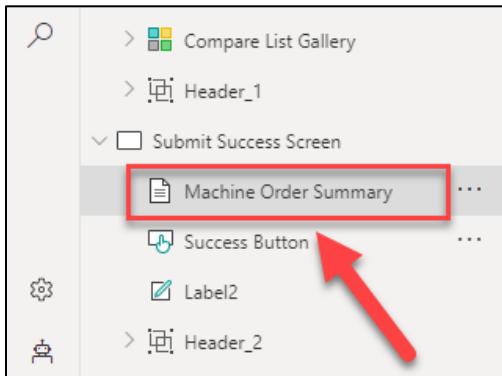
Note: ';' is used a separator when multiple functions are called one after the other. If you are in a locale where ';' is used as a comma-separator, then use a double ';' here (without the single-quotes).

27. Select the **Submit Success Screen** from the Tree view pane to the left of the screen. From the ribbon at the top of the screen, select the **+ Insert** drop-down.

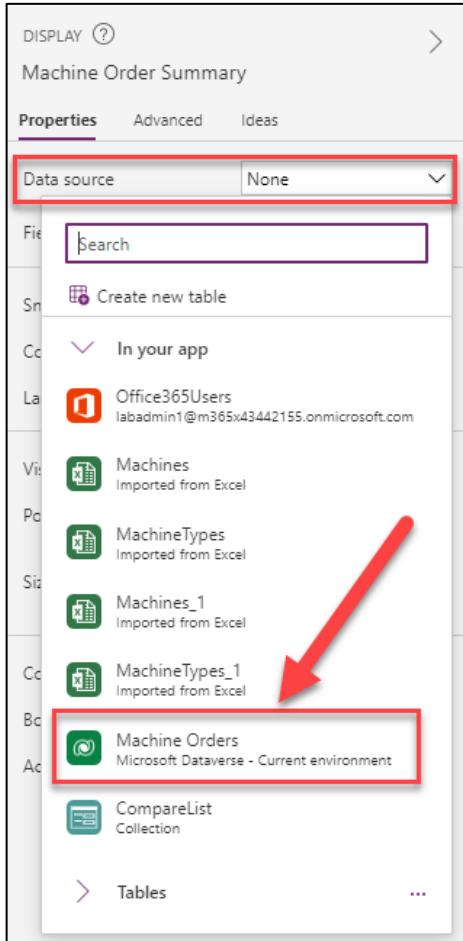
28. Search and select the option to insert a **Display form**.



29. Rename the **FormViewer** within the Tree view to **Machine Order Summary**.



30. From the **Machine Order Summary** pane to the right of the screen, select the **Data source** drop-down under the **Properties** tab. Select the **Machine Orders** table.

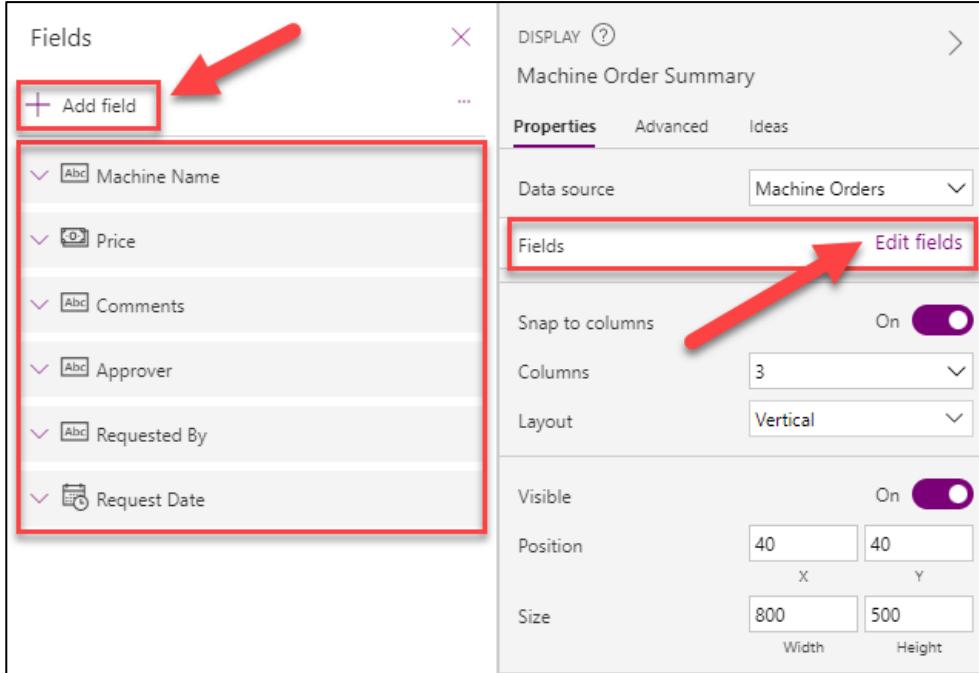


31. Select the **Edit fields** button under the **Properties** tab within the **Machine Order Summary** pane.
32. **Hover** over and select the **ellipses (...)** to the right of the **Created On** field within the list. Select the option to **Remove**.
33. Select the **+ Add field** button above the list. From the list of fields, select/check the box next to the following **Fields** to display them within the Fields list:
- Machine Name
 - Price
 - Comments
 - Approver
 - Requested By
 - Request Date

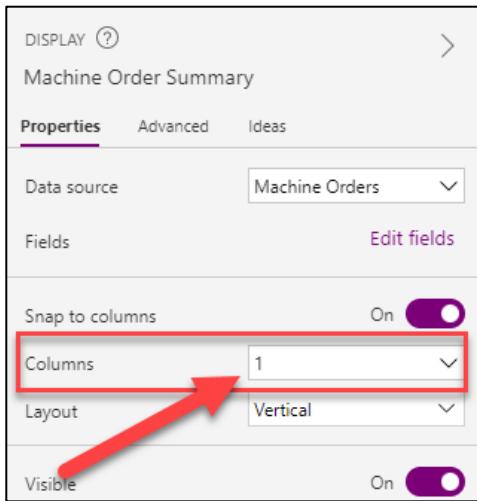
Notice that the **Machine Name** field is already selected. Ensure to **leave it selected** so that it appears in the list of fields.

34. Once you have finished selecting the Fields to display, select the **Add** button at the bottom of the menu.

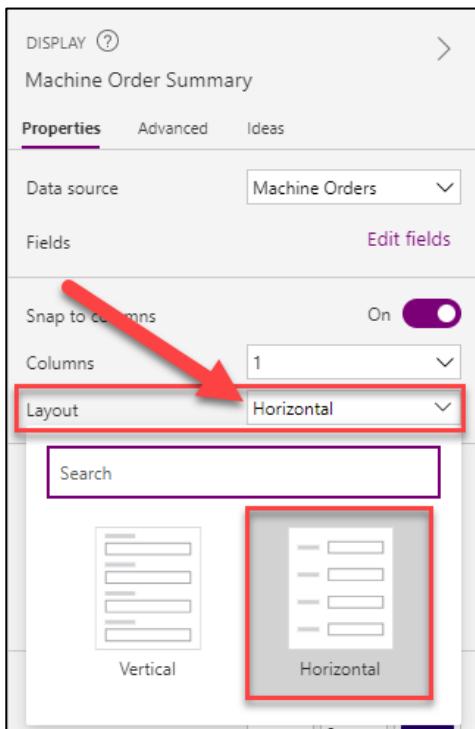
35. **Rearrange** the fields to match the order of the list above (and in the figure below) by dragging and dropping the fields. You may have to close the expansion of each field within the list so that you can better view the fields while rearranging.



36. Select the **X** in the top right corner of the **Fields list** pane so that you are only viewing the Machine Order Summary pane.
37. While still under the **Properties** tab of the **Machine Order Summary** pane, change the **Snap to column** value from 3 to 1.

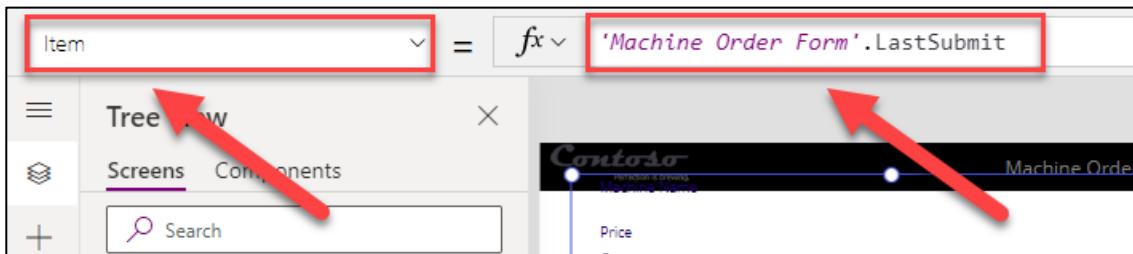


38. Change the Layout from Vertical to Horizontal.



39. Using the drop-down box and formula bar at the top of the screen, change the **Machine Order Summary form's **Item** property value to the formula below:**

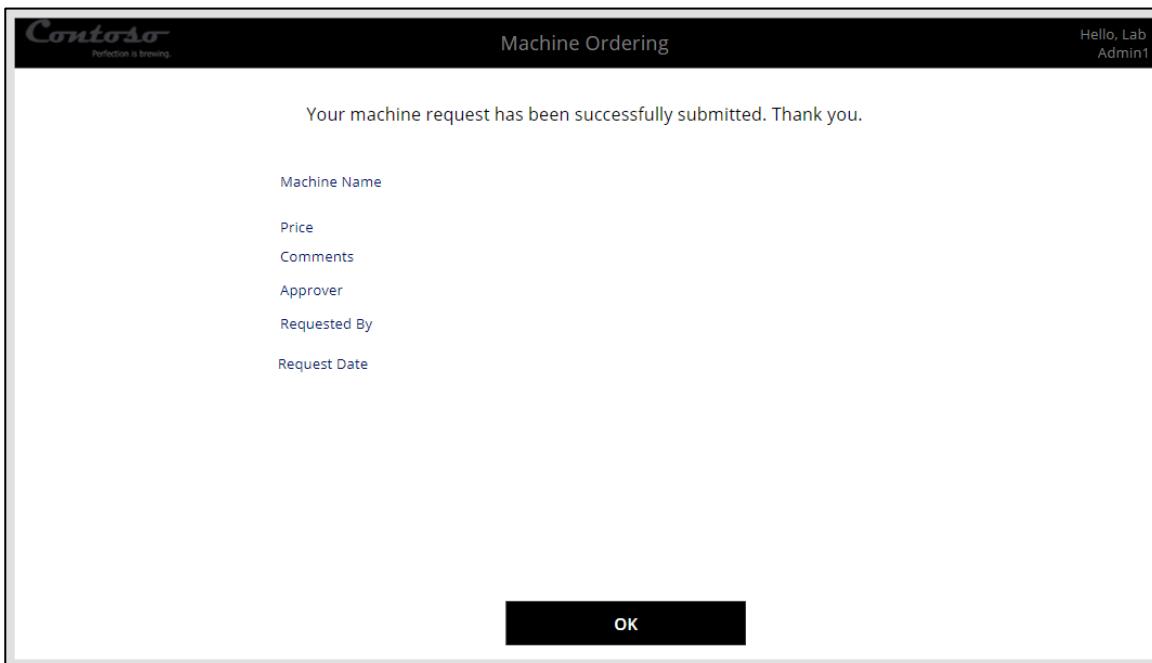
'Machine Order Form'.LastSubmit



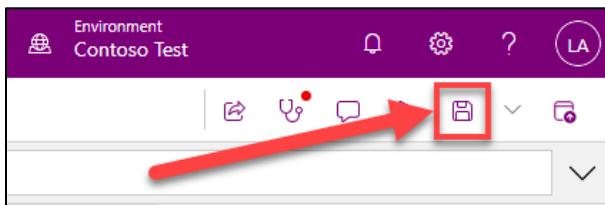
40. Next, reposition and resize the **Machine Order Summary, **Success Button**, and the **Label** within the **Submit Success Screen**.**

41. Select the **Success Button** within the **Submit Success Screen** from the Tree view pane to the left.
42. Using the drop-down box and formula bar at the top of the screen, change the **Y** property value of the **button** to **700**.
43. Next, select the **Label** within the **Submit Success Screen** from the Tree view pane to the left.
44. Change the **Width** property value of the **Label** to **750**.
45. Change the **Y** property value of the **Label** to **75**.
46. Change the **X** property value of the **Label** to **308**.
47. Next, select the **Machine Order Summary** form within the **Submit Success Screen** from the Tree view pane to the left of the screen.
48. Change the **Height** property value of the **form** to **400**.
49. Change the **X** property value of the **form** to **283**.
50. Change the **Y** property value of the **form** to **180**.

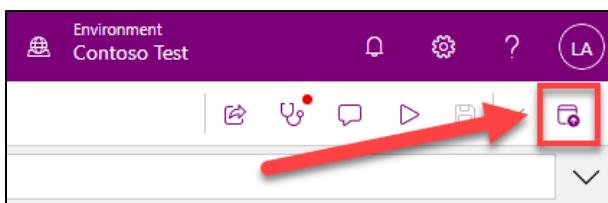
51. Your **Success Submit Screen** should now appear like the figure below:



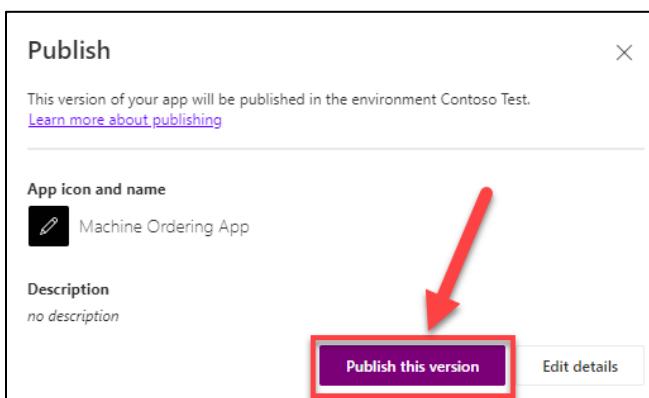
52. From the ribbon at the top of the screen, in the right top corner, select the **Save** icon so that your work is saved.



53. Then, select the **Publish** icon, to the right of the Save icon, within the ribbon in the top right corner of the screen.



54. In the **Publish** dialog box that appears, select the option to **Publish this version**.



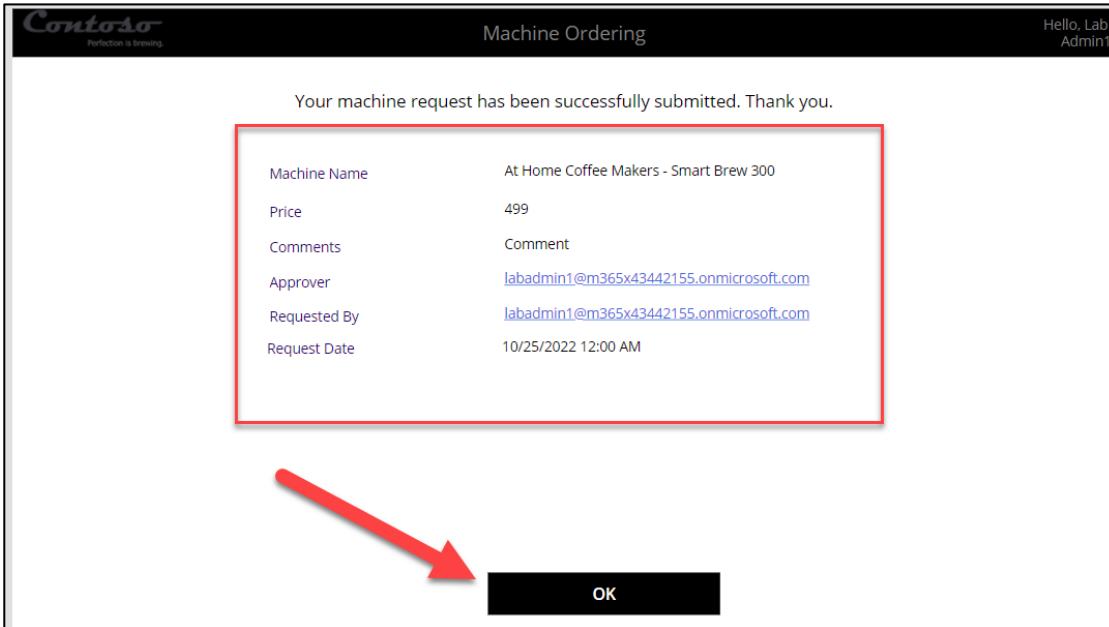
55. Select the **Main Screen** from the Tree view pane to the left of the screen, and then select the **Preview mode** button within the ribbon in the top right corner of the screen.
56. Select a few machines and then select **Compare**.

The screenshot shows the 'Machine Ordering' app interface. At the top, there's a navigation bar with the Contoso logo and a greeting 'Hello, Lab Admin1'. Below the header, there are four rows of coffee makers. In each row, the first three machines have their 'Compare' checkboxes checked (indicated by a red border around the checkbox). The fourth machine in each row has its 'Compare' checkbox unchecked. A large red arrow points from the bottom right towards a button labeled 'Compare 3 item(s)' which is also highlighted with a red border.

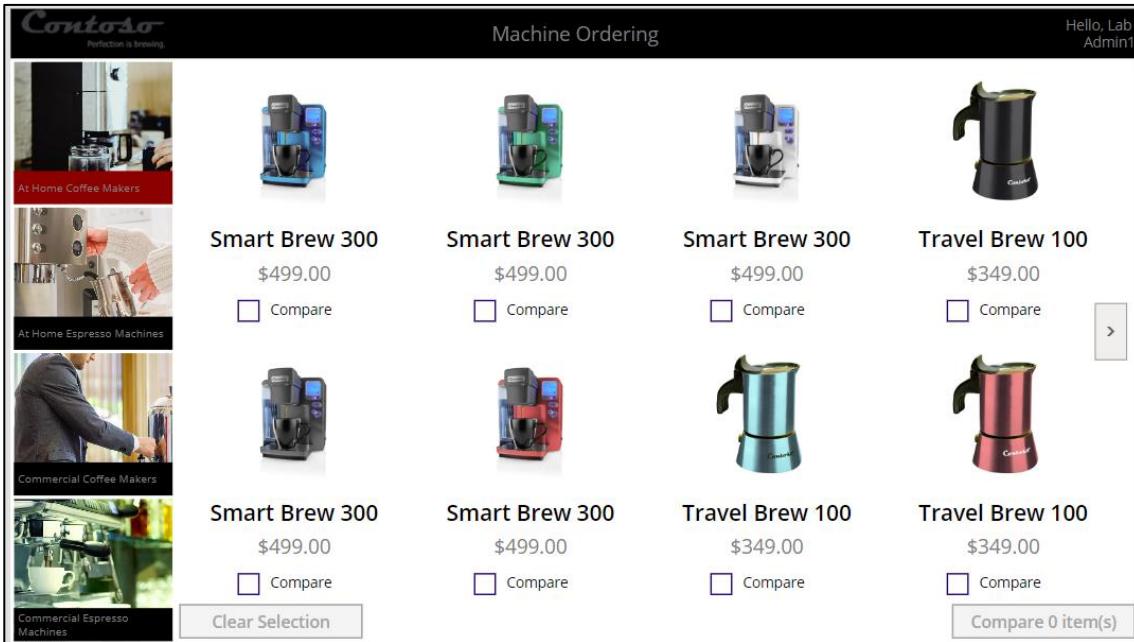
57. Select one of the machines on the Compare Screen, enter a comment, and then select **Submit**.

This screenshot shows the 'Machine Ordering' app's compare screen. On the left, there are three cards for the 'Smart Brew 300' model, each with a different color and a brief description. To the right, there are fields for entering a machine name ('At Home Coffee Makers - Smart Brew 300'), price ('\$499.00'), approver ('labadmin1@m365x43442155.onmicrosoft.com'), and comments. A red arrow points from the 'Comments' field towards the 'Submit machine request' button at the bottom right, which is also highlighted with a red border.

58. Verify that the confirmation screen shows the order details. Then, select **OK**.



59. The application will navigate back to the Main Screen and the Compare List will be cleared.



60. Select the **X** in the top right corner of the screen to **close out** of the **Preview mode**.

Congratulations! You have completed all of Lab 2. Before closing out of Power Apps, ensure that everything has been **saved** and **published correctly** so that you do not lose any of your work and progress within the lab.

References

App in a Day introduces some of the key functionalities available in Power Apps, Power Automate, Power BI and the Microsoft Dataverse. For an up to date list of learning references, see [Power Apps Resources](#) and [Power Automate Resources](#).

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