Building PowerApps for SharePoint Online

Lab Time: 60 minutes

Lab Folder: C:\Student\Modules\03_SharePointOnline\Lab

Lab Overview: In this lab, you continue to work on the **Device Ordering App** that you created in lab 2. You will extend the app you have already started by adding support to write a new list item to a SharePoint list when a user submits a new device request.

Lab Dependency: This lab assumes that you have already completed lab 2 and have built the **Device Ordering App**.

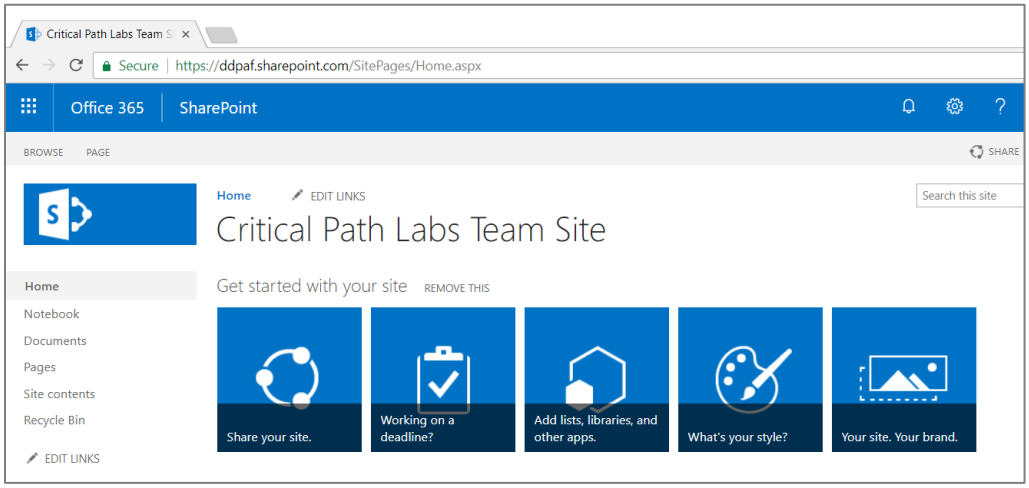
Exercise 1: Create a New SharePoint List for Device Order Requests

In this exercise you'll create a new SharePoint List to use with the Device Ordering App.

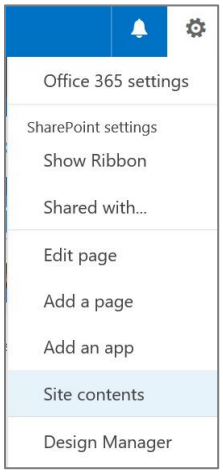
1. Navigate to the root SharePoint site you would like to use for this exercise.
   a) Navigate to the root SharePoint site for your trial Office 365 tenancy.

The URL for your SharePoint root site can be determined by your Office 365 tenancy name. For example, if your Office 365 tenancy is named **ddpaf**, then the URL for your SharePoint root site will be https://ddpaf.sharepoint.com.

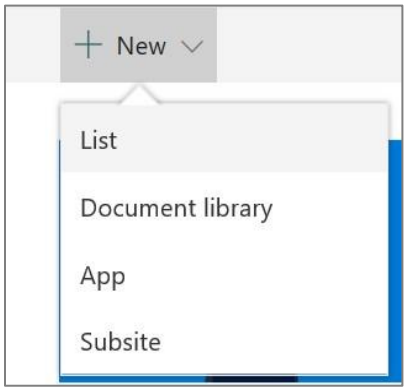
   b) When you navigate to your SharePoint site, it should be a standard SharePoint team site that matches the screenshot below.



2. Create a new SharePoint list.
   a) Click on the gear icon and click on **Site contents**



b) Click on **New** and select List from the menu

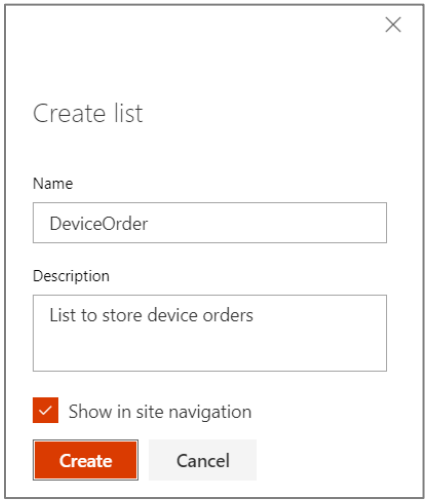


c) Create a new List

i) Enter the List name: **DeviceOrder**

ii) Enter a short description

iii) Click the **Create** button.



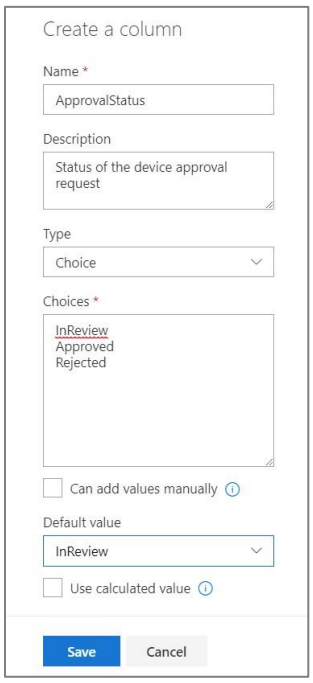
d) The list will have a Title column by default

e) In the next few steps you will click on the **+ sign** next to the Title column to add additional columns

f) Add these **additional columns** step by step to the new list:

Column	Type
DeviceID	Number
Price	Currency
RequestedBy	Single line of text
Approver	Single line of text
ApprovalStatus	Choice *
Comments	Multiple lines of text – Make sure to set **Specify the type of text to allow** property to **Plain Text**

g) * For the **ApprovalStatus** column, select the Choice type and enter **InReview**, **Approved**, and **Rejected** as choices.

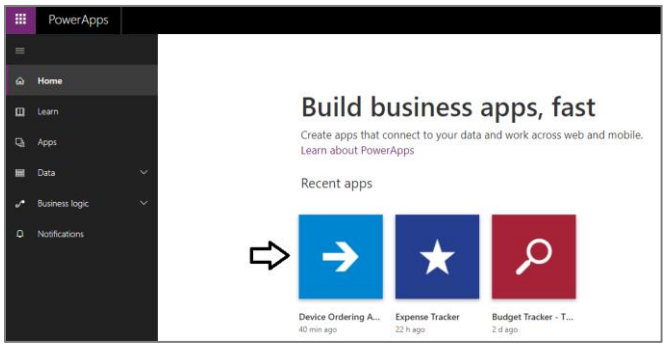


3. View your **list settings** and confirm the columns and types are accurate.
   a) Click the gear icon in the top right and select **List settings**.
   b) The column settings for the DeviceOrder list should match the image below –

Exercise 2: Extend an App by Adding a SharePoint List as a Data Source

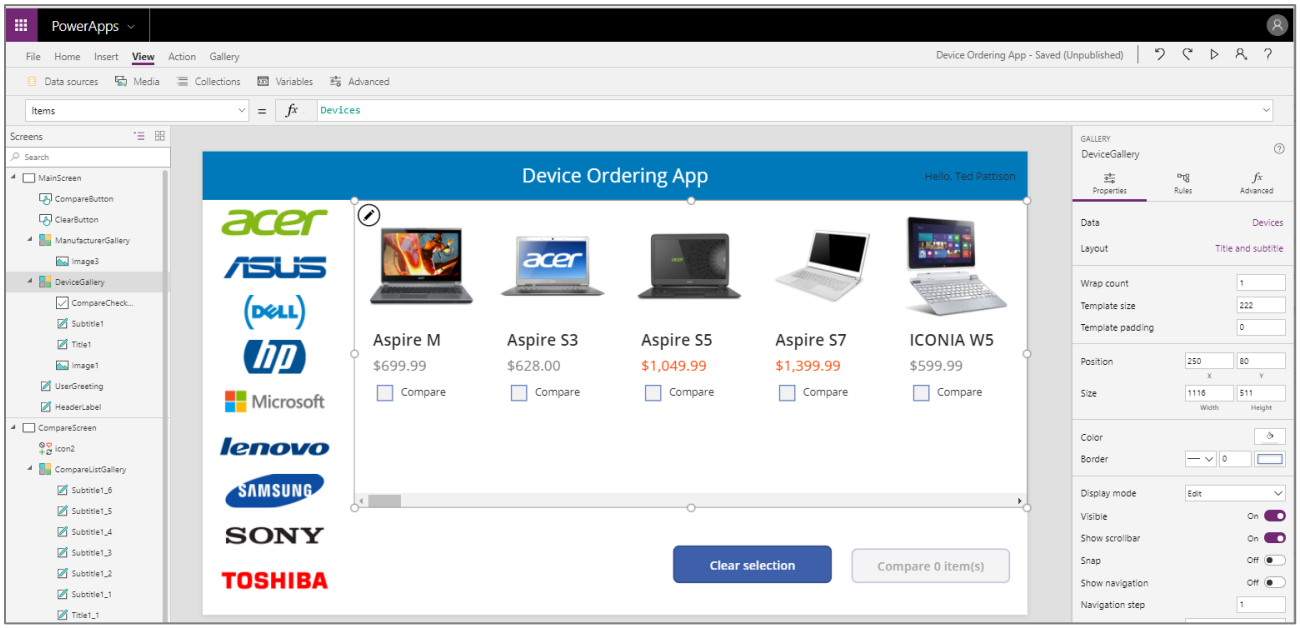
Now the SharePoint list is created, attach this SharePoint list to your PowerApps app so you can submit data and store it in the list.

1. Open the Device Ordering App you created in Lab 2.
   a) Using a new tab in the browser, navigate to https://web.powerapps.com.
   b) Hover the mouse over the tile for the **Device Ordering App**.



   c) Click on the button with the pen icon to open the **Device Ordering App** in edit mode.

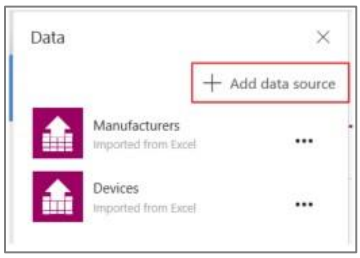
   d) The Device Ordering App should now be open in edit mode and match the following screenshot.



2. Add SharePoint as a data source

a) Click on the **View** tab and then click **Data sources** to display the Data sources property pane to the right of the canvas.

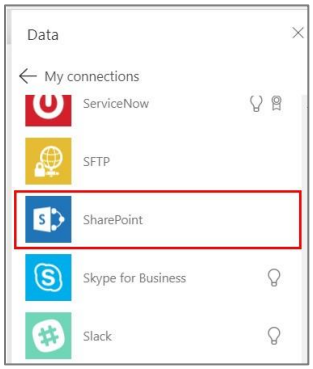
b) Click + Add data source.



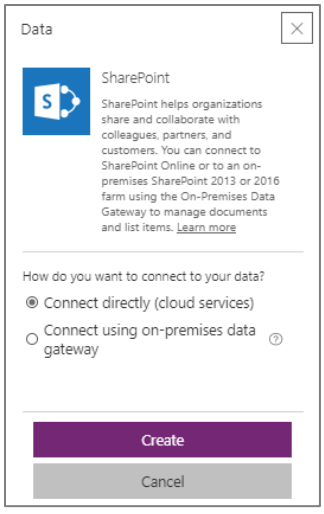
c) If you see SharePoint in the list of existing connections, select it.

d) If you don't see SharePoint listed, click **+ New connection**

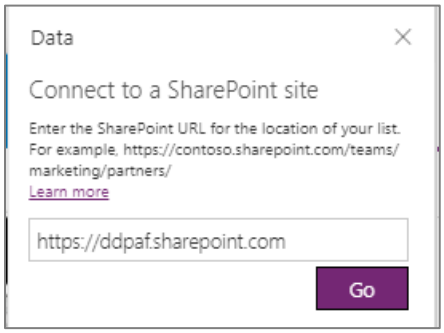
e) Select the **SharePoint** connection.



f) Select the Connect directly (cloud services) option and click Create.

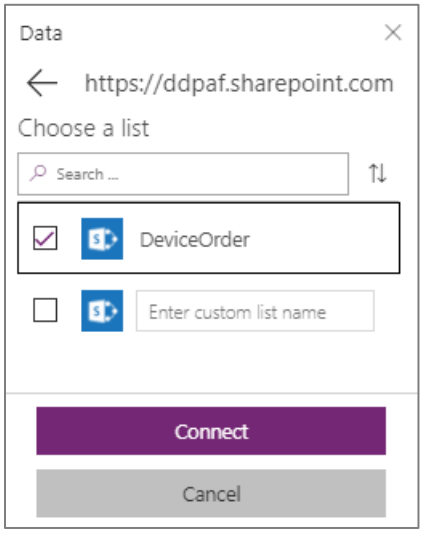


g) Enter your **SharePoint site URL** where you created the **DeviceOrder** List and then click **Go**.

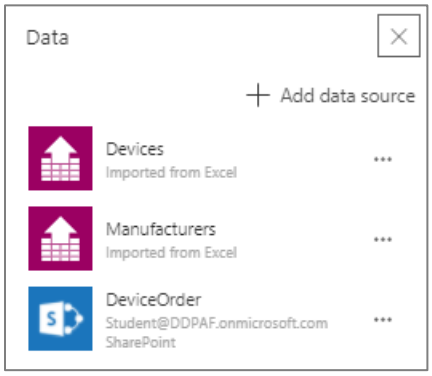


Make sure you enter only the site URL and not the full URL to the list.

h) You will see all the lists on the site. Select the **DeviceOrder** list and click **Connect**



i) You should be able to confirm that the new **DeviceOrder** connection has been added to your app.

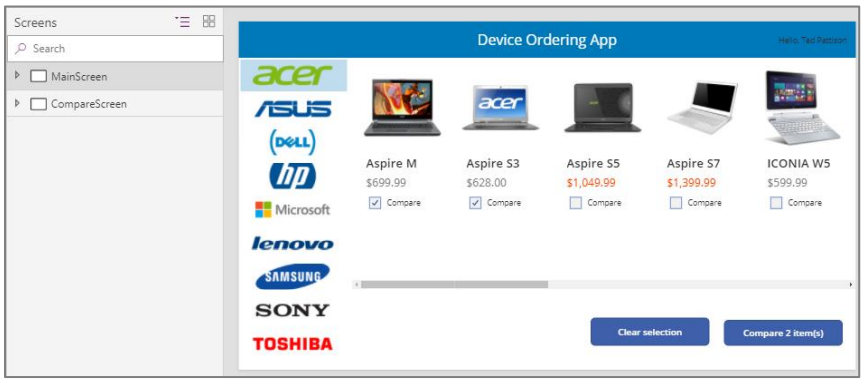


You have now created a connection from your app to the **DeviceOrder** list. Your next step is to create an edit form so that you can implement the behavior in the app to insert new items in this SharePoint list.

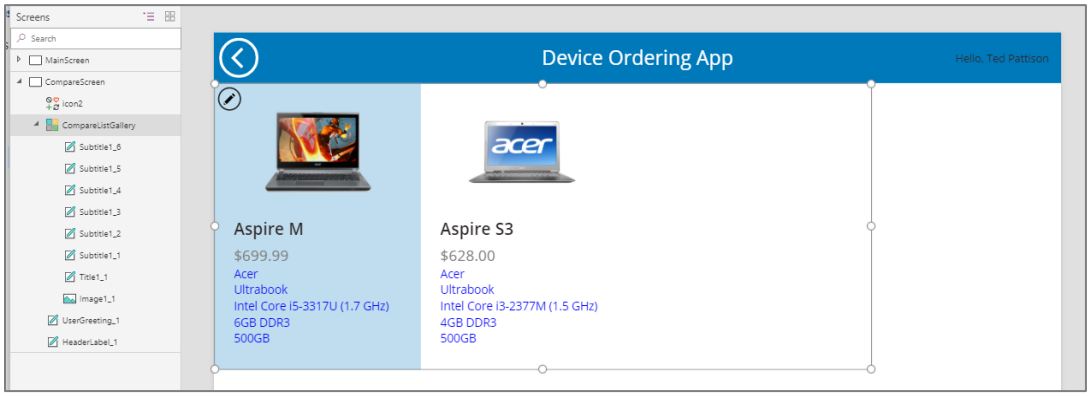
Exercise 3: Add a form to your app and connect it to the SharePoint list

In this exercise, you will add an Edit Form to the app that is connected to the SharePoint list. This will let users input information for their device approval request.

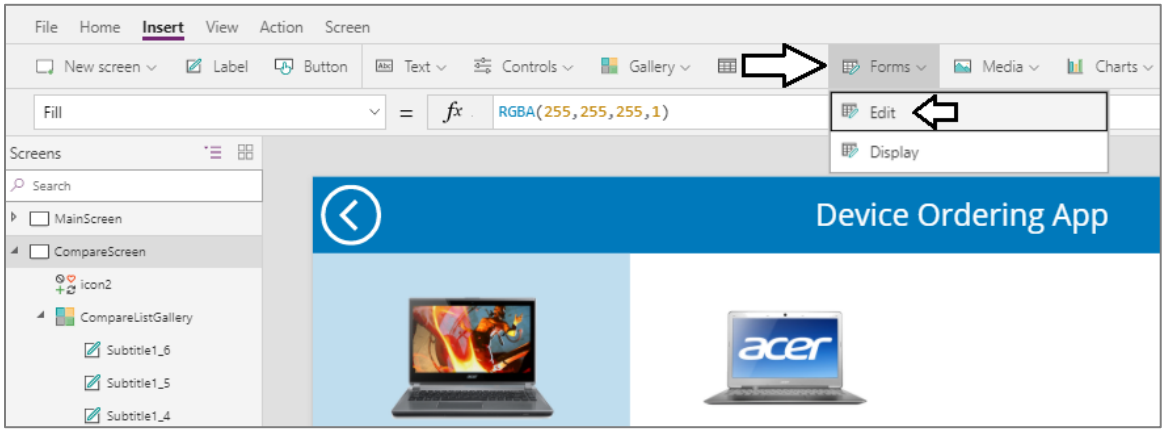
1. Make sure the **CompareList** collection is not empty.
   a) Navigate to the **MainScreen**.
   b) Make sure at least 2 or 3 devices are selected as shown in the following screenshot.



   c) Navigate to **CompareScreen** and verify the you can see the devices that you selected on **MainScreen**.

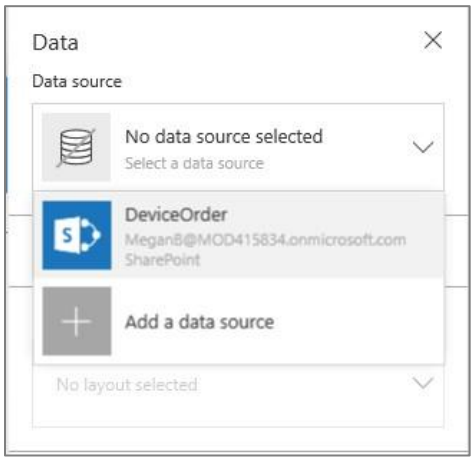


2. On **CompreScreen**, insert a new Edit Form and select DeviceOrder as the data source
   a) Click **Insert** in the ribbon and select **Forms** -> **Edit**.



b) Click the **Data source** dropdown in the Data pane on the right.

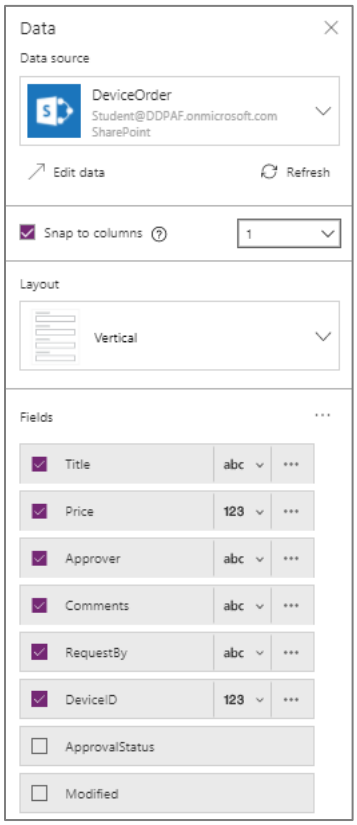
c) Select the **DeviceOrder** list as the data source.



d) Set the **Snap to columns** value setting to a value of **1**.

e) By default, all the fields will be created on the form.

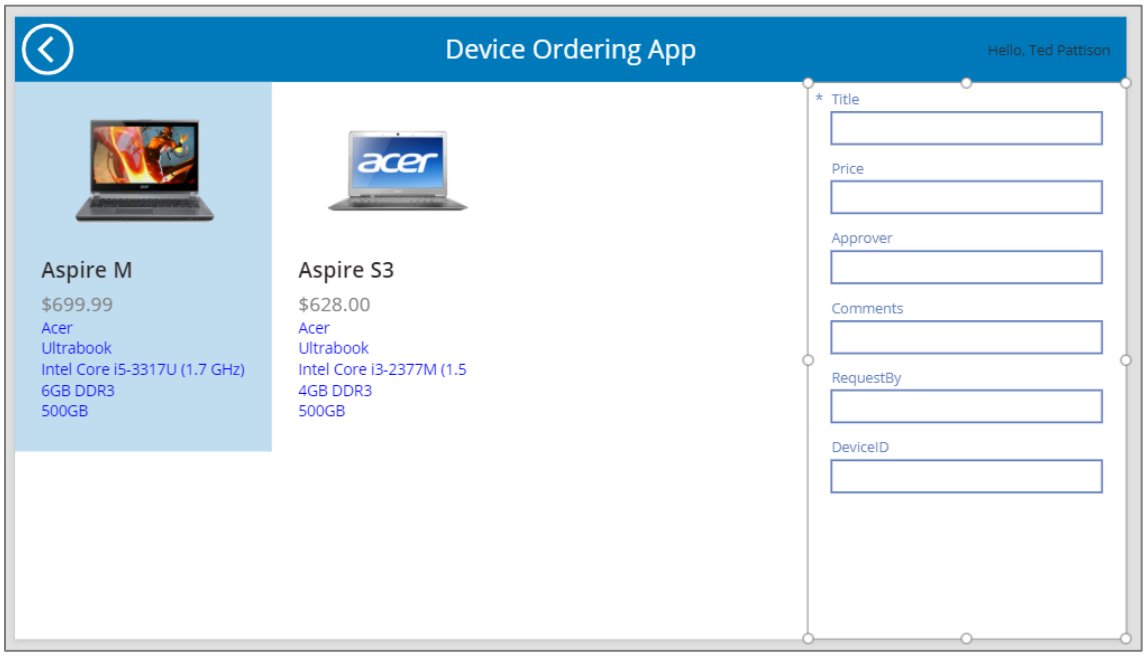
f) Unselect the fields not required, and re-order the fields such that the set of selected fields matches the image below. The only fields that should remain selected are **Title**, **Price**, **Approver**, **Comments**, **RequestedBy**, **DeviceID**.



Tip: Scroll to the bottom of the list of fields and start unselecting from the bottom up. You can drag the fields up and down as needed.

g) When you are done, click the 'X' button in the top right to close the Data pane.

3. Move and resize the new Edit form to fit on the right side of the second screen, see image below:
   a) Move and resize the form such that it is just below the header label, aligned with the right edge of the screen, and to the right of the device gallery.
   b) Make sure there is enough space below the form to add a Submit button
   c) **Note**: To select the entire form, use the tree control on the left and select the Form1 control. If you click within the form you may select a data card within the form and not the entire form.
   d) Don't worry about the formatting of each field within the form for now, we'll cover that in the next task.

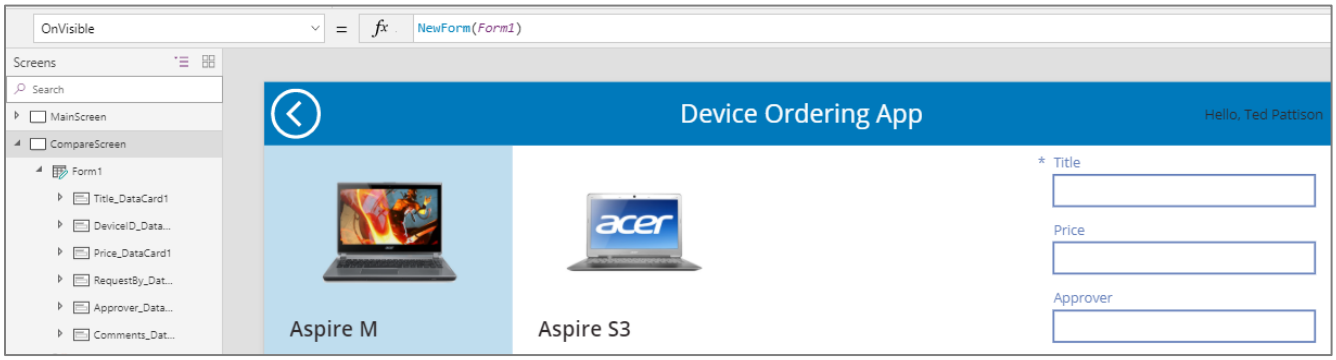


Exercise 4: Format and Customize the Edit Form

Now that you have a new Edit Form that is tied to the SharePoint list, let's go ahead and make some edits to the form.

1. Initialize the form by creating a new instance of the form each time the second screen is loaded
   a) Selected the screen – click **CompareScreen** in left tree view pane.

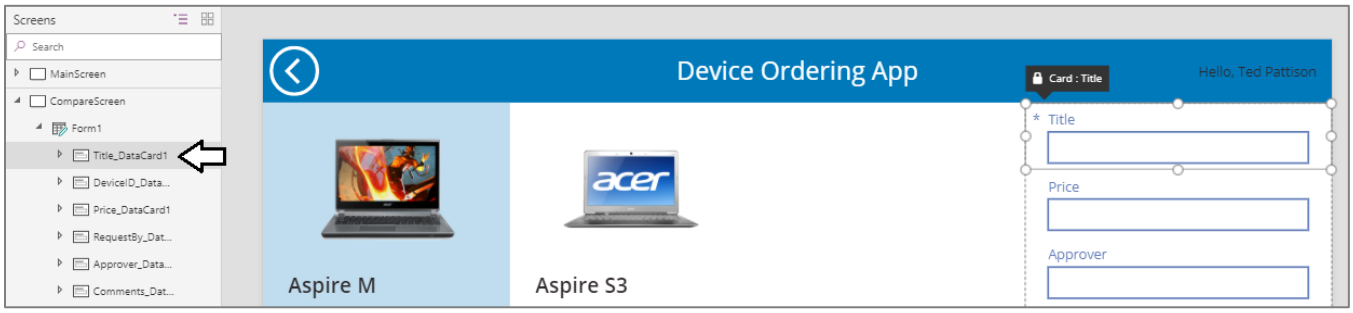
   b) In the **OnVisible** property of the screen, enter: `NewForm(Form1)`



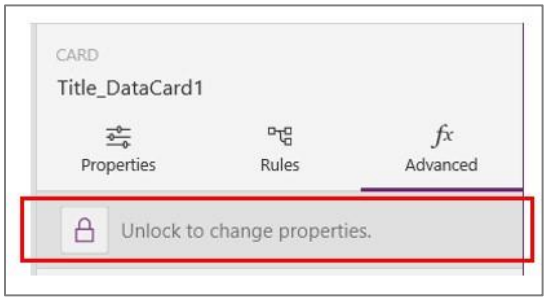
Over the next few steps you will configure the **Title** field by setting the default value of the **Title** field to include the manufacturer and device name of the selected device and make this field read-only. For example, if the user selects the Surface Pro device, the Title field should be assigned a value of "Microsoft – Surface Pro".

2. Set the default value for the **Title** field:

   a) In the left navigation, select the **Title** card. The control name is Title_**DataCard1**.



   b) With the Title card selected, go to the Advanced pane on the right iii. Click the Unlock button so you can customize the card.



   c) Click the **more options** button in the DATA section of the Advanced pane.

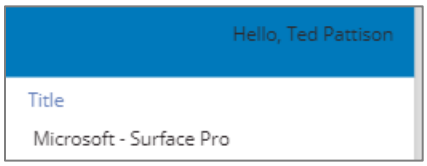
   d) Set the **Default** property to:

```
CompareListGallery.Selected.ManufacturerName & " - " & CompareListGallery.Selected.Title
```

e) Set the Title field to be Read-Only, i.e. DisplayMode = View

i) Click the **more options** button in the DESIGN section of the **Advanced pane** on the right. ii. Change the **DisplayMode** from Parent.DisplayMode to **DisplayMode.View**.

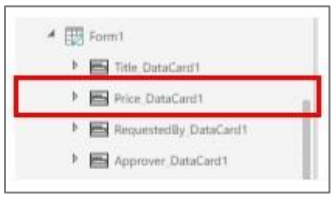
f) Select a device and make sure the **Title** field displays the manufacturer and device name.



g) Select different devices and see how the **Title** value changes

3. Configure the **Price** field to set it to the price of the selected device

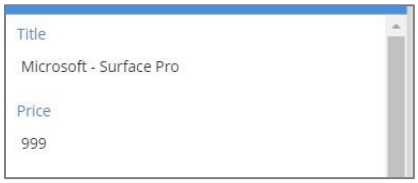
a) Select the data card for the Price field – **Price_Datacard1**



b) Go the Advanced pane and unlock the card.

c) Change the Default property to: `CompareListGallery.Selected.Price`

d) Change the DisplayMode property to: `DisplayMode.View`

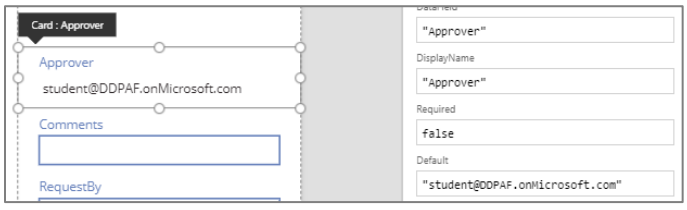


4. Configure the **Approver** field by setting its default value to be the email address of your Office 365 trial account.

a) Select the Approver card – Approver_DataCard1.

b) Go to the Advanced pane and Unlock the card.

c) Set the Default value by entering a string value with the email address of your Office 365 trial account.



In a real-world application, you would not hardcode an email address like this. Instead, you would use a different approach to determine who the approver would be. However, this simplification has been made to reduce the complexity of this lab exercise.

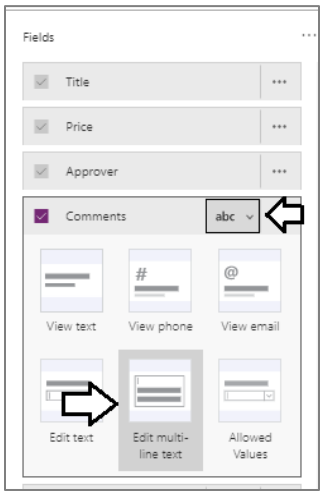
5. Modify the **Comments** Field

   a) Select the entire form – **Form1** control in the left tree view

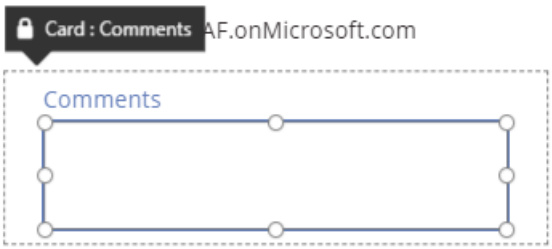
   b) Click on **Data** in the **Properties pane** on the right to open the data pane

   c) Select the chevron next to the Comments field to view a list of layout options

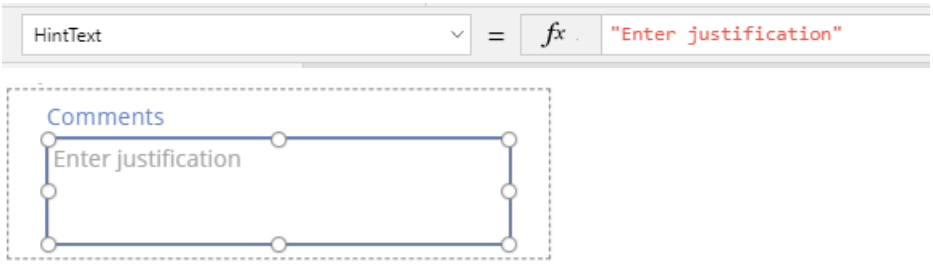
   d) Select **Edit multi-line text** to change it from a single line to multi-line input



   e) The Comments field in the form should look like this:



   f) Go the Advanced pane and unlock the data card for the comments field.



6. Modify the **RequestedBy** Field

a) Default to current user's email
   i) Select the RequestedBy card – **RequestedBy_DataCard1**
   ii) Go to the **Advanced pane** and **Unlock the card**.
   iii) Change the **Default** property to: `User().Email`

b) Make it Read-only: Change the **DisplayMode** property for the card to: `DisplayMode.View`

7. Modify the **DeviceID** Field
   a) Store the template as part of the order.
      i) Set this card to hidden so it's not visible in the form, but stored as part of the form submit.
   b) Set the value to the DeviceID of the selected device
      i) Select the DeviceID card – **DeviceID_DataCard1**
      ii) Go to the **Advanced pane** and **Unlock the card**
      iii) Change the **Default** property to: `CompareListGallery.Selected.DeviceID.`

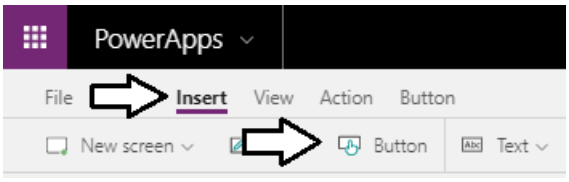
   c) Hide the card
      i) With the card selected, go to the **Properties pane** in the right
      ii) Change **Visible** from On to **Off**

The card won't be visible but the value will get updated as part of the form submit

Exercise 5: Add the button to submit the order

Customizing the edit form in the last task got all the necessary data into the form associated with the SharePoint list. Now we need a button to submit the form.

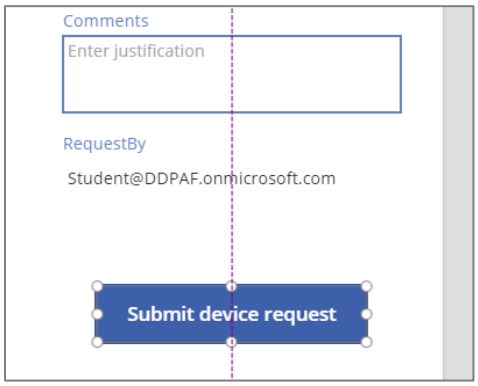
1. Add a new button to **CompareScreen**.
   a) Navigate to the **Insert** tab and click the **Button** button to add a new button.



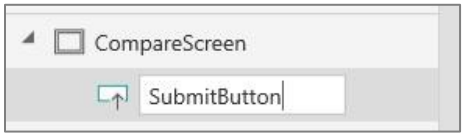
   b) Change the text caption of the button to "Submit device request".

c) Make the button larger – you can resize to 280x60 using the Properties pane on the right.

d) Position it in the bottom right of the screen, center aligned with the Form.



e) Rename the button control to SubmitButton



2. Set the Button Display Mode to only be enabled if a device is selected

a) To do this, change the button's **DisplayMode** property to:

```
If(!IsBlank(CompareListGallery.Selected), DisplayMode.Edit, DisplayMode.Disabled)
```

b) When the button is clicked, submit the Form

i) Set the **OnSelect** property to: `SubmitForm(Form1)`

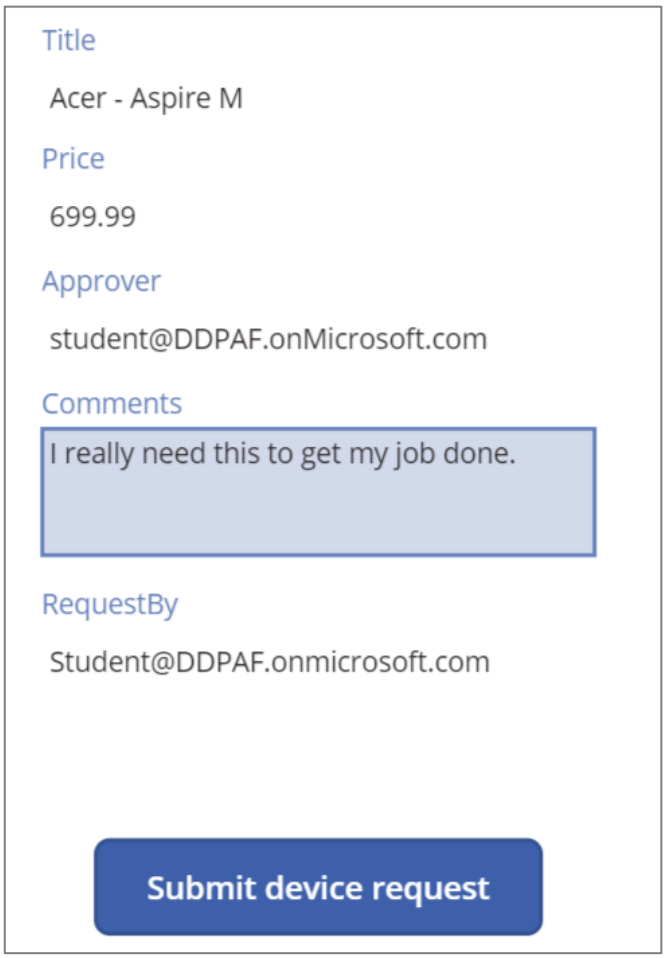
c) When the button is pressed, the form data will be submitted to the SharePoint Online list.

This is a good time to save the changes to your app.

Exercise 6: Test Your Work by Submitting a Device Order

That's all there is to submitting data to the SharePoint list, go ahead and give it a try:

1. Go to the first screen and play the app
2. Select a few devices to compare and hit the **Compare** button
3. As you select difference devices on the compare screen, you should see the information in the form change



4. Add a comment to the form and click Submit Device Request
5. Go back to where you created the DeviceOrder SharePoint list. You should have your recent submission there.

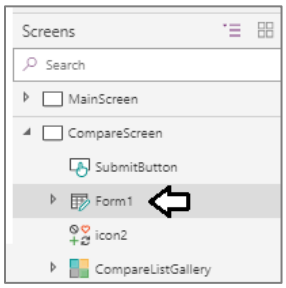
You may stop here and proceed to Exercise 3 where you will use Microsoft Flow to create an approval request. Optionally, you may add a third confirmation screen to your app to show that the form submission was successful.

Exercise 7: Add a Submit Order Confirmation Screen

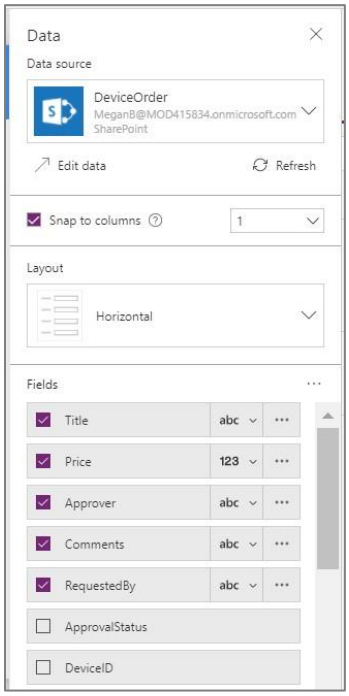
In this exercise, you will add a confirmation screen with details about the device that was just requested.

1. Create a third screen
   a) Click Home -> New screen -> Blank
   b) Rename the screen to SubmitSuccessScreen
   c) Go back to the second screen

2. Add the navigation to the third screen
   a) Select the form control – use the tree view on the left to select **Form1**.



   b) Set the **OnSuccess** property of Form1 to: `Navigate(SubmitSuccessScreen,ScreenTransition.Fade)`
3. Add a header on the third screen
   a) Copy (Ctrl-C) the header along with the user welcome label from the second screen
   b) Go to the third screen and paste the header label
4. Add a thank you message in a label control
   a) Click Insert -> Label
   b) Set the Text to: "`Your device request has been successfully submitted. Thank you.`"
5. Add a Display Form to show the details of the device that was ordered
   a) Click Insert -> Form -> Display
   b) Configure the data source to point to the DeviceOrder list
   c) Change the Snap to columns value from 3 to 1
   d) Change the Layout from Vertical to Horizontal
   e) Uncheck the columns/fields that are not required.
   f) Rearrange the fields by dragging them up/down such that they match the image below



g) Close the Data pane

h) Set the **Item** property of the display form to: `Form1.LastSubmit`

i) This is the item that was last submitted in the form on the second screen (Form1)

j) Move and resize the display form control (see screenshot below)

6. Add an Ok button and set its behavior to clear the compare list and navigate to the first screen a. Click **Insert** -> **Button**

a) Set the **Text** property of the button to: **"Ok"**

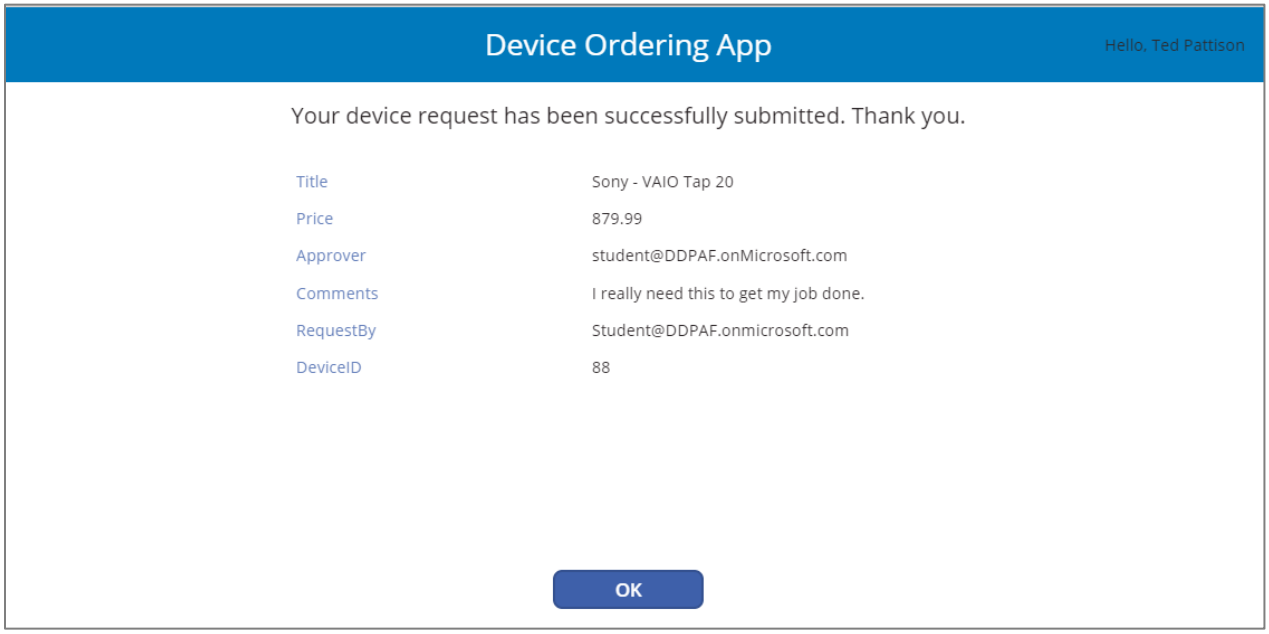
b) Set the **OnSelect** property of the button: **Clear(CompareList); Navigate(MainScreen, ScreenTransition.Fade)**

Note: ';' is a separator used when calling multiple functions one after the other, like above. If you are in a locale where ';' is used instead of a comma as a separator within functions, then use a double semi-colon ';;' here to separate multiple function calls.

7. Test the app

a) Submit another device approval request

b) The confirmation screen should look like this image:



8. Make sure to **Save** and **Publish** the app.