

Getting Started with PowerApps Studio

Lab Time: 60 minutes

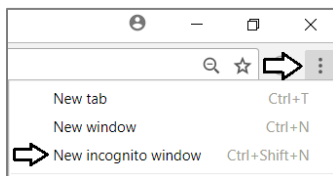
Lab Folder: C:\Student\Modules\01_GettingStarted\Lab

Lab Overview: This lab covers how to get up and running with PowerApps by creating a new Office 365 tenant with trial subscriptions to Office 365, PowerApps and Flow. The act of creating and configuring this new Office 365 tenant will yield an isolated testing and development environment for building and testing PowerApps and Flows. One valuable aspect of creating a new and isolated Office 365 tenant is that you will have tenant-level administrative permissions allowing you to configure the tenant with multiple user accounts for testing your PowerApps and Flows in isolation from any existing Office 365 tenancy.

Exercise 1: Create a new Office 365 Trial Tenant

In this exercise, you will create a new Office 365 tenant which allows you to create up to 25 user accounts with Enterprise E5 trial licenses. Note that the Enterprise E5 trial license provides the benefits of the PowerApps, Flow, Power BI Pro and SharePoint licenses. Being able to create multiple Office 365 user accounts in your Power BI testing environment will be important so that you can test the effects of sharing PowerApps and Flows between users within an organization.

1. Navigate to the Office 365 trial sign up page using an Incognito browser window.
 - a) Launch the Chrome browser.
 - b) Using the dropdown menu in the upper right, select the command to open a **New incognito window**.



- c) Copy and paste the following URL into the address bar of the incognito window to navigate to the sign up page.

<https://go.microsoft.com/fwlink/p/?LinkID=698279&culture=en-US&country=US>

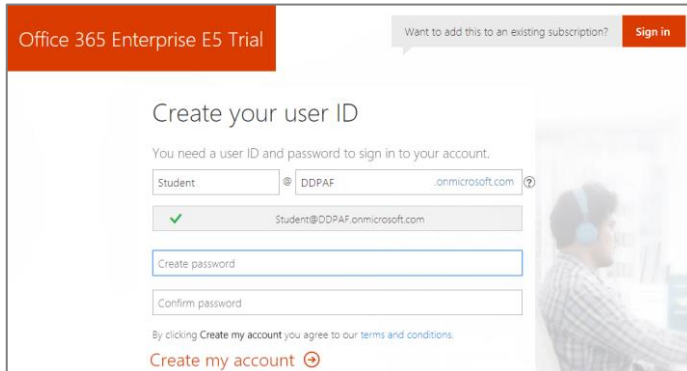
It's not always necessary to sign up for an Office 365 trial account using an incognito window. However, most errors that occur when attempting to sign up are caused by cached browser settings such as residue from an earlier Office 365 trial account. The solution to overcoming most errors when signing up for a trial account is using an incognito window.

2. Fill out the form with your personal information and click **Next**.

A screenshot of the Office 365 Enterprise E5 Trial sign-up page. The page has a red header with the text 'Office 365 Enterprise E5 Trial'. Below the header, there is a 'Sign in' button and a link 'Want to add this to an existing subscription?'. The main content area says 'Welcome, let's get to know you'. There is a dropdown menu for 'United States' with a note 'This can't be changed after sign-up. Why not?'. Below this are input fields for 'First name' (Anna), 'Last name' (Conda), 'Email' (annaconda@subliminalsystems.com), 'Phone' ((888)111-2222), and 'Company' (Subliminal Systems). There is also a dropdown for 'Number of users' (10-24 people). At the bottom, there is a 'Next' button with a right arrow.

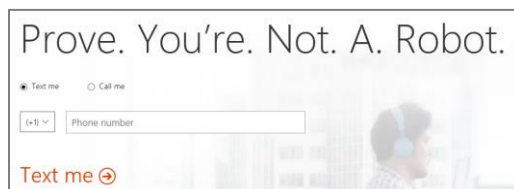
The information you provide on the next page of the signup process will be used to name your new Office 365 tenant.

3. On the **Create your user ID** page...
 - a) Enter a user name
 - b) Enter a unique company name (*you might have to try a few before you get one that's unique*)
 - c) Enter a password that you will remember.

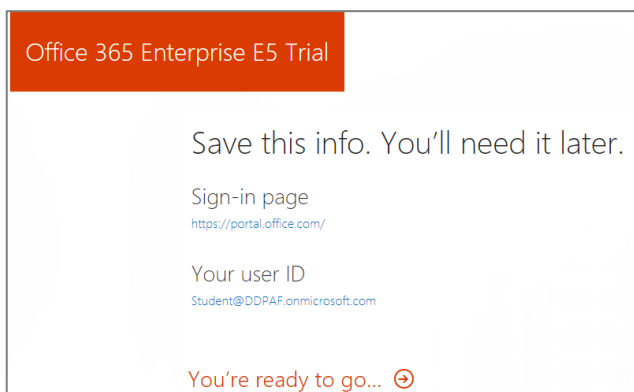


Note that the company name you enter on this page will be used to create the domain name for your new Office 365 trial tenant. For example, if you were to enter a company name of **ddpaf**, it would result in the creation of a new Office 365 tenant within a domain of **ddpaf.onMicrosoft.com**. The user name you enter will be used to create the first user account which will be given administrative rights within the Office 365 trial tenant. If you enter a user name of **Student**, then the email address as well as user principal name for this account will be **Student@ddpaf.onMicrosoft.com**.

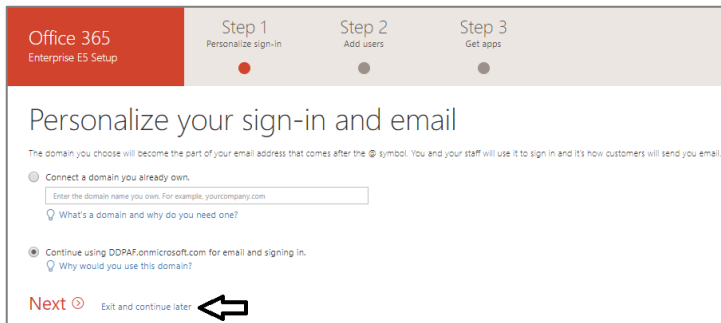
4. Click **Next** to continue to step 3.
5. Complete the validation form in step 3 by proving you are not a robot.
 - a) Select the **Text me** option and provide the number of your mobile phone.
 - b) When you go through this process, a Microsoft service will send you a text message that contains an access code.
 - c) You retrieve the access code from your mobile device and use it to complete the validation process.



6. Once you have completed the validation process, click the **You're ready to go...** link to navigate to the portal welcome page for your new Office 365 trial tenant. Note that you should already be logged on using the user account that was created during the signup process.



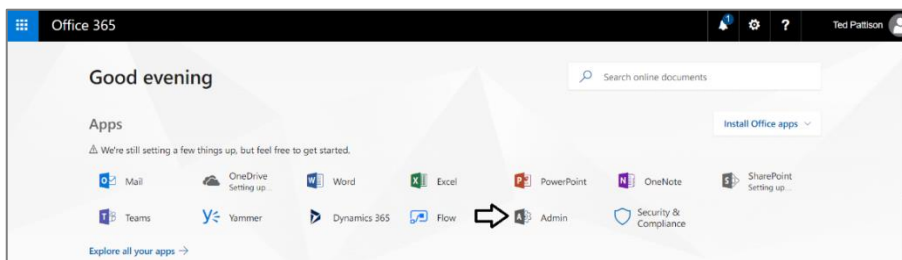
7. If you are prompted with the **Personalize your sign-in and email**, click the **Exit and continue later** link at the bottom of the page.



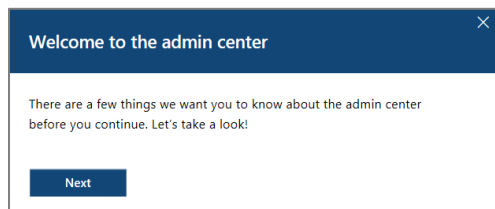
At this point, you have already created your new Office 365 tenant which can support creating up to 25 user accounts with Office 365 Enterprise E5 trial licenses. Note that some Office 365 services within your new Office 365 tenant such as the Office 365 admin center, PowerApps, Flow and Power BI can be accessed immediately. Other services in your Office 365 tenant such as SharePoint Online, OneDrive for Business and Outlook will not be ready immediately and can take some time to provision.

There is no more need to run the browser in incognito mode anymore because it's only required to get through the signup process. You can now return to using a standard browser window. However, it's always a good thing to check to see who you are logged in as because sometimes the browser may log you on using a different Office 365 account you have instead of your new trial account.

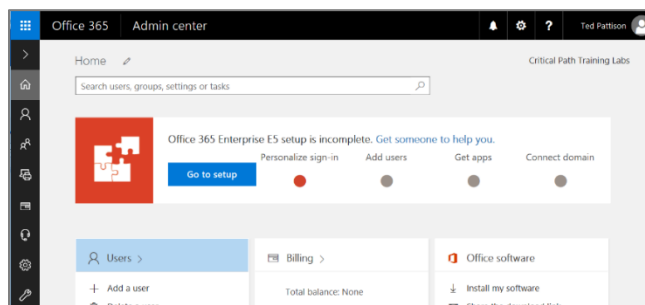
8. At this point, you should be located on an Office 365 welcome page. Click the **Admin** tile to go to the Office **365 admin center**.



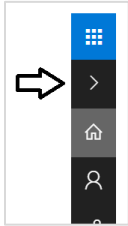
9. If you are presented with the Office 365 admin center welcome dialog, close it by clicking the **X** menu in the upper right corner.



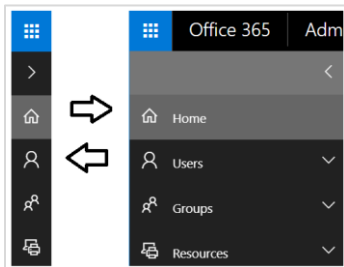
10. Verify that you are able to access the home page of the **Office 365 admin center**.
a) The following screenshot shows the Office 365 Admin home page.



- b) Locate the top **Menu** button for the left navigation menu. It's the second button from the top with the arrow icon which sits just beneath the Office 365 App Launcher menu button.



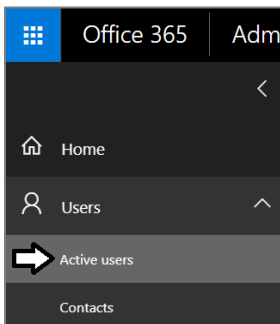
- c) Click the top **Menu** button several times and see how it toggles the left navigation between a collapsed and expanded mode.



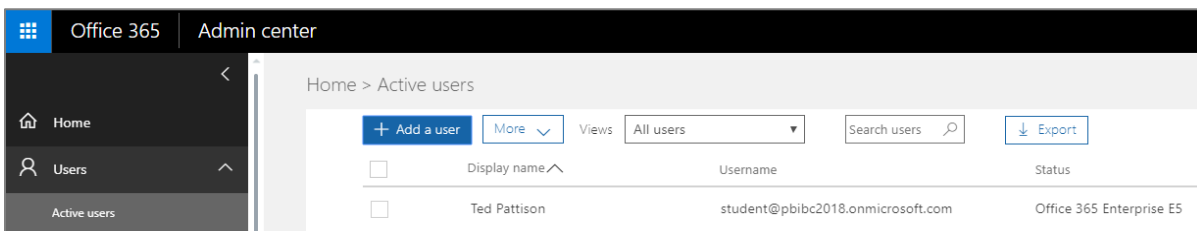
Exercise 2: Add a Secondary User Account for Testing Purposes

In this exercise, you will configure your new Office 365 tenant by creating a secondary user account that you will need later when you begin experimenting with sharing PowerApps and Flows with other users.

1. Make sure you are in the browser at the home page of the Office 365 admin center.
2. Inspect the set of Active Users in the current tenancy.
 - a) In the left navigation menu, expand the **Users** node and click **Active Users** to navigate to the **Active Users** page.

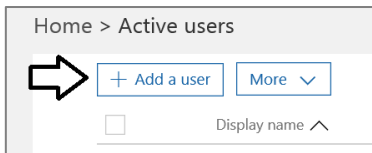


- b) Once the **Active Users** page is displayed, you should be able to verify that the user account you are currently logged on as is the only user account that exists in the current tenancy. Remember that this account has been set up as a Global Administrator to the tenant because it is the account that was used when creating your new Office 365 tenant.



3. Create a new user account.

- a) On the **Active Users** page, click the button **Add a user** button to create a new user account



- b) Fill in the **Create new user account** form with information for a new user account. When creating this account, you can use any name you would like. These lab instructions will demonstrate this by creating a user account for a person named **James Bond** with a user name and email of **JamesB@pbibc2018.onmicrosoft.com**.

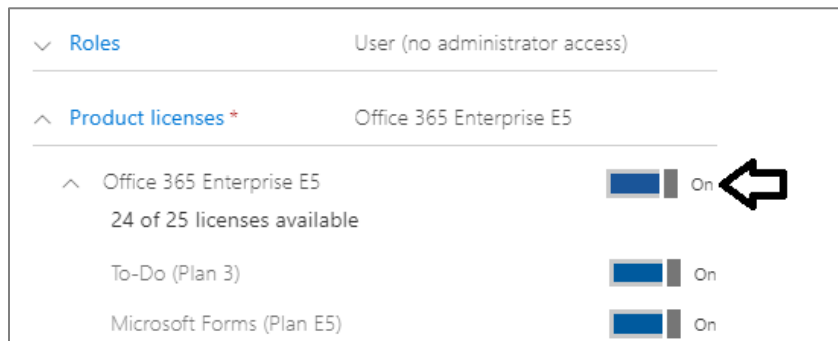
- c) Expand **Password** section under **Contact Information** section.

- i) Select the option for **Let me create the password**.
- ii) Enter a password of **pass@word1** into the textboxes labeled **Password** and **Retype Password**.
- iii) Uncheck the checkbox for the option labeled **Make this user change their password when they first sign in**.

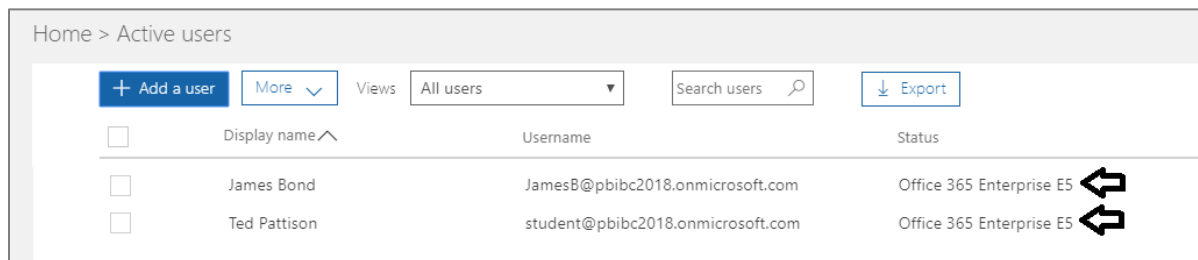
- d) Expand the roles section. You do not need to change anything in this section, although you should note that this new user account will be created as a standard user account without any administrator access or privileges.

Note that the new account is usually assigned a trial license for **Office 365 Enterprise E5** plan. However, it's a good practice to check and make sure the new user has been assigned a license for **Office 365 Enterprise E5** which includes the **Power BI Pro** license.

- e) In the **Product licenses** section, make sure the **Office 365 Enterprise E5** license is set to **On**..



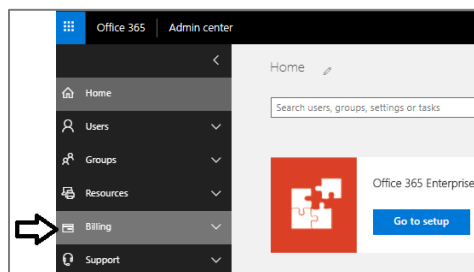
- f) Click the **Save** button at the bottom of the new user form to create the new user account.
g) When you see the **User was added** message, click **Send email and close** to dismiss the **Add new user** task pane.
h) Verify that the new user account has been created and is displayed along with your primary user account.



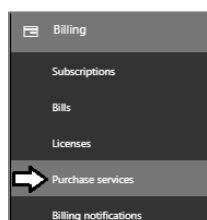
Exercise 3: Create a Trial Subscription for PowerApps Plan 2

In this exercise, you will configure your new Office 365 tenant by creating a new subscription based on PowerApps Plan 2.

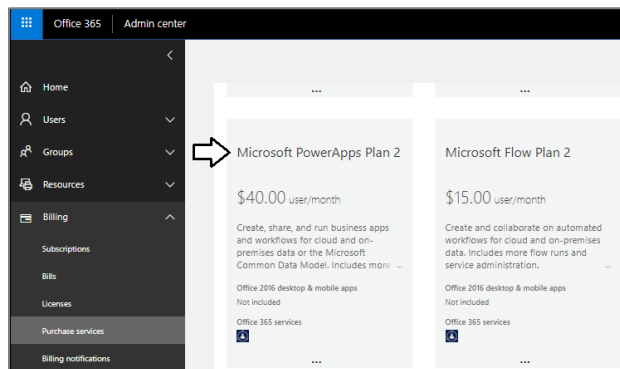
1. Navigate to the home page of the Office 365 Admin center.
2. Create a new subscription for PowerApps Plan 2.
 - a) Click on **Billing** in the left navigation to expand the menu items underneath.



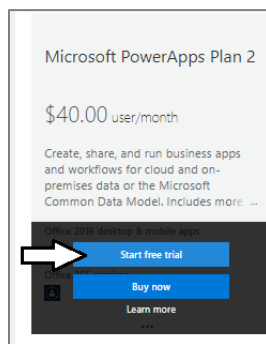
- b) Click on the **Purchase services** navigation link.



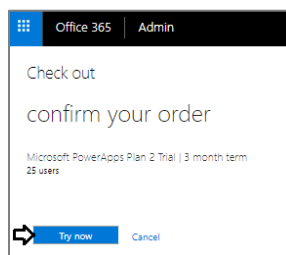
- c) Scroll down the page and find the subscription with the name **Microsoft PowerApps Plan 2**.



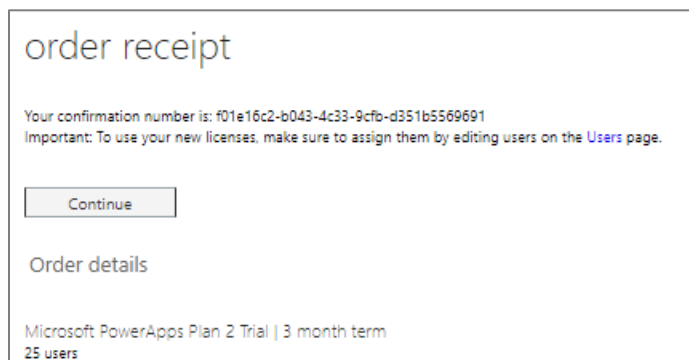
- d) Hover over the ellipse (...) menu at the center on the bottom to see the flyout menu.
e) Click the **Start free trial** button



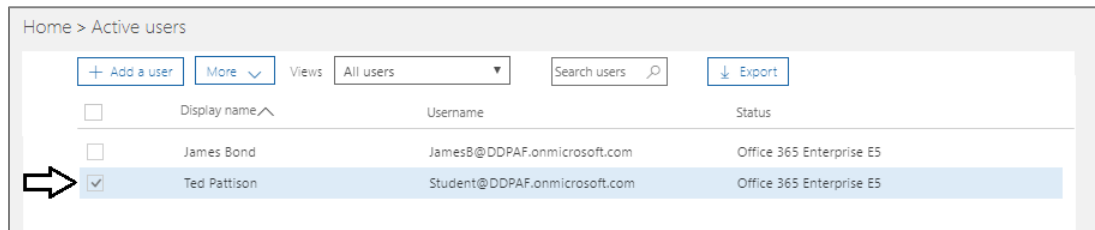
- f) When prompted to confirm your order, click **Try now**.



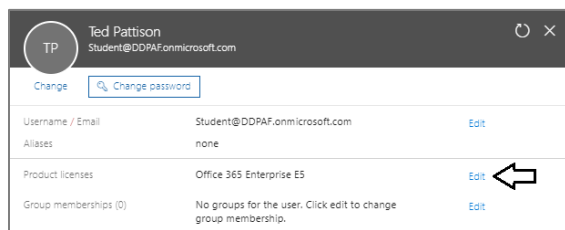
- g) You should see an order receipt to confirm you have created the new trial subscription.



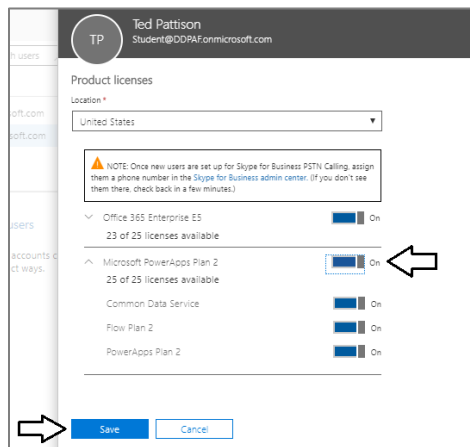
3. Configure your user account by assigning a PowerApps Plan 2 license.
 - a) Navigate back to the Active Users page in the Office 365 Admin center.
 - b) Click on your user account to edit it.



- c) Click the **Edit** link for **Product licenses**.



- d) Enable the **Microsoft PowerApps Plan 2** subscription and then click Save below.



After creating a new subscription for PowerApps Plan 2, it might take 3-5 minutes before it shows up in the Product licenses dialog.

- e) You should be able to confirm your user account has been configured with a **Microsoft PowerApps Plan 2** subscription.



You will not actually need the Microsoft PowerApps Plan 2 subscription until day 2 in this course. However, plan 2 is needed to connector to data using premium connectors and to design custom solutions which use the Common Data Service for Apps.

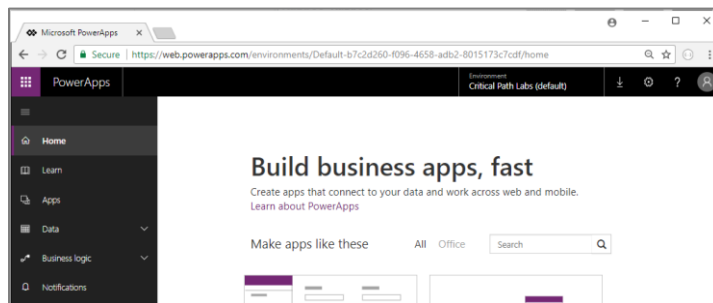
Exercise 4: Create a New App from a PowerApps Template

In this exercise, you will begin working with PowerApps Studio for the web.

1. Launch PowerApps Studio for the Web.
 - a) Using a browser such as Chrome, navigate to the following URL and log in using your new Office 365 trial account.

<https://web.powerapps.com>

- b) You should now be at the home page of PowerApps Studio as shown in the following screenshot.

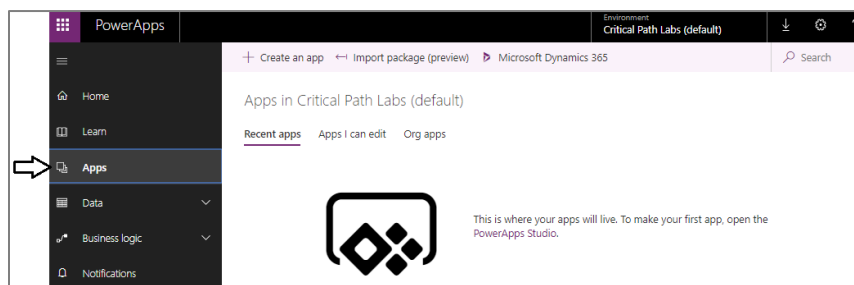


- c) Drop down the welcome menu at the top, right of the page and verify you are logged on with your new Office 365 trial account.

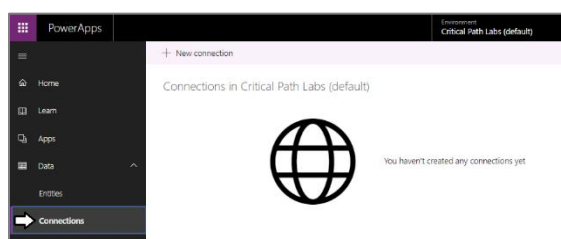


If you are logged in with another account, click the **Sign out** link in the welcome menu and log back in using your new user account.

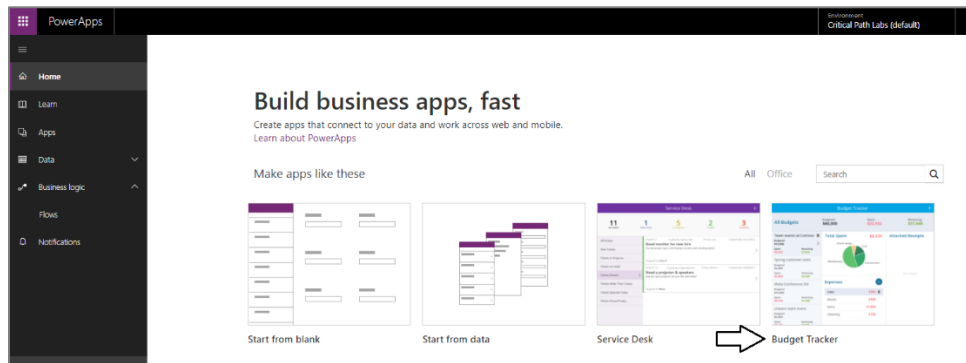
- d) Click the **Apps** link in the left navigation. You should be able to confirm that you currently have no apps.



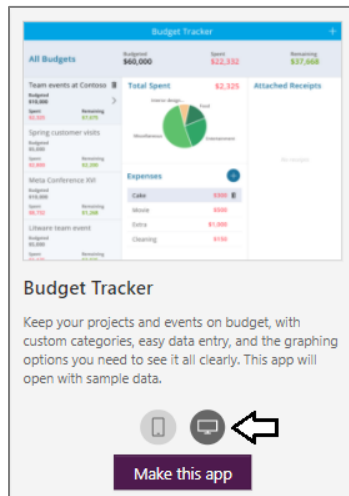
- e) Click on the **Connections** link in the left navigation. You should be able to confirm that you currently have no connections.



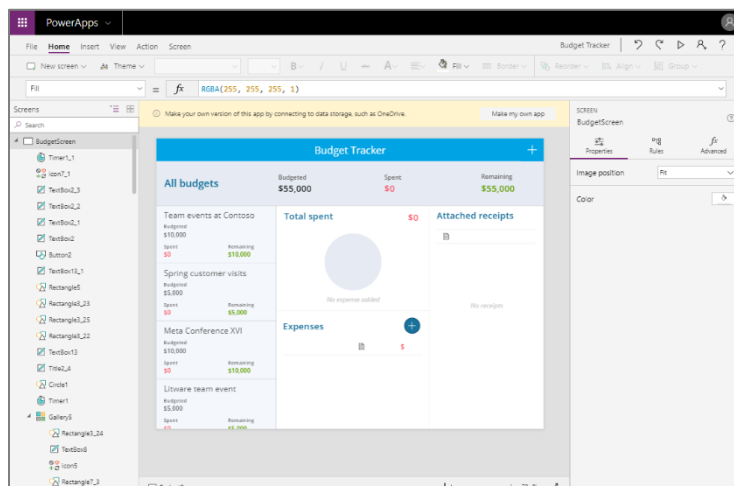
2. Create a new app using the **Budget Tracker** app template.
 - a) Return to the home page for PowerApps Studio for the Web.
 - b) Locate and click on the tile for the **Budget Tracker** app template.



- c) Make sure the icon for a tablet app on the right is selected.

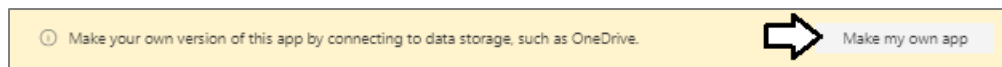


- d) Click the **Make this app** button and wait a minute or two until the new app has been created.
 - e) The new tablet version of the **Budget Tracker** app should appear as shown in the screenshot below.

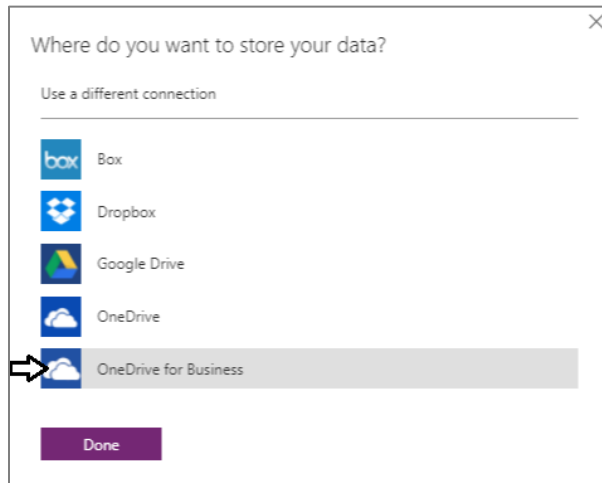


3. Configure the Budget Tracker app to store its data in an excel workbook in OneDrive for Business.

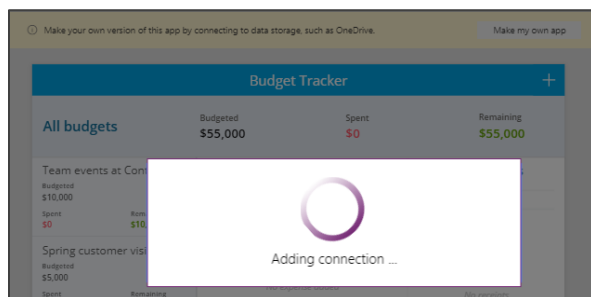
- a) In the yellow bar at the top of the Budget Tracker app, click the **Make my own app** button.



- b) When prompted with the **Where do you want to store your data?** dialog, select **OneDrive for Business** and click **Done**.



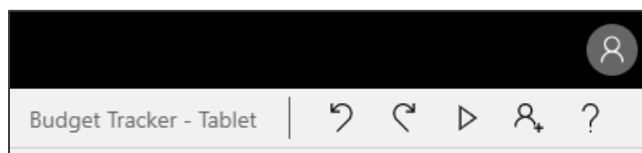
- c) Wait while PowerApps Studio creates the new Excel workbook and configure a new connection.



The Budget Tracker app has now been created. It's time to run it and see how it behaves.

4. Test the Budget Tracker app by starting it up and adding a new budget.

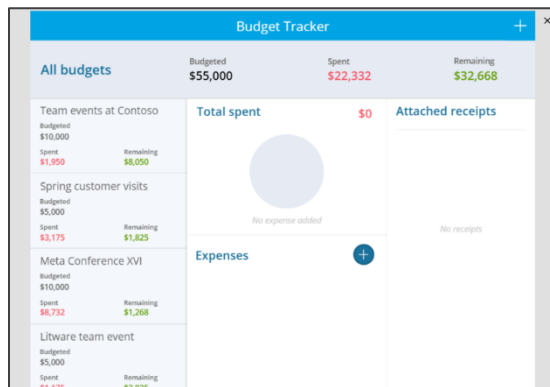
- a) Locate the toolbar in the upper, right-hand side of the PowerApps Studio window.



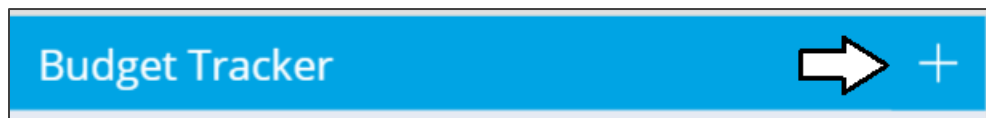
- b) Run the Budget Tracker app by clicking the **Run** button. The **Run** button is the one with the arrow icon.



- c) The Budget Tracker app should start in the browser and appear like the app shown in the following screenshot.



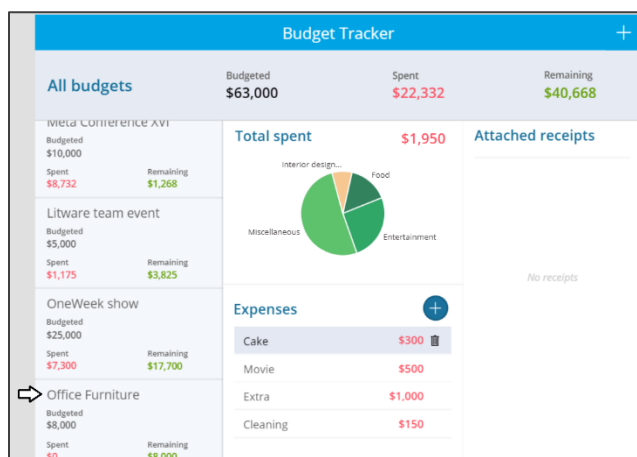
- d) Click the button with the + icon in the upper right to add a new budget.



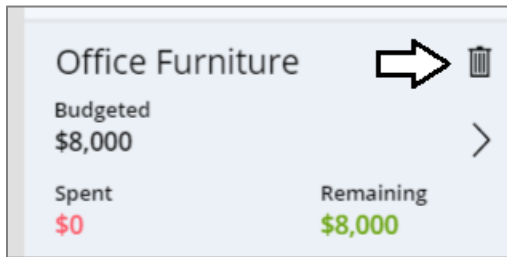
- e) In **Add a budget** dialog, enter a **Budget title** of **Office Furniture** and a **Budget amount** of **\$8000** and then click **Save**.

The screenshot shows the 'Add a budget' dialog box. It has a blue header with a back arrow and the title 'Add a budget'. Below the header, there's a summary section with 'All budgets' and three columns: 'Budgeted' (\$55,000), 'Spent' (\$22,332), and 'Remaining' (\$32,668). The main content area has two input fields: '* Budget title' with the value 'Office Furniture' and '* Budget amount' with the value '8000'. At the bottom, there's a blue 'Save' button.

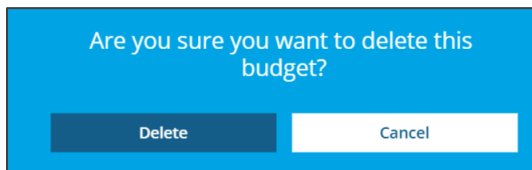
- f) On the bottom, left, you should be able to verify you can see the new Office Furniture budget you just added.



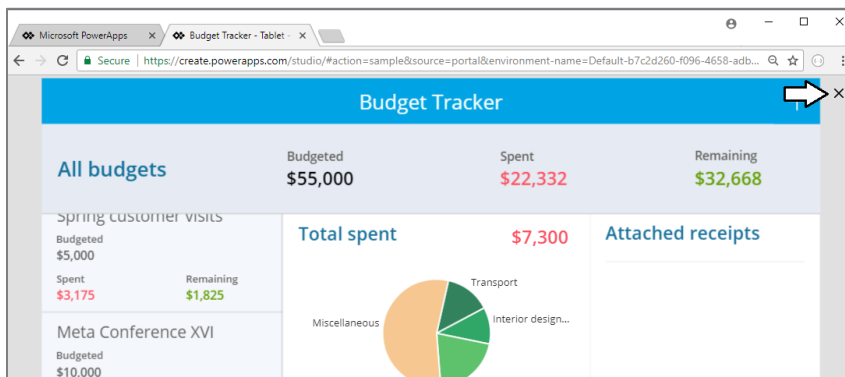
- g) Using the mouse, hover over where the app displays **Office Furniture** until you see the icon with the garbage can.
- h) Click the button with the garbage can icon to delete the **Office Furniture** budget.



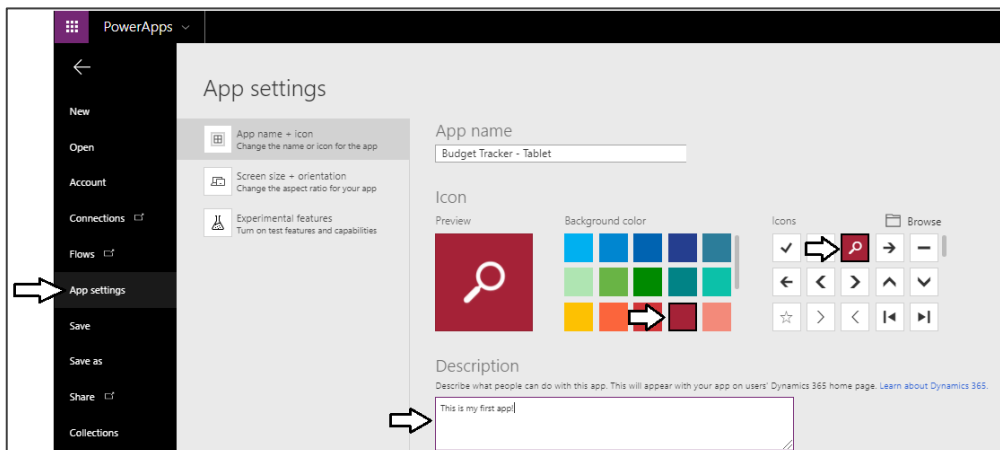
- i) When prompted whether you are sure you want to delete the budget, click **Delete** to confirm.



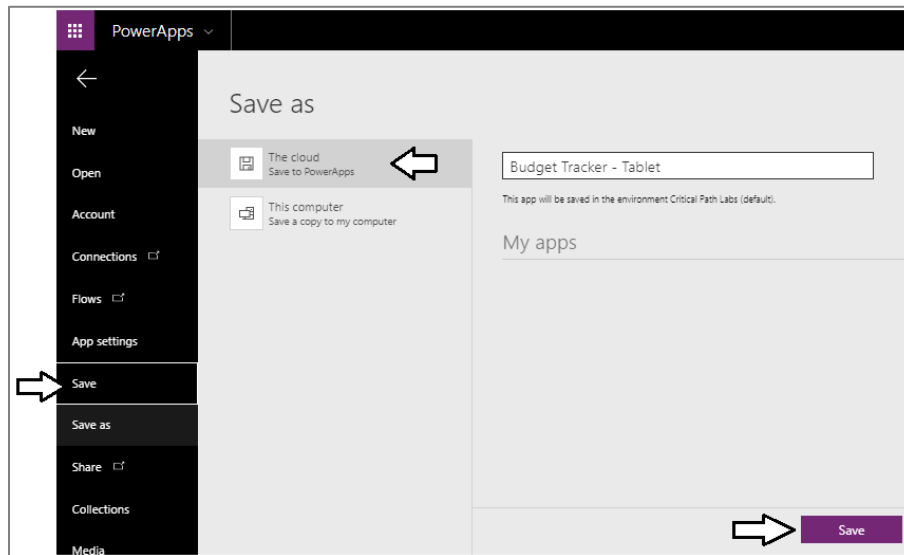
- j) Now that you have tested the app, click the **X** icon in the upper right to stop the app.



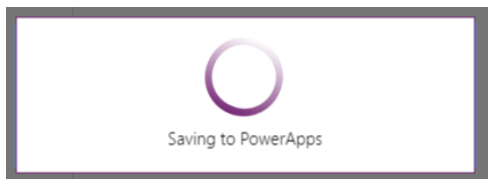
- 5. Save the Budget Tracker app.
 - a) Click on the **App Settings** link on the right.
 - b) Select a **Background color** and an **Icon** for your app and enter a short **Description**.



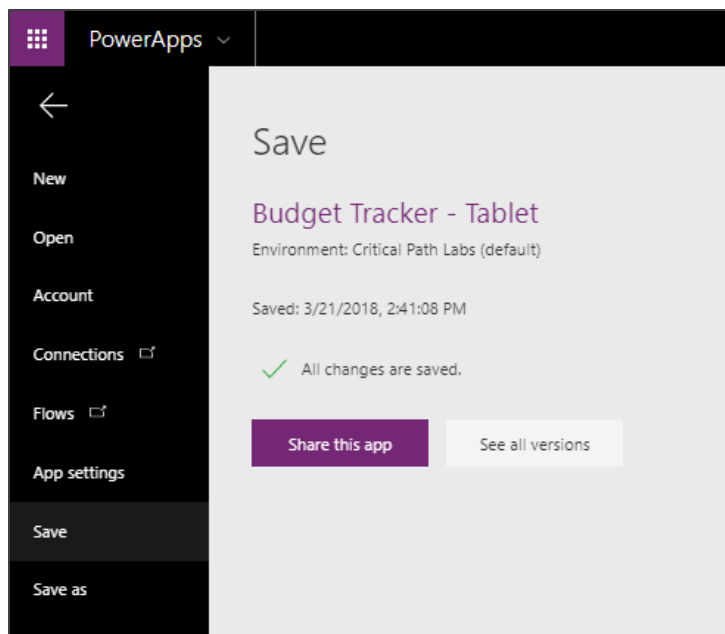
- c) Click the **Save** navigation link in the left navigation.
- d) Make sure The Cloud is selected in the middle of the screen.
- e) Click the **Save** button at the bottom right of the screen.



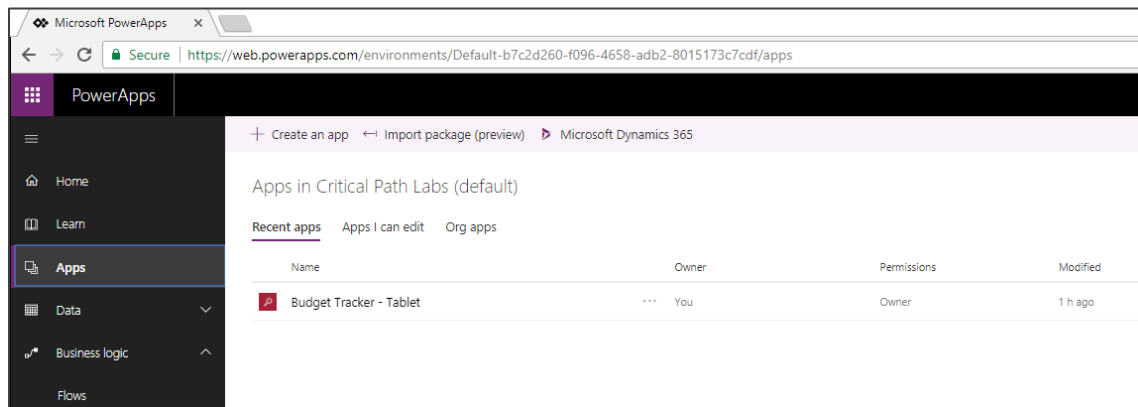
- f) Wait while PowerApps Studio saves the app.



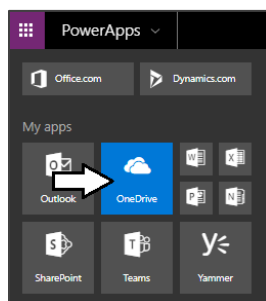
- g) After the app has been saved to the cloud, PowerApps Studio should display the screen shown in the following screenshot.



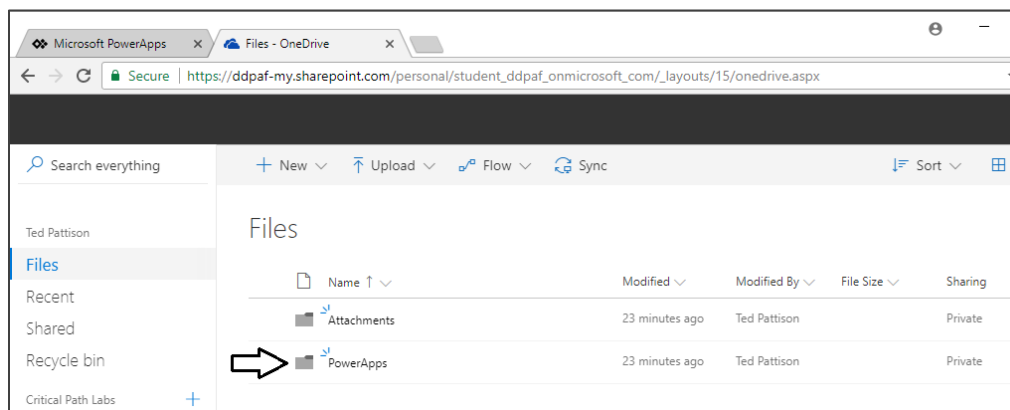
- h) Click the button with the back arrow in the left navigation to return to the home page of PowerApps Studio.
- i) Click the **Apps** link in the left navigation and confirm you can see the new app you just created.



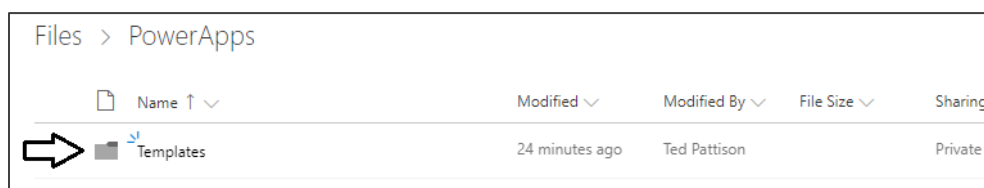
- 6. Inspect the Excel workbook which holds the data for your new Budget Tracker app.
 - a) Drop down the Office 365 app launcher menu and select **OneDrive** to navigate to your **Files** collection.



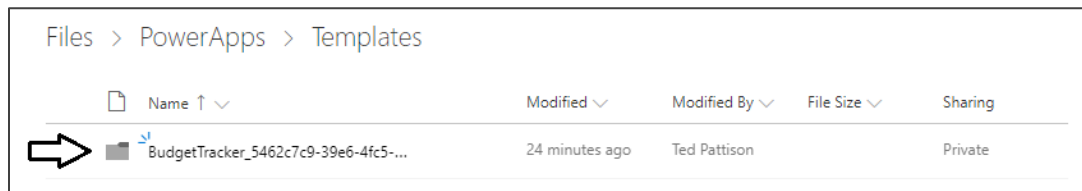
- b) When you see the page with the top-level **Files** folder, click the **PowerApps** folder.



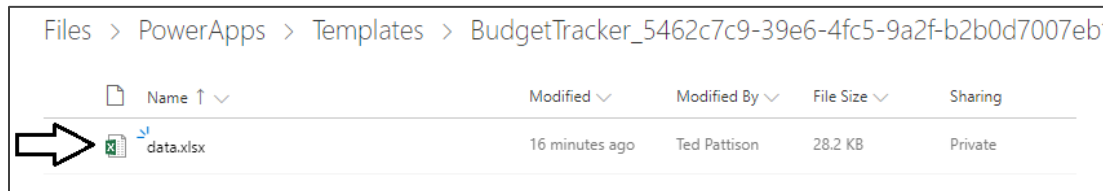
- c) Next click on the **Templates** folder to navigate to **Files > PowerApps > Templates**.



- d) Click on the folder whose name begins with **BudgetTracker**.



- e) You should now see an Excel workbook file named **data.xlsx**. Click on **data.xlsx** to open it in Excel Online.



- f) Once the Excel workbook opens, you should see the **Budgets** table in the first worksheet.

Ted Pattison > BudgetTracker_5462c7c9-39e6-4fc5-9a2f-b2b0d7007eb1

data Edit Workbook Print

| | A | B | C | D | E | F | G |
|----|------------------------|--------------|----------|-------------|---|---|---|
| 1 | BudgetTitle | BudgetAmount | BudgetId | PowerAppsId | | | |
| 2 | Team events at Contoso | 10000 | 1 | J0bfRpd18sU | | | |
| 3 | Spring customer visits | 5000 | 2 | zZPDGaHc-J0 | | | |
| 4 | Meta Conference XVI | 10000 | 3 | bMKItTc8jsE | | | |
| 5 | Litware team event | 5000 | 4 | Y6S6T1fIAJE | | | |
| 6 | OneWeek show | 25000 | 5 | Cn1envzllsA | | | |
| 7 | | | | | | | |
| 8 | | | | | | | |
| 9 | | | | | | | |
| 10 | | | | | | | |
| 11 | | | | | | | |
| 12 | | | | | | | |
| 13 | | | | | | | |
| 14 | | | | | | | |

Budgets Expenses Categories Receipts ExpenseByCategory

- g) Inspect the four other tables in the other worksheets inside **data.xlsx**.

| | A | B | C | D | E | F | G |
|----|----|---------------|------------------------|------------------|---------|----------|-------------|
| 1 | Id | ExpenseName | BudgetTitle | Category | Expense | BudgetId | PowerAppsId |
| 2 | 1 | Cake | Team events at Contoso | Food | 300 | 1 | DnjguyIMW8A |
| 3 | 2 | Movie | Team events at Contoso | Entertainment | 500 | 1 | asrq18cFFww |
| 4 | 3 | Extra | Team events at Contoso | Miscellaneous | 1000 | 1 | qrRehyVn7_0 |
| 5 | 4 | Fuel | Spring customer visits | Transport | 1000 | 2 | 0UzgnFr0Ln4 |
| 6 | 5 | Burger | Spring customer visits | Food | 700 | 2 | B55g3cXwpQJ |
| 7 | 6 | Fuel | Team events at Contoso | Transport | 375 | 2 | FuLTZg3Vf4w |
| 8 | 7 | Car wash | Meta Conference XVI | Transport | 2000 | 3 | xgAiWD3WuP4 |
| 9 | 8 | House keeping | Meta Conference XVI | Interior designs | 1500 | 3 | sVx7B1Jnvj4 |
| 10 | 9 | Theme park | Meta Conference XVI | Entertainment | 3232 | 3 | wlmmxFA_LE0 |
| 11 | 10 | Extra | Meta Conference XVI | Miscellaneous | 1000 | 3 | RgwW5_MSE0U |
| 12 | 11 | Washing | Spring customer visits | Interior designs | 100 | 2 | JVSeIweI8T8 |
| 13 | 14 | Cleaning | Team events at Contoso | Interior designs | 150 | 1 | 5ptB7yhoZow |
| 14 | 15 | Extra | Spring customer visits | Miscellaneous | 1000 | 2 | yfWmAzQ5UKE |

Budget Expenses Categories Receipts ExpenseByCategory

The key point is that PowerApps automatically created the Excel workbook named **data.xlsx** to store all the data for the Budget Tracker app. Creating this Excel worksheet and setting up the connection was all done transparently behind the scenes.

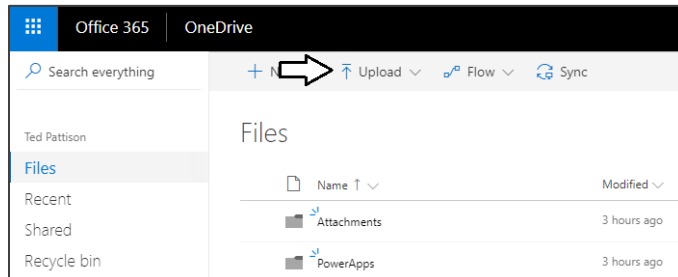
Exercise 5: Create a New App using Data from an Excel Workbook

In this exercise you will create a new app using New App from Data template.

1. Upload the Excel workbook named **Expenses.xlsx** to OneDrive for Business.
 - a) Using Windows Explorer, verify that there is an Excel workbook file named **Expenses.xlsx** located at the following path.

C:\Student\Modules\01_GettingStarted\Lab\Expenses.xlsx

- b) Drop down the Office 365 app launcher menu and select **OneDrive** to navigate to your **Files** collection.
 - c) Click the **Upload** button and then select **Expenses.xlsx** to upload this file to OneDrive for Business.



- d) Verify that **Expenses.xlsx** has been uploaded to your **Files** folder.

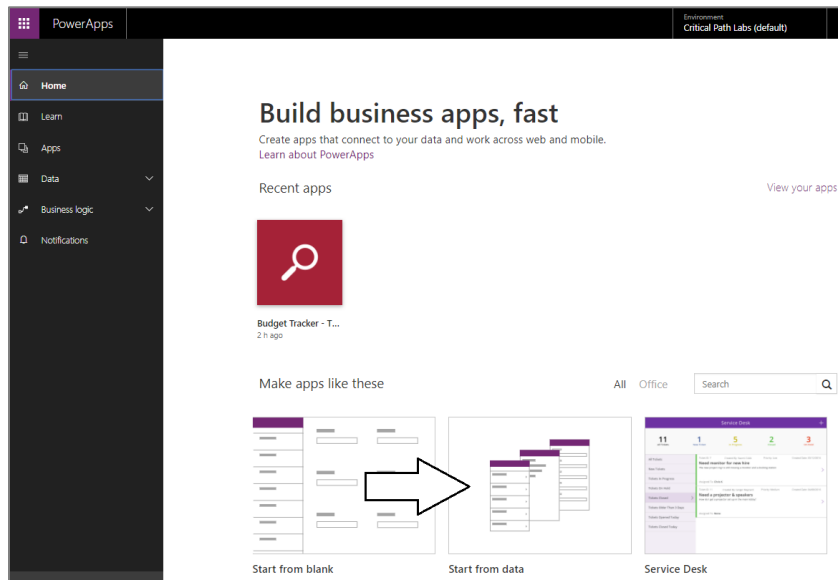
| Name | Modified | Modified By | File Size | Sharing |
|---------------|-------------------|--------------|-----------|---------|
| Attachments | 3 hours ago | Ted Pattison | | Private |
| PowerApps | 3 hours ago | Ted Pattison | | Private |
| Expenses.xlsx | A few seconds ago | Ted Pattison | 12.0 KB | Private |

- e) Click on **Expenses.xlsx** to open this worksheet in Excel Online and inspect its contents.

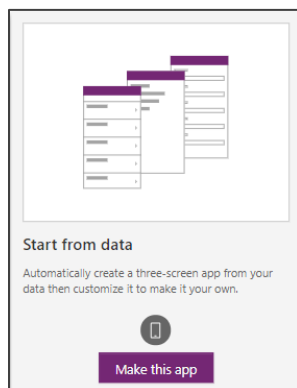
| Ted Pattison Documents Expenses | | | | |
|---------------------------------|----------------------------------|------------------------|-----------|------------|
| | A | B | C | D |
| 1 | Expense | Category | Date | Amount |
| 2 | Verizon - Telephone and Internet | Operations | 1/1/2018 | \$923.00 |
| 3 | Electricity Bill | Operations | 1/4/2018 | \$338.00 |
| 4 | Cleaning Service | Operations | 1/10/2018 | \$1,200.00 |
| 5 | TV Advertisements - West Coast | Marketing | 1/10/2018 | \$300.00 |
| 6 | Water and City Utilities | Operations | 1/15/2018 | \$126.00 |
| 7 | Google Ad Words | Marketing | 1/15/2018 | \$428.32 |
| 8 | Azure HDInsight Subscription | Research & Development | 1/15/2018 | \$420.00 |
| 9 | Coffee Supplies | Office Supplies | 1/25/2018 | \$840.25 |
| 10 | Printer Paper | Office Supplies | 1/30/2018 | \$480.00 |
| 11 | Verizon - Telephone and Internet | Operations | 2/2/2018 | \$785.00 |
| 12 | Electricity Bill | Operations | 2/5/2018 | \$255.00 |
| 13 | Cleaning Service | Operations | 2/14/2018 | \$1,200.00 |
| 14 | Water and City Utilities | Operations | 2/15/2018 | \$124.00 |
| 15 | Google Ad Words | Marketing | 2/15/2018 | \$412.23 |
| 16 | Cleaning Supplies | Office Supplies | 2/15/2018 | \$268.45 |
| 17 | Azure HDInsight Subscription | Research & Development | 2/15/2018 | \$500.00 |
| 18 | Verizon - Telephone and Internet | Operations | 3/1/2018 | \$896.00 |
| 19 | Coffee Supplies | Office Supplies | 3/3/2018 | \$122.50 |
| 20 | Electricity Bill | Operations | 3/6/2018 | \$275.00 |
| 21 | Toner Cartridges for Printer | Office Supplies | 3/7/2018 | \$3,200.00 |
| 22 | Scientific Calculators | Research & Development | 3/11/2018 | \$240.00 |
| 23 | Cleaning Service | Operations | 3/13/2018 | \$1,200.00 |
| 24 | Water and City Utilities | Operations | 3/15/2018 | \$124.00 |

Next, you will create a new app in PowerApps Studio that will read and write to the **Expenses** table in this Excel workbook.

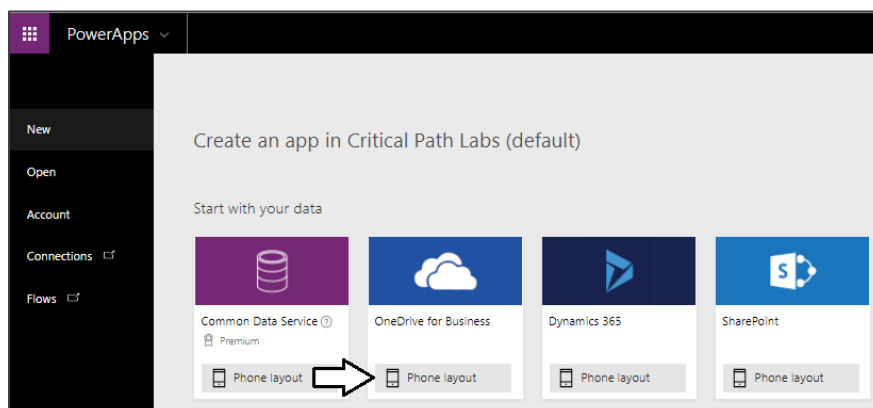
2. Create the new app using the data in the **Expenses.xlsx** workbook.
 - a) Navigate back to the home page of PowerApps Studio for the Web.
 - b) Click on the **Start from data** tile to begin the process of creating the new app.



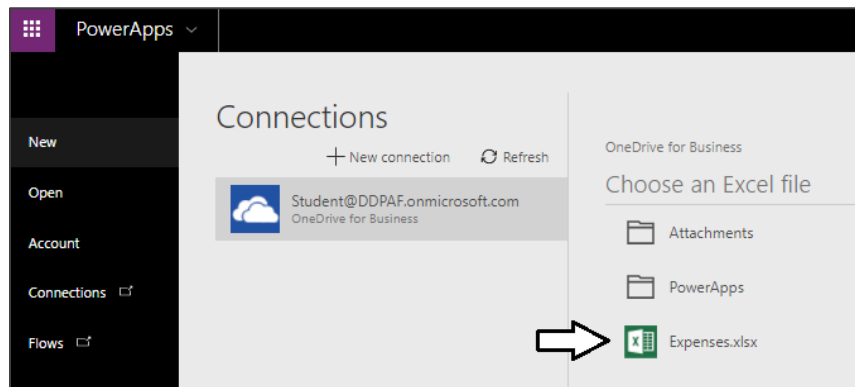
- c) Next, click the **Make this app** button.



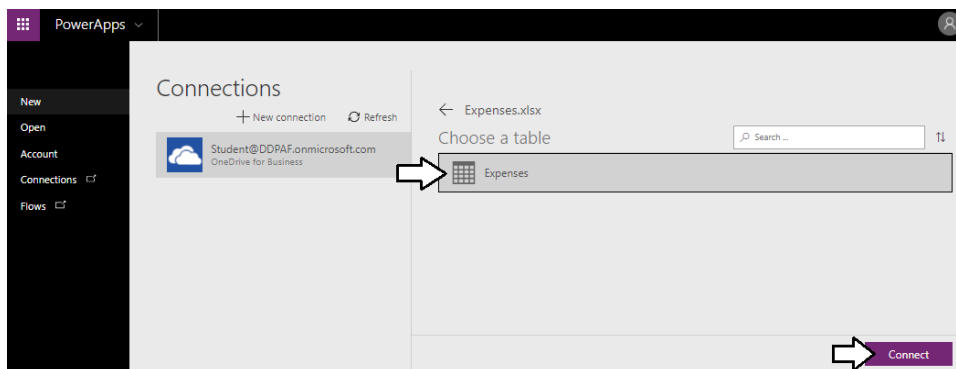
- d) Next, click the **Phone layout** button inside the **OneDrive for Business** tile.



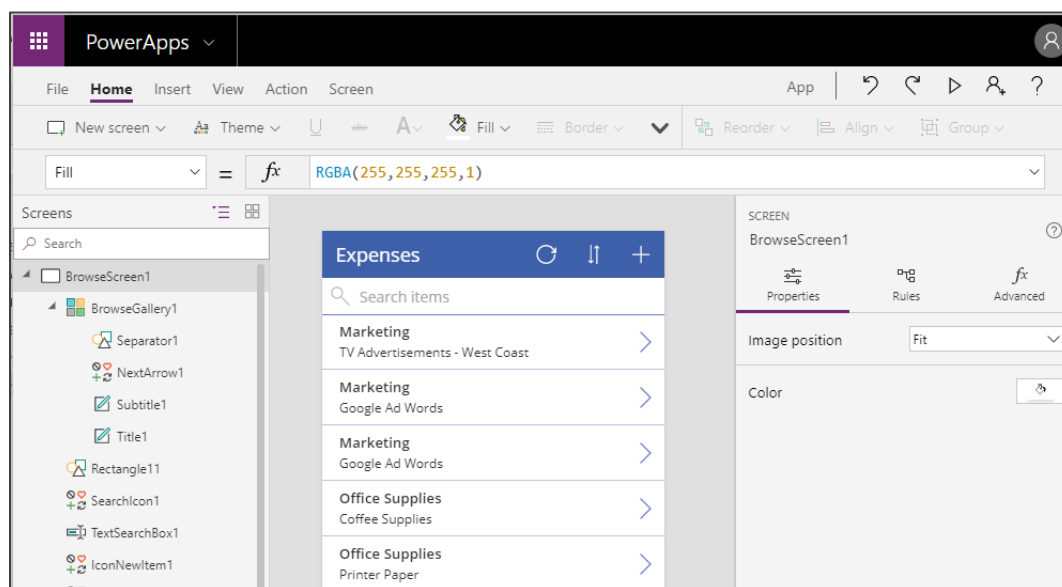
- e) When prompted to **Choose an Excel file** on the **Connections** page, click the Excel workbook file named **Expenses.xlsx**.



- f) When prompted to **Choose a table** on the **Connections** page, select the **Expenses** table and then click **Connect**.

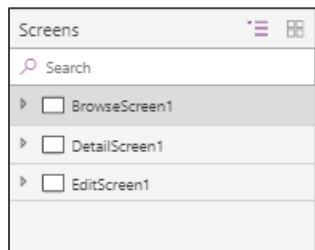


- g) Wait while PowerApps Studio generates the starting point for your app.
h) Once PowerApps Studio has created the new app, it should appear as the one in the following screenshot.

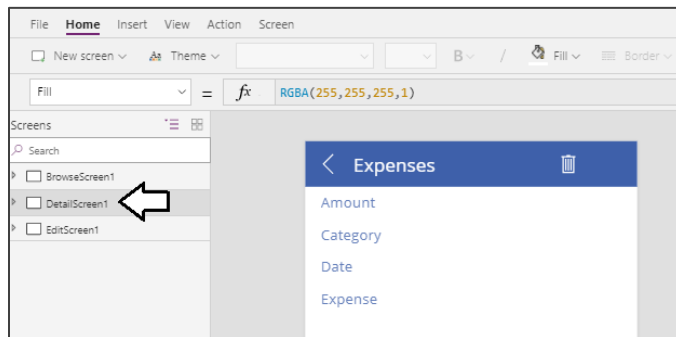


The new app has been created with three different screens. The browse screen shows many expenses at one time. The detail screen and the edit screen are both designed to display only one expense at a time.

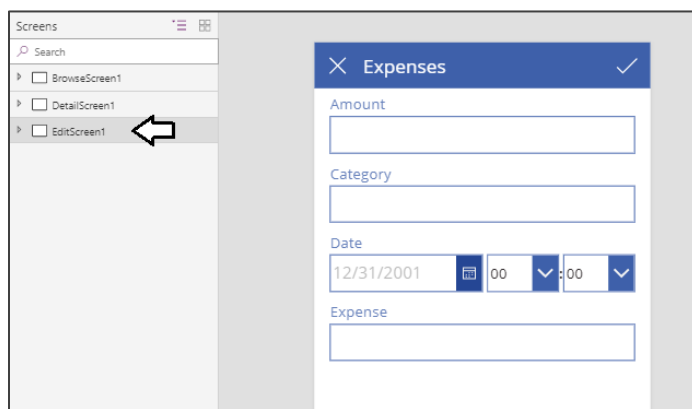
- i) Collapse the screen nodes in the left navigation for **BrowserScreen1**, **DetailScreen1** and **EditScreen1**.



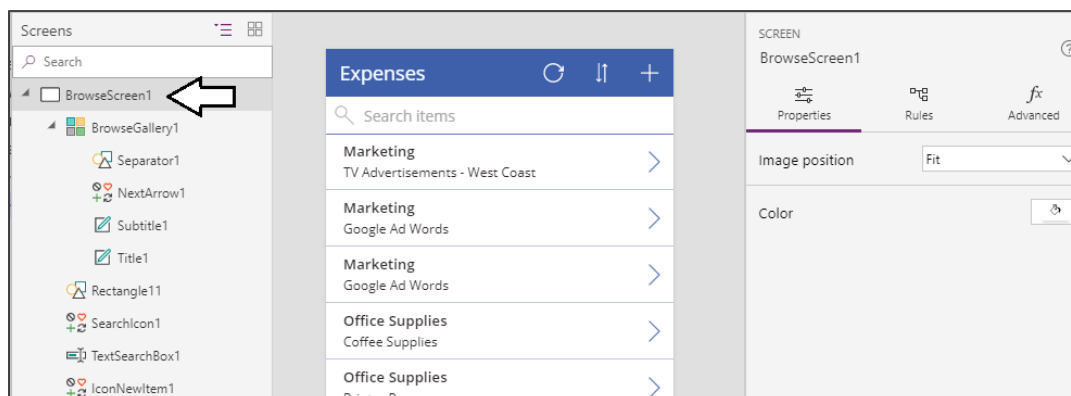
- j) Click on **DetailScreen1** in the left navigation to inspect the detail form.



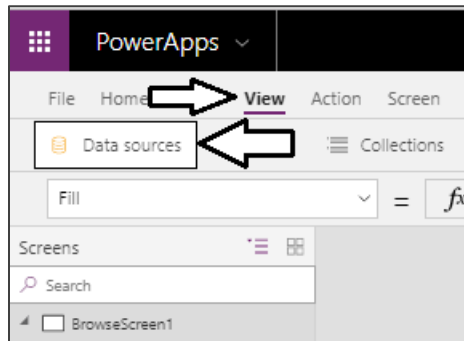
- k) Click on **EditScreen1** in the left navigation to inspect the edit form.



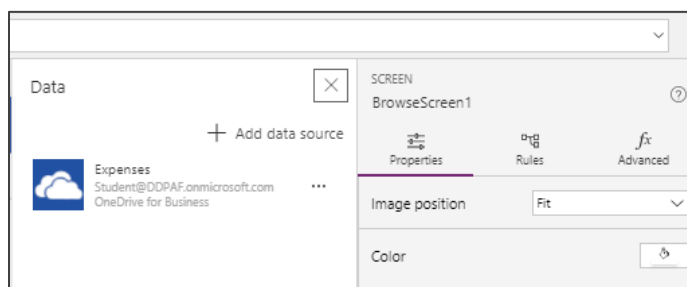
- l) Click on **BrowseScreen1** and expand its node in the left navigation.



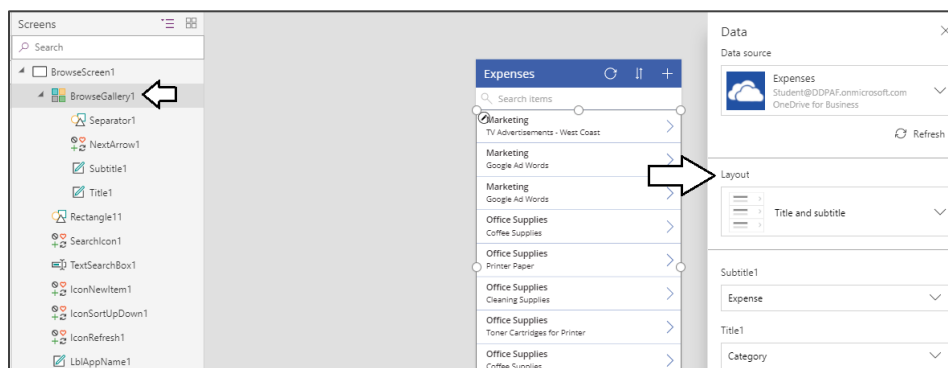
- m) Click the **View** menu and then click the **Data sources** button in the ribbon.



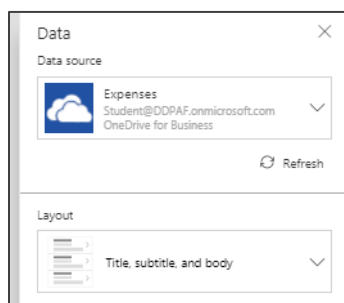
- n) The **Data** pane should appear to the left or the **Properties** pane.



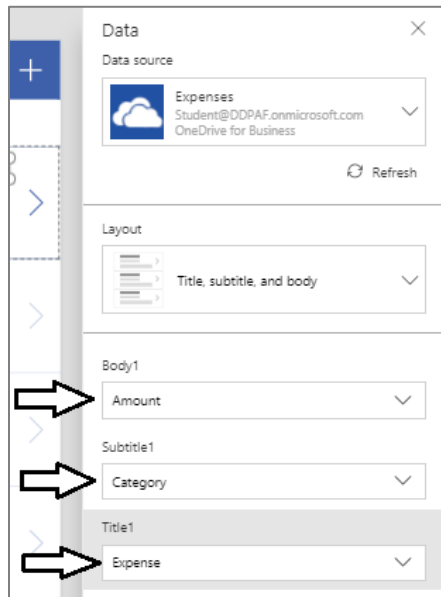
- o) Select the **BrowseGallery1** control in the left navigation.
- p) When the **BrowseGallery1** control is selected, the **Data** pane should show that the **BrowseGallery1** control has a **Layout** setting of **Title and subtitle**.



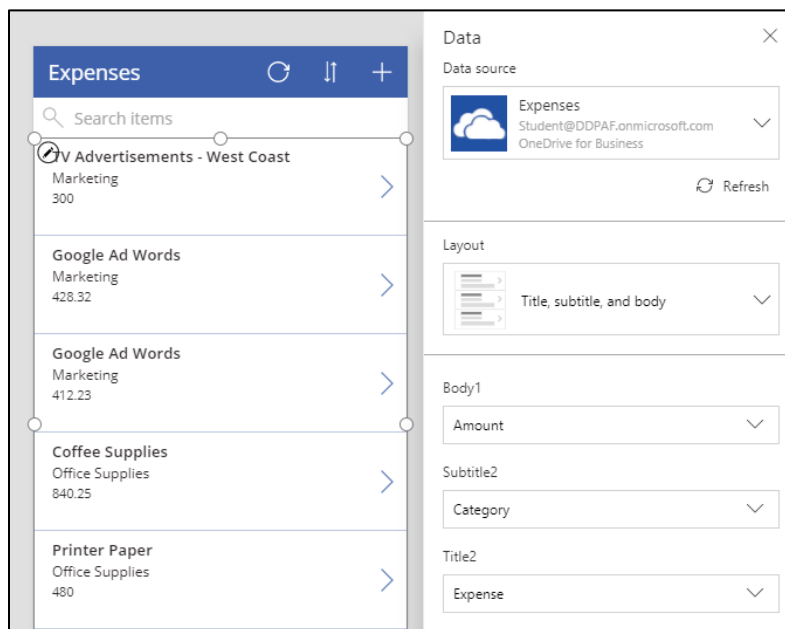
- q) Update the **Layout** setting for **BrowseGallery1** to a value of **Title, subtitle and body**.



- r) Set **Body1** to the **Amount** field.
- s) Set **Subtitle1** to the **Category** field.
- t) Set **Title1** to the **Expense** field.



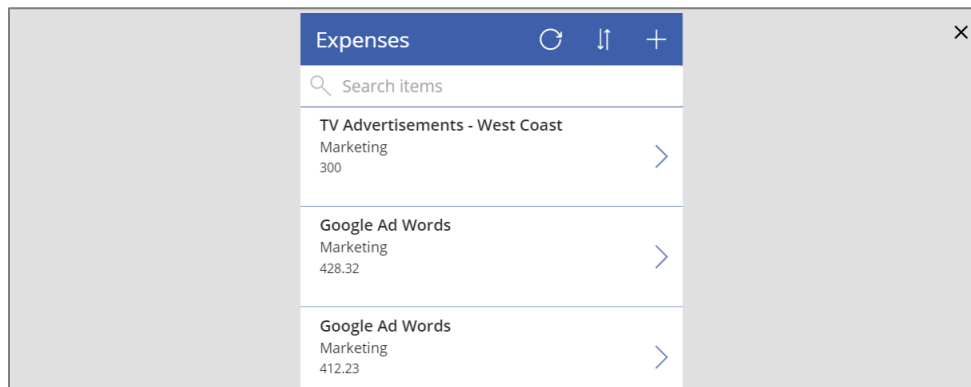
- u) The browse screen should now display its fields ordered by **Expense**, **Category** and **Amount**.



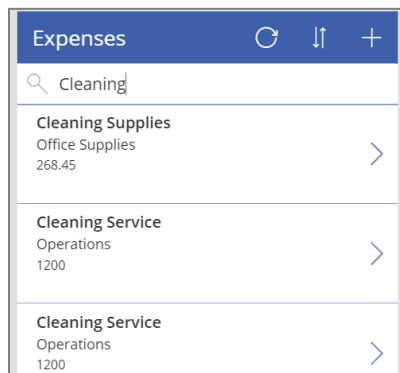
- 3. Test the app by starting it up and testing the search functionality.
 - a) Click the Start button with the arrow icon to launch the app for testing.



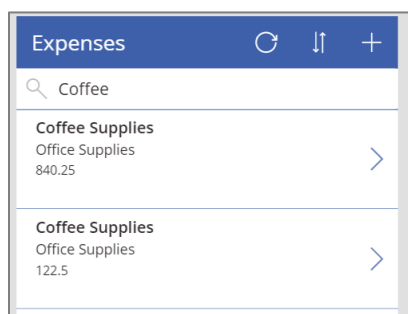
- b) The app should start and appear as shown in the following screenshot.



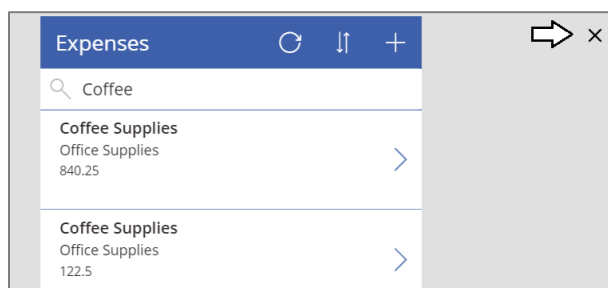
- c) Test search functionality by typing the word "Cleaning" in the search box.



- d) Try a different search by typing the word "Coffee" into the search box.

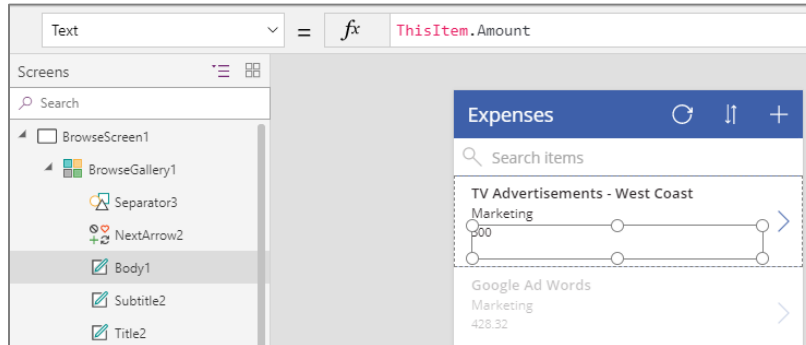


- e) Once you have tested the search functionality, stop the app by clicking the button with the X icon at the top right.



4. Configure the formatting of the expense **Amount** field.

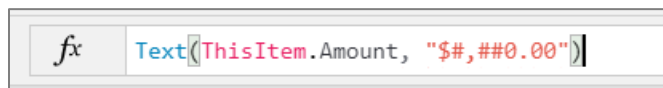
- a) Select the textbox named **Body1** which displays the **Amount** field for each expense. You should be able to see that the **Text** value of this textbox currently configured with a formula which is **ThisItem.Amount**.



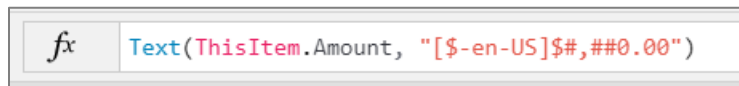
- b) Update the **Text** property of the **Body1** textbox with the following formula.

```
Text(ThisItem.Amount, "$#,##0.00")
```

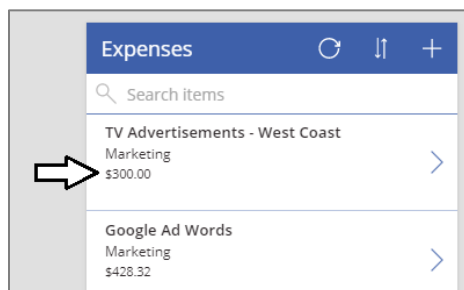
- c) When you update the formula, it will initially match the following screenshot.



- d) Note that after you update the formula, PowerApps Studio will automatically update the formula to include **[\$-en-US]**.

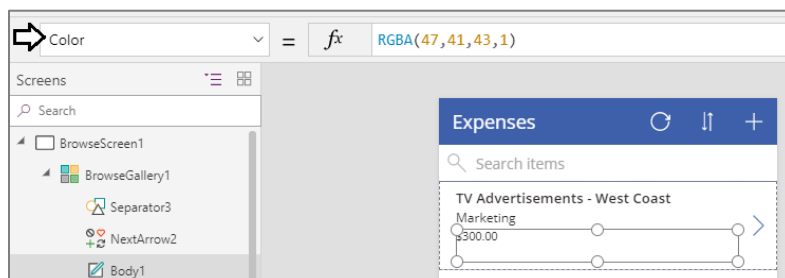


- e) The **Amount** field should now display its value with currency formatting.



5. Configure the **Color** property of **Body1** to display **Amount** values in red when they are \$500 or greater.

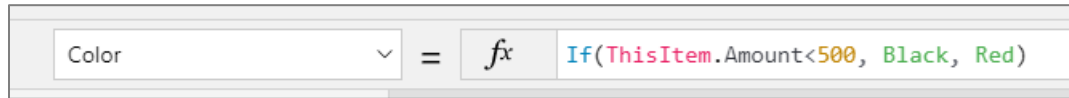
- a) With the **Body1** control selected, use the property drop down to display the **Color** property.



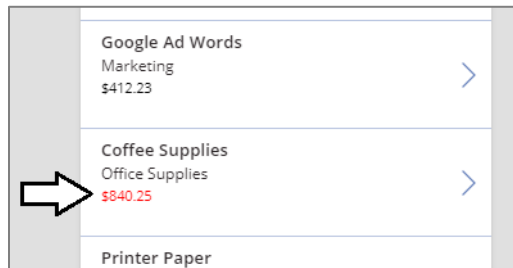
- b) Update the **Color** property for **Body1** with the following formula.

```
If(ThisItem.Amount<500, Black, Red)
```

- c) The formula bar should match the following screenshot.

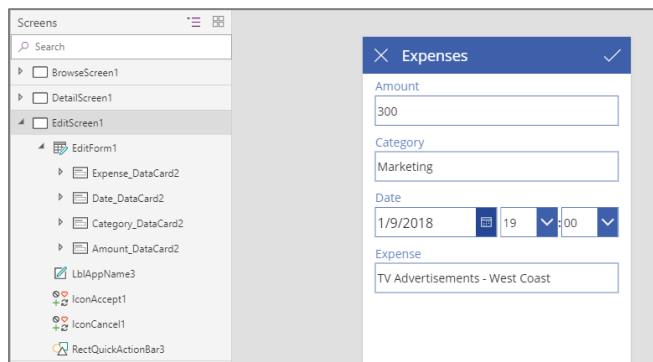


- d) You should now see that **Amount** values of \$500 or greater are displayed with a red font.

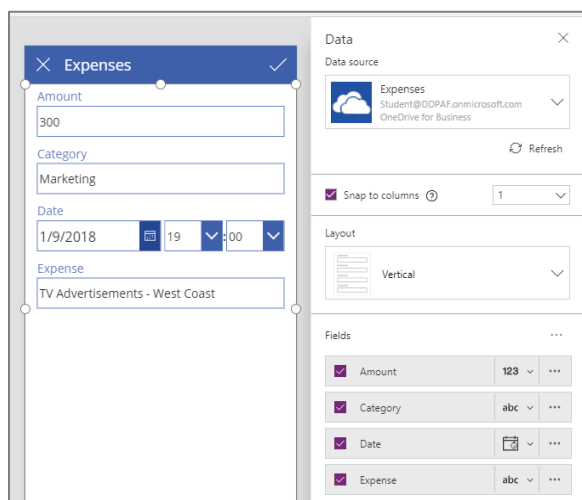


6. Modify the edit screen to streamline data entry for new expenses.

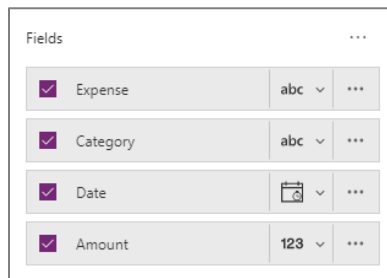
- a) Using the left navigation, move to the edit screen.



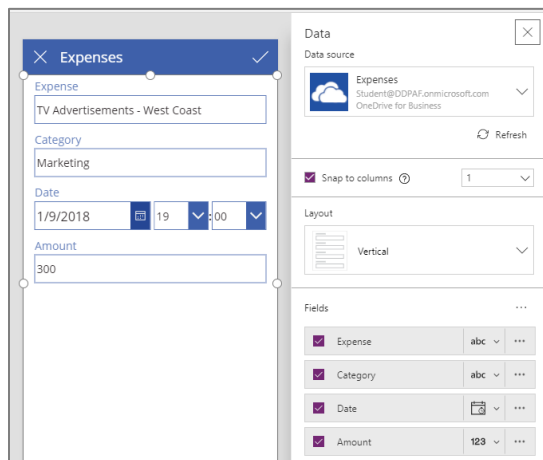
- b) Display the **Data** pane so you can see the Fields collection of the edit form. At this point, the fields are sorted alphabetically.



- c) Using the mouse, rearrange the fields by moving **Expense** to the top followed by **Category**, **Date** and then **Amount**.

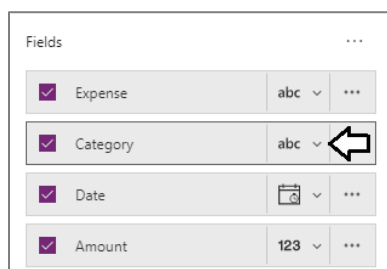


- d) The edit screen should now display its fields using the new sort order.

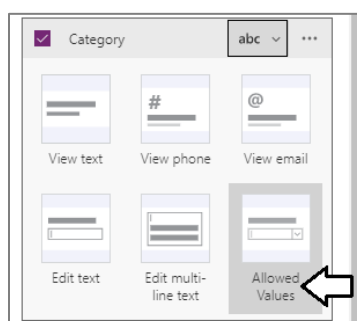


7. Update the data card for the **Category** field to provide a dropdown list with allowed values.

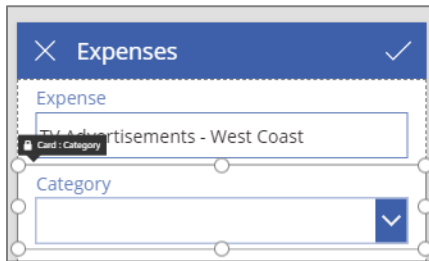
- a) Drop down the menu with the **abc** icon to the right of the **Category** field.



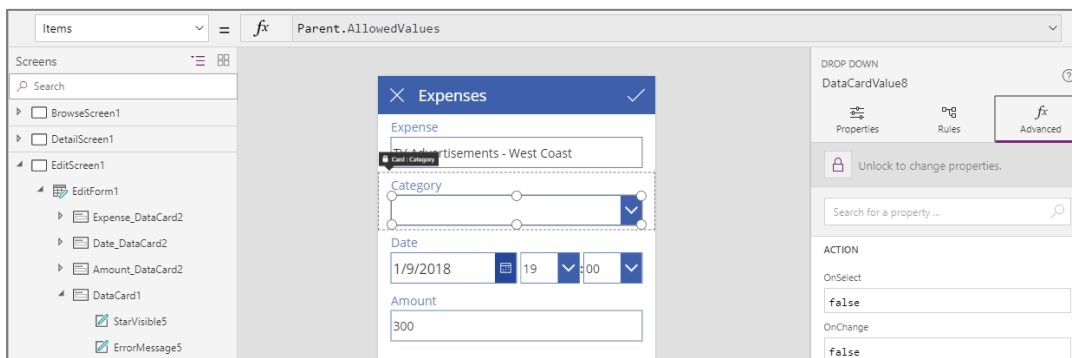
- b) Select a control type of **Allowed Values**.



- c) The control which displays the **Category** field should change to a dropdown menu.

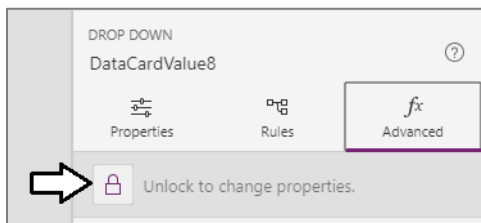


- d) Select the dropdown menu and examine the **Items** property in the formula bar.



You will notice that the formula bar is read-only for the Items property because the data card is locked by default.

- a) In the **Advanced** pane, click the **Unlock to change properties** button.

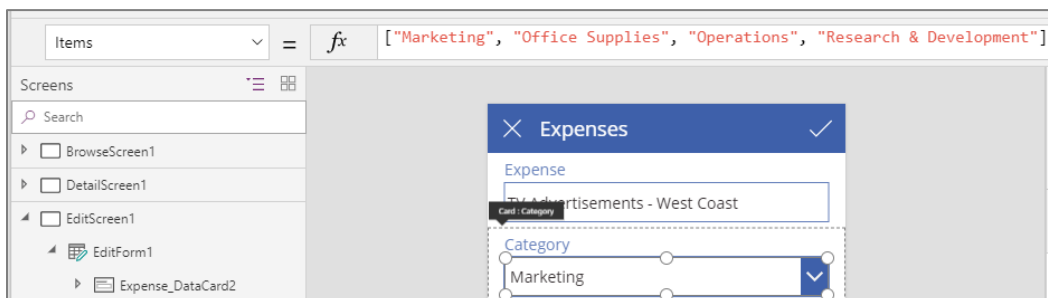


Note that the user interface experience might seem a bit strange when you click the **Unlock to change properties** button. At first it seems like nothing is happening. However, after a few seconds you should see that the **Items** property become editable.

- b) Update the **Items** property of the dropdown list with the following formula.

["Marketing", "Office Supplies", "Operations", "Research & Development"]

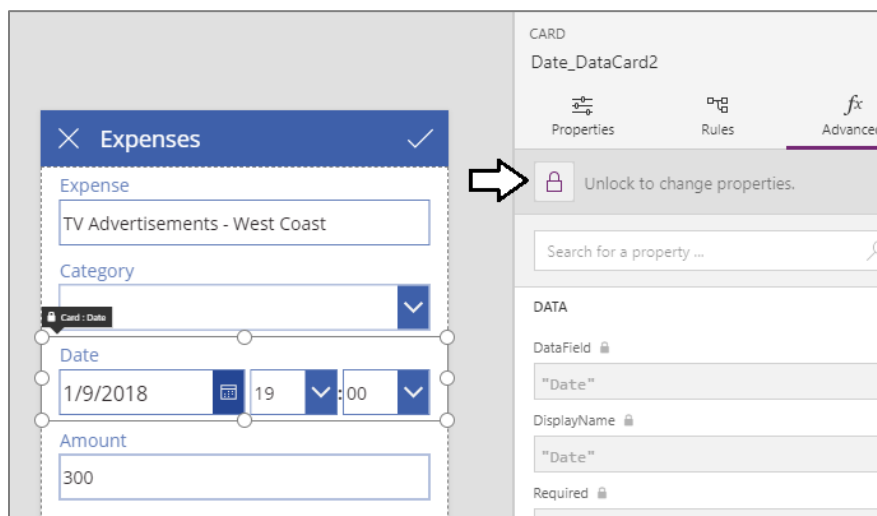
- c) The formula bar should match the following screenshot.



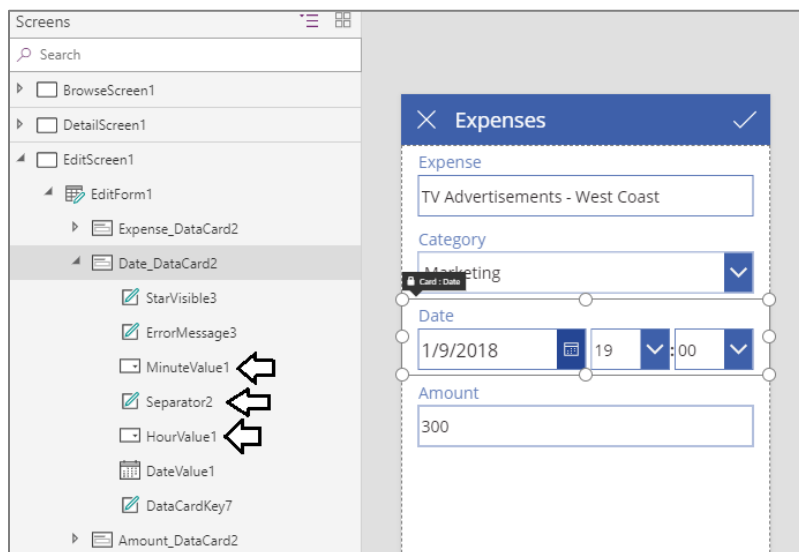
- d) You should be able to test the dropdown list and verify that it provides four allowed values.



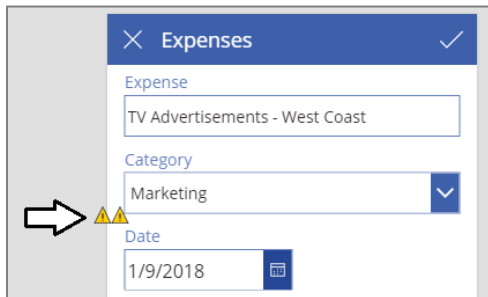
8. Update the data card for the **Date** field to make it a date-only.
- Show the **Data** pane if it is not already showing.
 - Select the data card for the **Date** field.
 - In the **Advanced** pane, click the **Unlock to change properties** button for the data card for the **Date** field.



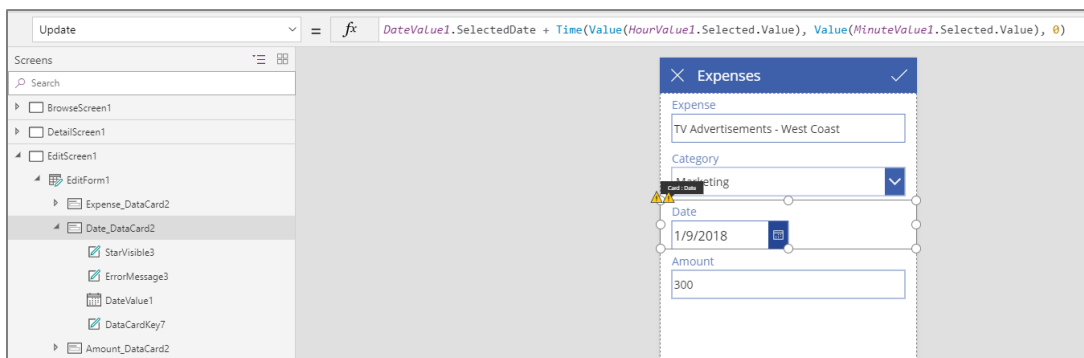
- d) Using the left navigation, select and delete the controls named **MinuteValue1**, **Separator2** and **HourValue1**.



- e) After deleting **MinuteValue1** and **HourValue1**, you will notice formula errors due to referencing deleted controls.
- f) Click on the error icon with the yellow triangle to the left.



- g) At this point, you should see the formula for the **Update** property in the formula bar.



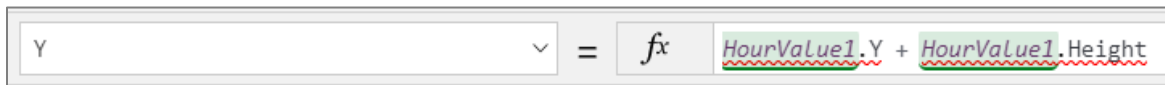
- h) Replace the existing **Update** formula with the following formula to remove references to **HourValue1** and **MinuteValue1**.

DateValue1.SelectedDate

- i) The formula for the **Update** property of the data card should now appear as the formula shown in the following screenshot.



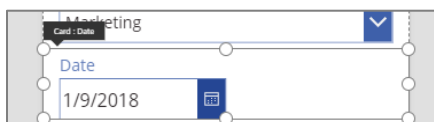
- j) Click on the one remaining yellow triangle to show the other formula error.
- k) You should see the **Y** property of **ErrorMessage3** contains references to the deleted control named **HourValue1**.



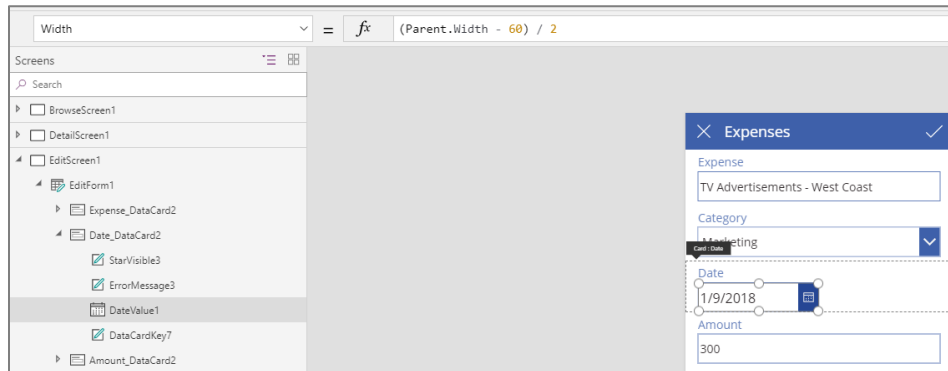
- l) Replace the existing formula for the **Y** property with a value of **0** as shown in the following screenshot.



- m) At this point, you should no longer see any error indicators.



- n) Select the **DateValue1** control and examine its **Width** property.



- o) You should see that the formula of the **Width** property has the following value.

(Parent.width - 60) / 2

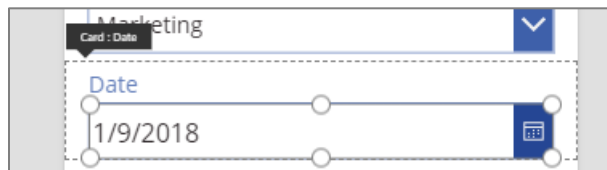
- p) Update the formula of the **Width** property to the following formula.

Parent.width - 60

- q) Your formula bar should match the following screenshot.

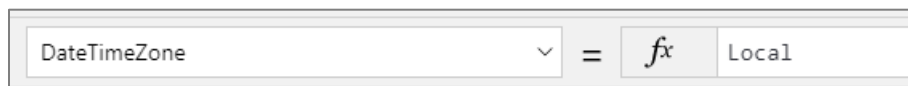


- r) The **DateValue1** control should expand to the same width of the other input controls on the edit screen.



9. Update the **DateTimeZone** property of **DateValue1**.

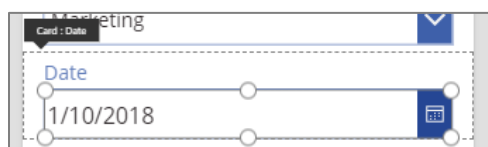
- a) Inspect the **DateTimeZone** property of the **DateValue1** control. Its current value should be **Local**.



- b) Update the **DateTimeZone** property to a value of **DateTimeZone.UTC** as shown in the following screenshot.



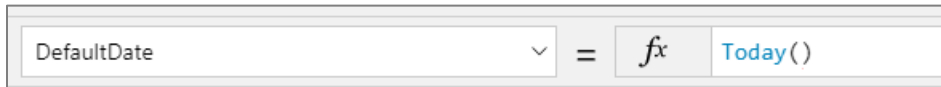
- c) All the dates displayed on the edit screen should now move ahead by one day and display their proper value.



The problem with date values in the Local format is that they are offset by the difference between Greenwich Mean Time and your local time zone. For example, if you are in Eastern Daylight Time (EDT), the date of **January 10, 2018** is displayed with a 5-hour offset which is **January 9, 2018 at 7:00 PM**. By setting the **DateTimeZone** property to **UTC**, you are effectively removing the offset and the dates are displayed more accurately.

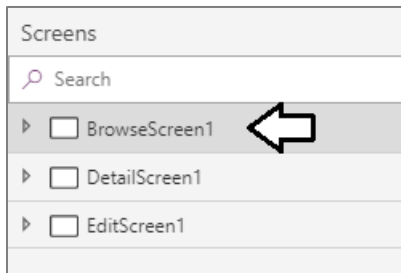
10. Configure the current day as the default value for **DateValue1**.

- Make sure the **DateValue1** control is selected.
- Inspect the **DefaultDate** property value for **DateValue1**.
- Update the **DefaultDate** property using the **Today()** function as shown in the following screenshot.

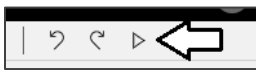


11. Test out the app by starting it and adding a new expense.

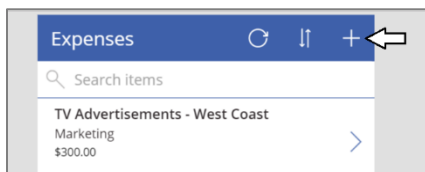
- Before starting the app, navigate to the screen named **BrowseScreen1**.



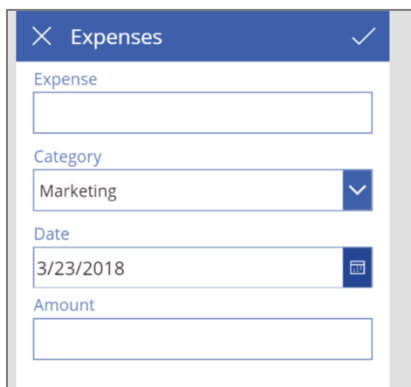
- Click the Start button with the arrow icon to launch the app for testing.



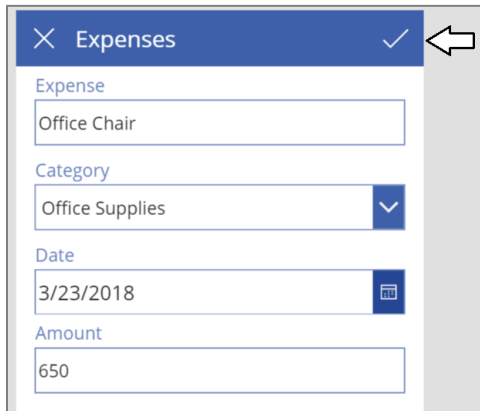
- When the browse screen appears, click to button with the **+** icon to add a new expense.



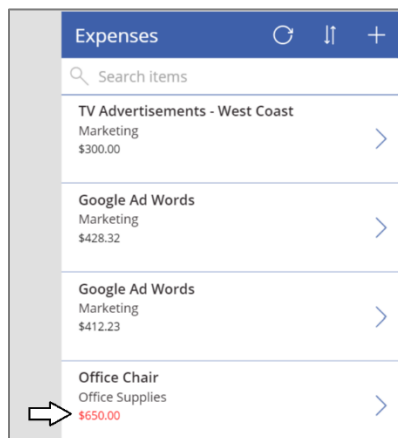
- You should now see the edit form into which you can enter a new expense.



- e) Fill in the edit form for the new expense using the data shown in the following screenshot and then click the button with the checkmark icon in the upper right to save your work.

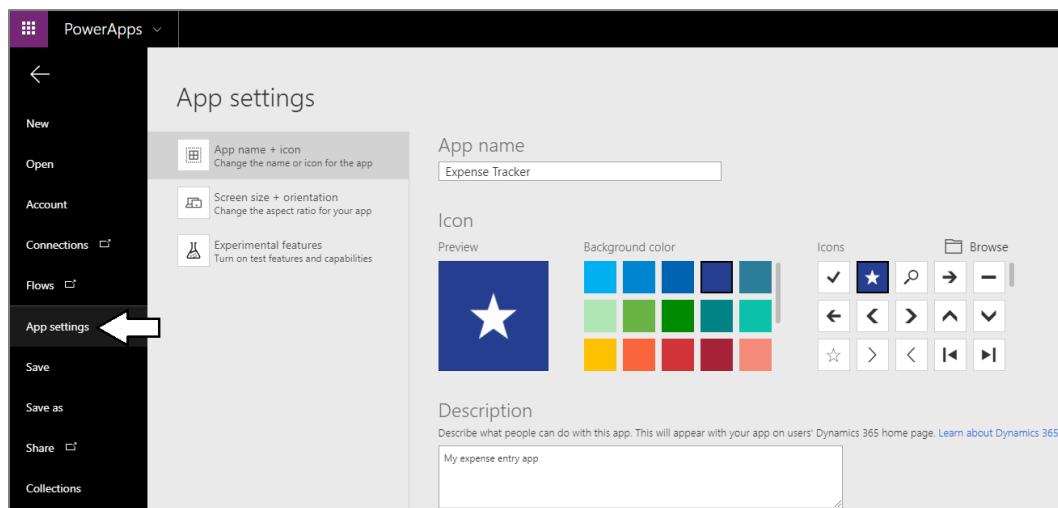


- f) Once you have saved the new expense, you should be able to see it in the browse screen.

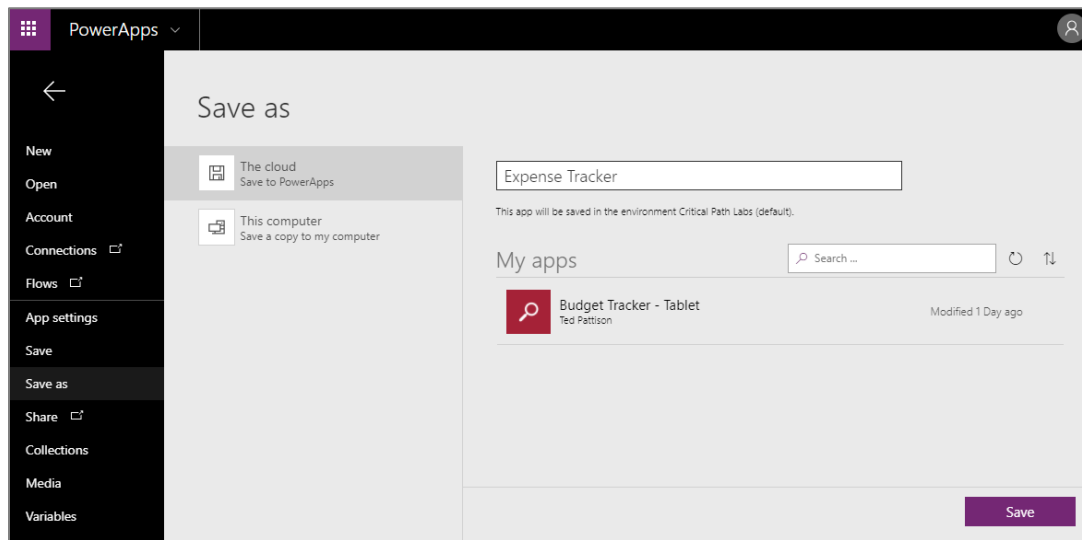


12. Save the app to the cloud.

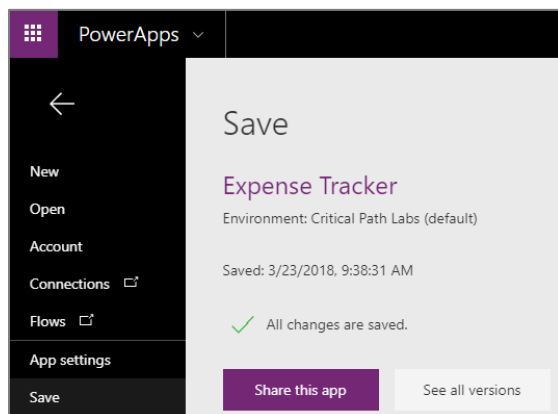
- a) Drop down the **File** menu and click the **App settings** link.
b) Name the app **Expense Tracker** and assign a color, icon and description as shown in the following screenshot.



- c) Click the **Save** link in the left navigation and then click the **Save** button in the lower, right-hand side of the screen.

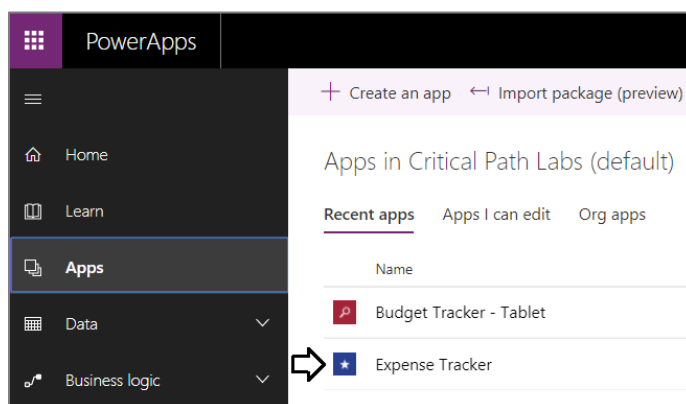


- d) You should be able to confirm that your app has been saved.

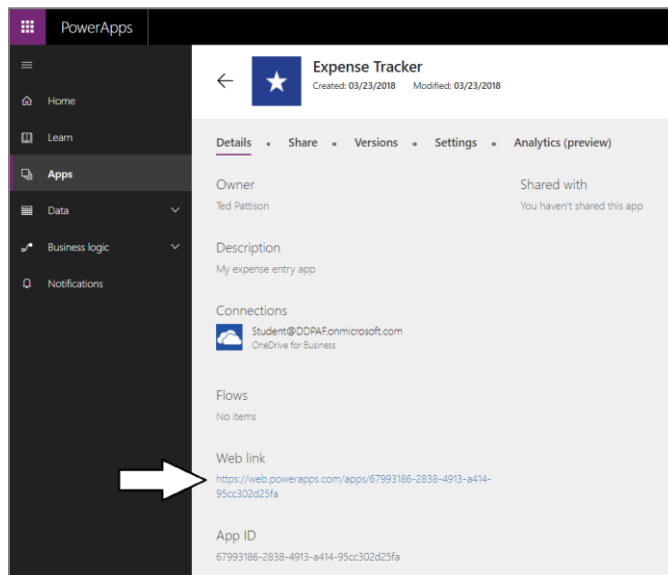


13. Examine the details of the new app.

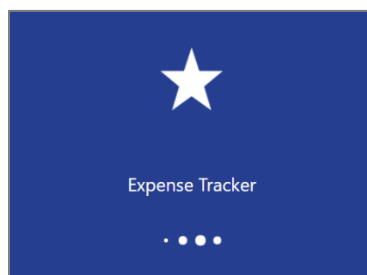
- a) Return the PowerApps Studio home page and click the **Apps** link.
b) Locate and click on the new app named **Expense Tracker** to see its details.



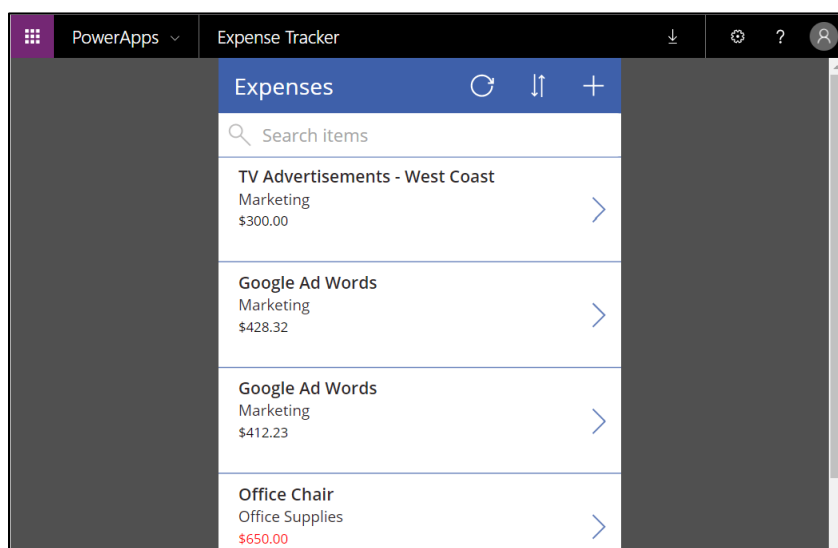
- c) On the app details page, locate the **Web link** and click on it to launch the app.



- d) The app should start up when you click that Web link.



- e) The app should now start up in the usual run mode for end users.



Congratulations. You have now completed the first lab in this course and gone through the experience of creating two simple apps.