

## APPLICATION SETUP

If at any time you run into errors, check to make sure you have permissions to PowerApps from your Microsoft account.

1. Navigate to <https://powerapps.microsoft.com/en-us/>
2. Sign in with your email and password.
3. Create a new environment by clicking the **settings** icon in the top right corner.
4. Click **admin center**.
5. Click **New environment**.
6. Name your environment and create the new environment.
7. It will ask you to create a database with the desired currency and language.
8. Once done, exit out of the window, and navigate to the PowerApps app on previously.

## FIRST ENTITY (CLASS)

If I was looking at the class, I would want to know the level of the class (beginner, intermediate, or expert), the subject (Math, science, English, social studies) and the description. These would be the fields of the Class entity.

1. Click **data** in the left panel.
2. Click **Entities**. We will have 3 entities, a Class, Student and a Contact.
3. On the top bar, select **New entity**.
4. Enter in "Class" for Display name, and the plural name Classes should autofill in.
5. Click **Create**. A pre-loaded field "Name" will already be there.
6. Click **Add field**.
7. Enter "Subject" for display name.
8. For the data type, scroll down to "Option set". We will create a new option set. Click **New option set** at the top of the scrollbar.
9. Highlight "New option" and change it to "Math".
10. Add 3 more options "Science", "English" and "Social Studies" and click **Save**.
11. Click **Done**.
12. Add another field with display name "Level".
13. Create another option set, with options of "Beginner", "Intermediate", and "Expert" and click **Save**.
14. Click **Done**.
15. Add another field "Description".
16. Under "Data type" click **Text Area**.
17. Click **Done**.
18. Click **Save Entity** on the bottom right corner.

We have just created a Class entity, with 3 fields giving information about the class, as well as the name of the class itself.

## SECOND ENTITY (STUDENT)

1. Navigate to "Entities" on the left bar.
2. Click **New Entity**.
3. Type "Student" for display name.
4. Click **Create**. A preloaded field of "Name" will be in the Student entity.
5. Click **Add field**.
6. Enter "Graduation Year" for display name.
7. For the data type, scroll down to "Whole Number".
8. Click **Done** and **Save Entity**.

For the Student entity, we will want to know the name and class of the student, as well as the graduation year. Now you may think; wouldn't I want to know the personal information about this student such as phone number, address etc.? The answer is yes. But this will be covered when we transition into creating our Contact entity.

The reason for adding a field "Graduation Year" is because this will allow us to transfer the contact information to a **Donor** entity later in the future. Without the entity in between, once the student was deleted from the system, so would all the contact information with it.

## THIRD ENTITY (CONTACT)

1. Now navigate to the **Entities** section on the left tab.
2. Search for "Contact" on the top right of the screen.
3. As you can see, an Out of the box entity has been created by PowerApps called Contact. Out of the box entities are very powerful and should be used as much as see fit.

## ESTABLISHING RELATIONSHIPS

Now we will transition into dealing with our relationships between the entities.

1. Search for "Student" and click the entity.
2. From here, we will create one more field. This will be a lookup field. This will allow for each class to be able to add students to the current class. Click **Add field**.
3. Enter the name of the entity you are looking up in the display name. In this case, type "Class".
4. For Data type, scroll to "Lookup".
5. For related entity, find "Class" and click **Done**.
6. On the bottom right, click **Save Entity**.
7. As you can see by clicking the **Relationships** tab, it automatically created a many-to-one relationship between "Student" and "Class". We will create one more lookup field to the "Contact" entity. This will allow us to find more personal information on each student. Navigate to "Fields" and click **Add field**.
8. Type "Contact" for display name.
9. Find "Lookup" for Data type.
10. Find "Contact" for related entity.
11. Click **Done** and **Save Entity**.

We have now created relationships between each entity.

## FORMS AND VIEWS

Now let's create the forms and views for our application.

1. Click **Entity** on the left tab and find "Class".
2. Click the **Forms** tab.
3. Click into **Information** on the form type "Main". We will just be adjusting the main form for our application.
4. You will be taken to a new window where you will now add the desired fields to your form. Drag "Subject", "Level" and "Description" from the left tab and drop them in the main form.
5. In the top right, click **Save**.
6. Click **Publish**.
7. Now x out of the tab, and navigate to the previous screen, and click **Done**.
8. Now we will edit the view of the class entity. Click the **Views** tab.
9. We will only edit the "Active Classes" view for purposes of time. Click **Active Classes**.
10. Click our created fields (Subject, Level, and Description), and it will add them to the view.
11. Click **Save** and **Publish**.
12. Exit the tab and navigate to the original screen.
13. Click **Done**.
14. We will now edit the form and view of our other entities. Click **Entities** on the left tab and find "Student".
15. Click the **Form** tab and edit the "Main" form.
16. It will open a new tab. From there, drag the desired fields (Class and Contact) of the Student Entity onto the main form.
17. Click **Save** and **Publish** and exit the tab to the previous screen.
18. Click **Done**.
19. Click the **View** tab.
20. Click **Active Students**.
21. Click our created fields (Class and Contact), and it will add them to the view.
22. Click **Save** and **Publish**.
23. Exit the tab, navigate to the previous page and click **Done**. Now since the "Contact" entity was out of the box rather than custom, the form and view are already edited. This is one advantage of using the PowerApps preloaded entities. Now let's create the app.

## **FINALIZING THE APP**

1. Navigate to the “Apps” section on the left tab.
2. Click **Create an app**.
3. Click **Model-Driven**.
4. Name your new app anything you would like.
5. Give a description of what your app does.
6. Click **Done** on the top right of the screen.
7. Click the **pencil** on “Site Map”, the blue box displaying a warning. Here is where you will create a New Area, New Group, and New Subarea. This section is basically the navigation of your app.
8. Click on **New Area**.
9. Type “My School” in Title on the right tab.
10. Click on **New Group**.
11. Type in “Education”.
12. Click on **New Subarea**.
13. On the right tab for “Type”, select **Entity**.
14. For “Entity”, select **Class**.
15. Click “add” on the top left of the screen.
16. Click **Subarea**.
17. For “Type”, select **Entity**.
18. For “Entity”, select **Student**.
19. Click **Add** on the top left of the screen, select **Group**.
20. Click **New Group**.
21. Type in “Contacts”.
22. Click **Add** on the top left of the screen and select **Subgroup**.
23. For “Type”, select **Entity**.
24. For “Entity”, select **Contact**.
25. Click **Save** and **Publish**.
26. Exit out of the tab and navigate to the previous screen.

Now the app you created should be fully functional! Click on your app, and it should open in a new window.

## **EXTRA INFORMATION**

Experiment with adding new classes and new students in each of those classes!

Also experiment adding a contact to a student account!