alphabold

Microsoft Gold Partner

Dynamics 365 Customer Engagement eBook

Using your existing Dynamics Data

Table of contents

Dynamics 365 Customer Engagement eBook: Using your existing Dynamics Data

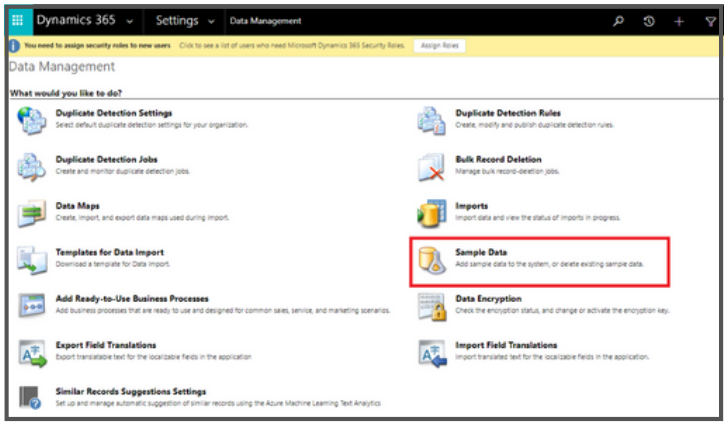
Prologue

When designing and using a customer database, initial focus is often focus on getting data into the system. For example, what fields should we have on a given record? Which system is the master system of record for what information? How data flows into the customer database? How do we integrate with the accounting system to bring pertinent data into the database to expand view of a customer? There is one fundamental question that many overlook when answering these questions: What needs to be done with the data once it is in the system? In this E-Book, we will explore several different ideas on how to work with data visualization, analysis, and consumption, for the data that is already brought into Dynamics 365 database.

This eBook is broken out into chapters and walkthroughs. Each section contains multiple walkthroughs exploring a topic related to working with the data. For example, in the first chapter, we will explore a couple of options related to creating reporting visuals based on your existing data. Each walkthrough will guide you through a process using step by step instructions and screenshots. Second chapter focuses on using out of the box data analysis tools that can be quickly configured in Dynamics 365 like sales forecasting and timeline modules. Third chapter focuses on power automate for operations not possible through Dynamics 365 configuration. Most of these scenarios will focus on achieving a simplistic result. The intention is to give you the core concepts so that you can explore and extend this knowledge to build more complex reports and customizations. You will need the following systems to follow this e-book.

1. Dynamics 365: If you do not have an instance please configure sales trial - Dynamics 365 Trial
2. Power BI: If you do not have an please configure trial - PowerBI Trial

As you read through this book, keep in mind that it was written at a specific point in time about cloud-based platforms. These platforms are constantly evolving, so you may encounter different navigation or additional features/options when attempting some of these walkthroughs. If a walkthrough doesn't provide you the exact steps needed to accomplish a given task, it often will be very similar to the current version and can be followed in general if not precisely. Moreover, this e-book is intended for organizations already using Dynamics 365 as visualizations require data understanding. However, if you are setting up a trial instance then configure sample data as well:



Chapter 1: Reporting and Data Visualization

In this first section, we will guide you using several visual tools and Dynamics features that can be used with your current environment to provide visual representations of your data. This first walkthrough will guide you through the creation of your first dashboard within Dynamics 365. Dashboards are a quick and effortless way of visually aggregating data within Dynamics to a single location. Instead of navigating to disparate areas individually, you can view all the data that you need to accomplish your job or analyze your system from a single location.

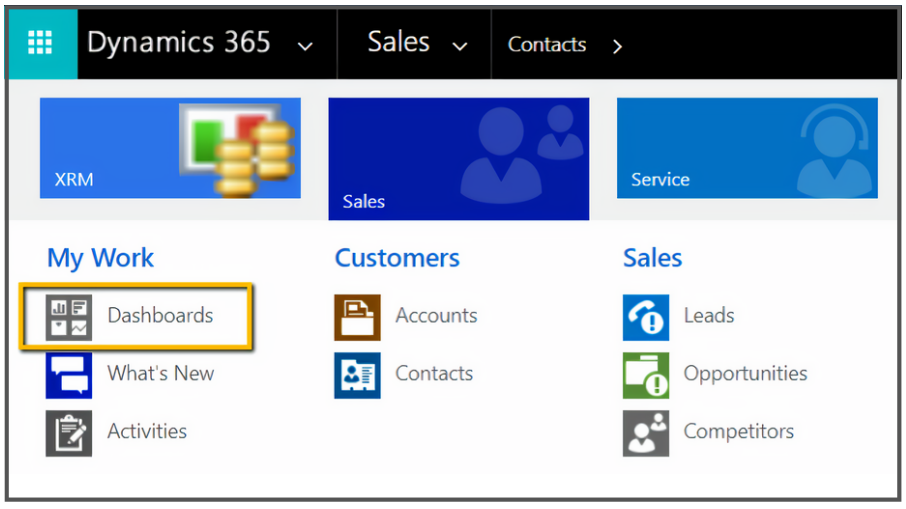
1.1: How to Create your first Dashboard within Dynamics 365

This first walkthrough will guide you through the creation of a Dynamics 365 Dashboard. Dashboards provide a quick visual representation of key performance indicators (KPIs). It is an easy way to view the data in either a view or charts that you want to see daily from a single point of access.

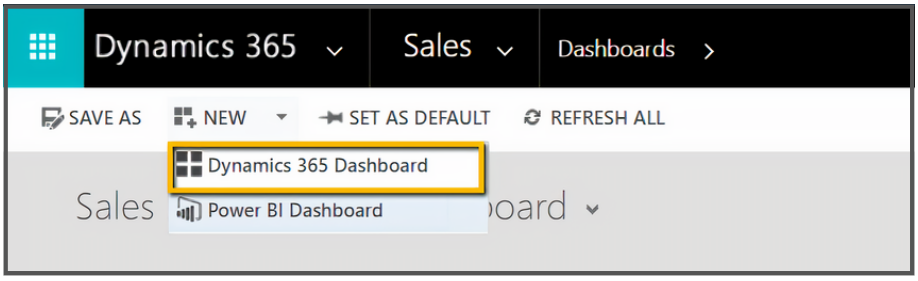
You can create System dashboards for your business or personal used to enjoy a highly visual, flexible, and intuitive overview of your affairs. Whether to monitor your daily work items, teams, or system functionality, dashboards are a one-stop-shop to review data at-a-glance.

In this chapter, I will demonstrate how to create a Personal Dashboard so you can focus on what is important to you. First, let's get you to the Dashboard Area.

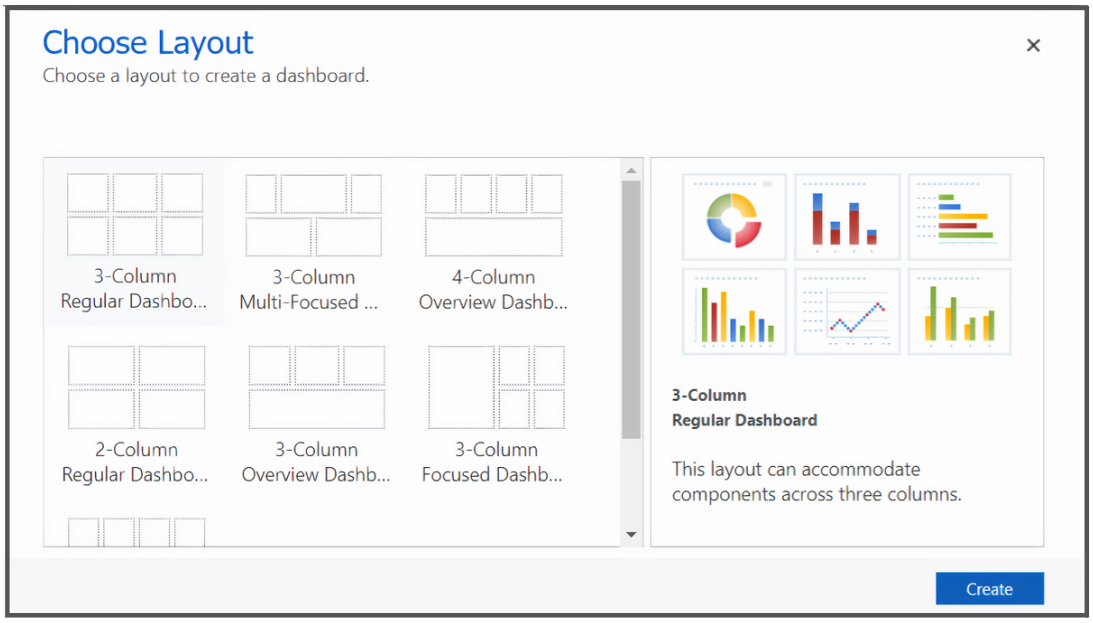
Step 1: Click on Sales and select Dashboards.



Step 2: Head to the Navigation Bar and click on New and select Dynamics 365 Dashboard

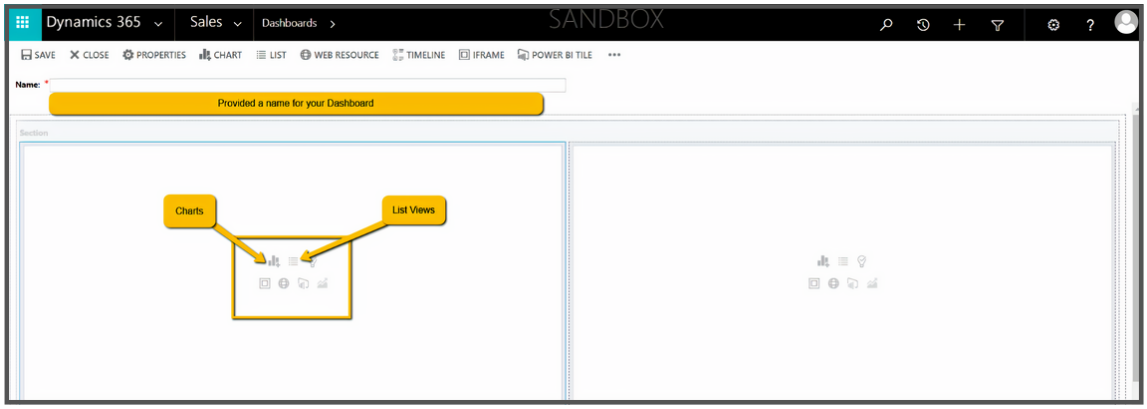


Step 3: Select a layout and click create. The layout you choose is not permanent . You will be able to modify the elements later. For this example, we will go with the 2-Column Regular Dashboard.

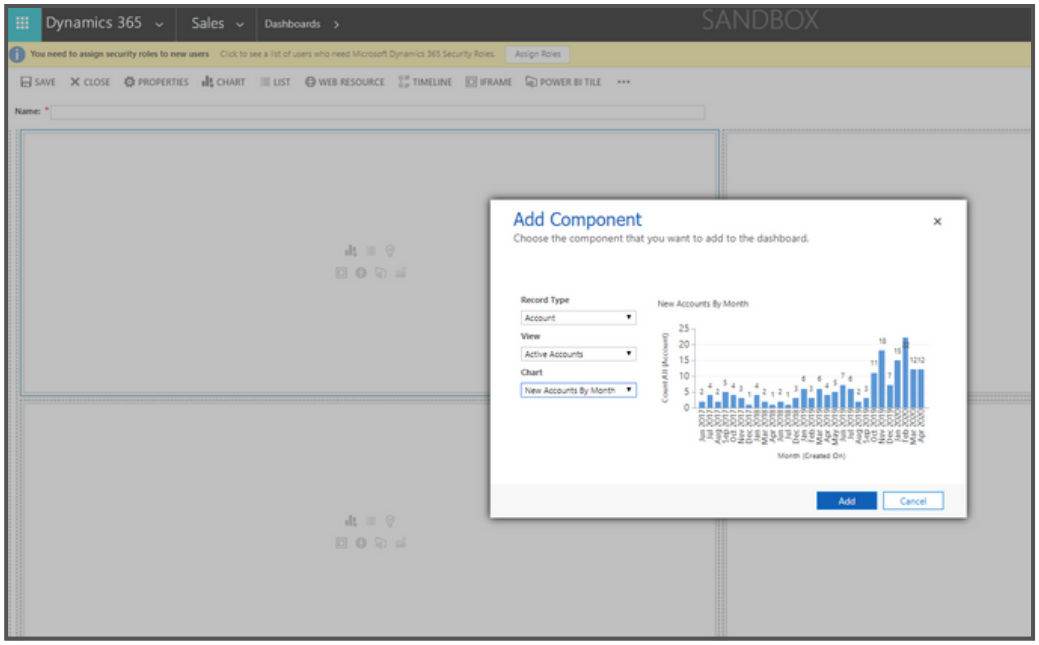


Step 4: Within the Component, you can add a Chart, List view, Relationship Assistance, Iframe, Web Resources, Power BI, and Organizational Insight.

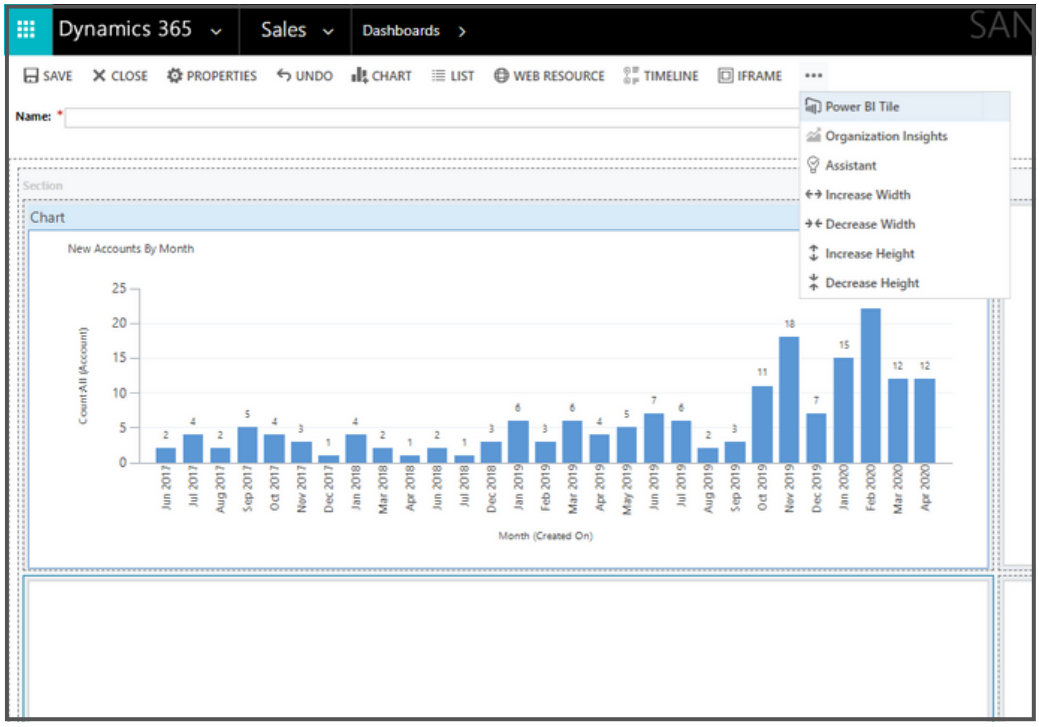
For now, we will just focus on adding Charts and List views. Click on the Charts icon, and do not forget to provide a name for your dashboard.



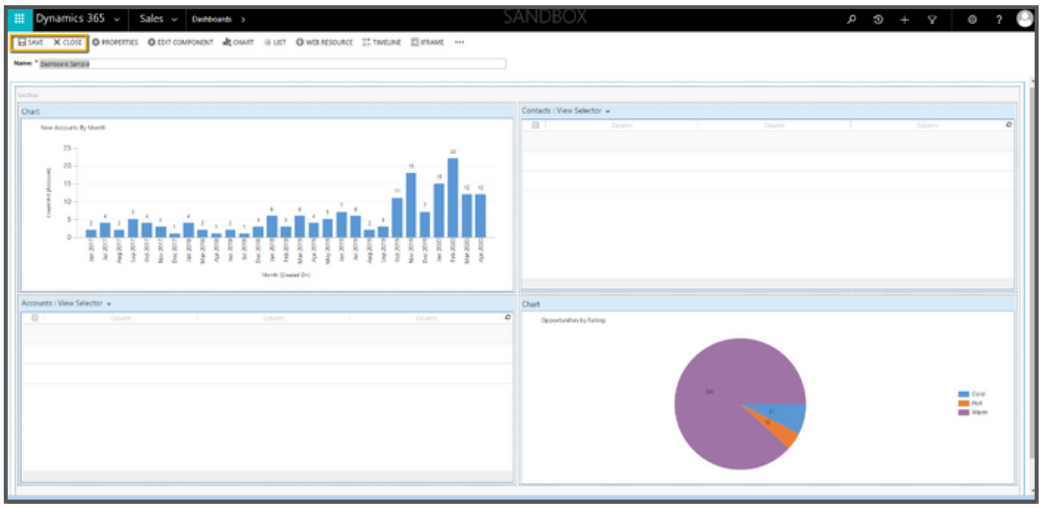
Step 5: Select the Record Type, View, and Chart you would like to display.



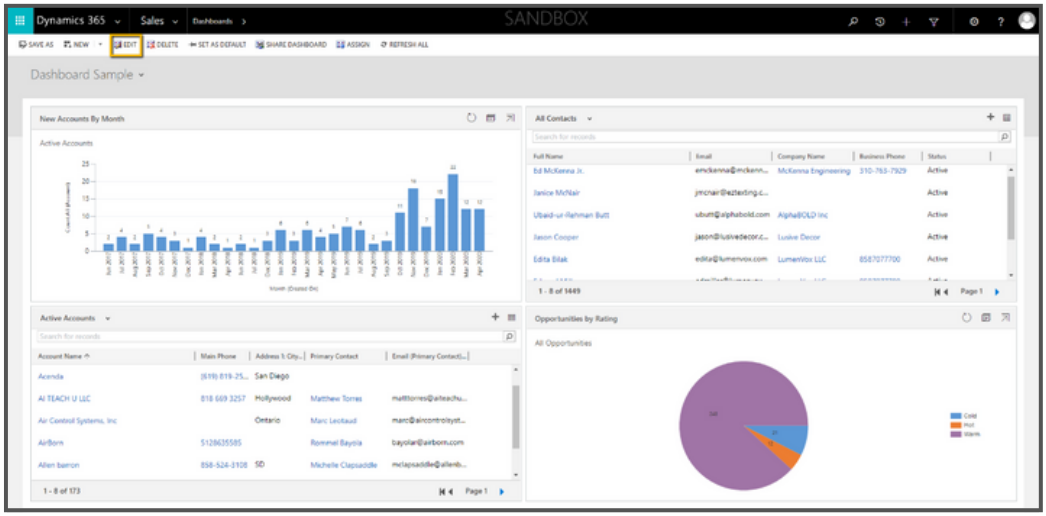
Step 6: You can increase or decrease the width or height by clicking the individual section and selecting the ellipses in the navigation bar.



Step 7: Once you have finished all sections, save and close your dashboard for review.



Step 8: Now, your dashboard is ready to be used. If you need to make adjustments, you can use the Edit button to make any additional changes.



If you have followed this guide, you should have a functional Dashboard ready for use within your Dynamics 365 system!

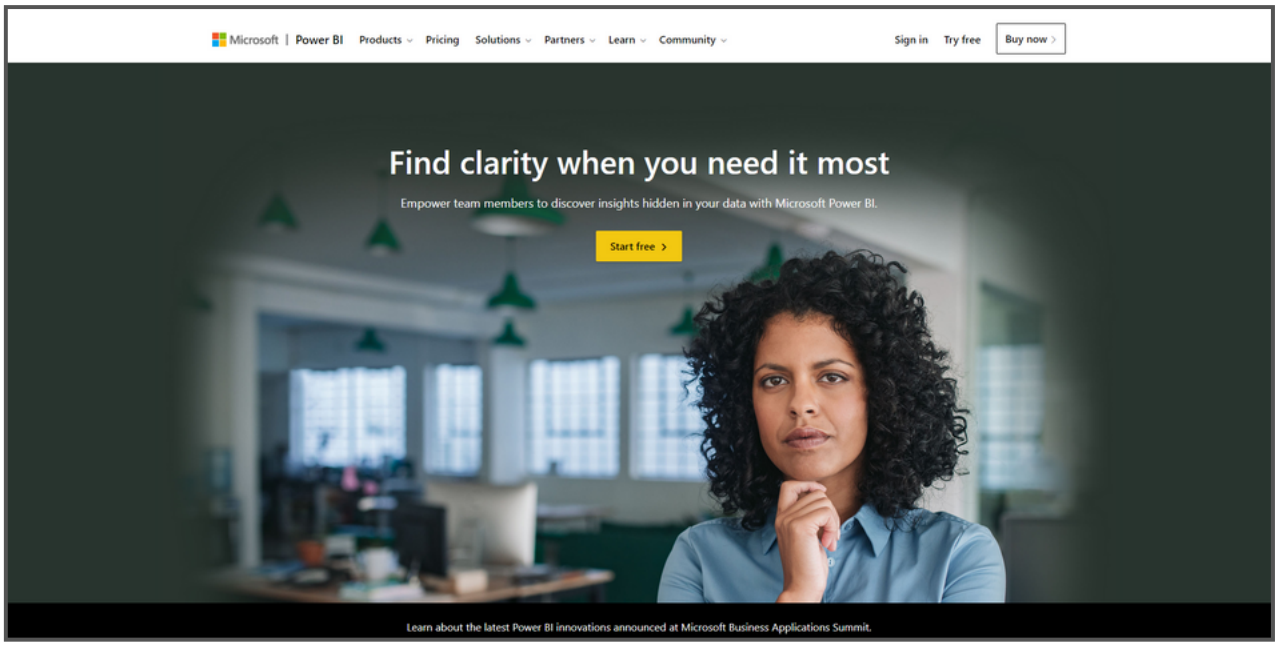
1.2: How to Create your first PowerBI report using Dynamics Data

This second walkthrough will guide you through the creation of your first PowerBI report. Power BI is a powerful reporting tool used to gather data from various sources into a single location. We can leverage this data to build visually pleasing and informative reports and dashboards that end-users can consume to get a holistic picture of their data.

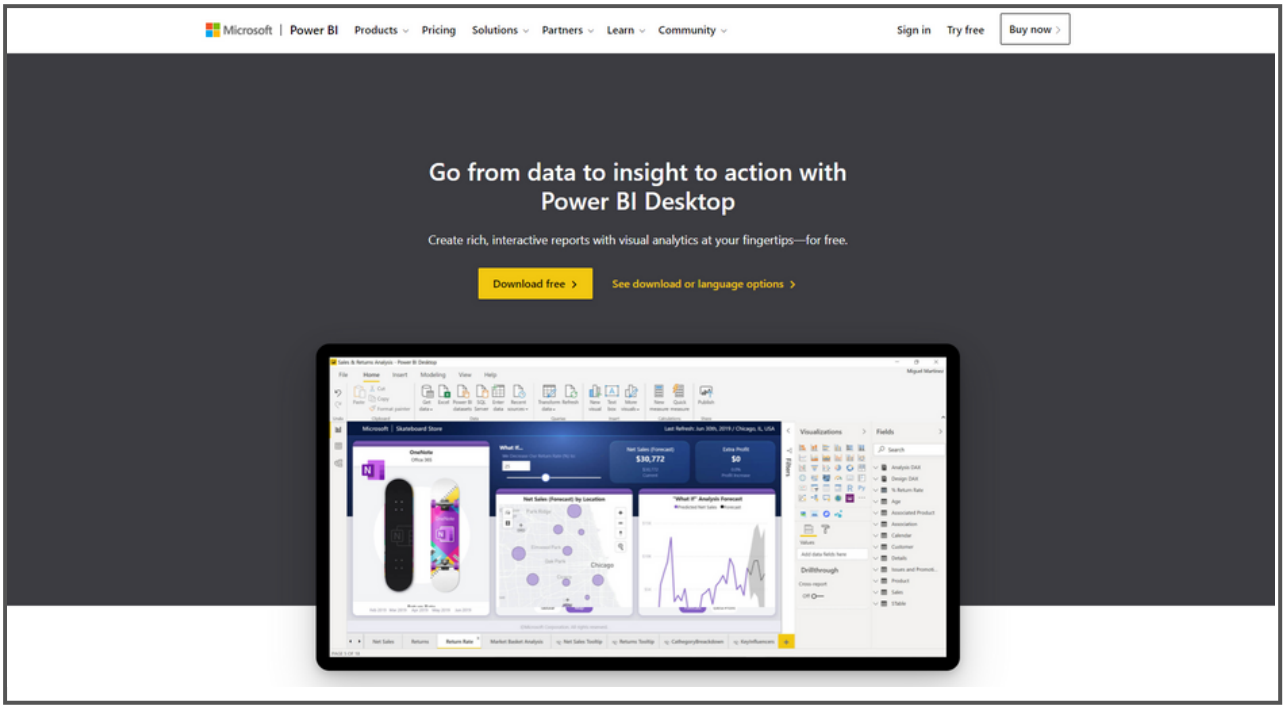
In this tutorial, we will gowalk you through how to create your very first PowerBI report using Data from Dynamics 365. Once we complete the report, we will publish it to the web, so we can view it from within Dynamics or by accessing it directly via PowerBI.

Steps to create a PowerBI Report

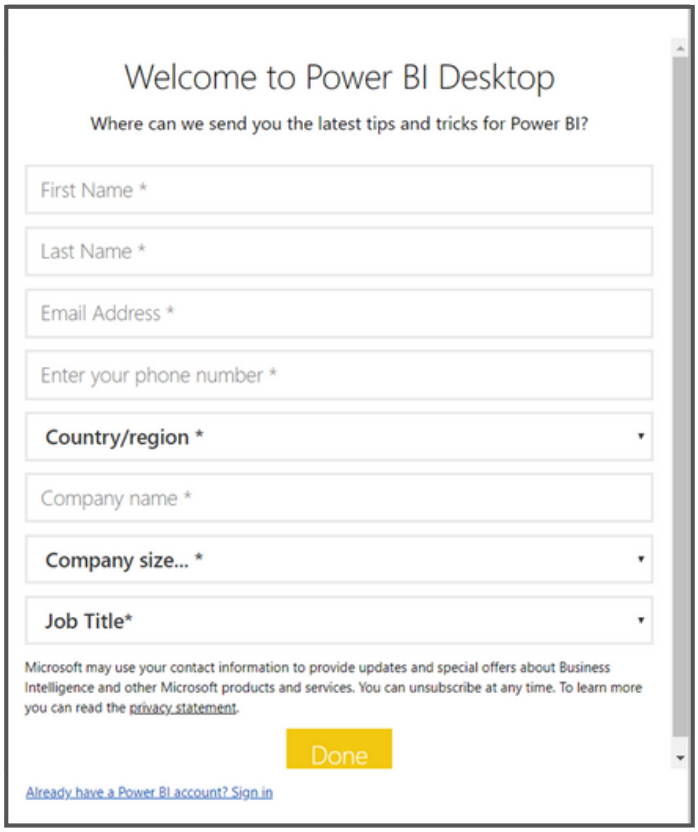
Step 1: The first thing that we need to do is download the PowerBI Desktop. PowerBI Desktop is the tool used to author, modify, and publish PowerBI Reports.
Use this link to go to the PowerBI site: https://powerbi.microsoft.com/en-us



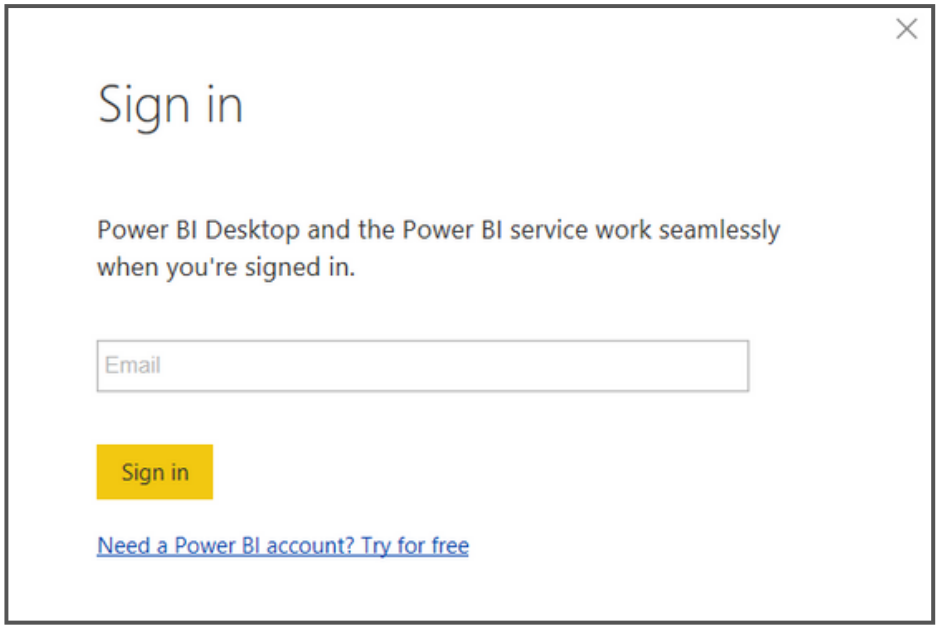
Step 2: At the PowerBI website, select “Products” and then click “Power BI Desktop”. Download the Power BI Desktop version for free.



Step 3: After installation, you will either need to register a new user or use an existing one that may be tied to your existing Dynamics subscription.

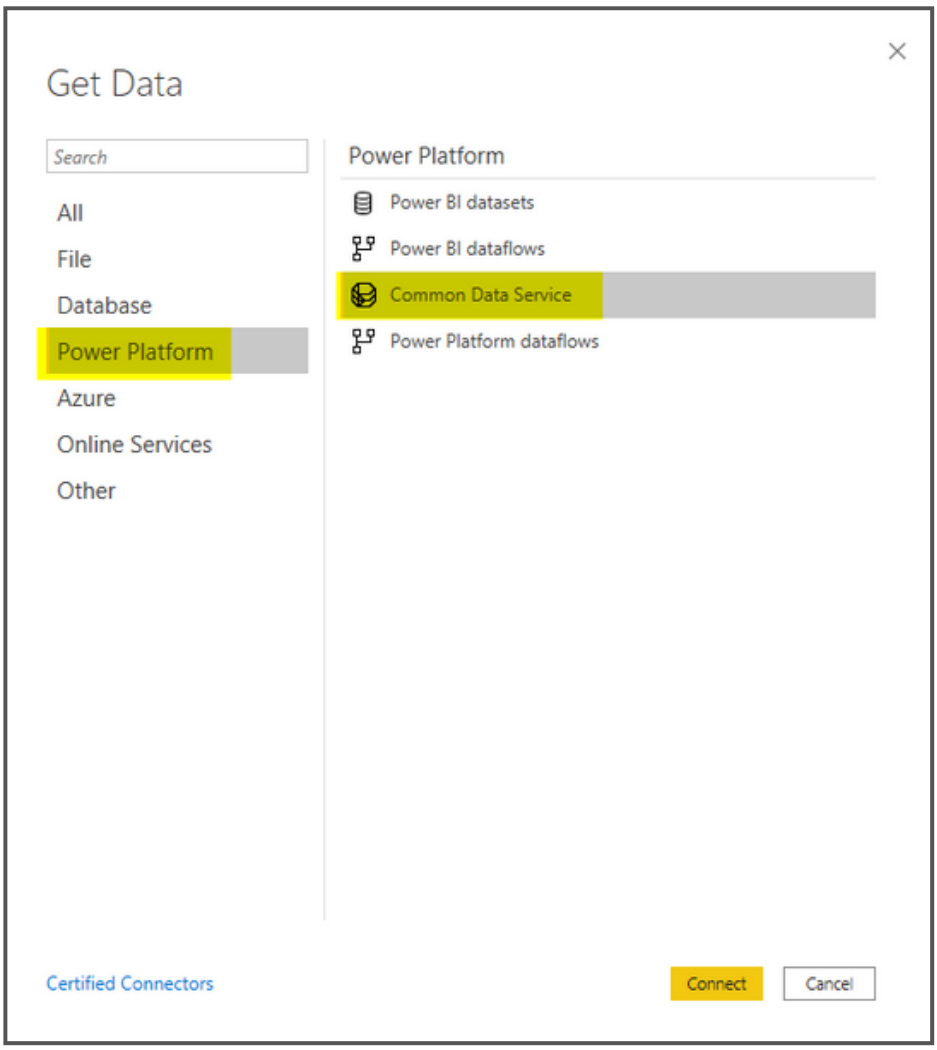


Step 4: Once signed up, the Sign-in screen will appear. Sign in using the account you just created or an existing account.

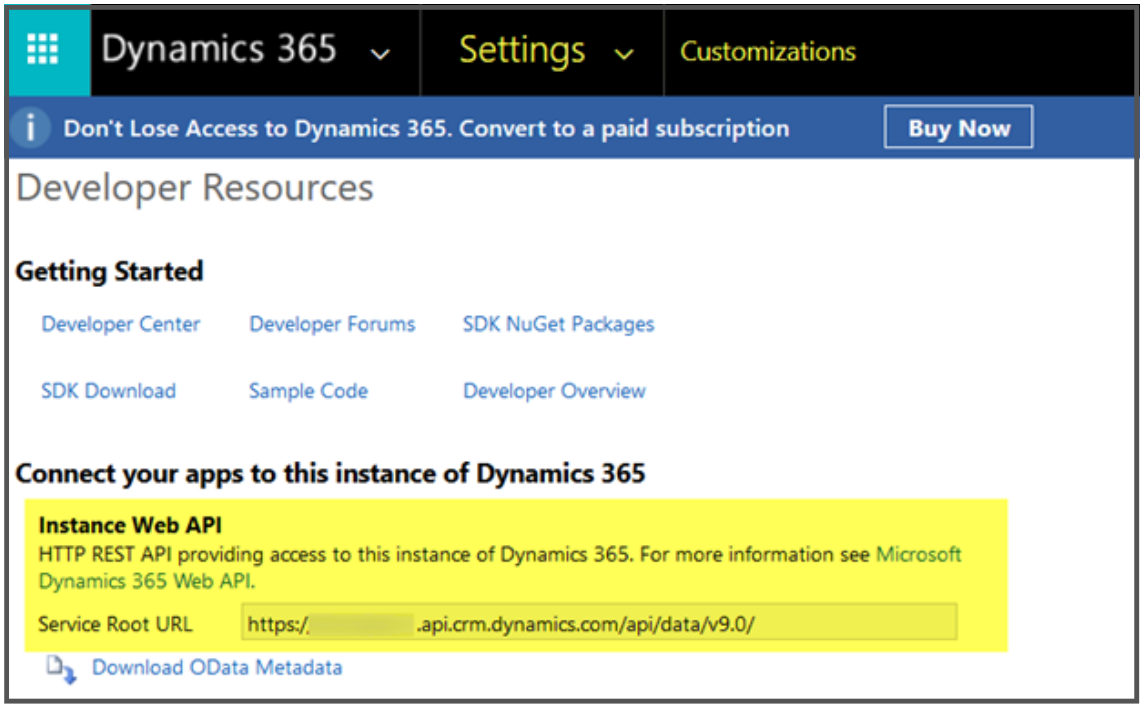


Step 5: After logging in successfully, you will see the screen below. Now you should click on Get Data.

Step 6: You will be asked to select the service provider from where you need to fetch the data. We are retrieving data from our Dynamics 365 instance, so in this case, we will first select **Power Platform** and then **Common Data Service**.

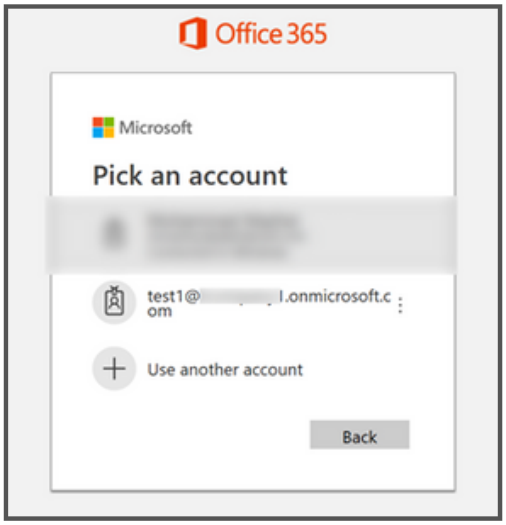


Step 7: Now, we need to extract the Web API URL form Dynamics 365. To do this, go to Settings, click on Customizations, and then on Developer Resources. You will see the Web API URL here. Copy this data and proceed to the next **step**.

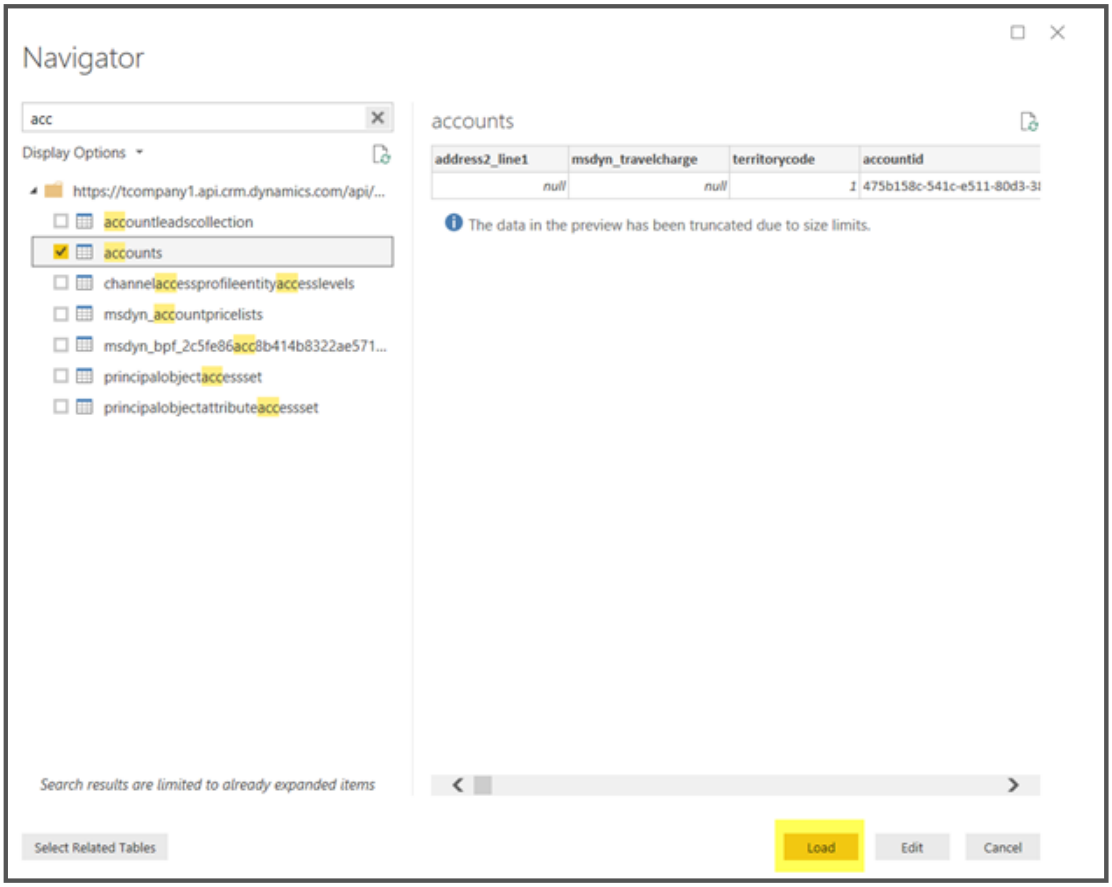


Step 8: Now provide the above extracted CRM Web API URL in the Server URL field.

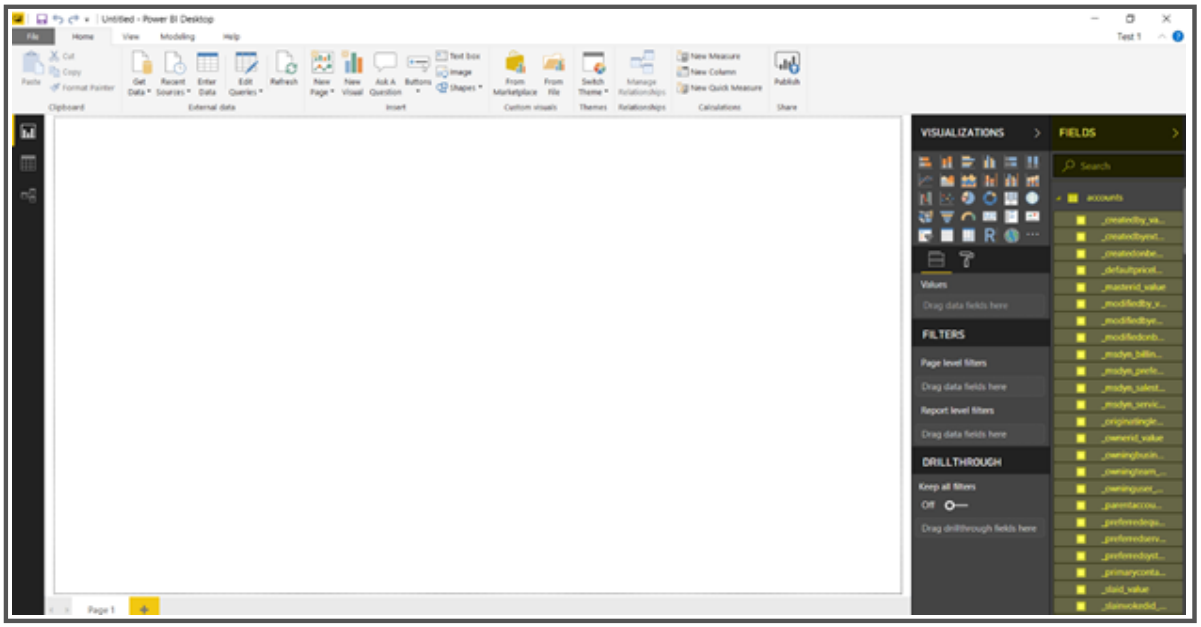
Step 9: Click ok and sign into Dynamics using your credentials.



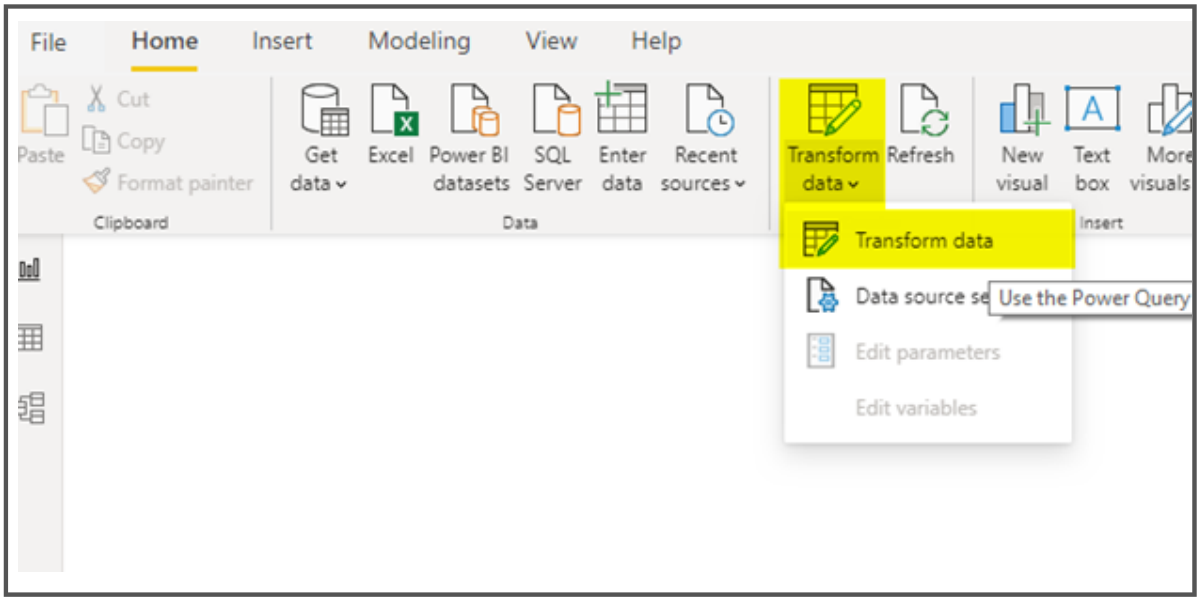
Step 10: Now, select the entity you want to build the report for which, in our case, we will choose the account and then press **Load**.



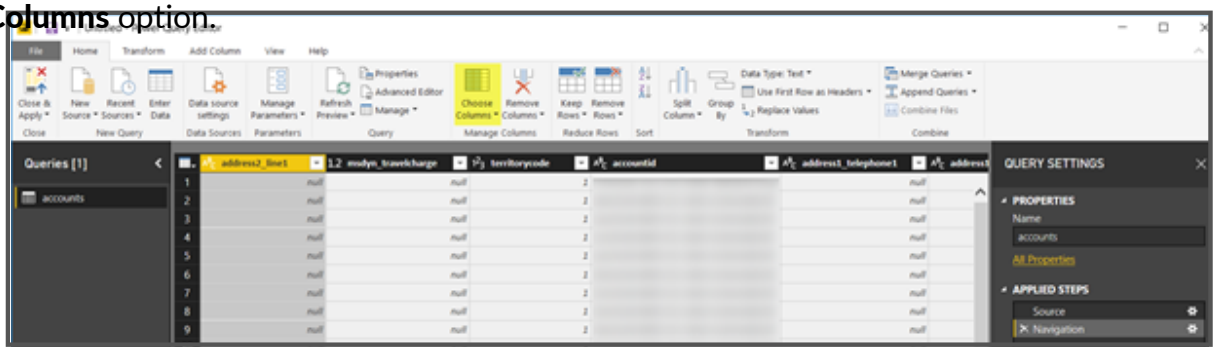
Step 11: Once loaded, you will see the screen below with fields (highlighted) that can be utilized for the creation of the report.



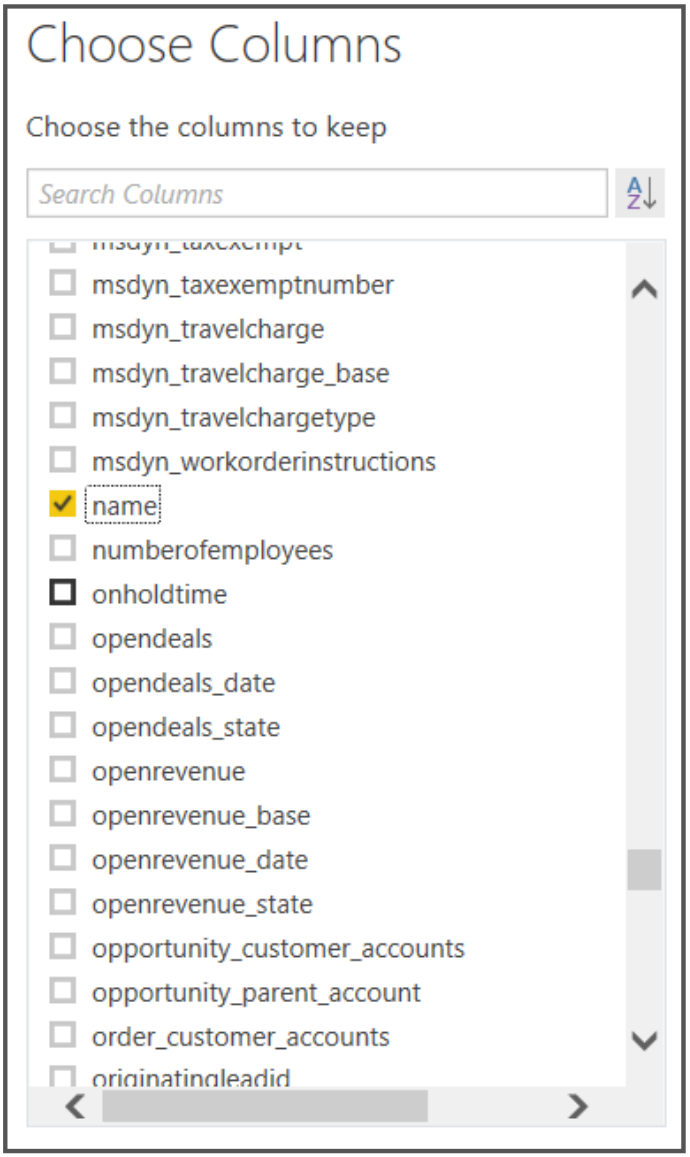
Step 12: As part of this exercise, we want to make some changes to the data before we start generating charts and grids within our report. To do this, select the **Transform Data** option in the toolbar to open the query editor.



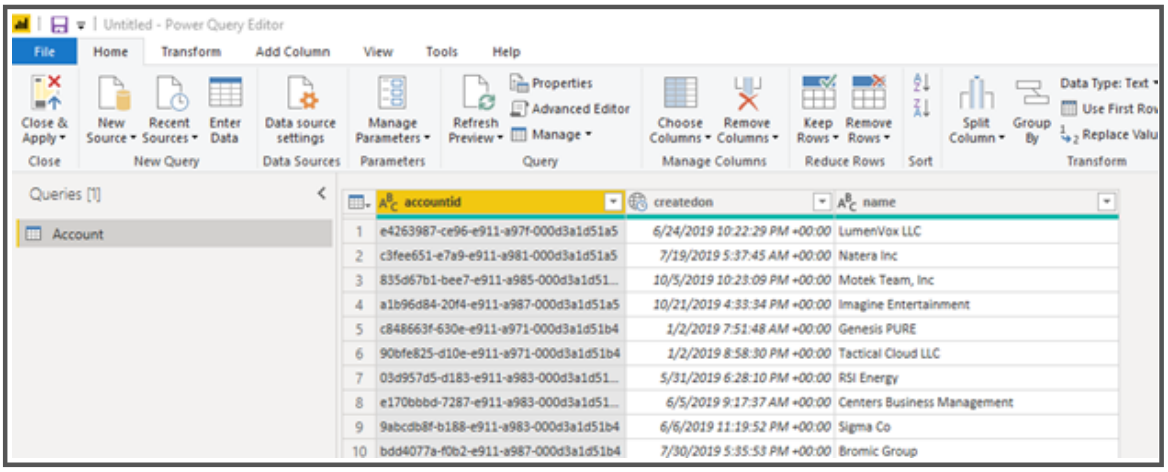
Step 13: Once the query editor appears, we will modify the data source to show the columns that we only want to use in the report. For that, click on the **Choose Columns** option.



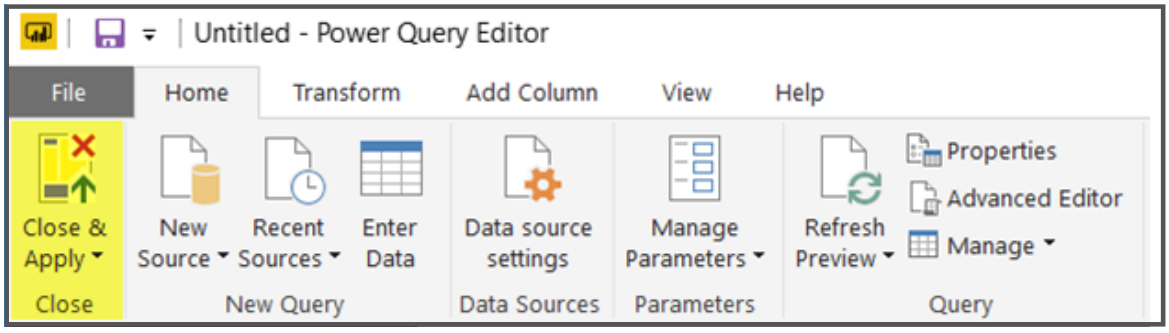
Step 14: You will see the below screen for the selection of the columns. In our case, we are using the account's "name" and “created on” fields.



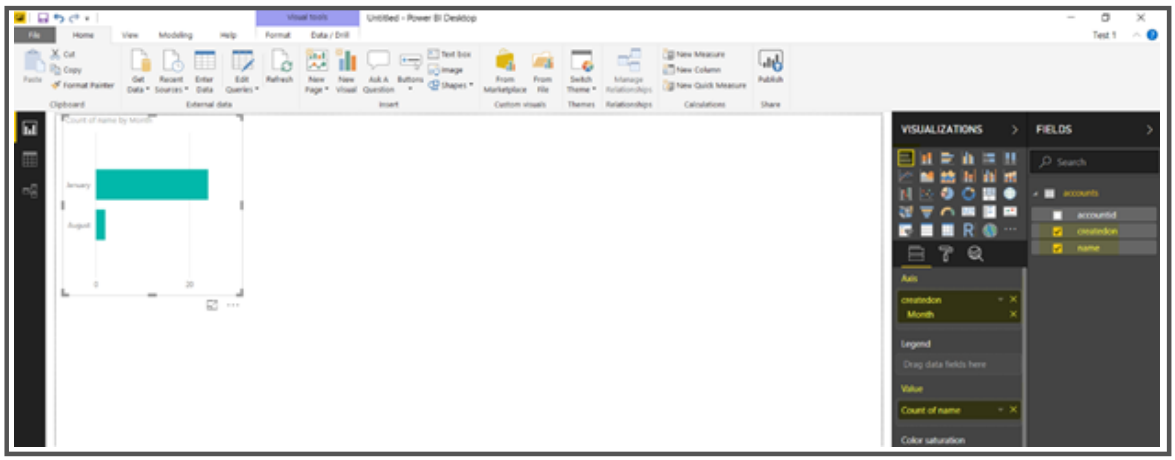
Step 15: Once you complete the selection, you will see the result in the screenshot below. As you can see, only the columns that we selected will be part of our data set. Narrowing down our data set decrease the amount of time our report takes to refresh.



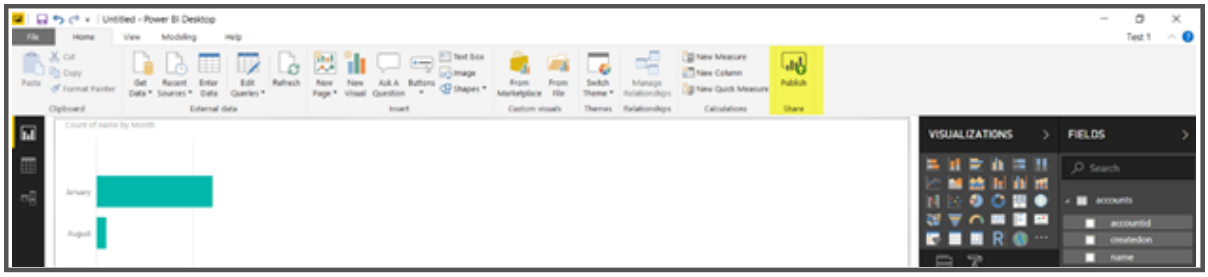
Step 16: Now apply the changes by clicking on **Close & Apply.**



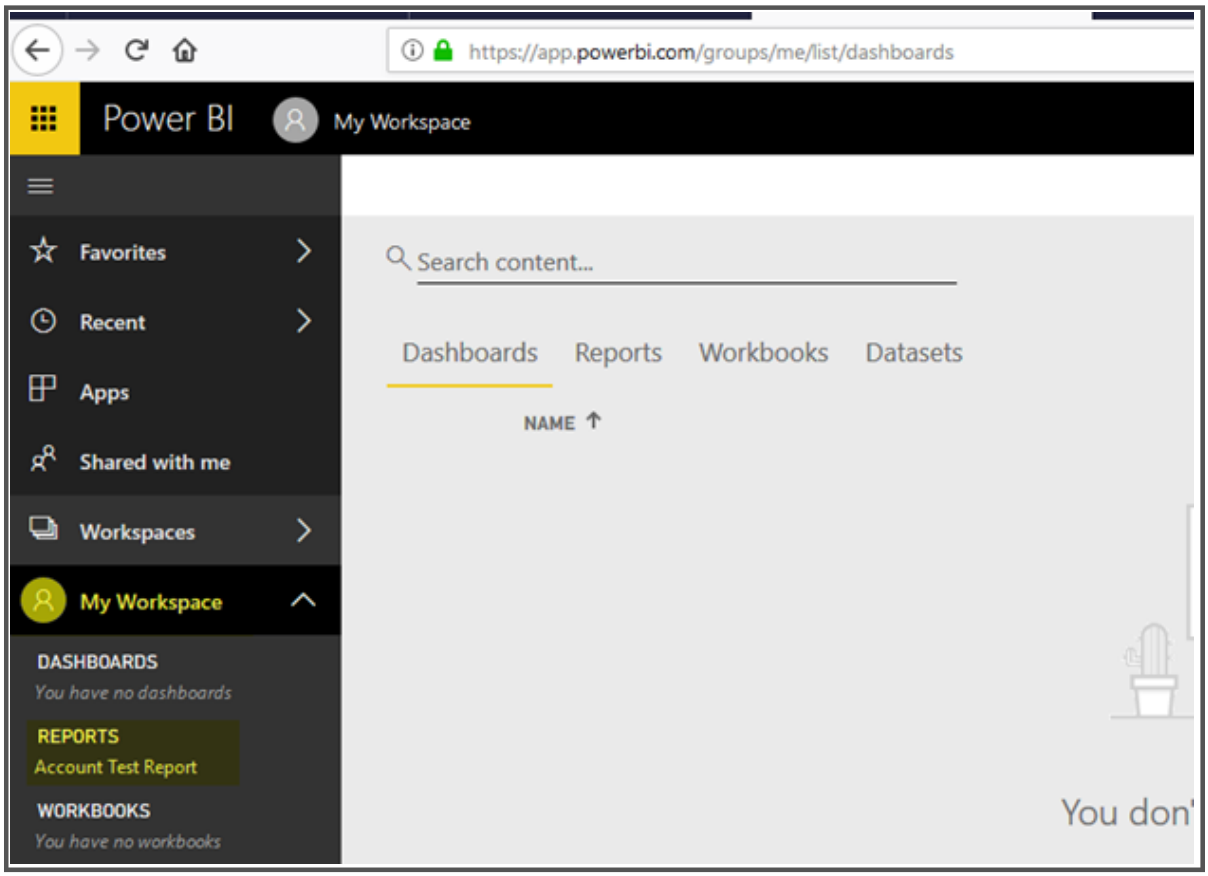
Step 17: Let's add our first visual to the report. Select the very first chart control under visualizations and then select fields as indicated by the screenshot below. You will need to add the "name" field to the Value section of the chart control. Additionally, after adding the "createdon" field to the axis, you will need to remove other date columns other than the month.



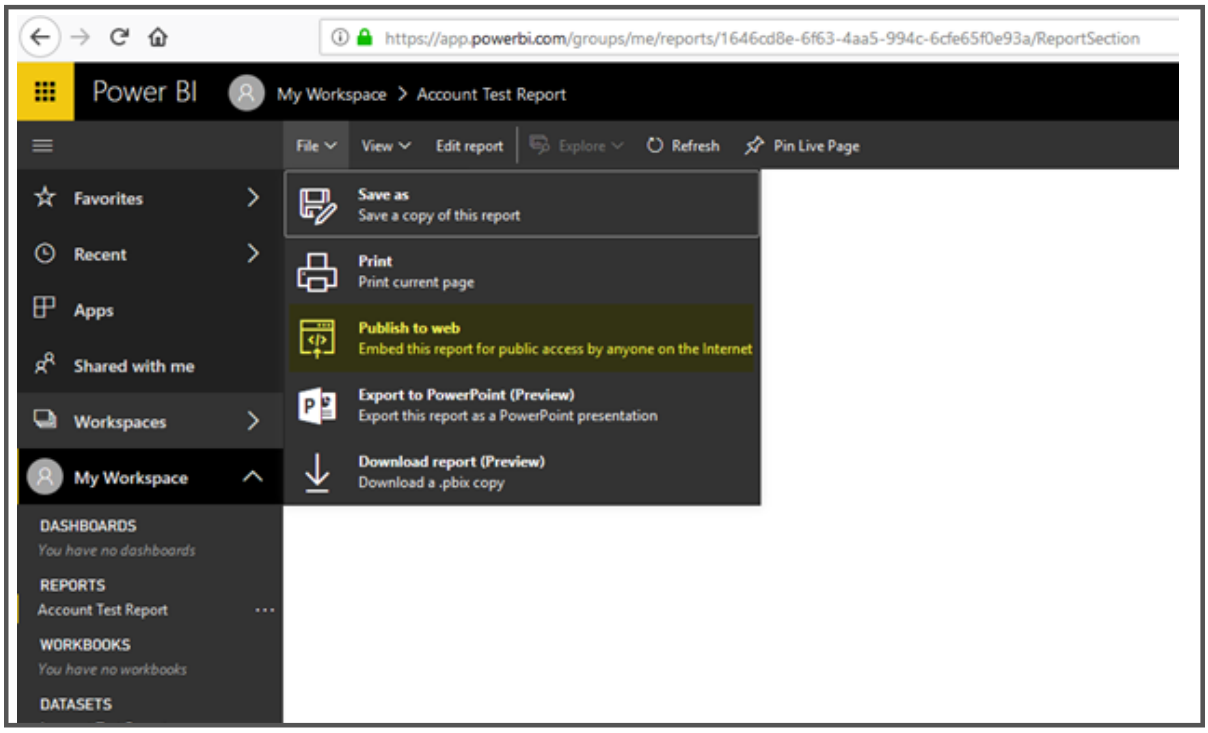
Step 18: You have successfully created your first PowerBI report! Feel free to go back to the query editor and add other data values to generate additional charts for your report. Once you are satisfied, save your report locally. We will now publish the report to PowerBI online. To do this, click on “Publish” as highlighted in the screenshot below. It will ask you to publish it to a workspace. Select the workspace and follow the prompts to publish the report.



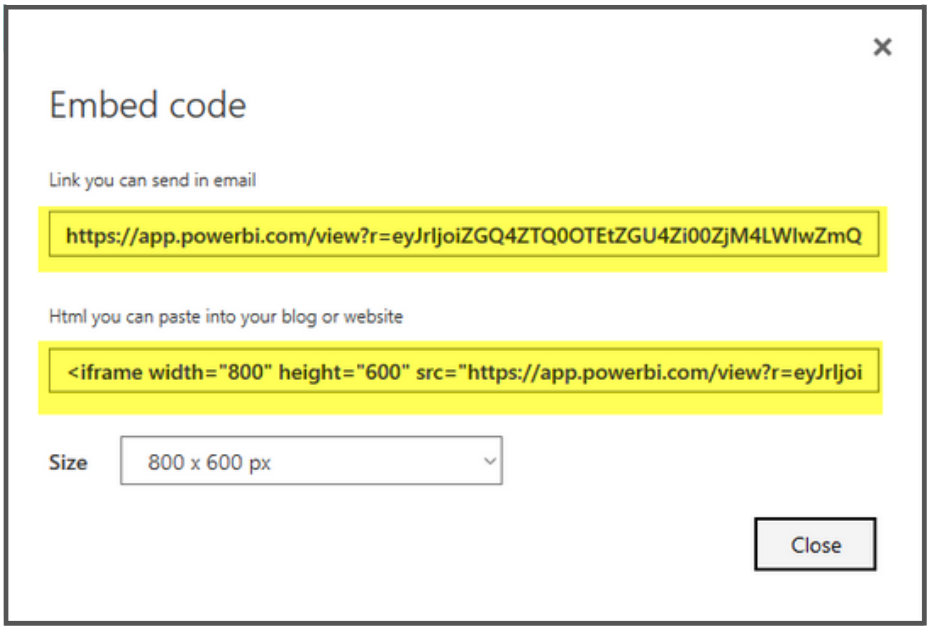
Step 19: After successfully publishing, we can see our published report in My Workspace section under Reports on https://app.powerbi.com



Step 20: Now that we have published the report, we can make the report available to others by posting it to the web. To do so, open the report in PowerBI online (app.powerbi.com), and click on the File menu, and then you can see the option **Publish to web**



Step 21: After completing the **Publish**, it will show us the URL that we can use to display the report in Dynamics 365 dashboards or frames



Hopefully, this guide has opened a new world of reporting for you using Power BI!

Chapter 2: Getting the most out of your Existing Configuration

In the Previous Chapter, we showed you several ways to visualize your data using existing Dynamics 365 features as well as how to build a report using a tool from Microsoft called PowerBI. In this chapter, we will explore configuration within your Dynamics environment to allow for the use of existing features and options within your system.

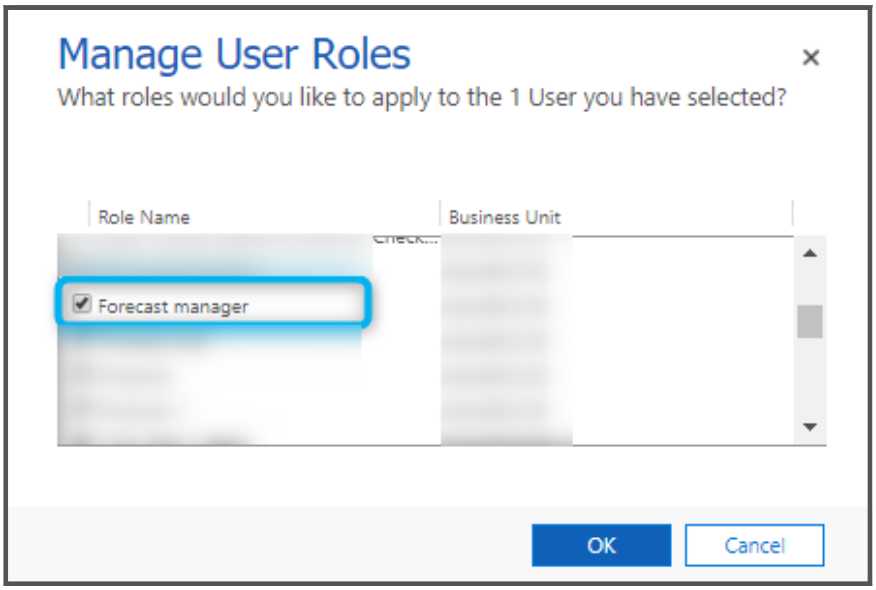
2.1: Creating a Comprehensive sales forecast using Dynamics Forecasting Models

In this walkthrough, you will learn how to customize forecasting models using the forecasting module within Dynamics 365. For this exercise, we are going to walk you through how to create a model using the Org chart forecasting template.

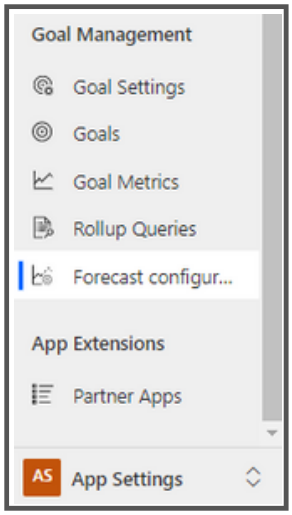
A sales forecast is the process of estimating your future sales based upon experience and potential bookings. The idea is to develop a model to predict how much revenue the sales department will generate over a given period. An accurate sales forecast will help your organization better manage operations concerning inventory planning, resource planning, and short/long term performance.

Let's go ahead and dig right into the walkthrough. To customize your forecasting model, we will perform the following tasks:

Step 1: First, we need to ensure that the person developing the forecast model has the appropriate permissions. To do so, first, we need to assign the Forecast manager role to the sales manager or administrator. Please refer to Microsoft documentation for instructions on how to add a security role to a user.



Step 2: Enable forecasting by navigating to the **Sales Hub App**, then click on the **App Goal Settings Area**. Finally, select Forecast configuration under the Goal **Management Section**



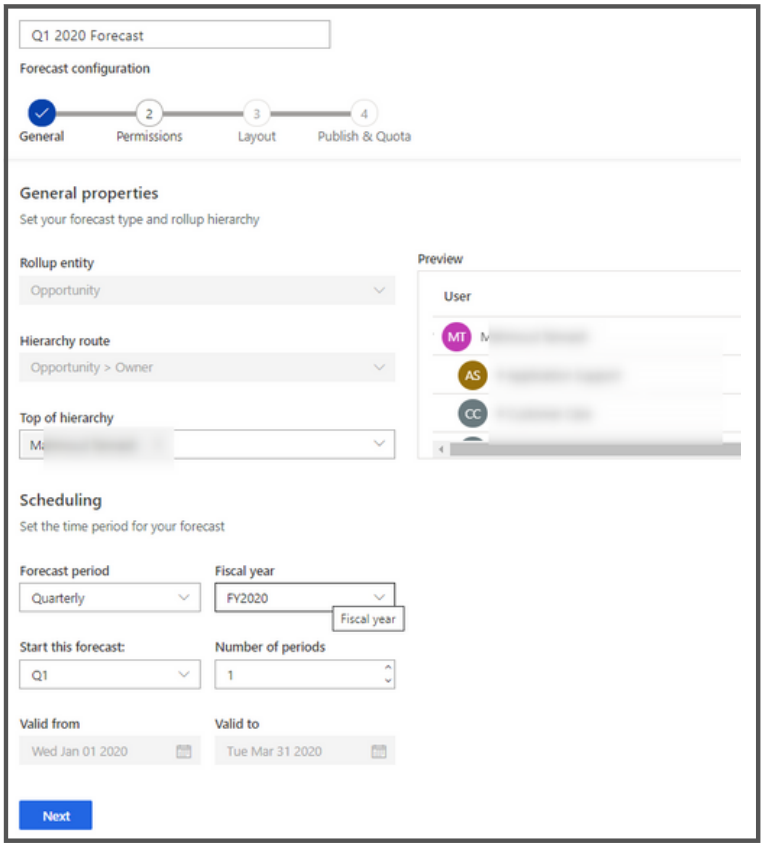
Once enabled, you will have the option to:

- Create a forecasting model from an Org chart template
- Create a Territory template
- Create a Product based template

Step 3: In this walkthrough, we will Select the Org Chart Template option. Feel free to explore other template styles after following this guide.

Step 4: Provide a **Forecast Name**

- Under the general setting stage, select the **Active User** for the **top of hierarchy**. In doing so, you are allowing a user, to choose their name at the top, holding the most authority at the managerial level for the respective business unit. A sales manager, for example, can be selected as the business user at the top. As a manager, he or she will be able to forexast their team.
- Select the **forecasting period** as **Quarterly** and **FY2020** for fiscal year
- Select **Start this forecast** Q1 and the **Number of periods** as 1.



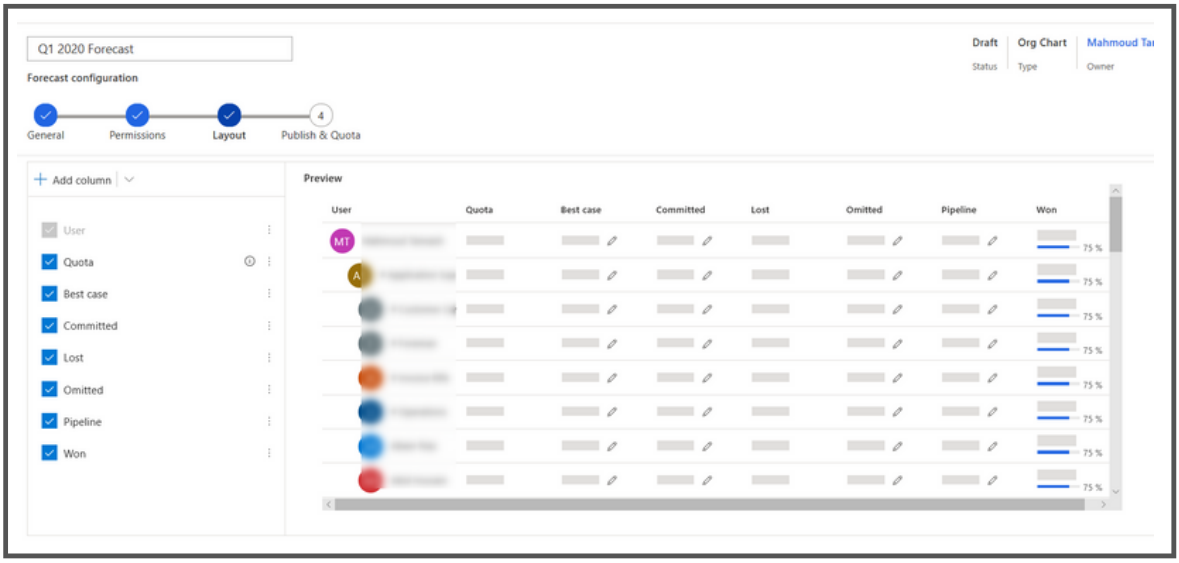
Step 5: Hit **Next** to move to the **Permissions** stage

In this stage you can define the security level of the forecasting model. You can build the model security based on the user level, none, manager, created by, etc. to allow members to view and adjust the forecast data at each level of the hierarchy, as well as provide access to security roles to see the forecast.

- Select the field user, and this will determine the owner of the forecast row.
- Now select the Specific Security Role and then select Forecast User Security Role to allow relevant users to access the forecast model data.

Step 6: Hit **Next** to view the **Layout** stage. At this stage, you will be configuring the columns to define the forecast grid that will appear to the users. It is Microsoft's recommendations to use the **Forecast Category Option** set for the **column** and select **auto-configure** to **auto-populate** the configuration parameters.

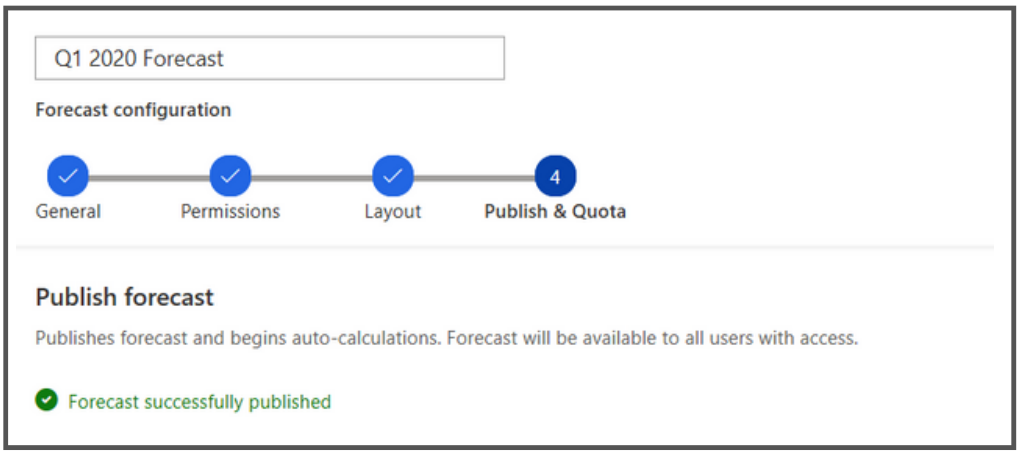
- After selecting the Forecast category, you can configure each column individually.



- If you need to add any filter to the forecast, click on **Add** column in the filters section.

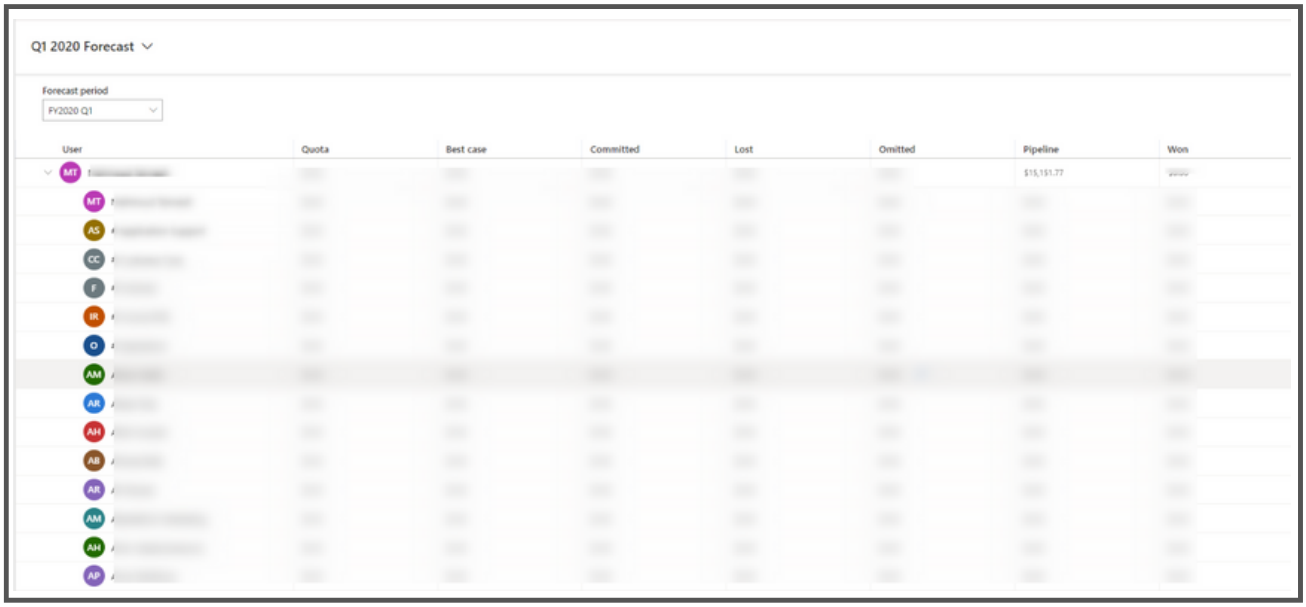
Step 7: Hit **Next** to move to the **Publish & Quota** stage

- Click **Publish forecast**



Step 8: Navigate to the Sales area and select **Forecasts** under **Performance**

- Now, you can see the forecast data from the model we just created.



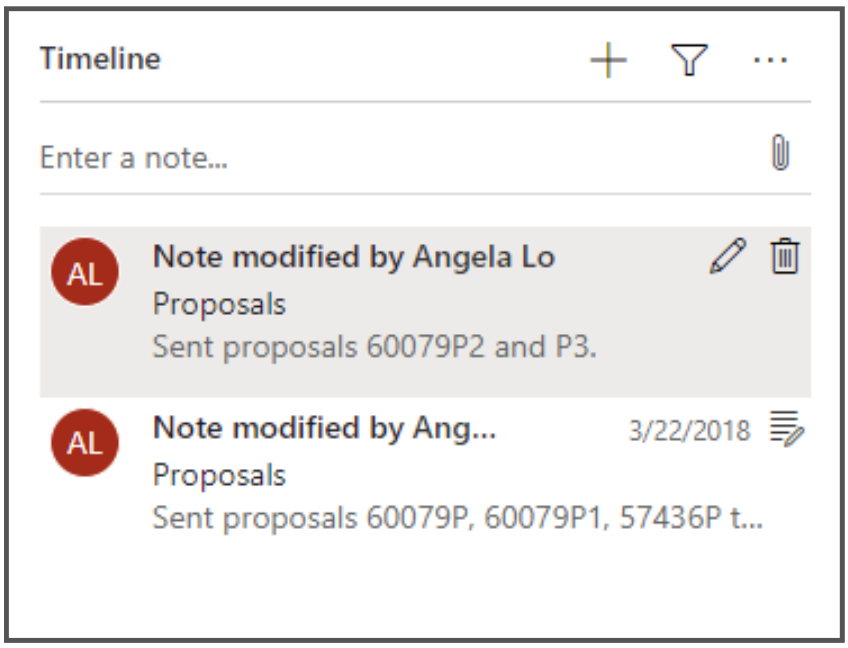
Final Thoughts

After following these steps, you should have successfully created a forecast model for your business. You might find that you may have missed some critical data as you went through this exercise. One thing to note, as you finish creating your forecast, there is no place to update the model after it is published, meaning you may need to develop several models before you can get the results you expect. Hopefully, we will see this limitation removed in the future version of the tool.

Once you finish this walkthrough, we recommend using this knowledge to explore some of the other forecasting templates/features.

Chapter 2.2: Getting the most out of your Existing Configuration

In this second walkthrough related to the configuration of your existing system, we will talk about Timeline Control. Timeline Control is a user interface feature that aggregates the disparate notes and activities associated with a given record into an easy to digest Timeline of actions. What many users aren't aware of are the various configuration options that allow us to choose which features and data appear in our Timeline. This walkthrough will guide you through some of these options.



History of the Timeline Control:

Dynamics 365 has used the **Social Pane** for almost a decade to show the ongoing or past activities for a given record, like email correspondence or meetings. Social Pane has become a core part of the CRM experience and is a great way to understand how a contact has developed over time. However, the Social Pane did not receive much attention until its move to the **Unified Interface** a few years ago. Social Pane's transition over to UI included a lengthy overhaul of effort, including a complete re-brand, which is now what we know as **Timeline. Timeline** came with significant aesthetic improvements, along with a long-awaited feature: configuration of its appearance and behavior. Timeline has become even more compelling with the revamp it received in the Dynamics 365 October 2019 release wave 2, allowing for a great deal of customization and better usability.

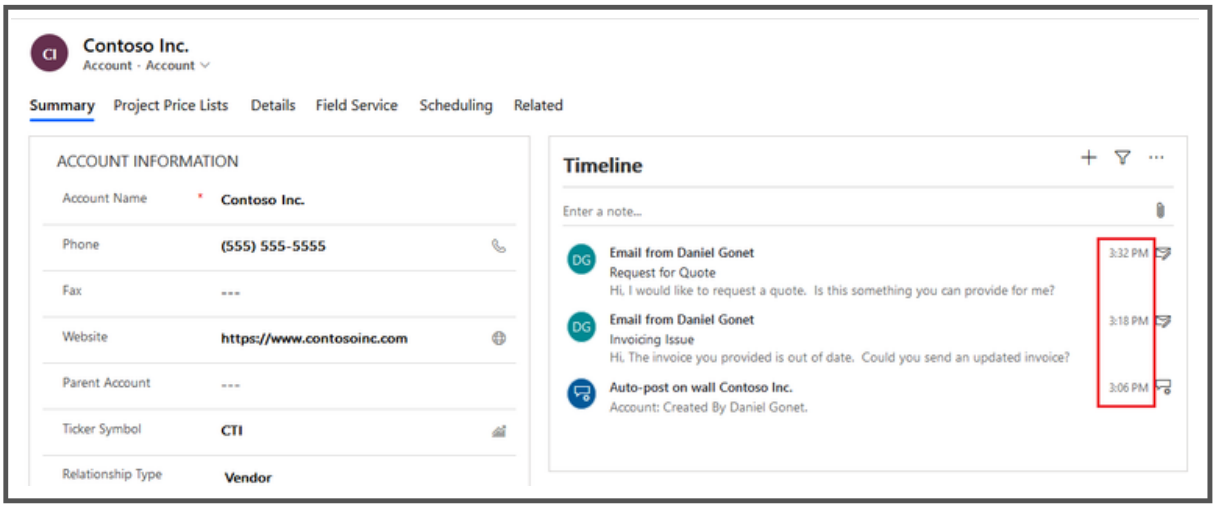
A common concern with the Timeline Control

A common concern with Timeline, especially for organizations that regularly run bulk jobs, is that the "Modified On" field sorts. For many organizations, this is a sensible choice; however, if a bulk operation runs on an activity entity. This default setting can ruin the chronology of activities displayed when the modified dates change.

With the new configuration, activities can now be tracked. The issues encountered in the older interface are now fixed and challenge solved!

Solution - Configuration of the Timeline

In the example below, the Timeline is being sorted (descending) by the default field, "Modified On". The email with a subject line of "Request for Quote" was created before the "Invoicing Issue" email, but because "Request for Quote" has been modified, it is displayed as more recent. To have the Timeline display the records in the appropriate order, we would like the timeline to use the "Created On" field for sorting instead of the default "Modified On" field. This list is now ordered in a way that would put the "Invoicing Issue" on top.

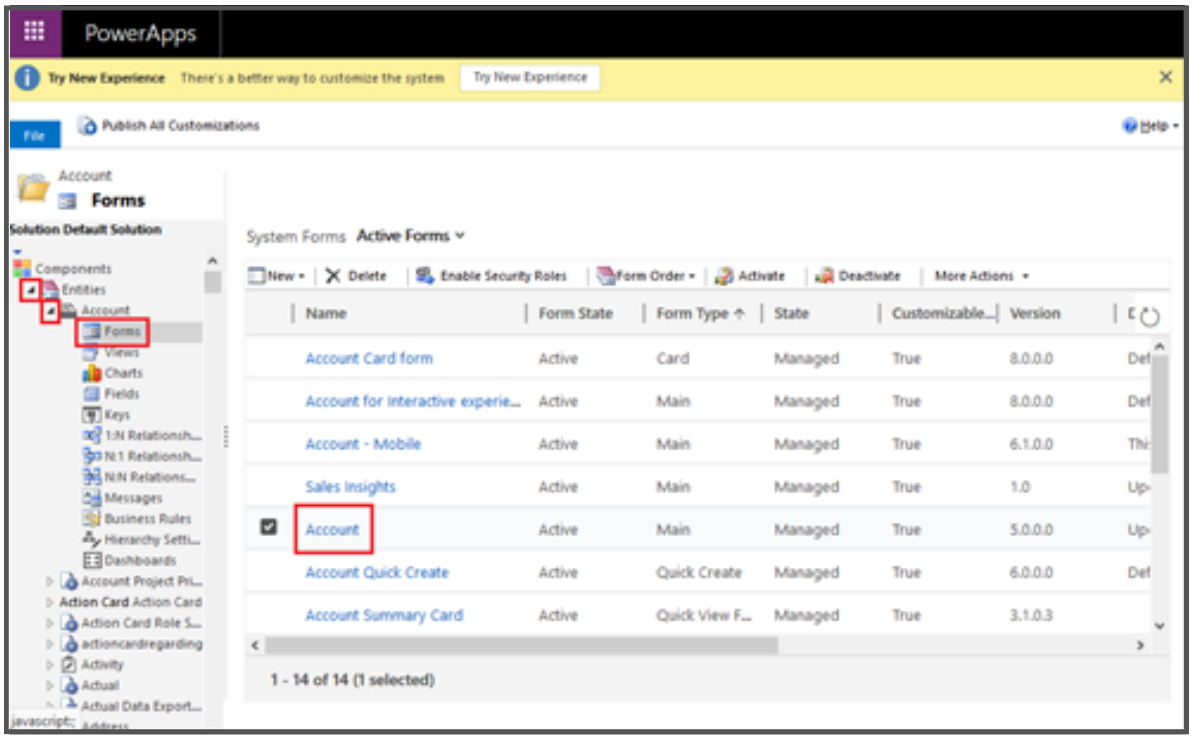


To do this, we will need to modify the Timeline object on the form where we want to see the change. In this example, we will be working on the "Account" entity, but these steps can be applied to any entity that uses Timeline.

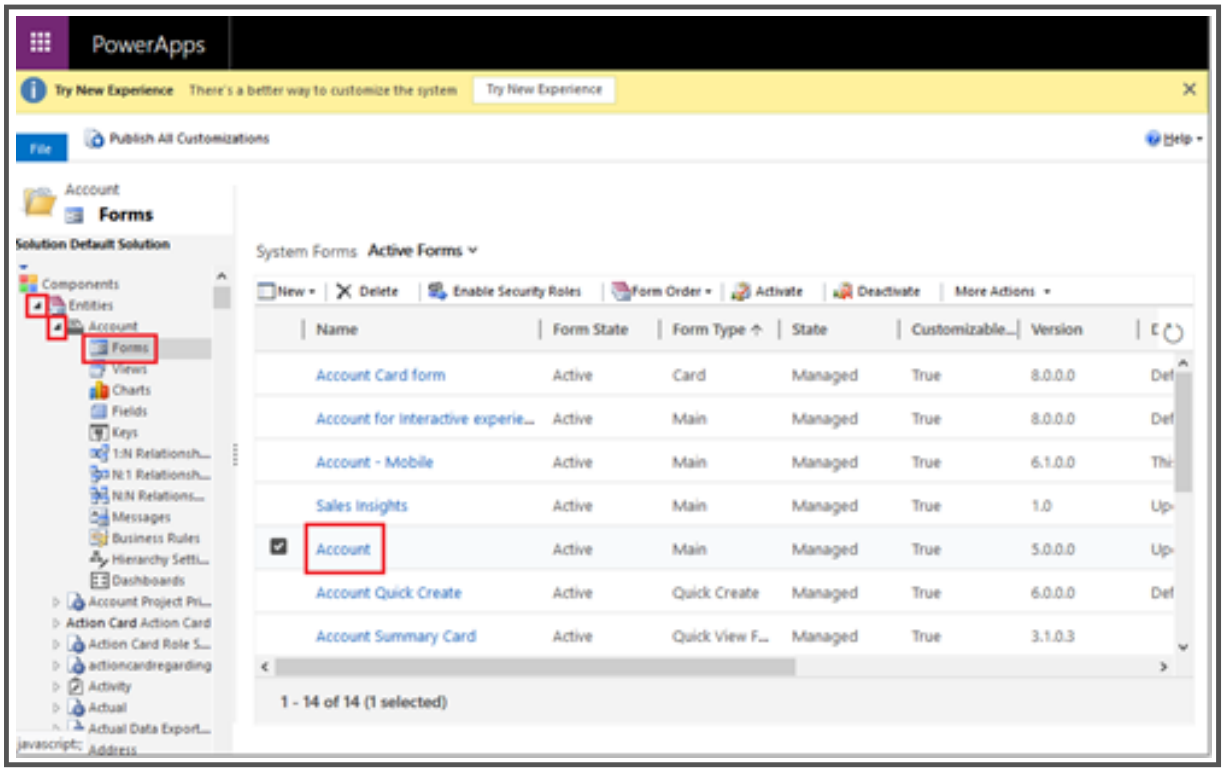
Changing the sort field

By default, the Timeline control sorts what is displayed by the last modified date. The control can be modified to use any date field by following the procedures below.

Step 1: Navigate to your **environment's customizations** and open the main account which you would like to modify. In our case, this form is simply called "**Account**".

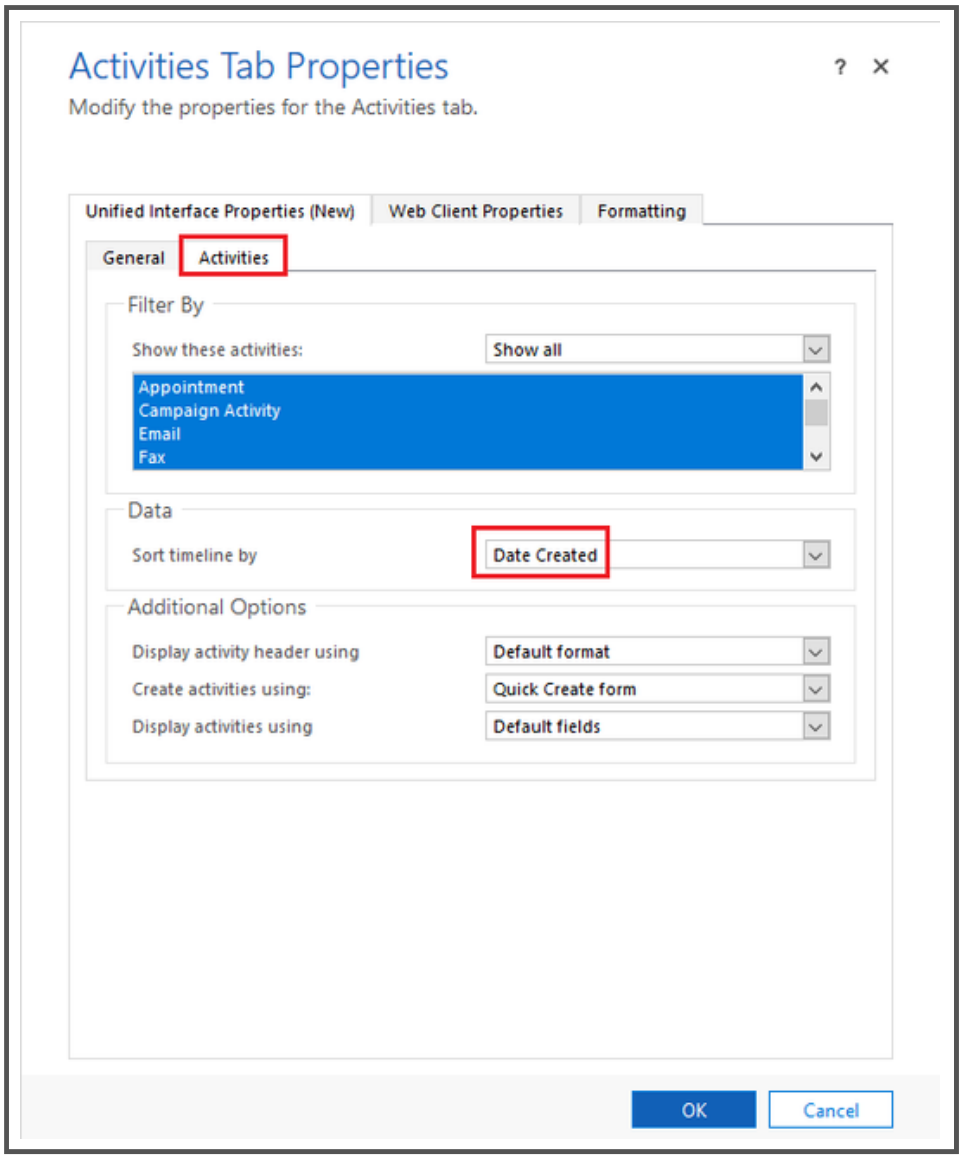


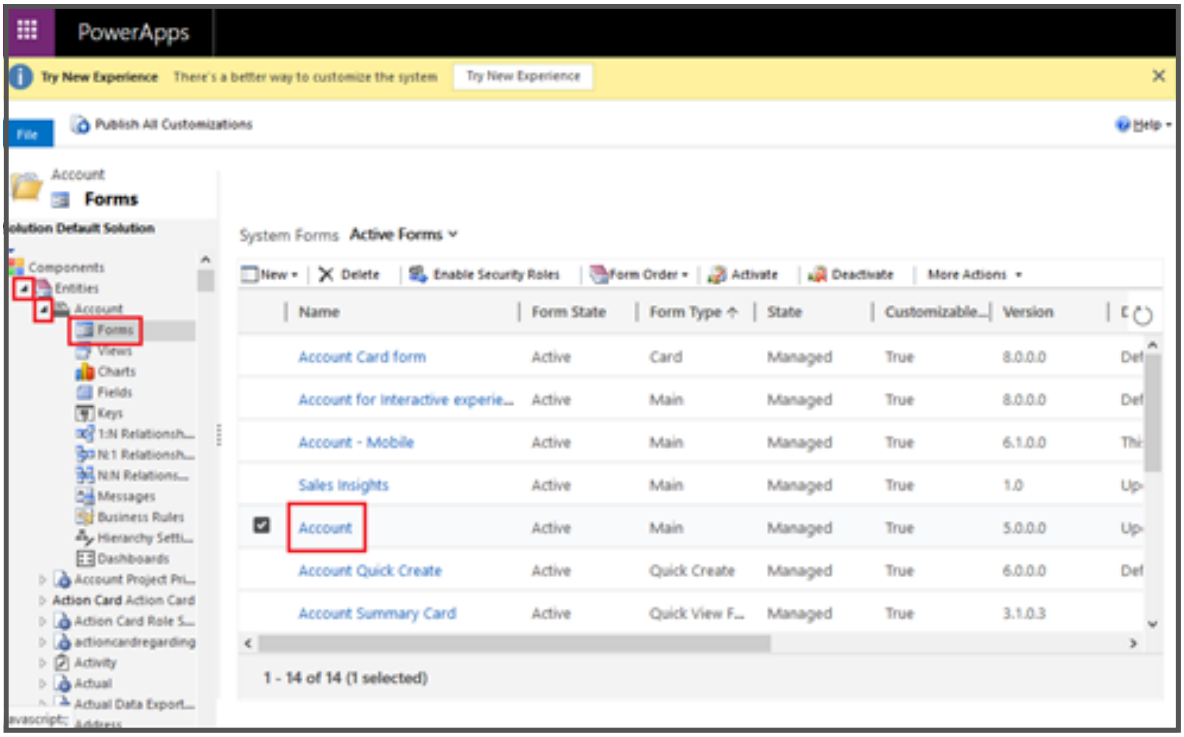
Step 2: In the form, **double-click** on Timeline **object** located**. I**n a section called "**SOCIAL PANE**" by default and will appear as a white box, as shown below.



Step 3: In the resulting window, click on the **Activities** tab. We can select the activity types we would like to show in the **Filter By** section, I have chosen to leave this as the default. The "**Sort timeline by**" field in the Data section is what we're after, and we can change its value to any date field shown in the option set. In our case, we will select "**Date Created**".

When the change is published, **you may notice that the Timeline looks a bit odd** on the account record. The **sort order** is now **correct**, with **"Invoicing Issue**" listed as the most recent activity, **but the date/time field is out of order** because it's still showing the "**Modified On**" value **instead of Created On**.

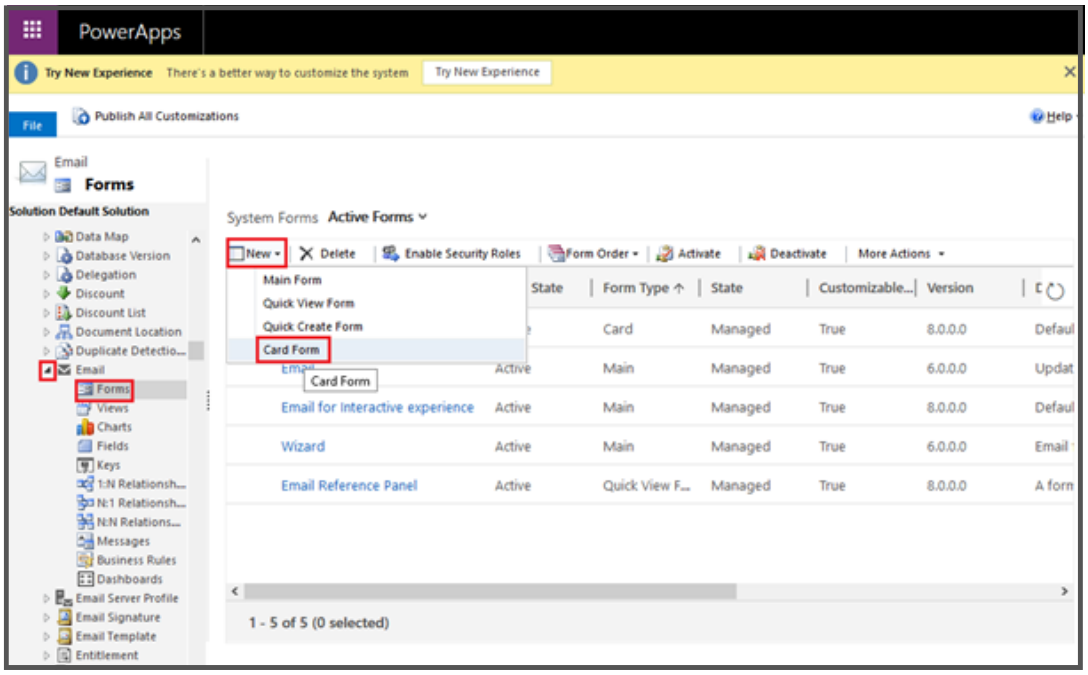




To resolve this discrepancy, we will need to create a form in each activity entity we want to display, then use that form to change what is displayed on the account Timeline.

Changing the display field(s)

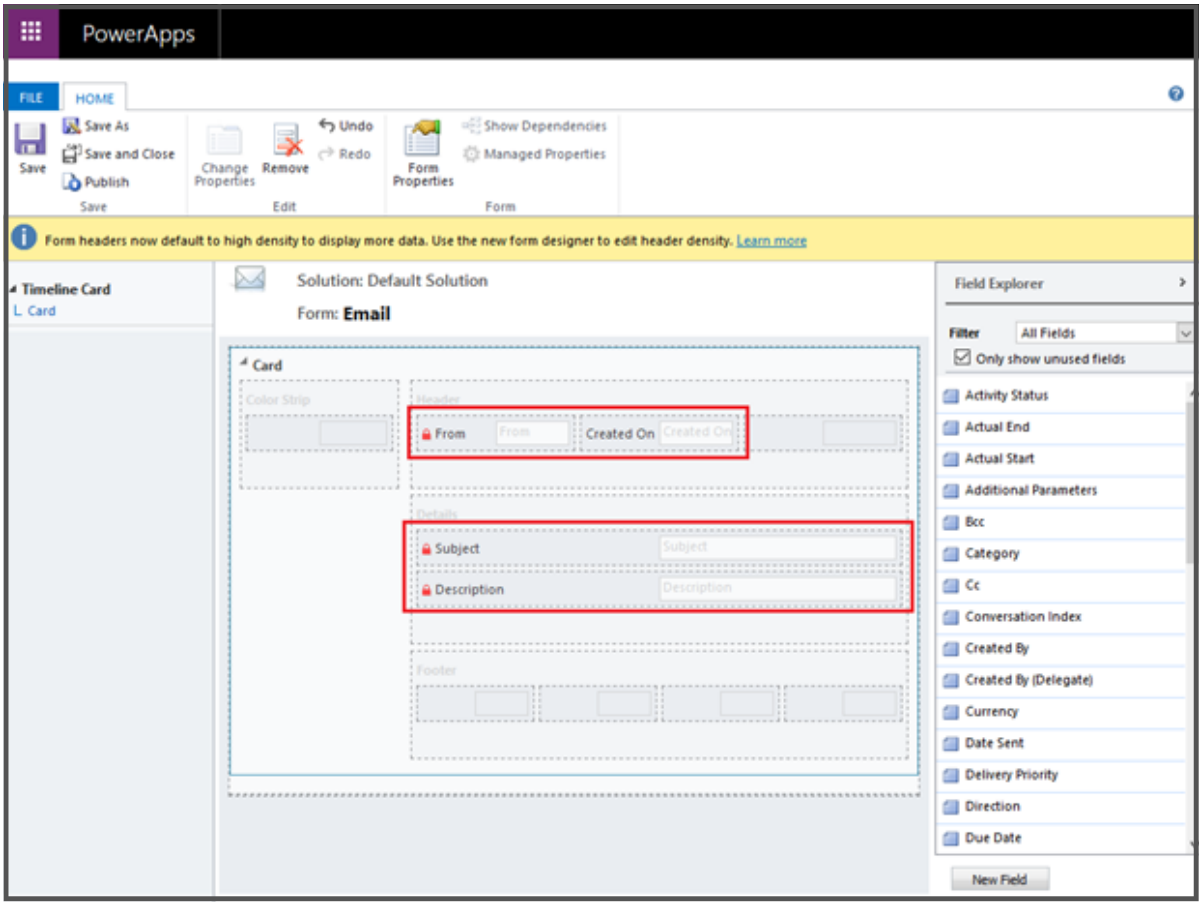
Step 1: Navigate to your environment's customizations and find an activity entity for which you want to **change the fields displayed in the TImeline**, Email in this case. **Create a new Card Form for the entity**.



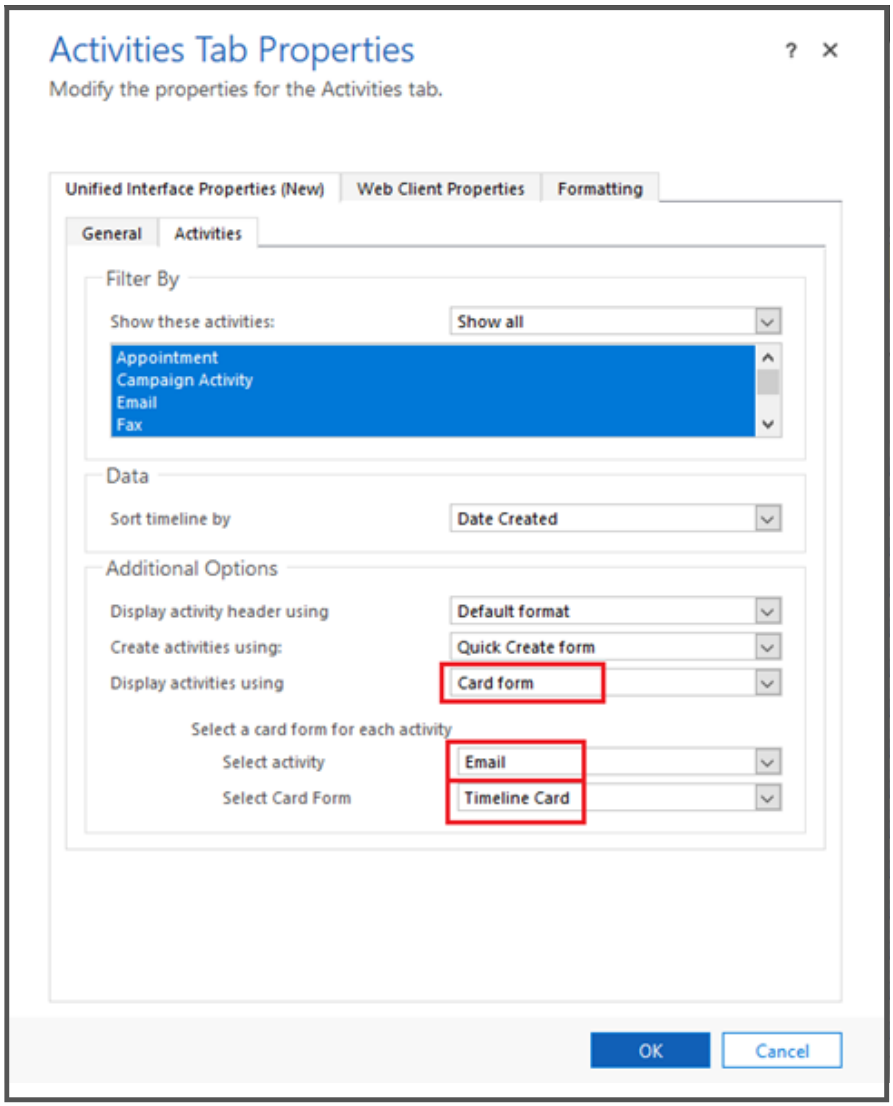
This **new form** allows us to precisely **configure the fields being displayed in the Timeline** precisely. In this example, we will be mirroring the default layout, apart from the date field we want to fix, but other fields can be added or substituted if you have different business needs.

Step 2: Add the **From** and **Created On** fields to the **Header**
Step 3: Add the Subject and Description fields to the Details

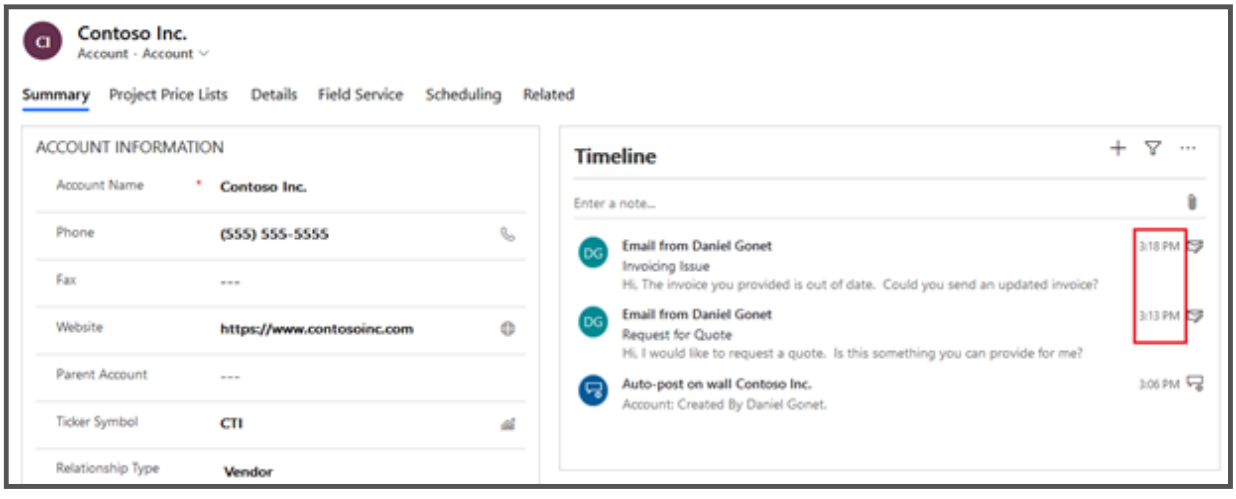
Step 4: (Optional) Click on the **Form Properties** button and change the form name to something more descriptive. In this example, we have chosen to call it "Timeline Card".



Step 5: Navigate back to the main account form modified earlier and click into Timeline object as before. Change the "**Display activities using"** field from **"Default fields"** to **"Card form"**, and you will see two additional fields appear. Select an activity entity to which you **added a new form** (Email, in this example) and **choose the new card** form from the **drop-down** below.



Once this configuration is published, Timeline will use the date **Created** field for both **sorting** and **display** as expected:



Conclusion:

After following this walkthrough, you will notice that information is significantly more compact allowing users to consume information more quickly, and the way buttons are hidden away until hovering over a record is a significant usability boost. Additionally, we are no longer stuck using its default configuration as we have been in the past, not allowing us to design our sorting criteria and pick which fields we want to be displayed on a per-form basis.

Chapter 3: Interacting with your Data using Microsoft Power Automate (Formerly known as Flow)

Microsoft has been investing in several cloud-only integration solutions for their existing Office apps. The most popular among these are Microsoft Power Automate, which is a trigger-based system for creating automated workflows.

Microsoft Power Automate is relatively easy to use as it does not require advanced technical knowledge. It gives you the kind of automation for notifications, alerts, data gathering, and communication that will help you spend less time on tedious tasks and more time on other productive activities. Another good thing about Microsoft Power Automate is that it is free to use if you sign up with your Microsoft account. People who are already using Office 365 can use Power Automate for free as well.

If you want to utilize more functionality, then you can sign up for a paid plan. Keep in mind that pricing can change, but at the time of publication, the different plan options and pricing are as follows:

Power Automate Plan Options:

- **Power Automate Free:** with the free plan, users can generate unlimited flows. But can only execute 750 runs per month. Additionally, the free plan only allows you to run automatically every 15 minutes.
- **Power Automate Plan 1:** The user can utilize this plan for $5 per month and can execute 4,500 runs a month. The interval is also lowered to run every 3 minutes. Furthermore, you also get Premium Connectors to popular services like Mailchimp and Salesforce.
- **Power Automate Plan 2:** Users opting for this plan, priced at $15 per month, get 15,000 runs, and the interval is reduced to check every minute. In addition to everything offered by Power Automate Plan 1, the user also gets access to organization policy settings, and several business process flows.

If you want to start a trial before signing up for a subscription, then you can sign up for a free trial for 90 days to allow yourself to get familiar with Microsoft Power Automate.
Execution Options

Execution Options

There are several ways to start a flow. Below are the currently supported methods.

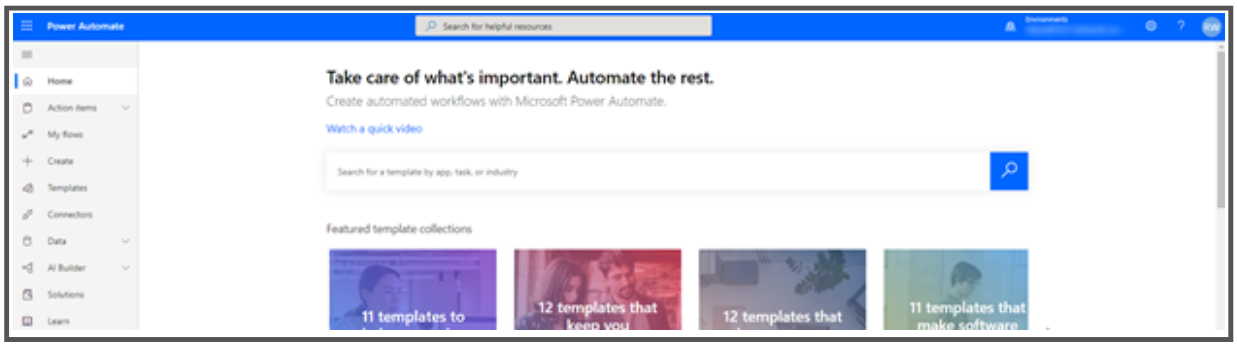
- **Automated:** When we need to trigger a flow automatically whenever an event occurs, like an email arriving, a file change, or a field change within Dynamics.
- **Button:** When we want the Flow to be triggered manually by clicking a button.
- **Scheduled:** We run the Flow at a set time, either once or as a recurring action.

Power Automate already has numerous connectors for applications, including most Microsoft applications with a SaaS Interface (Including GitHub). Additional connectors include Dropbox, Slack, Gmail, MailChimp, Twitter, Jira, Basecamp, and many more. The connectors are classed into two categories. Connectors in the Limited category are only available for Premium users, but the majority of those are for enterprise services like Salesforce and Bitbucket. Connectors are not limited to just business applications but are also available for base technologies such as RSS and FTP. As of right now, the whole family of connectors consists of 323 applications and protocols. A user can even write their own if a connection is needed for an application that is not in the current list of connectors.

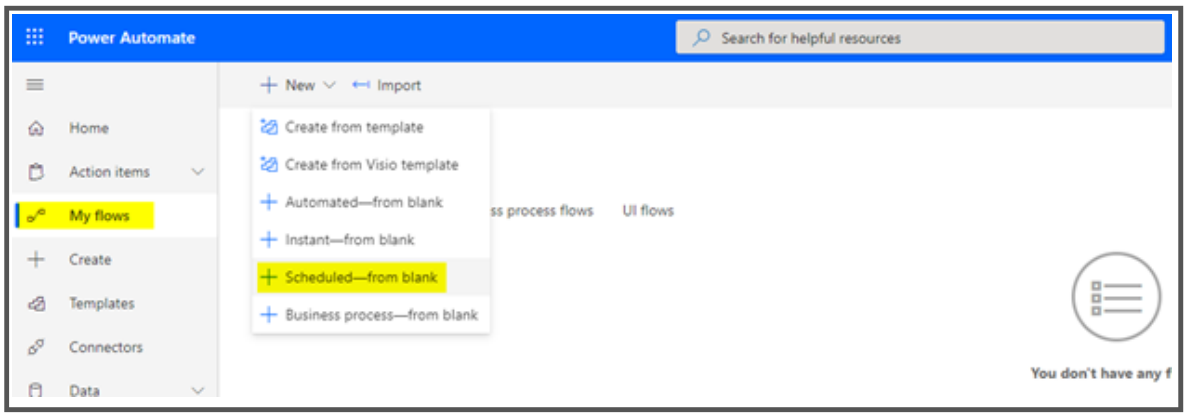
3.1 Recurring Emails using Dynamics 365 and Power Automate

In this first walkthrough, we are going to dip our toe into the world of automation by utilizing recurrence within Power Automate to send a Birthday greeting to contacts in our Dynamics 365 database via emaile-mail. Within Power Automate, there are many ways to trigger or schedule automation to fire. In this example, we will utilize the “Schedule Recurrence” trigger to send an email out daily to all contacts that have a birthday for that given day.

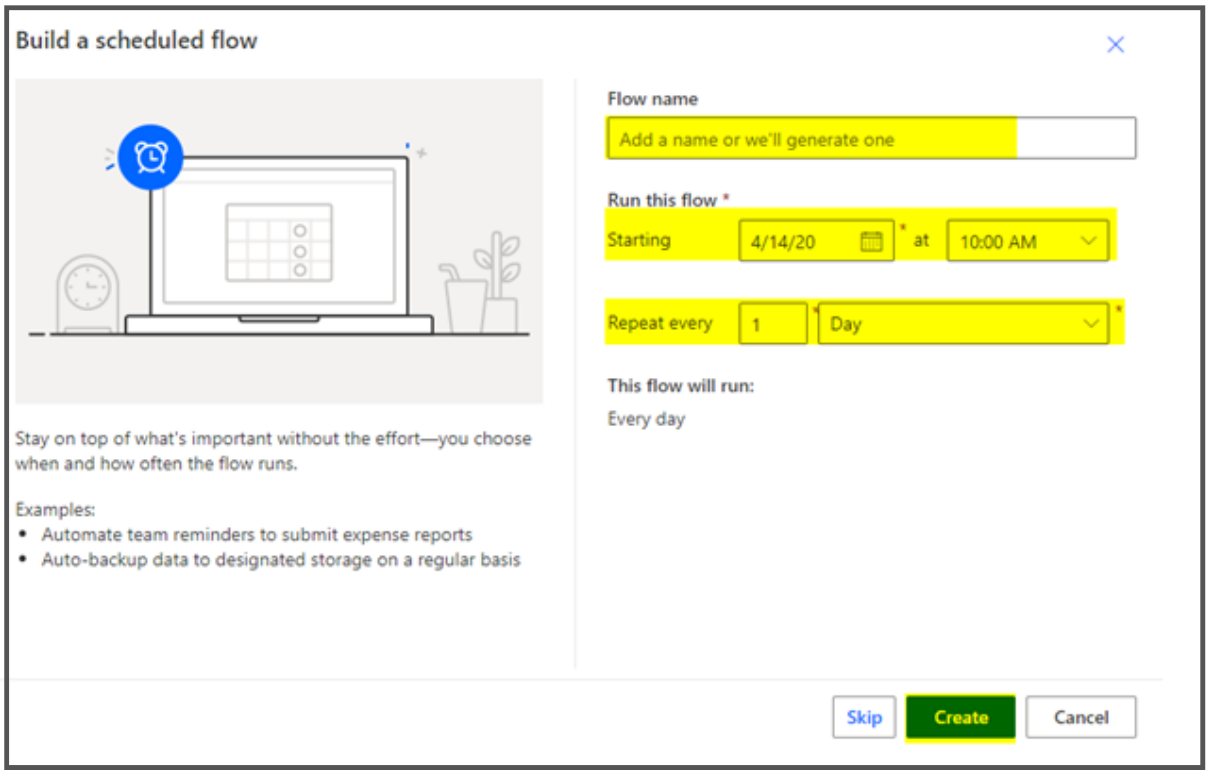
Step 1: The first step to using Power Automate is to log in via https://us.flow.microsoft.com. You will see a screen like the one shown below,



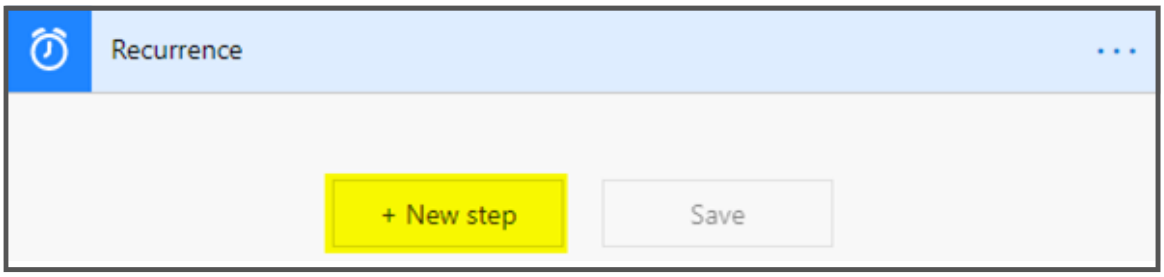
Step 2: After login, navigate to “My Flows” in the left navigation. It will show the screen below. Once there, click the “+New” drop-down and select “**Scheduled – from blank**”.



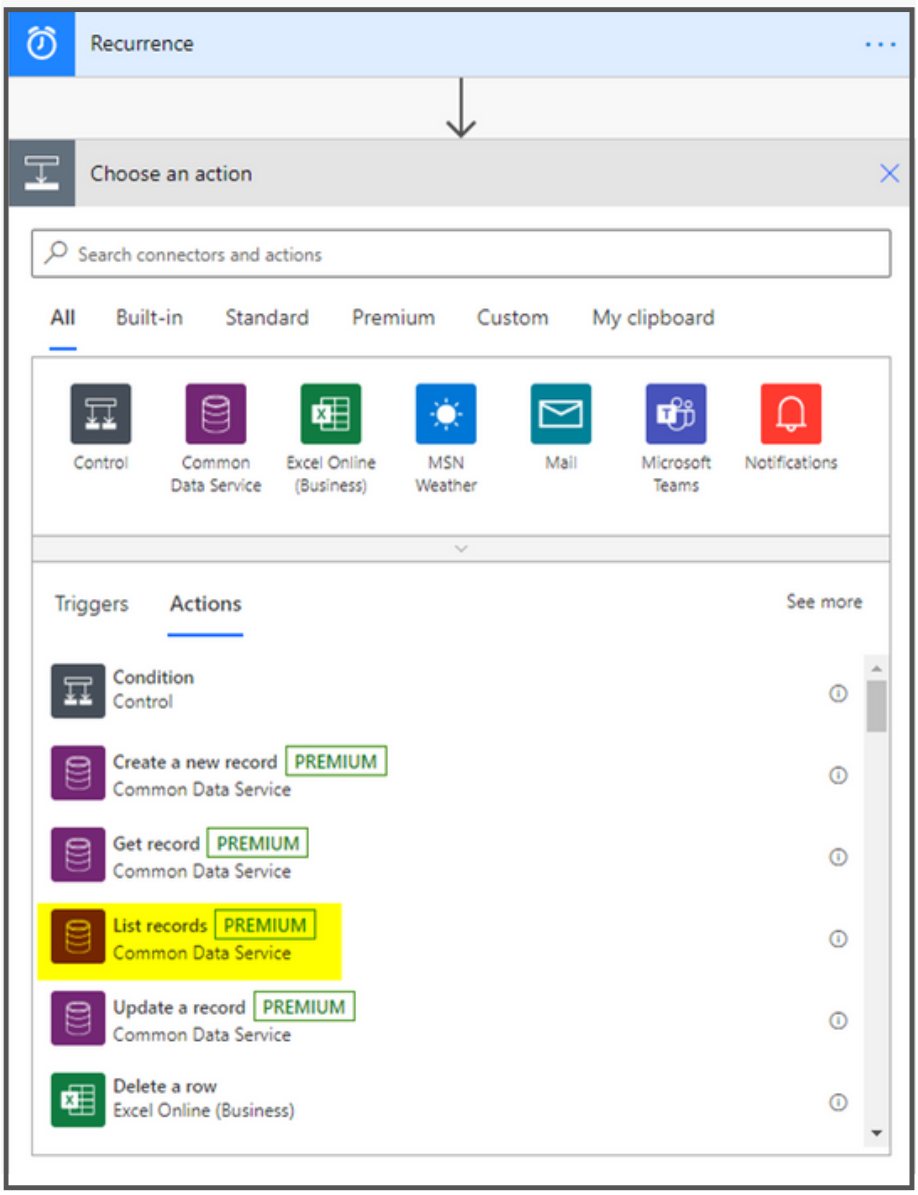
Step 3: A window will appear where you will need to name your Flow as well as setting the interval with which your Flow will run. Additionally, set the date that you want to start the scheduled Flow and the interval that you want it to run. In this scenario, I want it to run daily. When finished, click **“Create”.**



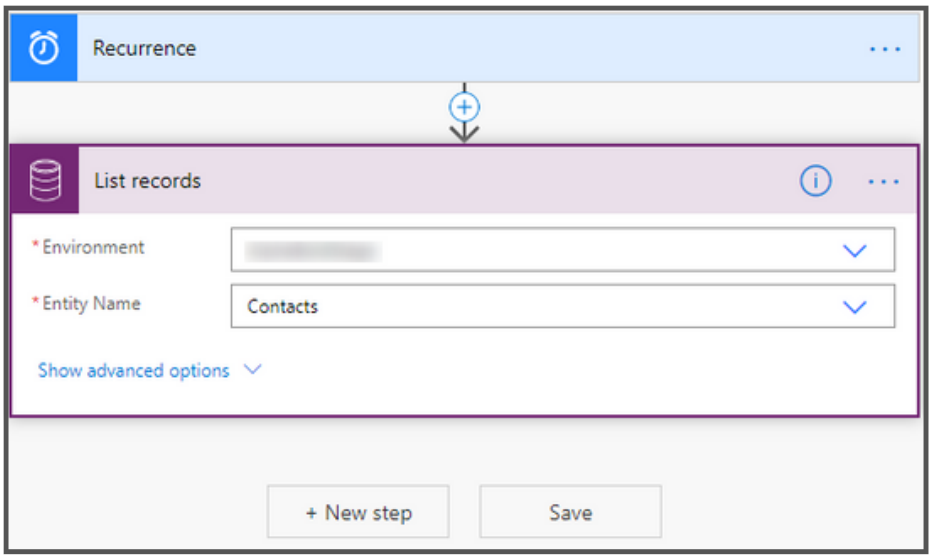
Step 4: Your new "Flow" will look similar to the screenshot below. Click "**+New Step**" to create a new action that will execute when our schedule job starts.



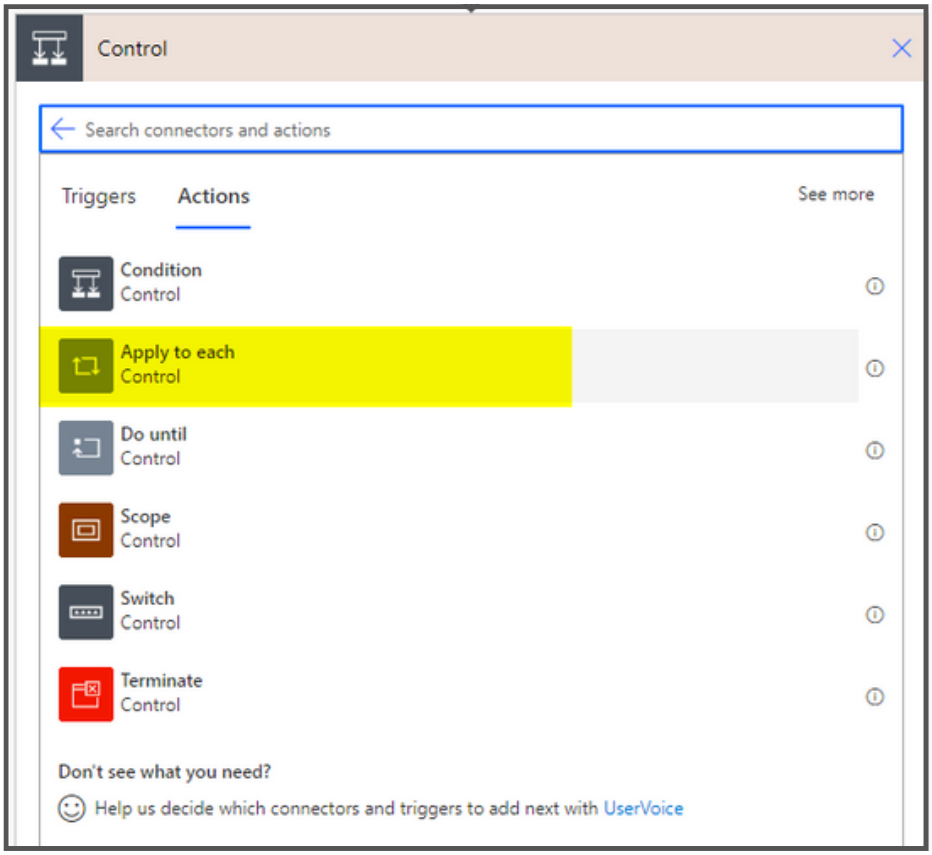
Step 5: To connect to Dynamics 365 data, we will connect using the "List Records – Common Data Service" action. This will allow us to connect to our Dynamics 365 instance.



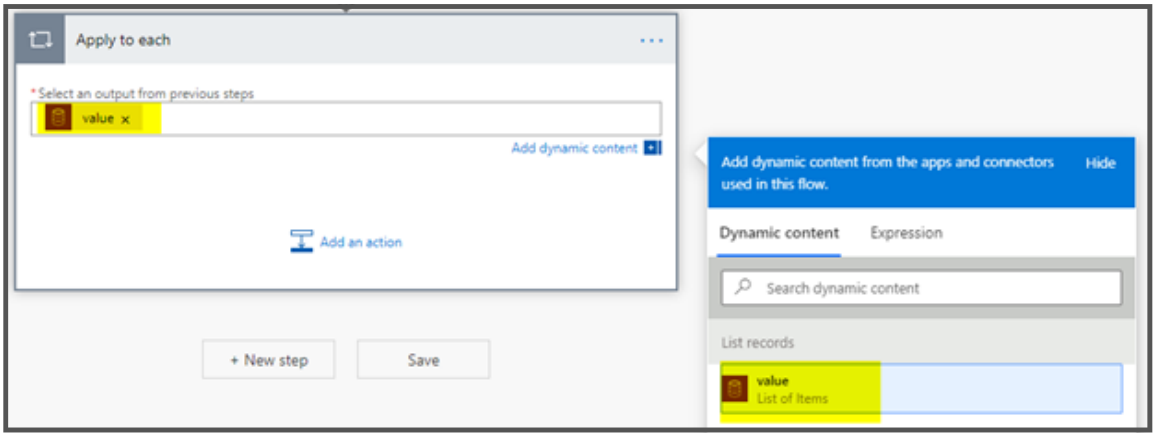
Step 6: Now, you need to select the organization that we want to utilize, and then the entity that we want to consume. In our case, we will select **"Contact,"** as shown in the image below:



Step 7: Now, we will add a new step. Click on "+**New step**", click "**Control**" and then click on "**Apply to each**" as shown in the image below:



Step 8: After that, we will place the list of items output into the "**Apply to each**" input. This will loop through each record and select the "**value**" of each iteration.



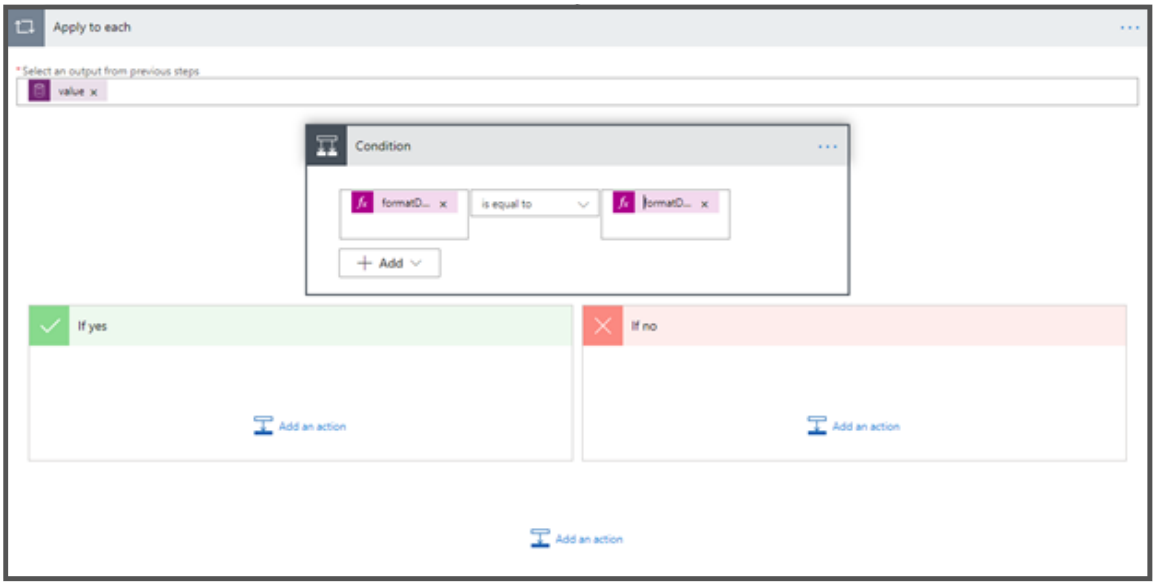
Step 9: In this step , we will add a "**Condition**" within the "**Apply to each**" to determine if today is the Birthday of the record. For this step, we will need to utilize some advanced functions to do our matching. Select the first "**Choose a value**" field, click on "Expression" and enter the following:

```
formatDateTime(body('List_records')?['birthdate'],'MM/dd')
```

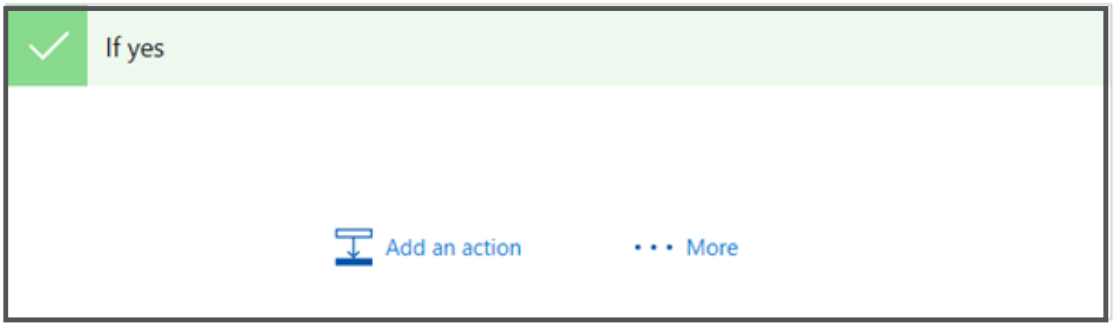
Select "is equal to" in the middle drop-down dialog. Finally, select the second "Choose a value" field, click on "Expression" and enter the following:

```
formatDateTime(utcNow(), 'MM/dd')
```

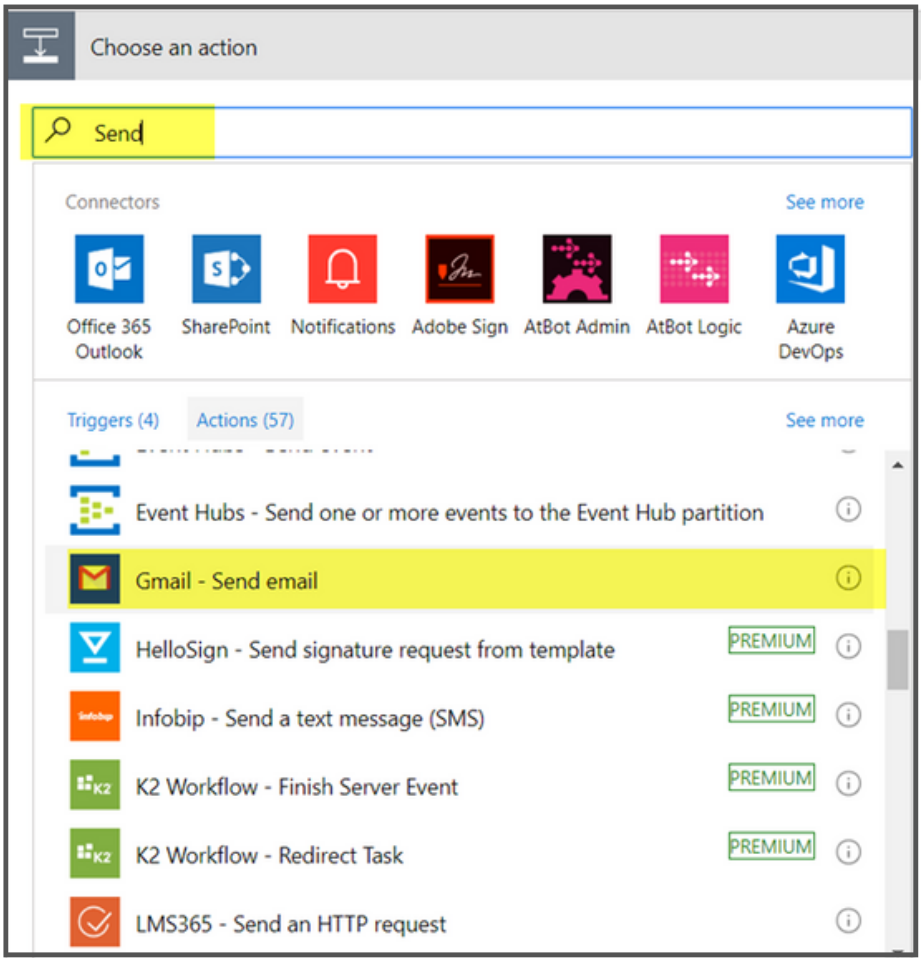
Your condition should look like the screenshot below.



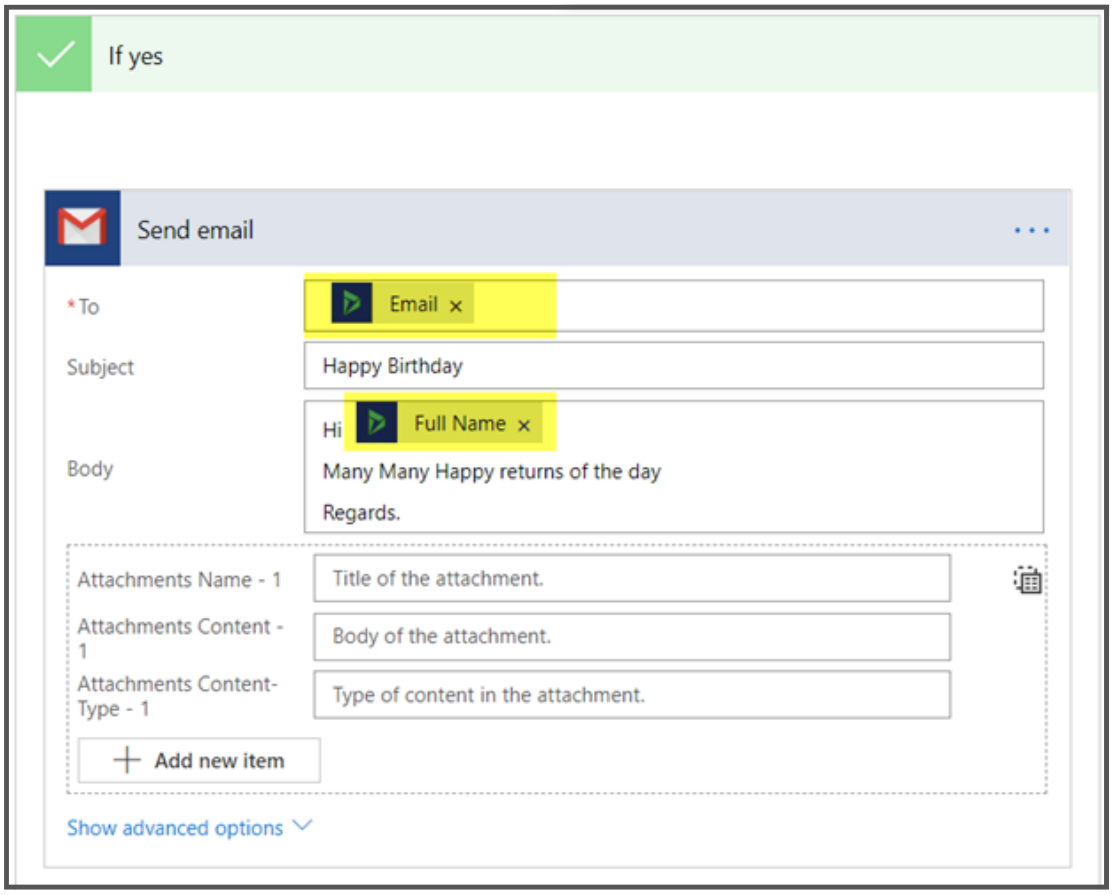
Step 10: Next, we will add an action to perform if the condition is true, as shown in the image below:



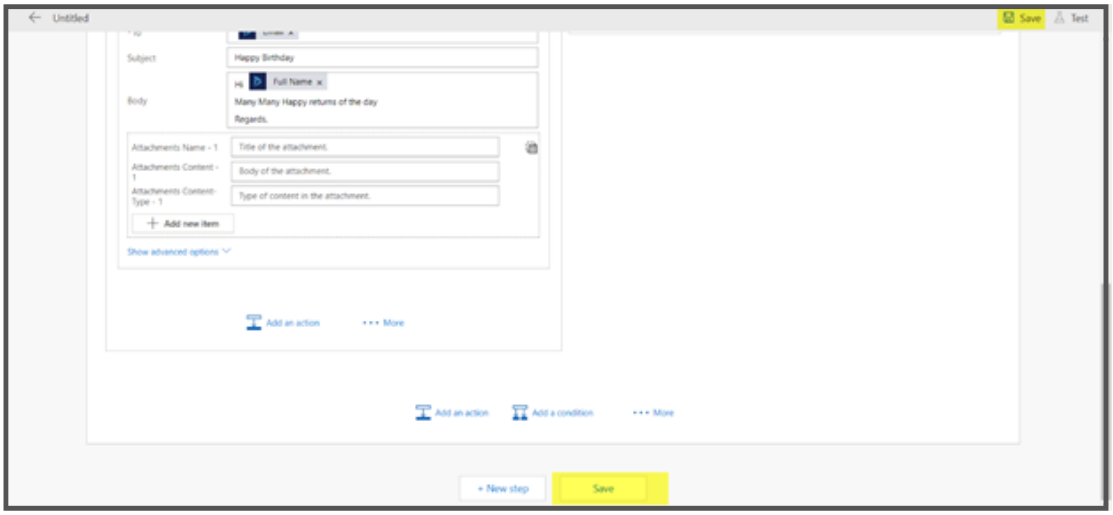
Step 11: Now, we will add an action and perform a search to find the email provider. In our case, we are using "**Gmail – Send email,**" as shown in the image.



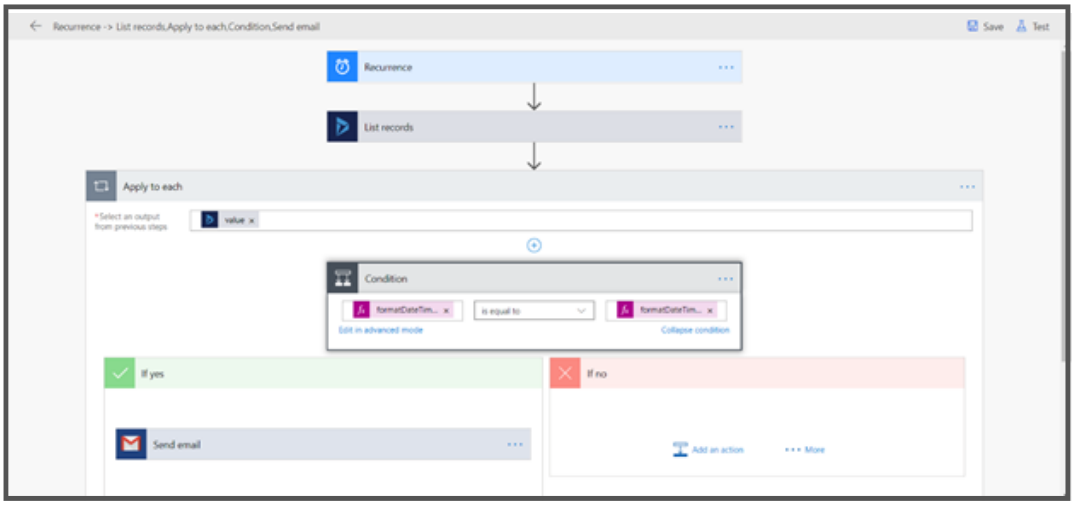
Step 12: In this step, we will provide the "To" which we selected from the record that we are iterating which is "**Email**" and then utilizing the "**Full Name**" as shown in the image below:



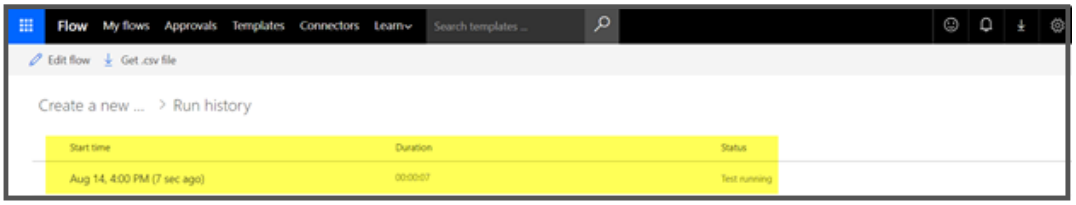
Step 13: Now, we need to Save the Flow by clicking on any "**Save**" button, as shown in the following image.



Step 14: After saving, you will see the screen below, and we are ready to Run the flow.



Step 15: We can also check the history of the flow when it has run and how long it has taken.



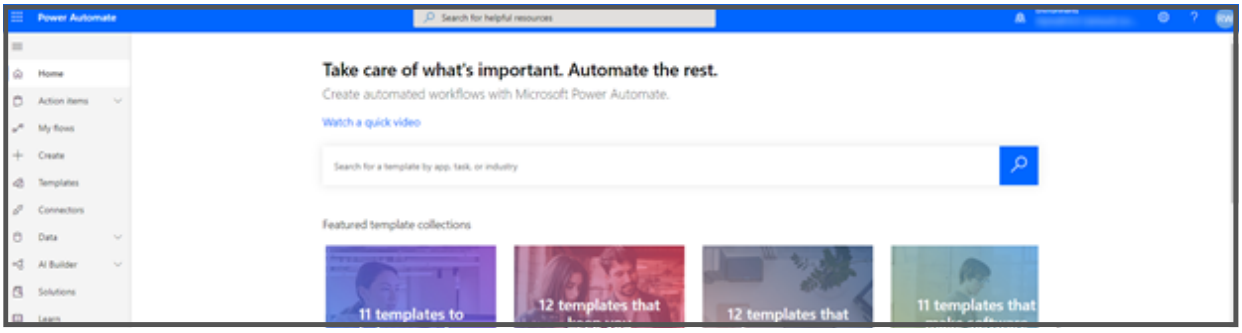
If everything ran successfully, all contacts with a birthday for the day should receive our email message. If the **"Flow"** stays active, it will do the same every day and send birthday emails to those who have birthdays on that day.

3.2 Using Power Automate to set the contact record image in Dynamics 365 from Twitter

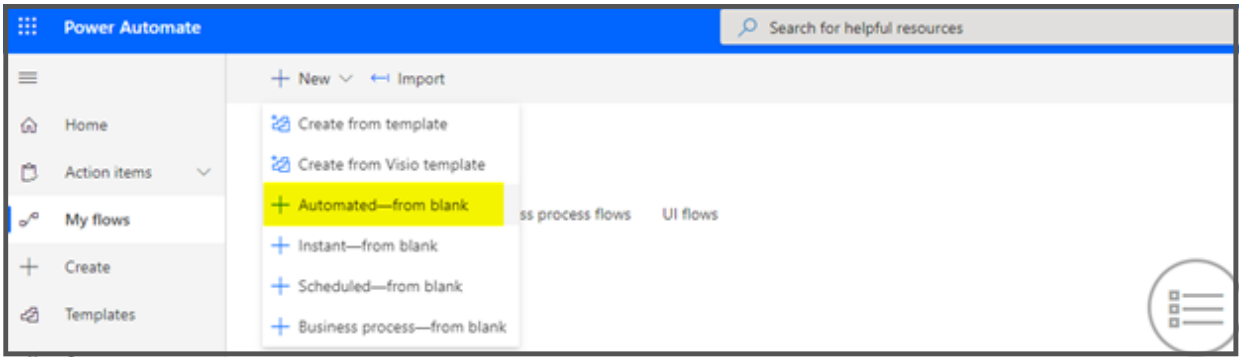
In this walkthrough, we will set the image on Contact records within Dynamics 365 using the Twitter connector for Microsoft Power Automate. . This integration will allow us to save time by significantly reducing the effort that users spend uploading images to D365. . The user only needs to provide Twitter account details to update the record in D365.

Let's dig right in!

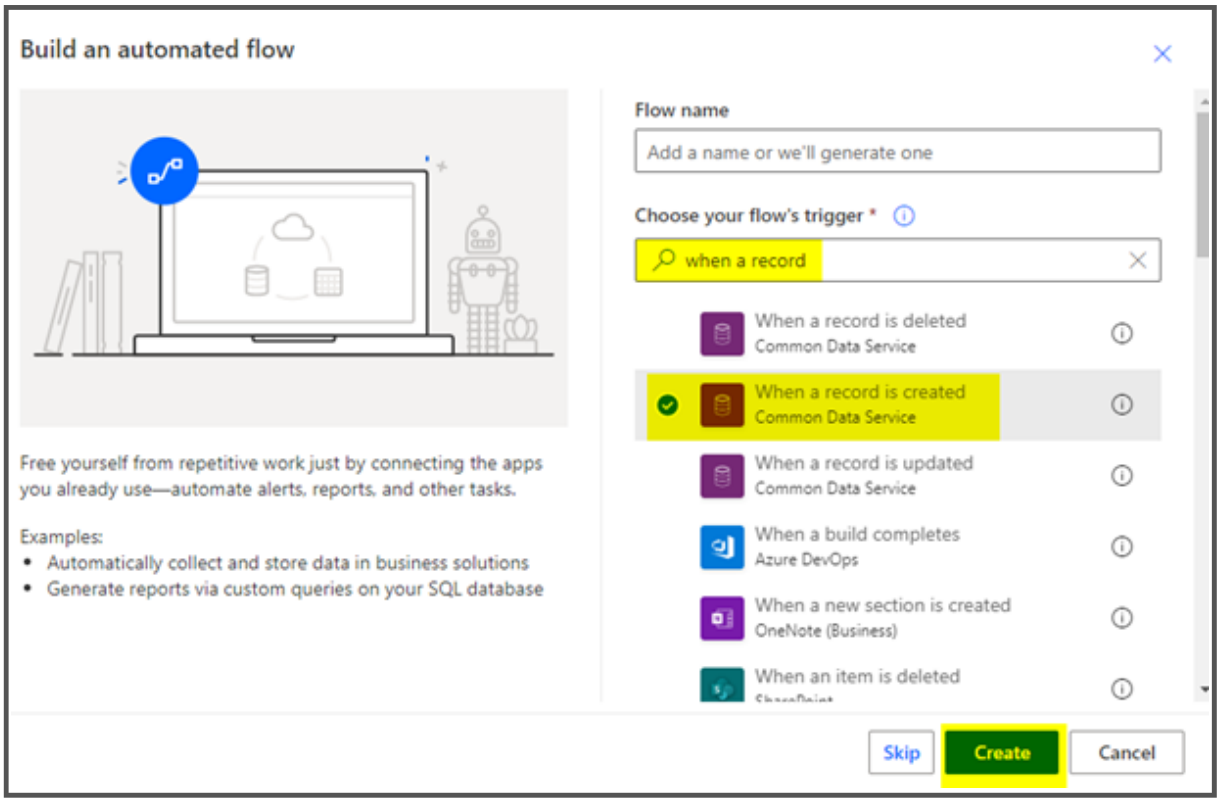
Step 1: Log in to Microsoft Power Automate, and you will see this



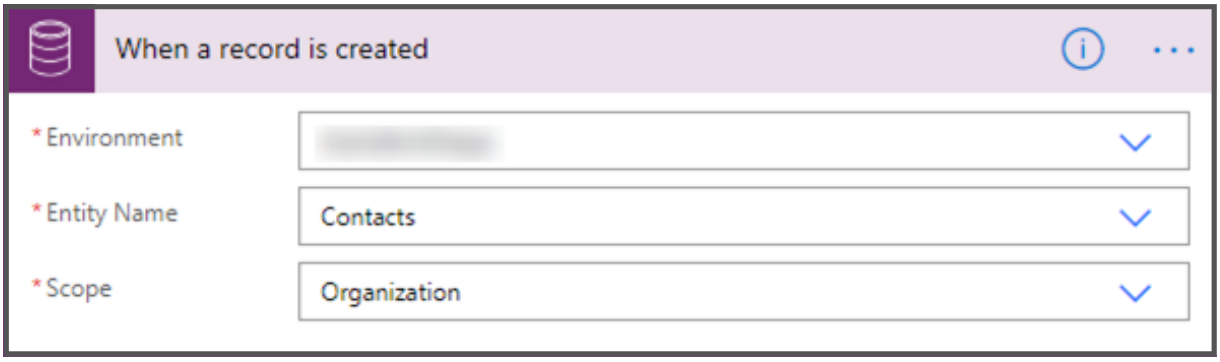
Step 2: After login, navigate to "My flows" in the left navigation. It will show the screen below. . Once there, click the "+New" drop-down and select **"Automated – from blank".**



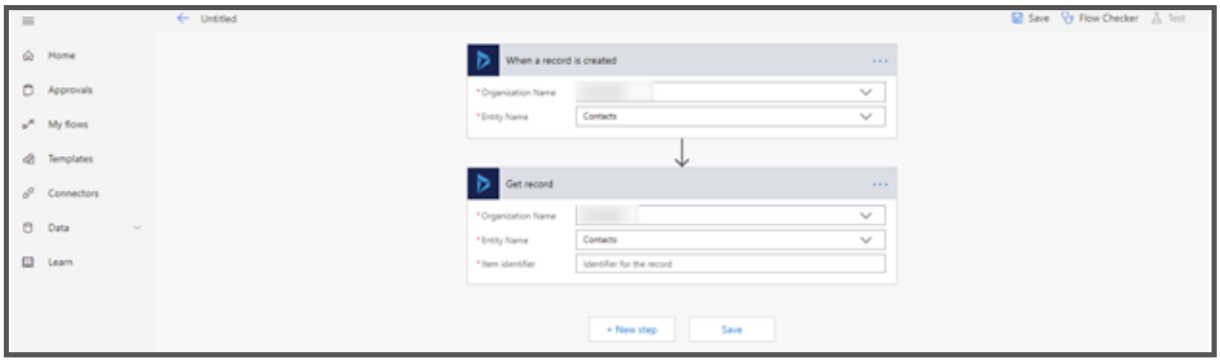
Step 3: As highlighted in the image given below, name your flow and find **"When a record is created"**. Once you have it selected, click **"Create".**



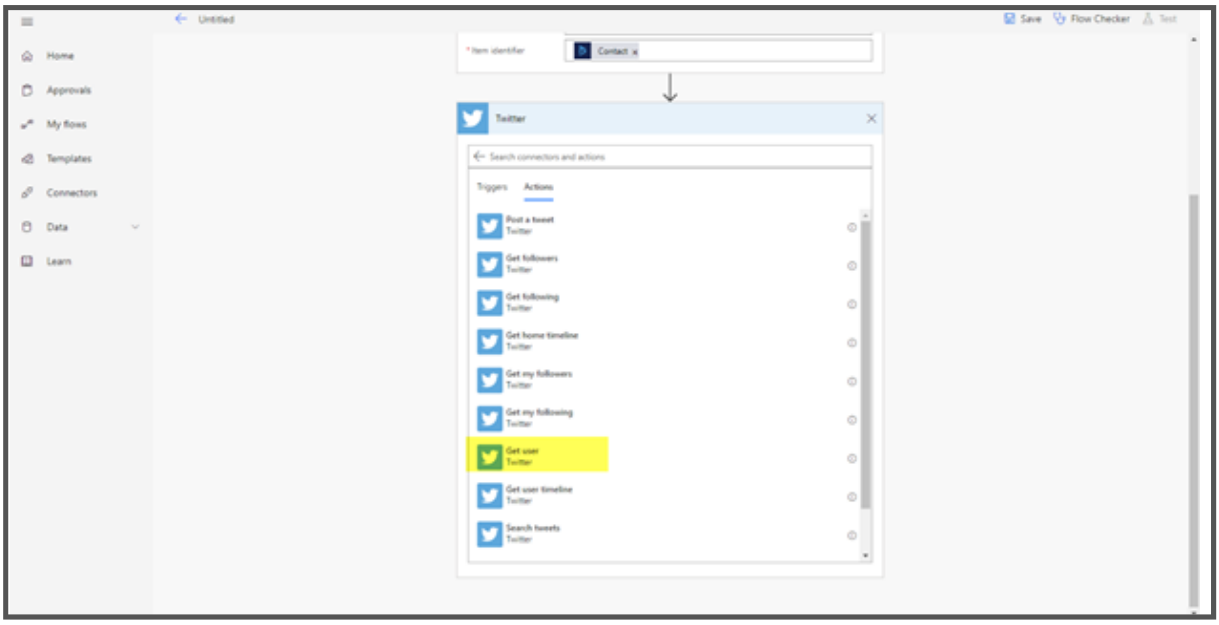
Step 4: Now, we will select the **"Entity Name"** that we need to use. In this case, we are using Contacts. Set the Scope to Organization



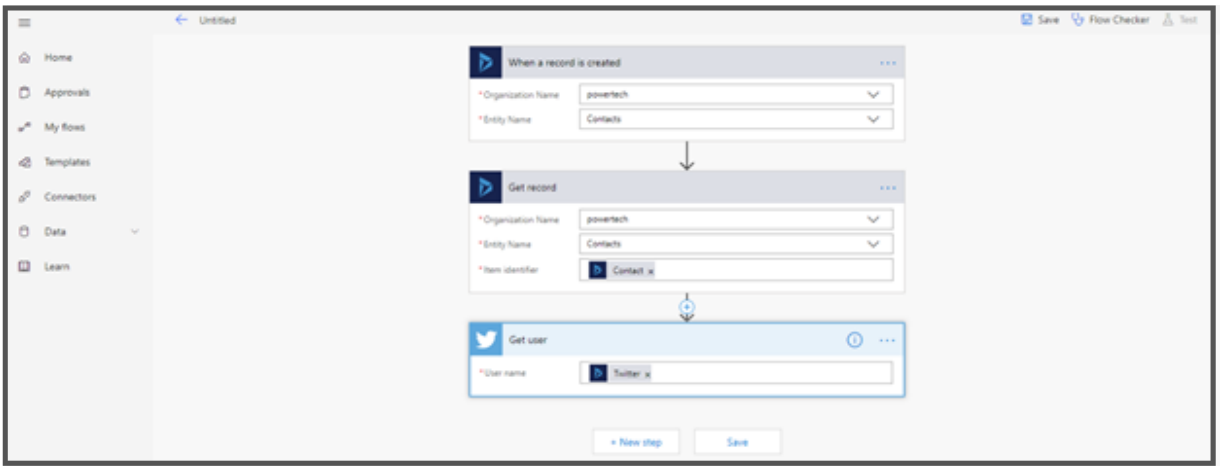
Step 5: Next, we will use the connector of **"Get record"** to get the data of the records.



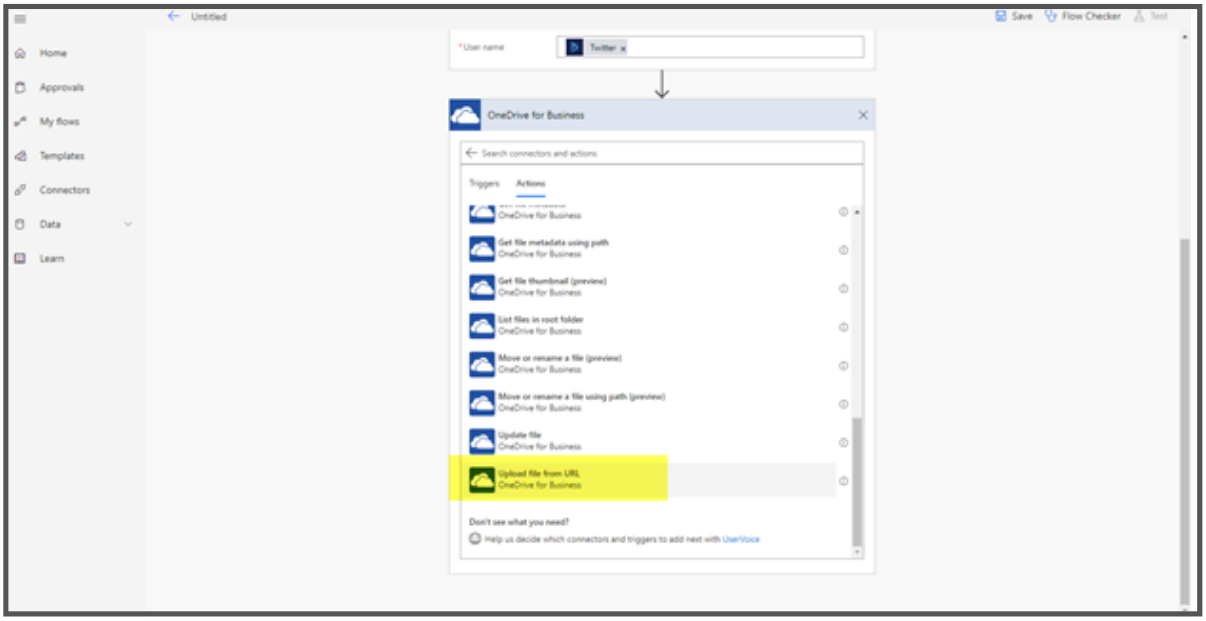
Step 6: Moving on, we will connect it to Twitter and use **“Get user”** to collect the information related to Twitter Profile, as highlighted in the image given below.



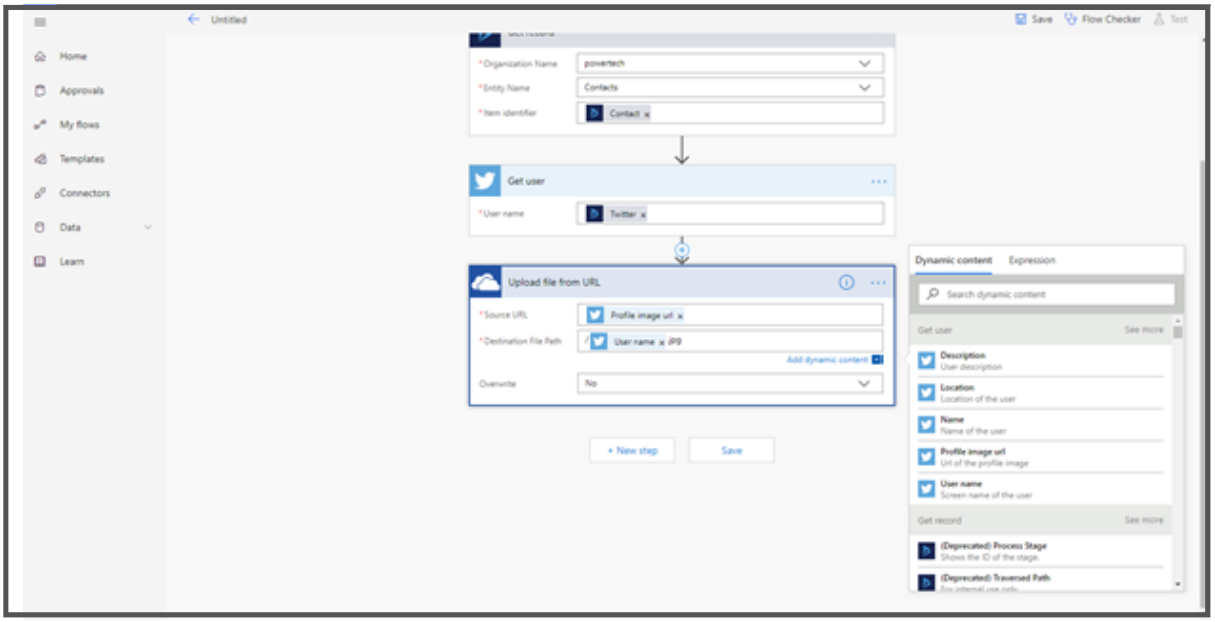
Step 7: Now, we will provide the Twitter “Username,” which we will get from the previous Step **“Get record”.** In this case, we are using the custom field titled **"Twitter".**



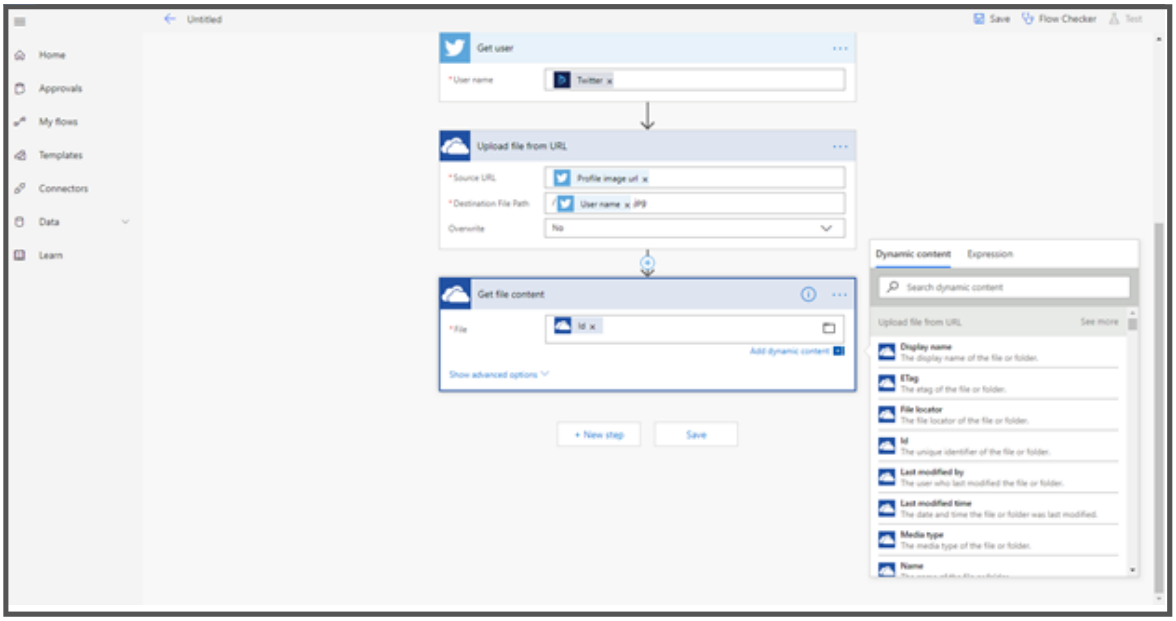
Step 8: Now, we will utilize **“OneDrive for Business”** to store the image with the help of the **“Upload file from URL”** connector for its further utilization.



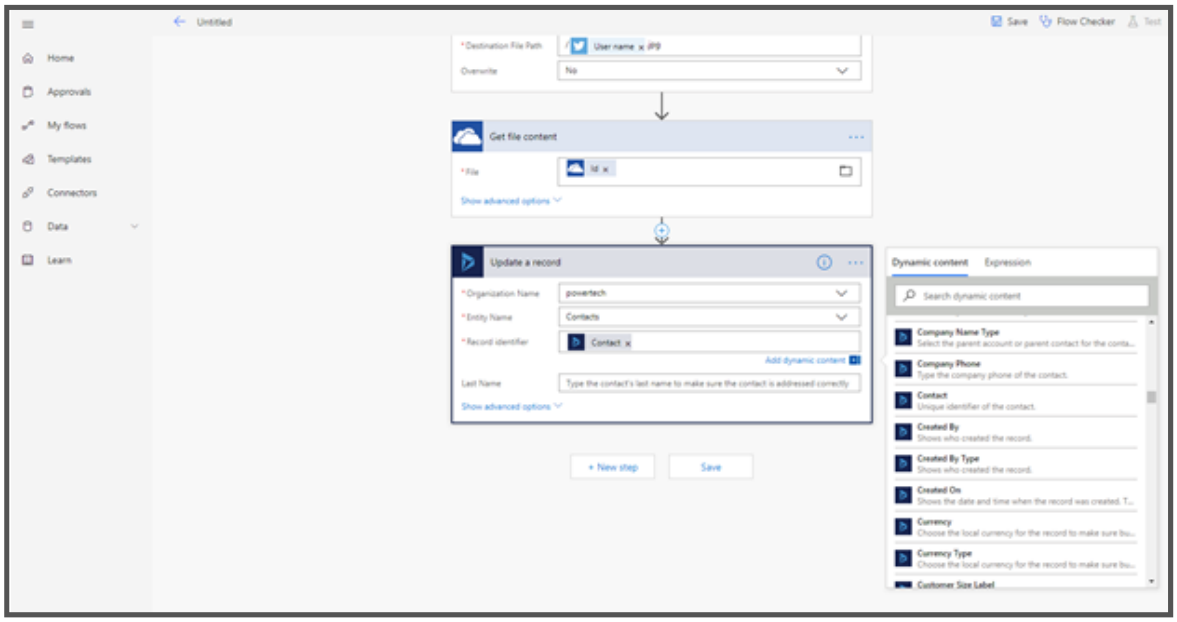
Step 9: We will then provide the required field for storing the image. In this case, **"Source URL and Destination File Path"** and the values of these fields. The fields from the previous step are taken, which is **"Get user,"** as shown in the image below.



Step 10: After that, we will use the **"Get file content"** to get the content of the file that we have uploaded to OneDrive in the previous step.



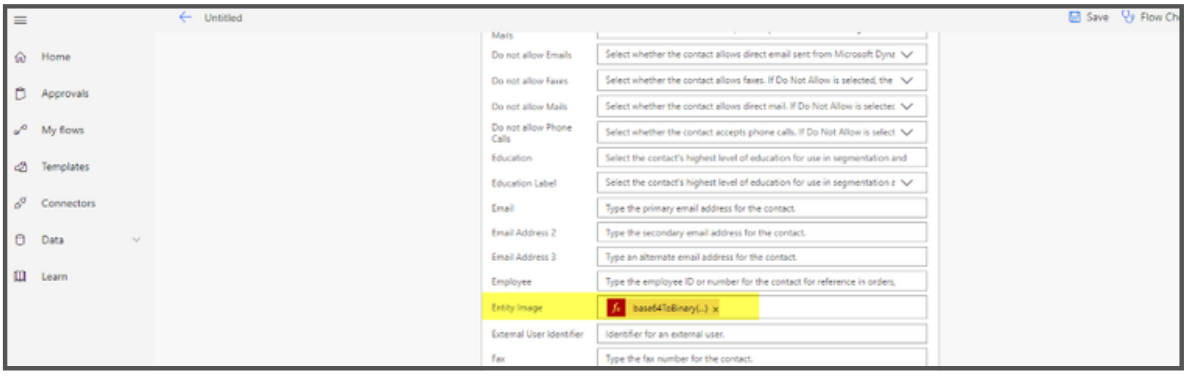
Step 11: After that, we will use **"Update a record"** to identify and update the records. We will utilize the previous step (**"Get record"**) values.



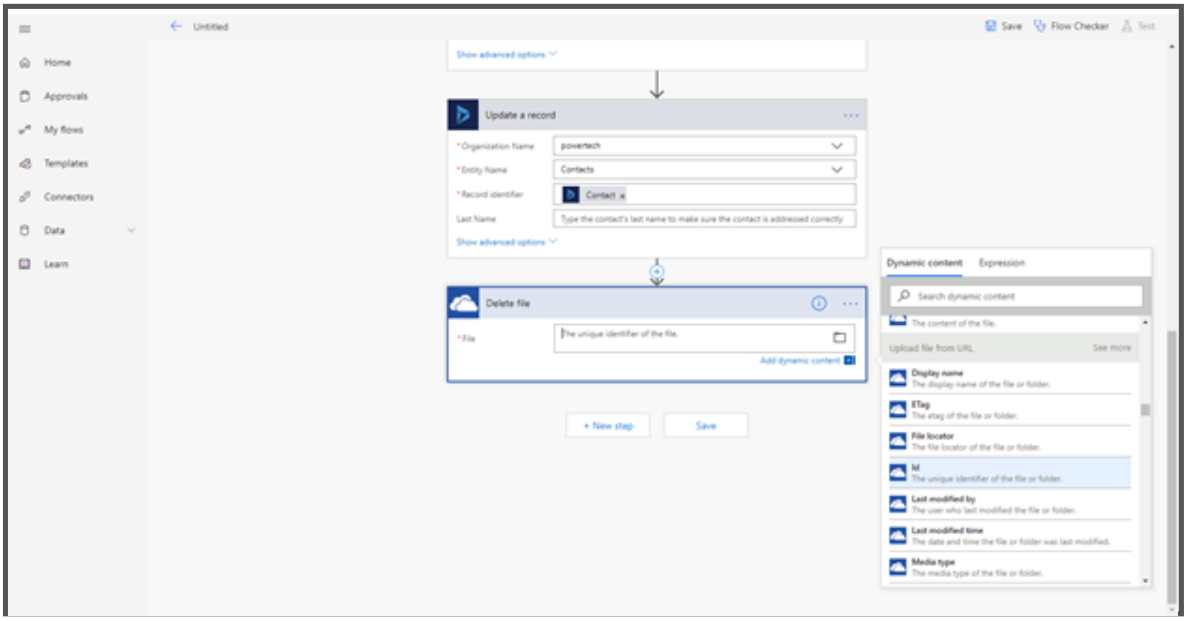
Step 12: Now, we will use the expression to provide the appropriate formatted value to the Entity Image field. . The expression that we are going to utilize is provided below:

```
"base64ToBinary(body('Get_file_content')['$content'])"
```

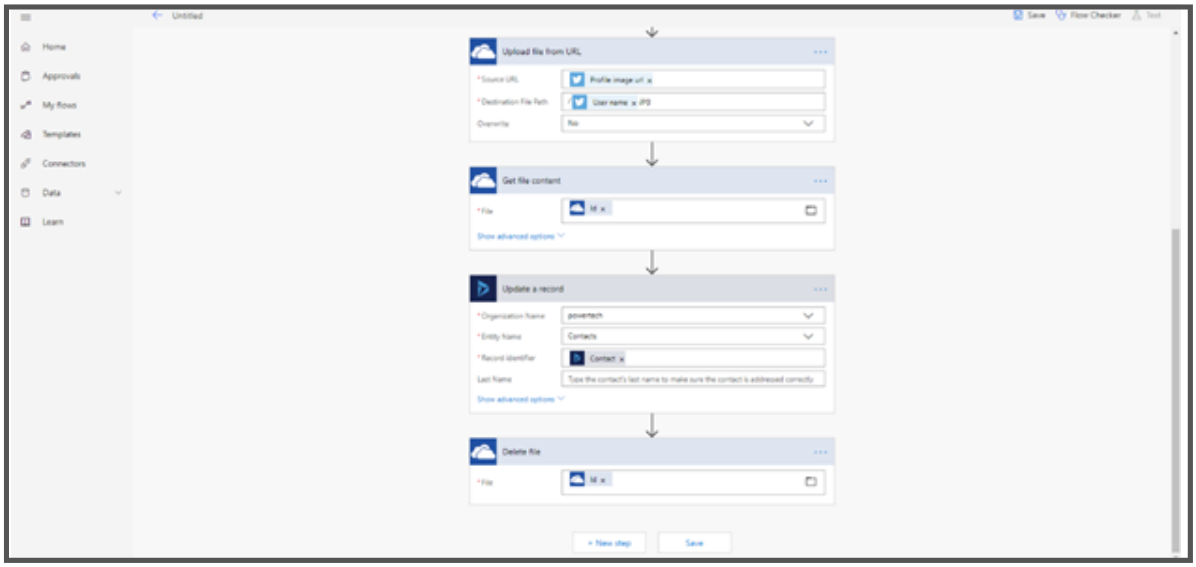
Let us break it down even further to make it easier to understand. We will get the body using this: "body('Get_file_content')". In this, we will use the previous step 'Get file content'. After that, we will get the content by using this '['$content']'. Once we get the content, we will convert it to the appropriate format using 'base64ToBinary'. After that, we will place it in the appropriate field. In this case, we will use "Entity Image", as shown in the image below.



Step 13: Later, we will delete the file from the OneDrive using **"Delete file"** and provide the required field, i in this case, **"File"** from the previous step. "Upload file from URL" with the ID from this step, as shown in the image.

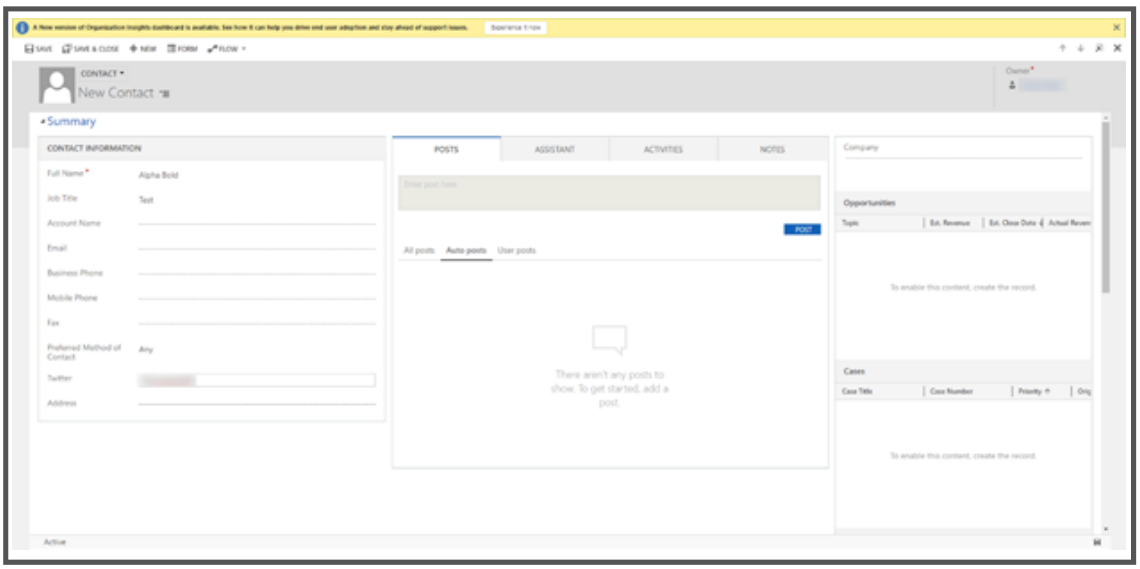


Step 14: Now, we will click the **"Save"** button at the top so we can use it.

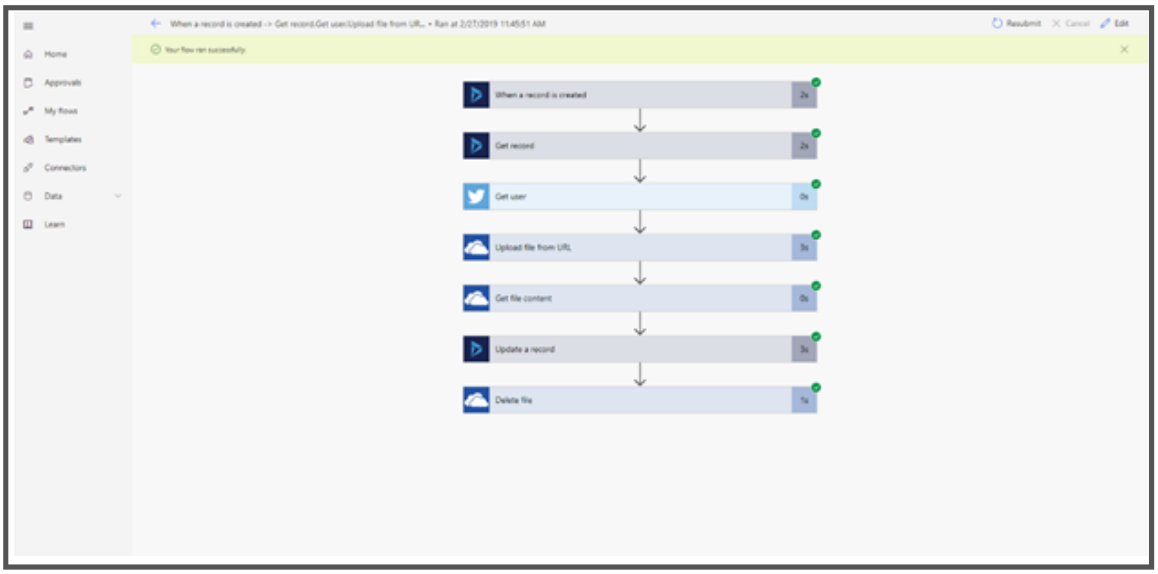


Testing the Flow

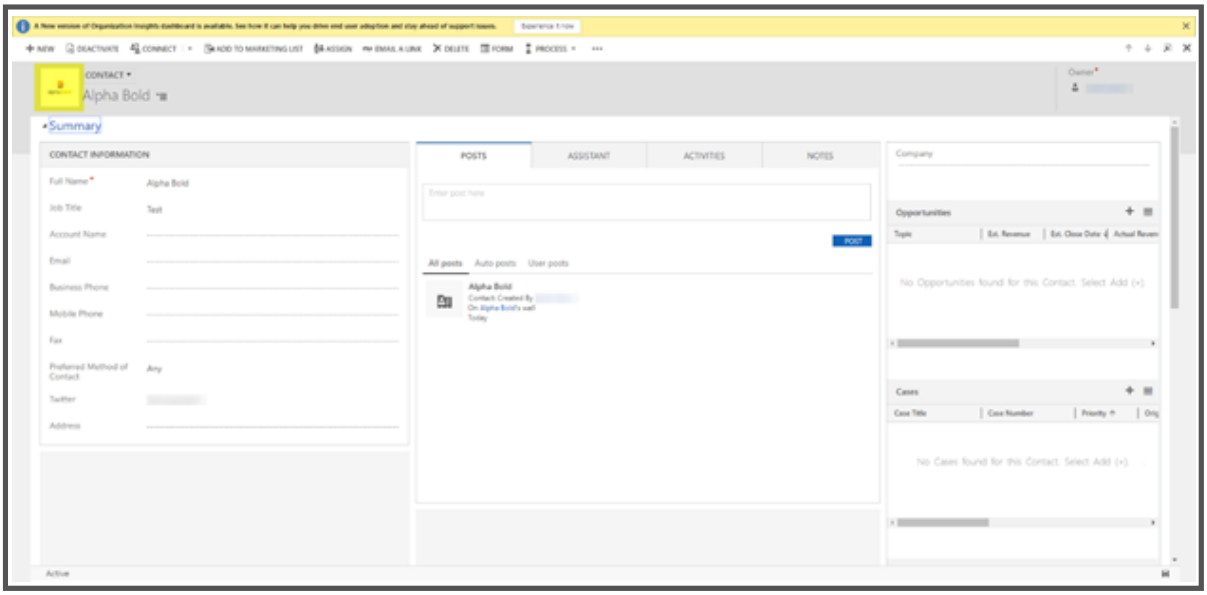
Step 1: Now, we will create a Contact record to trigger the Flow, as shown below.



Step 2: Once we have performed the previous step, we will see the Flow history, and it will show that Flow has been completed successfully. It will also tell us the amount of time that each step takes to complete, as shown in the image given below.



Step 3: After the Flow has been completed, we can see that the **Contact** record contains the image derived from the Twitter profile. The image is later provided in the Twitter field in the record, as shown in the image given below.



Final Thoughts

In this walkthrough, we have learned that we can set the image on a Contact record within Dynamics 365 using the information provided by the user and pulled in from Twitter using Microsoft Power Automate with Dynamics 365.

Epilogue

Congratulations! You have reached the end of this e-book! From all of us here at AlphaBOLD, we hope you have found value in one or more of the walkthroughs we have prepared for you. As mentioned in the prologue, due to the ever-evolving nature of SaaS (Software as a Service) software (and software in general), it could be that some of the steps in our walkthrough aren't precisely the same as you found it while you walked along with us. However, we hope that the overall process was enough to get you across the finish line and continue in your endeavors to get more out of your existing database!

We here at AlphaBOLD are happy to help you and your company with overcoming any problem that you may encounter while extending your Microsoft Dynamics systems. Please reach out to us via the contact method below.

MAKE THE RIGHT CHOICE

HEAD OFFICE:
1555 Faraday Ave, Carlsbad, CA 92008, UNITED STATES

CALL US AT
(909) 979-1425

EMAIL US AT
MARKETING@ALPHABOLD.COM

VISIT US AT
WWW.ALPHABOLD.COM