

# Dynamics 365 Customer Insights

## Customer Insights in a Day

Hands on Lab Guide

### Module 3: Automation with Microsoft Flow

V1.3 September 2019

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## Feedback

If you have feedback relating to the Customer Insights in a Day content or assets please send to [ciadfeedback@microsoft.com](mailto:ciadfeedback@microsoft.com).

## Module Three Introduction

### Automation

Contoso want to capture in-store interactions with their customers. You are charged with enabling Contoso Retail staff to capture 'Customer Check-In' activities and deliver personalized recommendations to customers.

In this Module you will create a custom 'Check In' activity within Dynamics 365 to store details of customer store visits. You will enable Contoso Retail staff to capture these check ins using a planned 'Greeter App' and Microsoft Flow, including details of the subjects discussed with the customer.

In this Module you will create the custom 'Check In' activity and configure a Flow to capture a customer check in, to be triggered from a planned 'Greeter App'.

In this module you will also create a Flow to generate personalized recommendations that can be surfaced within Dynamics 365 or the Greeter App using Insight Cards.

### Objectives

- Configure the 'Customer Check In' Activity
- Create a 'Customer Check In' Flow
- Create a Flow to generate 'Personalised Recommendations'

### Prerequisites

In order to complete this lab you will need to have completed

- Completed Module 1 – Data Ingestion and Unification

You will also require access to Microsoft Flow. If you do not have access to Microsoft Flow you can sign-up at <https://flow.microsoft.com>.

(Please sign-up using the same account used to access Dynamics 365 in Module 2.)

## Lab 8 – Contoso Coffee Check-In Flow

### Task 1 – Ingest Dynamics Contact Data

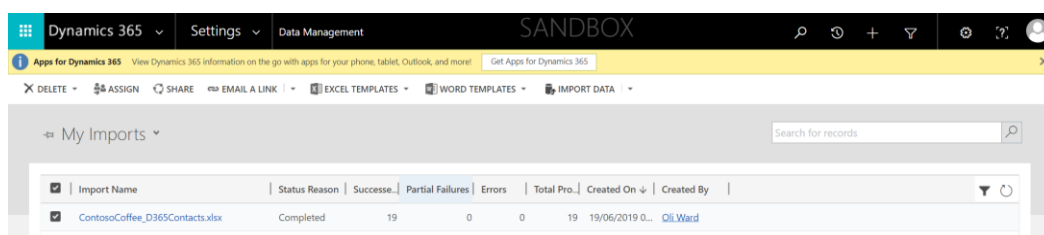
**NOTE: IF YOU HAVE COMPLETED MODULE 2, YOU HAVE ALREADY COMPLETED THIS TASK AND SHOULD PROCEED TO TASK 2**

In this task you will consume Customer data from Dynamics 365 into Dynamics 365 Customer Insights and Map, Match and Merge it with the existing data-set from Module 1.

#### Import Contacts into Dynamics 365

First, we will setup some sample Contacts within Dynamics 365 for you to ingest and match against your existing profiles. You will need these contacts for later modules.

1. In a browser, login to your Dynamics 365 Customer Service instance and open the **Customer Service Hub**
2. Click the **Settings** (⚙️) in the top right-hand corner, then **Advanced Settings**
3. On the page that loads, click the chevron next to **Settings** in the menu bar. Then select **Data Management**
4. On the *Data Management* page, click **Imports**
5. In the menu bar, select **Import Data** to launch the data import wizard.
6. Under **Choose File** select the **ContosoCoffee\_D365Contacts**. (from the course content), then click **Next**
7. On the first page, select **Contact** as the entity to import
8. On the mapping page, select **Ignore** for **Full Name** then click **Next**, then **Next** then **Submit** and **Finish**
9. You can monitor the progress of your import, using the refresh button on the top right of the grid. – Ensure that your import completes successfully

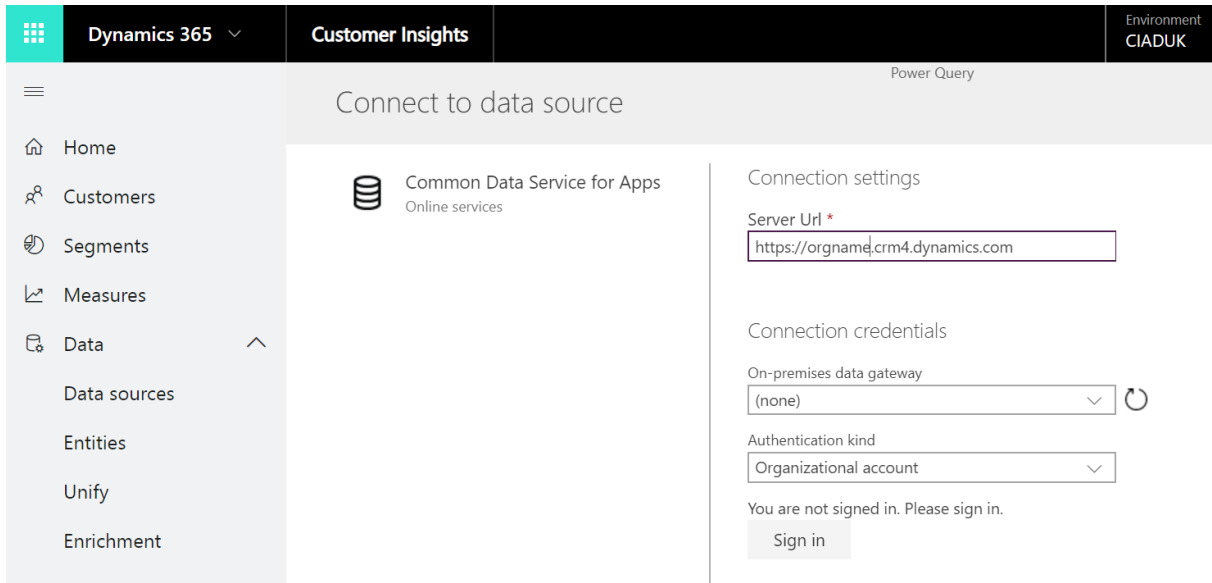


10. Reopen the **Customer Service Hub App** and navigate to **Contacts**
11. Open the record for **Abbie Moss**. Click on the Contact image in the top left of Abbies record to edit the image. Upload the **abbiemoss.jpg** file from the course content.

#### Ingest

Now we will ingest the Dynamics 365 contacts as an additional data source within Customer Insights.

1. Click 'Data Sources' in the left hand menu
2. Click +Get data from the top right of the page
3. Name the Data Source 'Dynamics365CustomerServ' Click **Next**
4. On the **Choose Data Source** page, select **Common Data Service for Apps**
5. Add your Dynamics 365 URL (e.g. <https://ORGNAME.crm4.dynamics.com>) and click **Sign In**. Sign In with the credentials that you use to access Dynamics 365.



6. Click **Next**
7. Expand the **Entities** Folder and select the **Contact** table then click **Next**
8. On the Edit Queries Page, you have an opportunity to limit the columns that you wish to ingest.  
Click **Manage Columns** → **Choose Columns**. Unselect all the columns, then choose to include only the following:

- contactid
- address1\_city
- address1\_country
- address1\_county
- address1\_line1
- address1\_line2
- address1\_postalcode
- address1\_stateorprovince
- emailaddress1
- entityimage\_url
- entityimageid
- firstname
- fullname
- gendercode\_display

- lastname
- telephone1

Power Query

Edit queries

Get data Refresh Options Manage columns Transform table Reduce rows Add column Map to standard Combine tables

Table.SelectColumns("Navigation 1", {"contactid", "address1\_city", "address1\_country", "address1\_county", "address1\_line1", "address1\_line2", "emailaddress1", "firstname", "fullname", "lastname"})

	address1_city	address1_country	address1_county	address1_line1	address1_line2	contactid	emailaddress1	firstname	fullname	lastname
1	(null)	(null)	(null)	(null)	(null)	7118d60-979c-e811-a950...	devgent@OLWARDdemo...	Dev	Dev Guest	Guest
2	(null)	USA	(null)	129 Miller Plaza	Fairfield	58a79d76-a45a-e811-a970...	john_lopey@collinsreedan...	John	John Lopey	Lopey
3	(null)	(null)	(null)	(null)	(null)	b5632e02-159b-e811-a94f...	(null)	Mike	Mike Armstrong	Armstrong
4	(null)	(null)	(null)	(null)	(null)	de1531b0-159b-e811-a94f...	(null)	Arlene	Arlene Cox	Cox
5	(null)	(null)	(null)	(null)	(null)	0918a0c1-159b-e811-a94f...	(null)	Jonathan	Jonathan Marsh	Marsh
6	(null)	(null)	(null)	(null)	(null)	2e894c0d-159b-e811-a94f...	(null)	Eva	Eva Newmann	Newmann
7	Basildon	United Kingdom	(null)	Palace Grove	(null)	613c3161-aad9-e811-a94f...	sarahbrooks@outlook.com	Sarah	Sarah Brooks	Brooks
8	(null)	(null)	(null)	(null)	(null)	756f1d8c-959c-e811-a94f...	OLWARD@OLWARDdemo...	Oli	Oli Ward	Ward
9	(null)	(null)	(null)	(null)	(null)	02b9d9d3-830f-e811-a968...	(null)	JR	JR Riquelme	Riquelme
10	(null)	(null)	(null)	(null)	(null)	53b3d5d6-5260-e811-a96f...	kenneth_beraun@kimboyl...	Kenneth	Kenneth Beraun	Beraun
11	Inglewood	USA	(null)	3958 Perez Centers	Suite 216	d63d62f5-5260-e811-a96f...	anthony_koteles@crawfor...	Anthony	Anthony Koteles	Koteles
12	(null)	(null)	(null)	(null)	(null)	8321b547-5360-e811-a96f...	michael_lauser@smithinc...	Michael	Michael Lauser	Lauser
13	(null)	(null)	(null)	(null)	(null)	12a60966-5360-e811-a96f...	richard_nakada@joneshol...	Richard	Richard Nakada	Nakada
14	(null)	(null)	(null)	(null)	(null)	a3ec395d-5360-e811-a96f...	robert_kaucer@stevensh...	Robert	Robert Kaucher	Kaucher
15	(null)	(null)	(null)	(null)	(null)	d4402b09-5360-e811-a96f...	steven_biondi@hulazab...	Steven	Steven Biondi	Biondi
16	(null)	(null)	(null)	(null)	(null)	a2643b6a-5460-e811-a96f...	michael_manni@baurstac...	Michael	Michael Manni	Manni
17	(null)	(null)	(null)	(null)	(null)	97a3460a-5460-e811-a96f...	michael_glenma@carterjk...	Michael	Michael Glenma	Glenma
18	(null)	(null)	(null)	(null)	(null)	463d553c-5460-e811-a96f...	james_eller@willsonjohns...	James	James Eller	Eller
19	Redmond	USA	(null)	8201 164th Avenue NE	Suite 200	99b85162-c34e-e111-b6d1...	customer@contoso.com	Portal	Portal Customer	Customer
20	Redmond	USA	(null)	8201 164th Avenue NE	Suite 200	7489d899-c0bd-4236-90d4...	admin@contoso.com	System	System Administrator	Administrator

9. Then click **Create**.

## Map

1. Click **Unify → Map**
2. Under **Entities** click **Select**
3. Check the box for **Contact** under **D365CustomerServ**
4. Under **Entities** click the D365CustomerServ Contact item.  
As when you ingested Loyalty and eCommerce data, you should see that Customer Insights has intelligently mapped the attributes to the Common Data Model types.
5. Click **Edit** in the top right hand corner and ensure that all attributes are included.
6. Where an attribute hasn't been mapped to the Common Data Model, map as follows

Column Heading	New Data Type
telephone1	Identity.Service.Phone
Address1_line1	Location.Address.Street
Address1_line2	Location.Address.Street
Address1_line3	Location.Address.Street
entityimage_url	Reference.ImageURL
Entityimageid	ID
gendercode_display	Gender

7. Select **contactid** as the Primary Key
8. Click **Save**

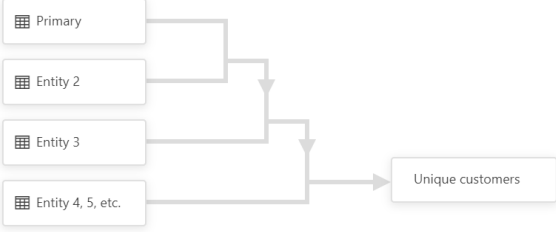
Entities	Select	Fields in Contact	
eCommerce eCommerceContacts		Name	Primary key ⓘ Type
LoyaltyScheme loyCustomers		address1_country	<input type="radio"/> Location.Country
		address1_county	<input type="radio"/> Location.County
D365CustomerServ Contact		address1_postalcode	<input type="radio"/> Location.PostalCode
		address1_stateorprovince	<input type="radio"/> Location.State
		contactid	<input checked="" type="radio"/> ID
		emailaddress1	<input type="radio"/> Identity.Service.Email
		entityimageid	<input type="radio"/> ID
		firstname	<input type="radio"/> Person.FirstName
		fullname	<input type="radio"/> Person.FullName
		lastname	<input type="radio"/> Person.LastName
		telephone1	<input type="radio"/> Identity.Service.Phone
		address1_line1	<input type="radio"/> Location.Address.Street
		address1_line2	<input type="radio"/> Location.Address.Street
		address1_line3	<input type="radio"/> Location.Address.Street
		entityimage_url	<input type="radio"/> Reference.ImageURL
		gendercode_display	<input type="radio"/> Gender

## Match

1. Click **Unify** → **Match**
2. Click **Edit** next to **Match Order**
3. **Add Entity** and select *Contact : Dynamics365CustServ* and check **Include All Records** and then click **Done**.

## Match order ×

Entities are matched in the order you set. After the first two entities, every entity matches their records to what has been identified as a unique customer.



**Set order of entities**  
If you include all records, every record in the entity will be a unique customer and matched to every following entity.

Primary ①	eCommerceCon... ▾	<input checked="" type="checkbox"/> Include all records	×
Entity 2	loyCustomers : L... ▾	<input checked="" type="checkbox"/> Include all records	×
Entity 3	Contact : Dyna... ▾	<input checked="" type="checkbox"/> Include all records	×

Cancel
Done

4. You will see that this new addition required a new rule. Click **Create New Rule**.

#### 5. Name the Rule **Email Match**

For the conditions, select

- Entity as **eCommerceContacts** and Field as **EMail**
- Entity as **Contact : D365CustomerServ** and Field as **emailaddress1**
- Set the Match precision to **Medium** and click **Done**.



## Edit rule

Set conditions on how you will match by choosing equivalent fields in entities.

Name \*

Email Match

### Conditions

Entity	Field	Precision
eCommerceContacts : eCo...	Email	<div> <div></div> <div>Exact</div> <div>High</div> <div>Medium</div> <div>Low</div> </div>
Entity	Field	Normalize
Contact : D365CustomerServ	emailaddress1	Select options

+ Add condition

Cancel Done

## 6. Click **Save** and **Run**

## Merge

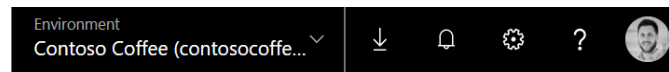
1. Click **Unify → Merge**
2. You should see that Contactid from Dynamics 365 has been added to the list of attributes that will make up the Unified Profile  
**(Note, if this attribute has been merged, do separate it)**
3. You can **optionally** add the remaining attributes and identify them as 'Merge' attributes where an attribute already exists (e.g. First Name, Last Name, Full Name, Gender and gerndercode\_display).
4. Click **Save** and then **Run**

## Task 2 – Import the ‘Customer Check-In’ Activity Solution

The first task is to create a Custom Activity Type within Dynamics 365 that can be used to store details of ‘Customer Check Ins’ when customers visit Contoso Coffee stores and cafes.

We will use a pre-created activity type

1. In a browser window, browser to <https://make.powerapps.com>
2. In the top right-hand corner, select the Environment in which you have been working.



Note: This will be the environment containing your Dynamics 365 Instance where you previously deployed the Dynamics 365 Customer Insights Card Add-In

3. Select **Solutions** from the left-hand menu
4. On the Solutions page, choose **Import** at the top of the page
5. Click **Choose File** and select the **CheckIn Activity Solution.**, which can be found with your CIAD Materials.

(**CIADCheckInActivity\_<versionnumber>\_managed.zip**)

6. Click **Next**, then **Import**

Once published, you will have a custom Activity Type, Contoso Check-In’.

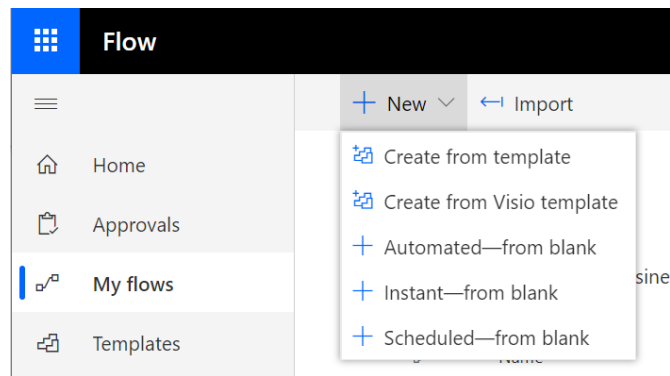
## Task 3 – Create the ‘Check-In’ Flow

In this task you will create a Flow, that will in a later Module, be triggered from a PowerApp by Contoso Retail staff who interact with Contoso Coffee Customers, in order to capture a record of that customer having visited.

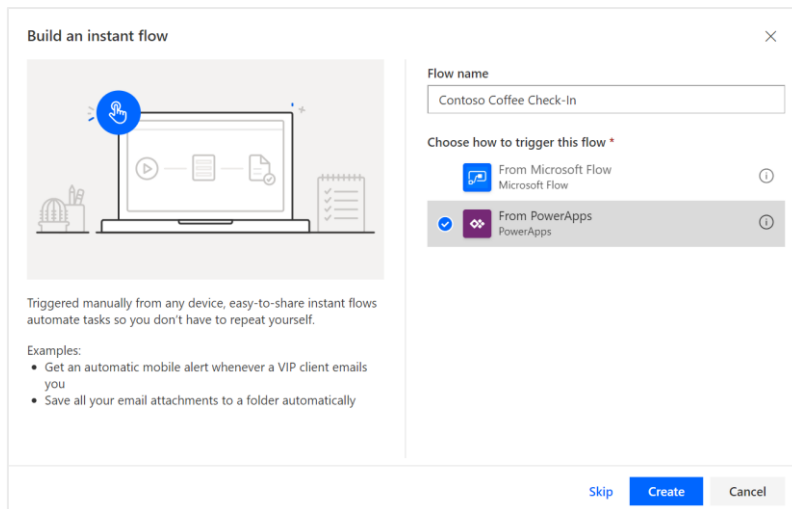
1. In a new Browser tab, navigate to <https://flow.microsoft.com>
2. Select the environment you used for Task 1 (Installing the Check-In Solution).  
To do this, click your name in the top right-hand corner and select the environment from the drop down.

*Note: This should also be the same environment you used in Module 2 when embedding Customer Insights cards into the Contact record.*

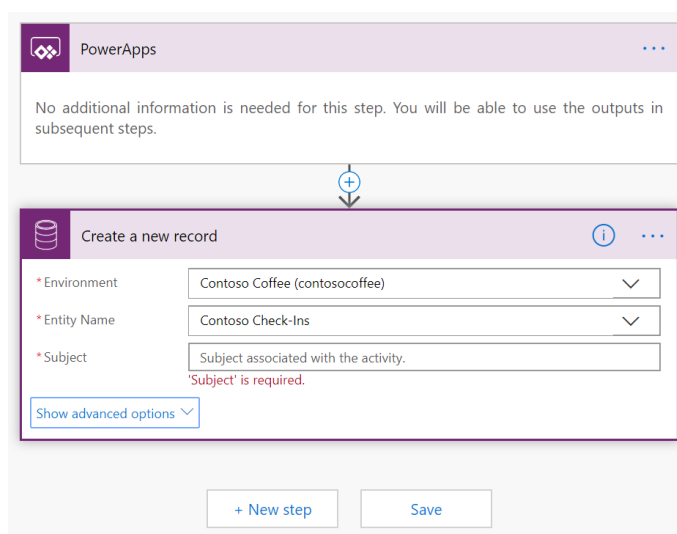
3. From the left hand menu, select **My Flows**
4. Click **New** → **Instant** - from **Blank**



5. On the Build an Instant Flow page, choose From PowerApps and name your Flow Contoso Coffee Check-In



6. In the *Choose an action step*, search for **Common Data Service** and choose the action **Create a new record**
7. In the *Select an Entity* dropdown, choose **Contoso Check-Ins**

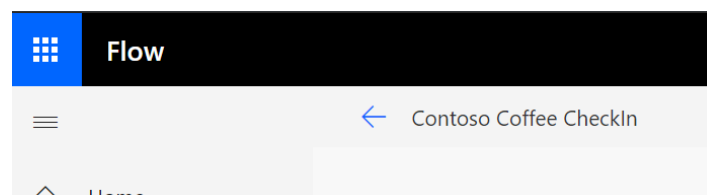


8. Click *Show advanced options* and complete the following attributes as below:

9. In the  
of your  
your  
**Coffee**

Attribute	Value
Subject	Check-In @ Contoso Boutique
Actual Start	Click <b>Expression</b> and use the expression: <b>utcNow()</b>  This will populate the 'Actual Start Date' with the current Date+Time at the point of capture.
Contoso Club	<b>Ask in PowerApps</b>
Contoso Subscription	<b>Ask in PowerApps</b>
Description	<b>Ask in PowerApps</b>
Personalised Recommendation	<b>Ask in PowerApps</b>
Start Date	Click <b>Expression</b> and use the expression: <b>utcNow()</b>  This will populate the 'Start Date' with the current Date+Time at the point of capture.
Regarding	<b>Ask in PowerApps</b>
Regarding Type	Contacts

top left corner  
Canvas, name  
Flow **Contoso  
Check-In.**



## 10. Save your Flow

11. Optionally, you can choose to **Test** your flow to ensure that a 'Check In' activity is created against a Contact in Dynamics 365.

To do this choose *Test* from the top right-hand corner of the Flow designer.

*Note: You will need to pass in a GUID of a Contact record from within Dynamics 365 to do so.*

*You can obtain this by opening Abbie Moss' record within Dynamics 365 for Customer Service. Look at the URL for the page and taking the GUID from the following section:  
...contact&id=**98e79d76-a45a-e911-a970-000d3a39c2c9**&formid...*

We will connect this flow with a Greeter PowerApp in the next Module, to enable Contoso Retail staff to capture customer check-ins.

## Lab 9 - Create 'Recommendations' Flow

Finally, we will create a simple Flow that will generate some sample Action Cards for us to consume within the PowerApp and Dynamics 365, which will represent intelligent insights for personalization such as a product recommendation.

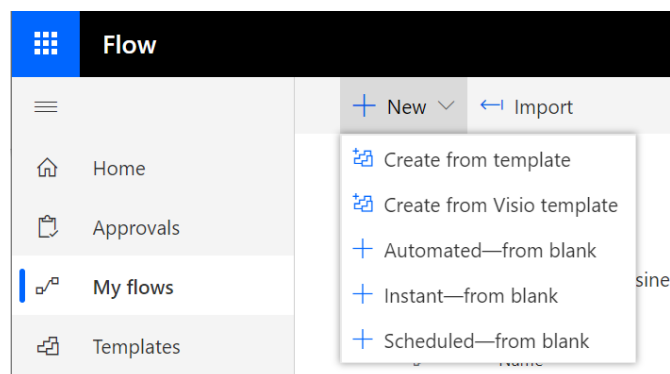
**Note: At the time of writing PowerApps, Flow and PowerBI connectors for Customer Insights are in BETA and so have limited connectivity. Going forward, it will be possible to generate Action Cards using Customer Insights Measures, Segments or from an Intelligent Prediction using Machine Learning.**

In this example, we will simulate the creation of these cards using a simple Flow trigger.

1. In a new Browser tab, navigate to <https://flow.microsoft.com>
2. Select the environment you used for Task 1 (Installing the Check-In Solution).  
To do this, click your name in the top right-hand corner and select the environment from the drop down.

*Note: This should also be the same environment you used in Module 2 when embedding Customer Insights cards into the Contact record.*

3. From the left hand menu, select **My Flows**
4. Click **New** → **Instant** - from **Blank**



5. On the Build an Instant Flow page, choose **From Microsoft Flow** and name your Flow **Contoso Coffee Recommendations**.
6. Click **+ New step** and search for the **Dynamics 365 Sales Insights** connector. Then choose the **Create card for assistant (Preview)** action.
7. Populate the properties on the step as below:

Property	Value
<b>Organization Name</b>	<Dynamics 365 Instance used in Module 2>
<b>Card Name</b>	Product Recommendation
<b>Title</b>	Product Recommendation: Cold Brew Coffee
<b>Description</b>	Personalised Recommendation for Contoso Coffee Cold Brew (Segmentation) for Abbie Moss
<b>Action</b>	Open URL

<b>Action Input</b>	
<b>Set Regarding</b>	98E79D76-A45A-E911-A970-000D3A39C2C9  (Replace with Dynamics 365 GUID for Abbie Moss)
<b>Action Input Entity Type</b>	contacts
<b>Set Regarding Type</b>	contacts

8. **Save** your Flow and then click **Test** to run your Flow.

9. To see the results of the Flow, open **Abbie Moss** record from within Dynamics 365 Customer Service instance used for Module 2. You should see that a new Action Card has been created, associated to Abbie Moss' contact record via the Relationship Assistant.

