



# Microsoft Cloud for Retail

## In A Day

### Lab 05: Retail Churn Model

Step-by-Step Lab

March 2022

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# Overview

Unified customer profile is one of the key capabilities of Microsoft Cloud for Retail. In some ways, it's where the data story comes together. So, what does it do? Unified customer profile helps you gain insights across the complete view of a shopper's journey.

With unified customer profile, you can gain a 360-degree perspective of the customer in a clear and intuitive way so that you can provide personalized experiences, reveal important opportunities, prevent potential loss, or churn, and improve customer satisfaction.

Unified customer profile bolsters **unification**. You can:

- Bring multiple identities together to create a 360 view of the customer through AI-powered identity resolution
- Ingest multiple types of data, behaviors, and customer sentiment in real time via more than 500+ built-in connectors

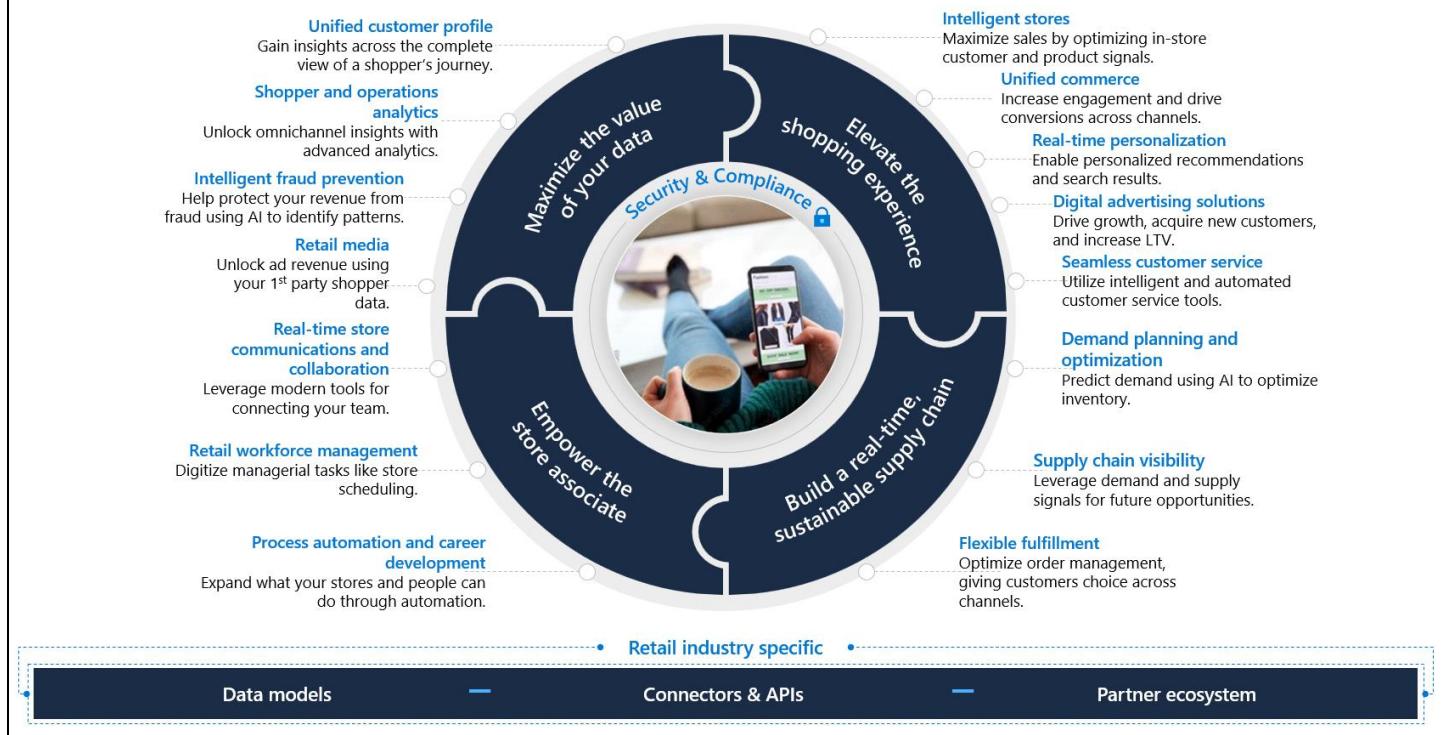
It also fosters **unique enrichment**:

- Gain a 360 view of the customer with proprietary audience intelligence from Microsoft Graph
- Leverage cross-channel behavior to complete the picture of your end-customer

Furthermore, Unified customer profile also gives you better access to customer **insights**:

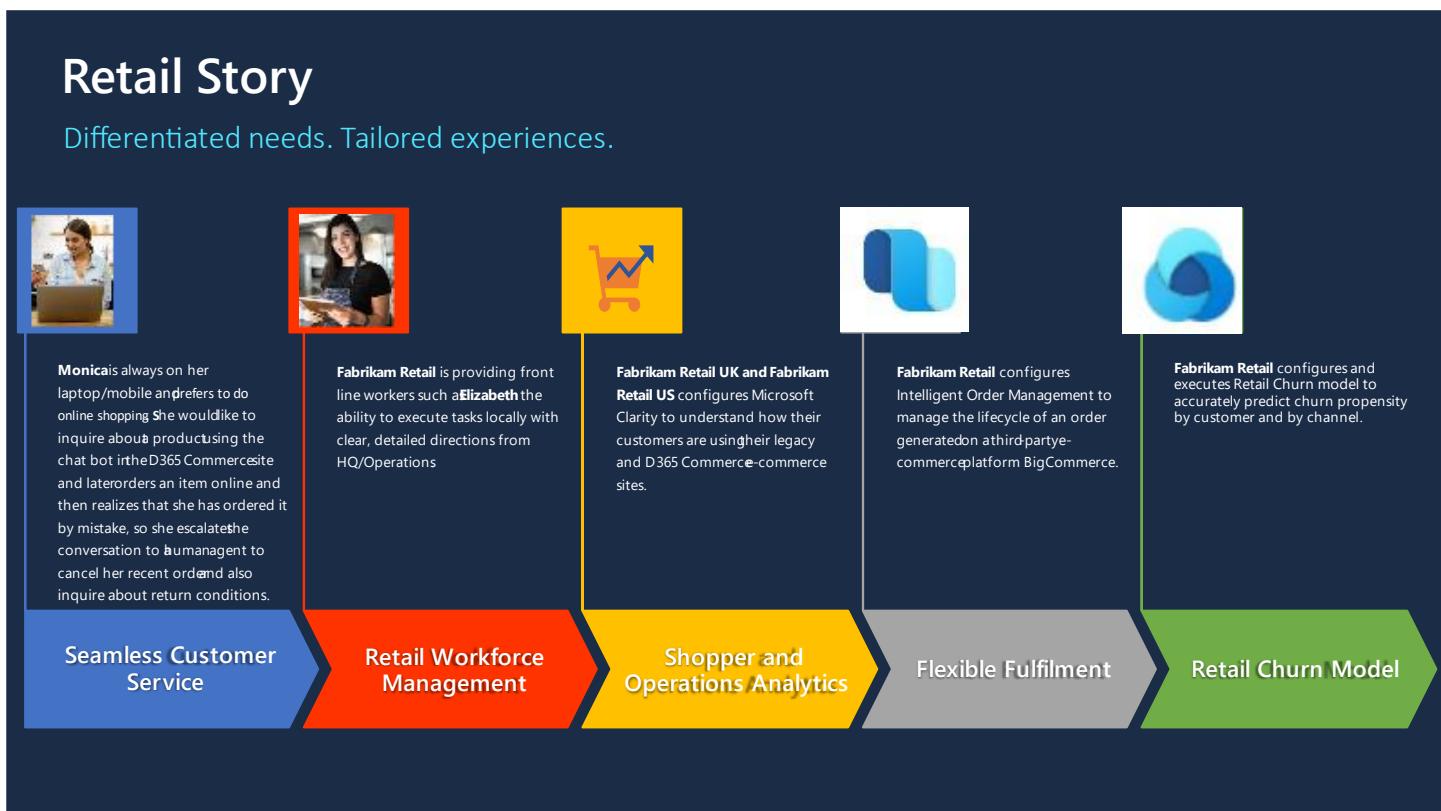
- Gain more nuanced insights by combining digital analytics with customer profiles to create richer segments, and leverage churn models to understand churn risk at a glance
- Observe customer progress through each defined step of the journey, quickly identifying obstacles and opportunities
- Create custom reports and views based on real-time customer behavior data, leverage built-in web and mobile analytics to predict customer needs

# Capabilities connecting your customers, your people, and your data



## Learning Objectives

### Retail Story



This lab will focus on the retail story of Fabrikam Retail.

In the following exercises, you will be playing the role of a System Administrator and a Developer:

In **Exercise 1**, you will be creating a **Customer Insights** environment and deploy **Unified customer profile** via Solution Center. In **Exercise 2**, you will learn the steps to import Fabrikam retail's customer data from azure blob storage, generate retail churn model and analyze the churn predictions.

## Prerequisite(s)

- Dynamics 365 Customer Insights

## Customer Intelligence

Customer intelligence unifies important, relevant, and accurate customer information across multiple sources via Dynamics 365 Customer Insights. This solution empowers the agent to engage with customers based on relevant insights. Customer intelligence combines demographic information, financial measures, and attitudes to form financial segments and AI models. These insights help agents to quickly understand the customer.

Prerequisites:

- At least Contributor permissions in Dynamics 365 Customer Insights. More information: [User permissions](#).

# Exercise 1: Create and Configure Dynamics 365 Customer Insights Environment

**Note:** If you have already deployed D365 Customer Insights environment and Unified Customer Profile solution then you can skip this exercise.

In this exercise, you will create and configure a Dynamics 365 Customer Insights environment in order to deploy the Retail Churn Model.

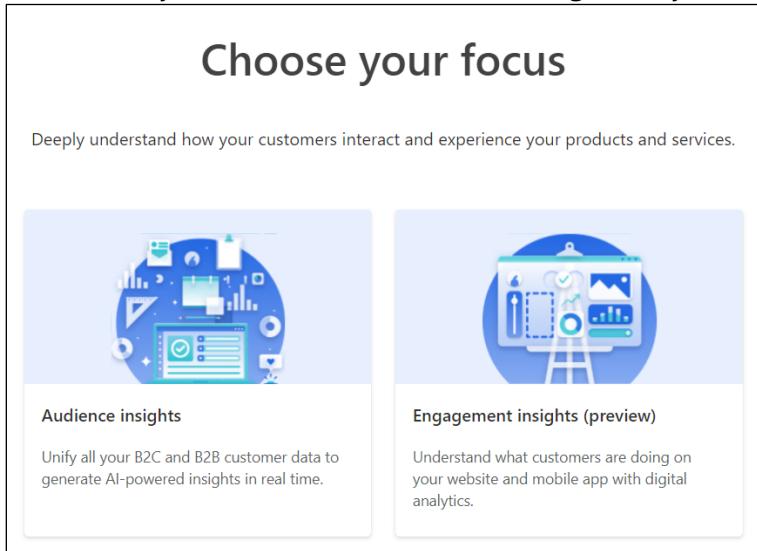
[Dynamics 365 Customer Insights](#) is a part of Microsoft's customer data platform (CDP) that helps deliver personalized customer experiences. The platform's capabilities provide insights into who your customers are and how they engage with your platform. Unify customer data across multiple sources to get a single view of customers.

- [Audience insights](#) helps you transform your business into a customer-centric organization. Marketing, sales, and service professionals have the insights they need to personalize experiences. Connect data from transactional, behavioral, and observational sources to create a 360-degree customer view. See results faster with a CDP designed to deliver insights that can be acted upon.
- [Retail channel churn predictive model](#): Retail channel churn predictive model, a key feature of Unified customer profile, uses an AI-based model to help omnichannel retailers use cross-channel data to assess the chance that a customer will churn—stop actively buying.

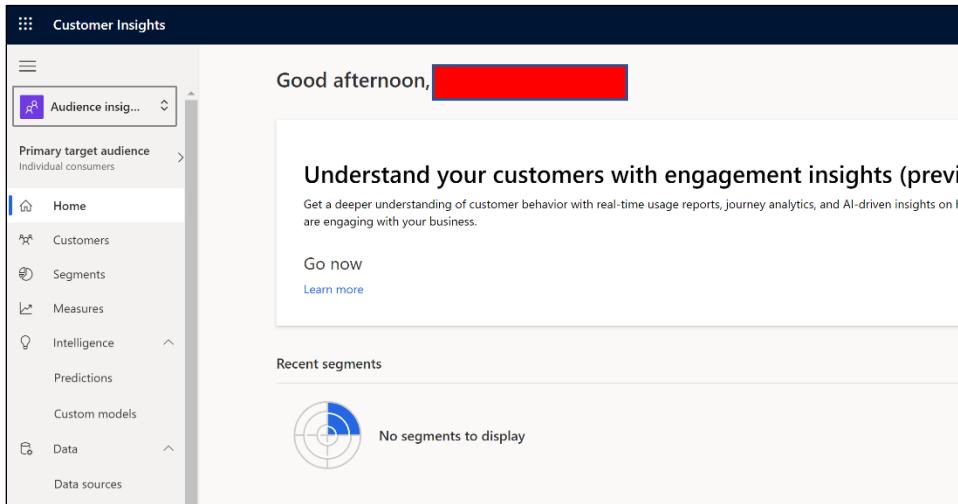
## Task 1: Create Customer Insights Environment

In this task you will create a new Customer Insights sandbox environment. To set **Customer intelligence** up correctly, you must first create a Customer Insights sandbox environment and connect it to your Dataverse environment with no Data Sources specified. Once connected, you will go through [Solution Center](#) and deploy **Customer intelligence** from **Unified customer profile**, specifying the Customer Insights environment that you create in this task.

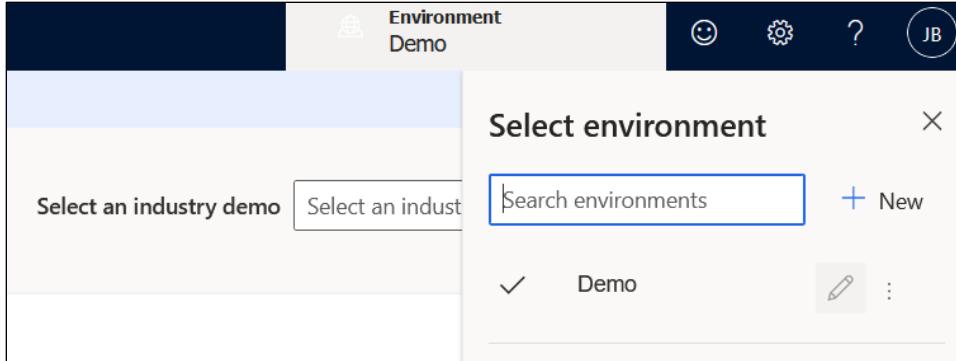
1. Using an In-Private or Incognito window, navigate to <https://home.ci.ai.dynamics.com/> and log in with the credentials provided by your instructor.
2. If not already selected, select **Audience insights** as your focus.



3. Your screen would look like this with Audience Insights selected:



4. In the top right corner of the screen, click on the environment name and then click **+ New** to create a new environment



5. Fill out the appropriate fields and click **Next**.

- a. **Name:** <<UserName>> Retail Churn
- b. **Choose your business:** Individual consumers (B-to-C)
- c. **Type:** Pitch Demo
- d. **Region:** West US

Create an environment

Basic information  
 Advanced reporting  
 Data storage  
 Microsoft Dataverse  
 Review

**Basic information**  
Environments serve as a home base for your data and for your team.

**Name \***

Copy from existing environment (preview)

**Choose your business \***

**Type \***

**Region \*** ⓘ

6. **Deselect** Power BI Reporting and click **Next**.

Create an environment

Basic information

Advanced reporting

Data storage

Microsoft Dataverse

Review

**Advanced reporting**

Use Microsoft Power BI to visualize your data.

Power BI reporting

Perform computations using \*

Power BI with Azure Synapse Analytics

Sign into Power BI to pick a capacity

Sign in

Select a capacity \*

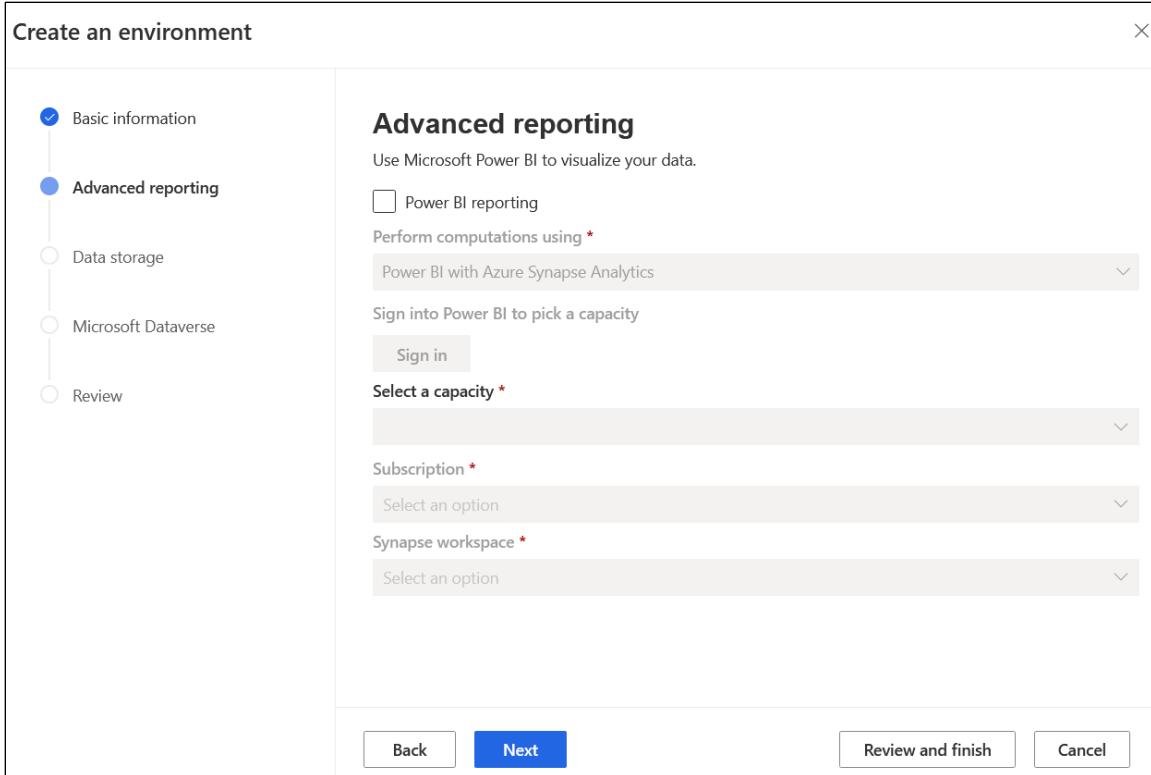
Subscription \*

Select an option

Synapse workspace \*

Select an option

Back    **Next**    Review and finish    Cancel



7. Leave **Customer Insights storage** selected and click **Next**.

Create an environment

Basic information

Advanced reporting

Data storage

Microsoft Dataverse

Review

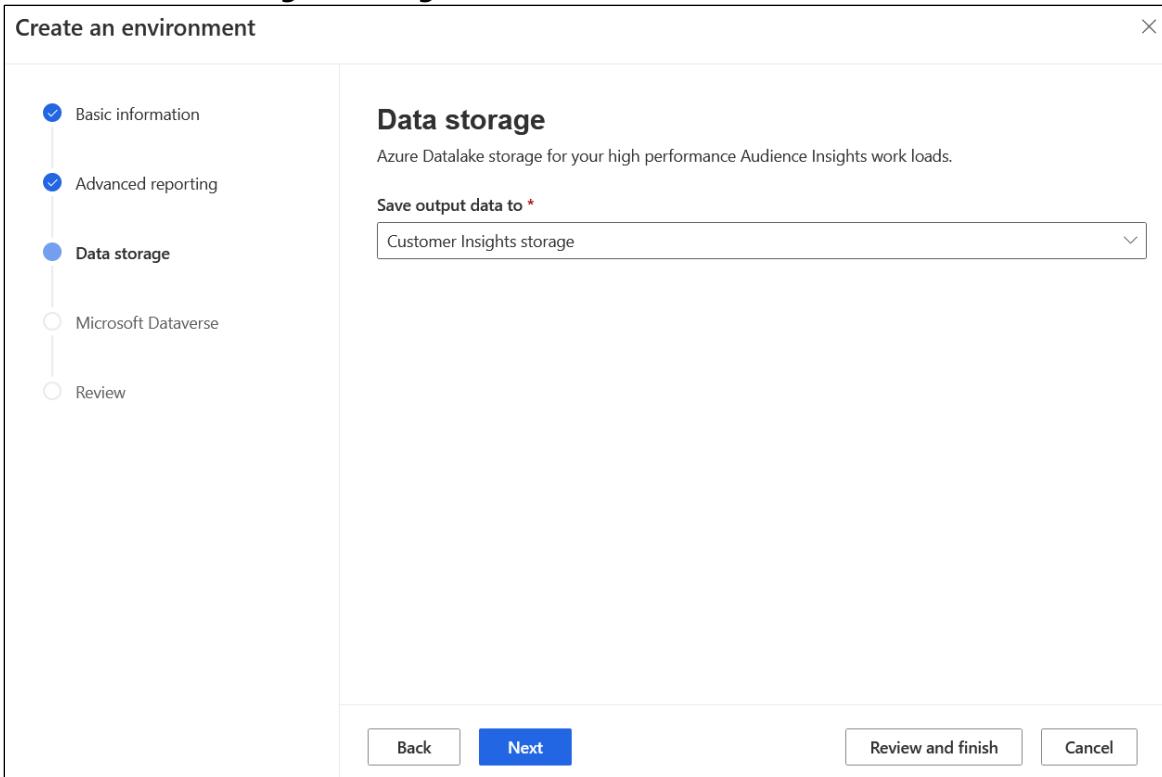
**Data storage**

Azure Datalake storage for your high performance Audience Insights work loads.

Save output data to \*

Customer Insights storage

Back    **Next**    Review and finish    Cancel



8. Leave the Microsoft Dataverse environment URL blank and click **Next**.

Create an environment

Basic information  
Advanced reporting  
Data storage  
**Microsoft Dataverse**  
Review

**Microsoft Dataverse**

Provide your own Microsoft Dataverse environment to share data (profiles and insights) with Dataverse based business applications. Leave this field empty if you don't have one and we will provision one for you and share data with Dataverse.

Microsoft Dataverse environment URL

Back    **Next**    Review and finish    Cancel

9. Click **Create**.

Create an environment

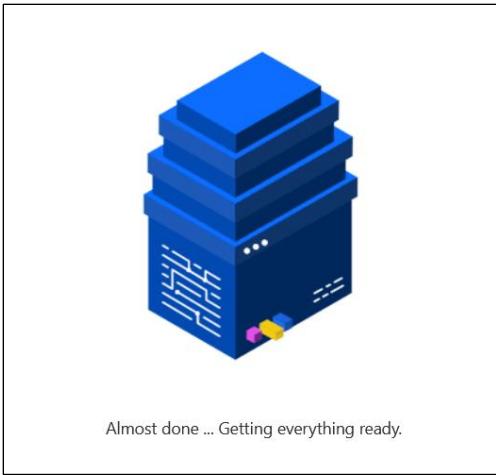
Basic information  
Advanced reporting  
Data storage  
**Microsoft Dataverse**  
Review

**Review**

<b>Basic information</b>	<a href="#">Edit</a>
Name:	Retail Churn
Audience type:	Individual consumers (B-to-C)
Type:	PitchDemo
Region:	West US
<b>Advanced reporting</b>	<a href="#">Edit</a>
User capacity selected:	No
<b>Data storage</b>	<a href="#">Edit</a>
Output storage type:	Customer Insights storage
<b>Microsoft Dataverse</b>	<a href="#">Edit</a>
Server address:	--
Enable data sharing:	No

Back    **Create**    Cancel

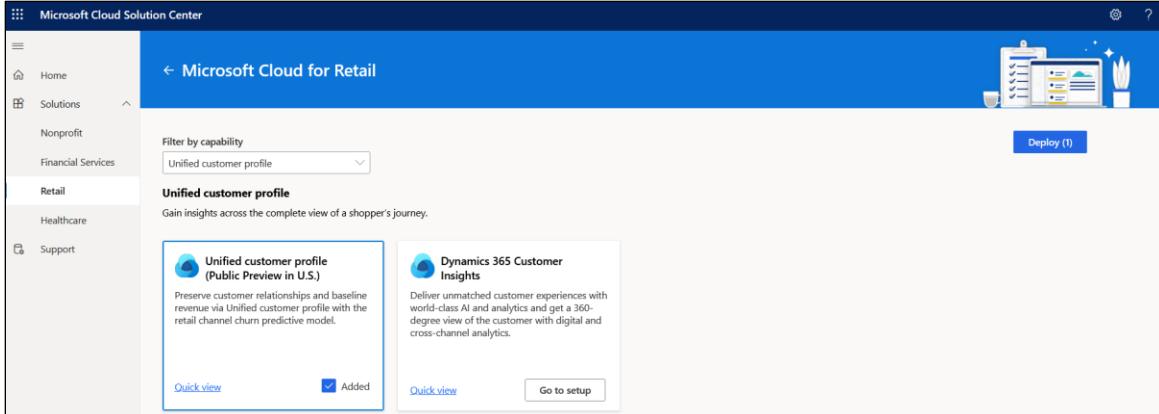
10. Wait for the environment to be created



**Congratulations!** You have successfully created a CI environment.

## Task 2: Deploy Retail Churn Model

1. Open a **new tab** in our internet browser and navigate to the Microsoft Cloud Solution Center at [solutions.microsoft.com](https://solutions.microsoft.com)
2. Expand **Retail** and navigate to **Unified customer profile**. Check **Add** next to Unified customer profile and then click **Deploy**.



3. Select the **Customer Insights Environment** that you created in the previous task, **provide a name** for your deployment, **agree** to the terms and conditions, and click **Next**.

Microsoft Cloud Solution Center

Home Solutions Nonprofit Financial Services Retail Healthcare Support

← Set up solution

Set up new deployment

- Configure dependencies
- Deploy solution
- Success

Set up new deployment

Follow these steps to set up and deploy your new solutions

Customer Insights Environment ⓘ

Retail Churn

Create new

Name your deployment for easy management ⓘ

Retail Churn

Terms of service

I acknowledge that I have read and agree to the [Terms of service](#)

Next

The screenshot shows the Microsoft Cloud Solution Center interface. On the left, there's a navigation bar with 'Home', 'Solutions' (which is expanded to show 'Nonprofit', 'Financial Services', 'Retail', 'Healthcare', and 'Support'), and a 'Create new' button. The main area has a title '← Set up solution' and a flow diagram. The first step 'Set up new deployment' is selected (indicated by a blue dot). It has three sub-options: 'Configure dependencies' (selected), 'Deploy solution', and 'Success'. To the right, under 'Set up new deployment', there's a section titled 'Customer Insights Environment ⓘ' with a dropdown menu showing 'Retail Churn' and a 'Create new' link. Below that is a 'Name your deployment for easy management ⓘ' input field with 'Retail Churn' typed in. At the bottom, there's a 'Terms of service' section with a checked checkbox and a link to the 'Terms of service'. A large blue 'Next' button is at the bottom right.

- Click Deploy to deploy the Retail Churn model to your Customer Insights environment.

Microsoft Cloud Solution Center

Home Solutions Nonprofit Financial Services Retail Healthcare Support

← Set up solution

Set up new deployment

- Configure dependencies
- Deploy solution
- Success

Configure pre-deployment dependencies

This solution has dependencies on other applications. We've run an automated check to see if the dependent applications have already been installed and configured.

Re-check dependencies

Solution dependencies

These dependencies are required to be installed and configured in the destination selected in the previous step.

Dynamics 365 Customer Insights

Environment: Retail Churn

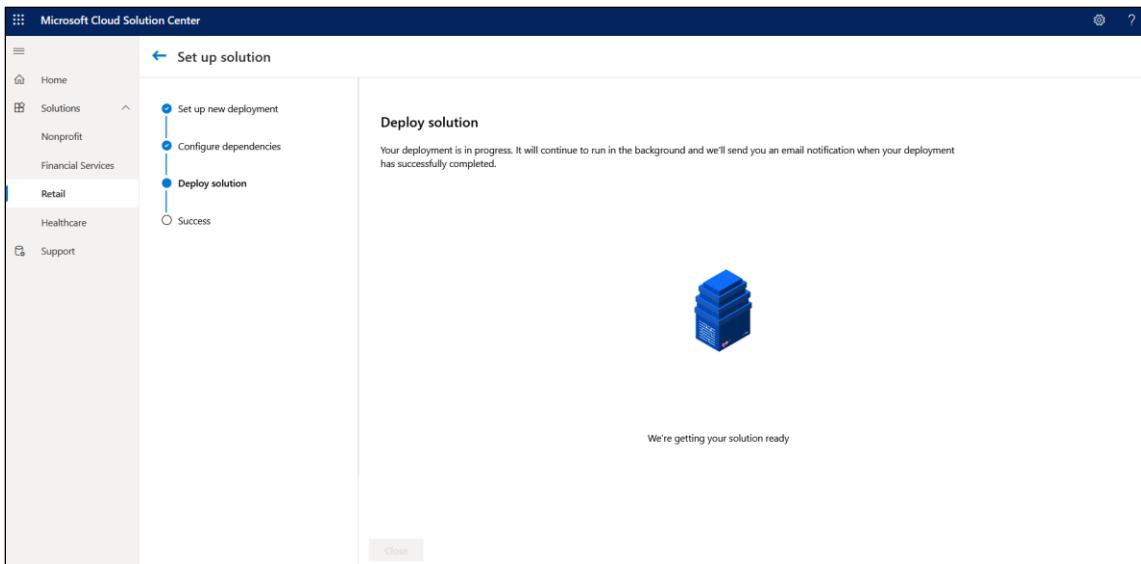
Installed

Configure

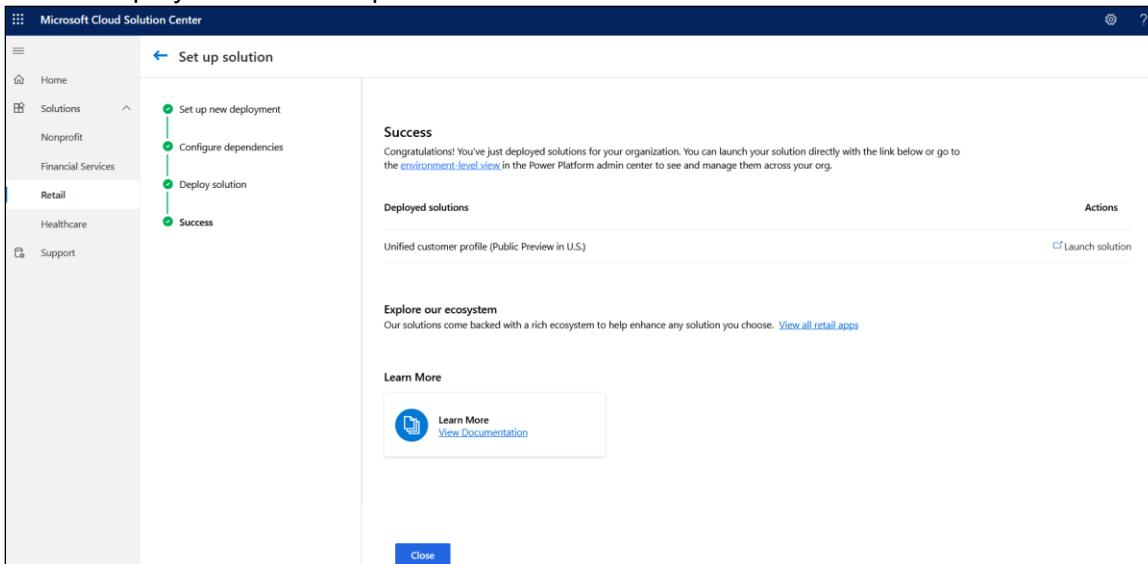
Back Deploy

The screenshot shows the 'Configure dependencies' step in the Microsoft Cloud Solution Center. The left sidebar shows the same navigation as the previous screenshot. The main area has a 'Configure dependencies' step selected. To the right, there's a 'Dynamics 365 Customer Insights' section with a 'Environment' dropdown set to 'Retail Churn'. Below it are two radio buttons: 'Installed' (selected) and 'Configure'. There's also a 'Re-check dependencies' link. At the bottom, there are 'Back' and 'Deploy' buttons.

- Deployment will take several minutes to complete.



- Once the deployment has completed, click **Close**.



**Congratulations!** You have successfully deployed Retail Churn Model.

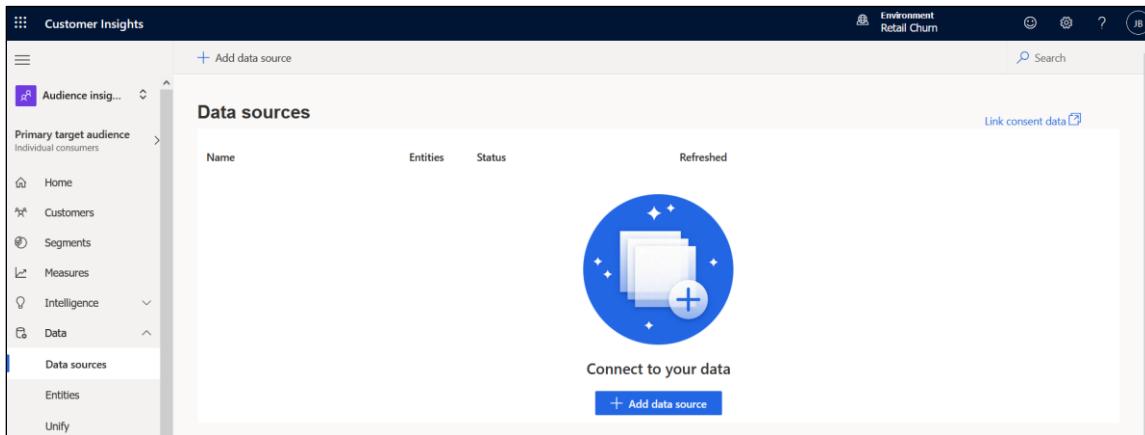
# Exercise 2: Configure Retail Churn Model in Dynamics 365 Customer Insights

In this exercise, you will configure the Retail Churn Model in the Dynamics 365 Customer Insights environment you created in the previous exercise.

## Task 1: Add a Data Source

In this task, you will add a data source for your Retail Churn model.

1. Navigate to your newly created Customer Insights environment, expand **Data**, and go to **Data sources**. Click **Add data source**.



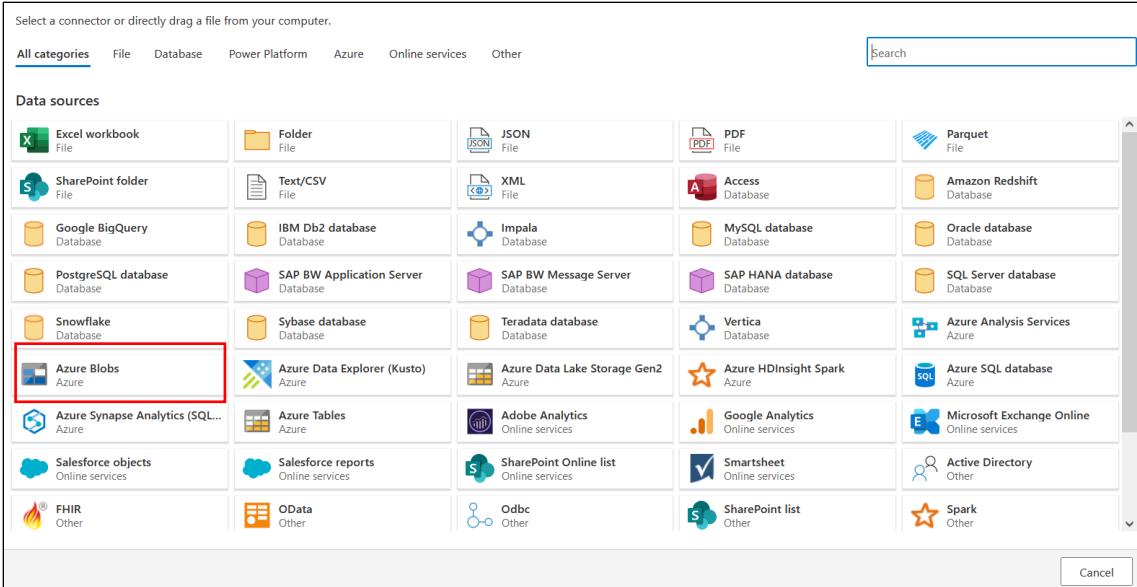
2. Select **Microsoft Power Query** save the data source as "RetailGroceryChurn", and then click **Next**.

A screenshot of a configuration dialog for importing data. It starts with a heading 'Choose your import method'. Below it is a list of options:

- Microsoft Power Query  
Files, databases, Microsoft Azure services, and third-party online services  
[Learn more](#)
- Azure Synapse Analytics (Preview)  
Get data from Azure Synapse Analytics
- Azure data lake storage  
Azure Data Lake storage accounts  
[Learn more](#)
- Microsoft Dataverse  
Data sets in the Common Data Service data lake  
[Learn more](#)
- Customer Insights data library  
Get data from Datahub catalog

A note at the bottom states: 'Data stored in an online service such as Azure Data Lake Storage may be stored in a different location than where data is processed or stored in Dynamics 365 Customer Insights. By importing, or connecting to, data stored in an online service such as Azure Data Lake Storage, you agree that data can be transferred to, and stored with, Dynamics 365 Customer Insights. Learn more at the [Microsoft Trust Center](#)'. The next section is 'Provide a name to identify your data source.' with a field 'Save data source as: \*' containing 'RetailGroceryChurn'. A note below says 'Use both letters and numbers—no spaces or special characters (3-64 characters)'. At the bottom right are 'Cancel' and 'Next' buttons.

3. Choose the **Azure Blobs** connector.



4. Open a new internet browser tab and go to [portal.azure.com](https://portal.azure.com).
5. Under **Azure services** navigate to **Storage accounts**.

6. Search for "retailchurn" and open the **Storage Account**.

Name	Type	Kind
retailchurn	Storage account	StorageV2

7. Go to **Access keys** and copy the **Storage account** name. Paste that in the **Account name** under the Connection settings in Customer Insights.

Home > Storage accounts > retailchurn

## retailchurn | Access keys

Storage account

Search (Ctrl+ /) < Show keys Set rotation reminder Refresh

Access keys authenticate your applications' requests to this storage account. Keep your keys in a secure location like Azure Key Vault, and replace them often with new keys. The two keys allow you to replace one while still using the other.

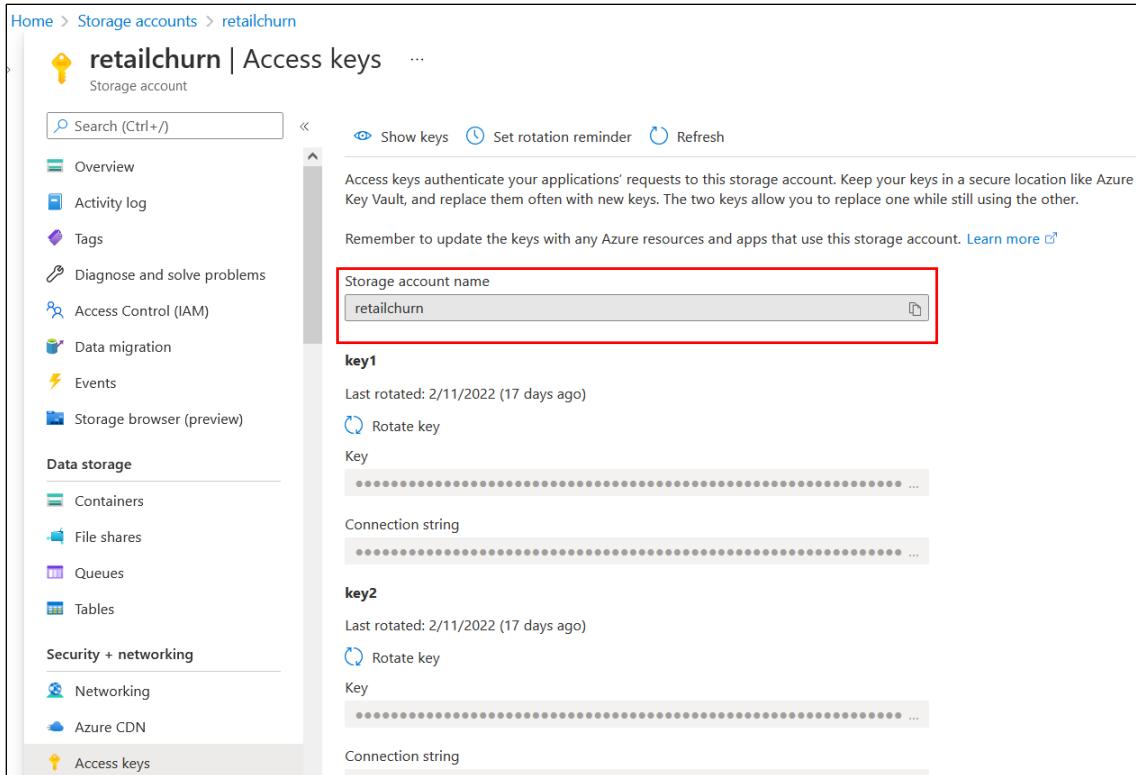
Remember to update the keys with any Azure resources and apps that use this storage account. [Learn more](#)

Storage account name: retailchurn

key1  
Last rotated: 2/11/2022 (17 days ago)  
Rotate key  
Key: [REDACTED]  
Connection string: [REDACTED]

key2  
Last rotated: 2/11/2022 (17 days ago)  
Rotate key  
Key: [REDACTED]  
Connection string: [REDACTED]

Overview Activity log Tags Diagnose and solve problems Access Control (IAM) Data migration Events Storage browser (preview) Data storage Containers File shares Queues Tables Security + networking Networking Azure CDN Access keys



Azure Blobs

Connection settings

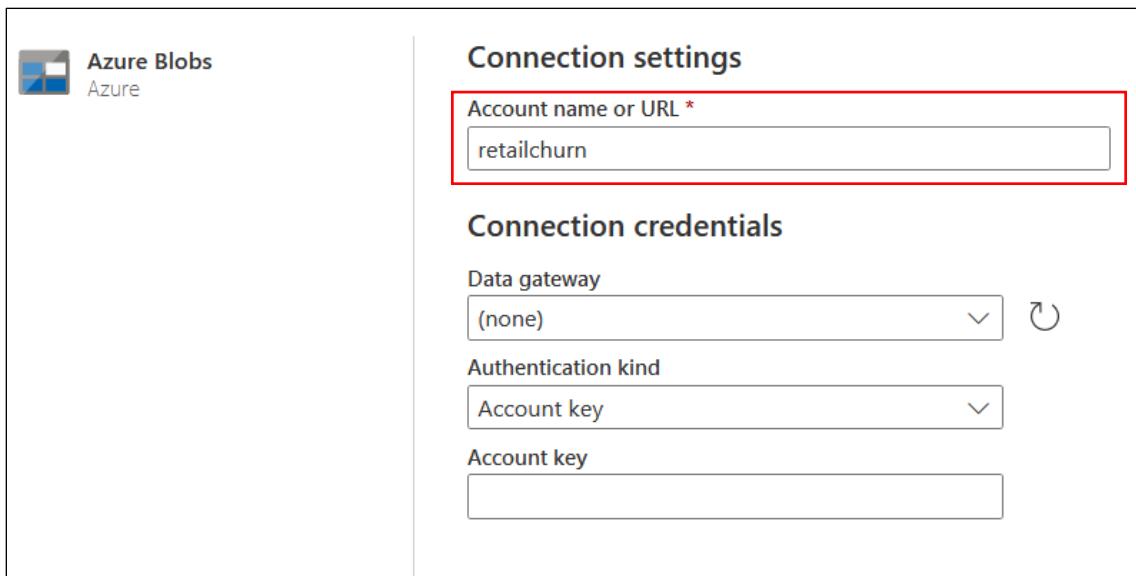
Account name or URL \*: retailchurn

Connection credentials

Data gateway: (none)

Authentication kind: Account key

Account key: [REDACTED]



8. Back in **Azure**, click **Show keys**, and then **copy** key 1 and **paste** it in the **Account key** field under Connection settings and click **Next**.

Home > Storage accounts > retailchurn

## retailchurn | Access keys

Storage account

Search (Ctrl+ /) < Show keys Set rotation reminder Refresh

Access keys authenticate your applications' requests to this storage account. Keep your keys in a secure location like Azure Key Vault, and replace them often with new keys. The two keys allow you to replace one while still using the other.

Remember to update the keys with any Azure resources and apps that use this storage account. [Learn more](#)

Storage account name: retailchurn

**key1**  
Last rotated: 2/11/2022 (17 days ago)  
Rotate key  
Key: [REDACTED]

Connection string: [REDACTED]

**key2**  
Last rotated: 2/11/2022 (17 days ago)  
Rotate key  
Key: [REDACTED]  
Connection string: [REDACTED]

Navigation sidebar:  
Overview, Activity log, Tags, Diagnose and solve problems, Access Control (IAM), Data migration, Events, Storage browser (preview), Data storage (Containers, File shares, Queues, Tables), Security + networking (Networking, Azure CDN, Access keys).

Azure Blobs

Connection settings  
Account name or URL: retailchurn

Connection credentials  
Data gateway: (none)  
Authentication kind: Account key  
Account key: [REDACTED]

Back Cancel Next

9. Select **retailgrocery** and click **Transform data**.

Power Query - Choose data

Search

Display options ▾

Azure Blobs [6]

- clothing
- convenience
- food
- grocery
- hardware
- retailgrocery**

Content	Name	Extension	Date accessed	Date modified	Date created	Attributes	Folder Path
[Binary]	Grocery_contact.csv	.csv	null	2/25/2022, 4:47:21 ...	null	[Record]	https://retailchurn.blob.core.windows.net/retailgrocery/
[Binary]	Grocery_msrc_session.csv	.csv	null	2/25/2022, 4:48:42 ...	null	[Record]	https://retailchurn.blob.core.windows.net/retailgrocery/
[Binary]	Grocery_msrc_transaction.csv	.csv	null	2/25/2022, 4:49:15 ...	null	[Record]	https://retailchurn.blob.core.windows.net/retailgrocery/

Back Cancel Transform data

10. Click the **[Binary]** link in the first cell of the first row for the **Grocery\_contact.csv** file.

Power Query - Edit queries

Home Transform Add column View Help

Get data Options Manage parameters Advanced editor Query Manage columns Sort Transform Combine

Source[{Name = "retailgrocery"}][Data]

Queries [1]

retailgrocery

Content	Name	Extension	Date accessed	Date modified	Date created	Attributes	Folder Path
[Binary]	Grocery_contact.csv	.csv	null	2/25/2022, 4:47:21 ...	null	[Record]	https://re...
[Binary]	Grocery_msrc_session.csv	.csv	null	2/25/2022, 4:48:42 ...	null	[Record]	https://re...
[Binary]	Grocery_msrc_transaction.csv	.csv	null	2/25/2022, 4:49:15 ...	null	[Record]	https://re...

Query settings

Properties

Name: retailgrocery

Entity type: Custom

Applied steps

Source Navigation

Completed (2.19 s) Columns: 8 Rows: 3

Step Cancel Save

Power Query - Edit queries

Home Transform Add column View Help

Get data Options Manage parameters Refresh Advanced editor Properties

Choose columns Remove rows Keep rows Remove rows Filter rows Sort Reduce rows Group by Replace values

Split column Data type: Text Use first row as headers

Merge queries Append queries Map to entity Combine files CDM

**Queries [1]**

retailgrocery

**Query settings**

- Properties
- Name: retailgrocery
- Entity type: Custom
- Applied steps
- Source: Imported CSV
- Navigation
- Navigation 1

**Completed (1.21 s)** Columns: 10 Rows: 99+

Step Cancel Save

Column1	Column2	Column3	Column4	Column5	Column6	Column7	Column8	Column9	Column10
1 contactid	genderCode	birthdate	msrc_loyaltymembers...	msrc_agreementtomarketingactiv...	annualincome	msrc_occupa...			
2 3fa4725-d66b-436f-ac5-e653ebc...	N/A	1958-09-30	False	False	32013	Self-employ...			
3 e11911b9-c88e-4d0b-9d89-10531...	Female	1954-06-25	False	False	31807	Self-employ...			
4 d0181a83-d64-4269-adef-2a9473...	Male	1960-12-19	True	False	31773	Employed			
5 91117a4c-c123-4d82-9372-4961...	Male	2000-05-16	False	False	49165	Employed			
6 7c93fa8d-efee-4694-b78f-215673b...	Male	1953-06-03	True	True	35932	Employed			
7 ddd138ef-13ce-40fc-876a-dd0614...	Female	1964-09-18	False	True	20742	Self-employ...			
8 a8008d8f-9463-4995-a501-606b6...	Female	1958-05-26	True	True	43406	Employed			
9 729c54e1-1ab7-48ab-ab70-75605...	Male	1959-01-29	False	False	42331	Partially emp...			
10 bb4bde3-7379-4420-8994-98a8d...	Male	1969-06-10	False	False	19715	Partially emp...			
11 ec8a5561-3bfa-4d17-84ec-15617...	Male	1984-03-15	False	False	74319	Employed			
12 659f1aa6-a64c-4b01-ad70-4f9051...	N/A	1999-12-01	False	False	41017	Self-employ...			
13 416d1604-36ea-4855-ae21-f534d...	Male	1994-09-01	False	False	47292	Employed			
14 02f23a45-e1d1-4e2a-a1ce-3e334...	Female	1951-01-06	False	False	94595	Employed			
15 a328a0f0-2ac8-43dc-b806-635907...	N/A	1992-01-01	True	True	34974	Employed			
16 e589163-0451-4211-9ba2-0ca2b...	Male	1978-01-19	False	False	26691	Employed			
17 b591a3a1-d533-43d2-958f-deb57...	Male	1970-01-28	False	True	65281	Employed			
18 5ba4b897-0b71-474a-91ab-02cad...	Female	1958-09-04	True	True	51333	Employed			
19 477002c-4007-4245-0424-765c10...	Male	1993-07-30	False	False	27622	Employed			

## 11. Go to the **Transform** ribbon and then select the **Use first row as headers** option

Power Query - Edit queries

Home **Transform** Add column View Help

Group by headers Reverse rows Count rows

Use first row as headers

Use headers as first row

retailgrocery

**Query settings**

- Properties
- Name: retailgrocery
- Entity type: Custom
- Applied steps
- Source: Imported CSV
- Navigation
- Navigation 1

**Completed (1.21 s)** Columns: 10 Rows: 99+

Step Cancel Save

Column1	Column2	Column3	Column4	Column5	Column6	Column7	Column8	Column9	Column10
1 contactid	genderCode	birthdate	msrc_loyaltymembers...	msrc_agreementtomarketingactiv...	annualincome	msrc_occupa...			
2 3fa4725-d66b-436f-ac5-e653ebc...	N/A	1958-09-30	False	False	32013	Self-employ...			
3 e11911b9-c88e-4d0b-9d89-10531...	Female	1954-06-25	False	False	31807	Self-employ...			
4 d0181a83-d64-4269-adef-2a9473...	Male	1960-12-19	True	False	31773	Employed			
5 91117a4c-c123-4d82-9372-4961...	Male	2000-05-16	False	False	49165	Employed			
6 7c93fa8d-efee-4694-b78f-215673b...	Male	1953-06-03	True	True	35932	Employed			
7 ddd138ef-13ce-40fc-876a-dd0614...	Female	1964-09-18	False	True	20742	Self-employ...			
8 a8008d8f-9463-4995-a501-606b6...	Female	1958-05-26	True	True	43406	Employed			
9 729c54e1-1ab7-48ab-ab70-75605...	Male	1959-01-29	False	False	42331	Partially emp...			
10 bb4bde3-7379-4420-8994-98a8d...	Male	1969-06-10	False	False	19715	Partially emp...			
11 ec8a5561-3bfa-4d17-84ec-15617...	Male	1984-03-15	False	False	74319	Employed			
12 659f1aa6-a64c-4b01-ad70-4f9051...	N/A	1999-12-01	False	False	41017	Self-employ...			
13 416d1604-36ea-4855-ae21-f534d...	Male	1994-09-01	False	False	47292	Employed			
14 02f23a45-e1d1-4e2a-a1ce-3e334...	Female	1951-01-06	False	False	94595	Employed			
15 a328a0f0-2ac8-43dc-b806-635907...	N/A	1992-01-01	True	True	34974	Employed			
16 e589163-0451-4211-9ba2-0ca2b...	Male	1978-01-19	False	False	26691	Employed			
17 b591a3a1-d533-43d2-958f-deb57...	Male	1970-01-28	False	True	65281	Employed			
18 5ba4b897-0b71-474a-91ab-02cad...	Female	1958-09-04	True	True	51333	Employed			
19 477002c-4007-4245-0424-765c10...	Male	1993-07-30	False	False	27622	Employed			

## 12. Right click the **birthdate** column, go to **Change type**, and select **Date**.

Power Query - Edit queries

Home Transform Add column View Help

Queries [1] Table.PromoteHeaders(#"Imported CSV", [PromoteAllScalars = true])

**Contact**

	contactid	genderCode	bl	annualincome
1	3fa4a725-d66b-436f-aca5-e653ebc...	N/A	1958-	32013
2	e11911b9-c88e-4d0b-9d89-10531...	Female	1954-	31807
3	d0181a83-d64d-4269-adef-2a9473...	Male	1960-	31773
4	91117a4c-c123-4d82-9372-49be1...	Male	2000-	49165
5	7c93fa8d-efee-4694-b78f-215673b...	Male	1953-	35932
6	ddd138ef-13ce-40fc-876a-dd0614...	Female	1964-	20742
7	a8008d8f-9463-4d95-a501-6b6b6...	Female	1958-	43406
8	729c54e1-1ab7-48ab-ab70-75605...	Male	1959-	42331
9	bb4ddcc3-7379-4420-8994-9848d...	Male	1969-	74319
10	ec8a5561-3bfa-4d17-84ec-15617...	Male	1984-	41017
11	659f1aa6-a64c-4b01-ad70-4f9051...	N/A	1999-	47292
12	416d1604-36ea-4855-ae21-f534da...	Male	1994-	94595
13	02623a5-e1d1-4e2a-a1e3-e3e3f34...	Female	1951-	34974
14	a328a0f0-2a8-43dc-b806-635907...	N/A	1992-	26691
15	e5891f63-0451-4211-9ba2-0ca2b8...	Male	1978-	65281
16	b591a3a1-d533-43d2-958f-deb57...	Male	1970-	51333
17	5ba48b97-0b71-474a-91ab-02cad...	Female	1958-	27973
18	f87002e6-4897-424b-9d2-76510...	Male	1982-	7773
19	7c7660-471-4403-b414-16e70...	Male	2001-	101

Completed (1.87 s) Columns: 10 Rows: 99+

Query settings >

- Properties
  - Name: retailgrocery
  - Entity type: Custom
- Applied steps
  - Source
  - Navigation
  - Navigation 1
  - Imported CSV
  - Promoted he...

Step Cancel Save

13. Select the following columns by holding down the **Ctrl key** on your keyboard: annualincome, msrc\_creditscore, msrc\_customerrelationshipduration, and msrc\_distanceoneareststore. Once highlighted, right click one of them, go to **Change type**, and select **Decimal number**.

Power Query - Edit queries

Home Transform Add column View Help

Queries [1] Table.TransformColumnTypes(#"Promoted headers", {{"birthdate", type date}})

**gactiv...**

	gactiv...	annualincome	msrc_occupationstatus	msrc_creditscore	msrc_customerrelationshipduration	msrc_distanceoneareststore
1	32013	9244823	318	12.38		
2	31807	486.8008593935054	254	13.69		
3	31773	1005.3447935107653	671	14.38		
4	49165	747.5397847104007	246	22.01		
5	35932	895.9196094001996	70	20.25		
6	20742	522.9779620552961	205	20.3		
7	43406	931.8807090056166	75	7.59		
8	42331	21.59				
9	19715	4.59				
10	74319	9.47				
11	41017	4.97				
12	47292	3.51				
13	94595	19.96				
14	34974	17.66				
15	26691	2.44				
16	65281	11.84				
17	51333	20.57				
18	27973	19.55				
19	7773	20.73				

Completed (1.15 s) Columns: 10 Rows: 99+

Query settings >

- Properties
  - Name: retailgrocery
  - Entity type: Custom
- Applied steps
  - Source
  - Nav...
  - Nav...
  - Imp...
  - Pro...
  - msrc Cha...

Step Cancel Save

14. Finally, under Properties on the right side, change the **Name** to "contact" and hit the **Enter** key on your keyboard. DO NOT CLICK SAVE.

Power Query - Edit queries

Home Transform Add column View Help

Queries [1] < contact

Completed (0.91 s) Columns: 10 Rows: 99+

**Query settings**

- Properties
  - Name: contact
  - Entity type: Custom
- Applied steps
  - Source
  - Navigation
  - Navigation 1
  - Imported CSV
  - Promoted headers
  - Changed column

Cancel Save

## 15. Right-click the contact query and select Duplicate.

Power Query - Edit queries

Home Transform Add column View Help

Queries [1] < contact

Completed (2.12 s) Columns: 10 Rows: 99+

**Query settings**

- Properties
  - Name: contact
  - Entity type: Custom
- Applied steps
  - Source
  - Navigation
  - Navigation 1
  - Imported CSV
  - Promoted headers
  - Changed column

Cancel Save

## 16. Right-click the duplicated query and rename it to "transactions".

Screenshot of Power Query - Edit queries showing the Transform ribbon tab selected. The Queries list shows two items: contact and transactions. The transactions query is selected, displaying its data in a table view. The table has columns: contactid, genderCode, birthdate, msrc\_loyaltymembers..., msrc\_agreementtomarketingactiv..., and annual. The data consists of 19 rows of contact information. The Applied steps pane on the right shows the following steps: Source, Navigation, Imported CSV, Promoted headers, and Changed column.

17. With the **transactions** query selected, delete all the **Applied steps** on the right up to the Navigation step.

Screenshot of Power Query - Edit queries showing the Transform ribbon tab selected. The Queries list shows two items: contact and transactions. The transactions query is selected, displaying its data in a table view. The table has columns: Content, Name, Extension, Date accessed, Date modified, Date created, and Attributes. The data consists of 3 rows of file metadata. The Applied steps pane on the right shows the following steps: Source and Navigation.

18. Click the **[Binary]** link in the first cell of the third row for the **Grocery\_msrc\_transaction.crv** file.

Power Query - Edit queries

Home Transform Add column View Help

Queries [2]

contact transactions

Source ([Name = "retailgrocery"])[Data]

010 Content	Name	Extension	Date accessed	Date modified	Date created	Attributes	Text column
1 [Binary]	Grocery_contact.csv	.csv	null	2/25/2022, 4:47:21 ...	null	[Record]	https://r...
2 [Binary]	Grocery_msrc_session.csv	.csv	null	2/25/2022, 4:48:42 ...	null	[Record]	https://r...
3 [Binary]	Grocery_msrc_transaction.csv	.csv	null	2/25/2022, 4:49:15 ...	null	[Record]	https://r...

Table cell details

retailchurn.blob.core.windows.net  
189,617,947 bytes

Completed (0.66 s) Columns: 8 Rows: 3

Query settings

- Properties
  - Name: transactions
  - Entity type: Custom
- Applied steps
  - Source
  - Navigation

Step Cancel Save

## 19. As before, go to **Transform** and select **Use first row as headers**.

Power Query - Edit queries

Home Transform Add column View Help

Queries [2]

contact transactions

Use first row as headers.

Promote the first row of data in the table to column headers. **,"**, Columns: 13, QuoteStyle = **QuoteStyle.None**

Column1	Column2	Column3	Column4	Column5	Column6	Column7	Column8	Column9	Column10	Column11	Column12	Column13
msrc_transactionid	msrc_customerid	msrc_transaction	msrc_productcatalogid	msrc_transactionlocationid	msrc_transacti...	msrc_transac...						
1	ecc57120-4945-46d7-9c07-9e71d1...	3fa4a725-d66...	46212cb-178...	54910e32-70f4-451...	fa2f1144-1445-46ea-bbcf-ab21c...	Physical	2021-06-1					
2	c93db1ba-8611-4a91-8500-4979a...	3fa4a725-d66...	7d67eed-b0b...	a1c673d1-5383-446...	3caff72-3c17-4e10-ac5c-d2da8...	Physical	2021-06-1					
3	92800346-03b7-47d4-bf22-3390f...	3fa4a725-d66...	fe48d624-439...	61bd9ff8-8ae8-4fb3...	41de6f45-746e-44cd-ab49-813...	Physical	2021-06-2					
4	c49376bb-7d24-4ef0-a614-50129...	3fa4a725-d66...	a96de2b8-2ba...	6df0f586-543e-41e...	bc448ee-012c-45ed-8605-61b6...	Digital	2021-06-1					
5	86cc66dc-141b-412e-bd42-5232...	3fa4a725-d66...	cb0ed62e-3efc...	f8ee83d5-db23-4115...	bc448ee-012c-45ed-8605-61b6...	Physical	2021-06-1					
6	f97ddcf2-31b0-4384-8458-a3d74...	3fa4a725-d66...	69b2a83b-1c0b...	572ae238-df73-4368...	bc448ee-012c-45ed-8605-61b6...	Digital	2021-06-2					
7	9ef92e23-8735-4069-9fda-cfa4b3...	3fa4a725-d66...	a90bc6a6-069...	ed37132d-9a6a-4cc5...	41de6f45-746e-44cd-ab49-813...	Physical	2021-06-2					
8	fb323b3f-3f6c-4c85-870f-a23a7f5...	3fa4a725-d66...	4d2db506-6f7...	add7650e-4320-4cb5...	41de6f45-746e-44cd-ab49-813...	Physical	2021-06-1					
9	2dde4be5-196e-4f6e-8265-4e6fb6...	3fa4a725-d66...	d7497c4d-911...	47e99aaa-1e60-4631...	41de6f45-746e-44cd-ab49-813...	Digital	2021-06-1					
10	cdb27ef6-3140-4f64-b131-a7a959...	3fa4a725-d66...	07687634-05...	d560e049-ed78-458...	bc448ee-012c-45ed-8605-61b6...	Physical	2021-08-1					
11	e11911b9-c88...	281446e-887...	d560e049-ed78-458...	bc448ee-012c-45ed-8605-61b6...	Physical	2021-08-0						
12	a9fcba4f-26f8-4ae2-bd29-28b0664...	e11911b9-c88...	ed5956d-8173-48a...	3caff72-3c17-4e10-ac5c-d2da8...	Physical	2021-08-0						
13	e0588688-a776-4a9a-95d4-d904...	e11911b9-c88...	ef58e2de-be7...	41de6f45-746e-44cd-ab49-813...	Physical	2021-08-1						
14	1a9e0177-247d-44e6-883e-1760b...	b3918141-1e3...	b750e5e-455-4fb6...	41de6f45-746e-44cd-ab49-813...	Digital	2021-08-0						
15	3fac58ff-415d-4ef5-9114-349016d...	e11911b9-c88...	18a90081-a9...	50054239-424e-468...	3caff72-3c17-4e10-ac5c-d2da8...	Digital	2021-08-0					
16	abf86df0-e04-e4d1-a68b-0b7f75...	e11911b9-c88...	36f0e835-1a3...	c224df1-b1e2-490...	41de6f45-746e-44cd-ab49-813...	Physical	2021-08-0					
17	99c52044-98bb-407a-9bd1-bc357...	e11911b9-c88...	3e78f76a-470...	fc83a2b-250b-4f77...	fa2f1144-1445-46ea-bbcf-ab21c...	Physical	2021-08-0					
18	deacc7-a6f0-4c2e-a556-2288ff7...	e11911b9-c88...	af047cc4-8ee8...	63fd9892-6dcf-4bae...	3caff72-3c17-4e10-ac5c-d2da8...	Physical	2021-08-0					
19												

Completed (1.32 s) Columns: 13 Rows: 99+

Query settings

- Properties
  - Name: transactions
  - Entity type: Custom
- Applied steps
  - Source
  - Navigation
  - Navigation 1
  - Imported CSV

Step Cancel Save

## 20. Scroll over to and select the **msrc\_transactiontimestamp** column. Right-click and **Change type** to **Date/Time**.

21. Press and hold the **Ctrl key** on your keyboard to select both the **msrc\_transactionamount** and **msrc\_discountappliedamount** columns. Right-click one of the columns, go to **Change type**, and select **Decimal number**.

Power Query - Edit queries

Home Transform Add column View Help

Group Use first row as headers ▾ Reverse rows Count rows

Transpose Replace values ▾ Detect data type Pivot column Fill ▾ Move ▾ Text column ▾ Number column ▾ Date and time column ▾

Replace values ▾ Mark as key Unpivot columns Convert to list Any column

Queries [2]

contact transactions

Table.TransformColumnTypes(#"Promoted headers", {{"msrc\_transactiontimestamp", type datetime}})

	msrc_transactiontype	msrc_paymentmethod	msrc_transactedamount	msrc_ontimeddelivery	msrc_transactiontimestamp
1	Purchase	Debit	7.65191521704	Delayed	True
2	Purchase	Credit card	2.36376972921	Remove columns	
3	Purchase	Debit	1.32317547803	Remove other columns	
4	Exchange	Cash	12.8621677662	Add column from examples...	
5	Exchange	Refund	3.92413399626	Remove duplicates	
6	Exchange	Debit	3.97631052497	Remove errors...	
7	Return	Mobile/digital/cashless	10.29216444506	Replace values...	
8	Purchase	Debit	8.18536285486	Replace errors...	
9	Purchase	Credit card	14.8679018813	Merge columns	
10	Purchase	Credit card	0.36350651229	Change type	
11	Purchase	Refund	11.1441705331	Transform columns	
12	Return	Debit	0.19060037964	Group by...	
13	Purchase	Credit card	0.97101203316	Group by...	
14	Return	Debit	7.92340284881	Fill	
15	Purchase	Cash	1.79664751096	Unpivot columns	
16	Purchase	Gift card	8.84766166104	Unpivot other columns	
17	Purchase	Cash	10.6220733003	Unpivot only selected columns	
18	Purchase	Debit	11.8358254513	Move	
19	...	...	...	...	...

Completed (3.11 s) Columns: 13 Rows: 99+

Query settings

Properties

Name: transactions

Entity type: Custom

Applied steps

- Source
- Navigation
- Navigation 1
- Imported CSV
- Promoted headers
- Changed column types
- Changed data type
- Step

22. Right-click the **transactions query** and select **duplicate**.

Power Query - Edit queries

Home Transform Add column View Help

Queries [2]

**msrc\_transactions**

Purchase	Type	Amount	Timestamp	Status	Delayed
Debit	Credit card	2.363769729	1.323792212	Delayed	True
Debit	Cash	1.323175478	0	Delayed	True
Refund	Cash	12.86216777	0	Delayed	True
Debit	Refund	3.924133996	0	Delayed	True
Debit	Debit	3.976310525	1.068660005	Delayed	True
Mobile/digital/cashless	Debit	10.29214445	2.150837185	Delayed	True
Debit	Credit card	8.185362855	0	On-time	True
Debit	Credit card	14.86790188	0	Delayed	True
Refund	Credit card	0.3635065123	0	Delayed	True
Debit	Refund	11.14417053	2.060410405	Delayed	True
Debit	Credit card	0.1906003796	0.03987881907	Delayed	True
Credit card	Debit	0.9710120332	0	Delayed	True
Debit	Credit card	7.923402849	2.103243773	Delayed	True
Cash	Cash	1.796647511	0.4314152398	Delayed	True
Cash	Gift card	8.847661661	2.986940906	Delayed	True
Cash	Cash	10.6220733	3.548649445	Delayed	True
Debit	Debit	11.83582545	0	Delayed	True

Completed (2.90 s) Columns: 13 Rows: 99+

Query settings

- Properties
  - Name: transactions
  - Entity type: Custom
- Applied steps
  - Source
  - Navigation
  - Navigation 1
  - Imported CSV
  - Promoted headers
  - Changed column types

Step Save Cancel

23. Rename the query to “**session**” and delete all the **Applied steps** up to **Navigation** like you did before.

Power Query - Edit queries

Home Transform Add column View Help

Queries [3]

**session**

Content	Name	Extension	Date accessed	Date modified	Date created	Attributes	Link
[Binary]	Grocery_contact.csv	.csv	null	2/25/2022, 4:47:21 ...	null	[Record]	https://r...
[Binary]	Grocery_msrc_session.csv	.csv	null	2/25/2022, 4:48:42 ...	null	[Record]	https://r...
[Binary]	Grocery_msrc_transaction.csv	.csv	null	2/25/2022, 4:49:15 ...	null	[Record]	https://r...

Completed (0.69 s) Columns: 8 Rows: 3

Query settings

- Properties
  - Name: session
  - Entity type: Custom
- Applied steps
  - Source
  - Navigation

Step Save Cancel

24. Click the **[Binary]** link in the first cell of the second row for the **Grocery\_msrc\_session.csv** file.

Power Query - Edit queries

Home Transform Add column View Help

Queries [3]

- contact
- transactions
- session

Source{[Name = "retailgrocery"]}[Data]

010 101 Content	Name	Extension	Date accessed	Date modified	Date created	Attributes
1 [Binary]	Grocery_contact.csv	.csv	null	2/25/2022, 4:47:21 ...	null	[Record]
2 [Binary]	Grocery_msrc_session.csv	.csv	null	2/25/2022, 4:48:42 ...	null	[Record]
3 [Binary]	Grocery_msrc_transaction.csv	.csv	null	2/25/2022, 4:49:15 ...	null	[Record]

Table cell details

retailchurn.blob.core.windows.net  
105,432,560 bytes

Completed (0.69 s) Columns: 8 Rows: 3

Query settings

- Properties
  - Name session
- Entity type Custom
- Applied steps
  - Source
  - Navigation

Step Cancel Save

## 25. Go to **Transform** and select **Use first row as headers**.

Power Query - Edit queries

Home Transform Add column View Help

Queries [3]

- contact
- transactions
- session

Use first row as headers

Promote the first row of data in the table to column headers.

Column1	Column2	Column3	Column4	Column5	Column6
msrc_sessionid	msrc_customerid	msrc_sessiontimestamp	msrc_visittype	msrc_sessionchannel	msrc_sessionduration
1 462f12b-178d-4345-b179-e3669...	3fa4725-066b-436f-ac5-e653e...	2021-06-17 08:45:00	Physical	Brick and mortar	41.92540261984776 F
2 7df57cc0-b087-4f77-b29a-9ca2e10...	3fa4725-066b-436f-ac5-e653e...	2021-06-16 08:54:00	Physical	Brick and mortar	42.14446939764739 F
3 fe48d624-439e-4c45-a519-982065...	3fa4725-066b-436f-ac5-e653e...	2021-06-21 08:34:00	Physical	Brick and mortar	44.42984551415812 F
4 a96de2b0-2ba0-4004-a9b8-b67ef...	3fa4725-066b-436f-ac5-e653e...	2021-06-14 06:31:00	Digital	Instagram	43.09570606721701 F
5 bced62e-3efc-46fd-97b8-b2ead21...	3fa4725-066b-436f-ac5-e653e...	2021-06-14 03:08:00	Physical	Brick and mortar	43.82838526581899 F
6 e992a8bc-1d55-4bee-9b1e-73572...	3fa4725-066b-436f-ac5-e653e...	2021-06-21 11:55:00	Digital	App	43.87030969219855 F
7 a90bc6a6-0699-4976-8a49-4904d...	3fa4725-066b-436f-ac5-e653e...	2021-06-24 11:30:00	Physical	Brick and mortar	42.845305292074... F
8 4d2db506-6773-4ce8-9d9d-3458a...	3fa4725-066b-436f-ac5-e653e...	2021-06-12 14:05:00	Digital	Chat	44.71716663151871 F
9 d7497c46-911e-43f6-838d-02057...	3fa4725-066b-436f-ac5-e653e...	2021-06-17 07:32:00	Physical	Brick and mortar	43.62810153891612 F
10 07687634-050a-4000-be2d-0e66...	e11911b9-c88e-4d0b-9d89-10531...	2021-08-13 18:10:00	Physical	Brick and mortar	41.92973041259731 F
11 281f466e-8f87-4c25-b2c9-27f74...	e11911b9-c88e-4d0b-9d89-10531...	2021-08-09 07:11:00	Physical	Brick and mortar	42.6646738231925... F
12 ef50e2de-be7f-4f5b-b8b3-b512fc...	e11911b9-c88e-4d0b-9d89-10531...	2021-08-07 11:45:00	Digital	App	40.382452266548... F
13 b39d1841-1e34-4c9a-92f2-fd9ad...	e11911b9-c88e-4d0b-9d89-10531...	2021-08-16 19:35:00	Digital	Website	43.6749475691305... F
14 18a9081a-d9cd-4fc8-9832-55494...	e11911b9-c88e-4d0b-9d89-10531...	2021-08-08 07:17:00	Digital	Website	43.41405259018818 F
15 36f0e635-1a35-4b4d-9ada-e1a901...	e11911b9-c88e-4d0b-9d89-10531...	2021-08-04 12:00:00	Physical	Brick and mortar	43.2046129392539... F
16 3e78f76a-a705-44d4-a3fd-01b82f...	e11911b9-c88e-4d0b-9d89-10531...	2021-08-05 10:17:00	Physical	Brick and mortar	44.18332832360634 F
17 a047cc4-8ee8-4d56-82c0-1205c8...	e11911b9-c88e-4d0b-9d89-10531...	2021-08-04 07:03:00	Physical	Brick and mortar	41.8584999687191 F
18					
19					

Completed (1.55 s) Columns: 9 Rows: 99+

Query settings

- Properties
  - Name session
- Entity type Custom
- Applied steps
  - Imported CSV

Step Cancel Save

## 26. Right-click **msrc\_sessiontimestamp**, go to **Change type** and select **Date/Time**.

**Power Query - Edit queries**

Home Transform Add column View Help

Queries [3]

- contact
- transactions
- session

Table

fx Table.PromoteHeaders(#"Imported CSV", [PromoteAllScalars = true])

msrc_sessionid	msrc_customermid	msrc_sessionchannel
462f12cb-178d-4345-b179-e3669...	3fa4a725-d66b-436f-ac5-e653ebc...	Brick and mortar
7df87eed-b087-4ff7-b29a-9ca2e10...	3fa4a725-d66b-436f-ac5-e653ebc...	Brick and mortar
fe48de24-439e-4d45-a519-982065...	3fa4a725-d66b-436f-ac5-e653ebc...	Instagram
a96de2b8-2ba0-4004-a9b8-b6e7fd...	3fa4a725-d66b-436f-ac5-e653ebc...	Brick and mortar
cbaed62e-3efc-46f0-97b5-b2ead21...	3fa4a725-d66b-436f-ac5-e653ebc...	Brick and mortar
69b2a8bc-1e85-4be9-9b1e-73572...	3fa4a725-d66b-436f-ac5-e653ebc...	App
a90bc6a6-0699-4976-8a49-9404d...	3fa4a725-d66b-436f-ac5-e653ebc...	Brick and mortar
4d2db506-6773-4ce8-9d9d-3458a...	3fa4a725-d66b-436f-ac5-e653ebc...	Brick and mortar
d7497c46-911e-43f6-83d8-02057...	3fa4a725-d66b-436f-ac5-e653ebc...	Brick and mortar
07687634-050a-4000-be2d-0ee6b...	e11911b9-c88e-4d0b-9d89-10531...	2021-06-13 18:21:11
281f466e-88f7-4c25-b2cb-27fa74c...	e11911b9-c88e-4d0b-9d89-10531...	2021-06-09 07:43:11
f5f62e2e-be7f-4f3b-bb3-b512fc9...	e11911b9-c88e-4d0b-9d89-10531...	2021-06-07 11:43:11
b39d1841-1e34-4c9a-92f2-fcd9ad...	e11911b9-c88e-4d0b-9d89-10531...	2021-06-16 15:43:11
18a9081a-d9cd-4f68-9832-5549f...	e11911b9-c88e-4d0b-9d89-10531...	2021-06-08 01:43:11
36f0e835-1a35-4bd4-9ada-1a907...	e11911b9-c88e-4d0b-9d89-10531...	2021-06-04 11:43:11
3e78f76a-a705-4ad4-a3fd-01b62f1...	e11911b9-c88e-4d0b-9d89-10531...	2021-06-05 11:43:11
a047c0c4-6ee8-4d56-82c0-1205e8...	e11911b9-c88e-4d0b-9d89-10531...	2021-06-01 20:43:11
0295eda-aab4-41ed-aa02-5dd2a2...	e11911b9-c88e-4d0b-9d89-10531...	2021-06-04 04:43:11
7f6cc03e-7e34-42c3-8607-7607d...	e11911b9-c88e-4d0b-9d89-10531...	2021-06-05 11:43:11

Completed (2.09 s) Columns: 9 Rows: 99+

Query settings

- Properties
- Name: session
- Entity type: Custom
- Applied steps

  - Source
  - Navigation
  - Navigation 1
  - Imported CSV
  - Promoted headers
  - Changed column types

Cancel Save

## 27. Right-click the **msrc\_sessionduration** column, go to **Change type**, and select **Decimal number**.

**Power Query - Edit queries**

Home Transform Add column View Help

Queries [3]

- contact
- transactions
- session

Table

fx Table.TransformColumnTypes(#"PromoteHeaders", {"msrc\_sessiontimestamp", type datetime})

msrc_sessionchannel	msrc_sessionduration	msrc_sessioncustomersatisfaction	msrc_sessionprofilelogins
Brick and mortar	41.92540261984776	False	False
Brick and mortar	42.14446939764739	False	False
Brick and mortar	44.42984551415812	False	False
Instagram	43.9570606721701	False	False
Brick and mortar	43.82838526581899	False	False
App	43.87030969219853	False	False
Brick and mortar	42.645305292074464	False	False
Chat	44.71716663151871	False	False
Brick and mortar	43.62810153891612	False	False
Brick and mortar	41.92973041259731	False	False
Brick and mortar	42.664673823192565	False	False
App	40.38245266548846	False	False
Website	43.674947569130566	False	False
Website	43.41405259018818	False	False
Brick and mortar	43.204612939253934	False	False
Brick and mortar	44.1832832360634	False	False
Brick and mortar	41.858499667191	False	False
Brick and mortar	41.68512136188344	False	False

Completed (6.06 s) Columns: 9 Rows: 99+

Query settings

- Properties
- Name: session
- Entity type: Custom
- Applied steps

  - Source
  - Navigation
  - Navigation 1
  - Imported CSV
  - Promoted headers
  - Changed column types

Cancel Save

## 28. Finally, right-click the **msrc\_sessioncustomersatisfaction** column, go to **Change type**, and select **Whole number**.

Power Query - Edit queries

Home Transform Add column View Help

Queries [3] < x fx

**Applied steps**

- Source
- Navigation
- Navigation 1
- Imported CSV
- Promoted headers
- Changed column

Completed (2.20 s) Columns: 9 Rows: 99+

Save Cancel

msrc_sessionchannel	1.2 msrc_sessionduration	1.2 msrc_sessionpurpose	1.2 msrc_sessionprofilelogin
kk and mortar	41.92540262	Purchase	1 False
kk and mortar	42.1444694	Purchase	1 False
kk and mortar	44.42984551	Purchase	1 False
tagram	43.09570607	Purchase	1 False
kk and mortar	43.82838527	Purchase	1 False
>	43.87030969	Purchase	1 False
kk and mortar	42.84530529	Purchase	1 False
at	44.71716663	Purchase	1 False
kk and mortar	43.62810154	Purchase	1 False
kk and mortar	41.92973041	Purchase	1 False
kk and mortar	42.66467382	Purchase	1 False
>	40.38245227	Purchase	1 False
bsite	43.67494757	Purchase	1 False
bsite	43.41405259	Purchase	1 False
kk and mortar	43.20461294	Purchase	1 False
kk and mortar	44.18332832	Purchase	1 False
kk and mortar	41.85849997	Purchase	1 False
kk and mortar	41.68512133	Purchase	1 False
>	41.68512133	Purchase	1 False

29. Click **Save** and monitor the Data source as it refreshes. This step should take a few minutes.

Power Query - Edit queries

Home Transform Add column View Help

Queries [3] < x fx

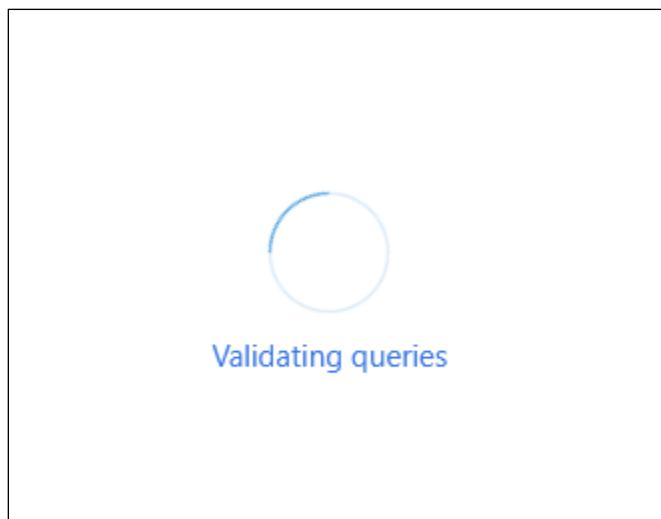
**Applied steps**

- Source
- Navigation
- Navigation 1
- Imported CSV
- Promoted headers
- Changed column

Completed (1.63 s) Columns: 9 Rows: 99+

Step Cancel Save

msrc_sessionchannel	1.2 msrc_sessionduration	1.2 msrc_sessionpurpose	1.2 msrc_sessionsatisfaction	1.2 msrc_sessionprofilelogin
kk and mortar	41.92540262	Purchase	1 False	1 False
kk and mortar	42.1444694	Purchase	1 False	1 False
kk and mortar	44.42984551	Purchase	1 False	1 False
tagram	43.09570607	Purchase	1 False	1 False
kk and mortar	43.82838527	Purchase	1 False	1 False
>	43.87030969	Purchase	1 False	1 False
kk and mortar	42.84530529	Purchase	1 False	1 False
at	44.71716663	Purchase	1 False	1 False
kk and mortar	43.62810154	Purchase	1 False	1 False
kk and mortar	41.92973041	Purchase	1 False	1 False
kk and mortar	42.66467382	Purchase	1 False	1 False
>	40.38245227	Purchase	1 False	1 False
bsite	43.67494757	Purchase	1 False	1 False
bsite	43.41405259	Purchase	1 False	1 False
kk and mortar	43.20461294	Purchase	1 False	1 False
kk and mortar	44.18332832	Purchase	1 False	1 False
kk and mortar	41.85849997	Purchase	1 False	1 False
kk and mortar	41.68512133	Purchase	1 False	1 False
>	41.68512133	Purchase	1 False	1 False



## Task 2: Unify Your Data

1. In Customer Insights, expand **Data** and go to **Unify**. Under **Map**, click **+ Select entities**.

Audience insig... Primary target audience Individual consumers

Home Customers Segments Measures Intelligence Data Data sources Entities

Unify Enrichment Activities Relationships

Map Match Merge

Define customer data in your entities  
At least 2 entities are required to configure and generate Customer Profiles, prior to setting up Segments, Measures and Activities.

+ Select entities

2. Select all **three** entities and click **Apply**.

Audience insig... Primary target audience Individual consumers

Home Customers Segments Measures Intelligence Data Data sources Entities

Unify Enrichment Activities Relationships

Exports

Save Discard changes

Map Match Merge

Define customer data in your entities  
At least 2 entities are required to configure and generate Customer Profiles, prior to setting up Segments, Measures and Activities.

+ Select entities

Edit fields

Select which fields to include in your unified customer entity.

Search

session (RetailGroceryChurn2)  
contact (RetailGroceryChurn2)  
transactions (RetailGroceryChurn2)

Apply Cancel

3. Select the **contact** entity, then select **contactid** as the primary key.

Unify

Map Match Merge

To unify customer data, define the fields found in your datasets.

Imported data	Fields
Entities ↑ RetailGroceryChurn2 contact	Select the primary key contactid
RetailGroceryChurn2 Session	Review mapped fields Column ↑ Type birthdate Person.BirthDate contactid ID genderCode Person.Gender msrc_creditscore Identity.Service.Phone
RetailGroceryChurn2 transactions	

Intelligent mapping What's this?

4. Select the **session** entity, then select **msrc\_sessionid** as the primary key.

**Unify**

Map Match Merge

To unify customer data, define the fields found in your datasets.

Imported data	Fields	Intelligent mapping <a href="#">What's this?</a>
Entities ↑	Select the primary key	<input checked="" type="checkbox"/> Intelligent mapping <a href="#">What's this?</a>
RetailGroceryChurn2 contact	msrc_sessionid	
RetailGroceryChurn2 session	Review mapped fields	
RetailGroceryChurn2 transactions	Column ↑ Type	
	msrc_customerid Calendar.Date	
	msrc_sessionid ID	
	Define the data in the unmapped fields	
	Column ↑ Type	

5. Select the **transactions** entity, then select **msrc\_transactionid** as the primary key. Click **Save**.

**Unify**

Save Discard changes Search

Map Match Merge

To unify customer data, define the fields found in your datasets.

Imported data	Fields	Intelligent mapping <a href="#">What's this?</a>
Entities ↑	Select the primary key	<input checked="" type="checkbox"/> Intelligent mapping <a href="#">What's this?</a>
RetailGroceryChurn2 contact	msrc_transactionid	
RetailGroceryChurn2 session	Review mapped fields	
RetailGroceryChurn2 transactions	Column ↑ Type	
	msrc_customerid ID	
	msrc_productcatalogid ID	
	msrc_transactionid ID	
	msrc_transactionlocationid ID	
	msrc_transactionsessionid ID	

6. While still under Unify, click **Match**, and then click **+ Set order**.

**Unify**

Map Match Merge

Define your rules for the matching and deduplication process that will consolidate source records into unique customer profiles.

Matched records details + Add entity Custom



Set the order of entities to match + Set order

7. In the pop-out, click + Add at the bottom to add a third entity.

**Edit**

Add, reorder, remove entities, and select if each should include all records. Entities can't be removed if they have been merged.

Rule conditions that have conflicts as a result of the change will be removed.

Entity order	Entity name	Move up/down	Include all
Primary	Select entity	▼	<input type="checkbox"/>
2	Select entity	^	<input type="checkbox"/>

+ Add Done Cancel

8. Select the entities in the following order: **contact, transactions, session**. Ensure **Include all** is checked for all entities and click **Done**.

**Edit**

Add, reorder, remove entities, and select if each should include all records. Entities can't be removed if they have been merged.

Rule conditions that have conflicts as a result of the change will be removed.

Entity order	Entity name	Move up/down	Include all
Primary ⓘ	contact : RetailGroc ...	▼	<input checked="" type="checkbox"/>
2	transactions : Retail ...	^ ▼	<input checked="" type="checkbox"/>
3	session : RetailGroc ...	^	<input checked="" type="checkbox"/>

**Done** **Cancel**

9. Click **+ Add rule** next to the **transactions** entity.

**Unify**

Map Match Merge

Define your rules for the matching and deduplication process that will consolidate source records into unique customer profiles.

Unique source records	Matched and non-matched records	Matched records only
--	--	--
How does deduplication work?	How are links determined?	What happens to excluded records?

**Matched records details**

Order	Name	Source records	Unique records	Records matched	Include all records
1	RetailGroceryChurn2 : contact	0	0		<input checked="" type="checkbox"/>
2	RetailGroceryChurn2 : transacti... <span style="border: 1px solid red; padding: 2px;">NEEDS RULES</span>	0	0		<input checked="" type="checkbox"/>
3	RetailGroceryChurn2 : sessi... <span style="border: 1px solid red; padding: 2px;">NEEDS RULES</span>	0	0		<input checked="" type="checkbox"/>

**+ Add entity** **Custom** **Edit**

10. Select **contactid** and **msrc\_customerid**, then name the rule "contacttransactions". Click **Done**.

**Create rule**

Make a rule for how to handle duplicate data by setting conditions that compare fields from differing entities. [Learn more](#)

**Conditions**

**Condition 1**

Select entity \* contact : RetailGroceryChurn2

Select field \* contactid

Entity transactions : RetailGroceryChurn2

Select field \* msrc\_customerid

**Precision**

Basic

Exact

**Name \***

contacttransactions

+ Add Done Cancel

11. Scroll down and click + Add rule next to the session entity.

Matched records details						+ Add entity	Custom	Edit
Order	Name	Source records	Unique records	Records matched	Include all records			
1	RetailGroceryChurn2 : contact	0	0	0	✓			
2	RetailGroceryChurn2 : transactions	0	0	0	✓			
1	contacttransactions							
	+ Add rule							
3	RetailGroceryChurn2 : sessi... NEEDS RULES	0	0	0	✓			
	+ Add rule							

12. Choose the **transactions** entity and then select the **msrc\_transactionid** and **msrc\_sessionid** fields. Name the rule "transactionssession" and click **Done**.

**Create rule**

Make a rule for how to handle duplicate data by setting conditions that compare fields from differing entities. [Learn more](#)

**Conditions**

**Condition 1**

Select entity \* Entity

transactions : RetailGroceryChurn2	Select field *
msrc_transactionid	msrc_sessionid

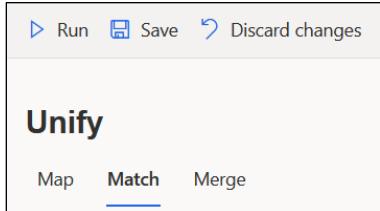
Precision

Basic	Exact
<hr/>	

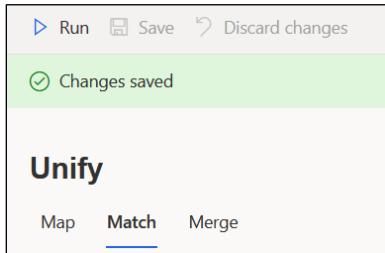
Name \*

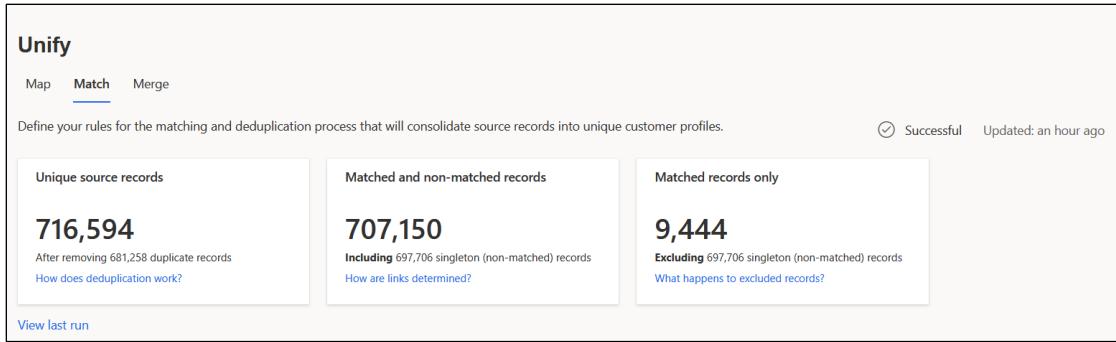
+ Add Done Cancel

13. Click **Save**.

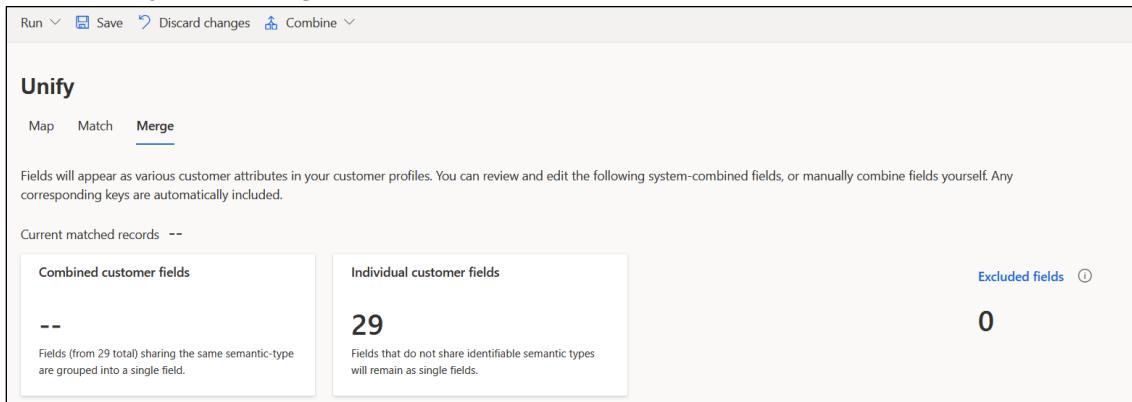


14. Click **Run**. This step will take several minutes to complete. Once it is done, we will then merge the data.

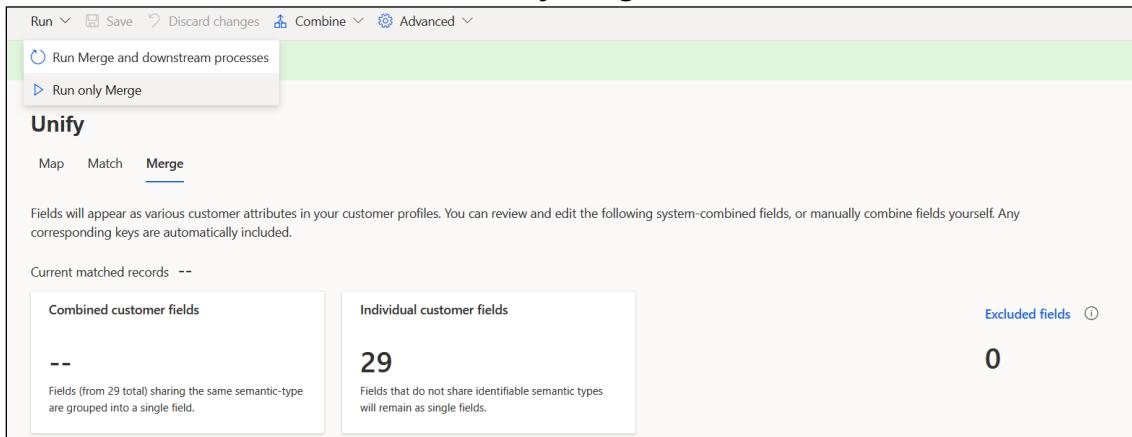




## 15. Under **Unify**, click **Merge** and then click **Save**.



## 16. Once saved, click **Run** and select **Run only Merge**. This will take several minutes to complete.



**Congratulations!** The model should be visible and ready to train, follow the next steps to train the model.

## Task 3: Train the model

1. Navigate to **Predictions** on the left menu, select Create and then click the **Retail channel churn (preview) Use model** button.

The screenshot shows the Microsoft Audience Insights interface. On the left, there's a sidebar with various navigation options like Home, Customers, Segments, Measures, Intelligence, Predictions, Data, Reports (Preview), and Admin. The 'Intelligence' section is currently selected. In the main area, there's a heading 'Intelligence' and two cards: 'Customer churn model (preview)' and 'Retail channel churn (preview)'. The 'Retail channel churn (preview)' card has a red box around its 'Use model' button.

2. When the pane pops out, click the **Get started** button.

This screenshot shows the same interface as above, but with a modal window overlaid on the right side. The modal is titled 'Retail channel churn (pre-view)' and contains information about the model, followed by a section titled 'You'll need the following data' which lists required fields for Customer and Transaction. At the bottom right of the modal, there are 'Get started' and 'Close' buttons, with the 'Get started' button having a blue box around it.

3. Name the model and output entity "RetailChurnModel".

Predictions > Retail channel churn (preview)

Model name

Preferences

Required data

Additional data (optional)

Data updates

Review and run

**Model name**

Select the names for your model

**Name**  
RetailChurnModel

**Output entity name** ⓘ  
RetailChurnMode

**Next**

4. Adjust the Model preferences as needed and click **Next**.

Model name

Preferences

Required data

Additional data (optional)

Data updates

Review and run

**Model preferences**

Identify customers most likely to stop making purchases in the digital channel or brick & mortar channel by examining their profiles and transaction history.

**Prediction period**  
Days to look into the future to predict churn:  
90

**Transaction volume decline threshold**  
Proportional threshold for the decline in the number of transactions for a customer to be determined as churned  
(0.1 means that the transaction volume drops to 10%)  
0.1

**Transaction value decline threshold**  
Proportional threshold for the decline in the value of transactions for a customer to be determined as churned  
(0.1 means that the value of transactions drops to 10%)  
0.1

**Back** **Next** Save draft Cancel

5. Click on the **+ Add data** button below the Customer session on the middle pane. It will open a right pane to let you add the required customer data from the customer entity. Click **Save** when done to return to the middle pane.

Predictions > Retail channel churn (preview)

**Required data**

**Customer**  
The model examines your customer entity along with any supporting data added in the next step to estimate churn over a given period of time .

**Transaction**  
This model examines the transaction history of the customers to estimate churn over a given period of time.

**Back** **Next** **Save draft** **Cancel**

## Add customer data

Step 1 of 1: Map your field names

**Loyalty membership**  
System.Customer.msrc\_loyaltymembership

**Occupation status**  
System.Customer.msrc\_occupationstatus

**Birth date**  
System.Customer.birthdate

**Gender code**  
System.Customer.genderCode

**Annual income**  
System.Customer.annualincome

**Relationship duration**  
System.Customer.msrc\_customerrelationshipduration

**Distance to nearest store**  
System.Customer.msrc\_distancetoneareststore

**Save** **Cancel**

6. Repeat the process with the Transaction data by clicking the second **+ Add data** button below the Transaction section on the middle pane. Fill out the transaction entity information on the right pane and click on **Save**. Click **Next** on the middle pane.

**Add customer data**

Step 1 of 1: Map your field names

**Transaction entity \***

transactions : RetailGroceryChurn2

Map these required attributes to the corresponding labels in your data.

**Transaction ID \***

RetailGroceryChurn2.transactions.msrc\_transactionid

**Customer ID \***

RetailGroceryChurn2.transactions.msrc\_customerid

**Transaction timestamp \***

RetailGroceryChurn2.transactions.msrc\_transactiontimestamp

**Transaction session ID**

RetailGroceryChurn2.transactions.msrc\_transactionsessionid

**Transaction type**

RetailGroceryChurn2.transactions.msrc\_transactiontype

**Transaction channel type**

Save Cancel

This screenshot shows the 'Add customer data' dialog box. It is titled 'Add customer data' at the top left and has a close button at the top right. Below the title, it says 'Step 1 of 1: Map your field names'. The first section is labeled 'Transaction entity \*' with a dropdown menu containing 'transactions : RetailGroceryChurn2'. A note below says 'Map these required attributes to the corresponding labels in your data.' The next five sections each have a label and a dropdown menu: 'Transaction ID \*' (dropdown: 'RetailGroceryChurn2.transactions.msrc\_transactionid'), 'Customer ID \*' (dropdown: 'RetailGroceryChurn2.transactions.msrc\_customerid'), 'Transaction timestamp \*' (dropdown: 'RetailGroceryChurn2.transactions.msrc\_transactiontimestamp'), 'Transaction session ID' (dropdown: 'RetailGroceryChurn2.transactions.msrc\_transactionsessionid'), and 'Transaction type' (dropdown: 'RetailGroceryChurn2.transactions.msrc\_transactiontype'). At the bottom right are two buttons: 'Save' (in a blue box) and 'Cancel'.

7. Once both required data entities are complete, click **Next** to go to Additional data.

Predictions > Retail channel churn (preview)

To add an activity, there must be an available entity with date/time based fields. Go to data sources

### Required data

**Customer**

The model examines your customer entity along with any supporting data added in the next step to estimate churn over a given period of time.

Entity ↑	Attributes	Status
Customer : CustomerInsights	10	Complete

**Transaction**

This model examines the transaction history of the customers to estimate churn over a given period of time.

Entity ↑	Attributes	Status
transactions : RetailGroceryChurn2	13	Complete

**Back** **Next** **Save draft** **Cancel**

8. Click + **Add data** to enter the Session information, **save** it and click **Next**.

Predictions > Retail channel churn (preview)

To add an activity, there must be an available entity with date/time based fields. Go to data sources

### Additional data (optional)

Add additional data to help the model predict which customers are most likely to churn.

**Session**

This model examines the sessions history of the customers to estimate churn.

+ Add

**Add customer data**

Step 1 of 1: Map your field names

**Session entity \***

session : RetailGroceryChurn2

Map these required attributes to the corresponding labels in your data.

**Session ID \***

RetailGroceryChurn2.session.msrc\_sessionid

**Customer ID \***

RetailGroceryChurn2.session.msrc\_customerid

**Session timestamp \***

RetailGroceryChurn2.session.msrc\_sessiontimestamp

**Session visit type**

RetailGroceryChurn2.session.msrc\_visittype

**Session channel**

RetailGroceryChurn2.session.msrc\_sessionchannel

**Session purpose**

**Save** **Cancel**

**Back** **Next**

Predictions > Retail channel churn (preview)

To add an activity, there must be an available entity with date/time based fields. Go to data sources

Model name  
 Preferences  
 Required data  
 Additional data (optional)  
 Data updates  
 Review and run

**Additional data (optional)**  
Add additional data to help the model predict which customers are at a higher risk of churn.

**Session**  
This model examines the sessions history of the customers to estimate churn over a given time period.

Entity ↑	Attributes	Status
session : RetailGroceryChurn2	9	Complete

Back **Next** Save draft Cancel

9. Set the data update schedule as **Weekly** and click **Next**.

Predictions > Retail channel churn (preview)

Model name  
 Preferences  
 Required data  
 Additional data (optional)  
 Data updates  
 Review and run

**Data update schedule**  
Periodically importing new data to your model helps it spot new patterns and make smarter, more informed suggestions.  
[Show example](#)

Automatically import updated data:  
 Weekly  
 Monthly

Back **Next** Save draft Cancel

10. Confirm everything looks correct and click **Save and Run**.

Predictions > Retail channel churn (preview)

- Model name
- Preferences
- Required data
- Additional data (optional)
- Data updates
- Review and run

### Review your model details

**Model name** [Edit](#)  
Name: RetailChurnModel  
Output entity name: RetailChurnModel

**Preferences** [Edit](#)  
Prediction period: 90  
Transaction volume decline threshold: 0.1  
Transaction value decline threshold: 0.1

**Required data** [Edit](#)  
Customer: Completed  
Transaction: Completed

**Additional data (optional)** [Edit](#)  
Session: Completed

**Data updates** [Edit](#)  
Automatically import updated data: Weekly

[Back](#) [Save and run](#) [Save draft](#) [Cancel](#)

11. Confirm that the model is running and click on **Done**.

Predictions > Retail channel churn (preview)

- Model name
- Preferences
- Required data
- Additional data (optional)
- Data updates
- Review and run

### Your model is configured and running!

Give it some time (a few hours at least) to review all the data, find patterns, and score probable outcomes. You'll find it in [My Predictions](#) when it's ready.

[Done](#)

12. Monitor the status of the request to see when it is finished. There is a chance you may receive an error on the first run. If you receive an error, simply run the prediction model again and it typically works on the second try.

Audience insights

Primary target audience: Individual consumers

Intelligence

Create [My predictions](#)

Prediction name ↑	Prediction type	Output entity	Predicted field	Status	Edited	Last refreshed
RetailChurnModel	Retail channel churn (preview)	RetailChurnModel		Queued	a minute ago	Never

13. It is possible you may receive an error on the first run, simply click Refresh all to run the model again.

The screenshot shows the Microsoft Power BI Intelligence interface. At the top, there is a "Refresh all" button and a search bar labeled "Search predictions". Below this, the title "Intelligence" is displayed, followed by two tabs: "Create" and "My predictions", with "My predictions" being the active tab. A table lists a single prediction named "RetailChurnModel". The columns are: Prediction name ↑, Prediction type, Output entity, Predicted field, Status, Edited, and Last refreshed. The "Status" column shows a red circle with a white exclamation mark and the word "Failed". The "Last refreshed" column shows "3 minutes ago".

This screenshot shows the same Microsoft Power BI Intelligence interface as the previous one, but with a modal dialog box in the center. The dialog is titled "Update predictions?" and contains the message "All prediction data will be replaced by new predictions." At the bottom of the dialog are two buttons: "Cancel" and "Update".

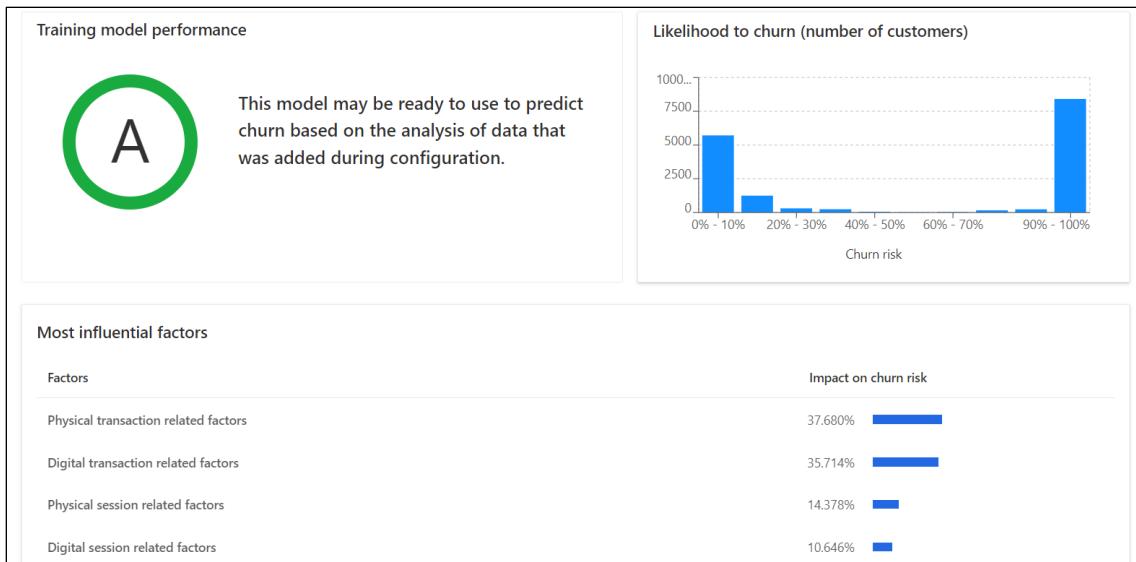
The screenshot shows the Microsoft Power BI Intelligence interface again. The table now shows the "RetailChurnModel" prediction with a status of "Refreshing" in the "Status" column. The "Last refreshed" column still shows "19 minutes ago" and "Never" for the "Last refreshed" column.

**Congratulations!** You have run the Retail channel churn predictive model.

## Exercise 3: Understand the Churn Model Output

In this exercise, you will review the output of the Retail Churn model.

1. Open the Retail churn model to view its contents. Here you will find three main areas:
  - a) **Training model performance** will display a letter grade of how well the model has performed.
  - b) **Likelihood to churn (number of customers)** that can be read as X customers are Y% likely to churn.
  - c) **Most influential factors** considered by the AI in predicting the model. This will vary depending on the data set.



- To view a customer's full profile in Dynamics 365 Customer Insights, navigate to Customers and open any of the sample records.

The screenshot shows the 'Customers' list view in Audience insights. The sidebar shows 'Primary target audience: individual consumers'. The main area displays 16.4K customers in a grid format. Each card includes a profile icon, a number (representing the credit score), and some basic demographic information like CustomerId and msr\_creditscore.

Customer ID	Credit Score	Sample Data
f3f1acff14cb76a040ce8820ee3df9f	503.03	CustomerId: f3f1acff14cb76a040ce8820ee3df9f, msr_creditscore: 503.03
4236b6b232f1b337f369a01c66d26...	570.903	CustomerId: 4236b6b232f1b337f369a01c66d26..., msr_creditscore: 570.903
83c2966cbf1cbbb18d2048b3072b...	793.602	CustomerId: 83c2966cbf1cbbb18d2048b3072b..., msr_creditscore: 793.602
2de882ca2018b3c908764603ff363...	904.028	CustomerId: 2de882ca2018b3c908764603ff363..., msr_creditscore: 904.028
f121028b78cd82687babcf13400c70...	607.556	CustomerId: f121028b78cd82687babcf13400c70..., msr_creditscore: 607.556
	767.994	CustomerId: (empty), msr_creditscore: 767.994
	848.195	CustomerId: (empty), msr_creditscore: 848.195

The screenshot shows the Microsoft Power BI Audience insights interface. On the left, there's a navigation sidebar with icons and labels: Audience insights (selected), Primary target audience (Individual consumers), Home, Customers, Segments, Measures, Intelligence (with Predictions and Custom models), Data (selected), Reports (Preview), and Admin. At the top right, there are links to 'Back to Customers' and 'Profile add-ons'. The main area displays a large green circle with the number '5' and '503.03' next to it, along with a blue phone icon. Below this, there's a table of customer data:

CustomerId	4236b6b232f1b337f369a01c66d26002
genderCode	N/A
birthdate	4/23/1981
msrc_creditsc...	503.03
Address	--
<b>Additional fields</b>	
msrc_loyaltymembe...	False
msrc_agreementto...	True
annualincome	24,173
msrc_occupationsta...	Partially employed
msrc_customerrelati...	359
msrc_distancetonea...	12.25

3. To view the calculated churn scores, navigate to **Data** and then under **Entities**, open the msfsiRetailBankingChurn entity that was created when you ran the churn model

The screenshot shows the Audience Insights interface with the 'Entities' tab selected. On the left, there's a sidebar with various navigation items like Home, Customers, Segments, Measures, Intelligence, Data, and Entities. The 'Entities' item is highlighted. The main area is titled 'Entities' and contains a table with columns for Name and Source. The table is organized into sections: 'Intelligence (1)', 'Profiles (1)', 'System (4)', and 'User (3)'. The 'Intelligence' section contains one entry: 'RetailChurnGrocery' from 'Customer Insights'. The 'Profiles' section contains one entry: 'Customer' from 'Customer Insights'. The 'System' section contains four entries: 'ConflationMatchPairs', 'Deduplication\_retailchurngrocery\_c...', 'Deduplication\_retailchurngrocery\_se...', and 'Deduplication\_retailchurngrocery\_tr...'. The 'User' section contains three entries: 'contact', 'session', and 'transaction', all from 'retailchurngrocery'.

Name	Source
RetailChurnGrocery	Customer Insights
Customer	Customer Insights
ConflationMatchPairs	Customer Insights
Deduplication_retailchurngrocery_c...	Customer Insights
Deduplication_retailchurngrocery_se...	Customer Insights
Deduplication_retailchurngrocery_tr...	Customer Insights
contact	retailchurngrocery
session	retailchurngrocery
transaction	retailchurngrocery

- On the Attributes tab, you will find various new columns created by the model that factor into the score. Here is a breakdown of some of these attributes:
  - ExpFeature1 = Contact related factors
  - ExpFeature2 = Digital transaction factors
  - ExpFeature3 = Physical transaction factors
  - ExpFeature4 = Digital session factors
  - ExpFeature5 Physical session factors

The screenshot shows the Dynamics 365 Customer Insights interface. On the left, there is a navigation sidebar with various sections like Home, Customers, Segments, Measures, Intelligence, Data, Data sources, Entities, Unify, Enrichment, Activities, and Relationships. The 'Intelligence' section is expanded, showing 'Predictions' and 'Custom models'. The main area is titled 'Customer Insights' and 'RetailChurnGrocery'. It has tabs for 'Attributes' (which is selected) and 'Data'. The 'Attributes' table lists the following columns:

Name ↑	Data type
CustomerID	String
ExpFeature1	Double
ExpFeature2	Double
ExpFeature3	Double
ExpFeature4	Double
ExpFeature5	Double
ModelSignature	String
Publisher	String
Score	Double

5. Click the **Data** tab to see the calculated churn score for each of the CustomerIDs in the dataset.

The screenshot shows the same Dynamics 365 Customer Insights interface as above, but the 'Data' tab is selected. The main area displays a table with the following columns: CustomerID, Score, ScoreDigitalChannel, ScorePhysicalChannel, and Timestamp. The data rows are:

CustomerID	Score	ScoreDigitalChannel	ScorePhysicalChannel	Timestamp
00004770b2be629b0a47ebbabcb67e01	0.97	0.977	0.97	2/24/2022, 4:00:00 PM
006d1ef11a78c75687ce52a27652e5a9	0.945	0.945	0.955	2/24/2022, 4:00:00 PM
006e6961ee86aa585e625ec94b091d30	0.004	0.004	0.007	2/24/2022, 4:00:00 PM
006ea21704b83a46a435da0f017ae62a	0.004	0.004	0.013	2/24/2022, 4:00:00 PM
00cab8ed3c96c5a352a8b64244d0565c	1	1	1	2/24/2022, 4:00:00 PM
00cc633a28e668a0606029d688ef85a8	0.186	0.186	0.201	2/24/2022, 4:00:00 PM
00d54bc0a28bd427c3376d982b3d22c	0.013	0.013	0.013	2/24/2022, 4:00:00 PM
00d747757eeb6d412d2334a1265579c8	1	1	1	2/24/2022, 4:00:00 PM

**Congratulations!** You have successfully run the Retail Churn Model in Dynamics 365 Customer Insights.

# Summary

**Nice work!** You have completed the lab for Microsoft Coud for Retail channel churn predictive model.

In this lab, you learned how to do the following:

1. Create Retail channel churn predictive model
2. Train the model
3. Understand the model output