

MS Dynamics 365 Sales Import Integration

Empower digital sales organizations with modern remote collaboration capabilities for exceptional teamwork and frictionless engagement. Find and build stronger relationships. Improve productivity and performance. Get a single view of customers.

You can use the import integration to ingest contact data and transactional data (including quotes, sales orders) from MS Dynamics 365 to TD.

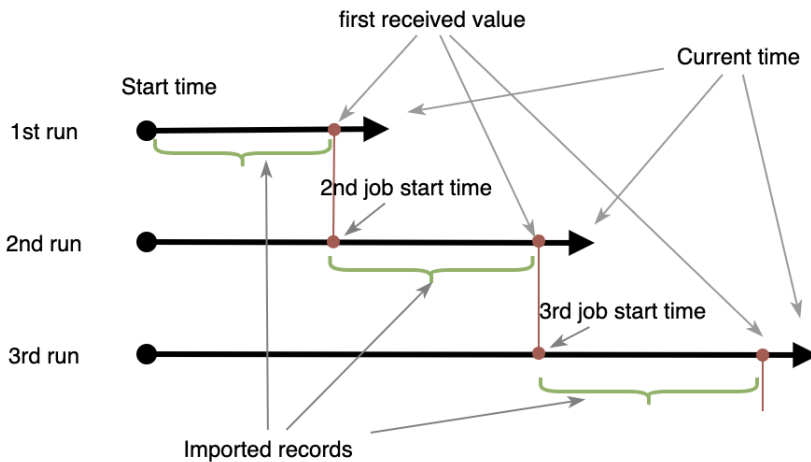
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Prerequisites

- Basic Knowledge of Treasure Data.
- Having administrator permission to access Azure Active Directory and Dynamics CRM Security settings (If the Client Credentials authentication method is chosen)
- A tenant administrator, or a User who has access to Azure "Enterprise applications" to grant consent (If the OAuth authentication method is chosen)

About Incremental Data Loading

- When incremental loading is enabled, the query issued to Dynamics API contains the statements `$filter` and `$orderby`. The `$filter` queries data for desired criteria and `$orderby` sorts data in descending manner
- The first value received will be kept as a reference for the next job filter. The next job `$filter` will exclude previous job data and fetches new data only
- The process repeats for subsequent execution



- When incremental loading is enabled, the End Time is left blank (by default it will set to the current time)
- The filter column (by default `modifiedon`) must not contain null or empty value

Example when incremental loading is enabled:

- Assumption/condition
 - Start Time = 2021-01-01T00:03:01Z
 - Job scheduled to run daily
- 1st job current time = 2021-01-15T00:03:01Z: `$filter=modifiedon > 2021-01-01T00:03:01Z and modifiedon <= 2021-01-15T00:03:01Z, $orderby = modifiedon desc`. First record result has `modifiedon` = 2021-01-10T00:00:00Z
- 2nd job current time = 2021-01-16T00:03:01Z: `$filter=modifiedon > 2021-01-10T00:00:00Z and modifiedon <= 2021-01-16T00:03:01Z, $orderby = modifiedon desc`. First record result has `modifiedon` = 2021-01-16T00:03:01Z

- 3rd job current time = 2021-01-17T00:03:01Z: \$filter=modifiedon > 2021-01-16T00:03:01Z and modifiedon <= 2021-01-17T00:03:01Z, \$orderby = modifiedon desc. First record result has modifiedon = 2021-01-17T00:00:01Z
- ...

Obtaining Client ID and Client Secret

These values are necessary to connect using the Client Credentials authentication option. They are optional if you expect to use the OAuth option to authenticate.

Follow the Microsoft documentation to create your own client application and get your client id and client secret:

<https://docs.microsoft.com/en-us/powerapps/developer/data-platform/use-single-tenant-server-server-authentication#azure-application-registration>

It is recommended that you create a custom security role with minimal permission for your registered application. See:

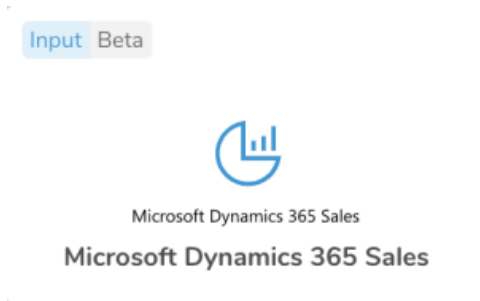
- [https://docs.microsoft.com/en-us/previous-versions/dynamicscrm-2016/administering-dynamics-365/dn531130\(v=crm.8\)](https://docs.microsoft.com/en-us/previous-versions/dynamicscrm-2016/administering-dynamics-365/dn531130(v=crm.8))
- [https://docs.microsoft.com/en-us/previous-versions/dynamicscrm-2016/administering-dynamics-365/dn531090\(v=crm.8\)](https://docs.microsoft.com/en-us/previous-versions/dynamicscrm-2016/administering-dynamics-365/dn531090(v=crm.8))

Use the TD Console to Create Your Connection

Create a New Connection

In Treasure Data, you must create and configure the data connection prior to running your query. As part of the data connection, you provide authentication to access the integration.

1. Open **TD Console**.
2. Navigate to **Integrations Hub > Catalog**.
3. Search for and select Microsoft Dynamic 365 Sales.



4. Select **Create Authentication**.

New Authentication ✕

Microsoft Dynamics 365 Sales

1 Credentials > 2 Details

Domain:

Authentication Method: OAuth ▼

API Authentication Method

OAuth connection: ▼

[Click here](#) to connect a new account

[Learn more](#) Continue

5. Type your MS Dynamics domain name.
6. Choose one of the following authentication methods:

New Authentication

Microsoft Dynamics 365 Sales



1 Credentials > 2 Details

Domain:

Authentication Method: API Authentication Method

OAuth connection: [Click here](#) to connect a new account

[Learn more](#) [Continue](#)

1. Select OAuth.
2. Type the credentials to authenticate.
3. Optionally, select [Click here](#) and log in to Microsoft Dynamics 365 to grant consent.
 - a. Return **Integrations Hub > Catalog**.
 - b. Search for and select Microsoft Dynamics 365 Sales.
 - c. Type the value of your Domain
 - d. Select OAuth Authentication Method.
 - e. Select your newly created OAuth connection
 - f. Review the OAuth connection field definition.

1. Select Client Credentials.

New Authentication

Microsoft Dynamics 365 Sales



1 Credentials > 2 Details

Domain:

Authentication Method: API Authentication Method

Tenant ID:

Client ID:

Client Secret:

[Learn more](#) [Continue](#)

2. Type the value of your Domain
3. Type the value of your Tenant ID.
4. Type the value of your Client ID.
5. Type your Client Secret.

7. Select **Continue**.

8. Enter a name for your connection.

9. Select **Continue**.

Transfer Your Data to Treasure Data

After creating the authenticated connection, you are automatically taken to Authentications.

1. Search for the connection you created.

2. Select **New Source**.

3. Type a name for your **Source** in the Data Transfer field.

Create Source
Using dyn_oauth

1 Connection Data Transfer Name:

2 Source Table Authentication: dyn_oauth

3 Data Settings

4 Data Preview

5 Data Placement

Cancel Back Next

4. Select **Next**.

The Source Table dialog opens.

Create Source
Using dyn_oauth

1 Connection Entity Type: Contact

2 Source Table Start Time: YYYY-MM-DDThh:mm:ssZ
In UTC format YYYY-MM-DDThh:mm:ssZ. Import data modified from this timestamp.

3 Data Settings End Time: YYYY-MM-DDThh:mm:ssZ
In UTC format YYYY-MM-DDThh:mm:ssZ. Import data modified until this timestamp, leave blank to import until current time.

4 Data Preview Incremental Loading?:
If enabled, only import new data from the last ingestion.

5 Data Placement Skip Invalid Data?:
If enabled, skip invalid data and continue the job.

Cancel Back Next

5. Edit the following parameters:

Parameters	Description
Entity Type	<ul style="list-style-type: none"> Contact Quote Sales Order
Start Time	<p>In UTC format YYYY-MM-DDThh:mm:ssZ. Import data modified from this timestamp.</p> <ul style="list-style-type: none"> The Start Time field is exclusive which means it won't download data equals to this value. If you want data equals to this value being included, set the time earlier 1 second (while the End Time is inclusive)
End Time	<p>This field is optional, If not specified current time will be used. In UTC format YYYY-MM-DDThh:mm:ssZ. Import data modified from this timestamp.</p> <p>It's recommended to leave this field blank when Incremental loading is enabled.</p>
Incremental Loading?	If enabled, only import new data from the last ingestion.

Skip Invalid Data?	<p>when a column data type can not convert to a known value, the row will be skipped.</p> <p>If more than 30% of processed rows are invalid, the job stops with a status of fail.</p>
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6. Select Next.

The Data Settings page can be modified for your needs or you can skip the page.

- 1 Connection
- 2 Source Table
- 3 Data Settings
- 4 Data Preview
- 5 Data Placement

Optionally, you can modify data settings and then see your changes in Data Preview. [Skip This Step](#)

Retry Limit:
Number of retries before system gives up

Initial retry time wait in millis:

Max retry wait in mills:

HTTP Connect Timeout:
In millisecond, default: 1 minutes

HTTP Read Timeout:
HTTP timeout on waiting to read data, in millisecond, default: 5 minutes

Column Settings

Column Name	Data Type	Actions
spousesname	string	

- 1 Connection
- 2 Source Table
- 3 Data Settings
- 4 Data Preview
- 5 Data Placement

HTTP timeout on waiting to read data, in millisecond, default: 5 minutes

Column Settings

Column Name	Data Type	Actions
address3_telephone3	string	
entityimage_timestamp	long	
contactid	string	
mobilephone	string	
utconversiontimezonecode	long	
address3_shippingmethodcode	long	
address3_postalcode	string	
annualincome	double	
fav	string	
191 Fields		Reset to default

Cancel

7. Optionally, edit the following parameters:

Parameter	Description
Retry Limit	Maximum retry times for each API call.
Initial retry time wait in millis	Wait time for the first retry (in milliseconds).
Max retry wait in mills	Maximum wait time for an API call before it gives up.
HTTP Connect Timeout	The amount of time before the connection times out when making API calls.
HTTP Read Timeout	the amount of time waiting for writing data into the request.

Column Settings

boolean

boolean

long

timestamp

double

string

json

You can remove a column from the result or define its data type.

Do not update the column name because it results in a null value for that column.

8. Select **Next**.

Data Preview

You can see a [preview](#) of your data before running the import by selecting Generate Preview.

Data shown in the data preview is approximated from your source. It is not the actual data that is imported.

1. Select **Next**.
Data preview is optional and you can safely skip to the next page of the dialog if you want.
2. To preview your data, select **Generate Preview**. Optionally, select **Next**.
3. Verify that the data looks approximately like you expect it to.

Create Source
Using onetrust_demo

1 Connection

2 Source Table

3 Data Settings

4 Data Preview

5 Data Placement

The preview shows a subset of data from the source based on the data settings. Refer to [help document](#) to learn more about preview data.

8 columns

	Ab_id	Ab_language	Ab_identifier	last_updated_date	Ab_link_token	
1	f7abf910-b5da-47c2-bbee-37f4c86...	NULL	Quan3	2020-09-25 22:42:59...	NULL	0
2	9022117f-cf3c-418c-b527-a8bd9a9...	NULL	Quan2	2020-08-05 03:48:19...	NULL	0
3	a432b52f-3d93-483b-b65f-3c7530...	NULL	Quan4	2020-08-05 03:48:19...	NULL	0
4	233ec0c2-70ab-4de4-ac48-a4a048f...	NULL	Quan5	2020-08-05 03:48:19...	NULL	0
5	f78be70b-8b5d-404e-b663-b606a2...	NULL	Quan1	2020-08-05 03:48:19...	NULL	0
6	db5d8f89-c264-4d82-a246-5939e5...	NULL	example@otrprivacy.com	2020-08-06 17:51:12...	NULL	[[V
7	5ef9542c-315d-4b56-ad1c-c63ad0...	NULL	Michael.White@gmail.com	2020-09-09 20:01:45...	NULL	0
8	3f1dfcb9-1904-4517-9087-0cc45f0...	NULL	Robert.Brown@gmail.com	2020-09-09 20:01:45...	NULL	0
9	4a3a88dd-11a3-4c8b-a1d9-d7043f...	NULL	Mary.Anderson@gmail.com	2020-09-09 20:01:46...	NULL	0
10	4fd8983a-9e49-46dc-9519-1cf9dea...	NULL	Elizabeth.Scott@gmail.com	2020-09-09 20:01:47...	NULL	0
11	33342e5d-4c95-4cfe-a622-4e91dc5...	NULL	David.Miller@aol.com	2020-09-09 20:01:47...	NULL	0
12	f54b0d7c-df75-4bf3-934a-dc19a96...	NULL	Robert.Anderson@att.com	2020-09-10 04:57:16...	NULL	0
13	43bfe156-dfba-43b8-964d-1b2a4ae...	NULL	Elizabeth.Miller@google.com	2020-09-10 04:57:16...	NULL	0

Cancel Back Next

4. Select **Next**.

Data Placement

For data placement, select the target database and table where you want your data placed and indicate how often the import should run.

1. Select **Next**. Under Storage you will create a new or select an existing database and create a new or select an existing table for where you want to place the imported data.

The screenshot shows a configuration window for data placement. On the left, a sidebar lists steps: 1 Connection, 2 Source Table, 3 Data Settings, 4 Data Preview, and 5 Data Placement (highlighted). The main area is titled 'STORAGE' and contains the following settings:

- Database:** chung_default_db
- Table:** sftp_v2_devproxy
- Method:**
 - Append: Add records into existing table.
 - Always Replace: Always clear the destination table before adding records.
 - Replace on new data: When there is new data, delete existing data, and insert new data.
- Timestamp-based Partition Key:** time
- Data Storage Timezone:** UTC (default)

Below the STORAGE section is the 'SCHEDULE' section:

- Repeat:**
 - Off
 - On
- Scheduling Timezone:** Asia/Saigon

2. Select a **Database** > **Select an existing** or **Create New Database**.
3. Optionally, type a database name.
4. Select a **Table**> **Select an existing** or **Create New Table**.
5. Optionally, type a table name.
6. Choose the method for importing the data.
 - **Append** (default)-Data import results are appended to the table. If the table does not exist, it will be created.
 - **Always Replace**-Replaces the entire content of an existing table with the result output of the query. If the table does not exist, a new table is created.
 - **Replace on New Data**-Only replace the entire content of an existing table with the result output when there is new data.
7. Select the **Timestamp-based Partition Key** column. If you want to set a different partition key seed than the default key, you can specify the long or timestamp column as the partitioning time. As a default time column, it uses upload_time with the add_time filter.
8. Select the **Timezone** for your data storage.
9. Under **Schedule**, you can choose when and how often you want to run this query.
 - Run once:
 - a. Select **Off**.
 - b. Select **Scheduling Timezone**.
 - c. Select **Create & Run Now**.
 - Repeat the query:
 - a. Select **On**.
 - b. Select the **Schedule**. The UI provides these four options: *@hourly*, *@daily* and *@monthly* or custom *cron*.
 - c. You can also select **Delay Transfer** and add a delay of execution time.
 - d. Select **Scheduling Timezone**.
 - e. Select **Create & Run Now**.

After your transfer has run, you can see the results of your transfer in **Data Workbench** > **Databases**.