

**INTLIX**

Configuration Document

# Intlix.Api for D365 Virtual Entity



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## Intlix.Api

Create & provision OData v4 Api of database just by configuration and use it in Virtual Entity.

Virtual entities let us integrate the data residing in external systems, without replication of data and often without custom coding. But for this integration, external system should have ready OData v4 services and there are many constraints that the external systems and its OData v4 API should satisfy.

Intlix.Api help to create & provision OData v4 Api of an external system which is required for Integration & to create “Virtual Entity Data Source” for Virtual Entity. Using this, admin or customizer can create the OData v4 Api from the external systems (data base) just by small configuration & that too without any code.

### Feature

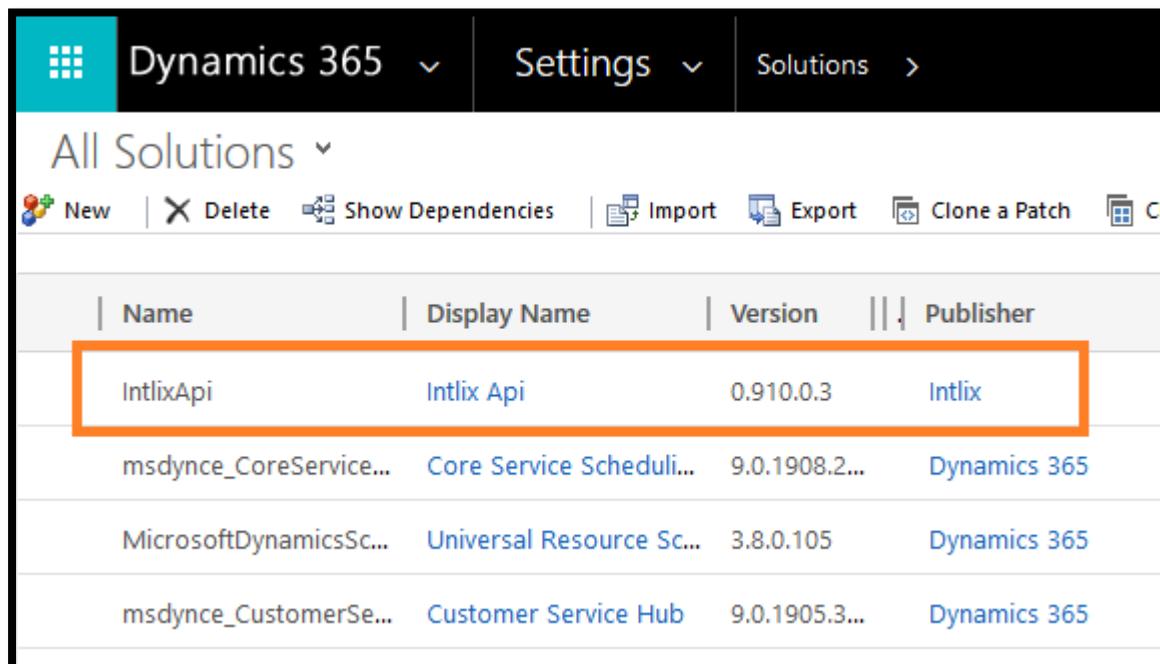
1. Provision OData v4 Api from Sql Server Database.
2. Provisioned Api can be used in Dynamics 365 Virtual Entity.
3. External data source table doesn't need to have primary key column of guid data type.
4. It provision Api in such a way that 1:N relationship of table can be configured as sub grid in virtual entity
5. It provision api in such a way that N:1 relationship of table can be configured as lookup in virtual entity

NOTE: We only support Sql Server for now. We provide other external system connectors on demand.

# Intlix.Api Solution for Dynamics 365

## Setup/Installation

1. Email us on contact@intlix.com for solution. Or get it from below:
  - a. [Microsoft App Source](#)
  - b. [IntlixApi\\_managed.zip](#)
2. Import the solution in Dynamics 365
  - a. Navigate to Dynamics 365
  - b. Open Settings
  - c. Open Solutions
  - d. Click on Import
  - e. Browse “IntlixApi\_x\_x\_x\_x\_managed.zip” solution
  - f. Import the solution



The screenshot shows the Dynamics 365 Solutions interface. At the top, there's a navigation bar with icons for Home, Dynamics 365 (with a dropdown arrow), Settings (with a dropdown arrow), and Solutions (with a right-pointing arrow). Below this is a sub-navigation bar labeled "All Solutions" with a dropdown arrow. The main area is titled "All Solutions". It contains a toolbar with buttons for New (green plus), Delete (red X), Show Dependencies (blue square with arrows), Import (blue square with document), Export (blue square with document and arrow), Clone a Patch (blue square with patch icon), and a refresh/circular arrow icon. A table lists several solutions:

Name	Display Name	Version	Publisher
IntlixApi	Intlix Api	0.910.0.3	Intlix
msdynce_CoreService...	Core Service Scheduli...	9.0.1908.2...	Dynamics 365
MicrosoftDynamicsSc...	Universal Resource Sc...	3.8.0.105	Dynamics 365
msdynce_CustomerSe...	Customer Service Hub	9.0.1905.3...	Dynamics 365

The row for "IntlixApi" has its entire row highlighted with an orange border.

Solution “IntlixApi\_x\_x\_x\_x\_managed.zip” have below components:

Sr. No.	Name	Type	Description
1	Intlix.Api Sample MsSql Datasource	Virtual Entity Data Source	Sample Data Source
2	IL: Configuration	Entity	Configuration entity
3	ILAPI: Supplier	Entity	Sample Virtual Entity which is pre-configured
4	IL API: Customer	Entity	to use Sample Data Source
5	IL API: Order	Entity	

<b>6</b>	IL API: Order Details	Entity
<b>6</b>	IL API: Product	Entity
<b>7</b>	Intlix.Api - Solution Configuration	Html web resource Configuration page to configure new data source

## Configuration

### Try out Sample Data Source

“IntlixApi\_x\_x\_x\_x\_managed.zip” comes with one pre-configured Sample Virtual Entity Data Source (Intlix.Api Sample MsSql Datasource) based on “OData v4 Data Provider” with pre-configured virtual entities.

Sample Data Source is pre-configured along with below 5 sample virtual entities:

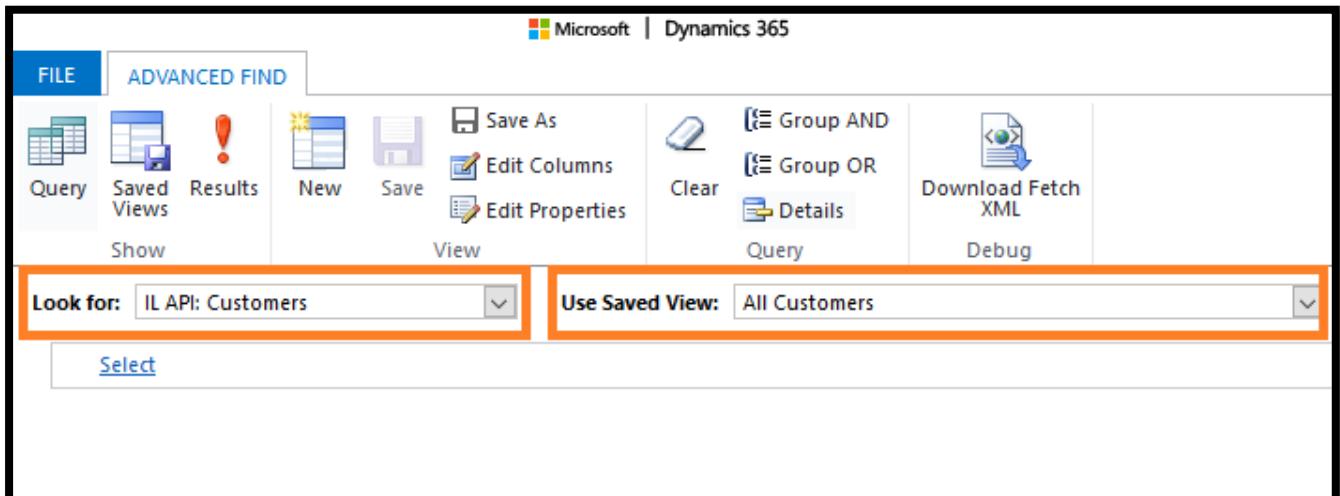
1. IL API: Customer
2. IL API: Order
3. IL API: Order Detail
4. IL API: Product
5. IL API: Supplier

The screenshot shows the Dynamics 365 Components screen. The left sidebar is titled 'Solution: Intlix Api' and contains a 'Components' section. The main area is titled 'Component Type All' and shows a list of components. An orange box highlights the first five components, which are the sample virtual entities. Another orange box highlights the 'Intlix.Api Sample MsSql Datasource' component at the bottom.

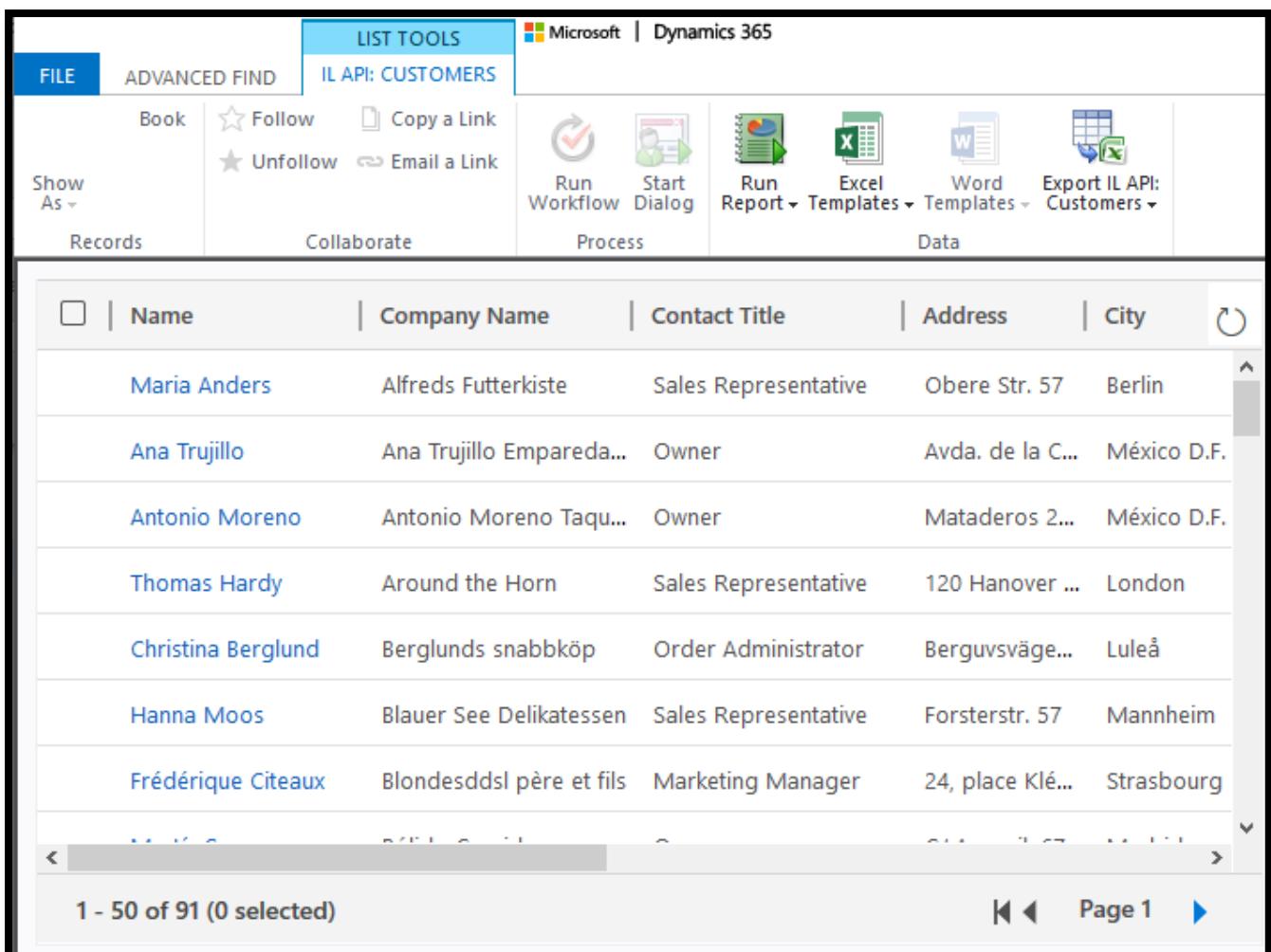
Display Name ↑	Name
IL API: Customer	il_customer
IL API: Order	il_order
IL API: Order Detail	il_orderdetail
IL API: Product	il_product
IL API: Supplier	il_supplier
IL: Configuration	il_configuration
il/_html/intlixapi/SlnConfig.html	il/_html/intlixapi/SlnConfig.html
Intlix.Api Sample MsSql Datasource	Intlix.Api Sample MsSql Datasource

To browse this entity data:

1. Open Advance Find
2. Select IL API: Customer entity and select “All Customer” view:



3. Click on “Result”, it will fetch all the records from external system and show it in Dynamics 365



4. Same steps are applicable to browse the records of other sample virtual entities.

## Create new Data Source (Ms Sql)

This solution enables to create OData v4 API of any Sql Server database, which can be used to configure Virtual Entity.

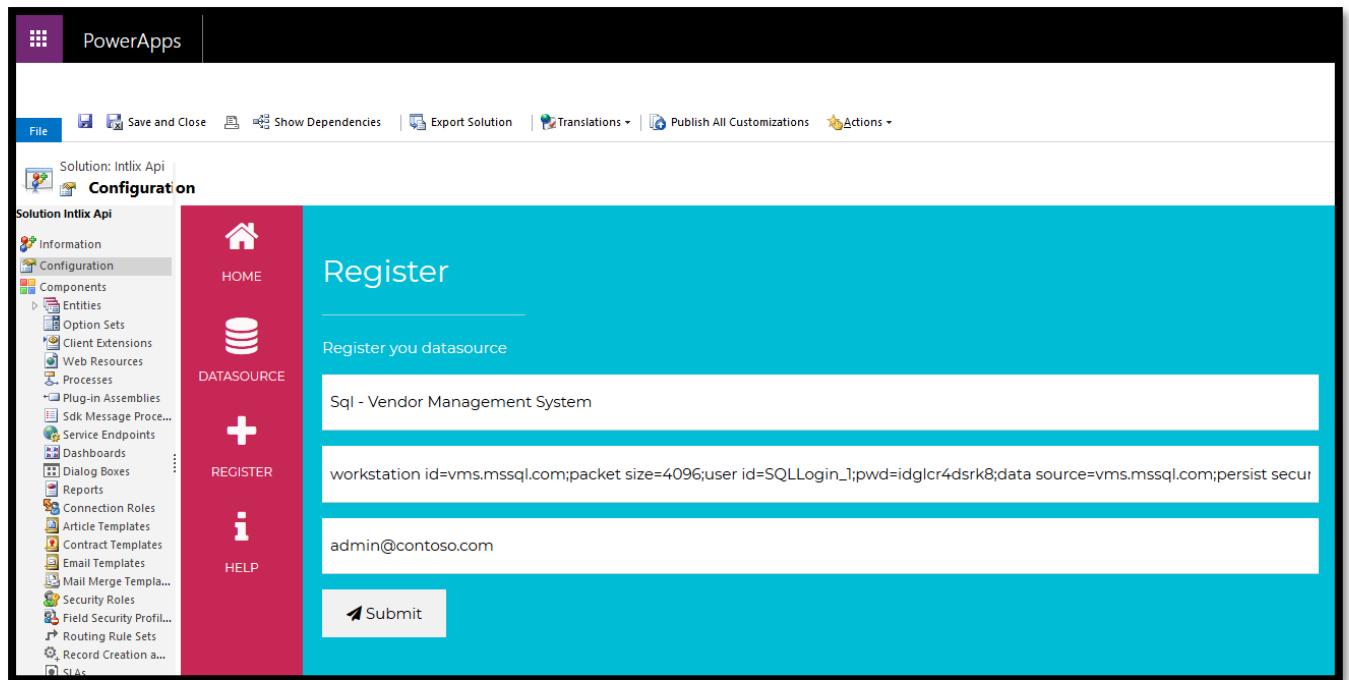
To create new Api for Sql Server data source:

1. Open “Intlix.Api” solution in Dynamics 365 & navigate to “Configuration”
2. It will open the below screen:

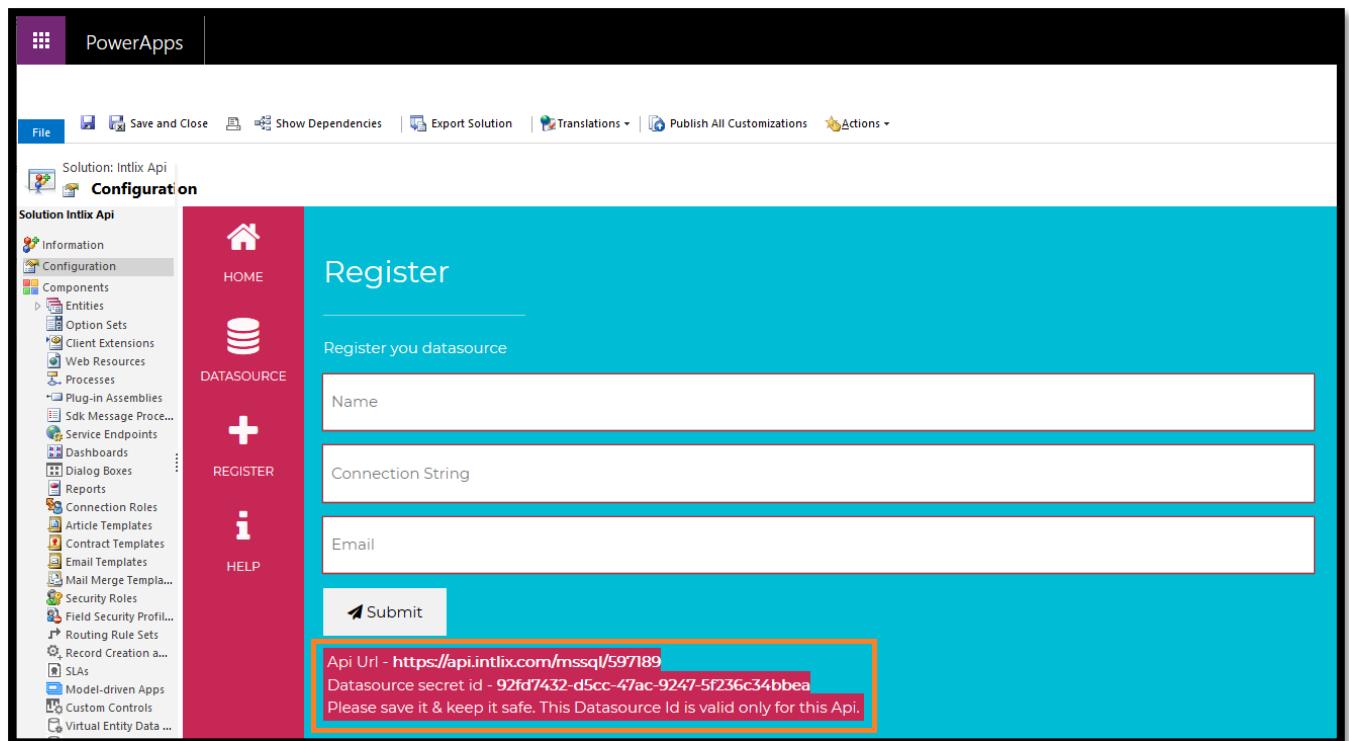
The screenshot shows the Dynamics 365 Configuration interface for the 'Intlix.Api' solution. The left sidebar has 'Configuration' selected. The main area is titled 'Datasource' and displays a table with one row. The table columns are 'Alias', 'Api URL', and 'Expiry Date'. The single row contains the values: 'Intlix.Api Sample MsSql Datasource', 'https://api.Intlix.com/SampleMsSql', and '31-12-2030'. The entire row is highlighted with an orange border.

Alias	Api URL	Expiry Date
Intlix.Api Sample MsSql Datasource	https://api.Intlix.com/SampleMsSql	31-12-2030

3. By default, it will list all the Data source available to use for your Dynamics 365 organization. You can see it will list one “Intlix.Api Sample MsSql Datasource” sample data source (this is the same Data source Api which is preconfigure in the solution).
4. Click on “REGISTER” icon – to create new OData v4 api of Ms Sql Database for integration and to use it in virtual entity.
5. Fill the details:



6. Click on Submit, it generates “Api Url” and **secret** “datasource id”.  
(Please save and keep the data source id safely – and do not share it with any one)



7. This registered Datasource is also listed in “DATASOURCE” section:

The screenshot shows the PowerApps Configuration interface for a solution named "Intlix.Api". The left sidebar has a red header "Configuration" and lists various components like Entities, Option Sets, and Web Resources. The main area is titled "Datasource" and displays two entries:

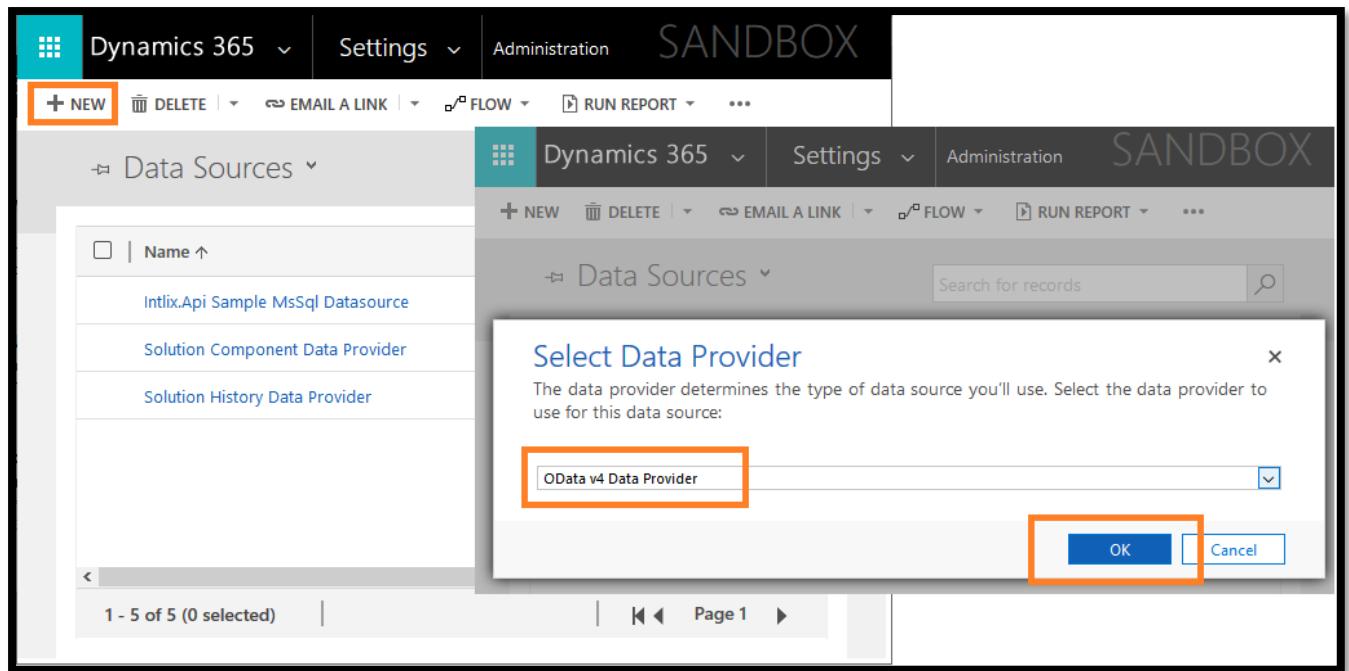
Alias	Api URL	Expiry Date
Intlix.Api Sample MsSql Datasource	<a href="https://api.intlix.com/SampleMsSql">https://api.intlix.com/SampleMsSql</a>	31-12-2030
Sql - Vendor Management System	<a href="https://api.intlix.com/mssql/597189">https://api.intlix.com/mssql/597189</a>	4-11-2019

8. Navigate to "Virtual Entity Data Sources" of you Dynamics 365. Settings > Administration > Virtual Entity Data Sources.

The screenshot shows the Dynamics 365 Administration page. The top navigation bar includes "Dynamics 365", "Settings", "Administration", and "SANDBOX". The main content area is titled "Administration" and contains several sections:

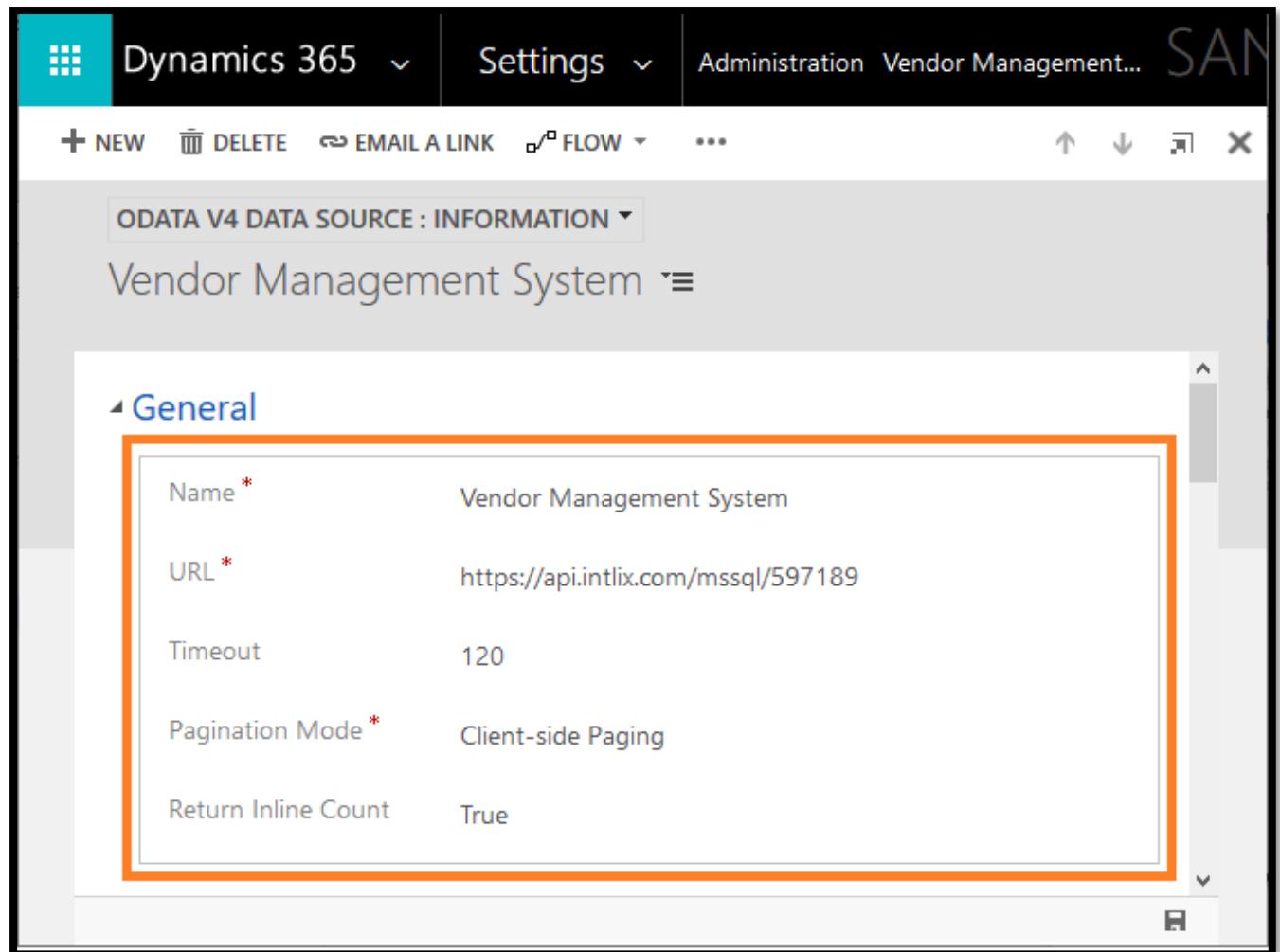
- Subscription Management**: See payment and billing options, and purchase additional licenses. You must be a member of an appropriate security role to do these tasks.
- System Notifications**: View important system messages such as scheduled outage notifications.
- Resources In Use**: View details about your organization's use of storage, custom entities, and workflows and dialogs.
- Yammer Configuration**: Connect Microsoft Dynamics 365 to your enterprise Yammer network.
- Microsoft Social Engagement Configuration**: Connect Microsoft Dynamics 365 to Microsoft Social Engagement for Social Insights.
- Virtual Entity Data Sources**: Add, edit, or delete connection information for external data sources used by virtual entities in the system. This section is highlighted with an orange border.

9. Click New, it will open one popup - select "Odata v4 Data Provider" option and click Ok.



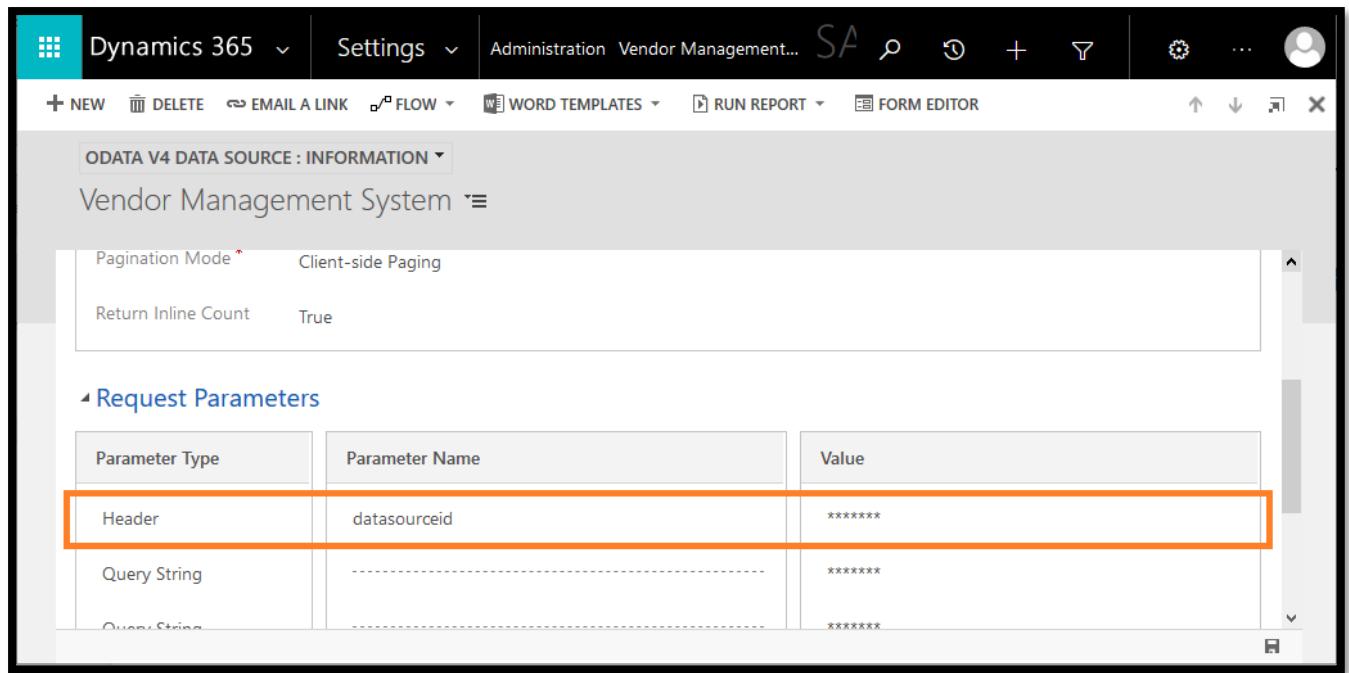
10. In General Tab:

- a. Enter Name, just for identification.
- b. Enter Url, of the registered datasource which created in step #6 (Get Url from "Datasource" section of solution).
- c. Set Timeout to 120.
- d. Set Pagination Mode to "Client-side Paging".
- e. Set ReturnInline Count to "True".



11. In "Request Parameters" Section:

- a. Parameter Type - Header
- b. Parameter Name - datasourceid
- c. Set Parameter Value, with the "Datasource Secret Id", which created in step #6.



12. Save the record. It creates one new Data source in Dynamics 365, which can be used for creating virtual entity.

#### Create Virtual Entity

After configuring Datasource, it is ready for use for use in Virtual entity. After creating & configuring the Virtual Entity it will show the data from registered Datasource (Ms Sql external system) into Dynamics 365.

Let's take an example that, we want to show "Supplier" table records which is there in the external system (Ms Sql Server, in registered Datasource).

*External system "Supplier" table Schema:*

dbo.Suppliers

- Columns
- CompanyName (nvarchar(40), not null)
- ContactName (nvarchar(30), null)
- ContactTitle (nvarchar(30), null)
- Address (nvarchar(60), null)
- City (nvarchar(15), null)
- Region (nvarchar(15), null)
- PostalCode (nvarchar(10), null)
- Country (nvarchar(15), null)
- Phone (nvarchar(24), null)
- Fax (nvarchar(24), null)
- HomePage (ntext, null)
- SupplierGUID (PK, uniqueidentifier, not null)

### Dynamics 365 Virtual Entity Configuration:

#### 1. Create new Virtual entity:

- External Name & External Collection Name should be the same as external system table name
- Make sure you check “Virtual Entity” option
- In Data Source, select the proper Datasource

PowerApps

Supplier Information

General Primary Field Controls

Entity Definition

Display Name \* Supplier

Plural Name \* Suppliers

Name \* il\_supplier

External Name \* Suppliers

External Collection Name \* Suppliers

Virtual Entity

Data Source Vendor Management System

Ownership \* Organization

Define as an activity entity.

Display in Activity Menus

#### 2. Navigate to “Fields” option

#### 3. You can see, it already has 2 fields auto created:

- Name
- SupplierId

	Name	Schema Name	Display Name...	Type
	il_name	il_name	Name	Single Line of...
	il_supplierid	il_supplierId	Supplier	Primary Key

4. Open “Primary Key” field

- a. In “External Name”, set “Primary Key” field name of table of external system **but with prefix ‘\_il\_pk\_’**:

PowerApps Studio - Field Properties for Supplier

**General**

**Schema**

Display Name *	Supplier	Field Requirement *	System Required
Name *	il_supplierid	Searchable	Yes
External Name	<b>_il_pk_SupplierGUID</b>		
Field Security	<input type="radio"/> Enable <input checked="" type="radio"/> Disable	Enabling field security? <a href="#">What you need to know</a>	
Auditing *	<input type="radio"/> Enable <input checked="" type="radio"/> Disable		
Description	Unique identifier for entity instances		

**Schema** (dbo.Suppliers)

- Columns
  - Phone (nvarchar(24), null)
  - Fax (nvarchar(24), null)
  - HomePage (ntext, null)
  - SupplierGUID** (PK, uniqueidentifier, not null)
  - City (nvarchar(15), null)
  - Region (nvarchar(15), null)

5. Now open “Name” field

- a. Set any string field of table of external system in “External Name”

PowerApps Studio - Field Properties for Name

**General**

**Schema**

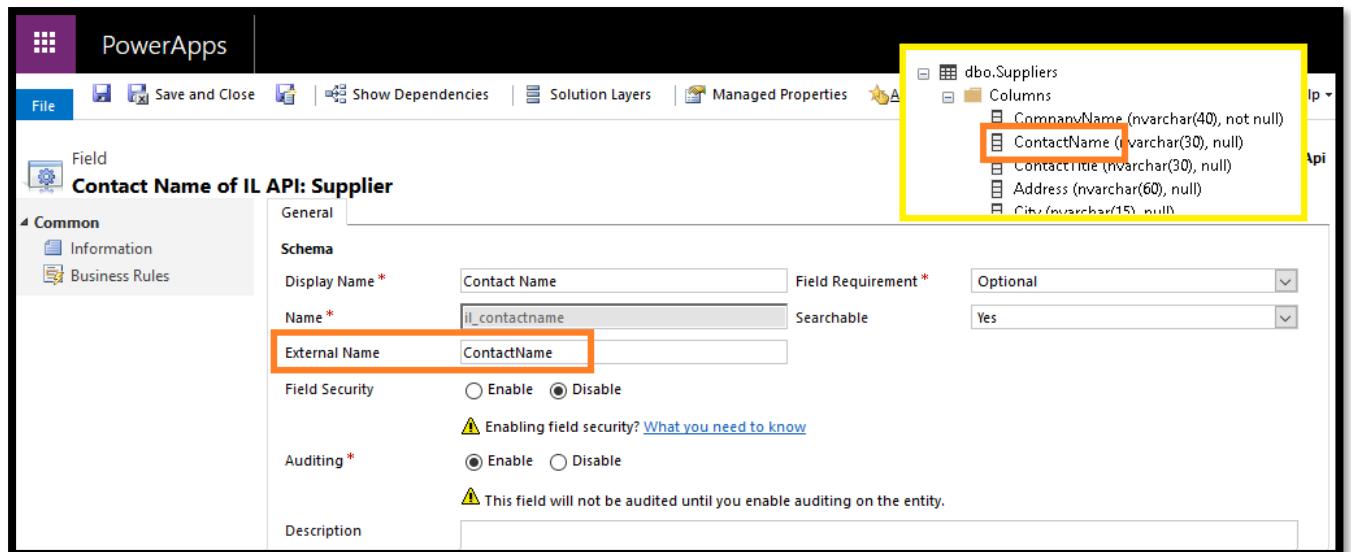
Display Name *	Name	Field Requirement *	Business Required
Name *	il_name	Searchable	Yes
External Name	<b>CompanyName</b>		
Field Security	<input type="radio"/> Enable <input checked="" type="radio"/> Disable	Enabling field security? <a href="#">What you need to know</a>	
Auditing *	<input checked="" type="radio"/> Enable <input type="radio"/> Disable	<b>This field will not be audited until you enable auditing on the entity.</b>	
Description	The name of the custom entity.		

**Schema** (dbo.Suppliers)

- Columns
  - CompanyName** (nvarchar(40), not null)
    - ContactName (nvarchar(30), null)
    - ContactTitle (nvarchar(30), null)
    - Address (nvarchar(60), null)

6. Now to bind other fields of table of external system, create the new fields in virtual entity

a. And always make sure to use the correct “External Name” from the table of external system

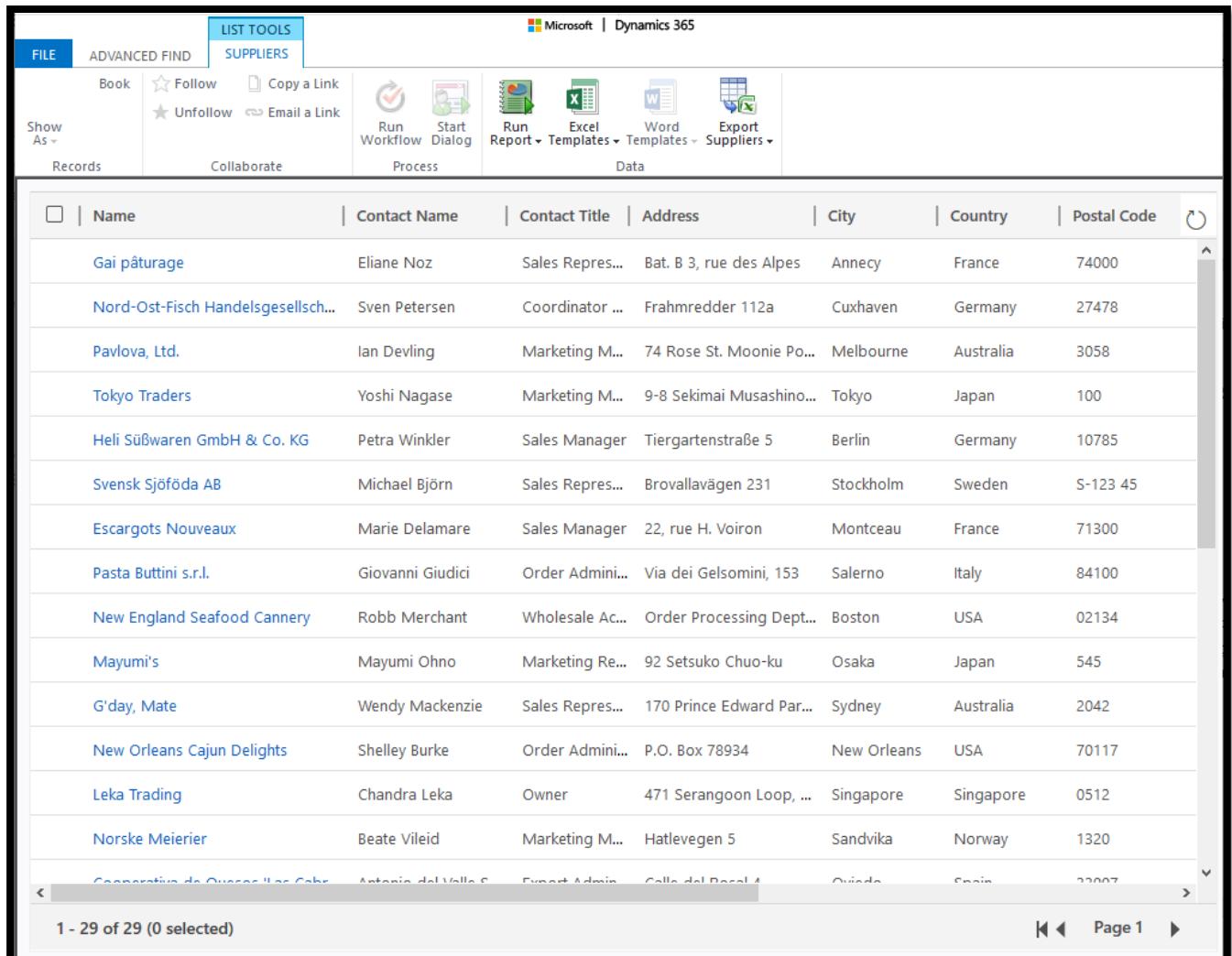


7. Same, you can create & map all the fields in virtual entity of table of external system.

The screenshot shows the 'Fields' list for the 'Supplier' entity in PowerApps. The left sidebar shows the navigation menu. The main area displays a table of fields, each mapped to an external name. The table includes columns for Name, Schema Name, Type, Field Type, State, and Fi. The fields listed are:

Name	Schema Name	Type	Field Type	State	Fi	
il_address	il_Address	Address	Single Line of...	Simple	Unmanaged	Disable
il_city	il_City	City	Single Line of...	Simple	Unmanaged	Disable
il_contactname	il_ContactName	Contact Name	Single Line of...	Simple	Unmanaged	Disable
il_contacttitle	il_ContactTitle	Contact Title	Single Line of...	Simple	Unmanaged	Disable
il_country	il_Country	Country	Single Line of...	Simple	Unmanaged	Disable
il_fax	il_Fax	Fax	Single Line of...	Simple	Unmanaged	Disable
il_homepage	il_HomePage	Home Page	Single Line of...	Simple	Unmanaged	Disable
il_name	il_name	Name	Single Line of...	Simple	Unmanaged	Non Ap
il_phone	il_Phone	Phone	Single Line of...	Simple	Unmanaged	Disable
il_postalcode	il_PostalCode	Postal Code	Single Line of...	Simple	Unmanaged	Disable
il_region	il_Region	Region	Single Line of...	Simple	Unmanaged	Disable
il_supplierid	il_supplierid	Supplier	Primary Key	Simple	Unmanaged	Non Ap

8. After all the field creation, save the entity and publish it.
9. You can also configure the view and form of virtual entity.
10. After configuration, to test it, open advance find and select the newly configured entity, it will show all the records from external system into Dynamics 365 virtual entity:



The screenshot shows the Microsoft Dynamics 365 interface for managing suppliers. The top navigation bar includes FILE, ADVANCED FIND, LIST TOOLS, and SUPPLIERS. Below the navigation is a toolbar with various actions: Book, Follow, Unfollow, Copy a Link, Email a Link, Run Workflow, Start Dialog, Run Report, Excel Templates, Word Templates, and Export Suppliers. The main area displays a grid of 29 supplier records. Each record includes a checkbox, the company name, contact information, address, city, country, and postal code. The records listed are: Gai pâturage, Nord-Ost-Fisch Handelsgesellschaft, Pavlova, Ltd., Tokyo Traders, Heli Süßwaren GmbH & Co. KG, Svensk Sjöföda AB, Escargots Nouveaux, Pasta Buttini s.r.l., New England Seafood Cannery, Mayumi's, G'day, Mate, New Orleans Cajun Delights, Leka Trading, Norske Meierier, Cooperativa de Quesos Valles Caldes, Antonio del Valle S., Export Admin, Colle del Bosco S.p.A., Quidado, Spain, 22007. The bottom of the grid shows page navigation with '1 - 29 of 29 (0 selected)' and 'Page 1'.

	Name	Contact Name	Contact Title	Address	City	Country	Postal Code	Actions
	Gai pâturage	Eliane Noz	Sales Repres...	Bat. B 3, rue des Alpes	Annecy	France	74000	
	Nord-Ost-Fisch Handelsgesellsch...	Sven Petersen	Coordinator ...	Frahmredder 112a	Cuxhaven	Germany	27478	
	Pavlova, Ltd.	Ian Devling	Marketing M...	74 Rose St. Moonie Po...	Melbourne	Australia	3058	
	Tokyo Traders	Yoshi Nagase	Marketing M...	9-8 Sekimai Musashino...	Tokyo	Japan	100	
	Heli Süßwaren GmbH & Co. KG	Petra Winkler	Sales Manager	Tiergartenstraße 5	Berlin	Germany	10785	
	Svensk Sjöföda AB	Michael Björn	Sales Repres...	Brovallavägen 231	Stockholm	Sweden	S-123 45	
	Escargots Nouveaux	Marie Delamare	Sales Manager	22, rue H. Viron	Montceau	France	71300	
	Pasta Buttini s.r.l.	Giovanni Giudici	Order Admini...	Via dei Gelsomini, 153	Salerno	Italy	84100	
	New England Seafood Cannery	Robb Merchant	Wholesale Ac...	Order Processing Dept...	Boston	USA	02134	
	Mayumi's	Mayumi Ohno	Marketing Re...	92 Setsuko Chuo-ku	Osaka	Japan	545	
	G'day, Mate	Wendy Mackenzie	Sales Repres...	170 Prince Edward Par...	Sydney	Australia	2042	
	New Orleans Cajun Delights	Shelley Burke	Order Admini...	P.O. Box 78934	New Orleans	USA	70117	
	Leka Trading	Chandra Leka	Owner	471 Serangoon Loop, ...	Singapore	Singapore	0512	
	Norske Meierier	Beate Vileid	Marketing M...	Hatlevegen 5	Sandvika	Norway	1320	
	Cooperativa de Quesos Valles Caldes	Antonio del Valle S.	Export Admin	Colle del Bosco 4	Quidado	Spain	22007	

## Help

For any help, please visit <https://intlix.com/contact-us> or email us at contact@intlix.com