

Microsoft Dynamics 365 Finance and Operations Authenticate a Connector

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You can authenticate with Microsoft to create your own instance of the Microsoft Dynamics 365 Finance and Operations connector through the UI or through APIs. Once authenticated, you can use the connector instance to access the different functionality offered by the Microsoft Dynamics 365 Finance and Operations platform.

Note: The Microsoft Office 365 trial does not provide API access. See [Microsoft's documentation](#) for additional information on trial and full-featured accounts.

Authenticate Through the UI

Use the UI to authenticate with Microsoft and create a connector instance. Because you authenticate with Microsoft via OAuth 2.0, all you need to do is add a name for the instance. After you create the instance, you'll log in to Microsoft Dynamics 365 Finance and Operations to authorize SAP Cloud Platform Open Connectors access to your account. For more information about authenticating a connector instance, see [Authenticate a Connector Instance \(UI\)](#).

After successfully authenticating, we give you several options for next steps. [Make requests using the API docs](#) associated with the instance, [map the instance to a common resource](#), or [use it in a formula template](#).

Authenticate Through API

Authenticating through API is a multi-step process that involves:

1
Redirect URL

>

2
Authenticate Users

>

3

Authenticate Instance

- [Getting a redirect URL](#). This URL sends users to the vendor to log in to their account.
- [Authenticating users and receiving the authorization grant code](#). After the user logs in, the vendor makes a callback to the specified url with an authorization grant code.
- [Authenticating the connector instance](#). Using the authorization code from the vendor, authenticate with the vendor to create a connector instance at SAP Cloud Platform Open Connectors.

Getting a Redirect URL

1

Redirect URL

>

2

Authenticate Users

>

3

Authenticate Instance

Use the following API call to request a redirect URL where the user can authenticate with the vendor.

Replace `{keyOrId}` with the connector key, `dynamics365fo`.

```
GET /elements/{keyOrId}/oauth/url?apiKey=&apiSecret=&callbackUrl=&siteAddress=
```

Query Parameters

Query Parameter	Description
apiKey	The key obtained from registering your app with the provider. This is the Client ID value that you recorded in API Provider Setup .
apiSecret	The client secret obtained from registering your app with the provider. This is the Client Secret value that you recorded in API Provider Setup .
callbackUrl	The URL that will receive the code from the vendor to be used to create a connector instance. The default SAP Cloud Platform Open Connectors callback URL is <code>https://auth.cloudelements.io/oauth</code> .

Example cURL

```
curl -X GET
-H 'Content-Type: application/json'
'https://api.openconnectors.us2.ext.hana.ondemand.com/elements/api-v2/elements/dynamics365fo/oauth/url?apiKey=fake_api_key&apiSecret=fake_api_secret&callbackUrl=https://www.mycoolapp.com/auth&state=dynamics365fo'
```

Example Response

Use the `oauthUrl` in the response to allow users to authenticate with the vendor.

```
{
  "element": "dynamics365fo",
  "oauthUrl": "https://login.microsoftonline.com/common/oauth2/authorize"
}
```

Authenticating users and receiving the authorization grant code

1
Redirect URL

>

2
Authenticate Users



3

Authenticate Instance

Provide the response from the previous step to the users. After they authenticate, Microsoft Dynamics 365 Finance and Operations provides the following information in the response:

- code
- state

Response Parameter	Description
code	The Authorization Grant Code required by SAP Cloud Platform Open Connectors to retrieve the OAuth access and refresh tokens from the endpoint.
state	A customizable identifier, typically the connector key (<code>dynamics365fo</code>).

Note: If the user denies authentication and/or authorization, there will be a query string parameter called `error` instead of the `code` parameter. In this case, your application can handle the error gracefully.

Authenticating the Connector Instance

1

Redirect URL



2

Authenticate Users



3

Authenticate Instance

Use the `/instances` endpoint to authenticate with Microsoft and create a connector instance.

Note: The endpoint returns a connector id and token upon successful completion. Retain the token and id for all subsequent requests involving this connector instance.

To create a connector instance:

1. Construct a JSON body as shown below (see [Parameters](#)):

```
{
  "element": {
    "key": "dynamics365fo"
  },
  "providerData": {
    "code": ""
  },
  "configuration": {
    "oauth.api.secret": "2xzhlifygq6lqbtr8hhffbf6syyw7bbznx3saej",
    "oauth.callback.url": "https://auth.cloudelements.io/oauth",
    "secret": null,
    "oauth.api.key": "d78qhd72-dff9-9a02-mnp2-ff65soofk92b",
    "objects": "CustomerGroups, Customers, ContactPersons, SalesOrderHeaders, SalesQuotationHeaders, SalesQuotationLines",
    "filter.response.nulls": "true",
    "dataareaid": "dat",
    "dynamics365.resource.uri": "https://myCoolApp.cloudax.dynamics.com",
    "dynamics.tenant": "myCoolApp.cloudax.dynamics.com"
  },
  "tags": [
    ""
  ],
  "name": ""
}
```

2. Call the following, including the JSON body you constructed in the previous step:

```
POST /instances
```

Note: Make sure that you include the User and Organization keys in the header. For more information, see [Authorization Headers, Organization Secret, and User Secret](#).

3. Note the **Token** and **ID** and save them for all future requests using the connector instance.

Example cURL

```

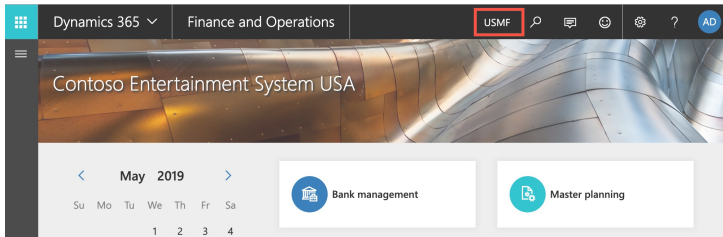
curl -X POST \
  https://api.openconnectors.us2.ext.hana.ondemand.com/elements/api-v2/instances \
  -H 'authorization: User , Organization ' \
  -H 'content-type: application/json' \
  -d '{
    "element": {
      "key": "dynamics365fo"
    },
    "providerData": {
      "code": "8aa74ff8ae16ba3ca19d12cbdea83aff16bddcd7"
    },
    "configuration": {
      "oauth.api.secret": "2xzh1ifygq6lqbtr8hhffbfg6syw7bbznx3saej",
      "oauth.callback.url": "https://auth.cloudelements.io/oauth",
      "oauth.api.key": "d78qhd72-dff9-9a02-mnp2-ff65soofk92b",
      "objects": "CustomerGroups, Customers, ContactPersons, SalesOrderHeaders, SalesQuotationHeaders, SalesQuotationLines",
      "filter.response.nulls": "true",
      "dataareaid": "dat",
      "dynamics365.resource.uri": "https://myCoolApp.cloudax.dynamics.com",
      "dynamics.tenant": "myCoolApp.cloudax.dynamics.com",
    },
    "tags": [
      "Test"
    ],
    "name": "API Instance"
  }'

```

Parameters

API parameters not shown in SAP Cloud Platform Open Connectors are in `code formatting` .

Parameter	Description	Data Type
'key'	The connector key. dynamics365fo	string
Name <code>name</code>	The name for the connector instance created during authentication.	Body
<code>oauth.callback.url</code>	The Callback URL for the connected app you registered. This value is <code>https://auth.cloudelements.io/oauth</code> .	string
<code>oauth.api.key</code>	Your Microsoft Dynamics 365 Finance and Operations OAuth API key. This is a value you recorded during API Provider Setup .	string
<code>oauth.api.secret</code>	Your Microsoft Dynamics 365 Finance and Operations OAuth API secret. This is a value you recorded during API Provider Setup .	string
	The specific objects you would like to retrieve during the	

Parameter	Description	Data Type
<code>objects</code>	<p>Due to the large dataset from Microsoft Dynamics 365, only the objects specified in this property will be usable. To get all objects supported by Dynamics 365 Finance and Operations, call <code>GET /objects?fetchAll=true</code>. The default values are those objects supported by SAP Cloud Platform Open Connectors natively:</p> <ul style="list-style-type: none"> • CustomerGroups • Customers • ContactPersons • SalesOrderHeaders • SalesQuotationHeaders • SalesQuotationLines 	string
<code>filter.response.nulls</code>	<p>Determines if null values in the response JSON should be filtered from the response. Yes or <code>true</code> indicates that SAP Cloud Platform Open Connectors will filter null values. Default: <code>true</code></p>	boolean
<code>dataareaid</code>	<p>The supported company type by Microsoft Dynamics 365 Finance and Operations. These company types are listed in a dropdown in the Finance and Operations UI right next to the Search icon:</p> 	string
<p>Dynamics 365 Resource URI</p> <code>dynamics365.resource.uri</code>	<p>The URL for your Dynamics 365 resource. This can be found in your browser's address bar after successfully signing in to your Microsoft Dynamics 365 Finance and Operations account; for example, an address bar reading <code>https://myCoolResource.cloudax.dynamics.com/?cmp=usmf&mi=defaultdashboard</code> indicates a Resource URI value of <code>https://myCoolResource.cloudax.dynamics.com</code>.</p>	string
<p>Dynamics 365 Tenant</p> <code>dynamics.tenant</code>	<p>The ID of the tenant account with which you want to authenticate. This value is your Resource URI without the <code>https://</code>. For example, a Resource URI of <code>https://myCoolResource.cloudax.dynamics.com</code> indicates a Tenant value of <code>myCoolResource.cloudax.dynamics.com</code>.</p>	string
<code>tags</code>	<p><i>Optional.</i> User-defined tags to further identify the instance.</p>	string

Example Response for an Authenticated Connector Instance

```
{
  "id": 12345,
  "name": "myCoolInstance",
  "createdDate": "2017-08-03T14:41:52Z",
  "token": "5MOxxxxxxxxxxxxxxxxxxxxxxxxxxxx",
  "element": {
    "id": 15343,
    "name": "Microsoft Dynamics 365 Finance and Operations",
    "key": "dynamics365fo",
    "description": "Add a Microsoft Dynamics 365 Finance and Operations instance to c
connect your existing Dynamics 365 Finance and Operations account to the Finance Hub,
allowing you to manage orders and payments. You will need your Microsoft Dynamics 365
Finance and Operations account information, including registered applications, to add
an instance.",
    "image": "elements/provider_dynamics365fo.png",
    "active": true,
    "deleted": false,
    "typeOauth": true,
    "trialAccount": false,
    "configDescription": "If you do not have a Microsoft Dynamics 365 account, visit
Microsoft.com for additional information.",
    "transformationsEnabled": false,
    "bulkDownloadEnabled": true,
    "bulkUploadEnabled": true,
    "cloneable": false,
    "extendable": false,
    "beta": false,
    "authentication": {
      "type": "oauth2"
    },
    "extended": false,
    "hub": "finance",
    "protocolType": "http",
    "parameters": [],
    "private": false
  },
  "provisionInteractions": [],
  "valid": true,
  "disabled": false,
  "maxCacheSize": 0,
  "cacheTimeToLive": 0,
  "configuration": {},
  "eventsEnabled": false,
  "traceLoggingEnabled": false,
  "cachingEnabled": false,
  "externalAuthentication": "none",
  "user": {
    "id": 12345
  }
}
```