

# Microsoft Dynamics CRM Authenticate a Connector

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You can authenticate with Microsoft to create your own instance of the Microsoft Dynamics CRM 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 CRM platform.

## Authenticate Through the UI

Use the UI to authenticate with Microsoft Dynamics CRM and create a connector instance. If you choose to authenticate with Microsoft Dynamics CRM via OAuth 2.0, all you need to do is add a name for the instance, provide your Dynamics CRM tenant URL, and enter your OAuth client ID and secret in Azure Active Directory. After you create the instance, you'll log in to Microsoft Dynamics CRM 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 similar to authenticating via the UI. Instead of clicking and typing through a series of buttons, text boxes, and menus, you will instead send a request to our `/instances` endpoint. The end result is the same, though: an authenticated connector instance with a `token` and `id`.

You can authenticate using either [custom authentication](#) or [OAuth 2.0](#).

## Custom Authentication

Use the `/instances` endpoint to authenticate with Microsoft Dynamics CRM and create a connector instance. If you are configuring events, see the [Events section](#).

**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 [Custom Parameters](#)):

```
{
  "element": {
    "key": "dynamicscrmadfs"
  },
  "configuration": {
    "authentication.type": "custom",
    "user.username": "",
    "user.password": "",
    "dynamics.tenant": "yourcompanyname.crm.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.

## Custom Authentication 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": "dynamicscrmadfs"
    },
    "configuration": {
      "authentication.type": "custom",
      "user.username": "xxxxxxxxxxxxxxxxxxxx",
      "user.password": "xxxxxxxxxxxxxxxxxxxx",
      "dynamics.tenant": "yourcompanyname.crm.dynamics.com"
    },
    "tags": [
      "Test"
    ],
    "name": "DynamicsCRMInstance"
  }'

```

## Custom Parameters

API parameters not shown in SAP Cloud Platform Open Connectors are in

`code formatting`.

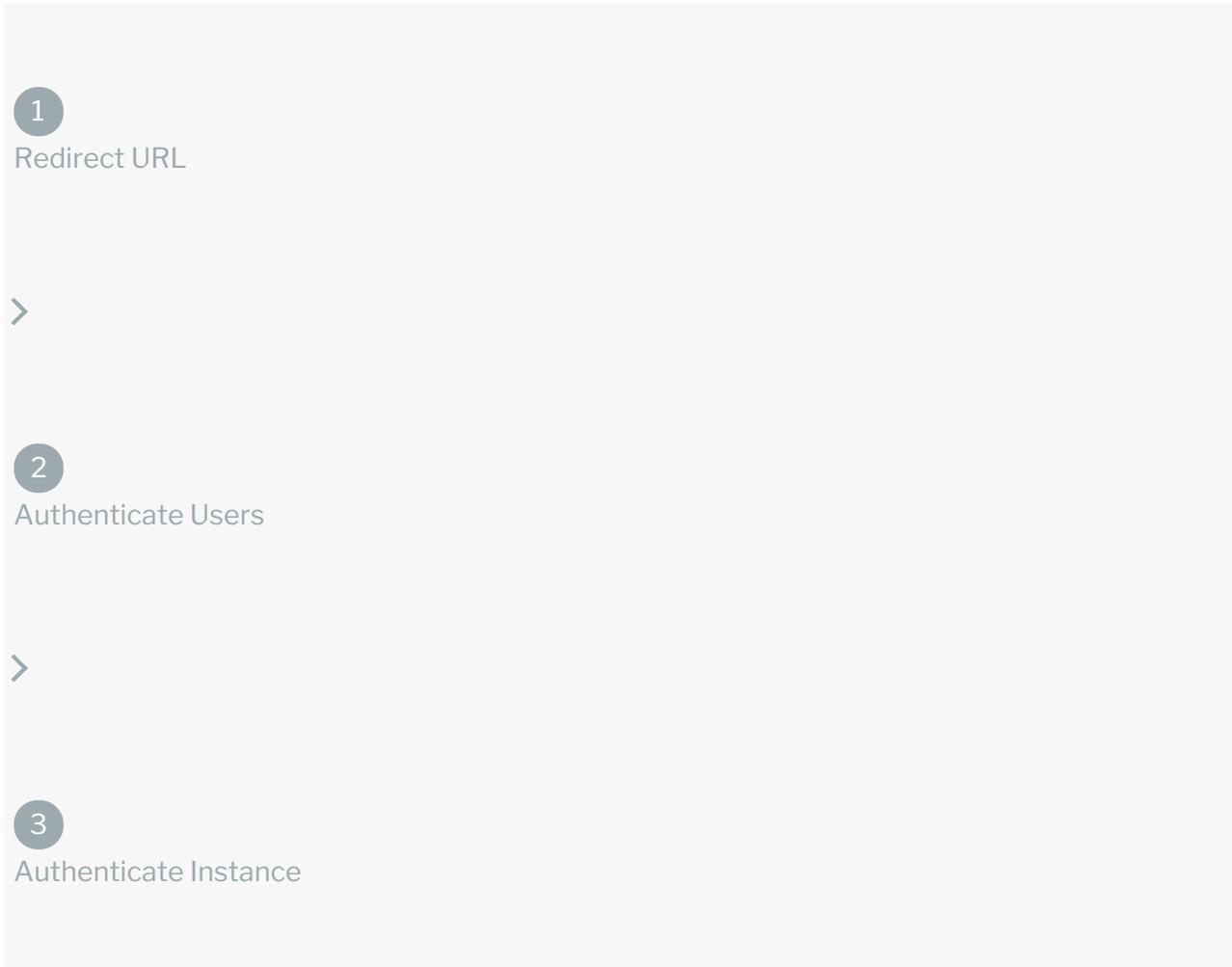
**Note:** Event related parameters are described in [Events](#).

Parameter	Description	Data Type
<code>key</code>	The connector key. dynamicscrmadfs	string
Name <code>name</code>	The name of the connector instance created during authentication.	string
Authentication Type <code>authentication.type</code>	<i>Optional.</i> Identifies the type of authentication used in the request. Use <code>custom</code> .	string
User Name <code>user.username</code>	The USERNAME of the Dynamics CRM account	string
User password <code>user.password</code>	The PASSWORD of the Dynamics CRM account	string
Dynamics CRM URL		

<code>dynamics.tenant</code>	The Microsoft Dynamics Tenant URL.	string
<b>Parameter</b>	<b>Description</b>	<b>Data</b>
<code>tags</code>	<i>Optional.</i> User-defined tags to further identify the instance.	Type string

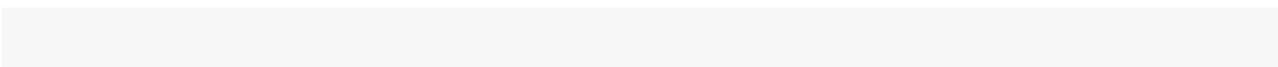
## OAuth 2.0 Authentication

Using OAuth 2.0 to authenticate through API follows a multi-step process that involves:



- [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 API provider. Replace `{keyOrId}` with the connector key, `dynamicscrmadfs`.

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

#### Query Parameters

Query Parameter	Description
apiKey	The API key or client ID obtained from registering your app with the provider. This is the key that you recorded in the <a href="#">API Provider Setup</a> section.
apiSecret	The client secret obtained from registering your app with the API provider. This is the secret that you recorded in the <a href="#">API Provider Setup</a> section.
callbackUrl	The URL that the API provider returns a user to after they authorize access.

#### Example cURL

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

#### Example Response

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

```
{
  "element": "dynamicscrmadfs",
  "oauthUrl": "https://login.microsoftonline.com/common/oauth2/authorize?response_type=code&redirect_uri=https%3A%2F%2Fmycoolapp.com%2Fauth&state=dynamicscrmadfs&client_id=1234567890"
}
```

## Authenticating Users and Receiving the Authorization Grant Code

1

Redirect URL

>

2

Authenticate Users

>

3

Authenticate Instance

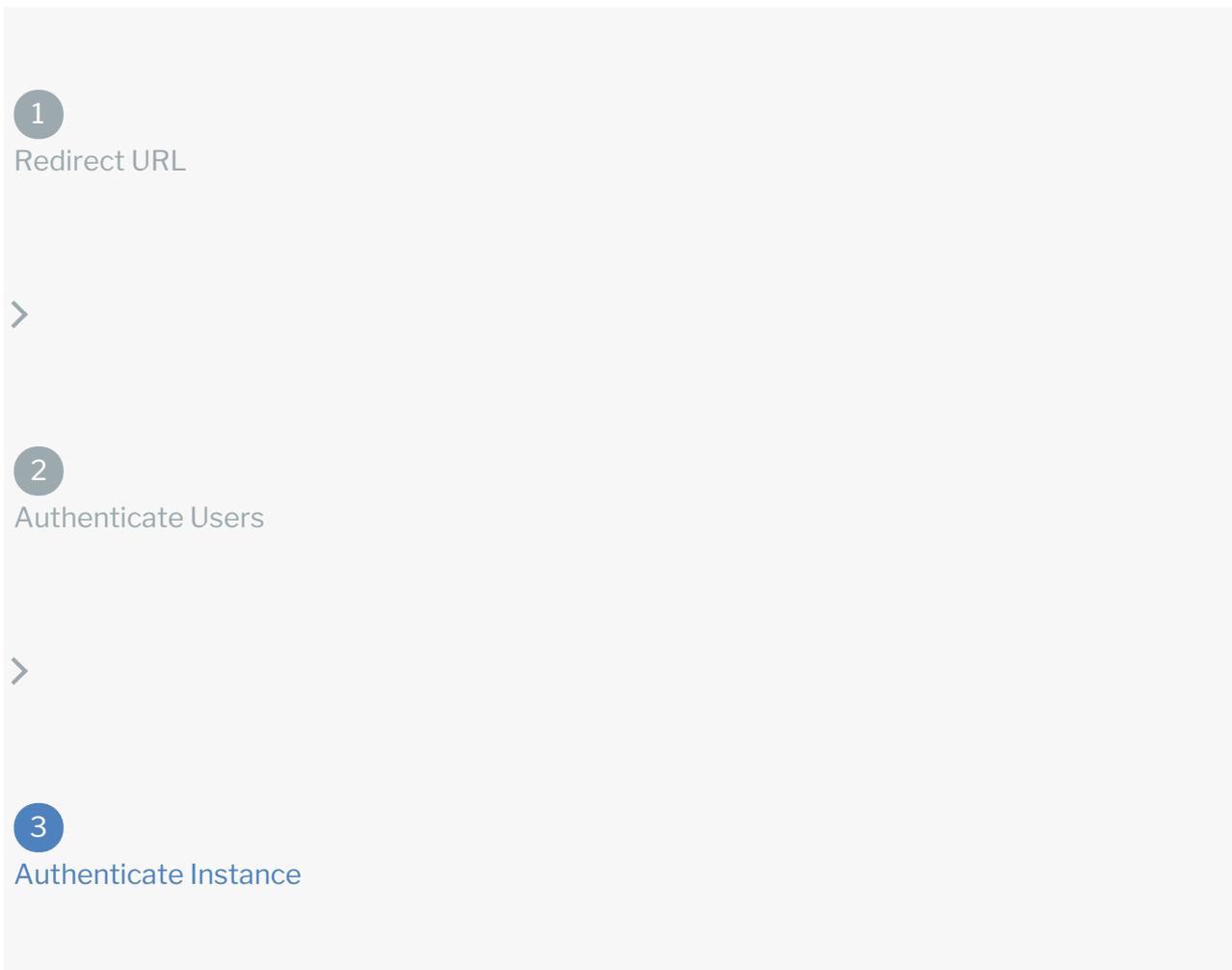
Provide the response from the previous step to the users. After they authenticate, Microsoft Dynamics CRM provides the following information in the response:

- 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>dynamicscrmadfs</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



Use the `/instances` endpoint to authenticate with Microsoft Dynamics CRM and create a connector instance. If you are configuring events, see the [Events](#) section.

**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 [OAuth2 Parameters](#)):

```
{
  "element": {
    "key": "dynamicscrmadfs"
  },
  "providerData": {
    "code": ""
  },
  "configuration": {
    "authentication.type": "oauth2",
    "oauth.api.key": "",
    "oauth.api.secret": "",
    "oauth.callback.url": "",
    "oauth.resource.url": "yourcompanyname.crm.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.

## OAuth2 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": "dynamicscrmadfs"
    },
    "providerData": {
      "code": "8aa74ff8ae16ba3ca19d12cbdea83aff16bddcd7"
    },
    "configuration": {
      "authentication.type": "oauth2",
      "oauth.api.key": "xxxxxxxxxxxxxxxxxxxxxxxx",
      "oauth.api.secret": "xxxxxxxxxxxxxxxxxxxxxxxx",
      "oauth.resource.url": "yourcompanyname.crm.dynamics.com"
      "oauth.callback.url": "https://mycoolapp.com"
    },
    "tags": [
      "Test"
    ],
    "name": "DynamicsCRMInstance"
  }'

```

## OAuth 2.0 Parameters

API parameters not shown in SAP Cloud Platform Open Connectors are in

`code formatting`.

**Note:** Event related parameters are described in [Events](#).

Parameter	Description	Data Type
<code>key</code>	The connector key. dynamicscrmadfs	string
<code>code</code>	The authorization grant code returned from the API provider in an OAuth 2.0 authentication workflow. SAP Cloud Platform Open Connectors uses the code to retrieve the OAuth access and refresh tokens from the endpoint.	string
Name	The name of the connector instance created during	string

name	Description	Data Type
Parameter Authentication Type	Optional. Identifies the type of authentication used in the request. Use <code>oauth2</code> .	string
<code>authentication.type</code>		
<code>oauth.api.key</code>	The API key or client ID obtained from registering your app with the provider. This is the **** that you recorded in the <a href="#">API Provider Setup</a> section.	string
<code>oauth.api.secret</code>	The client secret obtained from registering your app with the API provider. This is the **** that you recorded in the <a href="#">API Provider Setup</a> section.	string
<code>oauth.callback.url</code>	The URL that the API provider returns a user to after they authorize access. This is the **** that you recorded in the <a href="#">API Provider Setup</a> section.	
<code>oauth.resource.url</code>	The Microsoft Dynamics Tenant URL.	string
<code>tags</code>	<i>Optional.</i> User-defined tags to further identify the instance.	string

## Example Response for an Authenticated Connector Instance

The following example response is the payload received when authenticating through OAuth 2.0.

In this example, the instance ID is `12345` and the instance token starts with "ABC/D...". The actual values returned to you will be unique: make sure you save them for future requests to this new instance.

```
{
  "id": 12345,
  "name": "API Instance",
  "createdDate": "2017-08-07T18:46:38Z",
  "token": "ABC/Dxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx",
  "element": {
    "id": 361,
    "name": "Microsoft Dynamics CRM",
    "hookName": "DynamicsCRM",
    "key": "dynamicscrmadfs",
    "description": "Add a Microsoft Dynamics CRM Instance to connect your existing Microsoft Dynamics CRM\account (Online or On Premise) to the CRM Hub, allowing you to manage contacts, leads, accounts, opportunities etc. across multiple CRM connectors. You will need your Microsoft Dynamics CRM account information to add an instance.",
    "image": "elements/provider_dynamicscrm.png",
```

```
"active": true,
"deleted": false,
"typeOauth": true,
"trialAccount": false,
"configDescription": "Microsoft Dynamics CRM For Online and On Premise"
,
"defaultTransformations": [ ],
"transformationsEnabled": true,
"bulkDownloadEnabled": true,
"bulkUploadEnabled": true,
"cloneable": false,
"extendable": false,
"beta": false,
"authentication": {
  "type": "custom"
},
"extended": false,
"hub": "crm",
"protocolType": "http",
"parameters": [ ],
"private": false },
"elementId": 361,
"tags": [
  "Docs"
],
"provisionInteractions": [],
"valid": true,
"disabled": false,
"maxCacheSize": 0,
"cacheTimeToLive": 0,
"configuration": { },
"eventsEnabled": false,
"traceLoggingEnabled": false,
"cachingEnabled": false,
"externalAuthentication": "none",
"user": {
  "id": 12345
}
}
```