

# Creating an OData Service API

## Introduction

This page describes how to create and configure an OData Service API, access existing OData APIs, and edit the configuration settings of existing OData APIs within [Jitterbit Harmony API Manager](#).

OData is a flexible, REST-based protocol that is used to query multiple unique data sources and transform the data into a single, standard data model to be consumed by other applications and services. A common use case for an OData Service API is retrieving data from SAP and multiple databases, such as Oracle, MySQL, and SQL Server, to be consumed by Salesforce Connect.

Jitterbit Harmony currently supports [OData 2.0](#). For additional information about the OData protocol, see [OData 2.0](#).

 **TIP:**

- Before creating an OData Service API, you should have already registered for Jitterbit Harmony (through the [Jitterbit Harmony website](#)). You will also need to set up at least one [environment](#), [agent group](#), user, [role](#), and [member](#) (as described in the [Jitterbit Quick Start Tutorial](#)).
- In [Design Studio](#) you will also need to complete the instructions in these articles: [Creating a New Project](#), [Creating a Jitterbit Entity](#), and [Creating an API Entity Operation](#).
- A quick review of the [Prerequisites](#) section in the [API Manager Quick Start Guide](#) is also recommended prior to creating your OData Service API.

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## Getting Started

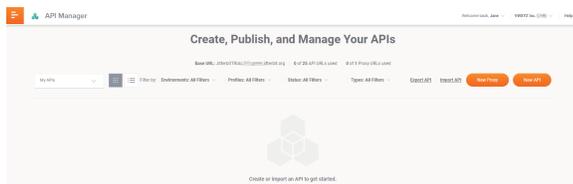
[API Manager](#) is accessed from the [Harmony Portal](#). The credentials you use depend on whether or not your organization and account is configured to use [Single Sign-On \(SSO\)](#). Once you are logged into the [Harmony Portal](#), you can access the [My APIs](#) landing page:

- From the [Harmony Portal](#) landing page, by selecting the **API Manager** card.
- From any page within the [Harmony Portal](#), by using the hamburger menu in the top left corner to select **API Manager > My APIs**
- From any page within [API Manager](#), by clicking the logo or the words **API Manager** in the top left next to the menu.

View this video to preview the steps to create an OData Service API:

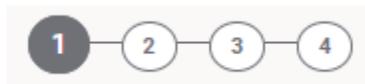
## Creating a New OData Service API

When you access [API Manager](#), if no APIs exist in the selected organization, this page will be blank. Click **New API** in the upper right side of the page to get started:



Selecting **New API** opens the **Publish New API** page.

The process of creating and publishing a new API consists of four steps. Each step is a separate page with the step number highlighted at the top of the page:



You can navigate back to a previous step by selecting the step numbers on top of the page, or you can select **Cancel** at the bottom of each page to stop the process at any time.

- [Step 1: Settings](#)
- [Step 2: Select Service Type and Assign Jitterbit Entities](#)
- [Step 3: Assign Security Profiles](#)
- [Step 4: Summary & Confirmation](#)

### Related Articles

- [API Jitterbit Variables](#)
- [API Manager Quick Start Guide](#)
- [APIs Tech Talk](#)
- [Configuring Outbound Messages with Harmony API](#)
- [Creating an API Entity Operation](#)
- [Creating a Jitterbit Entity](#)
- [Design Studio Quick Start Guide](#)
- [Environments](#)
- [Environments Tech Talk](#)
- [API Exports and Imports](#)
- [Harmony API Security](#)
- [Jitterbit Security and Architecture White Paper](#)
- [My APIs](#)
- [Salesforce Functions](#)
- [SAP Connector Function](#)
- [Setting Up Salesforce Connect to Consume an OData Service API](#)

### Related Topics

- [API Manager](#)
- [Design Studio](#)
- [Getting Started](#)
- [Jitterbit Entities](#)
- [Management Console](#)

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On each page of **Publish New API**:

- **Save Changes:** This option is available only after opening an existing API to edit, and it is activated only after changes are made to the page. Click **Save Changes** to save the changes you made in this page. A popup window displays a message giving you the option to **Save Changes** or **Discard Changes**. Click **Save Changes** to save the changes you made, close the popup, and return to the *Summary & Confirmation* page. Click the **Discard Changes** link to delete the changes you made to this page, close the popup, and return to the *Summary & Confirmation* page.
- **Discard Changes:** This option is available only after opening an existing API and only after you have made changes to the page. Click the **Discard Changes** link if you do not want to save the changes you made to this page. A popup windows displays a message giving you the option to **Save Changes** or **Discard Changes**. Click **Discard Changes** to delete the changes you made to this page, close the popup, and return to the *Summary & Confirmation* page. Click the **Save Changes** link to save the changes you made, close the popup, and return to the *Summary & Confirmation* page.

## Step 1: Settings

The screenshot shows the 'Publish New API' settings page. At the top, there's a breadcrumb 'API Manager' and a navigation bar with 'Welcome back, Jane', 'WORKZ Inc (8888)', and 'Help'. Below the title 'Publish New API', there's a progress indicator with four steps. The 'Settings' section includes:
 

- API NAME:** SAP Customer Data
- ENVIRONMENT:** Prod (with a dropdown arrow)
- SERVICE ROOT\* (I.E. PUBLIC API NAME):** sapCustomerData
- VERSION#:** v1.0
- DESCRIPTION:** Retrieving SAP customer data to use within Salesforce Connect

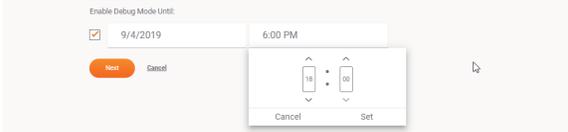
- **API Name:** Enter a name for the **ODATA Service API**. The name should be short and describe the functionality of the API. The API name is important for internal identification and is also used in the service root (the public name) of the API. The name automatically becomes part of the API URL.
- **Environment:** Click in the **Environment** field to display the dropdown list. Select in the list the **Environment** your OData Service API project resides in.
- **Service Root:** The **Service Root** field is automatically populated with the **API Name** entered above and is translated into camel case. If a different service root is preferred, enter the name in the **Service Root** field.
  - Jitterbit uses camel case in the service root. The API Name entered as "SAP Customer Data" automatically populates the Service Root field as "sapCustomerData" using camel case. Additional information regarding camel case is available on [Lodash.com](http://Lodash.com).
  - A space between words and any underscore "\_" entered between words in the API Name is ignored in the service root.
  - The underscore "\_" character may be entered manually within the Service Root field and is then included in the final API URL.
  - A manually entered space is not allowed in the service root or the final API URL.
- **Version#:** Define a version method for this API and enter the version in the **Version#** field. While this is not required, it is highly recommended. The V1, V2, etc. naming convention is often utilized. You can use any alphanumeric character for the version, including a date. Special characters are not allowed in the version, except for a period or hyphen. A maximum of 48 characters is allowed in the version field. The version will also become part of the URL to help you and your customers distinguish your various APIs in the future.
- **Description:** Enter a short description of the OData Service API in the **Description** field. This description will appear in the *My APIs* index and can help project collaborators identify an API.
- Scroll down to the **TIMEOUT** field:

The screenshot shows the 'TIMEOUT' field with a value of '30' and a unit of 'Seconds'. Below the field are three checkboxes:
 

- SSL only
- Enable CORS
- Enable Verbose Logging

- **TIMEOUT:** Enter the number of seconds before the API will time out. The default is 30 seconds. The maximum is 180 seconds.
- **SSL Only:** SSL communication security is enabled by default and is strongly recommended. To disable SSL only, click the checkbox to clear it.

- **Enable CORS:** Click the checkbox to enable **CORS**. A warning note displays. Review the warning (for additional information, see <https://www.w3.org/TR/cors/>). Select **Continue** to enable CORS or **Cancel** to disable CORS and close the popup.
- **Enable Verbose Logging:** Click the checkbox to enable verbose logging. Verbose logging for APIs allows the user to decide whether each API log should contain request and response data. This functionality helps monitor incoming and outgoing data as well as facilitate debugging API issues.
  - This option can be enabled or disabled at any time by hovering over the API card in the *My APIs* Index page and selecting **View/Edit** on the back side of the card.
  - When this option is selected, a popup window displays. Select **Continue** to enable verbose logging, select **Cancel** to disable verbose logging and close the window.
- Scroll down to the **Enable Debug Mode Until** field:



- **Enable Debug Mode Until:** Debug logging is disabled by default. Click the checkbox to enable debug logging.
  - A popup message describes debug mode processing and the consequences of running in debug mode for long periods of time.
  - Select **Continue** to enable debug mode or **Cancel** to disable debug mode and close the popup window.
  - Once enabled, debug logging is set to run until exactly one hour from the date and time it is enabled. These are the steps to change the default date and time:
    - Click within the **date** field to display a calendar to set a longer period to run in debug mode. Two weeks is the maximum time allowed to enable running in debug mode. Select the **day** in the calendar.
    - Click in the **time** field. Click the **up** and **down** arrows to set the hour and minutes. Click **Set** to accept the time.
    - Click **Cancel** to close the popup without making changes.
  - Debug logging can be turned on at any time by hovering over the API card in the *My APIs* Index page and selecting **View/Edit** on the back side of the card.
- **Next:** Select **Next** to save the information entered in [step 1](#) and continue to [step 2](#).
- **Cancel:** Selecting **Cancel** at the bottom of the page or selecting the close icon in the top right corner of the page will close the page without saving the information already entered in [step 1](#).
- **Save Changes** and **Discard Changes:** See instructions above.

## Step 2: Select Service Type and Assign Jitterbit Entities



- **Service URL:** The Service URL displays at the top of the page in steps 2 through 4. As shown above, the service URL is `https://JitterbitTRIAL#####.jitterbit.net/Prod/v1.0/sapCustomerData`. The service URL is created from the fields populated in [step 1](#):
  - `https://JitterbitTrial#####.jitterbit.net`: This is the base API URL for your org. The base URL is composed of your organization's org number, assigned at the time the subscription license is purchased (format `JitterbitTrial#####`) and your Harmony region (APAC, EMEA, or NA):

Region	Region Base URL
APAC	JitterbitTrial#####.Jitterbit.cc
EMEA	JitterbitTrial#####.Jitterbit.eu
NA	JitterbitTrial#####.Jitterbit.net

- **/Prod:** This is determined by the selection in the Environment field of [step 1](#) and is the value in the URL prefix field of an environment. The URL prefix field, limited to a maximum of 48 characters, is populated at the time an environment is created. Detailed instructions for setting up environments are available within our existing [Management Console](#) documentation on the [Environments](#) page.
- **/v1.0:** The value entered in the Version# field of [step 1](#).
- **/sapCustomerData:** The value in the Service Root field of [step 1](#). In the example, we allowed the value entered in the API Name field to autofill the Service Root field using camel case.

- **Service Type:** To help in determining the correct service type, hover over each information icon

 to view a description of **Custom API** and **OData Service**. Select the radio button for the appropriate Service Type for your API. The project and API Entity operation used in this example are designed for an OData Service API.

- Scroll down to **Assign Jitterbit Entities**

- **Entity (Project):** Click on **Entity (Project)** to display the list of the Entities and associated projects available in the environment selected in [step 1](#). Select your **Jitterbit Entity** from the list.
- **Operation:** Click on **Operation** to display the list of the API Entity operations available from within the **Entity** you selected. Select the **API Entity Operation** from the list.
- **Method:** Click on **Method** to display the list of method types available (Get, Post, Put, Delete, Patch, Merge). Select an appropriate **Method** type from the list.
  - For additional information about Get, Post, Put, and Delete methods, see [https://en.wikipedia.org/wiki/Hypertext\\_Transfer\\_Protocol#Request\\_methods](https://en.wikipedia.org/wiki/Hypertext_Transfer_Protocol#Request_methods).
  - Selecting **All unassigned types** will create a separate Get, Post, Put, and Delete method for the selected API Entity operation.
- **Response Type:** Click on **Response Type** to display the list of response types (Final Target, System Variable, No Response). Select an appropriate **Response Type** from the list.

 **TIP:** To help determine the correct response type, select each of the three types individually and hover over the information icon  to display a description, requirements, and consequences of selecting a type.

- **Assign Entity:** This button is activated once the Entity, API Entity operation, method, and response type are selected. Click **Assign Entity**.
  - At least one API Entity operation must be assigned in order to continue through the remaining steps to create an OData Service API.
  - The assigned selections display in the table at the bottom of the page as shown here:

Entity	Project	Operation	Method
Customers	SAPCustomers OData	Customers	GET

- Repeat [step 2](#) to assign additional API Entity operations within the same Entity to the API. Each operation within an entity can be assigned only once to the API and assigned to only one method.
- Repeat [step 2](#), or to assign multiple operations and methods to the API. Once completed, all assigned operations and associated methods display in the table.
- To delete an operation, hover over the row and select the delete icon .
- To make changes to an assigned operation, click on the row in the table:

- The row is now highlighted, and the **Projects, Operation, Method, and Response Type** fields are now populated with the selected operation information.
- Make the necessary changes in the **Projects, Operation, Method, and Response Type** fields.
- **Save Entity:** Select **Save Entity** (above the table) to save the changes to the selected operation and remain on the page.
- **Cancel:** Select **Cancel** (above the table) to cancel the changes entered for the selected service and remain on the page.
- **Next:** Select **Next** to save the information entered in [step 2](#) and continue to [step 3](#).
- **Cancel:** Selecting **Cancel** at the bottom of the page or selecting the close icon  in the top right corner of the page, will close the page without saving the information entered in [step 1](#) and [step 2](#).

- **Save Changes** and **Discard Changes**: See instructions above.

### Step 3: Assign Security Profiles

 There are three types of authentication available in [API Manager](#): Anonymous, Basic, and OAuth 2.0. OAuth 2.0 is currently limited to Google, Salesforce, or Okta as the identity provider (IdP). See [Harmony API Security](#) and [Security Profiles](#) for additional information.



- **Select**: Click on **Select** to display a list of existing security profiles. Select an appropriate **Profile** from the list.
- **Create New Profile**: If an existing profile is not appropriate, click on the **Create New Profile** link to open the *Security Profiles* page and create a new profile (see [Security Profile Creation and Configuration](#)). When you save the new profile, you are returned to [step 3](#) to assign the new profile to the new API you are creating.
- **Assign Profile**: This button is enabled once a security profile is selected. Click **Assign Profile**. The profile assignment displays in the table at the bottom of the page:

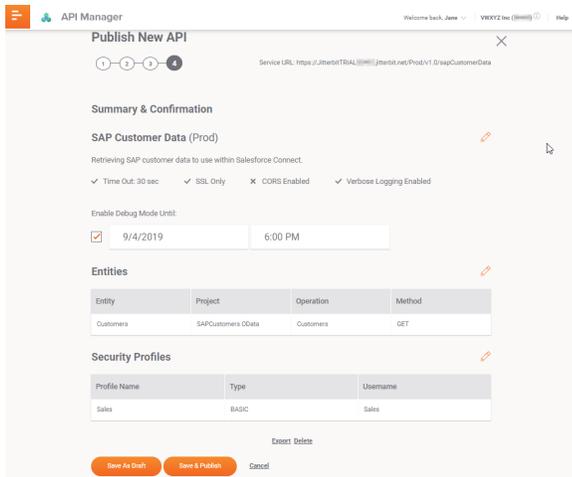
Profile Name	Type	Username
Sales	BASIC	Sales

Next
Cancel
Skip This Step

- Repeat [step 3](#) to assign multiple security profiles to the API. Once completed, all assigned profiles display in the table. Select the delete icon  to the right if any of the settings are incorrect and repeat [step 2](#) with the correct information. See [Harmony API Security](#) for additional information about assigning multiple profiles to an API.
- **Next**: Select **Next** to continue to [step 4](#).
- **Cancel**: Selecting **Cancel** at the bottom of the page or selecting the close icon  in the top right corner of the page, will close the page without saving the information entered in [step 1](#) through [step 3](#).
- **Skip this Step**: If a security profile has not been selected and assigned, selecting **Skip this Step** will continue to [step 4](#) without assigning any security profile to the API. If the API is published prior to assigning a security profile, it is automatically anonymous and publicly accessible by default at the time it is published.
- **Save Changes** and **Discard Changes**: See instructions above.

### Step 4: Summary & Confirmation

The **Summary & Confirmation** page displays all of the settings and selections made in the previous steps, allowing you to review, confirm, and edit the information prior to publishing the API. Each section of this page corresponds to a previous step:



- **Settings:** Along the top of the page is a summary of the **Settings** information entered in [step 1](#), including the API name, environment, and description.
  - The **Time Out**, **SSL Only**, **CORS**, and **Verbose Logging** options are enabled if they display a check mark  to the left. **Each option that displays an  to the left is disabled.**
  - **Enable Debug Mode Until:** An orange checkmark displays to the left of the date and time fields if debug mode is enabled. The checkbox, date, and time are blank if debug mode is disabled.
    - You can enable debug mode within this page by clicking the checkbox. The date and time will default to exactly one hour after you enable debug mode.
    - A popup message describes debug mode processing and the consequences of running in debug mode for long periods of time.
    - Select **Continue** to enable debug mode or **Cancel** to disable debug mode and close the window.
    - Click in the date field to select a different date in the calendar. Click in the time field to select a different time.
  - Selecting the edit icon  to the right of the section returns you to the [step 1](#) page for editing.
- **Operations:** The **Operations** section displays the information entered in [step 2](#) including the Entities, projects, operations, methods, and response types assigned to the API.
  - Selecting the edit icon  to the right of the section returns you to the [step 2](#) page for editing.
- **Security Profiles:** This section displays the information entered in [step 3](#) including the profile name and authentication type for each security profile assigned to the API.
  - Selecting the edit icon  to the right of the section returns you to the [step 3](#) page for editing.
- **Clone:** This option is available [only after opening an existing API to edit](#). This creates an exact copy of the existing draft or published API, except for the API Name, Service Root, and Version fields. The phrase "Copy of" is appended to the beginning of the text in the API Name and Service Root fields. The text "-2" is appended to the end of the existing version. The cloned API is immediately opened in a new *Summary & Confirmation* window. You can rename the API, edit selected information, and then **Save & Publish** as a new API. You can change the version of the existing API and then **Save As Draft** until you are ready to publish the new version.
- **Export:** This automatically exports the selected API to a file named `apis-export.apk` in your Downloads folder. This file can then be imported into a different environment or organization.
- **Delete:** Click **Delete** to permanently delete the API from the organization and close the confirmation page. A popup message will ask you to confirm you want to delete the API.
  - If the API was published at the time of deletion, the API is removed from the *My APIs* page. It is also removed from the number of APIs used against your subscription limit.
  - If the API was previously saved as a draft, the API is removed from the *My APIs* page. The number of APIs used against your subscription limit does not change as the API was not accessible while in draft status.
  - Select **Continue** to completely delete the API. Select **Cancel** if you want to close the popup window and return to the *Summary & Confirmation* page.
- **Save As Draft:** Click this button to save the information entered or changed in [step 1](#) through [step 3](#) as a draft version.
  - If the API was previously published, the API displays on the *My APIs* page in "Published w/Draft" status. The published version of the API is still accessible and remains included in the number of APIs used against your subscription limit. The draft version of the API is not accessible and does not increase the number of APIs used against your subscription limit.
  - If the API is new, or the API was previously saved as a draft, the API displays on the *My APIs* page in Draft status. The API is not accessible and is not added to the number of APIs used against your subscription limit.
  - You can return at any time to edit the draft API (see [My APIs](#)).
- **Save & Publish:** Click this button to publish the API. The API is live and accessible within 5 minutes when accessed with the assigned profiles and authentication methods.
  - If the API was previously published, or was previously in "Published w/Draft" status, the API displays on the *My APIs* page as Published. The new published version of the API overwrites the previous published version. There still is only one version that is accessible. It does not increase the number of APIs used against the subscription limit.
  - If the API is new, or the API was previously saved as a draft, the API displays on the *My APIs* page as Published. The API is now accessible and increases the number of APIs used against the subscription limit.
  - After selecting **Save & Publish**, a popup message displays indicating the OData Service API is live and accessible based on the assigned security profiles and ready to be consumed by other applications and services:

## All Set, Your Api is Live!

The Api "SAP Customer Data", Version v1.0 is now published and available on "Prod" environment at the URL:

[https://JitterbitTRIAL\[REDACTED\].jitterbit.net/Prod/v1.0/sapCustomerData](https://JitterbitTRIAL[REDACTED].jitterbit.net/Prod/v1.0/sapCustomerData) [Copy URL](#)

Generate OpenAPI document

[Dismiss](#)

- **Copy URL:** Click this link to copy the API URL to your clipboard. Paste the URL into a browser and press enter to test the API. For this example, the operation responds with XML output:

```

< --> jitterbittrial[REDACTED].jitterbit.net/Prod/v1.0/sapCustomerData
This XML file does not appear to have any style information associated with it. The document tree is shown below.
<?xml version="1.0" encoding="utf-8" xmlns:edm="http://schemas.microsoft.com/ado/2007/08/edmx" Version="1.0">
  <edmx:DataServices xmlns:m="http://schemas.microsoft.com/ado/2007/08/datatypes/metadata" m:DataServiceVersion="1.0">
    <Schema xmlns="http://schemas.microsoft.com/ado/2008/09/edm" Namespace="jitterbittrial[REDACTED]">
      <EntityType Name="Customers">
        <Key>
          <PropertyRef Name="Customer_ID"/>
        </Key>
        <Property Name="Address" Type="Edm.String"/>
        <Property Name="City" Type="Edm.String"/>
        <Property Name="Country" Type="Edm.String"/>
        <Property Name="Customer" Type="Edm.String"/>
        <Property Name="Customer_ID" Type="Edm.String"/>
        <Property Name="Name" Type="Edm.String"/>
        <Property Name="PostalCode" Type="Edm.String"/>
      </EntityType>
      <EntityContainer Name="Prod" m:IsDefaultEntityContainer="true">
        <EntitySet Name="Customers" EntityType="jitterbittrial[REDACTED].Customers"/>
        <FunctionImport Name="Customers" ReturnType="Collection(jitterbittrial[REDACTED].Customers)" m:HttpMethod="GET"/>
      </EntityContainer>
    </Schema>
  </edmx:DataServices>
</edmx:Edmx>

```

- **Generate OpenAPI Document:** **NOTE:** You cannot generate OpenAPI documentation for an OData Service API. This button will be removed in a future version of [API Manager](#).
- **Dismiss:** Click this link to close the popup window.
- **Cancel:** Selecting **Cancel** will close the page without saving the information entered in any of these steps.

## Salesforce Connect

To use the OData Service API with Salesforce Connect, continue with [Setting Up Salesforce Connect to Consume an OData Service API](#).