Informatica® Cloud Data Integration

# Marketo V3 Connector

Informatica Cloud Data Integration Marketo V3 Connector
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# Table of Contents

# Preface

Use *Marketo V3 Connector* to learn how to read from or write to Marketo by using Cloud Data Integration. Learn to create a connection, develop mappings, and run synchronization and mapping tasks in Cloud Data Integration.

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The telephone numbers for Informatica Global Customer Support are available from the Informatica web site at https://www.informatica.com/services-and-training/support-services/contact-us.html.

# CHAPTER 1

# Introduction to Marketo V3 Connector

You can use Marketo V3 Connector to connect to Marketo from Data Integration.

Use Marketo V3 Connector to read data from Marketo and integrate data with other applications, databases, and flat files. You can also read data from Marketo or other applications, transform the data, and write data to Marketo. You can use Marketo objects as sources and targets in synchronization tasks, mappings, and mapping tasks.

You can switch mappings to advanced mode to include transformations and functions that enable advanced functionality.

When you run a synchronization task or a mapping task, the Secure Agent uses the Marketo Rest API to perform the specified operation and reads data from or writes data to Marketo.

You can use Marketo source objects, such as lead, lead activity, list, campaign, opportunity, opportunity role, sales person, company, program, email, folder, tag, and channel in a task. The Secure Agent reads the data for the corresponding object stored in Marketo. When you write data to Marketo, you can specify the Marketo target object in a task. Based on the operation and the Marketo target object you specify, you can perform tasks such as create leads, add leads, merge leads, or remove leads from a list. You can also perform similar tasks on Marketo custom objects, opportunities, opportunity roles, sales person, and company.

## Marketo Connector assets, object types, and task operations

When you use Marketo Connector, you can include the following Data Integration assets:

- Mapping
- Mapping task

The following table lists the objects and task operations that Marketo Connector supports:

| Object | Read | Insert | Update | Upsert | Delete |
|---|---|---|---|---|---|
| Lead | Yes | Yes | Yes | Yes | Yes |
| LeadActivity | Yes | No | No | No | No |

| Object | Read | Insert | Update | Upsert | Delete |
|---|---|---|---|---|---|
| ActivityType | Yes | No | No | No | No |
| List | Yes | No | No | No | No |
| Campaign | Yes | No | No | No | No |
| Opportunity | Yes | Yes | Yes | Yes | Yes |
| OpportunityRole | Yes | Yes | Yes | Yes | Yes |
| SalesPerson | Yes | Yes | Yes | Yes | Yes |
| Company | Yes | Yes | Yes | Yes | Yes |
| Program | Yes | No | No | No | No |
| Email | Yes | No | No | No | No |
| Folder | Yes | No | No | No | No |
| Tag | Yes | No | No | No | No |
| Channel | Yes | No | No | No | No |
| Custom Object | Yes | Yes | Yes | Yes | Yes |

# Introduction to Marketo

Marketo is marketing automation software that you can use to create, automate, and measure campaigns across marketing channels with prospects and customers.

You can use Marketo to stimulate interest of leads in a product or service. Leads are qualified prospects who show buying behavior. You can track and measure the interest that a lead shows in a product or service. Marketo gives you detailed statistics on leads and their activities on Marketo pages, emails, and websites. Marketers gain analytic insights to understand which lead activity results in opportunities. Marketo assets include lists that help you understand which of the leads you want to target with the campaign. You can create a campaign for a specific set of leads from a program that contains all the marketing efforts. A campaign serves a specific goal within a program, and helps you choose a group of leads whose activities you can monitor.

Marketo helps you interact and respond with the targeted leads through dynamically generated and personalized communications in real time, engage the leads, and nurture them into customers.

Marketing teams can use Marketo to manage marketing activities across global teams in a single centralized marketing calendar.

# Marketo V3 Connector example

You are a marketing analyst who manages a campaign for a data integration product. You want to get a comprehensive view of prospect interest and engagement in the product. Marketo helps you develop and qualify potential leads.

You use Marketo to create lists that include a group of specific leads whom you can generate interest in the product. Marketo tracks and stores the online activity of leads from email clicks, website visits, engagement programs, and social networking sites where you posted the campaign. Marketo provides a view of the high-score leads in a particular region who visited the data integration campaign website in the last two weeks, leads who registered for an upcoming conference on data integration, or prospects who visited random data integration websites.

You can then configure a synchronization task or mapping task to read data from Marketo and write data to a CRM system. The sales team can use the data to gain a sales opportunity.

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# Connections for Marketo

Create a Marketo connection to connect to Marketo so that the Secure Agent can read data from and write data to Marketo. You can specify the Marketo source and target in mappings, mapping tasks, or synchronization tasks.

Use the connection when you create a synchronization task or a mapping task.

## Connect to Marketo

Let's configure the Marketo V3 connection properties to connect to Marketo.

### Before you begin

Before you configure a connection, create an API user and associate it with an API role to grant access permissions for the Marketo REST APIs. You also need to get the client ID, client secret, and REST API URL from your Marketo account to generate an access to authenticate the Marketo custom service.
For more information on how to create an API user and generate the client ID and client secret, see Custom Services in the Marketo documentation.

The following video shows you how to get the information you need:

## Connection details

The following table describes the basic connection properties:

| Property | Description |
|---|---|
| Connection Name | Name of the connection.<br>Each connection name must be unique within the organization. Connection names can contain alphanumeric characters, spaces, and the following special characters: _ . + -,<br>Maximum length is 255 characters. |
| Description | Description of the connection. Maximum length is 4000 characters. |
| Type | Marketo V3 |
| Runtime Environment | The name of the runtime environment where you want to run tasks.<br>Select a Secure agent, Hosted Agent, or serverless runtime environment. |
| Client ID | The client ID of the Marketo service.<br>You need the client ID to generate an access token to authenticate access to the Marketo service. |
| Client Secret | The client secret of the Marketo service. |
| REST API URL | The URL to connect to the Marketo REST APIs.<br>Enter the URL in the following format: https://<Host name of the Marketo Rest API Server> |

## Advanced settings

The following table describes the advanced connection properties:

| Property | Description |
|---|---|
| grant_type | The access permissions for an administrator to invoke the Marketo REST APIs to read from and write to Marketo.<br>Enter client_credentials as the grant type. If you don't specify the grant type, an error occurs and the connection fails. |
| Bypass Proxy | Determines if the Secure Agent uses the proxy server settings defined in the proxy.ini file or the Secure Agent Manager to connect to Marketo.<br>When you select Bypass Proxy, you connect to Marketo using the Secure Agent Manager. If you don't select Bypass Proxy, you connect to Marketo using the proxy server.<br>Default is enabled. |

# Proxy server settings

If your organization uses an outgoing proxy server to connect to the Internet, the Secure Agent connects to Informatica Intelligent Cloud Services through the proxy server.

You can configure the Secure Agent to use the proxy server on Windows and Linux.

You can use the unauthenticated or authenticated proxy server. You can configure proxy for connections used both in mappings and in mappings in advanced mode.

To configure the proxy settings for the Secure Agent, use one of the following methods:

- Configure the Secure Agent through the Secure Agent Manager on Windows or shell command on Linux.

  For instructions, see "Configure the proxy settings on Windows" or "Configure the proxy settings on Linux" in *Getting Started* in the Data Integration help .

- Configure the JVM options for the DTM in the Secure Agent properties. For instructions, see the Proxy server settings Knowledge Base article.

To bypass the proxy server settings defined for the Secure Agent, select **Bypass Proxy** in the advanced settings for the connection.

# CHAPTER 3

# Marketo sources and targets

You can use a Marketo V3 object as a source in a mapping task. Configure the advanced properties for the source object.

To write data to a Marketo target, configure a Marketo V3 object as the Target transformation in a mapping. Configure the advanced properties for the target object.

## Marketo sources

When you configure a source in a synchronization task or mapping task, select the source object to read specific data about that source. Use the source objects to search for leads, lists, lead activities, campaigns, opportunities, opportunity roles, sales person, company, program, tag, channel, email, folder, or custom object data in Marketo. You can also search for leads in the Marketo database that match a requested activity type for a date and time you specify.

You can use the following source objects in a synchronization task or mapping task:

**Lead**

A lead is a potential sales contact. Use the lead source object in a task and specify the information that you want to read for leads from Marketo. You can retrieve lead details when you specify the filter field, filter values, list ID, or program ID in the advanced source properties of a task. You can also retrieve lead details when you specify the activity type ID and specific periods, such as since date time, start date and end time, and incremental extract.

**LeadActivity**

A `LeadActivity` object tracks the interaction of a lead with Marketo and marketing artifacts. For example, a `LeadActivity` results when a lead visits a page on a website, or opens a Marketo email. You can use Marketo to understand the interests of a lead and timely communicate with the lead.

Use the LeadActivity source object in a task and provide ActivityType IDs to retrieve the corresponding lead activities from Marketo.

**Note:** Retrieve the ActivityType IDs for your Marketo subscription by selecting ActivityType as a source object. For example, ActivityType ID 12 is for new leads while ActivityType ID 13 is for change data value. Use these ActivityType IDs to retrieve new leads or changed leads.

**ActivityType**

A `ActivityType` object retrieves metadata for the type of lead activities but does not provide the lead activity information.

When you choose the `ActivityType` source object in a task, you retrieve the following `ActivityType` metadata:

```
"id","name","description","primaryAttribute_name","primaryAttribute_dataType","attributes
_name","attributes_dataType"
```

For example, `ActivityType ID =13` includes the following details:

```
"13","Change Data Value","Changed attribute value for a person/record","Attribute
Name","integer","Source ","string"
```

**Note:** To retrieve lead activities, you must specify the LeadActivity source object and the corresponding ActivityType ID in the advanced source properties of a task.

### List

A list is a collection of leads in Marketo. Marketo contains smart and static lists. A static list is a fixed list of leads, while a smart list is a dynamic collection of leads. Marketo V3 Connector supports static lists only.

You can retrieve list details such as ID, name, description, programName, createdAt, and updatedAt.

You can retrieve the list data but not the leads that are associated to the list from the list object. You can specify filters, such as the list ID, the list name, and the program name. A marketer uses a program to organize all marketing efforts. If you do not specify a filter, then all the lists are returned.

For example, the following table shows sample data retrieved for the List source object:

| id | name | description | programName | createdAt | updatedAt | workspaceName |
|------|-----------------|-------------|--------------------|------------------------|------------------------|---------------|
| 1113 | SalesForceList | 2013 Liz | - | 2013-12-05T 18:47:40Z | 2015-03-09T 19:46:34Z | North America |
| 1114 | ZuoraList | 2013 MH | moni's list upload | 2013-12-05T 18:47:42Z | 2013-12-05T 18:49:06Z | North America |

### Campaign

A campaign serves a specific goal within a program that contains all the marketing efforts organized from a central location. For example, a program is an email blast, which can record when a lead is sent an email, when the lead opened the email, and whether the lead clicked a link in the email. In a campaign, you can choose a group of leads from a program to whom you can send the email blast, or notify a sales representative to follow up if a lead clicks a link within the email blast program.

For example, the following table shows sample data retrieved for the Campaign source object:

| id | programName | createdAt | name | description | updatedAt | workspaceName |
|------|---------------------------------------|----------------------|-------------------------------------------------|-------------------|----------------------|---------------|
| 1037 | Sales Insight - Interesting Moments | 2013-11-20T18:23:02Z | Contact Me - Corporate - Decentralized and in PRGM | WWW contact me | 2013-12-18T00:06:11Z | Default |
| 2094 | - | 2015-09-15T16:24:14Z | InviteCampaign | - | 2015-09-15T16:25:46Z | Default |

### Opportunity

An opportunity in Marketo represents a potential sales deal that is associated with a lead and an organization in Marketo. Leads and opportunities are related through the opportunity role object. Marketers deliver leads to sales in the form of an opportunity.

To read opportunity data from Marketo, you can use any searchable field. For example, you can use either the External Opportunity ID or the Marketo GUID. In the advanced properties, you need to specify the filter type as dedupeFields or MarketoGUID based on the field type.

The following table shows sample fields retrieved for the opportunity object:

| marketoGUID | externalOpportunityId | name | description | amount | source |
|---|---|---|---|---|---|
| da42707c-4dc4-4fc1-9fef-f30a3017240a | 19UYA31581L000000 | Chairs | Chairs | 1604.47 | Inbound Sales Call/Email |
| da42707c-4dc4-4fc1-9fef-f30a3017240b | 29UYA31581L000000 | Big Dog Day Care-Phase12 | Big Dog Day Care-Phase12 | 1604.47 | Email |

**OpportunityRole**

An opportunity role is the intersection between a given lead and an organization. The opportunity role represents the function of a lead within the organization. A lead has an opportunity role related to an opportunity. OpportunityRole object has both leadId and externalopportunityid fields to create the relationship from lead to opportunity.

The following table shows sample data retrieved for the opportunity role object:

| marketoGUID | externalOpportunityId | role | leadId | isPrimary |
|---|---|---|---|---|
| da42707c-4dc4-4fc1-9fef-f30a3017240a | 19UYA31581L000000 | Chairs | 3445453 | 0 |
| da42707c-4dc4-4fc1-9fef-f30a3017240b | 19UYA31581L000000 | Chairs | 34454556 | 1 |

**SalesPerson**

Sales person records contain the name, email, and job title that you can use for filtering leads in Marketo. Marketo manages the relationship of a sales person at the lead level through the externalSalesPersonId field.

The following table shows sample data for the sales person object retrieved from Marketo:

| createdAt | externalSalesPersonId | firstName | lastName | phone | title |
|---|---|---|---|---|---|
| 8/25/2016 6:23 | cflores0@narod.ru | Carl | Flores | 7-(269)838-4689 | Assistant Media Planner |
| 8/25/2016 6:23 | wholmes1@slideshare.net | Wanda | Holmes | 44-(521)609-0247 | Social Worker |

**Company**

Company is the organization to which a person belongs.

The following table shows sample data of the company object retrieved from Marketo:

| createdAt | externalCompanyId | billingCity | billingCountry | website | industry | annualRevenue |
|---|---|---|---|---|---|---|
| 8/24/2016 5:43:29 AM | 2a26a9df-fdce-9c30-67c5-56952b2b5c27 | Boston | USA | stevesmith.com | Transportation | 9460 |
| 8/24/2016 5:43:29 AM | 23d89d7a-ea99-5635-0d26-56952b59b3d8 | Paris | France | briellesonnew.com | Financial | 92300 |

**Program**

A program helps a marketer organize marketing efforts from one central location. For example, an email blast is a program that records record about when a lead is sent an email, when the lead opens the email, and whether the lead clicked through a link in the email.

The following table shows sample program object data retrieved from Marketo when you specify the tag type and tag value:

| id | name | createdAt | url | channel | folderValue | tagType | tagValue |
|---|---|---|---|---|---|---|---|
| 1057 | Chan-Webtrial Campaign | 2013-12-06 19:52:58+0000 | https://app.marketo.com/#ME1 | Webinar | 228 | Team | Global |
| 1057 | Callis Campaign | 2013-12-06 19:52:58+0000 | https://app.marketo.com/#M1 | Webinar | 225 | Product | SAP |

**Email**

Emails are created initially from email templates and the query pattern for emails is similar as templates.

The following table shows sample email records retrieved from Marketo:

| id | name | createdAt | subjectType | subjectValue | fromEmailType | fromEmailValue |
|---|---|---|---|---|---|---|
| 1370 | Test Email | 2016-09-07 11:04:53+0000 | Text | Congregation | Text | het@informatica.com |
| 1007 | 2 Invitation | 2012-10-12 00:01:21+0000 | Text | Webinar Invite 2 | Text | ynam@yourcomp.com |

**Folder**

Folders are the core organizational asset in Marketo. Every asset in Marketo has at least one folder as a parent.

The following table shows sample data that you can retrieve from a folder object in Marketo:

| id | folderId | type | folderType | parentId | parentType | path | workspace |
|---|---|---|---|---|---|---|---|
| 3 | 3 | Folder | Zone | 3 | Folder | /Marketing Activities | Default |
| 143 | 143 | Folder | Zone | 3 | Folder | /Marketing Activities/APJ | APJ |
| 169 | 19 | Folder | Zone | 3 | Folder | /Marketing Activities/ Default | EMEA |

### Tag

Tags are user-defined fields for programs and are identifiers to group data for reporting purposes. Tags help you categorize data and define how you want to report on your program. Each tag might apply to one or more program types.

The following table shows sample data for a tag object that you can retrieve from Marketo:

| tagType | applicableProgramType | required |
|---|---|---|
| Area | [program,nurture,event,webinar,email_batch] | TRUE |
| Campaign Series | [program,nurture,event,webinar] | TRUE |
| Email Type | [program,email_batch,nurture,event,webinar] | TRUE |

### Channel

Channels are associated with a program. Each type of channel is used with a specific program type in Marketo. A channel provides the list of available valid statuses for program members.

The following table shows sample data for a channel object that you can retrieve from Marketo:

| id | name | applicableProgramType | createdAt | progression_name |
|---|---|---|---|---|
| 3 | Blog | program | 2013-10-01 02:14:45+0000 | Not in Program |
| 3 | Blog | program | 2013-10-01 02:14:45+0000 | Visited |

### Custom Object

A custom object extends the out-of-box data model of Marketo. A custom object consists of fixed attributes, such as the object name, description, Marketo lead link field, linked field name, and one or more object specific fields.

You can use custom objects in a task to retrieve a list of custom object data based on the search criteria. The custom objects in Marketo are available as source objects in a synchronization task or mapping task. Specify the custom object filter type, custom object filter values, and custom object fields in the advanced properties of a task to capture data from a specific custom object.

For example, you can create a custom object to track the flight reservations for leads.

The following image shows the details of a reservation custom object that you can access from Marketo:
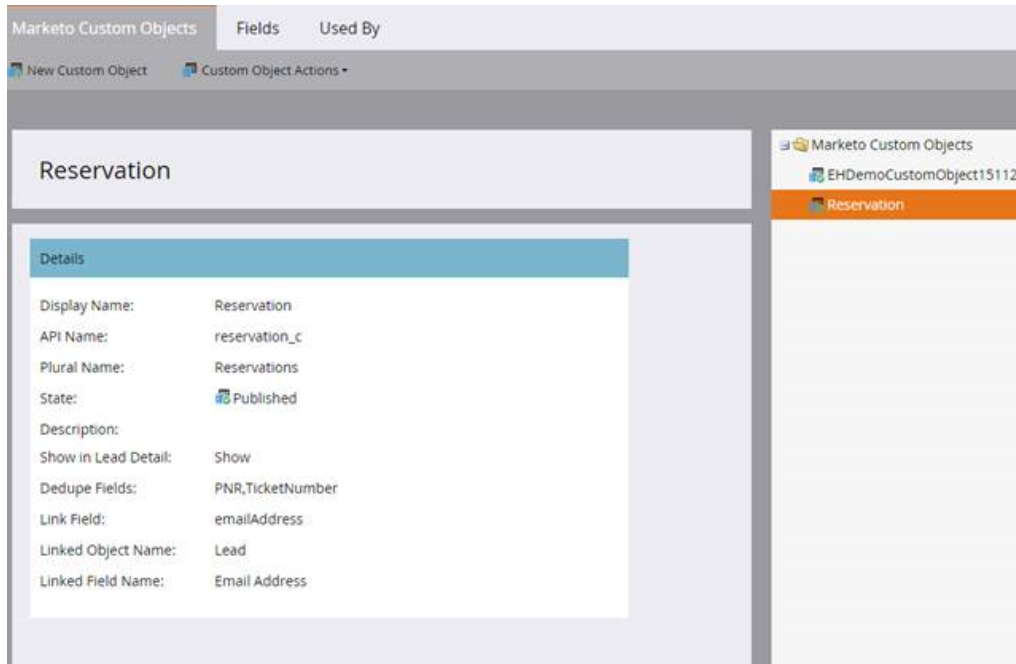


The following image shows the field attributes of a reservation object that you can access from Marketo:

The following table shows sample data of the reservation custom object that you can retrieve for a lead from Marketo:

| createdAt | marketoGUID | updatedAt | pnr | TicketNumber |
|-----------|-------------|-----------|-----|--------------|
| 12/4/2015 04:48:00 | 2cc3a035-4274-4b34-abc3-9338cda7a1e4 | 12/4/2015 04:48:00 | BAF57HG1 | 1001 |
| 12/4/2015 04:48:00 | c0d1297d-aacc-4d74-8ac7-89490b36d811 | 12/4/2015 04:48:00 | TAU64GS5 | 1002 |

# Extract lead data by filter field

When you configure a synchronization task or mapping task with the lead source object to read lead data from Marketo, you can enter a filter value to filter the records.

You must configure the following properties in the advanced lead source properties in a synchronization task or mapping task:

- **Lead - Filter Field**. Specify the field based on which you want to filter specific information about leads. You can specify any one of the following fields:
  - id
  - cookie
  - email
  - twitterId
  - facebookId
  - linkedInId
  - sfdcAccountId
  - sfdcContactId
  - sfdcLeadId
  - sfdcLeadOwnerId
  - sfdcOpptyId
  - custom field
- **Lead - Filter Values CSV File**. Provide the location of the file that contains the comma-separated list of field names on which you want to perform the search.
- **Lead - Filter Values**. Specify the filter values based on which you want to filter data from the lead object. You can specify more than one filter values for the lead object, each separated by a comma. For example, `Lead1@abc.com,Lead2@abc,Lead3@abc.com`.

  **Note:** If you specify both the **Filter Values CSV File** and the **Filter Values** field, the Secure Agent considers the **Filter Values CSV File** field and uses the values in the CSV file to filter the lead data.
- **Results Batch Size**. Specify the number of records you want to retrieve in a single REST call. The maximum limit is 300.
- **General - Results Batch Size**. Specify the number of records you want to retrieve in a single REST call. The maximum limit is 300.

For example, you want to retrieve leads based on their IDs. In the advanced source properties of a task, specify *id* in the filter field, and provide the location of the .csv file `C:\Marketo\FilterValues_Id.csv` with filter IDs, such as 8781.

The following table shows a sample of the retrieved lead details:

| id | firstName | salutation | middleName | lastName | email | phone |
|----|-----------|------------|------------|----------|-------|-------|
| 8781 | Roger N | Mr. | Brandon | Gattis | gattis@baldor.com | 4796464711 |
| 8782 | Octavio | Mr. | Linus | Gutiérrez | jgb@grupocp.mx | 5263790289 |
| 8787 | Eric | Mr. | Lee | Olson | jgb@grupocp.mx | 701-530-1400 |

# Extract Lead Data by List ID

You can specify the List ID for leads to retrieve a list of leads.

To retrieve leads from a list, you must configure the following properties in the advanced source properties in a synchronization task or mapping task:

- **Lead - List ID**. Provide the list ID for which you want to extract the leads. You can specify only one list ID. To get the list ID, select the list in Marketo. The list ID appears in the URL for that list.

  For example, in the following image, 4363 in the URL is the List ID:
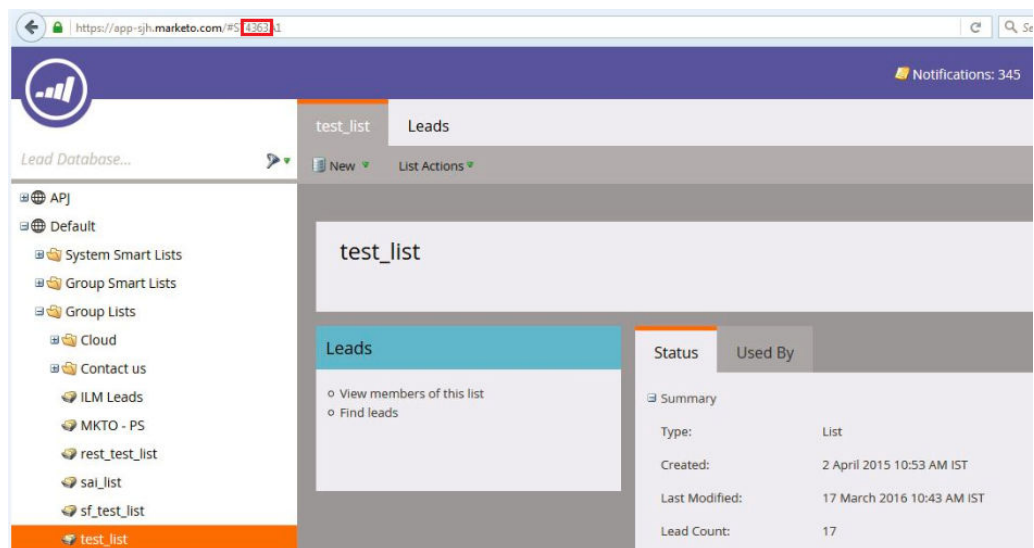


- **General - Results Batch Size**. Specify the number for records you want to retrieve in a single REST call. The maximum limit is 300.

When you run the synchronization task or mapping task, all leads from the specified list are retrieved.

For example, specify the Lead - List ID as 100 and the batch limit as 300 in the advanced source properties in a task.

To view the resultant output example, see .

# Extracting Lead Data by Program ID

You can retrieve leads from a Marketo program. You must provide the program ID to retrieve leads from that program.

Configure the following properties in the advanced source properties in a synchronization task or mapping task for a lead object:

- **Lead - Program ID**. Specify the program ID for which you want to extract the leads.
- **General - Results Batch Size**. Specify the number for records you want to retrieve in a single REST call. The maximum limit is 300.

When you specify the program ID and you map the program ID in the task, you retrieve the following fields of the lead by default: progressionStatus, stream, nurtureCadence, isExhausted, acquiredBy, reachedSuccess, reachedSuccessDate, and membershipDate.

## Capture lead details based on lead activities

You can capture lead details for specified activities since a specified date and time, since the last extracted period, or from a specified time period.

Select Lead as the source object and enter the ActivityType ID and date time parameters in the advanced source properties to capture details of leads who performed the specified activities.

The following table describes the advanced source properties to retrieve lead details:

| Object: Advance Source Properties | Since Date Time | Incremental Extract | Start and End Date | Notes |
|---|---|---|---|---|
| Lead - ActivityType Id | See notes | See notes | See notes | Retrieve the ActivityType IDs for your Marketo subcription by selecting ActivityType as a source object. For example, ActivityType ID 12 is for new leads while ActivityType ID 13 is for change data value. |
| General - Since Date Time | Specify date/ time, or date | Enter the variable, $LastRunTime | Leave blank | Specify the property in the following example formats:<br>- 2016-04-01T17:00:00-0800<br>- 2016-10-06 |
| General - Incremental Extract | No | Yes | No | If the value of Incremental Extract is Yes, you must enter the $LastRunTime variable in Since Start Date.<br><br>The Incremental Extract date-time is different for each of the synchronization tasks or mapping tasks.<br><br>Default is No. |
| General - Start Date | Leave blank | Leave blank | Specify date only | Specify date in the following example formats:<br>- 2019-06-09T00:00:00Z<br>- 2016-10-06 |
| General - End Date | Leave blank | Leave blank | Specify date only | End date is included in the output result.<br><br>However, if you want to retrieve lead changes for a single day, specify the same date in Start Date and in End Date in the yyyy-mm-dd or yyyy-mm-ddT00:00:00Z format. |

# Capture lead activities

You can capture lead activities since a specified date and time, since the last extracted period, or from a specified time period.

Select LeadActivity as the source object and enter the ActivityType ID and date time parameters in the advanced source properties for retrieving lead activities. Provide the list ID to retrieve specific lead activities from the list. Specify the lead ID to retrieve activities for the specified lead. Provide the list IDs and lead IDs in the advanced source properties of a task with Marketo Connector.
**Note:** Each Marketo subscription might have different ActivityType IDs. You can enter a maximum of 10 ActivityType IDs for a task.

The following table describes the advanced source properties to retrieve lead activities:

| Object: Advance Source Properties | Since Date Time | Incremental Extract | Start and End Date | Notes |
|---|---|---|---|---|
| Lead Activity - Activity Type Id | See notes | See notes | See notes | Retrieve the ActivityType IDs for your Marketo subcription by selecting ActivityType as a source object. For example, ActivityType ID 12 if for new leads while ActivityType ID 13 is for change data value. |
| General - Since Date Time | Specify date/ time, or date | Enter the variable, $LastRunTime | Leave blank | Specify the property in the following example formats:<br>- 2016-04-01T17:00:00-0800<br>- 2019-10-06 |
| General - Incremental Extract | No | Yes | No | If Incremental Extract is Yes, you must enter the $LastRunTime variable in Since Start Date.<br>The Incremental Extract date-time is different for each of the synchronization tasks and mapping tasks.<br>Default is No. |
| General - Start Date | Leave blank | Leave blank | Specify date only | Specify date in the following example format:<br>- 2019-06-09T00:00:00Z<br>- 2019-10-06 |
| General - End Date | Leave blank | Leave blank | Specify date only | End date is included in the output result.<br>However, if you want to retrieve lead changes for a single day, specify the same date in Start Date and in End Date in the yyyy-mm-dd or yyyy-mm-ddT00:00:00Z format. |
| Lead Activity - List Ids | See notes | See notes | See notes | Specify a comma-separated list of list IDs to filter activities for leads within a list. |
| Lead Activity - Lead Ids | See notes | See notes | See notes | Specify a comma-separated list of lead IDs to retrieve only those activities that belong to designated leads. |

When you read the Lead Activity object from Marketo, the Secure Agent internally maps the following field names to corresponding field names in Data Integration:

| Marketo Field Name | Field Name in the Mapping |
|---|---|
| LeadID | Id |
| marketoGuid | activityId |

# Retrieve lead or lead activities in bulk

You can retrieve lead or lead activity data in bulk from Marketo.

Based on the type of data you want to extract, select Lead source object or LeadActivity source object, and configure the following advanced list properties in a synchronization task or mapping task.

- **Bulk Extract Lead/Lead Activity**. Specify Yes to extract leads or lead activities in bulk from Marketo.
- **General - Start Date**. Specify the start date from when you want to extract lead or lead activities from Marketo. Specify the date in the yyyy-mm-dd or yyyy-mm-ddT00:00:00Z format.
- **General - End Date**. Specify the end date until when you want to extract lead or lead activities from Marketo. Specify the date in the yyyy-mm-dd or yyyy-mm-ddT00:00:00Z format.

**Note:** When you bulk extract records, ensure that the difference between the start date and end date does not exceed 31 days.

# Retrieve List

You can retrieve lists from Marketo.

To retrieve lists, configure the following advanced list properties in a synchronization task or mapping task for a list source object:

- **List - List ID**. Specify the ID of the list from which you want to retrieve the details.
  To get the list ID, select the list in Marketo. The list ID appears in the URL for that list.
- **List - List Name**. Specify the name of the list.
- **List - Program Name**. Specify the name of the program to which the list is associated.

You can specify more than one value for the specified advanced properties separated by a comma.

The following table shows the details of the retrieved list:

| id | name | description | programName | createdAt | updatedAt |
|---|---|---|---|---|---|
| 1113 | Interested leads | 2013 Liz | Product launch email | 2013-12-05T18:47:40Z | 2015-03-09T19:46:34Z |
| 1114 | Conference attendees | 2013 MH | - | 2013-12-05T18:47:42Z | 2013-12-05T18:49:06Z |

# Retrieve Program

You can retrieve details from a program in Marketo. You can specify either the program name, program ID, or tag type and tag value to filter specific programs from Marketo. When you do not specify these properties, the Secure Agent retrieves only the Engagement and Email programs from Marketo.

To retrieve program details, you can configure the following advanced properties in a synchronization task or mapping task for a campaign source object:

- **Program - Program Id**. Specify the program ID to retrieve the program details.
- **Program - Program Name**. Specify the program name for retrieving program details.
- **Program - Tag Type**. Specify the tag type for the program from which you want to retrieve the program details.
- **Program - Tag Value**. Specify the tag value for the program to retrieve the program details.

**Note:** If you specify a tag to retrieve program details, ensure that you specify both the tag name and tag value.

You can specify more than one value for the program ID, program name, tag name, and tag value, separated by a comma.

For example, you specify tag type as `Presenter,Demo` and tag value as `Program,Solutions` in a task to retrieve the program details.

The following table shows the details of the retrieved program:

| id | name | createdAt | url | channel | folderValue | tagType | tagValue |
|------|-------------------|--------------------------|-----------------------------------|---------|-------------|----------|-----------|
| 1057 | Mary Campaign | 2013-12-06 19:52:58+0000 | https:// app.marketo.com/# ME1 | Webinar | 221 | Program | Presenter |
| 1057 | Callang Campaign | 2013-12-06 19:52:58+0000 | https:// app.marketo.com/# M1 | Webinar | 222 | Solutions | Demo |

# Retrieve Channels

You can retrieve channels in Marketo when you specify the channel name. You can specify more than one value for the channel name, separated by a comma.

For example, you specify the channel name in a task to retrieve the channel details.

The following table shows the details of the retrieved channel:

| id | name | applicableProgramType | createdAt | progression_name |
|----|------|-----------------------|--------------------------|------------------|
| 3 | Blog | program | 2013-10-01 02:14:45+0000 | Not in Program |
| 3 | Blog | program | 2013-10-01 02:14:45+0000 | Visited |

If you do not specify the channel name in the advanced source properties, all the channels are retrieved from Marketo.

When you read the channel object from Marketo, the Secure Agent internally maps the following field names to corresponding field names in Data Integration:

| Marketo Field Name | Field Name in the Mapping |
|---|---|
| description | progression_Description |
| hidden | progression_Hidden |
| name | progression_name |
| step | progression_Step |
| success | progression_Success |

# Retrieve Email Records

You can retrieve email records from Marketo by the email ID.

When you specify the email ID in a task, the Secure Agent retrieves the records from that email from Marketo. Specify the email ID in the advanced properties in a synchronization task or mapping task. You can specify more than one email ID separated by a comma.

The following table shows the details of a retrieved email by the email ID:

| id | name | createdAt | subjectType | subjectValue | fromEmailType | fromEmailValue |
|---|---|---|---|---|---|---|
| 1370 | Test Email | 2016-09-07 11:04:53+0000 | Text | Congregation | Text | ash@informat.com |
| 1007 | 2 Invitation | 2012-10-12 00:01:21+0000 | Text | Webinar Invite 2 | Text | ynam@yourcomp.com |

# Retrieve a Folder Structure

You can retrieve a folder structure from Marketo.

To retrieve a folder structure from Marketo, select the folder source object in a task.

You can optionally configure the following advanced properties in a synchronization task or mapping task:

- **Folder - Max Depth**. Specify the maximum number of levels to traverse in the folder hierarchy. Default is 2.
- **Folder - Workspace**. Specify the name of the workspace that you want to filter.

For example, you specify max depth as `3` and workspace as `Default` in a task to retrieve the program details.

The following table shows the details of the retrieved program:

| id | folderId | type | folderType | parentId | parentType | path | workspace |
|---|---|---|---|---|---|---|---|
| 3 | 3 | Folder | Zone | 3 | Folder | /Marketing Activities | Default |

# Retrieve Tags

You can retrieve tags from Marketo when you specify the tag name.

To retrieve tags, you must specify the name of the tag in Marketo. You can specify more than one value for the tag name, separated by a comma.

For example, you specify the tag type as `Area,Campaign Series,Email` in a task to retrieve the tag details.

The following table shows the details of the retrieved tag:

| tagType | applicableProgramType | required |
|---|---|---|
| Area | [program,nurture,event,webinar,email_batch] | TRUE |
| Campaign Series | [program,nurture,event,webinar] | TRUE |
| Email Type | [program,email_batch,nurture,event,webinar] | TRUE |

If you do not specify a tag name, all tags are retrieved from Marketo.

# Retrieve Campaign

You can specify the campaign ID or name to retrieve a campaign from Marketo.

To retrieve a campaign, you can configure one or both of the following properties in the advanced source properties in a synchronization task or mapping task:

- **Campaign - Campaign ID**. Specify the campaign ID for a campaign to retrieve a campaign. If you specify the campaign ID, ensure that you provide the corresponding campaign name for the ID from Marketo.
- **Campaign - Campaign Name**. Specify the name of the campaign to retrieve a campaign.

To retrieve multiple campaigns, specify the campaign IDs and campaign names, each separated by a comma.

# Retrieve data from custom objects

You can retrieve data from a custom object in Marketo based on the search criteria you specify in a synchronization task or mapping task.

To retrieve custom object records from Marketo, configure the following advanced list properties in a synchronization task or mapping task for the specified custom source object:

**Note:** The advanced source property field names, such as **Type Filter**, **Values Filter**, **Fields Filter**, and **String Values Filter** represent properties that you can configure for custom, opportunity, opportunity role, sales person, and company objects.

- **Custom Object - Type Filter**. Specify the filter type to retrieve the attributes of a custom object. You can specify one of the following filter types:
  - idField. The primary key of the custom object in Marketo.
  - dedupeFields. List of fields that define the unique row of the custom object in Marketo.
    Default is dedupeFields.
- **Custom Object - Values Filter**. Specify the location of the .csv file that contains the filter values to retrieve specific custom object fields.

- **Custom Object - Fields Filter**. Specify the object fields that you want to retrieve. You can specify more than one value for the custom object fields, separated by a comma. If you do not specify the fields, all the default fields from Marketo are retrieved. The default fields retrieved include marketoGuid, dedupeFields, updatedAt, and createdAt.

- **Custom Object - String Values Filter**. Specify the filter values to retrieve specific custom object fields. When you specify the filter values, enter the column name of the custom object on which you want to apply the filter, followed by the filter string values on consecutive lines similar to the format in a CSV file. For example, to filter data based on email IDs, specify the filter values in the following format:

  ```
  email_ID
  jim@gmail.com
  gerald@gmail.com
  harry@gmail.com
  ```

- **Note:** If you specify both the **Custom Object - String Values Filter** and the **Custom Object - Values Filter** field, the Secure Agent considers the **Custom Object - Values Filter** field and uses the values in the CSV file to filter data from the custom object.

For example, specify the filter type as *dedupeFields* and the filter value as *E:\Files\FilterValues_DDF_Reservation.csv* , which contains the dedupe field values. Specify the custom object fields as *createdAt,marketoGUID,updatedAt,pnr,TicketNumber* for which you want to retrieve data from a flight reservation custom object.

The following table shows a sample of the retrieved custom object details:

| createdAt | marketoGUID | updatedAt | pnr | TicketNumber |
|---|---|---|---|---|
| 12/4/2015 04:48:00 | 2cc3a035-4274-4b34-abc3-9338cda7a1e4 | 12/4/2015 04:48:00 | BAF57HG1 | 1001 |
| 12/4/2015 04:48:00 | c0d1297d-aacc-4d74-8ac7-89490b36d811 | 12/4/2015 04:48:00 | TAU64GS5 | 1002 |

# Retrieve Opportunity Data

You can retrieve opportunity data from Marketo based on the search criteria you specify in a synchronization task or mapping task.

To retrieve opportunity data from Marketo, configure the following advanced list properties in a synchronization task or mapping task for an opportunity source object:

**Note:** The advanced source property field names, such as **Type Filter**, **Values Filter**, and **Fields Filter**, represent properties that you can configure for custom, opportunity, opportunity role, sales person, and company objects.

- **Opportunity - Type Filter**. Specify the filter type to retrieve the attributes of an opportunity object. The filter type can be any of the searchable fields.

- **Opportunity - Values Filter**. Specify the location of the .csv file that contains the filter values to retrieve specific opportunity fields.

- **Opportunity - Fields Filter**. Specify the object fields that you want to retrieve. You can specify more than one value for the opportunity object fields, separated by a comma. If you do not specify the fields, the Secure Agent retrieves the fields that you mapped in the task.

For example, specify the filter type as `dedupeFields` and the filter value as `E:\Files\FilterValues_ID.csv`, which contains the externalOpportunityId. Specify the opportunity object fields for which you want to retrieve data.

The following table shows the example of the retrieved opportunity data:

| marketoGUID | externalOpport unityId | name | description | amount | source |
|---|---|---|---|---|---|
| da42707c-4dc4-4fc1-9fef-f30a3017240a | 19UYA31581L0 00000 | Chairs | Chairs | 1604.47 | Inbound Sales Call/ Email |
| da42707c-4dc4-4fc1-9fef-f30a3017240b | 29UYA31581L0 00000 | Big Dog Day Care-Phase12 | Big Dog Day Care-Phase12 | 1604.47 | Email |

# Retrieve Opportunity Role Data

You can retrieve opportunity role data from Marketo based on the search criteria you specify in a synchronization task or mapping task.

To retrieve opportunity role data from Marketo, configure the following advanced list properties in a synchronization task or mapping task:

**Note:** The advanced source property field names, such as **Type Filter**, **Values Filter**, and **Fields Filter**, represent properties that you can configure for custom, opportunity, opportunity role, sales person, and company objects.

- **Opportunity Role - Type Filter**. Specify the filter type to retrieve the attributes of an opportunity role object. The filter type can be any of the searchable fields.
- **Opportunity Role - Values Filter**. Specify the location of the .csv file that contains the filter values to retrieve specific opportunity role fields.
- **Opportunity Role - Fields Filter**. Specify the object fields that you want to retrieve. You can specify more than one value for the opportunity role object fields, separated by a comma. If you do not specify the fields, the Secure Agent retrieves the fields that you mapped in the task.

For example, specify the filter type as `externalOpportunityId` and the filter value as `E:\Files \FilterValues_ID.csv`, which contains the external opportunity ID field values. Specify the opportunity role object fields for which you want to retrieve data.

The following table shows a sample of the retrieved opportunity role data:

| marketoGUID | externalOpportunityId | role | leadId | isPrimary |
|---|---|---|---|---|
| da42707c-4dc4-4fc1-9fef-f30a3017240a | 19UYA31581L000000 | Chairs | 3445453 | 0 |
| da42707c-4dc4-4fc1-9fef-f30a3017240b | 19UYA31581L000000 | Chairs | 34454556 | 1 |

# Retrieve Sales Person Records

You can retrieve sales person records from Marketo based on the search criteria you specify in a synchronization task or mapping task.

To retrieve sales person data from Marketo, configure the following advanced list properties in a synchronization task or mapping task:

**Note:** The advanced source property field names, such as **Type Filter**, **Values Filter**, and **Fields Filter**, represent properties that you can configure for custom, opportunity, opportunity role, sales person, and company objects.

- **Sales Person - Type Filter**. Specify the filter type to retrieve the attributes of a sales person object. The filter type can be any of the searchable fields.

- **Sales Person - Values Filter**. Specify the location of the .csv file that contains the filter values to retrieve specific sales person fields.

- **Sales Person - Fields Filter**. Specify the object fields that you want to retrieve. You can specify more than one value for the sales person object fields, separated by a comma. If you do not specify the fields, the Secure Agent retrieves the fields that you mapped in the task.

For example, specify the filter type as `dedupeFields` and the filter value as `E:\Files\FilterValues_ID.csv`, which contains the externalSalesPersonId. Specify the sales person object fields for which you want to retrieve data.

The following table shows a sample of the retrieved sales person data:

| externalSalesPersonId | firstName | lastName | phone | title | createdAt |
|---|---|---|---|---|---|
| rhernandez3@phoca.cz | Ruth | Hernandez | 62-(427)296-8646 | Senior Editor | 8/25/2016 6:23:32 AM |
| lhunter4@google.com.au | Lisa | Hunter | 853-(308)354-3116 | Technical Writer | 8/25/2016 6:23:32 AM |

## Retrieve Company Records

You can retrieve company records from Marketo based on the search criteria you specify in a synchronization task or mapping task.

To retrieve company data from Marketo, configure the following advanced list properties in a synchronization task or mapping task:

**Note:** The advanced source property field names, such as **Type Filter**, **Values Filter**, and **Fields Filter**, represent properties that you can configure for custom, opportunity, opportunity role, sales person, and company objects.

- **Company - Type Filter**. Specify the filter type to retrieve the attributes of a company object. The filter type can be any of the searchable fields.

- **Company - Values Filter**. Specify the location of the .csv file that contains the filter values to retrieve specific company fields.

- **Company - Fields Filter**. Specify the object fields that you want to retrieve. You can specify more than one value for the company object fields, separated by a comma. If you do not specify the fields, the Secure Agent retrieves the fields that you mapped in the task.

For example, specify the filter type as `dedupeFields` and the filter value as `E:\Files\FilterValues_ID.csv`, which contains the externalCompanyId. Specify the company object fields for which you want to retrieve data.

The following table shows sample data for a few fields of the company object retrieved from Marketo:

| createdAt | externalCompanyId | billingCity | billingCountry | industry | annualReve nue |
|---|---|---|---|---|---|
| 8/24/2016 5:43:29 AM | 2a26a9df-fdce-9c30-67c5-56952b2 b5c27 | Boston | USA | Transportation | 9460 |
| 8/24/2016 5:43:29 AM | 23d89d7a-ea99-5635-0d26-56952b5 9b3d8 | Paris | France | Financial | 92300 |

# Marketo Targets

When you configure a target in a synchronization task or mapping task, select the target object to write specific data about that target object.

You can configure target objects to perform the following operations:

- Insert, update, upsert, or delete a lead.
- Associate leads.
- Merge leads.
- Add a lead to a list.
- Remove a lead from a list.
- Insert, update, upsert, or delete opportunity, opportunity role, sales person, and company data.

You can also configure a custom object as a target object in Data Integration to insert, update, upsert, or delete data from custom objects in Marketo.

## Lead

When you configure a lead data object to write to a Marketo target, you can insert, update, upsert, or delete leads in Marketo. To create leads in Marketo, you can use the Standard API to insert data.

You can configure the target object to perform the following operations:

**Insert a lead with the Standard API**

Use the Standard API when you want to insert few leads at a time. You cannot use the Bulk API to insert leads in the Marketo database.

When you configure a task to use the Standard API, you can specify the following properties in the advanced target properties:

- **Lead - Type of API to be used**. Select Standard API. API type is a mandatory parameter.
- **Lead - Create Duplicate**. Set to Yes if you want to add duplicate leads.
- **Lead - Lookup Field**. If there are duplicate leads while adding leads, Marketo uses the default email field from the record to check if there are any duplicate leads. If you do not want to use the email field, specify the lookup field value to find the duplicate leads.
- **Success File Directory**. The directory for the success file.

- **Error File Directory**. The directory for the error file.

For example, you have source data that contains leads and you want to insert those leads in Marketo.

The following table shows sample data to insert leads to Marketo:

| firstName | salutation | middleName | lastName | email | phone |
|-----------|------------|------------|----------|-------|-------|
| Renzege | Mr | Joe | Olson | Renzege@intergraph.com | 9880205707 |
| Micheal | Mr | Don | Kutkinson | Micheal.Kutkinson@intergraph.in | 990355707 |
| Bobslinger | Mrs | Jack | Mario | bob.Slinger@intergraph.com | 721-530-2000 |
| Renzege | Mr | Ron | Olson | Renzege.Aurther@intergraph.com | 9880205678 |

Select the flat file as the source object and lead as the target object. Create a synchronization task or mapping task with the insert operation. Map the incoming fields with the appropriate Marketo fields. When you run the task, the Marketo API inserts the source rows in the Marketo database.

**Update Lead**

To update a lead in Marketo, provide the lead details. Map the incoming fields with the appropriate Marketo fields.

You can configure the following advanced target properties to update leads in Marketo:

- **Lead - Partition Name**. You can specify the partition name in Marketo to which you want to update the lead.
- **Lead - Lookup Field**. Specify the lookup field to determine which lead you want to update. When you do not specify a lookup field, Marketo uses email ID as the default lookup field. You can specify any one of the following lookup fields: id, cookie, email, twitterId, facebookId, linkedInId, sfdcAccountId, sfdcContactId, sfdcLeadId, sfdcLeadOwnerId, sfdcOpptyId, or custom field.

**Upsert Lead**

You can upsert leads that are not present in Marketo. If the leads are present, the Marketo API updates those leads. Specify the lookup field to determine which lead you want to upsert. If you do not specify a lookup field, Marketo uses email ID as the default lookup field.

The insert and update configurations are applicable for the upsert operation. You can specify any one of the following lookup fields: id, cookie, email, twitterId, facebookId, linkedInId, sfdcAccountId, sfdcContactId, sfdcLeadId, sfdcLeadOwnerId, sfdcOpptyId, or custom field.

**Delete Lead**

You can delete a lead in Marketo. When you map the lead ID from the source field to the target lead ID in the field mapping of a synchronization or mapping task, the Marketo API deletes the lead containing that ID in Marketo.

# Associate Lead

You can track a lead anonymously by associating the cookie value of the anonymous lead with a known lead and updating that lead in the Marketo database. When you configure a task to associate a lead, you can use only the update operation.

For example, you want to synchronize information of an anonymous lead with a known lead to track all activities of the anonymous lead. Create the following flat file source that contains the ID of the known lead and the cookie value of the anonymous lead.

The source file is the following .csv file that you use in a task:

```
id cookie

6844410 561-HYG-937&token:_mch-marketo.com-1419231564967-41981
```

When you choose AssociateLead as the target object and the update operation in a task, the REST API updates the known Lead with the cookie value of the anonymous Lead in the Marketo database and you can track the activities of the anonymous Lead.

## Merge Leads

You can merge two leads and update the information for that lead in Marketo. When you configure a task to merge leads, you can use only the update operation.

You must specify the winning lead ID and the losing lead ID. Also, specify if you want to merge the leads in the CRM. When you run the mapping, the Marketo API deletes the losing lead ID and adds the data from the losing lead ID to the winning lead ID. The Marketo API adds the data only if the winning lead ID field does not have any data, but does not overwrite the winning lead ID data.

For example, you have data for similar leads and you want to merge that data. The source is a flat file source that contains the following lead IDs and the value for the merge in Customer Relational Management (mergeinCRM) as TRUE.

You must designate the winning lead and a losing lead with the following convention:

```
Id, leadid, MergeInCRM

1,2,True
```

In the flat file, Id is the winning lead column and leadid is the losing lead column.

Configure a task and select the update operation. Select the flat file as the source and MergeLead as the target object and run the task. The attributes of the winning lead take precedence. In the example, the losing lead ID is 2 and the winning lead ID is 1. The Marketo API deletes the lead with ID 2.

You can merge more then one losing leads with a winning lead.

For example, designate the winning lead and losing leads with the following convention in a flat file before you configure the update operation:

```
"id","leadId","mergeInCRM"
"18660653","18660660,18660661","true"
```

In the example, the losing lead IDs are 18660660 and 18660661 and the winning lead ID is 18660653.

## Add Lead to List

You can add a lead to a static list. If the source contains the lead IDs and the list ID, choose AddLeadToList as the target object in a task. When you configure a task to add a lead to a list, you can use only the insert operation. The Secure Agent inserts the leads with those IDs to the list you specify.

Before you add leads to a list, ensure that the lead that you want to add and the list exist in Marketo. To get the list ID from Marketo, select the list you require in Marketo. The list ID appears in the URL for that static List.

For example, when you select a list in Marketo, the URL for the page displays as `https://app-<XXX>.marketo.com/#ST1001A1`. In this URL, 1001 is the list ID.

The following source file is a sample .csv file that you can use to add leads to a list:

```
Listid, id
```

```
1001, 2
```

The Marketo API adds the lead with ID 2 to the list with ID 1001.

## Remove Lead from List

You can choose RemoveLeadFromList as the target object in a synchronization task when you want to remove a specific lead from a static list. When you configure a task to remove a lead from the list, you can use only the delete operation. When you run the task, the REST API removes that lead from the list in Marketo.

Before you remove a lead from a list, ensure that both the lead that you want to remove and the list exists in Marketo. When you select a list in Marketo, the list ID appears in the URL for that static list.

The following source file is a sample .csv file that you can use to remove leads from a list:

```
Listid, id
```

```
1111, 2
```

The Marketo API removes the lead with ID 2 from the list that contains ID 1111.

## Write Custom Object Records to Marketo

You can insert, update, upsert, or delete custom object records, but not custom objects in Marketo.

You can choose a custom object as the target object in a synchronization task or mapping task.

If you choose a Marketo custom object as a target in a task to write data, you cannot write to the createdAt, updatedAt, and MarketoGUID fields of a custom object in Marketo. Marketo creates the following fields, by default, when you add a record to a custom object in Marketo:

- createdAt. Date when the custom object record was created.
- updatedAt. Date when the custom object record was updated.
- MarketoGUID. The Marketo field ID for a record created in a custom object.

To write custom object records to Marketo, you can configure the following advanced target properties in a synchronization task or mapping task:

- **Custom Object - Dedupe Fields**. The dedupe fields or ID fields of the custom object in Marketo to which you want to perform an update or delete operation.
- **Success File Directory**. Specify the directory for the success file.
- **Error File Directory**. Specify the directory for the error file.

For example, you want to update records to the reservation custom object in Marketo. Enter **dedupeFields** in the **Custom Object Dedupe Field**.

The following table shows the details of the records that you want to create in Marketo:

| arrivalDateTime | flightCode | pnr | fare | TicketNumber |
|---|---|---|---|---|
| 7/21/2015 05:30:00 | BA-754B1 | BAF57HG1 | 55000 | 1001 |
| 12/29/2014 03:00:00 | JA-555S2 | BAF57HG1 | 79000 | 1002 |

**Note:** For update and delete operations, the value of the **Custom Object - Dedupe Field** must either be idField or dedupeFields. If you leave the **Custom Object - Dedupe Field** blank, Marketo considers dedupeFields as the default.

# Write Opportunity Data to Marketo

You can insert, update, upsert, or delete a record in the opportunity object in Marketo.

You can choose Opportunity as the target object in a synchronization task or mapping task.

If you choose a Marketo opportunity object as a target in a task to write data, you cannot write to the MarketoGUID field of an opportunity object in Marketo. Marketo creates the MarketoGUID field, by default, when you add an opportunity role object to Marketo. The MarketoGUID is the field ID created for an opportunity in Marketo.

To write an opportunity object data to Marketo, you can configure the following advanced target properties in a synchronization task or mapping task:

**Note:** The advanced target property field name, **Dedupe Fields**, represents properties that you can configure for custom objects, opportunity, or opportunity role.

- **Opportunity - Dedupe Fields**. The dedupeFields or idField of the opportunity object in Marketo to which you want to perform an update or delete operation.
- **Success File Directory**. Specify the directory for the success file.
- **Error File Directory**. Specify the directory for the error file.

For example, you want to update records to the opportunity object in Marketo. When you configure a task, enter **dedupeFields** in the **Opportunity - Dedupe Fields** of the advanced properties.

The following table shows the details of the records that you want to create in the opportunity object Marketo:

| name | description | stagename | amount | type | leadsource |
|------|-------------|-----------|--------|------|------------|
| Azure - Templates | Azure Template | Prospecting | 25600 | New Customer | Purchased List |
| Winter 2015 Pupm Sales | Pupm Sales | Prospecting | 34500 | Existing Customer - Upgrade | Purchased List |
| Extravaganza Pump | Pump | Negotiation/ Review | 32500 | Existing Customer - Replacement | Partner Referral |

**Note:** For update and delete operations, the value of the **Opportunity - Dedupe Fields** must either be idField or dedupeFields. If you leave the **Opportunity - Dedupe Fields** blank, Marketo considers dedupeFields as the default.

# Write Opportunity Role Data to Marketo

You can insert, update, upsert, or delete a record in the opportunity role object in Marketo.

You can choose OpportunityRole as the target object in a synchronization task or mapping task.

If you choose a Marketo opportunity role object as a target in a task to write data, you cannot write to the MarketoGUID field of an opportunity role object in Marketo. Marketo creates the MarketoGUID field, by

default, when you add an opportunity role object to Marketo. The MarketoGUID is the field ID created for an opportunity role in Marketo.

To write an opportunity role object data to Marketo, you can configure the following advanced target properties in a synchronization task or mapping task:

**Note:** The advanced target property field name, **Dedupe Fields**, represents properties that you can configure for custom objects, opportunity, or opportunity role.

- **Opportunity Role - Dedupe Fields**. The dedupeFields or idField of the opportunity role object in Marketo to which you want to perform an update or delete operation.
- **Success File Directory**. Specify the directory for the success file.
- **Error File Directory**. Specify the directory for the error file.

For example, you want to update records to the opportunity role object in Marketo. When you configure a task, enter **dedupeFields** in the **Opportunity Role - Dedupe Fields** of the advanced properties.

The following table shows the details of the records that you want to create in the opportunity role object in Marketo:

| externalOpportunityId | LeadID | role | isPrimary |
|---|---|---|---|
| 006i000000bmckPAAQ | 6 | Technical Buyer | 0 |
| 006i000000bmZN6AAM | 6 | Technical Buyer | 0 |
| 006i000000bmZyPAAU | 6 | Technical Buyer | 0 |

**Note:** For update and delete operations, the value of the **Opportunity Role - Dedupe Fields** must either be idField or dedupeFields. If you leave the **Opportunity Role - Dedupe Fields** blank, Marketo considers dedupeFields as the default.

# Write Company Records to Marketo

You can insert, update, upsert, or delete a record in the company object in Marketo.

You can choose a Company as the target object in a synchronization task or mapping task.

If you choose a Marketo company object as a target in a task to write data, you cannot write to the ID field of a company object in Marketo.

To write a company object data to Marketo, you can configure the following advanced target properties in a synchronization task or mapping task:

**Note:** The advanced target property field name, **Dedupe Fields**, represents properties that you can configure for custom objects, opportunity, opportunity role, sales person, and company.

- **Company - Dedupe Fields**. The dedupeFields or idField of the company object in Marketo to which you want to perform an update or delete operation.
- **Success File Directory**. Specify the directory for the success file.
- **Error File Directory**. Specify the directory for the error file.

For example, you want to update records to the company object in Marketo. When you configure a task, enter **dedupeFields** in the **Company - Dedupe Fields** of the advanced properties.

The following table shows the details of the records that you want to create in the company object Marketo:

| externalCompanyId | billingCity | billingCountry | website | industry | annualRevenue |
|---|---|---|---|---|---|
| 2a26a9df-fdce-9c30-67c5-56952b2b5c27 | Boston | USA | stevenew.com | Transportation | 9460 |
| 23d89d7a-ea99-5635-0d26-56952b59b3d8 | Paris | France | briellenew.com | Financial | 92300 |

**Note:** For update and delete operations, the value of the **Company - Dedupe Fields** must either be idField or dedupeFields. If you leave the **Company - Dedupe Fields** blank, Marketo considers the fields that you mapped in the task.

# Write Sales Person Records to Marketo

You can insert, update, upsert, or delete a record in the sales person object in Marketo.

You can choose SalesPerson as the target object in a synchronization task or mapping task.

If you choose a Marketo sales person object as a target in a task to write data, you cannot write to the ID field of the sales person object in Marketo.

To write a sales person object data to Marketo, you can configure the following advanced target properties in a synchronization task or mapping task:

**Note:** The advanced target property field name, **Dedupe Fields**, represents properties that you can configure for custom objects, opportunity, opportunity role, sales person, and company.

- **Sales Person - Dedupe Fields**. The dedupeFields or idField of the sales person object in Marketo to which you want to perform an update or delete operation.
- **Success File Directory**. Specify the directory for the success file.
- **Error File Directory**. Specify the directory for the error file.

For example, you want to update records to the sales person object in Marketo. When you configure a task, enter **dedupeFields** in the **Sales Person - Dedupe Fields** of the advanced properties.

The following table shows the details of the records that you want to create in the sales person object in Marketo:

| externalSalesPersonId | firstName | lastName | phone | title | createdAt |
|---|---|---|---|---|---|
| rhernandez3@phoca.cz | Ruth | Hernandez | 62-(427)296-8646 | Senior Editor | 8/25/2016 6:23:32 AM |
| lhunter4@google.com.au | Lisa | Hunter | 853-(308)354-3116 | Technical Writer | 8/25/2016 6:23:32 AM |

**Note:** For update and delete operations, the value of the **Sales Person - Dedupe Fields** must either be idField or dedupeFields. If you leave the **Sales Person - Dedupe Fields** blank, Marketo considers the fields that you mapped in the task.

# Marketo rules and guidelines

Consider the following rules and guidelines when you configure synchronization tasks or mapping tasks:

- When you configure a task to read data from a folder in Marketo, the task runs successfully even though you cannot specify the root parameter required for browsing folders in Marketo.

- You cannot configure filters from the **Data Filters** tab in a task. You must instead use the advanced source and target properties to filter the data.

- The Hosted Agent does not support advanced source properties, such as **Filter Field** and **Filter Values CSV File**.

- When you use the Cloud Hosted Agent to run memory intensive tasks, an out-of-memory error might occur.

- When you choose the LeadActivity source object in a task to retrieve lead activities from Marketo, the Secure Agent internally maps the marketoGUID field with the activityId field. marketoGUID is a new field introduced by Marketo. For more information about changes in activity records in Marketo APIs, see changes in activity records in the Marketo documentation.

# Marketo restrictions

Consider the following restrictions from Marketo when you configure source and target objects in synchronization tasks or mapping tasks:

- If any of the List - List ID value specified in the list source properties is not found in Marketo, the REST API returns only that data that matches the configured properties. The API does not return an error for incorrect list IDs that are not found in Marketo.

- Ensure that all the fields of the lead data is valid when writing data to Marketo. If any of the lead fields are not valid, the REST API does not create the lead. The Secure Agent does not write the error rows to the error file directory.

- When you configure a task to create duplicate leads in Marketo, you must use the standard API. When you use the bulk API, the Marketo REST API updates the existing leads in Marketo.

- You might observe latency when you use the dedupe fields to update the Lead Link Field, such as email address, for a custom object in Marketo.

- When you use Marketo Connector, you cannot preview lead, lead activity, and custom object records.

- When you configure a task to retrieve campaigns, you cannot retrieve leads associated with campaigns. You also cannot create, update, or delete campaigns.

- You can include a maximum of only 10 ActivityType IDs in a single task.

- When you configure the value of concurrent threads, do not exceed a maximum number of 10 threads for Marketo tasks to process concurrently at a given time.

- When you configure a task to read data from a Marketo instance that does not support the opportunity, opportunity role, sales person, and company objects, an error occurs when you preview the data. These objects are not enabled for CRM-enabled subscriptions in Marketo.

- The Marketo API does not return an error if any of the records for the company, sales person, opportunity, or opportunity role source objects are not found in Marketo, even though you specify the required advanced properties in the task.

- You can retrieve the metadata of only the default fields of email, program, tag, channel, list, and campaign objects in Marketo.

- When you specify multiple IDs for retrieving the program and email data, the Marketo API does not support additional API call requests, which causes an overhead as Data Integration sends multiple API requests.

- The program, list, and activityType objects have pre-defined fields because of a restriction from the Marketo APIs. When you use the program, list, or activityType objects, you can retrieve data only from these pre-defined fields.

- The metadata of objects other than lead, company, opportunity, role, sales person, and custom objects has pre-defined fields because of a restriction from the Marketo APIs. When you use these objects, you can retrieve data only for these pre-defined fields.

- When you configure a task to read data from a folder in Marketo, you cannot specify the root parameter required for browsing folders in Marketo.

- When you configure a write operation for a lead data object using the bulk API, only upsert operation is supported.

- When you use the Bulk Extract option, you can extract a daily quota maximum of 500 MB shared between leads and lead activities. When you exceed the quota, you cannot create another job until the daily quota resets at midnight.

CHAPTER 4

# Synchronization Tasks with Marketo

This chapter includes the following topics:

## Marketo Sources in Synchronization Tasks

You can use a Marketo object as a single source in a synchronization task.

You configure Marketo source properties on the **Source** page of the Synchronization Task wizard.

The following table describes the Marketo source properties:

| Property | Description |
| --- | --- |
| Connection | Name of the source connection. |
| Source Type | Type of Marketo source objects.<br>Select Single. |
| Source Object | Name of the source object. You can choose one of the following source objects when you read data from Marketo:<br>- Lead<br>- LeadActivity<br>- ActivityType<br>- List<br>- Campaign<br>- Opportunity<br>- OpportunityRole<br>- SalesPerson<br>- Company<br>- Program<br>- Email<br>- Tag<br>- Folder<br>- Channel<br>- Custom Objects |

You need to configure specific advanced properties to use a specific source object in a synchronization task.

# Advanced Source Properties

In a task, you can configure a Source transformation to represent an Marketo V3 object as the source to read data from Marketo.

The following table describes the advanced source properties for source objects:

| Property | Description |
| --- | --- |
| Lead - Filter Field | The field name to use for filtering leads that you want to read from Marketo. Enter only one field. ID and email are common filter values.<br><br>Ensure that the data in the field that you specify does not contain null values. |
| Lead - Filter Values CSV File | The location of the CSV file where the filter values are present when you specify a **Filter Field** value. |
| Lead - Filter Values | The filter values based on which you can filter the lead data when you specify a **Filter Field** value.<br><br>To get data from the lead object based on multiple filter values, specify the filter IDs for the lead object each separated by a comma. |
| Lead - List Id | The list ID for retrieving leads from a specific list.<br>**Note:** The list ID appears on the URL when you select the list in Marketo. |
| Lead - Partition Name | The Lead - Partition Name property is deprecated. |
| Lead - Program Id | The program ID for retrieving a lead.<br><br>When you specify a program ID, you get the following default fields of the lead: progressionStatus, stream, nurtureCadence, isExhausted, acquiredBy, reachedSuccess, reachedSuccessDate, and membershipDate<br><br>To get multiple leads, specify multiple program IDs, each separated by a comma. |
| Lead - Activity Type Id | The activity type ID to get lead details based on the lead activities when you select Lead as source.<br><br>To get lead details based on multiple lead activity types, enter each activity type ID separated by a comma. |
| Lead Activity - Activity Type Id | The activity type ID to get lead activities when you select LeadActivity as source.<br><br>To get multiple lead activities, enter each activity type ID separated by a comma. |
| Lead Activity - List Id | The list ID for filtering the lead activity.<br><br>To filter multiple lead activities, specify the list IDs separated by a comma. |
| Lead Activity - Lead Id | The lead ID for filtering the lead activity of a lead.<br><br>To filter lead activities for multiple leads, specify the lead IDs separated by a comma. |

| Property | Description |
|---|---|
| List - List Id | The list ID for the list details that you want to get from Marketo.<br>**Note:** The list ID appears on the URL when you select the list in Marketo.<br>To get multiple list details, specify multiple list IDs, separated by a comma. |
| List - List Name | The list name to get the list from Marketo.<br>To get multiple lists, specify multiple list names separated by a comma. |
| List - Program Name | The program name to get the list associated with the program.<br>To get multiple lists, specify the associated program names separated by a comma. |
| Program - Program Id | The program ID to get the program from Marketo. |
| Program - Program Name | The program name to get the program from Marketo. |
| Program - Tag Type | The associated tag type for a program based on which you want to get the program when you specify a Tag Value for program. |
| Program - Tag Value | The tag value associated with a program based on which you want to get the program when you specify a Tag Type for program. |
| Channel - Channel Name | The channel name to get the channel from Marketo. |
| Email - Email Id | The ID for the email in Marketo from which you want to get email records. |
| Tag - Tag Name | The tag name to get the tag from Marketo. |
| Folder - Max Depth | The maximum number of levels to traverse in the folder hierarchy.<br>Default is 2. |
| Folder - Workspace | The name of the workspace that you want to filter. |
| Campaign - Campaign Id | The campaign ID to get the campaign from Marketo.<br>To get multiple campaigns, enter each campaign ID separated by a comma. |
| Campaign - Campaign Name | The campaign that you want to get from Marketo based on the campaign name.<br>To get multiple campaigns, enter each campaign name separated by a comma. |
| Custom Obj / Oppty (Role) / Company / Sales Per - Type Filter* | The field type to use to filter custom, opportunity, opportunity role, sales person, or company objects from Marketo. |

| Property | Description |
|---|---|
| Custom Obj / Oppty (Role) / Company / Sales Per - Values Filter* | The location of the CSV file that contains the filter values to get specific custom, opportunity, opportunity role, sales person, or company object data from Marketo.<br><br>Ensure that each filter value is on a separate line in the CSV file. |
| Custom Obj / Oppty (Role) / Company / Sales Per - Fields Filter* | The names of the custom, opportunity, opportunity role, sales person, or company object fields that you want to get.<br><br>If you don't specify a filter field value, the agent uses the fields from the field mapping in the task. |
| Custom Obj / Oppty (Role) / Company / Sales Per - String Values Filter* | The filter values to get specific data from Marketo custom objects.<br><br>When you specify the filter values, enter the column name of the custom object on which you want to apply a filter, followed by the filter string values on consecutive lines similar to the format in a CSV file:<br><br>`Column Name`<br>`filter value1`<br>`filter value2`<br>`filter value3` |
| General - Since Date Time | Gets lead and lead activity beginning with the specified date or date/time value.<br><br>Use one of the following formats:<br>- 2016-04-01T17:00:00-0800<br>- 2016-10-06<br><br>Ensure that you select No as the value in the Incremental Extract field. |
| General - Incremental Extract | Gets incremental lead activities or lead changes.<br><br>Choose one of the following values:<br>- Yes. Gets incremental lead changes or lead activity changes from the time since the last extract. Enter the variable, $LastRunTime in Since Date Time to get incremental lead activities and lead changes.<br>- No. Doesn't get incremental lead changes or lead activity changes since the last extract.<br><br>Default is No. |
| General - Start Date | Gets lead and lead activities beginning with the specified date value.<br><br>Use one of the following formats:<br>- YYYY-MM-DD<br>- YYYY-MM-DDT00:00:00Z |
| General - End Date | Gets lead and lead activities ending with the specified date or date/time value.<br><br>Use one of the following formats:<br>- YYYY-MM-DD<br>- YYYY-MM-DDT00:00:00Z |

| Property | Description |
|---|---|
| General - Concurrent Threads | The number of concurrent processing threads that the task spawns for a Marketo source to optimize the performance results to get lead details.<br><br>Specify from 1 to 10 concurrent threads for a Marketo source to optimize the performance of the task.<br><br>Default is 1. |
| General - Results Batch Size | The number of records that can be read in a batch.<br><br>The maximum number of records is 300.<br><br>Default is 300. |
| Bulk Extract - Lead/Lead Activity | Gets lead or lead activities in bulk from Marketo based on the start and end date you specify.<br><br>Default is No. |
| *You can configure type, values, fields, and string values filters for custom objects, opportunity, opportunity role, sales person, or company. These properties are optional. | |

The following table lists the advanced source properties that apply to each source object:

| Source Objects | Advanced Source Property |
|---|---|
| Lead | - Lead - Filter Field, optional<br>- Lead - Filter Values CSV File, optional<br>- Lead - Filter Values, optional<br>- Lead - List Id, optional<br>- Lead - Program Id, optional<br>- Lead - Activity Type Id, required to extract lead details based on lead activities<br>- General - Concurrent Threads, optional<br>- General - Results Batch Size, optional |
| Lead Activity | - Lead Activity - Activity Type Id, required<br>- Lead Activity - List Id, optional<br>- Lead Activity - Lead Id, optional |
| List | - List - List Id, optional<br>- List - List Name, optional<br>- List - Program Name, optional |
| Program | - Program - Program Id, optional<br>- Program - Program Name, optional<br>- Program - Tag Type, required if you provide the tag value<br>- Program - Tag Value, required if you provide the tag type<br>To get program details, specify either the program ID, program name, or tag type-tag value. |
| Channel | Channel - Channel Name, optional |
| Email | Email - Email Id, required |
| Tag | Tag - Tag Name |
| Folder | - Folder - Max Depth, optional<br>- Folder - Workspace, optional |

| Source Objects | Advanced Source Property |
|---|---|
| Campaign | - Campaign - Campaign Id, optional<br>- Campaign - Campaign Name, optional |
| Lead/Lead Activity | - General - Since Date Time, optional<br>- General - Incremental Extract, default, No<br>- General - Start Date, optional<br>- General - End Date, optional |
| Lead/Lead Activity | Bulk Extract - Lead/Lead Activity |

# Marketo Source Synchronization Example

You work in the marketing industry, and business analysts in your enterprise need to manage a product campaign. You want to use Marketo to discover Leads who show interest in the product. You want to export all the new and updated Leads and their corresponding details from Marketo and import that data into a Customer Relationship Management (CRM) system.

You read the Lead data by using Data Integration and write that data to a flat file. The marketing team can decide which of the Leads they can use to promote the product and convert it into a sales opportunity.

Configure a synchronization task with the insert operation and configure the following objects:

**Source**

The source object for a synchronization task is a Marketo Lead. Use the Marketo connection to connect to Marketo and read data from Marketo. The Lead object is a single source in the synchronization task.

Specify the ActivityType IDs for new and updated leads. For example,*12,13*. The ActivityType IDs may differ by Marketo subscription. Specify the Since Date Time in the advanced source properties of the synchronization task.

**Target**

Use the .csv file as the target object in the synchronization task. Use the Flat File connection to connect to the flat file. The target includes the *Lead ID* field.

**Mapping**

Map the primary fields of the lead source object to the flat file target object.

The following image shows the mapping of the lead source with the flat file target:
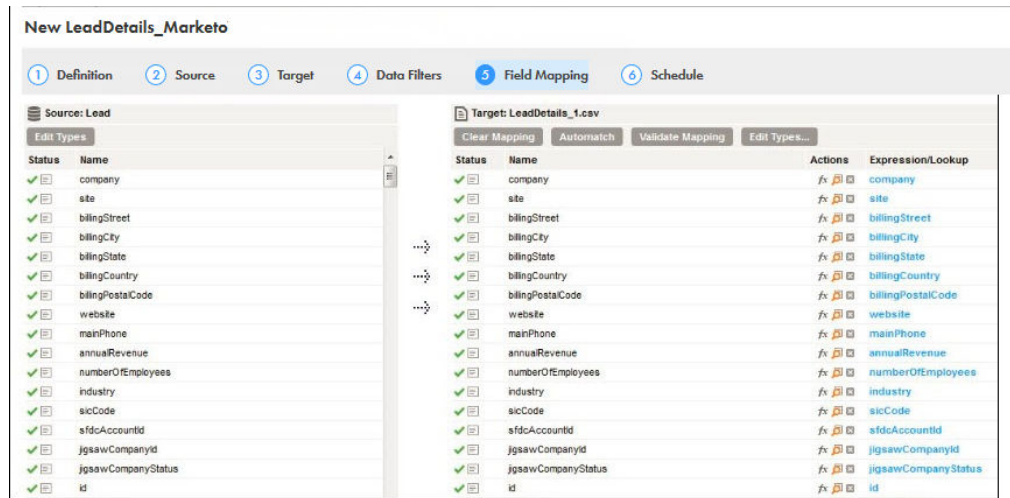


When you run the synchronization task, the Secure Agent writes the retrieved Lead IDs to the target flat file. The Lead ID can be used to retrieve lead details as necessary.

# Marketo Targets in Synchronization Tasks

When you run a synchronization task, specify the operation and the source that you want the Secure Agent to write to the target. The Secure Agent inserts, updates, upserts, or deletes source rows that you specify into the target based on the configured operation for the target object.

The task operations depend on the target object that you select. You can configure the target properties when you schedule the synchronization task.

You configure Marketo target properties on the **Target** page of the Synchronization Task wizard. Provide the name of the target connection and specify the target object to write data to Marketo.

The following table describes the Marketo target properties:

| Property | Description |
|---|---|
| Connection | Name of the target connection. |
| Target Type | Type of Marketo target objects.<br>Select Single. |
| Target Object | Name of the target object. You can choose one of the following target objects when you write data to Marketo:<br>- Lead<br>- MergeLead<br>- AssociateLead<br>- AddLeadToList<br>- RemoveLeadFromList<br>- Opportunity<br>- OpportunityRole<br>- SalesPerson<br>- Company<br>- Custom Objects |

You need to configure specific advanced properties to use a specific source object in a synchronization task.

## Advanced Target Properties

When you configure a synchronization task, you can configure the advanced target properties. The advanced target properties appear on the **Schedule** page of the Synchronization Task wizard.

The following table describes the Marketo advanced target properties:

| Advanced Target Property | Description |
|---|---|
| Lead - Type of API to be used | The type of Marketo API used to insert leads in the Marketo database. You can select from the following options:<br>- Standard API. Uses the Standard API when you want to create leads in Marketo.<br>- Bulk API. You cannot use Bulk API to insert leads in the Marketo database.<br>Default is Standard API. |
| Lead - Create Duplicate | Creates a duplicate of the lead when that lead already exists in the Marketo database. The REST API either inserts or upserts data based on the operation you specify.<br>You can choose one of the following values:<br>- Yes. Duplicates an existing lead.<br>- No. Does not duplicate an existing lead.<br>Default is No. |
| Lead - List ID for Leads | The ID of a list for leads where you want to create the lead. |
| Lead - Lookup Field | Performs a lookup of the field you specify to determine whether the lead you want to add to the Marketo database is a duplicate lead. |

| Advanced Target Property | Description |
|---|---|
| Lead - Partition Name | The partition name where you want to insert, update, or upsert leads in Marketo.<br><br>If specified, the Secure Agent verifies if the user has access to the partition. If you do not specify a partition, the API operation uses the primary partition of the list workspace. |
| Custom Obj / Oppty (Role) / Company / Sales Per - Dedupe Fields | The dedupeFields or idField of the custom, opportunity, opportunity role, sales person, or company object in Marketo for which you want to perform an update or delete operation.<br><br>When you do not specify dedupeFields or idField for an update or delete operation, Marketo considers the dedupeFields of the corresponding custom, opportunity, opportunity role, sales person, or company object as the default.<br><br>**Note:** You can specify this field value only to update or delete data in custom, opportunity, opportunity role, sales person, or company objects in Marketo. This field is optional. |
| Success File Directory | Directory for the success rows files. Specify a directory path that is available on each Secure Agent machine in the runtime environment. By default, Data Integration writes the success rows file to the following directory: `<Secure Agent installation directory>/apps/Data_Integration_Server/data/success` |
| Error File Directory | Directory for the error rows files. Specify a directory path that is available on each Secure Agent machine in the runtime environment. By default, Data Integration writes the error rows file to the following directory: `<Secure Agent installation directory>/apps/Data_Integration_Server/data/error` |

**Note:** The advanced target property field name **Dedupe Fields** represents properties that you can configure for custom objects, opportunity, opportunity role, sales person, or company.

The following table lists the advanced properties applicable to each target object:

| Advanced Target Property | Lead | MergeLead | AssociateLead | AddLeadToList | RemoveLeadToList | Custom Object/ Opportunity/ Opportunity Role/Company/ Sales Person |
|---|---|---|---|---|---|---|
| Lead - Type of API to be used | Required<br>Default is Standard API. | - | - | - | - | - |
| Lead - Staging Folder for Bulk Load API | Optional when Type of API to be used is set to Bulk API. | - | - | - | - | - |
| Lead - Create Duplicate | Optional<br>Default is No. | - | - | - | - | - |
| Lead - List ID for Leads | Optional, if Type of API to be used is set to Bulk API. | - | - | - | - | - |

| Advanced Target Property | Lead | MergeLead | AssociateLead | AddLeadToList | RemoveLeadToList | Custom Object/ Opportunity/ Opportunity Role/Company/ Sales Person |
|---|---|---|---|---|---|---|
| Lead - Lookup Field | Required, if Create Duplicate is set to Yes. | - | - | - | - | - |
| Lead - Partition Name | Optional, if Type of API to be used is set to Bulk API. | - | - | - | - | - |
| Custom Obj / Oppty (Role) / Company / Sales Per - Dedupe Fields | - | - | - | - | - | Required for update operation. Default is dedupeFields. |

**Note:** The advanced target property field name **Dedupe Fields** represents properties that you can configure for custom objects, opportunity, opportunity role, sales person, or company. Cells with - indicate NA for the respective object. Though some of the advanced target properties for an object are optional, you must specify the properties according to your use case.

## Marketo Target Synchronization Example

You work in the marketing industry, and business analysts in your enterprise want to add leads from a recent marketing conference into Marketo. You want to track the activity of these leads in Marketo.

Configure a synchronization task to insert data to Marketo. Configure the following objects:
**Source**

The synchronization task includes a flat file source that contains the new lead details. The source includes fields, such as *firstName*, *salutation*, *middleName*, *lastName*, *email*, and *phone*.

**Target**

The synchronization task includes a lead target object. The target includes fields, such as *firstName*, *salutation*, *middleName*, *lastName*, *email*, and *phone*.

**Mapping**

Map the fields of the flat file source to the Marketo target.

The following image shows the mapping of the flat file source with the lead target object in Marketo:



When you run the synchronization task, the Secure Agent reads from the flat file source and writes to Marketo based on the fields you mapped.

CHAPTER 5

# Mappings and Mapping tasks with Marketo

Use the Data Integration Mapping Designer to create a mapping. When you create a mapping, you configure a source or target to represent the object.

In advanced mode, the Mapping Designer updates the mapping canvas to include transformations and functions that enable advanced functionality.

Describe the flow of data from source and target along with the required transformations before the Secure Agent writes data to the target. When you create a mapping task, select the mapping that you want to use. Use the Mapping Task wizard to create a mapping task. The mapping task processes data based on the data flow logic you define in the mapping.

The advanced source and target properties for mapping task are similar to the advance source and target properties of synchronization tasks. For more information, see the following:

- "Advanced Source Properties" on page 40
- "Advanced Target Properties" on page 46

## Marketo Mapping Task Example

You work for a marketing organization and business analysts in your organization want to export all Marketo lead activities. You want to review the lead activities in an analytics tool.

Configure a mapping task to use the insert operation. You use the following objects in the Marketo mapping:
**Source object**

> The source object for a mapping task is a Marketo LeadActivity. Use the Marketo connection to connect to Marketo and read data from Marketo. The LeadActivity object is a single source in the mapping task.

> Specify the ActivityType IDs of interest. For example,*12,13*. The ActivityType IDs may differ by Marketo subscription. Specify the Since Date Time in the advanced source properties of the mapping task.

**Target object**

> Use the .csv file as the target object in the mapping task. The target in a mapping task is a flat file. The target includes the *activityId*, *activityDate*, *activityTypeId*, *primaryAttributeValueId*, *primaryAttributeValue*, *attributeName*, *attributeValue*, and *id* fields.

**Mapping**

> Map the fields of the Marketo LeadActivity source to the flat file target.

The following image shows the Marketo mapping:



The following image shows the mapped fields of Marketo source with the flat file target object:



When you run the mapping, the Secure Agent writes the lead activities to the flat file based on the fields you mapped in the mapping task.

CHAPTER 6

# Troubleshooting

**When you configure a task with the Bulk API to retrieve data from the LeadActivity source object, the task might fail with the following error:**

```
[ERROR] com.informatica.powercenter.sdk.SDKException:
com.informatica.cloud.api.adapter.runtime.exception.ReadException:
com.informatica.cloud.api.adapter.runtime.exception.ReadException:
com.fasterxml.jackson.databind.exc.MismatchedInputException: Cannot deserialize instance
of `java.util.LinkedHashMap<java.lang.Object,java.lang.Object>` out of VALUE_NUMBER_INT
token at [Source: (String)"57007"; line: 1, column: 1]
```

To resolve this issue, you must set the JVM option to `-DInfaCustomParser=true` in the Secure Agent properties.

Perform the following steps to configure the JVM option:

1.  In Administrator, select the Secure Agent listed on the **Runtime Environments** tab.

2.  Click **Edit**.

3.  In the **System Configuration Details** section, select **Data Integration Service** as the service and **DTM** as the type.

4.  Add the **DInfaCustomParser** property in the JVM option and set the property value to true.

    Example:

    `-DInfaCustomParser=true`

5.  Click **Save**.

CHAPTER 7

# Data type reference

Data Integration uses the following data types in mappings, synchronization tasks, and mapping tasks with Marketo:

**Marketo native data types**

Marketo data types appear in the source and target transformations when you choose to edit metadata for the fields.

**Transformation data types**

Set of data types that appear in the transformations. They are internal data types based on ANSI SQL-92 generic data types, which the Secure Agent uses to move data across platforms. Transformation data types appear in all transformations in a mapping.

When Data Integration reads source data, it converts the native data types to the comparable transformation data types before transforming the data. When Data Integration writes to a target, it converts the transformation data types to the comparable native data types.

## Marketo and transformation data types

The following table lists the Marketo data types that Data Integration supports and the corresponding transformation data types:

| Marketo Data Type | Transformation Data Type | Description |
|---|---|---|
| Boolean | String | 1 to 104,857,600 characters |
| Currency | String | 1 to 104,857,600 characters |
| Data | String | 1 to 104,857,600 characters |
| Date | Date/Time | Jan 1, 0001 A.D. to Dec 31, 9999 A.D. Precision 29, scale 9 (precision to the nanosecond) |
| DateTime | Date/Time | Jan 1, 0001 A.D. to Dec 31, 9999 A.D. Precision 29, scale 9 (precision to the nanosecond) |
| Email | String | 1 to 104,857,600 characters |

| Marketo Data Type | Transformation Data Type | Description |
|---|---|---|
| Float | Double | Precision 15 |
| Integer | Integer | -2,147,483,648 to 2,147,483,647<br>Precision 10, scale 0 |
| Phone | String | 1 to 104,857,600 characters |
| Reference | String | 1 to 104,857,600 characters |
| String | String | 1 to 104,857,600 characters |
| Text | String | 1 to 104,857,600 characters |
| URL | String | 1 to 104,857,600 characters |

# CHAPTER 8

# Marketo activity type reference

You can retrieve data by specifying ActivityType IDs. Each Marketo subscription may have different IDs for corresponding Activity names. The following table shows ActivityType ID, corresponding name, and description from a sample Marketo subscription:

| ID | Name | Description |
|----|------|-------------|
| 1 | Visit Webpage | User visits a web page. |
| 10 | Open Email | User opens Marketo email. |
| 11 | Click Email | User clicks on a link in a Marketo email. |
| 12 | New Lead | New person or record is added to the lead database. |
| 13 | Change Data Value | Changed attribute value for a person or record. |
| 34 | Add to Opportunity | Add to an opportunity. |
| 35 | Remove from Opportunity | Remove from an opportunity. |

# INDEX