

# **TIBCO ActiveMatrix BusinessWorks™ Plug-in for Marketo User's Guide**

*Software Release 7.2  
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# TIBCO Documentation and Support Services

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Documentation for this and other TIBCO products is available on the TIBCO Documentation site. This site is updated more frequently than any documentation that might be included with the product. To ensure that you are accessing the latest available help topics, please visit:

<https://docs.tibco.com>

## Product-Specific Documentation

Documentation for TIBCO products is not bundled with the software. Instead, it is available on the TIBCO Documentation site at <https://docs.tibco.com/products/tibco-activematrix-businessworks-plugin-for-marketo>. To directly access documentation for this product, double-click the following file:

`TIBCO_HOME/release_notes/TIB_bwpluginmarketo_version_docinfo.html`

where `TIBCO_HOME` is the top-level directory in which TIBCO products are installed. On Windows, the default `TIBCO_HOME` is `C:\Program Files\tibco\bw6`. On UNIX systems, the default `TIBCO_HOME` is `/opt/tibco/bw6`.

The following documents for this product can be found on the TIBCO Documentation site:

- *TIBCO ActiveMatrix BusinessWorks Plug-in for Marketo Installation*
- *TIBCO ActiveMatrix BusinessWorks Plug-in for Marketo User's Guide*
- *TIBCO ActiveMatrix BusinessWorks Plug-in for Marketo Release Notes*

The following documents provide additional information and can be found on the TIBCO Documentation site:

- TIBCO ActiveMatrix BusinessWorks documentation
- *TIBCO Enterprise Administrator User's Guide*

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- For an overview of TIBCO Support, and information about getting started with TIBCO Support, visit this site:

<http://www.tibco.com/services/support>

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Entry to this site requires a user name and password. If you do not have a user name, you can request one.

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# Plug-in Overview

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TIBCO ActiveMatrix BusinessWorks™ Plug-in for Marketo is a software component that adds customized features to Marketo.

TIBCO ActiveMatrix BusinessWorks Plug-in for Marketo plugs into TIBCO ActiveMatrix BusinessWorks™ and adds a [Marketo Palette](#) to TIBCO Business Studio™.

TIBCO ActiveMatrix BusinessWorks is a leading integration platform that can integrate a wide variety of technologies and systems within enterprise and on cloud. TIBCO ActiveMatrix BusinessWorks includes an Eclipse-based graphical user interface (GUI) provided by TIBCO Business Studio for design, testing, and deployment. If you are not familiar with TIBCO ActiveMatrix BusinessWorks before using the plug-in, see the TIBCO ActiveMatrix BusinessWorks documentation for more details.

You can use the plug-in to create a connection to a Marketo instance, leverage the Marketo data to create automations, and move data from your internal systems to the Marketo instance or vice versa.

The plug-in contains the following main features:

## **Marketo Connection Shared Resource**

You can use the Marketo connection shared resource to obtain an access token and metadata. The shared resource is used by the Marketo activities.

## **Import Activity**

You can use this activity to import leads.

## **Upsert Activity**

You can use this activity to create or update leads, opportunity, opportunity role, company, and custom objects, add or remove leads from a list, and request or schedule campaigns.

## **Retrieve Activity**

You can use this activity to retrieve resources, such as leads, list, campaigns, import status, opportunity, opportunity role, company, and custom objects.

## **Delete Activity**

You can use this activity to delete leads, opportunity, opportunity role, company, and custom objects.

# Getting Started

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This tutorial is designed for the beginners who want to use TIBCO ActiveMatrix BusinessWorks Plug-in for Marketo in TIBCO Business Studio.

All the operations are performed in TIBCO Business Studio. See [TIBCO Business Studio Overview](#) to get familiar with TIBCO Business Studio.

A basic procedure of using TIBCO ActiveMatrix BusinessWorks Plug-in for Marketo includes:

1. [Creating a Project](#)
2. [Creating a Marketo Connection](#)
3. [Configuring a Process](#)
4. [Testing a Process](#)
5. [Deploying an Application](#)

## Creating a Project

The first task of using the plug-in is creating a project. After creating a project, you can add resources and processes.

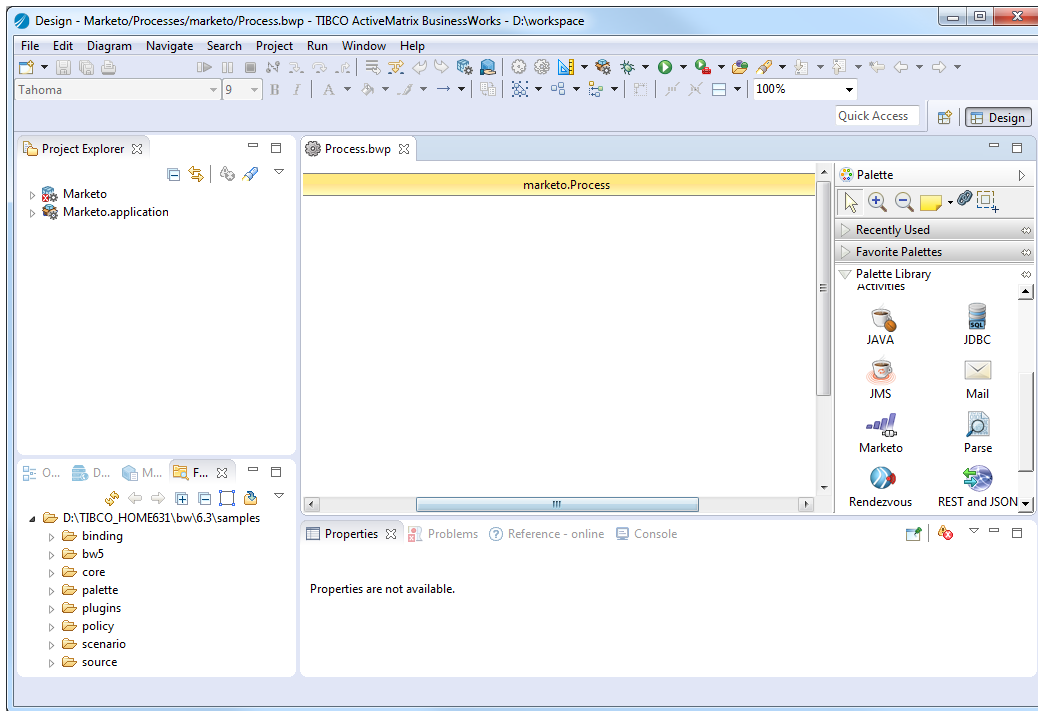
An Eclipse project is an application module configured for TIBCO ActiveMatrix BusinessWorks. An application module is the smallest unit of resources that is named, versioned, and packaged as part of an application.

### Procedure

1. Start TIBCO Business Studio by using one of the following ways:
  - Microsoft Windows: click **Start > All Programs > TIBCO > TIBCO\_HOME > TIBCO Business Studio version\_number > Studio for Designers**.
  - Mac OS and Linux: run the TIBCO Business Studio executable file located in the *TIBCO\_HOME/studio/version\_number/eclipse* directory.
2. From the menu, click **File > New > BusinessWorks Resources** to open the BusinessWorks Resource wizard.
3. In the "Select a wizard" dialog, click **BusinessWorks Application Module** and click **Next** to open the New BusinessWorks Application Module wizard.
4. In the Project dialog, configure the project that you want to create:
  - a) In the **Project name** field, enter a project name.
  - b) By default, the created project is located in the workspace current in use. If you do not want to use the default location for the project, clear the **Use default location** check box and click **Browse** to select a new location.
  - c) Use the default version of the application module, or enter a new version in the **Version** field.
  - d) Keep the **Create empty process** and **Create Application** check boxes selected to automatically create an empty process and an application when creating the project.
  - e) Select the **Use Java configuration** check box if you want to create a Java module.  
A Java module provides the Java tooling capabilities.
  - f) Click **Finish** to create the project.

### Result

The project with the specified settings is displayed in the Project Explorer view.



## Creating a Marketo Connection

After creating a project, you can add a Marketo connection shared resource and configure all the parameters to connect to a Marketo instance.

### Prerequisites

The Marketo connection shared resource is available at the **Resources** level. Ensure that you have created a project. For more information, see [Creating a Project](#).

### Procedure

1. Expand the created project in the Project Explorer view.
2. Right-click the **Resources** folder and click **New > Marketo Connection** to open the Marketo Connection wizard.
3. The resource folder, package name, and resource name of the Marketo connection are provided by default. If you do not want to use the default configurations, change them accordingly. Click **Finish** to open Marketo Connection Editor.



4. Configure the Marketo connection in Marketo Connection Editor.  
See [Marketo Connection](#) regarding the configuration fields.
5. Click **Test Connection** to validate the connection.
6. Click **Refresh/Apply** to save lead object fields in the Marketo connection resource file.

## Configuring a Process

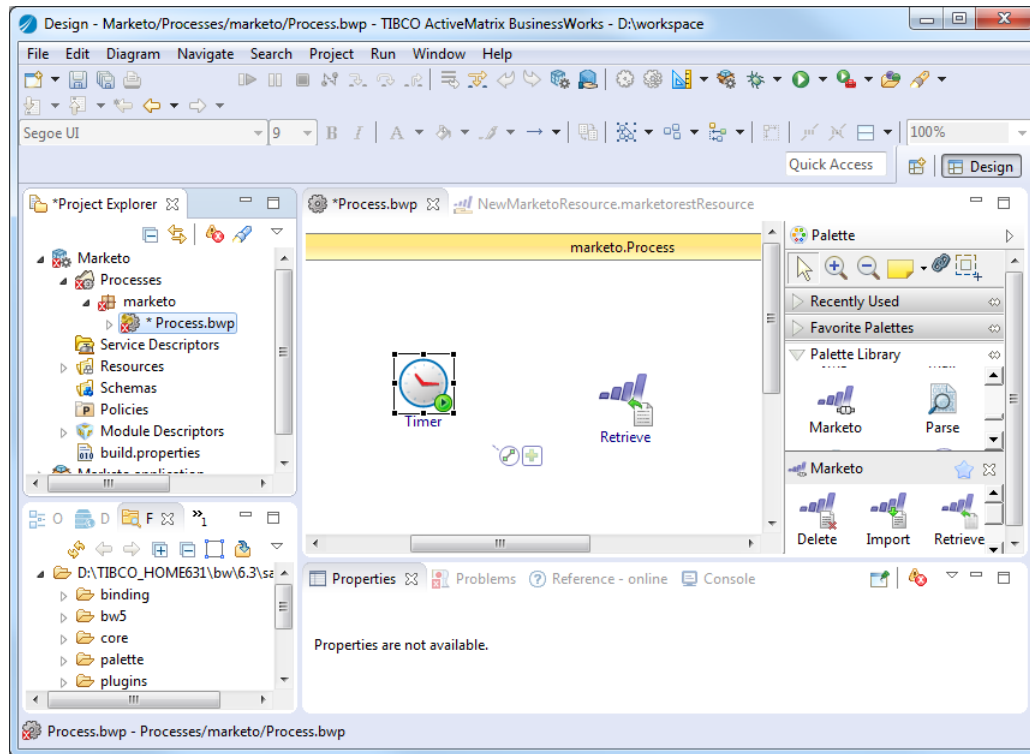
After creating a project, an empty process is created. You can add activities to the empty process to complete a task.


### Prerequisites

Ensure that you have created an empty process when [Creating a Project](#). If you have not created an empty process, see *TIBCO ActiveMatrix BusinessWorks Application Development* for more details about how to create a process.

### Procedure

1. In the Project Explorer view, click the created project and open the empty process from the **Processes** folder.
2. Select an activity from the Palette view and drop it in the Process editor.  
For example, select and drop the Timer activity from the General Activities palette and the Retrieve activity from the Marketo palette.



3. Drag the  icon to create a transition between the added activities.
4. Configure the added Marketo activities. For more information, see [Marketo Palette](#).



A Marketo connection is required when configuring the Marketo activities. See [Creating a Marketo Connection](#) for more details about how to create a Marketo connection.

5. Click **File > Save** to save the project.


## Testing a Process

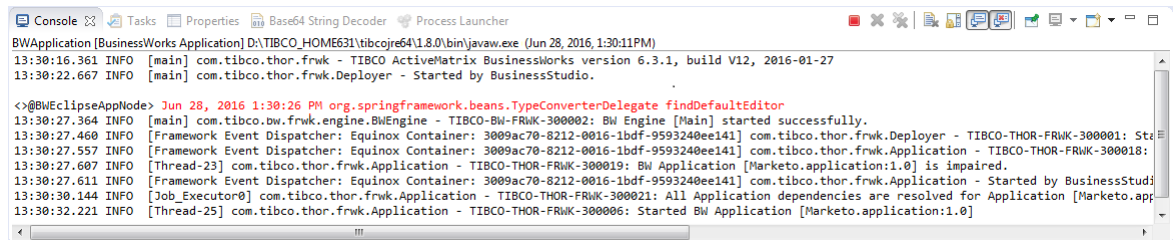
After configuring a process, you can test the process to check whether the process completes your task.

### Prerequisites

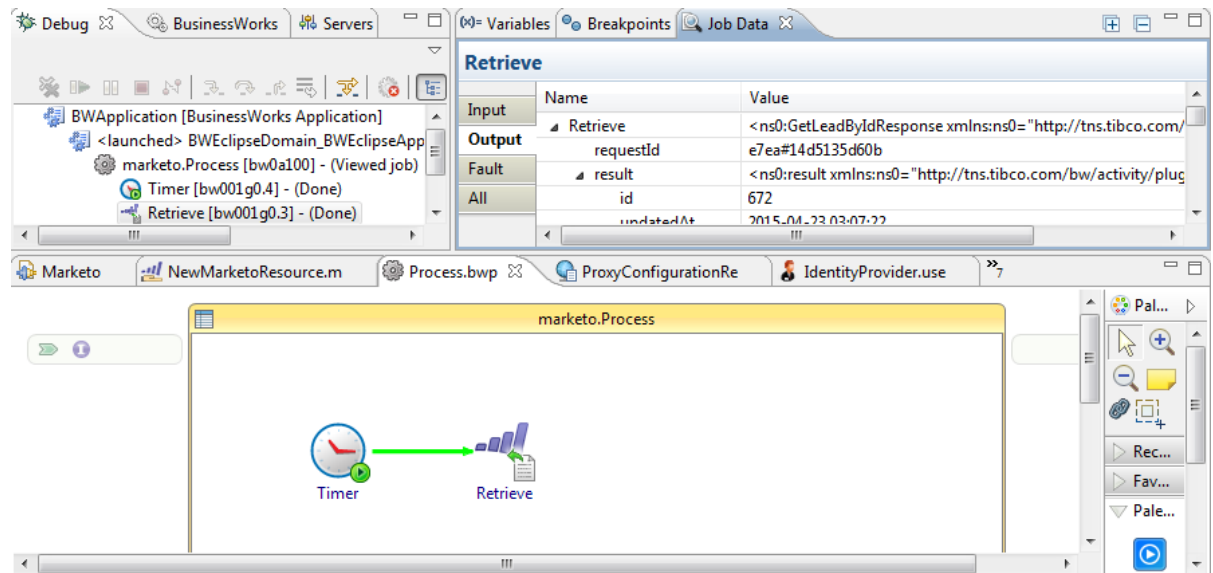
Ensure that you have configured a process. For more information, see [Configuring a Process](#).

### Procedure

1. On the toolbar, click **Debug**  > **Debug Configurations**.
2. Click **BusinessWorks Application > BWApplication** in the left panel.  
By default, all the applications in the current workspace are selected in the **Applications** tab. Ensure that only the application you want to debug is selected in the **Applications** tab in the right panel.
3. Click **Debug** to test the process in the selected application.  
TIBCO Business Studio changes to the Debug perspective. The debug information is displayed in the Console view.



4. In the **Debug** tab, expand the running process and click an activity.
5. In the upper-right corner, click the **Job Data** tab, and then click the **Output** tab to check the activity output.



## Deploying an Application

After testing, if the configured process works as expected, you can deploy the application that contains the configured process into a runtime environment, and then use the **bwadmin** utility to manage the deployed application.

Before deploying an application, you must generate an application archive, which is an enterprise archive (EAR) file that is created in TIBCO Business Studio. See [TIBCO Business Studio Overview](#) to get familiar with TIBCO Business Studio.

Deploying an application involves the following tasks:

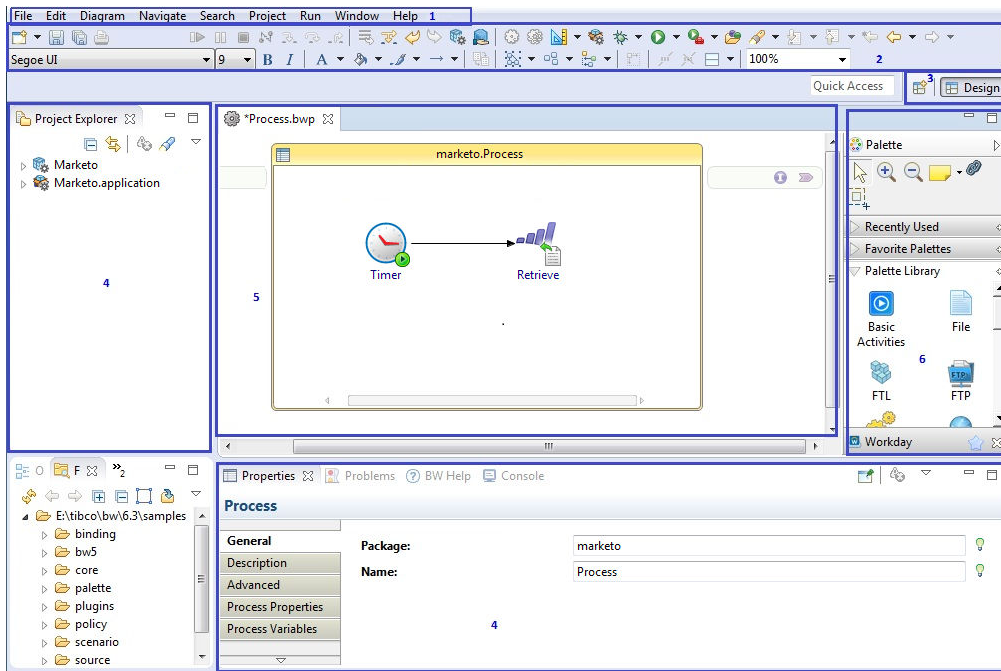
1. Uploading an application archive
2. Deploying an application archive
3. Starting an application

See *TIBCO ActiveMatrix BusinessWorks Administration* for more details about how to deploy an application.








## TIBCO Business Studio Overview

TIBCO Business Studio is an Eclipse-based integration development environment that is used to design, develop, and test ActiveMatrix BusinessWorks applications.

TIBCO Business Studio provides a workbench in which you can create, manage, and navigate resources in your workspace. A *workspace* is the central location on your machine where all data files are stored.



The workbench consists of:

1. **Menu:** contains menu items, such as File, Edit, Diagram, Navigate, Search, Project, Run, Window, and Help.
2. **Toolbar:** contains buttons for frequently used commands, such as New , Save , Enable/Disable Business Studio Capabilities , Create a new BusinessWorks Application Module , Create a new BusinessWorks Shared Module , Debug , Run , and so on.
3. **Perspective:** contains an initial set and layout of views that are required to perform a certain task. TIBCO Business Studio launches the Modeling perspective by default. You can change the perspective from the menu **Window > Open Perspective > Perspective\_Name**.
4. **View:** displays resources. For example, the Project Explorer view displays the ActiveMatrix BusinessWorks applications, modules, and other resources in your workspace, and the Properties view displays the properties for the selected resource. You can open a view from the menu **Window > Show View > View\_Name**.
5. **Editor:** provides a canvas to configure, edit, or browse a resource. Double-click a resource in a view to open the appropriate editor for the selected resource. For example, double-click an ActiveMatrix BusinessWorks process (`MortgageAppConsumer.bwp`) in the Project Explorer view to open the process in the editor.
6. **Palette:** contains a set of widgets and a palette library. A *palette* groups activities that perform similar tasks, and provides quick access to activities when configuring a process.

# Marketo Connection

The Marketo connection shared resource contains all the parameters required to connect to Marketo REST API. The Marketo connection shared resource is used by all the activities in the Marketo palette.

## General


In the General panel, you can specify the package that stores the Marketo connection shared resource and the shared resource name.

The following table lists the fields in the General panel:

Field	Module Property?	Description
<b>Package</b>	No	The name of the package where the shared resource is added.
<b>Name</b>	No	The name to be displayed as the label for the shared resource in the process.
<b>Description</b>	No	A short description for the shared resource.

## Marketo Connection Configuration

In the Marketo Connection Configuration panel, you can provide the information of the Marketo instance that the plug-in connects to. The Marketo Connection Configuration panel contains the following fields. For more information about REST API of your Marketo account, see the Marketo REST API documentation.

Field	Module Property?	Description
<b>REST Endpoint</b>	Yes	The endpoint to connect to Marketo REST API.
<b>Identity Service URL</b>	Yes	The identity service URL used to generate an access token.
<b>Client Id</b>	Yes	The client ID used to connect to Marketo REST API.
<b>Client Secret</b>	Yes	The client secret used to generate an access token.
<b>Test Connection</b>	No	You can use this button to test whether the specified configuration fields result in a valid connection to your Marketo instance.
<b>Refresh/Apply</b>	No	<p>You can use this button to fetch metadata from the URL specified in the <b>REST Endpoint</b> field. The metadata is saved in the <b>Schemas</b> folder.</p> <div>  <p>If you create or modify custom fields in Marketo, click <b>Refresh/Apply</b> to update metadata. The created or modified custom fields are displayed in the activities when this shared resource is used.</p> </div>




For more information about **Client Id** and **Client Secret**, see the Marketo documentation.

## Advanced

In the Advanced panel, you can configure a proxy.

The following table lists the fields in the Advanced panel:

Field	Module Property?	Description
<b>Retry Count</b>	Yes	Specifies the number of attempts that the plug-in connects to Marketo REST APIs when connecting to a Marketo instance. The default value is 0.
<b>Retry Interval</b>	Yes	Specifies an interval between HTTP connection retries. The default value is 3000 milliseconds.
<b>Proxy Configuration</b>	No	<p>Specifies a proxy HTTP server when HTTP requests are sent outside of a firewall. For more detailed information about Proxy Configuration, see <i>TIBCO ActiveMatrix BusinessWorks Bindings and Palettes Reference</i>, Section, "Shared Resources."</p> <div>  <div> The proxy server only supports the Retrieve, Upsert, and Delete activities. </div> </div>

# Marketo Palette

A palette groups the activities that connect the same external applications. A Marketo palette is added after installing TIBCO ActiveMatrix BusinessWorks Plug-in for Marketo.

The Marketo palette contains the following activities:

- [Import](#)
- [Upsert](#)
- [Retrieve](#)
- [Delete](#)

## Import

Use the Import activity to import leads.



You can use the [Retrieve](#) activity to check the status of the import operation. The Import activity does not support concurrency.

## General Tab

In the **General** tab, you can specify the required fields before you use the Import activity.

The following table lists the configurations in the **General** tab of the Import activity:

Field	Module Property?	Description
<b>Name</b>	No	The name to be displayed as the label for the activity in the process.
<b>Marketo Connection</b>	Yes	Click <b>Choose/Create Default Resource</b>  to select a Marketo shared resource.  If no matching Marketo shared resources are found, click <b>Create Shared Resource</b> to create one. See <a href="#">Creating a Marketo Connection</a> for more details.
<b>Timeout</b>	Yes	The amount of time in milliseconds before the HTTP connection is stopped if Marketo does not send any response.  The value in this field is set to 30000 by default.

## Description Tab

In the **Description** tab, you can enter a short description for the Import activity.

## Input and Output Tabs

In the **Input** tab, you can specify the fields that you require. In the **Output** tab, you can check the response information.

The following table lists the input elements in the **Input** tab of the Import activity:

Input Item	Data Type	Description
<b>format</b>	String	The supported file formats: csv (comma separated value), tsv (tab separated value), and ssv (semicolon separated value).
<b>lookupField</b>	String	This parameter functions as a lookup field for reduplication.
<b>listId</b>	String	If a list ID is not specified, this API operation creates a temporary static list. The workspace for the list is determined whether the <b>partitionName</b> is given or not.
<b>partitionName</b>	String	If a list ID is specified, this parameter verifies whether the user has access to the partition. If not specified, this API operation uses a primary partition of the list workspace.
<b>file</b>	String	A file path. Lead data is specified through multipart form data in the file.

The following table lists the output elements in the **Output** tab of the Import activity:

Output Item	Data Type	Description
<b>requestId</b>	String	The request ID returned from the Marketo server.
<b>success</b>	Boolean	If the request is successful, this value is <code>true</code> .
<b>result</b>	Complex	The fields that are displayed in the response. The following fields are displayed: <b>batchId</b> and <b>status</b> . The <b>batchId</b> field is used to get import status in the Retrieve activity.

## Fault Tab

In the **Fault** tab, you can find the error code and error message of the Import activity.

For more detailed information, see [Error Codes](#).

The following table lists the error schema elements in the **Fault** tab of the Import activity:

Error Schema Element	Data Type	Description
<b>msg</b>	String	The error messages that are returned by the plug-in.
<b>msgCode</b>	String	The error code that is returned by the plug-in.
<b>msg</b>	String	The error messages that are returned by the plug-in.
<b>msgCode</b>	String	The error code that is returned by the plug-in.
<b>msg</b>	String	The error messages that occur when establishing the web service connection between the plug-in and Marketo.



Error Schema Element	Data Type	Description
<b>msgCode</b>	String	The error code that is returned when establishing the web service connection between the plug-in and Marketo.


## Upsert


Use the Upsert activity to create or update leads, opportunity, opportunity role, company, and custom objects, add or remove leads from a list, and request or schedule campaigns.

### General Tab

In the **General** tab, you can specify the required fields before you use the Upsert activity.

The following table lists the configurations in the **General** tab of the Upsert activity:

Field	Module Property?	Description
<b>Name</b>	No	The name to be displayed as the label for the activity in the process.
<b>Marketo Connection</b>	Yes	Click <b>Choose/Create Default Resource</b>  to select a Marketo shared resource.  If no matching Marketo shared resources are found, click <b>Create Shared Resource</b> to create one. See <a href="#">Creating a Marketo Connection</a> for more details.
<b>Timeout</b>	Yes	The amount of time in milliseconds before the HTTP connection is stopped if Marketo does not send any response. .  The value in this field is set to 30000 by default.
<b>Resource</b>	No	A resource type to be upserted. The following resource types are available: <b>Leads, List, Campaigns, Opportunity, Opportunity Role, Company, and Custom Objects.</b>

Field	Module Property?	Description
<b>Endpoint</b>	No	<p>An endpoint to be upserted. The actual endpoints vary according to the following resources that you specified.</p> <div>  <p>This field is available only when you select the <b>Leads</b>, <b>List</b>, <b>Campaigns</b>, and <b>Custom Objects</b> resource.</p> </div> <p>If you select the <b>Leads</b> resource, the following endpoints are available:</p> <ul style="list-style-type: none"> <li>• <b>Multiple Leads:</b> you can create new leads within Marketo, or if the lead already exists, you can update it with the new values.</li> <li>• <b>Associate:</b> you can associate a lead with a cookie value. For example, you have the cookie value for an anonymous lead in Marketo, and you want to associate this anonymous lead data with a known lead.</li> <li>• <b>Merge:</b> you can merge leads.</li> </ul> <p>If you select the <b>List</b> resource, the following endpoints are available:</p> <ul style="list-style-type: none"> <li>• <b>Add Leads:</b> you can add one or multiple leads to a list.</li> <li>• <b>Remove Leads:</b> you can remove one or multiple leads from a list.</li> </ul> <p>If you select the <b>Campaigns</b> resource, the following endpoints are available:</p> <ul style="list-style-type: none"> <li>• <b>Schedule Campaign:</b> you can schedule a batch smart campaign to run either immediately or at a future date.</li> <li>• <b>Request Campaign:</b> you can run an existing Marketo lead in a Marketo smart campaign. The smart campaign must have a <b>Campaign is Requested</b> trigger with a Web Service API source.</li> </ul> <p>If you select the <b>Custom Objects</b> resource, the endpoints that you created are available.</p>

## Description Tab

In the **Description** tab, you can enter a short description for the Upsert activity.

## Field Selector Tab

In the **Field Selector** tab, you can select the fields that are used for updating leads. In the Upsert activity, the **Field Selector** tab only supports Upsert Multiple Leads API.

You can choose the fields that you require by selecting the check box on the left of the panel. Or you can choose all of the fields by clicking **Select All** in the upper-left corner of the panel.

When you add, update, or hide any custom fields in Field Management on a Marketo instance, click **Refresh/Apply** in Marketo Connection Shared Resource, and then you can sync the fields in the **Field Selector** tab by clicking any other tab and switching back to the **Field selector** tab. If the Marketo fields are not updated, retry it in 5-10 minutes.



Before using this tab, ensure that you have selected a Marketo shared resource.

## Input and Output Tabs

In the **Input** tab, you can specify the fields that you require. In the **Output** tab, you can check the response information.

The information in the **Input** and **Output** tabs varies depending on the resource and the endpoint that you select.

- If you select the **Leads** resource, see [Input and Output of Upsert Leads](#) for more details.
- If you select the **List** resource, see [Input and Output of Upsert List](#) for more details.
- If you select the **Campaigns** resource, see [Input and Output of Upsert Campaigns](#) for more details.
- If you select the **Opportunity** resource, see [Input and Output of Upsert Opportunity](#) for more details.
- If you select the **Opportunity Role** resource, see [Input and Output of Upsert Opportunity Role](#) for more details.
- If you select the **Company** resource, see [Input and Output of Upsert Company](#) for more details.
- If you select the **Custom Objects** resource, see [Input and Output of Upsert Custom Objects](#) for more details.

### Input and Output of Upsert Leads

When you use the **Leads** resource, the information in the **Input** and **Output** tabs varies depending on the endpoint that you select.

#### Input and Output for Multiple Leads

If you select the **Multiple Leads** endpoint, the **Input** tab contains the following elements:

Input Item	Data Type	Description
<b>action</b>	String	Possible values: <code>createOnly</code> , <code>updateOnly</code> , <code>createOrUpdate</code> (default request), and <code>createDuplicate</code> .
<b>lookupField</b>	String	If specified, the plug-in uses this attribute to find the duplicate. If the lookup field is not specified, the email is used to find the duplicate. If you used other fields, you can select the fields in <b>Field Selector</b> tab and it is shown under the input element, and you can input values.
<b>input</b>	Complex	An array of lead records that you create or update. The following fields are displayed: <b>email</b> , <b>firstName</b> , and <b>postalCode</b> . If the fields in the <b>Field Selector</b> tab are selected, these fields are added to the input fields.
<b>asyncProcessing</b>	Boolean	The post processing when calling the creating or updating leads. The default value is <code>false</code> .
<b>partitionName</b>	String	A lead partition name. If you set up a lead partition in an instance, specify a partition name when you do an upsert call.

The **Output** tab contains the following elements:

Output Item	Data Type	Description
<b>requestId</b>	String	The request ID returned from the Marketo server.
<b>result</b>	Complex	The fields that are displayed in the response. The following fields are displayed: <b>id</b> , <b>status</b> , and <b>reasons</b> .
<b>success</b>	Boolean	If the request is successful, this value is <code>true</code> .

### Input and Output for Associate

If you select the **Associate** endpoint, the **Input** tab contains the following elements:

Input Item	Data Type	Description
<b>id</b>	Integer	A known lead ID.
<b>cookie</b>	String	The cookie value of a lead.

The **Output** tab contains the following elements :

Output Item	Data Type	Description
<b>requestId</b>	String	The request ID returned from the Marketo server.
<b>success</b>	Boolean	If the request is successful, this value is <code>true</code> .
<b>errors</b>	Complex	The error codes and messages for the activity.

### Input and Output for Merge Leads

If you select the **Merge** endpoint, the **Input** tab contains the following elements:

Input Item	Data Type	Description
<b>id</b>	Integer	A winning lead ID.
<b>leadIds</b>	Complex	A separated list of losing lead IDs.
<b>mergeInCRM</b>	Boolean	Set <code>true</code> to merge in CRM.

The **Output** tab contains the following elements:

Output Item	Data Type	Description
<b>requestId</b>	String	The request ID returned from the Marketo server.
<b>success</b>	Boolean	If the request is successful, this value is <code>true</code> .
<b>errors</b>	Complex	The error codes and messages for the activity.

## Input and Output of Upsert List

When you use the **List** resource, the information in the **Input** and **Output** tabs varies depending on the endpoint that you select.

### Input and Output for Add Leads

If you select the **Add Leads** endpoint, the **Input** tab contains the following elements:

Input Item	Data Type	Description
<b>listId</b>	String	The ID of the list.
<b>Ids</b>	Complex	The IDs of the leads to be added to the list. Multiple IDs are supported.

The **Output** tab contains the following elements:

Output Item	Data Type	Description
<b>requestId</b>	String	The request ID returned from the Marketo server.
<b>result</b>	Complex	The fields that are displayed in the response. The following fields are displayed: <b>id</b> , <b>status</b> , and <b>reasons</b> .
<b>success</b>	Boolean	If the request is successful, this value is <code>true</code> .

### Input and Output for Remove Leads

If you select the **Remove Leads** endpoint, the **Input** tab contains the following elements:

Input Item	Data Type	Description
<b>listId</b>	String	The ID of the list.
<b>Ids</b>	Complex	The IDs of the leads to be removed from the list. Multiple IDs are supported.

The **Output** tab contains the following elements:


Output Item	Data Type	Description
<b>requestId</b>	String	The request ID returned from the Marketo server.
<b>result</b>	Complex	The fields that are displayed in the response. The following fields are displayed: <b>id</b> , <b>status</b> , and <b>reasons</b> .
<b>success</b>	Boolean	If the request is successful, this value is <code>true</code> .

## Input and Output of Upsert Campaigns

When you use the **Campaigns** resource, the information in the **Input** and **Output** tabs varies depending on the endpoint that you select.

### Input and Output for Schedule Campaign

If you select the **Schedule Campaign** endpoint, the **Input** tab contains the following elements:

Input Item	Data Type	Description
<b>id</b>	String	A Marketo ID of the campaign that you want to run.
<b>runAt</b>	DateTime	The time to run the scheduled campaign. If not provided, schedule it to run in five minutes.
<b>cloneToProgramName</b>	String	When this parameter is present, the parent program of the campaign is cloned and the newly created campaign is scheduled. This parameter specifies the desired name for the resulting program.  Only 20 calls per day are used when this attribute is available.
<b>tokens</b>	Complex	An array of token names and token value pairs.

The **Output** tab contains the following elements:

Output Item	Data Type	Description
<b>requestId</b>	String	The request ID returned from the Marketo server.
<b>result</b>	Complex	The fields that are displayed in the response. The following fields are displayed: <b>id</b> , <b>status</b> , and <b>reasons</b> .
<b>success</b>	Boolean	If the request is successful, this value is <code>true</code> .

### Input and Output for Request Campaign

If you select the **Request Campaign** endpoint, the **Input** tab contains the following elements:

Input Item	Data Type	Description
<b>id</b>	String	A Marketo ID of the campaign that you want to run.
<b>leads</b>	Complex	A list of lead IDs of an integer data type.
<b>tokens</b>	Complex	An array of token names and token value pairs.


The **Output** tab contains the following elements:

Output item	Data Type	Description
<b>requestId</b>	String	The request ID returned from the Marketo server.
<b>result</b>	Complex	The fields that are displayed in the response. The following fields are displayed: <b>id</b> , <b>status</b> , and <b>reasons</b> .
<b>success</b>	Boolean	If the request is successful, this value is true.

### Input and Output of Upsert Opportunity

When you use the **Opportunity** resource, the information in the **Input** and **Output** tabs varies depending on the endpoint that you select.

The following table lists the input elements in the **Input** tab of the Opportunity resource:

Input Item	Data Type	Description
<b>action</b>	String	An action to be performed. Possible values: <code>createOnly</code> , <code>updateOnly</code> , <code>createOrUpdate</code> (default request), and <code>createDuplicate</code> .
<b>dedupeBy</b>	String	The deduplication method. Possible values: <code>idField</code> and <code>dedupeFields</code> (default).  This field is valid only when you use the <code>updateOnly</code> action.
<b>object</b>	Complex	An array of opportunity records that you create or update. If the fields in the <b>Field Selector</b> tab are selected, these fields are added to the <b>object</b> node.


The following table lists the output elements in the **Output** tab of the Opportunity resource:

Output Item	Data Type	Description
<b>requestId</b>	String	The request ID returned from the Marketo server.
<b>result</b>	Complex	The fields that are displayed in the response. The following fields are displayed: <b>seq</b> , <b>marketoGUID</b> , <b>status</b> , and <b>reasons</b> .
<b>success</b>	Boolean	If the request is successful, this value is true.
<b>errors</b>	Complex	The error codes and messages for the activity.

### Input and Output of Upsert Opportunity Role

When you use the **Opportunity Role** resource, the information in the **Input** and **Output** tabs varies depending on the endpoint that you select.

The following table lists the input elements in the **Input** tab of the Opportunity Role resource:

Input Item	Data Type	Description
<b>action</b>	String	An action to be performed. Possible values: <code>createOnly</code> , <code>updateOnly</code> , <code>createOrUpdate</code> (default request), and <code>createDuplicate</code> .
<b>dedupeBy</b>	String	<div> The deduplication method. Possible values: <code>idField</code> and <code>dedupeFields</code> (default). <div>  This field is valid only when you use the <code>updateOnly</code> action. </div> </div>
<b>object</b>	Complex	An array of lead records that you create or update. If the fields in the <b>Field Selector</b> tab are selected, these fields are added to the <b>object</b> node.


The following table lists the output elements in the **Output** tab of the Opportunity Role resource:

Output Item	Data Type	Description
<b>requestId</b>	String	The request ID returned from the Marketo server.
<b>result</b>	Complex	The fields that are displayed in the response. The following fields are displayed: <b>seq</b> , <b>marketoGUID</b> , <b>status</b> , and <b>reasons</b> .
<b>success</b>	Boolean	If the request is successful, this value is <code>true</code> .
<b>errors</b>	Complex	The error codes and messages for the activity.

### Input and Output of Upsert Company

When you use the **Company** resource, the information in the **Input** and **Output** tabs varies depending on the endpoint that you select.

The following table lists the input elements in the **Input** tab of the Company resource:

Input Item	Data Type	Description
<b>action</b>	String	An action to be performed. Possible values: <code>createOnly</code> , <code>updateOnly</code> , <code>createOrUpdate</code> (default request), and <code>createDuplicate</code> .
<b>dedupeBy</b>	String	<div> The deduplication method. Possible values: <code>idField</code> and <code>dedupeFields</code> (default). <div>  This field is valid only when you use the <code>updateOnly</code> action. </div> </div>
<b>object</b>	Complex	An array of lead records that you create or update. If the fields in the <b>Field Selector</b> tab are selected, these fields are added to the <b>object</b> node.

The following table lists the output elements in the **Output** tab of the Company resource:




Output Item	Data Type	Description
<b>requestId</b>	String	The request ID returned from the Marketo server.
<b>result</b>	Complex	The fields that are displayed in the response. The following fields are displayed: <b>seq</b> , <b>id</b> , <b>status</b> , and <b>reasons</b> .
<b>success</b>	Boolean	If the request is successful, this value is <code>true</code> .
<b>errors</b>	Complex	The error codes and messages for the activity.

### Input and Output of Upsert Custom Objects

When you use the **Custom Objects** resource, the information in the **Input** and **Output** tabs varies depending on the endpoint that you select.

The following table lists the input elements in the **Input** tab of the Custom Objects resource:

Input Item	Data Type	Description
<b>action</b>	String	An action to be performed. Possible values: <code>createOnly</code> , <code>updateOnly</code> , <code>createOrUpdate</code> (default request), and <code>createDuplicate</code> .
<b>dedupeBy</b>	String	The deduplication method. Possible values: <code>idField</code> and <code>dedupeFields</code> (default).  This field is valid only when you use the <code>updateOnly</code> action.
<b>object</b>	Complex	An array of custom object records that you create or update. If the fields in the <b>Field Selector</b> tab are selected, these fields are added to the <b>object</b> node.

The following table lists the output elements in the **Output** tab of the Custom Objects resource:

Output Item	Data Type	Description
<b>requestId</b>	String	The request ID returned from the Marketo server.
<b>result</b>	Complex	The fields that are displayed in the response. The following fields are displayed: <b>seq</b> , <b>status</b> , <b>marketoGUID</b> , and <b>reasons</b> .
<b>success</b>	Boolean	If the request is successful, this value is <code>true</code> .
<b>errors</b>	Complex	The error codes and messages for the activity.

### Fault Tab

In the **Fault** tab, you can find the error code and error message of the Upsert activity.

For more detailed information, see [Error Codes](#).

The following table lists the error schema elements in the **Fault** tab of the Upsert activity:

Error Schema Element	Data Type	Description
<b>msg</b>	String	The error messages that are returned by the plug-in.
<b>msgCode</b>	String	The error code that is returned by the plug-in.
<b>msg</b>	String	The error messages that are returned by the plug-in.
<b>msgCode</b>	String	The error code that is returned by the plug-in.
<b>msg</b>	String	The error messages that occur when establishing the web service connection between the plug-in and Marketo.
<b>msgCode</b>	String	The error code that is returned when establishing the web service connection between the plug-in and Marketo.


## Retrieve


Use the Retrieve activity to retrieve leads, list, campaigns, import status, opportunity, opportunity role, company, and custom objects.

### General Tab

In the **General** tab, you can specify the required fields before you use the Retrieve activity.

The following table lists the configurations in the **General** tab of the Retrieve activity:

Field	Module Property?	Description
<b>Name</b>	No	The name to be displayed as the label for the activity in the process.
<b>Marketo Connection</b>	Yes	Click <b>Choose/Create Default Resource</b>  to select a Marketo shared resource.  If no matching Marketo shared resources are found, click <b>Create Shared Resource</b> to create one. See <a href="#">Creating a Marketo Connection</a> for more details.
<b>Timeout</b>	Yes	The amount of time in milliseconds before you can execute the retrieve operation.  The value in this field is set to 30000 by default.
<b>Resource</b>	No	The resource types to be retrieved. The following resource types are available: <b>Leads, List, Campaigns, Import Status, Opportunity, Opportunity Role, Company, and Custom Objects.</b>

Field	Module Property?	Description
<b>Endpoint</b>	No	<p>An endpoint to be retrieved. The actual endpoint varies according to the following resources that you specified. For more detailed information, see the Marketo documentation.</p> <div>  <p>This field is available only when you select the <b>Leads, List, Campaigns, Import Status, and Custom Objects</b> resource.</p> </div> <p>If you select the <b>Leads</b> resource, the following endpoints are available:</p> <ul style="list-style-type: none"> <li>• <b>Lead by Id:</b> you can retrieve a single lead record from Marketo, with fields requested for a lead identified by the lead ID.</li> <li>• <b>Multiple Leads:</b> you can retrieve the lead records from Marketo for a group of leads that match the filter criteria.</li> <li>• <b>Multiple Leads by List:</b> you can retrieve multiple leads from a given list ID.</li> <li>• <b>Lead Activity:</b> you can retrieve activities for the requested activity types, such as form fill out or lead creation.</li> <li>• <b>Lead Changes:</b> you can retrieve change data value for leads.</li> </ul> <p>If you select the <b>List</b> resource, the following endpoints are available:</p> <ul style="list-style-type: none"> <li>• <b>List by Id:</b> you can retrieve a single list using the list ID.</li> <li>• <b>Multiple Lists:</b> you can retrieve multiple lists through some filters. For example, IDs, names, programNames, and workspaceNames.</li> <li>• <b>Member of List:</b> you can check whether leads are a member of list.</li> </ul> <p>If you select the <b>Campaigns</b> resource, the following endpoints are available:</p> <ul style="list-style-type: none"> <li>• <b>Campaign by Id:</b> you can retrieve a campaign using a campaign ID.</li> <li>• <b>Multiple Campaigns:</b> you can retrieve multiple campaigns.</li> </ul> <p>If you select the <b>Import Status</b> resource, the following endpoints are available:</p> <ul style="list-style-type: none"> <li>• <b>Status:</b> you can check the status of lead operation from an import lead API call.</li> <li>• <b>Warning File:</b> you can retrieve the warning file from an import lead API call.</li> <li>• <b>Failure File:</b> you can retrieve the failure file from an import lead API call.</li> </ul>

Field	Module Property?	Description
		If you select the <b>Custom Objects</b> resource, the endpoints that you created are available.

## Description Tab

In the **Description** tab, you can enter a short description for the Retrieve activity.

## Field Selector Tab

In the **Field Selector** tab, you can retrieve the leads by selecting the fields that you want. In the Retrieve activity, the **Field Selector** tab only supports Retrieve Lead by Id, Retrieve Multiple Leads, Retrieve Multiple Leads by List, and Retrieve Lead Changes APIs.

You can choose the fields that you require by selecting the check box on the left of the panel. Or you can choose all of the fields by clicking **Select All** in the upper-left corner of the panel.

When you add, update, or hide any custom fields in Field Management on a Marketo instance, click **Refresh/Apply** in Marketo Connection Shared Resource, and then you can sync the fields in the **Field Selector** tab by clicking any other tab and switching back to the **Field selector** tab. If the Marketo fields are not updated, retry it in 5-10 minutes.



Before using this tab, ensure that you have selected a Marketo shared resource.

## Input and Output Tabs

In the **Input** tab, you can specify the fields that you require. In the **Output** tab, you can check the response information.

The information in the **Input** and **Output** tabs varies depending on the resource and the endpoint that you select.

- If you select the **Leads** resource, see [Input and Output of Retrieve Leads](#) for more details.
- If you select the **List** resource, see [Input and Output of Retrieve List](#) for more details.
- If you select the **Campaigns** resource, see [Input and Output of Retrieve Campaigns](#) for more details.
- If you select the **Import Status** resource, see [Input and Output of Retrieve Import Status](#) for more details.
- If you select the **Opportunity** resource, see [Input and Output of Retrieve Opportunity](#) for more details.
- If you select the **Opportunity Role** resource, see [Input and Output of Retrieve Opportunity Role](#) for more details.
- If you select the **Company** resource, see [Input and Output of Retrieve Company](#) for more details.
- If you select the **Custom Objects** resource, see [Input and Output of Retrieve Custom Objects](#) for more details.

## Input and Output of Retrieve Leads

When you use the **Leads** resource, the information in the **Input** and **Output** tabs varies depending on the endpoint that you select.

### Input and Output for Lead by Id

If you select the **Lead by Id** endpoint, the **Input** tab contains the following element:



Input Item	Data Type	Description
<b>id</b>	Integer	The ID of the lead.

The **Output** tab contains the following elements:

Output Item	Data Type	Description
<b>requestId</b>	String	The request ID returned from the Marketo server.
<b>result</b>	Complex	The fields that are displayed in the response. If no fields are selected in the <b>Field Selector</b> tab, the following fields are displayed: <b>id</b> , <b>updatedAt</b> , <b>lastName</b> , <b>email</b> , <b>createdAt</b> , and <b>firstName</b> . If you select a field in the <b>Field Selector</b> tab, the field corresponding to this field is displayed in the <b>Output</b> tab under the fields element.
<b>success</b>	Boolean	If the request is successful, this value is true.

### Input and Output for Multiple Leads

If you select the **Multiple Leads** endpoint, the **Input** tab contains the following elements:

Input Item	Data Type	Description
<b>filterType</b>	String	<p>The filter types supported by Marketo. For example, <b>Id</b>, <b>cookie</b>, <b>email</b>, <b>twitterId</b> and so on.</p> <div>  <p>If you use a field such as <b>filterValues</b>, ensure that the field is displayed in the response. If the field is not displayed, you have to click the <b>Field Selector</b> tab and select the field.</p> </div>
<b>filterValues</b>	Complex	A separated list of filter values.
<b>batchSize</b>	Integer	The maximum number of records to be returned. The default maximum number of the batch size is 300.
<b>nextPageToken</b>	String	<p>This parameter is used to paginate through large result sets. This value can be used to access next set of records.</p> <div>  <p>The value of the next page token is obtained from the output of the previous activity.</p> </div>


The **Output** tab contains the following elements:

Output Item	Data Type	Description
<b>requestId</b>	String	The request ID returned from the Marketo server.

Output Item	Data Type	Description
<b>result</b>	Complex	The fields that are displayed in the response. If no fields are selected in the <b>Field Selector</b> tab, the following fields are returned: <b>id</b> , <b>email</b> , <b>updatedAt</b> , <b>createdAt</b> , <b>lastName</b> , <b>firstName</b> , <b>cookies</b> , <b>twitterId</b> , <b>facebookId</b> , <b>linkedInId</b> , <b>sfdcAccountId</b> , <b>sfdcContactId</b> , <b>sfdcLeadId</b> , and <b>sfdcLeadOwnerId</b> .  If you select a field in the <b>Field Selector</b> tab, the field corresponding to this field is displayed in the <b>Output</b> tab.
<b>success</b>	Boolean	If the request is successful, this value is <code>true</code> .
<b>nextPageToken</b>	String	This parameter is returned by an API call. This value can be used to access next set of records.

### Input and Output for Multiple Leads by List

If you select the **Multiple Leads by List** endpoint, the **Input** tab contains the following elements:



Input Item	Data Type	Description
<b>listId</b>	String	The ID of the list that you want to retrieve.
<b>batchSize</b>	Integer	The maximum number of records to be returned. The default maximum number of the batch size is 300.
<b>nextPageToken</b>	String	This parameter is used to paginate through large result sets. This value can be used to access next set of records.   The value of the next page token is obtained from the output of the previous activity.

The **Output** tab contains the following elements:

Output Item	Data Type	Description
<b>requestId</b>	String	The request ID returned from the Marketo server.
<b>result</b>	Complex	The fields that are displayed in the response. If no fields are selected in the <b>Field Selector</b> tab, the following fields are returned: <b>id</b> , <b>email</b> , <b>updatedAt</b> , <b>createdAt</b> , <b>lastName</b> , and <b>firstName</b> . If you select a field in the <b>Field Selector</b> tab, the field corresponding to this field is displayed in the <b>Output</b> tab.
<b>success</b>	Boolean	If the request is successful, this value is <code>true</code> .
<b>nextPageToken</b>	String	This parameter is returned by an API call. This value can be used to access next set of records.

### Input and Output for Lead Activity

If you select the **Lead Activity** endpoint, the **Input** tab contains the following elements:



Input Item	Data Type	Description
<b>activityTypeIds</b>	Complex	The ID of the activity type that you want to request. The default maximum number of the multiple type is 10.
<b>nextPageToken</b>	String	<p>This parameter is used to paginate through large result sets. This value can be used to access next set of records.</p> <p> The value of the next page token is obtained from the output of the previous activity.</p>
<b>batchSize</b>	Integer	The maximum number of records to be returned. The default maximum number of the batch size is 300.
<b>listId</b>	String	This parameter serves as a filter, and returns leads that belong to a specified list activities for leads in the given list.
<b>sinceDatetime</b>	DateTime	<p>This parameter is used to get the lead activities since the date time is specified. It is usually used in the first call.</p> <p> For all the Datetime type in the plug-in, it supports XSD Datetime type format. For example, 2002-05-30T09:00:00, 2014-10-06T13:22:17-08:00. It does not support 2014-10-06T13:22-07:00, 2014-10-06.</p>

The **Output** tab contains the following elements:

Output Item	Data Type	Description
<b>requestId</b>	String	The request ID returned from the Marketo server.
<b>result</b>	Complex	The fields that are displayed in the response. The following fields are displayed: <b>id</b> , <b>leadId</b> , <b>activityDate</b> , <b>activityTypeId</b> , <b>primaryAttributeValueId</b> , <b>primaryAttributeValue</b> , and <b>attributes</b> .
<b>success</b>	Boolean	If the request is successful, this value is <b>true</b> .
<b>nextPageToken</b>	String	This parameter is returned by an API call. This value can be used to access next set of records.
<b>moreResult</b>	Boolean	If this value is <b>true</b> , more results are available.

### Input and Output for Lead Changes

If you select the **Lead Changes** endpoint, the **Input** tab contains the following elements:

Input Item	Data Type	Description
<b>nextPageToken</b>	String	<p>This parameter is used to paginate through large result sets. This value can be used to access next set of records.</p> <p> The value of the next page token is obtained from the output of the previous activity.</p>
<b>batchSize</b>	Integer	The maximum number of records to be returned. The default maximum number of the batch size is 300.
<b>listId</b>	String	This parameter serves as a filter, and returns leads that belong to a specified list activities for leads in the given list.
<b>sinceDatetime</b>	DateTime	<p>This parameter is used to get the lead activities since the date time is specified. It is usually used in the first call.</p> <p> For all the Datetime type in the plug-in, it supports XSD Datetime type format. For example, 2002-05-30T09:00:00, 2014-10-06T13:22:17-08:00. It does not support 2014-10-06T13:22-07:00, 2014-10-06.</p>

The **Output** tab contains the following elements:

Output Item	Data Type	Description
<b>requestId</b>	String	The request ID returned from the Marketo server.
<b>result</b>	Complex	The fields that are displayed in the response and the following fields are displayed: <b>id</b> , <b>leadId</b> , <b>activityDate</b> , <b>activityTypeId</b> , <b>attributes</b> , and <b>fields</b> .
<b>success</b>	Boolean	If the request is successful, this value is <code>true</code> .
<b>nextPageToken</b>	String	This parameter is returned by an API call. This value can be used to access next set of records.
<b>moreResult</b>	Boolean	If this value is <code>true</code> , more results are available.

### Input and Output of Retrieve List

When you use the **List** resource, the information in the **Input** and **Output** tabs varies depending on the endpoint that you select.

#### Input and Output for List by Id

If you select the **List by Id** endpoint, the **Input** tab contains the following element:

Input Item	Data Type	Description
<b>id</b>	String	The ID of the list that you retrieve.


The **Output** tab contains the following elements:



Output Item	Data Type	Description
<b>requestId</b>	String	The request ID returned from the Marketo server.
<b>result</b>	Complex	The fields that are displayed in the response. The following fields are displayed: <b>id</b> , <b>name</b> , <b>description</b> , <b>programName</b> , <b>workspaceName</b> , <b>createdAt</b> , and <b>updatedAt</b> .
<b>success</b>	Boolean	If the request is successful, this value is <code>true</code> .

### Input and Output for Multiple Lists

If you select the **Multiple Lists** endpoint, the **Input** tab contains the following elements:

Input Item	Data Type	Description
<b>ids</b>	Complex	The IDs of the lists. Multiple list IDs are supported.
<b>names</b>	Complex	The names of the lists. Multiple list names are supported.
<b>programNames</b>	Complex	The program names of the lists. Multiple program names are supported.
<b>workspaceNames</b>	Complex	The workspace names of the lists. Multiple workspace names are supported.
<b>batchSize</b>	Integer	The maximum number of records to be returned. The default maximum number of the batch size is 300.
<b>nextPageToken</b>	String	<p>This parameter is used to paginate through large result sets. This value can be used to access next set of records.</p> <div>  <p>The value of the next page token is obtained from the output of the previous activity.</p> </div>

The **Output** tab contains the following elements:

Output Item	Data Type	Description
<b>requestId</b>	String	The request ID returned from the Marketo server.
<b>result</b>	Complex	The fields that are displayed in the response. The following fields are displayed: <b>id</b> , <b>name</b> , <b>description</b> , <b>programName</b> , <b>workspaceName</b> , <b>createdAt</b> , and <b>updatedAt</b> .
<b>success</b>	Boolean	If the request is successful, this value is <code>true</code> .
<b>nextPageToken</b>	String	This parameter is returned by an API call. This value can be used to access next set of records.

### Input and Output for Member of List

If you select the **Member of List** endpoint, the **Input** tab contains the following elements:

Input Item	Data Type	Description
<b>listid</b>	String	The ID of the list.
<b>ids</b>	Complex	The IDs of the leads.

The **Output** tab contains the following elements:

Output Item	Data Type	Description
<b>requestId</b>	String	The request ID returned from the Marketo server.
<b>result</b>	Complex	The fields that are displayed in the response. The following fields are displayed: <b>id</b> , <b>status</b> , and <b>reasons</b> .
<b>success</b>	Boolean	If the request is successful, this value is <code>true</code> .

## Input and Output of Retrieve Campaigns

When you use the **Campaigns** resource, the information in the **Input** and **Output** tabs varies depending on the endpoint that you select.

### Input and Output for Campaign by Id

If you select the **Campaign by Id** endpoint, the **Input** tab contains the following element:

Input Item	Data Type	Description
<b>id</b>	String	The ID of the campaign.


The **Output** tab contains the following elements:

Output Item	Data Type	Description
<b>requestId</b>	String	The request ID returned from the Marketo server.
<b>result</b>	Complex	The fields that are displayed in the response. The following fields are displayed: <b>id</b> , <b>name</b> , <b>description</b> , <b>programName</b> , <b>createdAt</b> , <b>updatedAt</b> , <b>type</b> , <b>workspaceName</b> , and <b>active</b> .
<b>success</b>	Boolean	If the request is successful, this value is <code>true</code> .

### Input and Output for Multiple Campaigns

If you select the **Multiple Campaigns** endpoint, the **Input** tab contains the following elements:

Input Item	Data Type	Description
<b>ids</b>	Complex	The ID of the campaign. Multiple campaign IDs are supported.
<b>names</b>	Complex	The name of the campaign. Multiple campaign names are supported.

Input Item	Data Type	Description
<b>programNames</b>	Complex	The program name of the campaign. Multiple program names are supported.
<b>workspaceNames</b>	Complex	The workspace name of the campaign. Multiple workspace names are supported.
<b>batchSize</b>	Integer	The maximum number of records to be returned in a single call. The default maximum number of the batch size is 300.
<b>nextPageToken</b>	String	<p>This parameter is used to paginate through large result sets. This value can be used to access next set of records.</p> <div>  <p>The value of the next page token is obtained from the output of the previous activity.</p> </div>

The **Output** tab contains the following elements:

Output Item	Data Type	Description
<b>requestId</b>	String	The request ID returned from the Marketo server.
<b>result</b>	Complex	The fields that are displayed in the response. The following fields are displayed: <b>id</b> , <b>name</b> , <b>description</b> , <b>programName</b> , <b>createdAt</b> , <b>updatedAt</b> , <b>type</b> , <b>workspaceName</b> , and <b>active</b> .
<b>success</b>	Boolean	If the request is successful, this value is <b>true</b> .
<b>nextPageToken</b>	String	This token is returned by an API call. This value can be used to access next set of records.

## Input and Output of Retrieve Import Status

When you use the **Import Status** resource, the information in the **Input** and **Output** tabs varies depending on the endpoint that you select.

### Input and Output for Status

If you select the **Status** endpoint, the **Input** tab contains the following element:

Input Item	Data Type	Description
<b>id</b>	String	The batch ID received from the import lead call.

The **Output** tab contains the following elements:

Output Item	Data Type	Description
<b>requestId</b>	String	The request ID returned from the Marketo server.

Output Item	Data Type	Description
<b>result</b>	Complex	The fields that are displayed in the response. The following fields are displayed: <b>batchId</b> , <b>status</b> , <b>numOfLeadsProcessed</b> , <b>numOfRowsFailed</b> , <b>numOfRowsWithWarning</b> , and <b>message</b> .
<b>success</b>	Boolean	If the request is successful, this value is <code>true</code> .

### Input and Output for Warning File

If you select the **Warning File** endpoint, the **Input** tab contains the following elements:

Input Item	Data Type	Description
<b>id</b>	String	The batch ID received from an import lead call.
<b>fileName</b>	String	The path of the returned file.

The **Output** tab contains the following element:

Output Item	Data Type	Description
<b>fileName</b>	String	The path of the returned file.

### Input and Output for Failure File

If you select the **Failure File** endpoint, the **Input** tab contains the following elements:

Input Item	Data Type	Description
<b>id</b>	String	The batch ID returned from the import lead call.
<b>fileName</b>	String	The path of the returned file.





The **Output** tab contains the following element:

Output Item	Data Type	Description
<b>fileName</b>	String	The path of the returned file.

### Input and Output of Retrieve Opportunity

When you use the **Opportunity** resource, the information in the **Input** and **Output** tabs varies depending on the endpoint that you select.

The following table lists the input elements in the **Input** tab of the Opportunity resource:

Input Item	Data Type	Description
<b>filterType</b>	String	<p>The filter types supported by Marketo. Possible values: <code>idField</code>, <code>dedupeFields</code>, <code>externalCompanyId</code>, and <code>externalSalesPersonId</code>.</p> <p> You can only use the <b>filterValues</b> field for <code>idField</code>.</p> <p> You can only use the corresponding fields in the <b>Object</b> node for <code>dedupeFields</code>.</p>
<b>filterValues</b>	String	<p>A separated list of filter values.</p> <p> You cannot specify the values of multiple fields in this field.</p>
<b>Object</b>	Complex	<p>The multiple fields for filtering. If no fields are selected in the Field Selector tab, the following fields are displayed: <b>externalOpportunityId</b>, <b>amount</b>, <b>closeDate</b>, <b>description</b>, <b>expectedRevenue</b>, <b>externalCompanyId</b>, <b>externalCreatedDate</b>, <b>externalSalesPersonId</b>, <b>fiscal</b>, <b>fiscalQuarter</b>, <b>fiscalYear</b>, <b>forecastCategoryName</b>, <b>isClosed</b>, <b>isWon</b>, <b>lastActivityDate</b>, <b>leadSource</b>, <b>name</b>, <b>nextStep</b>, <b>probability</b>, <b>quantity</b>, <b>stage</b>, and <b>type</b>. If the fields in the Field Selector tab are selected, these fields are added to the <b>object</b> node.</p>
<b>nextPageToken</b>	String	<p>This parameter is used to paginate through large result sets. This value can be used to access next set of records.</p> <p> The value of the next page token is obtained from the output of the previous activity.</p>
<b>batchSize</b>	Integer	<p>The maximum number of records to be returned. The default maximum number of the batch size is 300.</p>




The following table lists the output elements in the **Output** tab of the Opportunity resource:

Output Item	Data Type	Description
<b>requestId</b>	String	The request ID returned from the Marketo server.
<b>result</b>	Complex	The fields that are displayed in the response. The following fields are displayed: <b>reasons</b> , <b>seq</b> , <b>marketoGUID</b> , <b>updatedAt</b> , and <b>createdAt</b> .
<b>success</b>	Boolean	If the request is successful, this value is <code>true</code> .
<b>errors</b>	Complex	The error codes and messages for the activity.

### Input and Output of Retrieve Opportunity Role

When you use the **Opportunity Role** resource, the information in the **Input** and **Output** tabs varies depending on the endpoint that you select.

The following table lists the input elements in the **Input** tab of the Opportunity Role resource:

Input Item	Data Type	Description
<b>filterType</b>	String	The filter types supported by Marketo. Possible values: <code>idField</code> , <code>dedupeFields</code> , <code>externalOpportunityId</code> , and <code>LeadId</code> .  You can only use the <b>filterValues</b> field for <code>idField</code> .
<b>filterValues</b>	String	A separated list of filter values.  You cannot specify the values of multiple fields in this field.
<b>Object</b>	Complex	The multiple fields for filtering. If no fields are selected in the Field Selector tab, the following fields are displayed: <b>externalCreatedDate</b> , <b>externalOpportunityId</b> , <b>isPrimary</b> , <b>leadID</b> , and <b>role</b> . If the fields in the Field Selector tab are selected, these fields are added to the <b>object</b> node.
<b>nextPageToken</b>	String	This parameter is used to paginate through large result sets. This value can be used to access next set of records.  The value of the next page token is obtained from the output of the previous activity.
<b>batchSize</b>	Integer	The maximum number of records to be returned. The default maximum number of the batch size is 300.


The following table lists the output elements in the **Output** tab of the Opportunity Role resource:



Output Item	Data Type	Description
<b>requestId</b>	String	The request ID returned from the Marketo server.
<b>result</b>	Complex	The fields that are displayed in the response. The following fields are displayed: <b>seq</b> , <b>marketoGUID</b> , <b>status</b> , and <b>reasons</b> .
<b>success</b>	Boolean	If the request is successful, this value is <code>true</code> .
<b>errors</b>	Complex	The error codes and messages for the activity.

### Input and Output of Retrieve Company

When you use the **Company** resource, the information in the **Input** and **Output** tabs varies depending on the endpoint that you select.

The following table lists the input elements in the **Input** tab of the Company resource:

Input Item	Data Type	Description
<b>filterType</b>	String	The filter types supported by Marketo. Possible values: <code>idField</code> , <code>dedupeFields</code> , <code>externalSalesPersonId</code> , and <code>Company</code> .  You can only use the <b>filterValues</b> field for <code>idField</code> .

Input Item	Data Type	Description
<b>filterValues</b>	String	A separated list of filter values.  You cannot specify the values of multiple fields in this field.
<b>Object</b>	Complex	The multiple fields for filtering. If no fields are selected in the Field Selector tab, the following fields are displayed: <b>externalCompanyId</b> , <b>annualRevenue</b> , <b>billingCity</b> , <b>billingCountry</b> , <b>billingPostalCode</b> , <b>billingState</b> , <b>billingStreet</b> , <b>company</b> , <b>companyNotes</b> , <b>externalSalesPersonId</b> , <b>industry</b> , <b>mainPhone</b> , <b>numberOfEmployees</b> , <b>sicCode</b> , <b>site</b> , and <b>website</b> . If the fields in the Field Selector tab are selected, these fields are added to the <b>object</b> node.
<b>nextPageToken</b>	String	This parameter is used to paginate through large result sets. This value can be used to access next set of records.  The value of the next page token is obtained from the output of the previous activity.
<b>batchSize</b>	Integer	The maximum number of records to be returned. The default maximum number of the batch size is 300.

The following table lists the output elements in the **Output** tab of the Company resource:



Output Item	Data Type	Description
<b>requestId</b>	String	The request ID returned from the Marketo server.
<b>result</b>	Complex	The fields that are displayed in the response. The following fields are displayed: <b>reasons</b> , <b>seq</b> , <b>id</b> , <b>updatedAt</b> , and <b>createdAt</b> .
<b>success</b>	Boolean	If the request is successful, this value is <b>true</b> .
<b>errors</b>	Complex	The error codes and messages for the activity.

### Input and Output of Retrieve Custom Objects

When you use the **Custom Objects** resource, the information in the **Input** and **Output** tabs varies depending on the endpoint that you select.

The following table lists the input elements in the **Input** tab of the Custom Objects resource:

Input Item	Data Type	Description
<b>Id</b>	String	The ID of the custom object.
<b>filterType</b>	String	The filter types that you created in the custom object, such as <b>idField</b> , <b>dedupeFields</b> and other searchable fields.

Input Item	Data Type	Description
<b>filterValues</b>	String	<p>A separated list of filter values.</p> <p> You cannot specify the values of multiple fields in this field.</p>
<b>object</b>	Complex	An array of custom object records that you retrieve. If the fields in the <b>Field Selector</b> tab are selected, these fields are added to the <b>object</b> node.
<b>nextPageToken</b>	String	<p>This parameter is used to paginate through large result sets. This value can be used to access next set of records.</p> <p> The value of the next page token is obtained from the output of the previous activity.</p>
<b>batchSize</b>	String	The maximum number of records to be returned. The default maximum number of the batch size is 300.

The following table lists the output elements in the **Output** tab of the Custom Objects resource:

Output Item	Data Type	Description
<b>requestId</b>	String	The request ID returned from the Marketo server.
<b>result</b>	Complex	The fields that are displayed in the response. The following fields are displayed: <b>reasons</b> , <b>seq</b> , <b>marketoGUID</b> , <b>updateAt</b> , and <b>createdAt</b> .
<b>success</b>	Boolean	If the request is successful, this value is <code>true</code> .
<b>errors</b>	Complex	The error codes and messages for the activity.

## Fault Tab

In the **Fault** tab, you can find the error code and error message of the Retrieve activity.

For more detailed information, see [Error Codes](#).

The following table lists the error schema elements in the **Fault** tab of the Retrieve activity:

Error Schema Elements	Data Type	Description
<b>msg</b>	String	The error messages that are returned by the plug-in.
<b>msgCode</b>	String	The error code that is returned by the plug-in.
<b>msg</b>	String	The error messages that are returned by the plug-in.
<b>msgCode</b>	String	The error code that is returned by the plug-in.
<b>msg</b>	String	The error messages that occur when establishing the web service connection between the plug-in and Marketo.



Error Schema Elements	Data Type	Description
<b>msgCode</b>	String	The error code that is returned when establishing the web service connection between the plug-in and Marketo.



## Delete

Use the Delete activity to delete leads, opportunity, opportunity role, company, and custom objects.

### General Tab

In the **General** tab, you can specify the required fields before you use the Delete activity.

The following table lists the configurations in the **General** tab of the Delete activity:

Field	Module Property ?	Description
<b>Name</b>	No	The name to be displayed as the label for the activity in the process.
<b>Marketo Connection</b>	Yes	Click <b>Choose/Create Default Resource</b>  to select a Marketo shared resource.  If no matching Marketo shared resources are found, click <b>Create Shared Resource</b> to create one. See <a href="#">Creating a Marketo Connection</a> for more details.
<b>Timeout</b>	Yes	The amount of time in milliseconds before you can execute the retrieve operation.  The value in this field is set to 30000 by default.
<b>Options</b>	No	The options to be deleted. The following options are available: <b>Leads, Opportunity, Opportunity Role, Company, and Custom Objects.</b>
<b>Objects</b>	No	If you select the <b>Custom Objects</b> option, the custom objects that you created are available.   This field is available only when you select the <b>Custom Objects</b> option.

### Description Tab

In the **Description** tab, you can enter a short description for the Delete activity.

### Input and Output Tabs

In the **Input** tab, you can specify the fields that you require. In the **Output** tab, you can check the response information.

The information in the **Input** and **Output** tabs varies depending on the option and the object that you select.

- If you select the **Leads** option, see [Input and Output of Delete Leads](#) for more details.

- If you select the **Opportunity** option, see [Input and Output of Delete Opportunity](#) for more details.
- If you select the **Opportunity Role** option, see [Input and Output of Delete Opportunity Role](#) for more details.
- If you select the **Company** option, see [Input and Output of Delete Company](#) for more details.
- If you select the **Custom Objects** option, see [Input and Output of Delete Custom Objects](#) for more details.

### Input and Output Tab of Delete Leads

When you use the **Leads** option, you can specify the fields that you require in the **Input** tab and check the response information in the **Output** tab.

The following table lists the input element in the **Input** tab of the Leads option:

Input Item	Data Type	Description
<b>id</b>	Integer	The lead ID or multiple lead IDs that you want to delete.

The following table lists the output elements in the **Output** tab of the Leads option:

Output Item	Data Type	Description
<b>requestId</b>	String	The request ID returned from the Marketo server.
<b>result</b>	Complex	The fields that are displayed in the response. The following fields are displayed: <b>id</b> , <b>status</b> , and <b>reasons</b> .
<b>success</b>	Boolean	If the request is successful, this value is <b>true</b> .

### Input and Output of Delete Opportunity

When you use the **Opportunity** option, you can specify the fields that you require in the **Input** tab and check the response information in the **Output** tab.

The following table lists the input elements in the **Input** tab of the Opportunity option:

Input Item	Data Type	Description
<b>deleteBy</b>	String	The deletion method. Possible values: <b>idField</b> or <b>dedupeFields</b> .
<b>input</b>	Complex	Deletion criteria. If the fields in the <b>Field Selector</b> tab are selected, these fields are added to the <b>input</b> node.

The following table lists the output elements in the **Output** tab of the Opportunity option:

Output Item	Data Type	Description
<b>requestId</b>	String	The request ID returned from the Marketo server.
<b>result</b>	Complex	The fields that are displayed in the response. The following fields are displayed: <b>seq</b> , <b>marketoGUID</b> , <b>status</b> , and <b>reasons</b> .

Output Item	Data Type	Description
<b>success</b>	Boolean	If the request is successful, this value is <code>true</code> .
<b>errors</b>	Complex	The error codes and messages for the activity.

### Input and Output of Delete Opportunity Role

When you use the **Opportunity Role** option, you can specify the fields that you require in the **Input** tab and check the response information in the **Output** tab.

The following table lists the input elements in the **Input** tab of the Opportunity Role option:

Input Item	Data Type	Description
<b>deleteBy</b>	String	The deletion method. Possible values: <code>idField</code> or <code>dedupeFields</code> .
<b>input</b>	Complex	Deletion criteria. If the fields in the <b>Field Selector</b> tab are selected, these fields are added to the <b>input</b> node.

The following table lists the output elements in the **Output** tab of the Opportunity Role option:

Output Item	Data Type	Description
<b>requestId</b>	String	The request ID returned from the Marketo server.
<b>result</b>	Complex	The fields that are displayed in the response. The following fields are displayed: <b>reasons</b> , <b>seq</b> , <b>marketoGUID</b> , <b>updatedAt</b> , and <b>createdAt</b> .
<b>success</b>	Boolean	If the request is successful, this value is <code>true</code> .
<b>errors</b>	Complex	The error codes and messages for the activity.

### Input and Output of Delete Company

When you use the **Company** option, you can specify the fields that you require in the **Input** tab and check the response information in the **Output** tab.

The following table lists the input elements in the **Input** tab of the Company option:

Input Item	Data Type	Description
<b>deleteBy</b>	String	The deletion method. Possible values: <code>idField</code> or <code>dedupeFields</code> .
<b>input</b>	Complex	Deletion criteria. If the fields in the <b>Field Selector</b> tab are selected, these fields are added to the <b>input</b> node.

The following table lists the output elements in the **Output** tab of the Company option:

Output Item	Data Type	Description
<b>requestId</b>	String	The request ID returned from the Marketo server.

Output Item	Data Type	Description
<b>result</b>	Complex	The fields that are displayed in the response. The following fields are displayed: <b>seq</b> , <b>id</b> , <b>status</b> , and <b>reasons</b> .
<b>success</b>	Boolean	If the request is successful, this value is <code>true</code> .
<b>errors</b>	Complex	The error codes and messages for the activity.

### Input and Output of Delete Custom Objects

When you use the **Custom Objects** option, the information in the **Input** and **Output** tabs varies depending on the objects that you select.

The following table lists the input elements in the **Input** tab of the Custom Objects option:

Input Item	Data Type	Description
<b>deleteBy</b>	String	The deletion method. Possible values: <code>idField</code> or <code>dedupeFields</code> .
<b>input</b>	Complex	Deletion criteria. If the fields in the <b>Field Selector</b> tab are selected, these fields are added to the <b>input</b> node.

The following table lists the output elements in the **Output** tab of the Custom Objects option:

Output Item	Data Type	Description
<b>requestId</b>	String	The request ID returned from the Marketo server.
<b>result</b>	Complex	The fields that are displayed in the response. The following fields are displayed: <b>seq</b> , <b>status</b> , <b>marketoGUID</b> , and <b>reasons</b> .
<b>success</b>	Boolean	If the request is successful, this value is <code>true</code> .
<b>errors</b>	Complex	The error codes and messages for the activity.

### Fault Tab

In the **Fault** tab, you can find the error code and error message of the Delete activity.

For more detailed information, see [Error Codes](#).

The following table lists the error schema elements in the **Fault** tab of the Delete activity:

Error Schema Element	Data Type	Description
<b>msg</b>	String	The error messages that are returned by the plug-in.
<b>msgCode</b>	String	The error code that is returned by the plug-in.
<b>msg</b>	String	The error messages that are returned by the plug-in.
<b>msgCode</b>	String	The error code that is returned by the plug-in.

Error Schema Element	Data Type	Description
<b>msg</b>	String	The error messages that occur when establishing the web service connection between the plug-in and Marketo.
<b>msgCode</b>	String	The error code that is returned when establishing the web service connection between the plug-in and Marketo.

# Working with the Sample Project

The plug-in packages a sample project with the installer. The sample project shows how TIBCO ActiveMatrix BusinessWorks Plug-in for Marketo works.

After installing the plug-in, you can locate the sample project in the *TIBCO\_HOME/bw/palettes/marketo/version\_number/samples* directory. This sample project contains three processes: ImportLeads-RequestCampaign, DeleteImportedLeads and Upsert-Delete.

- The ImportLeads-RequestCampaign sample process shows how to use TIBCO ActiveMatrix BusinessWorks Plug-in for Marketo to retrieve lists, import leads, and request campaigns. See [Running the ImportLeads-RequestCampaign Process](#).
- The Upsert-Delete sample process shows how to use TIBCO ActiveMatrix BusinessWorks Plug-in for Marketo to upsert, retrieve, and delete leads. See [Running the Upsert-Delete Process](#).
- The DeleteImportedLeads sample process shows how to use TIBCO ActiveMatrix BusinessWorks Plug-in for Marketo to retrieve and delete leads. See [Running the DeleteImportedLeads Process](#).

## Importing Sample Projects

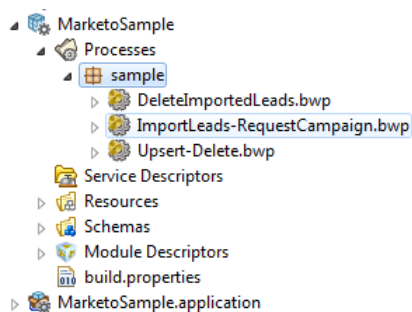
Before running the project, you must import the sample project to TIBCO Business Studio.

### Procedure

1. Start TIBCO Business Studio by using one of the following ways:
  - Microsoft Windows: click **Start > All Programs > TIBCO > TIBCO\_HOME > TIBCO Business Studio version\_number > Studio for Designers**.
  - Mac OS and Linux: run the TIBCO Business Studio executable file located in the *TIBCO\_HOME/Studio/version\_number/eclipse* directory.
2. From the menu, click **File > Import**.
3. In the Import dialog, expand the **General** folder and select **Existing Studio Projects into Workspace** item. Click **Next**.
4. Click **Browse** next to the **Select archive file** field to locate the samples. Click **Finish**.  
The sample project is located in the *TIBCO\_HOME/bw/palettes/marketo/version\_number/samples* directory.

### Result

The sample project is imported to TIBCO Business Studio.



## Configuring Module Properties


After importing the MarketoSample project, configure the module properties before running the processes.

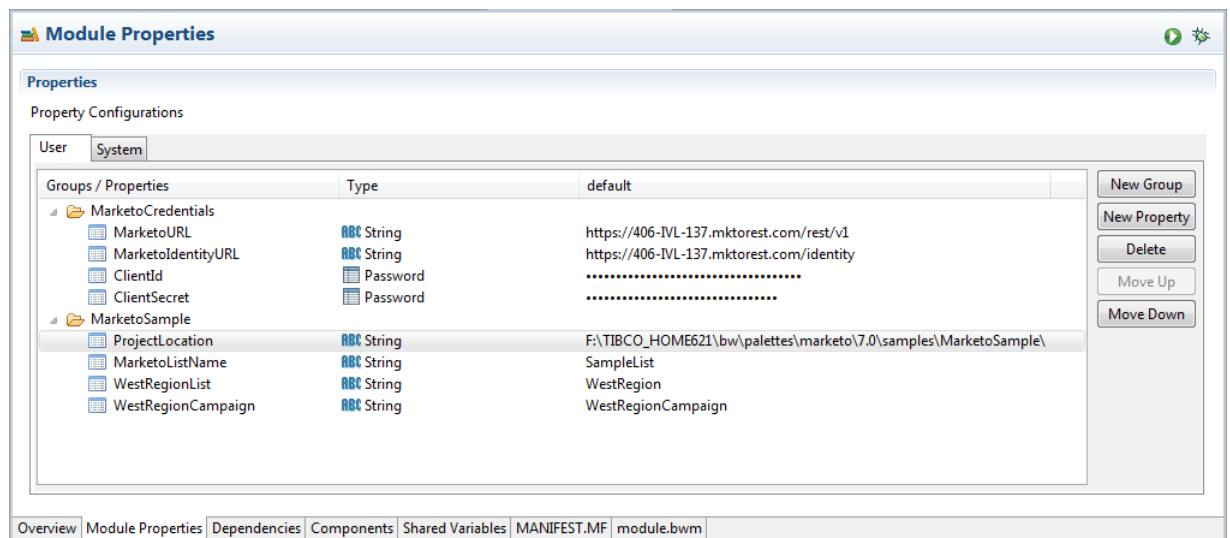
### Procedure

1. Extract the MarketoSample.zip file in the `TIBCO_HOME/bw/palettes/marketo/version_number/samples` directory to a temporary folder.
2. In the Project Explorer view, double-click **Module Descriptors > Module Properties**.
3. In the Module Properties panel, expand the **MarketoCredentials** folder and configure the following fields:
  - **MarketoURL**: enter the endpoint used to connect to Marketo REST API.
  - **MarketoIdentityURL**: enter the identity URL used to generate an access token.
  - **ClientID**: enter a client ID used to connect to Marketo Rest API.
  - **ClientSecret**: enter a client secret used to generate an access token.
4. Expand the **MarketoSample** folder and configure the following fields:
  - **ProjectLocation**: enter the value of ProjectLocation with the full path of the directory where you extract the MarketoSample.zip file in [Step 1](#), and then add a slash at the end of the full path.
  - **MarketoListName**: enter a list name.
  - **WestRegionList**: enter a region list name.
  - **WestRegionCampaign**: enter a region campaign name.



Create lists (MarketoListName, WestRegionList) and Campaign (WestRegionCampaign) on a Marketo instance. Campaign must be created with **Campaign is Requested** trigger and source must be **Web service API**.

5. On the toolbar, click **Save**  to save your changes.



You must configure these parameters with your own. The parameters in the sample are only examples for your reference.

## Running the Sample Processes

After configuring the module properties of the sample projects, you can run the sample processes to see how TIBCO ActiveMatrix BusinessWorks Plug-in for Marketo works.




### Running the ImportLeads-RequestCampaign Process

The ImportLeads-RequestCampaign process shows you how to retrieve lists, add leads to a list, retrieve leads from a list, import leads, retrieve campaigns, and request campaigns.

#### Prerequisites

Before running the sample project, you must import the sample project to TIBCO Business Studio and configure the module properties. See [Importing Sample Projects](#) and [Configuring Module Properties](#).

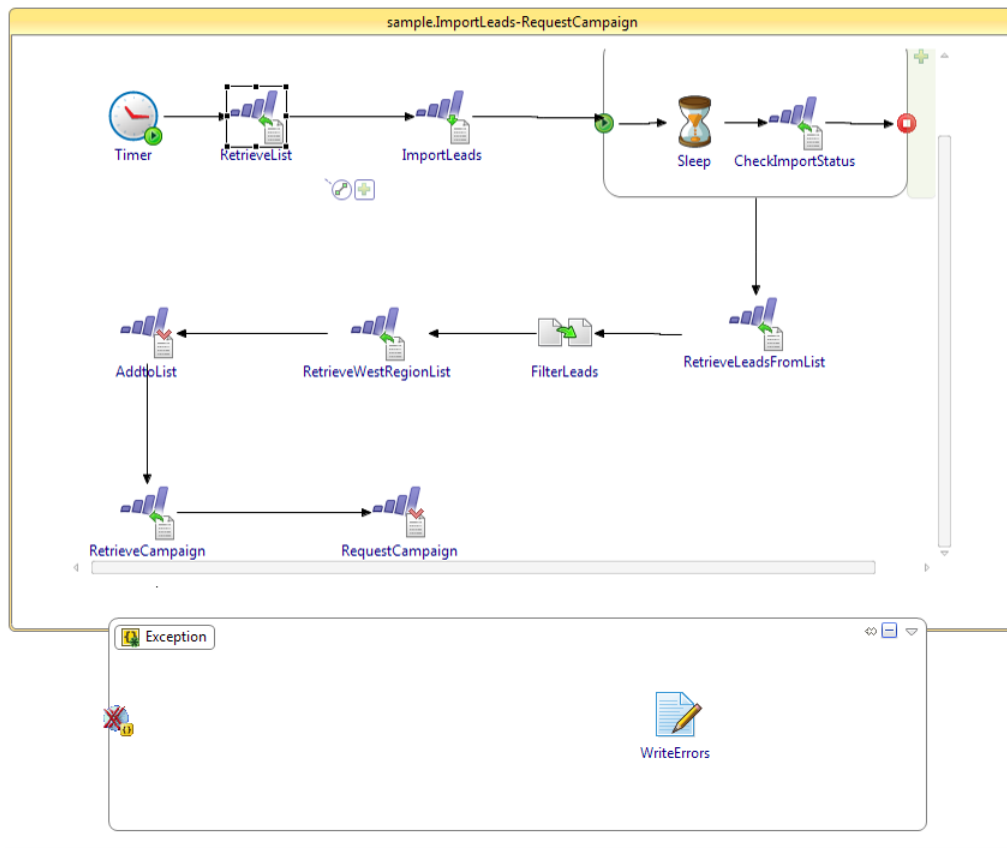
#### Procedure

1. In the Project Explorer view, expand the **MarketoSample** folder, and then double-click **Processes > sample > ImportLeads-RequestCampaign.bwp**.
2. Expand **Module Descriptors** and double-click **Components**. By default, the ImportLeads-RequestCampaign and Upsert-Delete process are listed in the Components editor. Ensure the ImportLeads-RequestCampaign component is selected in the Component Configurations area. To remove the process that you do not want to run, click **Remove Launch** .
3. On the toolbar, click **Save All**  to save your changes.
4. From the menu, click **Run > Run Configurations**.
5. In the Run Configurations dialog, expand **BusinessWorks Application** and click **BWApplication**. Click the **Applications** tab and select the check box next to **MarketoSamples.application**.
6. Click **Run** to run the process.
7. Click **Terminate**  to stop the process.



## Configurations for the ImportLeads-RequestCampaign Process

The ImportLeads-RequestCampaign process contains the retrieve lists, import leads, and request campaigns activities.



The following table lists the activities in the ImportLeads-RequestCampaign process:

Activity	Description
Timer	Starts the process at a specific time.
RetrieveList	Retrieves a list from multiple lists according to a list name.
ImportLeads	Imports leads to the list retrieved from the previous activity.
CheckImportStatus	Verifies if the import progress in the Marketo server is completed or not.
RetrieveLeadsFromList	Retrieves leads from the list retrieved from the RetrieveList file.
FilterLeads	Filters leads retrieved from the previous activity according to the matched state.
RetrieveWestRegionList	Retrieves a list predefined in the Marketo server.
AddtoList	Adds the leads to the list retrieved from the RetrieveList file.
RetrieveCampaign	Retrieves a campaign predefined in the Marketo server.

Activity	Description
RequestCampaign	Requests a campaign.
WriteErrors	Writes and saves the errors to a text file that is located in the <i>TIBCO_HOME/bw/palettes/marketo/version_number/samples/MarketoSample</i> folder.




## Running the Upsert-Delete Process

The Upsert-Delete process shows you how to upsert, retrieve, and remove leads.

### Prerequisites

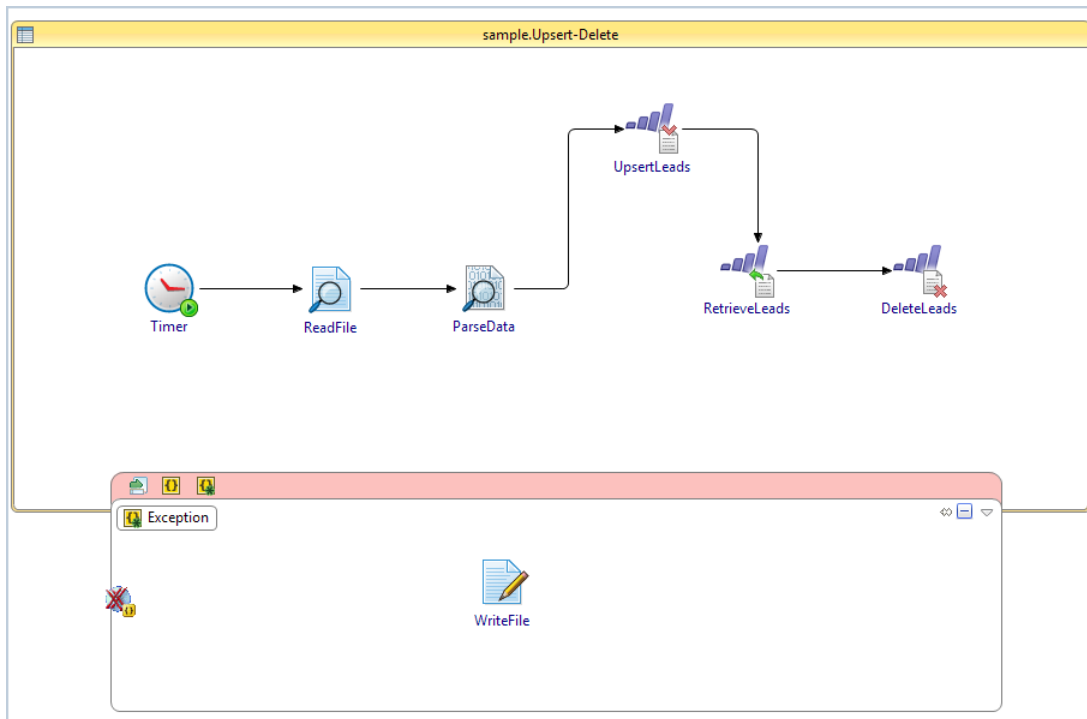
Before running the sample project, you must import the sample project to TIBCO Business Studio and configure the module properties. See [Importing Sample Projects](#) and [Configuring Module Properties](#).

### Procedure

1. In the Project Explorer view, expand the **MarketoSample** folder, and then double-click **Processes > sample > Upsert-Delete.bwp**.
2. Expand **Module Descriptors** and double-click **Components**. By default, the ImportLeads-RequestCampaign and Upsert-Delete process are listed in the Components editor. Ensure the Upsert-Delete component is selected in the Component Configurations area. To remove the process that you do not want to run, click **Remove Launch** .
3. On the toolbar, click **Save All**  to save your changes.
4. From the menu, click **Run > Run Configurations**.
5. In the Run Configurations dialog, expand **BusinessWorks Application** and click **BWApplication**. Click the **Applications** tab and select the check box next to **MarketoSamples.application**.
6. Click **Run** to run the process.
7. Click **Terminate**  to stop the process.

## Configurations for the Upsert-Delete Process

The Upsert-Delete process contains the upsert, retrieve, and delete leads activities.



The following table lists the activities in the Upsert-Delete process:

Activity	Description
Timer	Starts the process at a specific time.
ReadFile	Reads leads records from the Upsert_Leads.csv file
ParseData	Parses leads records to the specified schema.
UpsertLeads	Inserts leads that have been parsed by the previous activity to the Marketo server.
RetrieveLeads	Retrieves leads that have been inserted by the previous activity.
DeleteLeads	Deletes leads that are defined.
WriteFile	Writes and saves the exceptions to a text file that is located in the <i>TIBCO_HOME/bw/palettes/marketo/version_number/samples/MarketoSample</i> folder.





## Running the DeleteImportedLeads Process

The DeleteImportedLeads process shows you how to retrieve and delete leads.

### Prerequisites

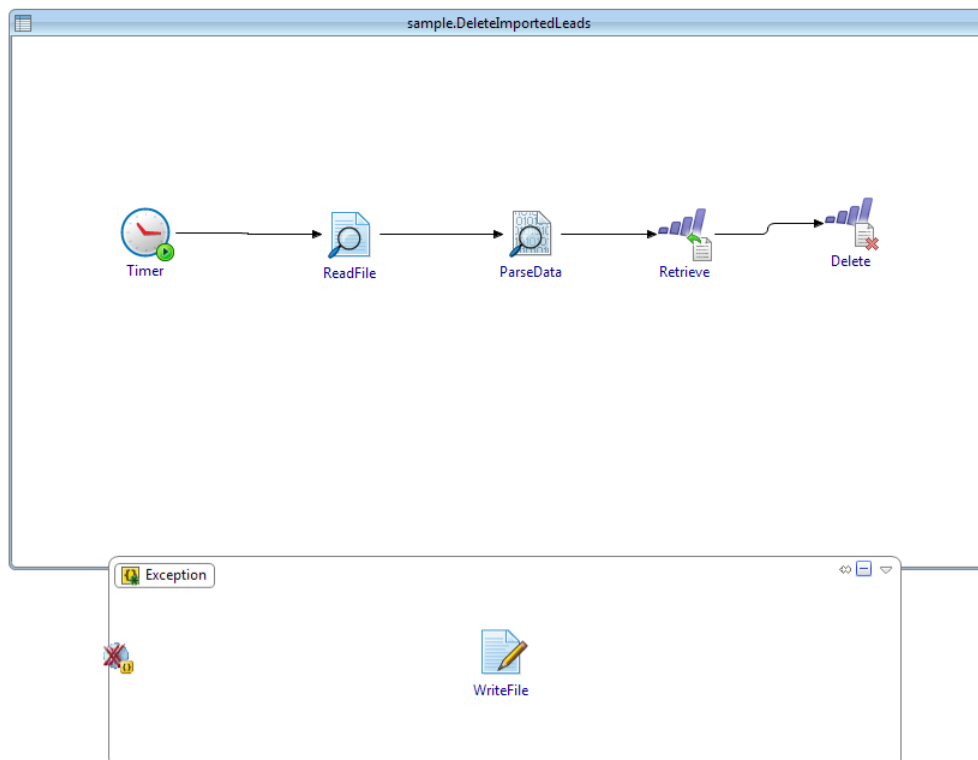
Before running the sample project, you must import the sample project to TIBCO Business Studio and configure the module properties. See [Importing Sample Projects](#) and [Configuring Module Properties](#).

### Procedure

1. In the Project Explorer view, expand the **MarketoSample** folder, and then double-click **Processes > sample > DeleteImportedLeads.bwp**.
2. Expand **Module Descriptors** and double-click **Components**. By default, the ImportLeads-RequestCampaign and Upsert-Delete process are listed in the Components editor. Click the  icon and click **OK** in the Select a BusinessWorks Process dialog to add the DeleteImportedLeads component to the Component Configurations area. To remove the process that you do not want to run, click **Remove Launch** .
3. On the toolbar, click **Save All**  to save your changes.
4. From the menu, click **Run > Run Configurations**.
5. In the Run Configurations dialog, expand **BusinessWorks Application** and click **BWApplication**. Click the **Applications** tab and select the check box next to **MarketoSamples.application**.
6. Click **Run** to run the process.
7. Click **Terminate**  to stop the process.

### Configurations for the DeleteImportedLeads Process

The DeleteImportedLeads process contains the retrieve and delete leads activities.



The following table lists the activities in the DeleteImportedLeads process:

Activity	Description
Timer	Starts the process at a specific time.
ReadFile	Reads leads records from the Lead_Gen.csv file
ParseData	Parses leads records to the specified schema.
Retrieve	Retrieves leads that have been read by the previous activity.
Delete	Deletes leads that are defined.
WriteFile	Writes and saves the exceptions to a text file that is located in the <i>TIBCO_HOME/bw/palettes/marketo/version_number/samples/MarketoSample</i> folder.

# Managing Logs

When an error occurs, you can check logs to trace and troubleshoot the plug-in exceptions.

By default, error logs are displayed in the Console view when you run a process in the debug mode. You can change the log level of the plug-in to trace different messages and export logs to a file. Different log levels correspond to different messages, as described in [Log Levels](#).

## Log Levels

Different log levels include different information.

The plug-in supports the following log levels:

Log Level	Description
Info	Indicates normal plug-in operations. No action is required. A tracing message tagged with Info indicates that a significant processing step is reached, and logged for tracking or auditing purposes. Only info messages preceding a tracking identifier are considered as significant steps.
Error	Indicates that an unrecoverable error occurred. Depending on the severity of the error, the plug-in might continue with the next operation or might stop.
Debug	Indicates a developer-defined tracing message.

## Setting Up Log Levels

You can configure different log levels for the plug-in and plug-in activities to trace different messages.

If you do not configure any log levels, the plug-in uses the default log level of TIBCO ActiveMatrix BusinessWorks. The default log level is Error.

### Procedure

1. Navigate to the *TIBCO\_HOME/bw/version\_number/config/design/logback* directory and open the *logback.xml* file.
2. Add the following node in the **BusinessWorks Palette and Activity loggers** area to specify a log level for the plug-in.

```
<logger name="com.tibco.bw.palette.marketo.rest">
  <level value="DEBUG"/>
</logger>
```

The value of the **level** element can be Error, Info or Debug.



If you set the log level to Debug, the input and output for the plug-in activities are also displayed in the Console view. See [Log Levels](#) for more details regarding each log level.

3. Optional: Add the following node in the **BusinessWorks Palette and Activity loggers** area to specify a log level for an activity:

```
<logger name="com.tibco.bw.palette.marketo.rest.ActivityNameActivity">
  <level value="DEBUG"/>
</logger>
```

For example, add the following node to set the log level of the Import activity to Debug:

```
<logger name="com.tibco.bw.palette.marketo.rest.ImportActivity">
  <level value="DEBUG"/>
</logger>
```



The activities that are not configured with specific log levels use the log level configured for the plug-in.

4. Save the file.

## Exporting Logs to a File

You can update the `logback.xml` file to export plug-in logs to a file.

### Procedure

1. Navigate to the `TIBCO_HOME/bw/version_number/config/design/logback` directory and open the `logback.xml` file.



After deploying an application in TIBCO Enterprise Administrator, navigate to the `TIBCO_HOME/bw/version_number/domains/domain_name/appnodes/space_name/node_name` directory to find the `logback.xml` file.

2. Add the following node to specify the file where the log is exported:

```
<appender name="FILE" class="ch.qos.logback.core.FileAppender">
  <file>c:/bw6-marketo.log</file>
  <encoder>
    <pattern>%d{HH:mm:ss.SSS} [%thread] %-5level %logger{36}-%msg%n</pattern>
  </encoder>
</appender>
```

The value of the `file` element is the absolute path of the file that stores the exported log.

3. Add the following node to the root node at the bottom of the `logback.xml` file:

```
<root level="DEBUG">
  <appender-ref ref="STDOUT" />
  <appender-ref ref="FILE" />
</root>
```

4. Save the file.

## Error Codes

The following table lists the error codes, detailed explanation of each error, and where applicable, ways to solve different errors.

Error Code	Role	Category	Description	Solution
MARKETO_API_ERROR.errorCode=500002  There was a problem with your request. Marketo returned error code {0}.	errorRole	BW-Plug-in	There is a problem with your request. Marketo returned error code {0}.	No action.
MARKETO_SOCKET_TIMEOUT_ERROR.errorCode=500003  The connection has been timed out. Please check your connection. {0}.	errorRole	BW-Plug-in	The connection has been timed out. Check your connection. {0}.	No action.
MARKETO_SHARED_RESOURCE_MISSING_ERROR.errorCode=500004  The Marketo Shared Resource is Missing, Please add shared resource in configuration.	errorRole	BW-Plug-in	The Marketo Shared Resource is missing, add shared resource in configuration.	No action.
MARKETO_INTERNAL_ERROR.errorCode=500005  Internal Error Occurred. Please check error details. {0}	errorRole	BW-Plug-in	Internal error occurs. Check error details. {0}.	No action.
MARKETO_UNKNOWN_HOST_ERROR.errorCode=500006  The host cannot be determined. Please check your connection. {0}	errorRole	BW-Plug-in	The host cannot be determined. Check your connection. {0}.	Check your connection to the host.



Error Code	Role	Category	Description	Solution
MARKETO_REQUEST_SIGNATURE_ERROR.errorCode=500009	errorRole	BW-Plug-in	Problem with generating request signature, check Marketo Connection. Detailed error {0}.	Check error details.
MARKETO_FILEIO_ERROR.errorCode=500010	errorRole	BW-Plug-in	Problem with File Read/Write. {0}.	Check error details.