Certain Signal: Salesforce Native Integration Guide

This document is a guide to using **Certain Signal** to integrate with **Salesforce**.

(Signal also integrates with other products, including Marketo and Eloqua via native integrations and others via Webhooks or Advanced Webhooks – see separate guides.)

This product is not included with Certain Platform by default, but if you're interested in it after reading this document, please email features@certain.com, including your account name.

Contents

What is Signal? How does it work?

Certain Signal processes data from your events in ***real time***, passing it from Certain Platform to your instance of Salesforce.

This real-time integration empowers sales and marketing teams to take intelligent, prompt action on the right event data.

Almost everything is set up at the ***account*** level. Signal processes information from the events in your account. For event-level information this is based on the custom **tags** you attach to data such as Registration Statuses, as explained in this guide.

Important: Signal processes ***outbound*** information, processing information *from* Certain and sending it *to* Salesforce.

Prerequisites

Data-Flow Considerations

- Do you capture data in registration questions that will be synced to Salesforce?
  - If so, you'll need to apply tags to those questions: see page 5.
- Do you have different data mappings based on registration status, or attendee type?
  - If so, you'll need to apply tags to those items: see page 4.
- Will you use Signal to add Leads/Contacts to Salesforce Campaigns, or update campaign members?
  - If so, you'll need to add an Event Question to record each event's Campaign ID: see page 5.

Salesforce Credentials

For you to set up a Connection in Signal (see page 6), your Salesforce administrator must first create an OAuth2 app in Salesforce (by going to App Manager > **New Connected App**).
Note: this must be a "***Connected* App**".

They then need to provide you with the following details:

- Consumer Key (which you'll use for the '**Client Id**' in the Connection)
- Consumer Secret (which you'll use for the '**Client Secret**' in the Connection)

Overview of Setup Steps

On Certain Platform

1. Add tags in the account (see page 3)
2. Apply those tags (see pages 3 & 4)
3. Add Event Question for Campaign ID (see page 5)
4. Answer that question in events (see page 5)

In Certain Signal

5. Add a Connection (see page 6)
6. Configure a Flow (see page 8)

Setting up Tags

What Are Tags?

Tags are a way of identifying event-level data using labels you set at the account level.

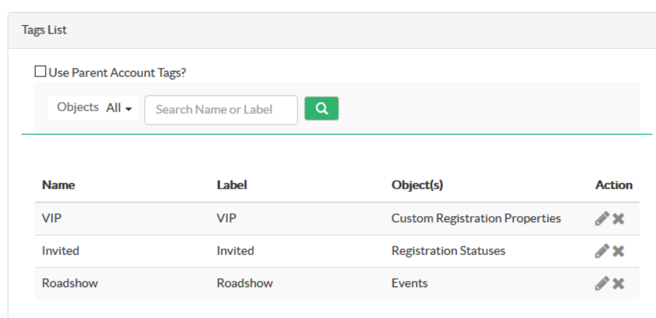
You can then apply those tags to generic items in events, especially custom registration statuses and custom registration properties for use in Certain Signal. (Tags can be used for other purposes as well, but this guide doesn't cover that.)

For example, your events may have several custom registration statuses in addition to the standard ones. You can apply the same Tags to more than one status, or you might choose to give each one its own Tag.

When you set up a Flow in Certain Signal to send data to Salesforce when an attendee's Registration Status changes, for example, you specify the *tags* applicable to those statuses, not the statuses themselves. That means the flow can apply to *any* event in your account.

Setting Tags Up for an Account

1. As an Administrator, go to **Account Settings > Management >Tags**.
2. Enter a Name and a Label for the tag.
3. Select the **Object(s)** to which the tag can apply; for example, 'Registration Statuses" and/or "Custom Registration Properties".
4. Click **Add**.
5. Repeat as required for as many tags as you need.
6. *Important:* Add enough tags to apply to all of the following that you will use in flows (see page 10):
   a. **Registration Statuses**
   b. **Custom Registration Properties**
7. Also add enough tags to apply to all of the following that you will use in filters for flows (see page 10):
   a. **Attendee Types**
   b. **Events**



Applying Tags in an Account

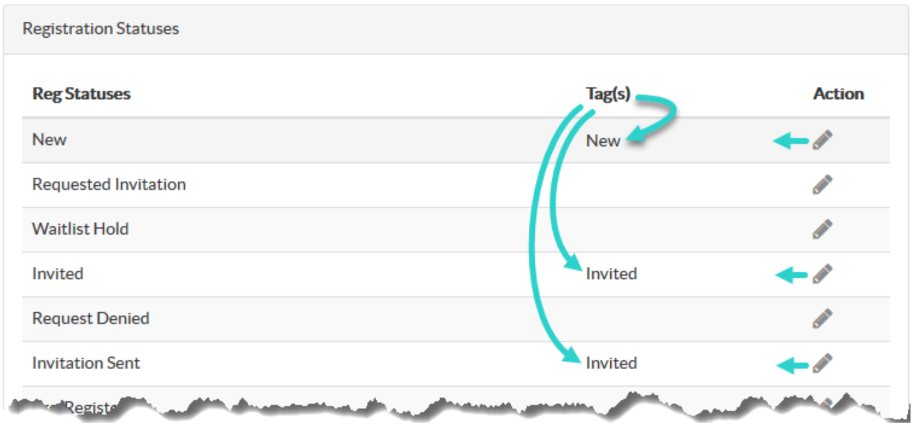
In each event from which you want information to flow through Certain Signal, apply tags to the relevant information: **Registration Statuses** and **Registration Custom Properties**.

(You can also tag Attendee Types and Events, so that you can filter registration records by attendee type or event: see **Filters** on page 10.)

Default Registration Statuses

These apply to all events, so an Administrator applies the tags at the *account* level.

1. Go to Account Settings > Management > Registration Statuses.
2. Select one or more Tags for each status.



Important: Even if you don't use any standard registration statuses, best practice is to set up tags for all of them, but it's *essential* to tag at least the '**New**' status (which Certain uses "behind the scenes" when first processing each registration).

If you *do* use standard reg statuses, it's *essential* that you tag them all, so that you can use them in the Flows you configure in Signal: see page 9.

Applying **Tags in an Event**

Custom Registration Statuses

1. If any of the Flows you configure in Signal will watch or activate for changes of Registration Status (see page 9):In each event, go to Plan > Event Setup > Custom Statuses
2. Select at least one tag for each status.

Custom Registration Properties

If any of the Flows you configure in Signal will watch or activate for Custom Reg Properties (see page 9):

1. In each event, go to Plan > Configure.
2. Under **Custom Registration Properties**, select at least one tag for each custom reg property in the event.

Standard Registration Properties

These tags are set up for you automatically, with names identical to the properties themselves: *Complete*, *Badge Printed*, *On To Do List*, *Invoice Generated*, and *Test*.

You only see them in Signal, where, just like Custom Reg Properties, you can activate Flows for them (see page 9). There's nothing to edit on Certain Platform.

Attendee Types

(Optional– for use with filters – see page 10.)

1. In each event, go to Plan > Event Setup > Attendee Types.
2. Select one or more Tags for each attendee type on which you may wish to filter registrations. (See **Filters** on page 10.)

Events

(Optional– for use with filters – see page 10.)

1. In each event you may wish to include in a filter (for example to ensure that only registrations for that event are passed to Salesforce):
2. Go to Plan > Event Setup > Details.
3. Select one or more Tags for the event.

Registration Questions

(Optional– for use with mapping Certain fields to Salesforce fields – see page 14.)

1. In each event in which you use registration question to capture data from attendees, and wish to pass those answers and/or questions to Salesforce:
2. Go to Plan > Event Setup > Questions.
3. Select just *one* Tag for each question. (Selecting more could result in duplicate data in Salesforce.)

Recording an Event's Campaign ID

If your Flows in Signal will add Leads/Contacts to Salesforce Campaigns, or update campaign members, as described on page 11, you need to set up an event question to record the Campaign ID for each event.

1. As an Administrator in Certain Platform,
   go to Account Settings > Management > Event Data
2. Add an **Event Question**, such as 'Salesforce Campaign ID'

In each event:

3. As an Event Planner or Administrator in Certain Platform,
   go to Plan > Event Setup > Custom Event Data
4. Enter the Salesforce Campaign ID for that event in the custom question field.

Opening Certain Signal

When Signal is activated for your account, the **Account Settings > Implementation** menu—available to Administrators—includes an extra option:

- **Signal Real-Time Data Integration**

Click that link to open Certain **Signal** in a separate window; it runs separately from Certain Platform.

Note: To return from Signal to Certain Platform at any time, click

Setting up a Connection

What are Connections?

A **Connection** in Certain Signal specifies how to connect to your instance of Salesforce – your Target application.

You can actually have multiple connections, perhaps to Salesforce *and* another application. (Other target applications are covered in separate guides.)

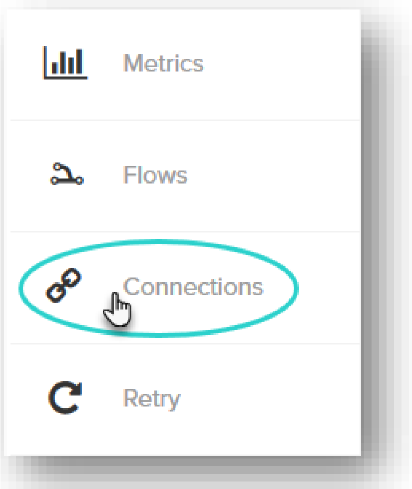
Each Flow (see page 7) requires a Connection. Multiple flows may use the same Connection.

You can set up a Connection before configuring your first Flow, but you also have the option to do so *while* configuring a Flow. This guide assumes you're setting up the Connection first.

Adding a Connection

As an Administrator youmay set up one or more Connections for your account. You need only do so once – you can then use them in the Flows you set up (see page 7, below).

1. Go to **Account Settings > Implementation > Signal Real-Time Data Integration**.
2. As noted above, Certain Signal opens in a separate window.
3. Click **Connections** in the left navigation panel.



4. Click **Add A Connection** in the **Connection List** page that opens.
5. Enter the details in the **Connection Setup** screen that opens.
    - **Target:** Select **Salesforce** as the third-party app to connect to.
    - **Connection Name:** Enter a name of your own choice. This could be just 'Salesforce' or 'Salesforce Connection', for example.
    - **Service URL:** Enter the beginning of the Salesforce URL to which you are redirected when you log in to Salesforce: the part starting with "https://" and ending with "salesforce.com". For example: https://na8.salesforce.com

- **Authentication Type:** Select the authentication type to be used. For Salesforce that is currently **OAuth2**, an industry-standard secure method of authentication.
- **Grant Type:** Select 'Authorization Code'
- **Client Id** and **Client Secret:** These two long strings of characters are unique to the OAuth2 app your Salesforce administrator has set up, as explained under 'Salesforce Credentials' on page 2. The Salesforce terms for them are '**Consumer Key**' and '**Consumer Secret**'.
- **Authorization URL:** This will depend on your Salesforce environment.
    - The default value may be correct for a production environment.
    - See this topic in the Salesforce Developers Documentation: https://developer.salesforce.com/docs/atlas.en-us.api_rest.meta/api_rest/intro_understanding_oauth_endpoints.htm
- **Access Token URL:** Use the default value.
- **Refresh Token URL:** Use the default value.
- **Scope:** Use the default value if there is one.
- **Test Connection URL:** Use the default value.
- **Force Update:** If selected, then if Salesforce already has a record for the Contact/Lead whose data is being sent, that Salesforce record will be updated with details from Certain if they differ — for example, the phone number.

- **Is this a primary connection** – Select only if previously you imported Registrations from Salesforce via Manage > Registrations > **Import Salesforce Members**. The Signal connection will take precedence.

6. Click **Save & Test**.

7. If the test is successful, click **Close**. If it's not, check that the values in step 5 are all correct.

Setting Up Flows

What is a "Flow"?

A flow is a configuration to manage the flow of data from Certain to Salesforce. You create Flows from the landing page in Signal: see Configuring a Flow, below. You may configure several flows for an account, which might all use the same Connection (explained above).

You only need to configure a flow once at the account level. When a flow is complete, it will start picking up data for each event in that account within about a minute.

The minute's delay is because Signal runs independently from Certain Platform. So if you *edit* a flow then the same slight delay occurs before that change takes effect in the processing of the registrations.

The Flow List

As an Administrator in Certain Platform. go to Account Settings > Implementation > **Signal Real-Time Data Integration**.

As noted above, **Certain Signal** opens in a separate browser window.

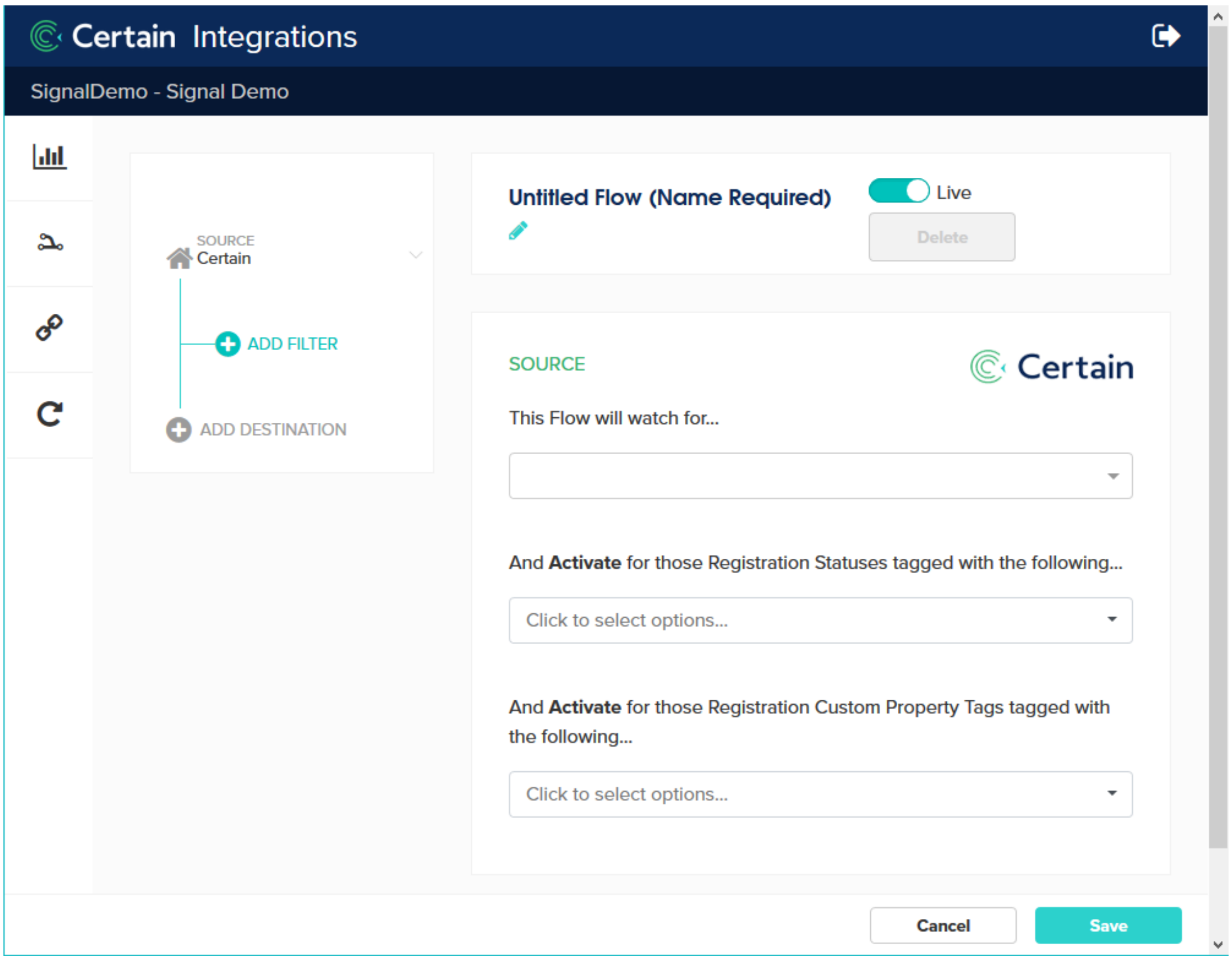
The main screen in Signal is the **Flow List**, which lists all flows.

The **Status** column shows whether a flow is completely set up.

The **Active** column shows whether the flow is running. Click the toggle button to change a flow from Active to Inactive, or vice versa.

Configuring a Flow

Click **ADD A FLOW** to start setting up a new flow – see screenshot overleaf.



The configuration consists of:

- **Name**
- '**Live**' or '**Test**' status. (See immediately below.)
- **Source:** What information the Flow will look for, and what it will activate for in your events. (See page page 9.)
- **Filters:** Optional filters to narrow down that information. (See page page 10.)
- **Destination:** Where and how that information goes into Salesforce. (See page page 10.)

'Live' or 'Test'

The **Live** toggle switch determines whether your Flow is Live or Test:

A **Live Flow** will pick up all *live* registrations in live events. It will ignore test registrations, even in live events.

A **Test Flow** picks up all test registrations: that's all registrations in *test* events, plus any registrations marked as 'Test' in *live* events.

Best Practice: Set a new flow up as Test—and test it—before setting it to Live.

Flow Data Source

Next, specify the **Source** of data for the flow (optionally applying Filters).

The Source of a Flow is what the Flow will watch for in your data in Certain and when it will activate, based on that data.

For example, it might watch for any change to a Registration Status, and activate if an attendee's status has changed to a status tagged as 'Registered'.

Available sources

You set a flow to watch for any one of the following:

- **Registration Create Update:** When a registration is created or updated.
- **Registration Status Change:** When a registration's status changes.
- **Session Registration Status Change:** When a registration's session registration status changes.

Note: You can always save an incomplete Flow and complete it at a later date. As soon as a Flow is complete, it will start picking up data after the usual minute's delay.

Activate for ...

Choose what the flow should activate for by selecting one or more tags in each appropriate object's drop-down list

As shown in the screenshot above, you can activate for tags applied to **Registration Statuses** and/or **Registration Properties**. Other options may be added depending on what the Flow is watching for:

- If the Flow is watching for Registration Status Change, you *must* activate for **Registration Statuses**.
- If it's watching for Session Registration Status Change, you *must* activate for **Session Registration Statuses**.

The tags available for selection are those set up for that object; see page 3.

For example, the tags for Registration Statuses include Registration Status tags, which you can apply to:

- standard registration statuses at account level (see page 4)
- custom registration statuses at event level (see page 4)

Flow Filters

You can filter the data going into a flow by selecting fields in any of these three filter types:

Event fields, Profile fields, and Attendee Type tags.

The flow will only include a registration if it meets the rule(s) specified in the filter.

- **Event**
  Available fields:
  — standard event fields (e.g., Event Code)
  — custom event fields
  — event tags
- **Profile**
  Available fields:
  — standard profile fields (e.g., Position)
  — custom profile fields
- **Attendee Type Tags**
  Available fields:
  — tags that can be applied to Attendee Types

Note: For custom fields you can only select "enumerated" questions – those that have pre-configured answers; that is, questions that are of types Select, Multi-select, Checkbox, or Radio.

Flow Destination

Select **Salesforce** from the integrations set up by Certain for your account.

Setting up a Destination

1. Give the Destination a name of your choice,

2. Select the **Connection** to use.

   Note: You can instead click **New Connection** to add a connection; the process to set one up is the same as described on page 5.

3. Select the **action** for this connection from those listed as available:

- **Create/Update Lead** (see page 11)
  or
- **Create/Update Contact** (see page 12)

Your choice of action determines the other configuration options.

Action: 'Create/Update Lead'

(The steps for the alternative action, '**Create/Update *Contact***', are described on page 12 below, although much of the detail is the same for both.)

IMPORTANT NOTE: You could choose to configure two Salesforce Destinations for the same flow: one with a **Create Contact** action and one with a **Create Lead** action. If you do that, be sure to configure the **Create Contact** destination ***before*** the **Create Lead** destination. Contacts need to be created before Leads so that Signal can evaluate its Contact check correctly.

4. Select one of the three **Add to Campaign Options**:
   a) **Add to Campaign & update Member Status** – See the sub-options described in step 5, below.
   b) **Update Existing Campaign Members Only** – See the sub-options described in step 5, below.
   c) **Do not update Campaign** – No sub-options are displayed.

5. '**Add to Campaign Options**' are available for both options **a** and **b**.
   Select one, and then its further sub-options:

   - **Add to Campaign & Update Member Status**

     See the sub-options described next

   - **Update Existing Campaign Members Only**

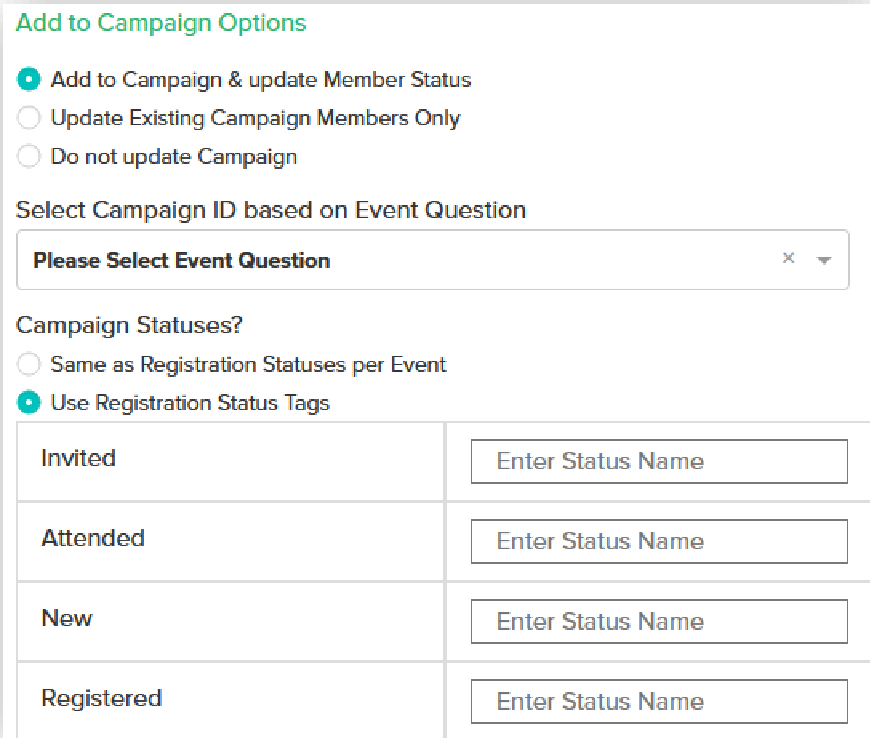
     The sub-options for this and the previous option are the same:

     - **Select Campaign ID based on Event Question** – Select the Event Question configured for this purpose. (See page 5 about adding that question.)

     - **Campaign Statuses** – select one of the two further sub-options:

       - **Same as Registration Statuses per event**

       - **Use Registration Status Tags** – For each Registration Status tag, enter the Status Name to be applied in Salesforce.
         (The screenshot overleaf shows *examples*.)



- **Do not update Campaign** – No sub-options apply.

Action: 'Create/Update Contact'

(The steps for the alternative action, '**Create/Update *Lead***', are described on page 11 above with an ***important note*** about what to do if using them *both* in destinations for the same flow.)

1. Select one of the four **Create/Update Contact Options**:
   - **Do not Create/Update Contacts**
     No Sub-options are displayed.
     The sub-option selected under "Add to Campaign Options) described below, defaults to 'Do not update Campaign'
   - **Update Existing Contacts Only**
     If the attendee is already a Contact in Salesforce, Signal will update that record.
     If they are not, Signal will not add a record.
   - **Create Contact Only if Account Exists**
     The action will create a Contact record in Salesforce only if it the specified Account exists in Salesforce.
     - Select the field to be used to match the Account name:
       a Profile Standard Field (e.g. Profile Organization),
       or a Custom Profile Question (set up on Account Settings > Registration > Custom Profile Data).
   - **Create New Account and Add Contact**
     The action will create a Contact record in Salesforce and add an Account record if a matching one does not already exist.

Select the field to be used for the Account Name, as described above.

2. Select one of the three **Add to Campaign Options** (the same as those described above for Leads):
   a) **Add to Campaign & update Member Status** – See the sub-options described in step 3, below.
   b) **Update Existing Campaign Members Only** – See the sub-options described in step 3, below.
   c) **Do not update Campaign** –No sub-options are displayed.

3. '**Add to Campaign Options**' are available for both options **a** and **b**.
   Select one, and then its further sub-options:

   - **Add to Campaign & Update Member Status**

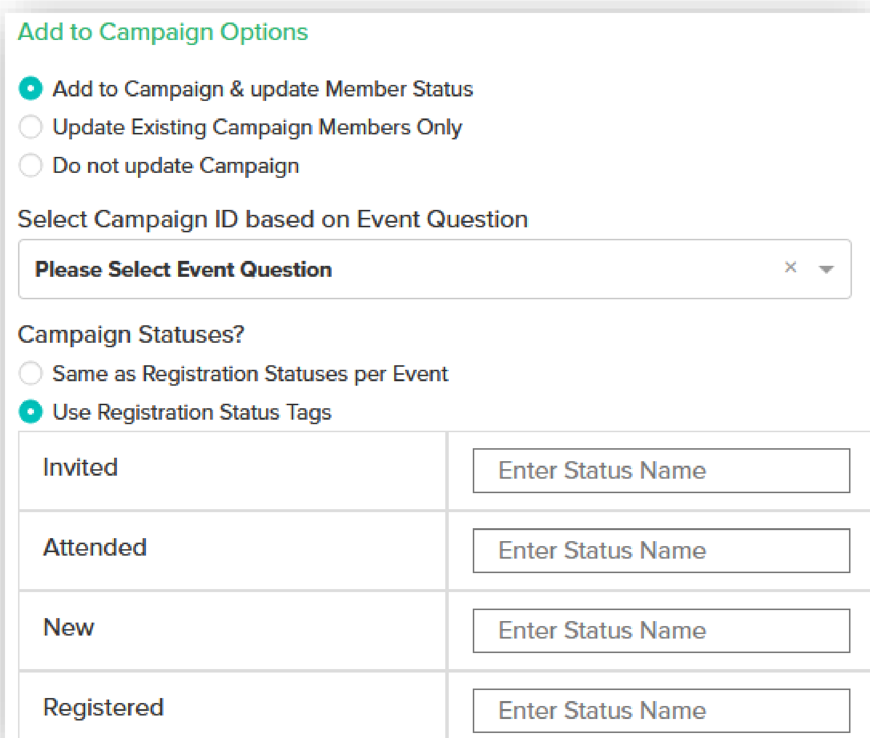
     See the sub-options described next

   - **Update Existing Campaign Members Only**

     The sub-options for this and the previous option are the same:

     - **Select Campaign ID based on Event Question** – Select the Event Question configured for this purpose. (See page 5 about adding that question.)

     - **Campaign Statuses** – select one of the two further sub-options:
       - **Same as Registration Statuses per event**
       - **Use Registration Status Tags** – For each Registration Status tag, enter the Status Name to be applied in Salesforce. (This screenshot shows *examples.)*



   - **Do not update Campaign** – No sub-options apply.

Mappings

The **Available Mappings** option is available for most actions.

A mapping specifies how each *target* field in Salesforce matches a *source* field in Certain.

Select a mapping from the drop-down list.

If nobody has set any mappings up yet, or you need something other than one of the existing mappings, click **New Mapping** to add one:

1. Give the mapping a name of your choice.
   Best Practice: For multiple mappings, used for different flows, make the names self-explanatory.
   For example, 'Lead Mapping' and 'Contact Mapping'

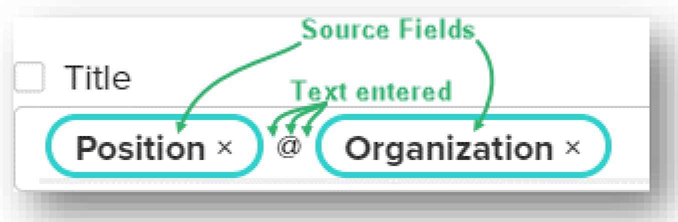
2. The left column lists Salesforce fields: the "target" fields.
   Under each one is the default "source" field in Certain matching that target field.
   For example: target field 'Title' defaults to source field 'Job Title', meaning the value of the Job Title field in Certain will populate the Title field in Salesforce.

3. By default, only the First Name, Last Name and Email fields are mandatory. Select the checkbox next to a target field to make it mandatory.
   - If a required field is missing, there'll be a validation error when the flow tries to update Salesforce. This is not normally fixable, so would not go into the Retry Queue.

4. Click the **x** after a source field label to delete that field. Click to add a new one.

   Note: You can concatenate multiple source fields for the same target field, and even type fixed text.

   For example, for target field 'Title' you could choose source fields 'Position' and 'Organization', separated by two spaces and "@":



   The Certain fields you can choose from as the source of the data going into the target fields in Salesforce include:

   - Profile Standard Fields
   - Profile Custom Fields
   - Registration Standard Fields
   - Registration Custom Question Tags – one field for the question, and one for its answer (See page 5 about not using the same tag for more than one question.))
   - Registration Standard Properties
   - Account Standard Fields (Account Code)
   - Event Standard Fields (e.g., Event Code and Event Name)
   - Event Custom Fields

- Flow Fields (Flow Name)
- Macros (e.g., Current Date)

5. In the second column you can select a transformation option for each field.
   The default of *no* selection means the data will be sent to Salesforce unchanged.
   The options are:
   - lower case
   - Proper Case
   - UPPER CASE
   - Trim (This removes extra spaces.)

   Note: You can select more than one transformation for a field. For example, you could change it to Proper Case *and* trim it.

6. At the end of the list you can **Add Target Fields** and select source fields for them.

To delete a field from the mapping, click DELETE at the end of that row.

If you've selected a mapping then two other buttons are enabled, with self-explanatory labels:

- **Edit Mapping**
- **Preview Mapping**

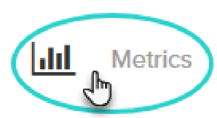
A third button is also enabled:

- **Refresh Target Fields**

  Use this if you don't find a target field you were expecting in an existing mapping.

  Technical note: This is likely for new fields added since a connection was created, since the target fields are cached when a connection is tested. A refresh updates the cached mappings.

Metrics Dashboard



To see the statistics available in Signal, click **Metrics** in the left navigation panel when looking at flows.

The choices in the new navigation panel you then see for Metrics depend on the flows and their targets.

The first one will be **Insights**, as illustrated and described below.

Other links will be, for example, to **Leads Created** and **Form Posts**; those each work in the same way as Account Insights.

Account Insights

Select whether you want to see **Live Flows** or **Test Flows**.

Select the period for which you want to see the data; for example, **for the last** 15 minutes, 1 hour or 4 hours, or a number of days.

There are three tabs: **Summary**, **Troubleshooting**, and **Activity Feed**.

• Summary tab

This is the default tab on the **Insights** page, as shown here. The figures shown depend on the flows and actions. For some of them you can click the number to drill down further – for example, click **Unique Registrations** to see the registrations processed by any flows in your selected time frame.

You can filter or search for records when you've drilled down. For example, filter on an Event Code to see only the registrations in that event.

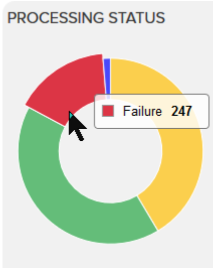
The figures listed below are shown. Remember these are for the whole account: all events and registrations.

For each of these you can click the number to drill down to details.

- **Changes Processed:** The number of registrations processed. Increments each time a registration is created or updated in Certain and then processed by a flow in Signal.
  Note: This will often include the same registration more than once. For example, creating a registration and then updating it twice would total three "changes".
- **Unique Registrations:** The number of registrations processed, counting any single registration only once. You may find this the most relevant figure on the page.

  It's likely to be lower than **Changes Processed**. For example, if Joe Citizen's registration was processed three times, then Changes Processed will have increased by **3**. But since those changes were all for the same registration, the Unique Registrations will have increased by only **1**.
- **Actions Triggered:** The number of actions triggered by flows. If you only have one flow with one action, then this could be the same as Changes Processed. The more flows you have, and the more actions configured in those flows, the more actions may be triggered.
- **Actions Not Triggered:** Only displayed if registrations were processed by flows without actions being triggered. This could be caused, for example, by a registration having an untagged status.
- **Active Flows:** The number of flows actually processing registrations during the selected period. This is *not* related to whether the flow are shown as "Active" or 'Inactive" on the Flow List.
- **Leads Created**: The number of leads created in Salesforce by flows.
- **Leads Updated**: The number of leads updated in Salesforce by flows.
- **Registration Activity in Certain:** Overview information.

- **Processing Status:** A pie chart comparing the numbers of failures and successes.



Drilling down into the failures provides a high-level view for troubleshooting.
For example, you can see why an action has failed. If that's something you can address, then once you've done so you can expedite the fix in Signal by going back to Flows and clicking **Retry** in the left navigation panel — see Retry Queue on page 18.

• Troubleshooting tab

The second tab on the **Insights** page shows information you may find useful for troubleshooting.

For example, if some registrations are not processed because a Registration Status isn't tagged, this gives you the chance to rectify that so that the registrations can be processed on the next retry.

The numbers shown are as follows. Click a number to drill down to see details of the actual records,

- **In Retry Queue:** If an action fails, it joins the Retry Queue—see page 18—and will be tried again. (Maximum automatic retries per action = 3.)
- **Total Retried:** The number of retries. If an action was retried twice, that would have added 2 to this number.
- **Retried Abandoned:** The actions that failed three retries.
- **Validation Errors**: No retries possible because failed validation. For example, a lead that could not be created because a mandatory target field had no value in the source field. (See 'Mappings' on page 14.)
- **Retry Activity:** A chart showing retries by time.
- **Retry Processing Category**: A chart showing retries by category – "General", "System", "Config", "Connection", etc.
- **Connection Activity:** A chart showing activity per connection over time.

• Activity Feed tab

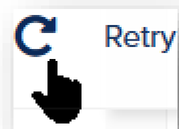
The third tab on the **Insights** page lists the registrations processed, noting success or failure, Registration Code, Event, Flow, etc.

This is a rolling history, by date.Think of it as another way to access lower-level data you could see by drilling down in the Summary or Troubleshooting tabs.

The Retry Queue

When an action fails it usually joins the “**Retry Queue**”, where it takes its turn to run again. (Failures that can’t be resolved, such as missing mandatory fields, are exceptions: they don’t join the queue.) An action can be retried up to three times, after which it does not rejoin the queue.

To see the Retry Queue, click **Retry** in the left navigation panel on the Flows page:



Causes of failure include ones under your control as a planner, such as a registration with a status that hasn’t been tagged, and technical ones such as a connection being down.

Where you can resolve the cause of a failure, such as tagging a registration or setting a flow back to being active, that’s all you need do. The action should succeed when retried.

For other failures that don’t resolve themselves, you probably need to contact your administrator or ask Certain for help.

The interval between retries depends on the severity of the reason: the more serious the reason the sooner the retry.

Filtering the Queue

You can filter the records shown in the Retry Queue using these three filters:

Integration: Probably only one option, ‘Salesforce’, unless you have multiple integrations set up.

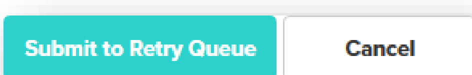
Status: ‘All Statuses’, ’Retry’, ‘Error’, ‘Failed’, or ‘Done’.

Category: ‘All Categories’, ‘General’. ‘System’, ‘Config’, ‘Certain API’, ‘Connection’, etc.

Submitting to the Queue

When you click an item in the Retry Queue, you see its full details.

If that knowledge is enough for you to solve the problem, then once you have done so you can click **Submit to Retry Queue**, which adds the item straight to the front of the queue.



Replaying a Flow

If you change an aspect of a flow while it has been running for some time, such as changing its filters, you may want to replay that flow for the same registrations as before, as if the changes had been made earlier.

This is not something that you can do directly, but you can ask Certain to arrange it for you. You may be able to specify a date range, or even an event.

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