Open Efficiency Initiative (OEI)

Benchmark User Guide

**Dec. 2018**

1: Introduction

This document is a user guide to support Benchmark programs by automating benchmark record data updates from Standard Energy Efficiency Data (SEED) Platform to Salesforce.com. The automation is provided via MuleSoft Anypoint Platform Community Edition API. The MuleSoft API provides one-way data flow, with Property records in SEED updating records in a Salesforce managed package called the “OEI Package” [1].

This automation was developed to support a pilot project with the City of San Francisco. It is an open source solution that can be configured to meet the needs of other organizations interested in benchmarking data management using SEED and Salesforce. Prior to using this guide, the OEI Benchmark Implementation Guide should be followed to setup an implementation of the OEI Benchmark solution [2].

This document describes how to trigger automated updates from SEED to Salesforce, how to use error log emails to troubleshoot, and provides references for additional resources. Each section identifies configuration elements and how the City of San Francisco configured the solution to meet their use case.

2: Automated Updates

This section describes how to trigger automated updates and what to expect of those updates. There are two different types of update which are each triggered by a different Label. One type of update updates fields from SEED Label and Property to Salesforce, the other update updates fields from the SEED Label. The City of San Francisco uses both of these updates depending on the Label value being either “Complied” or “Violation – Insufficient Data”.

Automated updates occur periodically. For the City of San Francisco, the update is configured to occur every 30 minutes.

#### Salesforce Record Setup

Using the OEI Package managed package objects: create a Premises record and a child Benchmark record. Copy the Benchmark’s Salesforce ID from the URL. This is required for the automation to match records from the SEED Property to the Salesforce Benchmark record.

Example Benchmark Salesforce ID: https://sitename.lightning.force.com/lightning/r/oei\_\_Benchmark\_\_c/**a0D3C000001aOi0UAE**/view

Using the Salesforce standard objects: create an Account record and a child Contact record. Data enter the Email address that matches the SEED Property Email field. This is an optional step and is not required.

#### Trigger Update in SEED

##### Update Option 1: Trigger Label Update in SEED

Navigate: Select “Inventory”, select the Property record, select “Edit”.

**Step 1:** Data enter the value for the “Benchmark Salesforce ID” field, select “Save Changes”. If the Benchmark Salesforce ID is already entered, delete it, select “Save Changes”, select edit, enter it, select “Save Changes” so that the record is updated. The record must be updated in the duration since the last update in order for the record to be trigged to be updated in Salesforce.Navigate: Select “Add/Remove Labels” for the selected property

**Step 2:** For the Label name that is configured to trigger Label Update, select “Add”, select “Done”. For the City of San Francisco this Label for this update is named “Violation - Insufficient Data”.

**Step 3:** When ready to trigger update to Salesforce.com: For “Add to Salesforce” Label, select “Add”, select “Done”.

##### Update Option 2: Trigger Label & Property Update in SEED

Navigate: Select “Inventory”, select the Property record, select “Edit”.

**Step 1:** Data enter the value for the “Benchmark Salesforce ID” field, select “Save Changes”. If the Benchmark Salesforce ID is already entered, delete it, select “Save Changes”, select edit, enter it, select “Save Changes” so that the record is updated. The record must be updated in the duration since the last update in order for the record to be trigged to be updated in Salesforce.

Navigate: Select “Add/Remove Labels”.

**Step 2:** For the Label name that is configured to trigger Label & Property Update, select “Add”, select “Done”. For the City of San Francisco this Label for this update is named “Complied”.

**Step 3:** When ready to trigger update: For “Add to Salesforce” Label, select “Add”, select “Done”.

#### View Results in Salesforce

##### Update Option 1: Label Fields Updated in Salesforce

**Premises:** No update to Premises record.

**Benchmark:** Label Updates made to Benchmark record where it’s Salesforce ID field is equal to the Benchmark Salesforce ID in SEED. Fields in Salesforce that are updated are Fields with values from the Label in SEED. Fields updated are identified in the OEI Data Model [3].

**Contact:** No update to Contact Record.

**Account:** No update to Account record.

##### Update Option 2: Label & Property Fields Updated in Salesforce

**Premises:** No update to Premises record.

**Benchmark:** Label & Property Updates made to Benchmark record where it’s Salesforce ID field is equal to the Benchmark Salesforce ID in SEED. Fields in Salesforce that are update are Fields with values from the Label and Property in SEED. Fields updated are identified in the OEI Data Model [3].

**Contact:** Updates made to Contact record where it’s Email field is equal to the Email in SEED. If there is not a match, then the automation creates a new Contact record. Fields updated are identified in the OEI Data Model [3].

**Account:** When there is no match for Contact, creates a new Account to be associated with the Contact record. Fields updated are identified in the OEI Data Model [3].

## 3: Error Log Email

When an error occurs caused by user error or there is a MuleSoft application exception the user can have an error log email configured to be sent to them. An error log email is sent for each update where there is an error, all errors for that update are listed in one email.

**Step 1:** Read the Error Log Email.

For each error associated with a property record the format is: [Error Code] SEED property: [Property Name], SEED Id: [Property View Id]. [Description of error].

**Step 2:** Resolve the Error

In SEED open the Property record for that Property Name. Use the Description of the error in the error message and for the Error Code see the hints in the Error Reference Table below to identify and resolve the error. Make sure you have edited/saved as the record in SEED so that it will be triggered for update.

**Step 3:** Confirm Update

After the update duration has passed (30 minutes) confirm that the record has updated in Salesforce. If it failed to update the error message will reoccur on the next Error Log Email.

#### Errors

|  |  |
| --- | --- |
| **Error Reference Table** | |
| **Error Code** | **Description and User Hints** |
| [Error1] | Missing Update Label: No labels that trigger updates have been applied to this property, so no records are updated.  The user can resolve this error by applying a Label, in SEED to the identified property, that will trigger an update. For City of San Francisco this is either “Complied” or “Violation – Insufficient Data”. |
| [Error2] | Missing Benchmark Salesforce ID: Benchmark Salesforce ID field is missing for this property, so no records are updated.  The user can resolve this error data by data entering the Salesforce Benchmark ID, in SEED to the identified property. |
| [Error3] | Data Error in Salesforce Update: There is an error in a field coming from SEED.  The user can resolve this error by looking at the message in the error. It will point to the error, resolve error. |
| [Info1] | MuleSoft instance exception error.  The user can confirm whether recent updates have occurred as expected. If they have not, the user can retrigger the SEED property record by editing it.  The user cannot resolve this error as it is caused by a system exception. Contact a system administrator if it persists. |

#### Example Error Log Email

**Subject:** Error log for SEED to Salesforce Mule process

**Email Body:**

[Error1] SEED property: 989 Market Street, SEED Id: 512997. Neither 'Complied' or 'Violation - Insufficient Data' labels have been applied to this property so no action will be taken.

[Error1] SEED property: 201-209 Post Street, SEED Id: 512999. Neither 'Complied' or 'Violation - Insufficient Data' labels have been applied to this property so no action will be taken.

[Error2] SEED property: 1059 Market, SEED property ID: 520578 'Benchmark Salesforce ID' field is missing, there is no Salesforce object destination so no action will be taken

[Error2] SEED property: DPR Construction, SEED property ID: 530455 'Benchmark Salesforce ID' field is missing, there is no Salesforce object destination so no action will be taken

[Error2] SEED property: 3040 Larkin St. (& 3036 Larkin; 789,799 Beach), SEED property ID: 686214 'Benchmark Salesforce ID' field is missing, there is no Salesforce object destination so no action will be taken

[Error3] For SEED property: 155 Montgomery, SEED Id: 706389 Salesforce returned the following message='Record ID: id value of incorrect type: Test1'

[Info1] There was an error: MuleEvent: 0-debb2522-e8ed-11e8-a4db-00059a3c7a00, stop processing=false, polling://-1912630717with the following details: org.codehaus.groovy.runtime.typehandling.GroovyCastException: Cannot cast object ‘2018-11-06 12:05:58.000’ with class ‘java.lang.String’ to class ‘java.util.Date’

## 4: References

The OpenEfficiency Initiative (OEI) was funded by the Department of Energy to expand the deployment of Federal tools and reference standards into whole building commercial efficiency programs. OEI is developing an open source data exchange platform which is being informed and motivated by pilots.

Find documentation about OEI at the OEI Github site: <https://github.com/aqwolfe/OEI>

Relevant documentation in the OEI github site includes:

* [1] OEI Package
* [2] OEI Benchmark Implementation Guide
* [3] OEI Data Model