

CELF Extension Option for Salesforce Dev Manual

Revision History

Edition	Date	Revision Details
1.0.2	2025/6/27	Developer Manual Translated from Japanese version v1.0.2.

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● Introduction

CELF Extension Options for Salesforce provide actions that enable data integration between Salesforce and CELF. This manual explains the configuration details of the extension options and the usage of each action for users who create apps using these features.

○ Prerequisite Environment

To use this extension option, the following version of the CELF client must be installed on all PCs.

CELF: Version 4.4.0 or higher

The PC using the CELF client must be able to connect to Salesforce.

○ Notes

With this extension option, you can connect to the Salesforce environment and reference or update data on Salesforce.

Any data operations performed using this extension option are the sole responsibility of the user.

Our company assumes no liability for any damages (including direct, indirect, incidental, consequential, or special damages) arising from the use of this extension option.

● Preparation

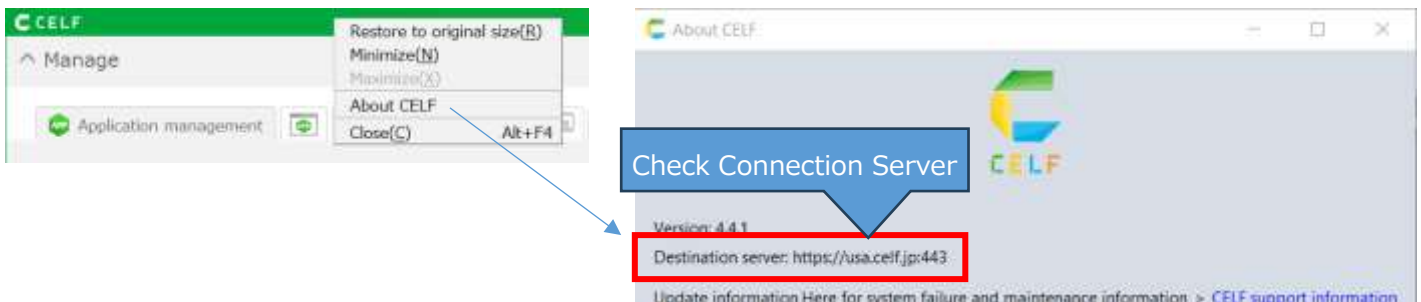
○ Set up Salesforce REST API

Salesforce REST API is used to integrate SELF with Salesforce.

It is necessary to enable connection to the REST API in your Salesforce environment by creating “Connected App” and configuring at least the following settings.

Configuration Item	Value
Enabling OAuth Settings	✓
Callback URL	https://usa.celf.jp/celf-server/service/oauth2/authed
Selected OAuth Scopes	Set the following: <ul style="list-style-type: none"> •Manage user data via API (api) •Perform requests at any time (refresh_token, offline_access)
Request the Proof Key for Code Exchange(PKCE) extension in the supported authentication flow	This needs to be combined with “Use PKCE” option in the settings screen mentioned later. ✓ generally recommended on this option.
The web server flow secret is required.	✓
The refresh token flow secret is required.	✓

* You can check this from the “About SELF” dialog, accessed by right-clicking the SELF window title bar.



For detailed setup instructions, please refer to the official Salesforce website.

○ Registering Extension Option in SELF

Refer to the following help page to register this extension option in SELF. Note that license registration is not required.

[Add new extension — SELF Help](#)

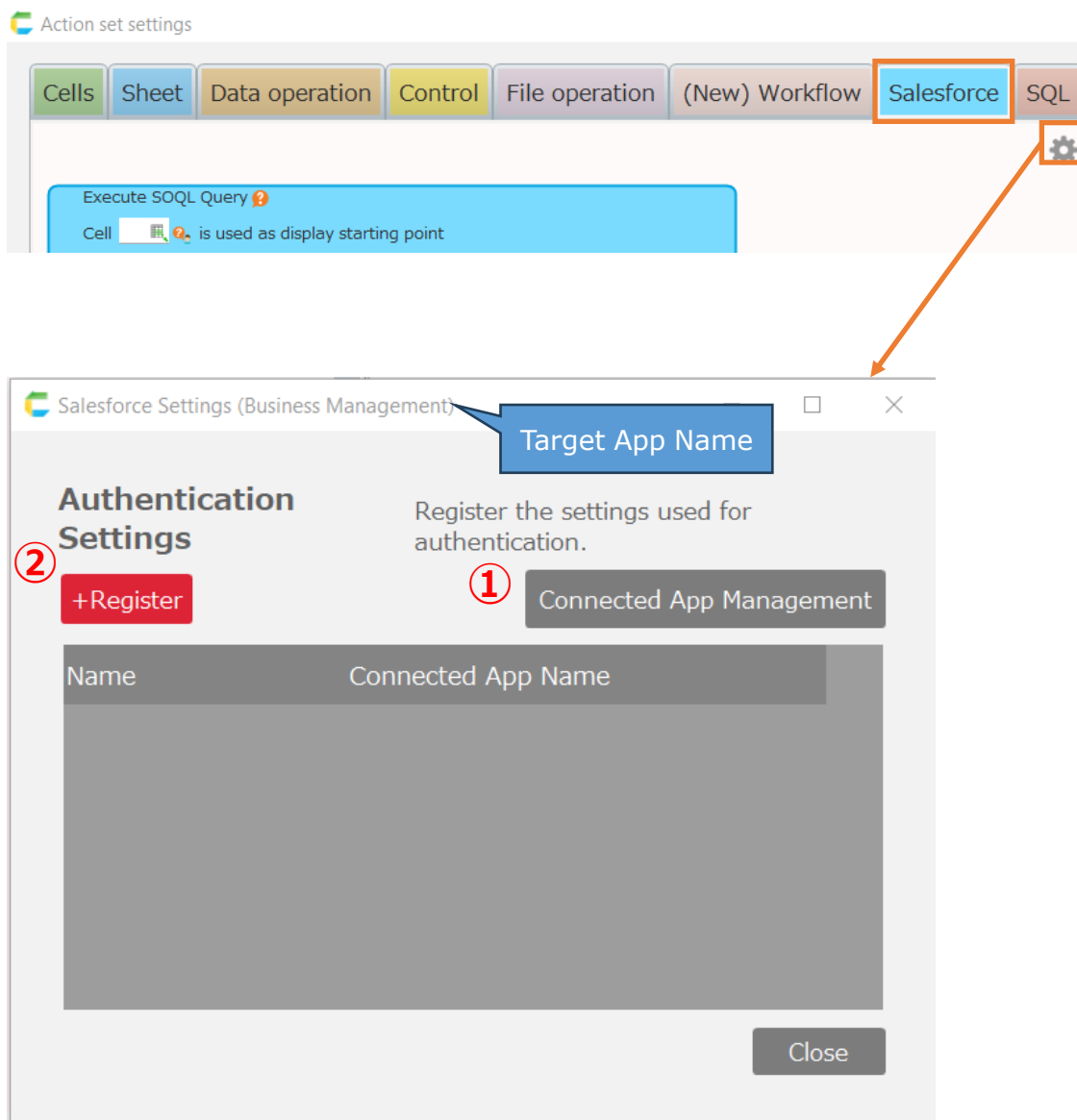
● Setting Up Extension Option

“Salesforce” tab will appear in the Action Set Editor when this extension option is installed in the PC.

Actions in this tab allows you to retrieve and update data on Salesforce from the SELF app.

○ Salesforce Settings

It is necessary to configure the settings before using actions in the “Salesforce” tab. Open the settings screen by clicking the gear icon within the “Salesforce” tab.



You may register the authentication settings used for Salesforce authentication in this screen.

First register the connected app from “Connected App Management” button (①), then register the authentication settings from “+Register” button(②).

○ Connected App Management

Click the "+ Register" button to register the information of the "Connected App" used for Salesforce integration. The information of the Connected App can be viewed in the Salesforce App Manager. The registered Connected App will be shared across CELF applications. To delete a Connected App, click "Trash" icon in the list of Connected Apps.

A "Connected App" allows secure connection between Salesforce and external apps.

Please refer to the official Salesforce website for more details.

Manage Connected App

Manage the information of the connected app used for Salesforce authentication. The connected app information is shared among CELF apps.

+Register

Connected App Name: Your Organization's Subdomain

Register Connected App

Register information of connected apps created in Salesforce. The connected apps registered in CELF must have OAuth settings enabled.

1 Connected App Name

2 Your Organization's Subdomain .my.salesforce.com

3 Consumer Key

4 Consumer Secret

Register Cancel

① Connected App Name

The name of Connected App which is used solely for users to identify the connected apps within settings or actions.

② Your Organization's Subdomain

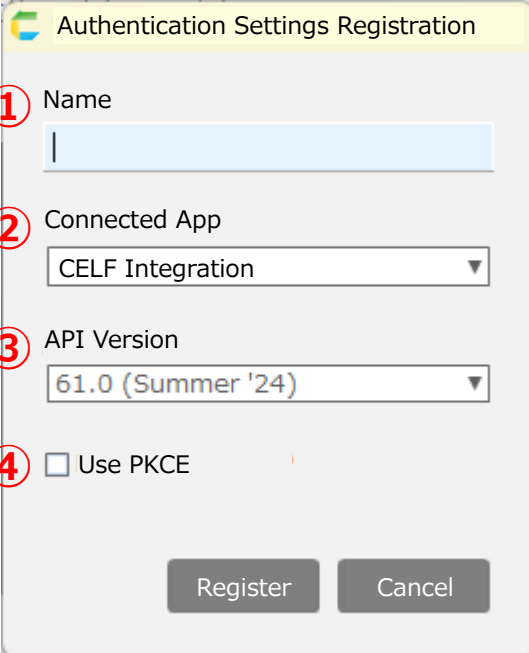
The subdomain of your Salesforce environment.

③ Consumer Key, ④ Consumer Secret

Consumer Key and Consumer Secret that can be viewed in the Salesforce's Connected App Management Screen.

○ Authentication Settings Registration

Click the “+ Register” button in the “Salesforce Settings” dialog to register the authentication settings you would like to use when performing authentication actions with Salesforce. Authentication settings are saved per-application.



The screenshot shows a dialog box titled "Authentication Settings Registration". It contains the following elements:

- 1 Name:** A text input field for entering the name of the authentication settings.
- 2 Connected App:** A dropdown menu with "CELF Integration" selected.
- 3 API Version:** A dropdown menu with "61.0 (Summer '24)" selected.
- 4 Use PKCE:** An unchecked checkbox.
- Buttons:** "Register" and "Cancel" buttons at the bottom.

① Name

The name of the authentication settings, which will be displayed when selecting authentication settings for authentication actions.

② Connected App

Specify the Connected App to use for this authentication.

Connected App must be registered in advance by the procedure described in the previous section, “Connected App Management”.

③ API Version

The version of the Salesforce REST API to be used for integration with CELF. The specified API version will be applied to all Salesforce operations after authentication with these authentication settings.

④ Use PKCE

PKCE will be used for authentication with Salesforce. PKCE must be enabled in the settings of the Connected App on the Salesforce side.

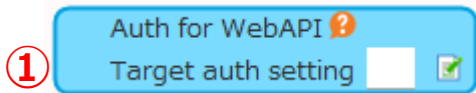
● How to Use Actions

This section explains how to use each action within the “Salesforce” tab, which allows you to manipulate records in Salesforce. Please note that authentication with Salesforce is necessary to use actions that manipulate records.

○ “Auth for WebAPI” Action

Performing Salesforce authentication.

Authentication must be completed before executing any Salesforce data manipulation actions.



① Authentication settings to use

Select the authentication settings registered in “Salesforce Settings.”

Salesforce login screen on browser will appear when this action is executed. After the user logs in and grant access, the authentication is completed, and Salesforce authentication information will be saved in CELF. (If valid authentication information is already saved in CELF, the saved authentication will be used, and the browser will not launch).

Note:

This action does not wait for authentication to complete.

For example, if you arrange actions within an action set as follows:

“Auth for WebAPI” action ⇒ “Call WebAPI” action

WebAPI will be called before authentication is completed, resulting in an error.

Please create the app so that each action is executed at the appropriate timing.

○ “Execute SOQL Query” Action

This action executes the specified SOQL query and output the retrieved records to the sheet. The maximum number of records that can be retrieved is 10,000. If exceeded, please limit using the LIMIT clause or similar.



① Cell address for query results

Cell address where the query results will be output. The retrieved records will be displayed in a table format starting from the specified cell.

② SOQL query to Execute

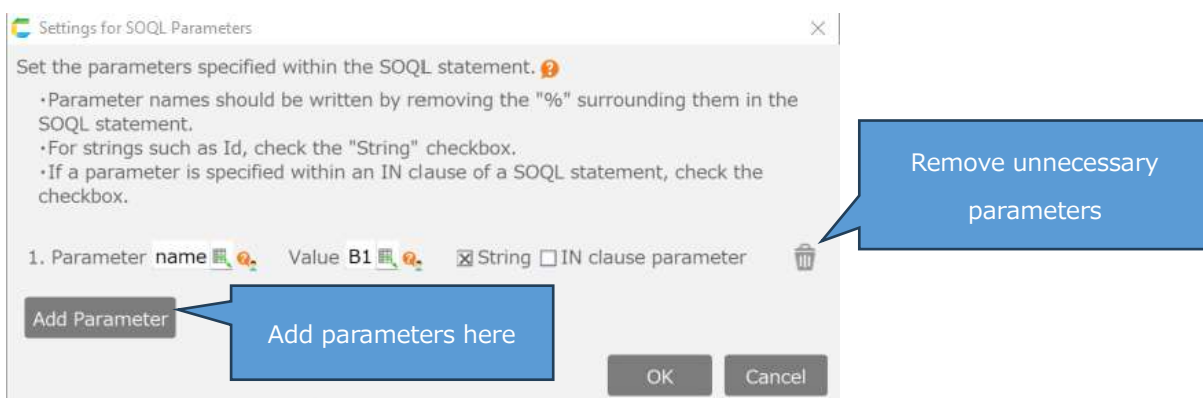
The SOQL query to execute. You can include query parameters in the query (see ③)

For details on SOQL query syntax, please refer to the official Salesforce website.

③ Query Parameters

Click on ③ to specify query parameters that can be changed when the action is executed. Query parameters are specified in the query using % (ex: %name% in the WHERE clause in the image above).

If you want to treat a parameter as a string (must be enclosed in single quotes), select the “String” option.



In this case, %name% in the query will be replaced with the value of cell B1 enclosed in single quotes, when executed.

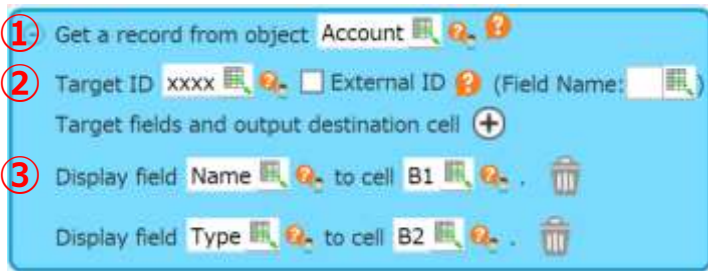
④ Select this option to include deleted records in the SOQL query results.

⑤ Select this option to output the title in the first row of the retrieved records.

⑥ Select this option to output the number of records retrieved by the query, to the specified cell address.

○ “Get a record” Action

This action retrieves a single record from the specified object.



- ① Object name to retrieve record from
- ② Salesforce ID of the record to retrieve
If you select "External ID," you can specify the record using an external ID instead.
Field Name to use for the ID must be specified when using an external ID.
- ③ Cell address for outputting each field of the retrieved record
Add more output destinations by clicking the "+" button.

○ “Upsert a record” Action

This action creates or update a record in the specified object. A new record will be created if the specified record does not exist. If only one record exists, the record will be updated. (Error will occur if multiple records exist)



- ① Object name to operate on
- ② ID of the record to operate on
Field name must be specified since this action can only use external IDs.
- ③ Content of the Target Record
Click the “Edit” button to set the content of the record. For details on how to set the content, please refer to the section “Request Body (JSON) Settings” below.
If a new record is created, the values for the required fields must be specified.
If a record is updated, the fields with specified values will be updated.
- ④ When selected, the ID of the processed record will be output to the specified cell.

- ⑤ When selected, the creation status of the record will be output to the specified cell.
If a new record is created, the result will be true. If the record was updated, the result will be false.

○ “Create record” Action

This action creates a new record in the specified object.

1 Create a record in object Account

2 Record Content

```
{
  "Name": "Express Logistics and Transport"
}
```

3 ☒ Set the ID of the created record to the next cell A1

- ① Name of the object in which the record will be created
- ② Content of the record
Click the “Edit” button to set the record content. For instructions on how to set the content, please refer to the section “Request Body (JSON) Settings” below. For the specified JSON, please refer to the official Salesforce website.
[Create a Record | REST API Developer Guide | Salesforce Developers](#)
- ③ When selected, the ID of the created record will be output to the specified cell.

○ “Update a record” Action

This action updates the record in the specified object.

1 Update a record in object Account

2 ID xxxxx

Record Content

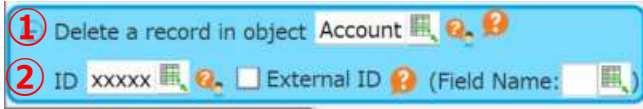
```
{
  "BillingCity": "Tokyo"
}
```

- ① Name of the object in which the record will be updated.
- ② ID of the record to be updated (Salesforce ID or External ID Standard Field)
- ③ Content of the record to be updated
Click the “Edit” button to set the record content. For instructions on how to set the content, please refer to the section “Request Body (JSON) Settings” below.

For the specified JSON, please refer to the official Salesforce website.

○ “Delete a record” Action

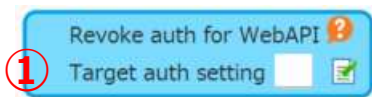
A record in the specified object will be deleted.



- ① Name of the object in which the record will be deleted.
- ② Salesforce ID of the record to be deleted.
If “External ID” is selected, it can be specified with an external ID instead, but it is necessary to specify the Field Name to be used as the ID.

○ “Revoke auth for WebAPI” Action

The authentication authorization corresponding to the specified authentication settings will be revoked. If the authentication has already been performed, the authentication authorization information stored in CELF will be discarded. No action will occur if authentication was not performed.



- ① Target auth setting
Select the relevant auth settings from the settings registered in “Salesforce Settings.”

○ “Common settings for WebAPI calls” Action

This action sets common configurations when calling the Web API. By executing this action before the “Call WebAPI” action, the content set by this action will be applied* to the request headers of the “Call WebAPI” action.

*The target is the action where the URL of the “Call WebAPI” action matches the applicable URL.



① Target URL

Specify the URL to apply to the “Call WebAPI” action.

(The ‘Request header’ settings here will be applied to “Call WebAPI” actions whose URL matches the ‘Target URL’)

Example: If the ‘Target URL’ is /ab

○ /ab/Id (Applied)

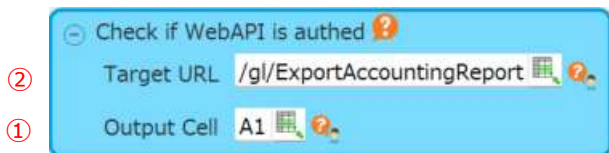
× /ac/Id (Not applied)

② Request header

Specify the header name and value pair(s) to be set in HTTP header section of a request.

○ “Check if WebAPI is authed” Action

This action verifies if authentication and authorization information exists for the specified “Target URL.”



① Target URL

Specify the URL to verify the existence of authentication and authorization information.

② Output Cell

Specify the cell to output the result of the authentication information (true or false).

○ “Call WebAPI” Action

This action calls the Salesforce REST API with specified request content and output the result to a sheet or save it as a file.

Call WebAPI

Request

- ① URL: `/gl/{path}/ExportAccountingReport`
- ② Method: `POST`
- ③ path: `path : abc`
- ④ Query: `id=xxx`
- ⑤ Body: `JSON`

```
{
  "Data": {
    "Age": "25",
    "UserName": "UserA"
  }
}
```
- ⑥ Header: `Auth : xxxxxxxx`
`TenantID : CompanyA`
- ⑦ **Response**
 Output to sheet ▼ → **Output to sheet**
 Save as file ▼ → **Save as file**
- ⑧ Format string: `JSON`
- ⑨ Output body to sheet + ?
 Output Cell `D1`
 Output Cell `D2`
- ⑩ Output headers to sheet + ?
 Output Cell `E1` Header Name `startCode`
 Output Cell `E2` Header Name `endCode`

Response
 Save as file ▼
☐ Select file with pop-up dialog
☒ Use the specified path
`C1`

The contents to be specified for each item are as follows.

Please refer to the official Salesforce website for the actual values and formats.

Request

① URL

Specify the request URL of the Web API to be called.

② Method

Specify the HTTP method for calling the WebAPI.

③ Path

Specify path parameters in the URL.

Example) If set URL ⇒ `/gl/{path}` and Path ⇒ `path:abc` Final URL ⇒ `/gl/abc`

④ Query

Add query parameters to the URL.

Example) If set URL ⇒ `/gl/test` and Query ⇒ `id=ABC` Final URL ⇒ `/gl/test?id=ABC`

⑤ Body

Specify body parameters for the request. Salesforce REST API primarily uses JSON.

For details on how to set request body parameters, please refer to the section “Request Body (JSON) Settings” below.

⑥ Header

Specify the request header parameters. If there is a header name that matches the “Common settings for WebAPI calls” action, the contents of this action will be prioritized.

Response

⑦ Output destination for the response

Specify the output destination for the response.

If you selected “Output to sheet” please refer to settings ⑧ to ⑩.

If you selected “Save as file”:

- Select “Select file with pop-up dialog” to choose the file destination in a dialog when the action is executed.
- Select “Use the specified path” to save the file with the name specified in the action.

⑧ Format String

Select the format for outputting the response results to the sheet.

For the Salesforce REST API, select JSON.

⑨ Output body to sheet

Specify the output destination for the response body.

To retrieve a specific part of the response body, specify the target node path.

Example of target node path)

If the response body is as of below, specify “status” or “operationID” to retrieve only the desired results.

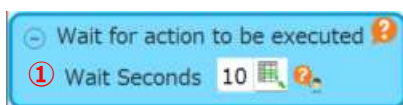
```
{
  "status": "001",
  "operationID": "ID001"
}
```

⑩ Output headers to sheet

Specify the output destination and header names for the response headers.

○ “Wait for action to be executed” Action

This action temporarily pauses the execution of the action.



① Wait Seconds

Specify the wait-time for the action.

○ Request Body (JSON) Settings

This screen is for setting the content of the records and request body, for record creation/update actions or “Call Web API” actions.

The details on object elements, array elements, and array (range-specified) elements is explained below.

Request body (JSON) Settings

Root Element: Object

① Object Elements

- Property Name: id, Type: String, Value: test
- Property Name: age, Type: Integer, Value: 20
- Property Name: data, Type: Object
 - Property Name: test1, Type: String, Value: AAA

② Array Elements

- Property Name: dataList1, Type: Array
 - String, Value: =A1
 - String, Value: =A2
 - String, Value: =A3

③ Array (Range) Elements

- Property Name: dataList2, Type: Array (Range)
 - Array (Range)
 - Row Range: 1:3, Value Type: String, Value: A

OK Cancel

① Object Elements

An object can specify any number of key-value pairs (1:1).

In addition to strings and integers, values can also be objects or arrays.

Specify the property name, data type, and value of the object.

Example) The output when the values are set as below



The screenshot shows the 'Request body (JSON) Settings' window. The 'Root Element' is set to 'Object'. Under the 'Object' section, there are two properties: 'Name' with a value of 'California Wheat Corporation' and 'Type' with a value of 'New Customer'. Both properties are set to 'String' data type. A blue box on the right shows the resulting JSON output:

```
{
  "Name": "California Wheat Corporation",
  "Type": "New Customer"
}
```

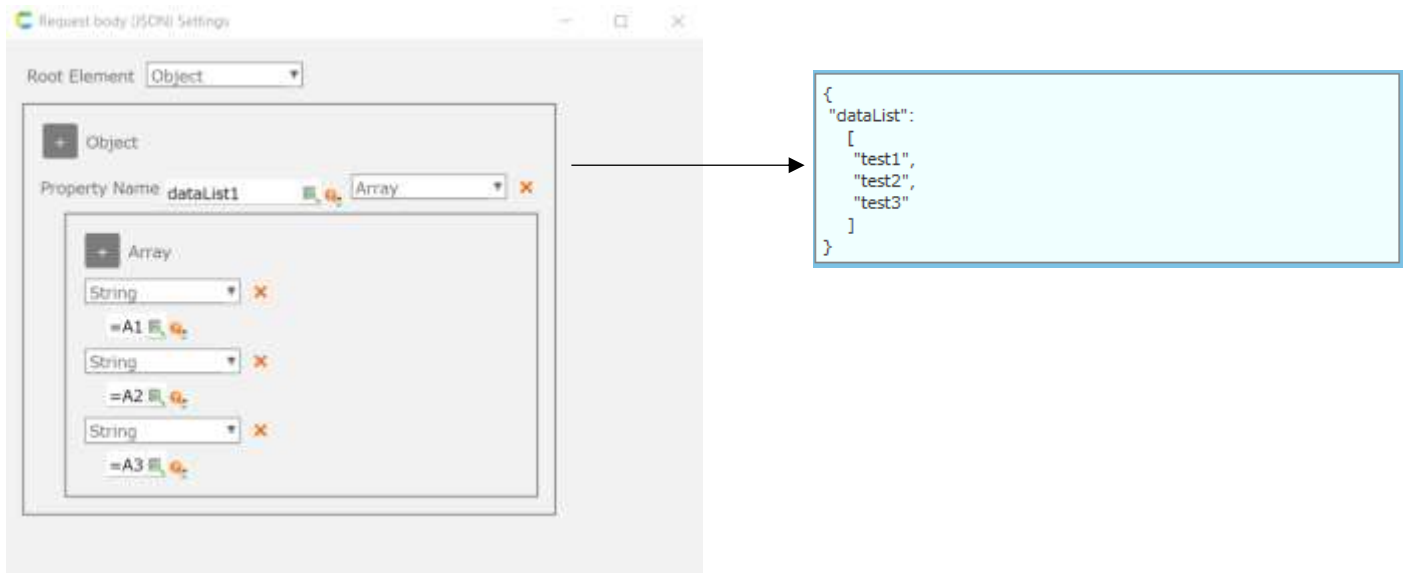
② Array Elements

An array can contain multiple values. Specify the property name, data type, and values for the array.

Values can be specified directly or by referencing sheet cells.

Example) The output when the values are set as below

In the following settings, cells A1, A2, and A3 of the sheet become the values, and if the cells contain test1, test2, and test3, the output will be as shown.



The screenshot shows the 'Request body (JSON) Settings' window. The 'Root Element' is set to 'Object'. Under the 'Object' section, there is a property named 'dataList' with a data type of 'Array'. The array contains three elements, each with a 'String' data type and a value referencing a sheet cell: '=A1', '=A2', and '=A3'. A blue box on the right shows the resulting JSON output:

```
{
  "dataList": [
    "test1",
    "test2",
    "test3"
  ]
}
```

※ When using sheet values, if the cell addresses are consecutive as shown above, you can simplify the settings with “Array (Range).” For more details, please refer to section “③Array (Range) Elements.”

③ Array (Range) Elements

Specify the property name, data type, and the range of rows and columns in the SELF sheet to use as the array's values.

Example) The output when the values are set as below

In the following settings, cells A1, A2, and A3 of the sheet become the array's values, and if the cells contain test1, test2, and test3, the output will be as shown.



```
{
  "dataList":
  [
    "test1",
    "test2",
    "test3"
  ]
}
```

○ Behavior of “Call WebAPI” Action Execution

- Result of WebAPI

Please verify the execution results of the “Call WebAPI” action from the output response.

For details on the response, please refer to the API reference on the official Salesforce website.

- Errors during the execution of action set

If an error occurs in the "WebAPI call" action, you can view the HTTP status code of the response and the body details from the error details. Please use this information to identify the cause of the error.

This error can be handled by using the "Output error information" action.

