Oracle Financial Services Know Your Customer

Utilities Guide

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OFS Know Your Customer Utilities Guide

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Document Control

Table 1: Document Control

Revision Number	Revision Date	Change Log
8.1.2.6.0	October 2023	There are no updates to this document in this release.
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1 About This Guide

This guide details the table and table elements that form a part of the Table to JSON and JSON to Table utilities' web services which can be deployed on any web server.

1.1 Who Should Use This Guide

This document is intended for all those users who want to understand the utilities used in the Oracle Financial Services Know Your Customer (OFS KYC) onboarding service so that they can integrate with our service from their onboarding systems.

1.2 How this Guide is Organized

The OFS KYC Utilities Guide includes the following chapters:

- Overview provides information on the Table to JSON utility and JSON to Table utility.
- Tables and Table Elements provides information on the different tables used.
- Viewing JSON shows a sample JSON.
- Mapping IDs and REST URLs for Utilities provides information on the mapping IDs and REST URLs used.

1.3 Where to Find More Information

For more information about OFS KYC, see the following documents:

- Know Your Customer Administration Guide
- Know Your Customer Risk Assessment Guide
- Data Interface Specification (DIS) Guide
- Data Model Reference (DMR) Guide
- Service Guide
- API Data Elements Guide
- Enterprise Case Management User Guide.

These documents can be found at the following link: Financial Crime and Compliance Management Behavior Detection Application Pack.

To find additional information about how OFS solves real business problems, see our website at Financial Services Home Page.

1.4 Conventions Used in This Guide

Table 2 mentions the conventions used in this guide.

Table 2: Conventions Used

Conventions	Meaning
Italics	• Names of books as references • Emphasis • Substitute input values

Table 2: Conventions Used

Conventions	Meaning
Bold	• Menu names, field names, options, button names • Commands typed at a prompt • User input
`Monospace`	• Directories and subdirectories • File names and extensions • Code sample, including keywords and variables within the text and as separate paragraphs, and user-defined program elements within the text
Hyperlink	Hyperlink type indicates the links to external websites and internal document links to sections.
Asterisk (*)	Mandatory fields in User Interface
<Variable>	Substitute input value

2 Overview

The following sections discuss the prerequisites and utilities used.

Topics:

- Prerequisites
- Table to JSON Utility
- JSON to Table Utility

2.1 Prerequisites

JNDI data source configured for the ATOMIC schema. After you deploy the web service, replace the `##JNDI_NAME##` placeholder with the data source name in the following files:

- `connection.properties` file under the `WEB-INF/classes` directory.
- `Web.xml` file under the `WEB-INF/classes` directory.

2.2 Table to JSON Utility

The Table to JSON utility creates a JSON according to the configurations specified by a user. The user can define the JSON structure and the JSON fields to be constructed, and indicate where each field data is available. Once the field values are provided, the utility creates the JSON according to the specified configurations and picks the values against each field defined during configuration.

> **NOTE** The utility can support only two levels of the array in the JSON. To see an example, see Viewing JSON. Examples are also provided in the Oracle Financial Services Know Your Customer Service Guide.

The Table to JSON utility is used in KYC to perform the following tasks:

- Prepare the inputs of the third-party verifications to be provided as a part of the onboarding service. The JSONs can vary based on data such as country, data sources, and customer type. Ready-to-use mappings have been created to use this JSON.
- Prepare the input JSON for the onboarding service. This JSON is then provided as a response for KYC Onboarding.
- Create risk assesments.
- Prepare the input for Customer Screening (CS).
- Prepare the input of the internal watch list.

The Table to JSON utility is used in Enterprise Case Management (ECM) to perform the following tasks:

- Generate the JSON response for the Common Gateway service.
- Generate the JSON response, which will be available in the KYC setup.

> **NOTE** The Table to JSON utility must only be used in conjunction with the Financial Crime and Compliance Management (FCCM) application packs. Usage with any external applications is not allowed.

2.3 JSON to Table Utility

The JSON to Table utility allows users to define where each field's data is available. These values are captured in the database in a tabular format. This utility captures the information of individual fields of JSON as per the configuration.

The JSON to Table utility is used in KYC to:

- Save the JSON response.
- Display the JSON response on your User Interface.

> **NOTE** The Table to JSON utility must only be used in conjunction with the Financial Crime and Compliance Management (FCCM) application packs. Usage with any external applications is not allowed.

3 Tables and Table Elements

As part of the general configuration, some tables need to be updated to get the JSONs constructed by the utility. Currently, these configurations must be defined by the user in the tables. These tables and their respective columns are explained in the following sections.

3.1 Table to JSON

The following tables must be configured so that the Table to JSON utility can construct the JSON:

- fcc_tpg_table_json_mapping Table
- fcc_tpg_table_json_query Table
- fcc_tpg_table_json_query_params Table.

3.1.1 fcc_tpg_table_json_mapping Table

This table allows you to configure the JSON constructed by the utility and is the first table that needs to be configured. Use this table to perform the following tasks:

- Configure the structure of the JSON
- Indicate whether the value of the JSON is from a column in the table or a user input
- Configure the value of the JSON field
- Configure the data type of the field or array of the JSON.

To view the table values, run the following query:

```
select * from fcc_tpg_table_json_mapping where mapping_id ='parent_mapping_id value';
```

Table 3 describes the values as follows.

Table 3: fcc_tpg_table_json_mapping Table

Value Name	Description
Mapping ID	Mapping IDs are used in queries to construct a JSON. Each table has a mapping ID assigned to it and is case-sensitive. For example, TEST_ARRAY_ENH1. Mapping IDs are unique for every JSON which is constructed.
Key	A unique key is assigned for every mapping ID which is generated.
Parent Field	Parent of the key that is generated in the JSON. The parent field of the first layer of keys must be kept as a parent in this field. For the second layer of keys, the parent field is the field in the first layer of keys.
Field	This field captures the exact label of the field name generated in the JSON.
Field Type	This field captures the field type. The types can be ELEMENT, OBJECT, or ARRAY.
Field Data Type	This field captures the field data type of the JSON. The default is STRING. Other acceptable values are STRING, NUMBER, and BOOLEAN.

Table 3: fcc_tpg_table_json_mapping Table

Value Name	Description
Array Data Type	This field captures the array data type. The default is OBJECT (JSON object). Other acceptable values are OBJECT, STRING, NUMBER, and BOOLEAN.
Data Source	The data source has to be either TABLE or REQUEST. The data source is TABLE if the value comes from a table or expression. The data source is REQUEST if the value comes from the request parameters. For information on the request parameters, see the Oracle Financial Services Know Your Customer Service Guide.
Table Name	This field captures the name of each table that contains the JSON field values. This has to be only in the schema where the web services are deployed. If the field's value is not available in a table, then this will be blank. If the value is static, then this value can be provided in the Expression column. The table name must have the physical table name as defined in the database.
Column Name	This field captures the physical name of the column corresponding to the table, which contains the field values of the JSON.
Expression	SQL expression that generates the field value. It overrides the Table Name and Column Name fields. It must be as is from the SQL query that generates the value. For example, in the case of `SELECT` SampleValue `FROM DUAL`, the expression field would be SampleValue. In the case of `SELECT UPPER(TABLE_NAME.COLUMN_NAME)` from CUST, the expression field would be `UPPER(TABLE_NAME.COLUMN_NAME)`.
Key Source	Provide the key source value as `REQUEST` to make a particular JSON field value dynamic. This means that the key is substituted by the value of the request parameters in the URL.
Related Mapping ID	Provides the mapping ID for the child array element inside the parent array. Each child array value in Field has a corresponding Related Mapping ID. The default of Related Mapping ID is null.
Primary Key	Provides the primary key for the parent array element. For each parent array value in Parent Field, there is a corresponding Mapping ID. The default is null.

3.1.2 fcc_tpg_table_json_query Table

This table contains the FROM and WHERE clauses of the queries used to construct the JSON. This table has to be updated for each mapping to reflect the FROM and WHERE clauses.

To view the table values, run the following query:

```
select * from fcc_tpg_table_json_query where mapping_id = 'parent_mapping_id value'
```

Table 4 describes the values as follows.

Table 4: fcc_tpg_table_json_query Table

Value Name	Description
Mapping ID	This field captures the mapping IDs which are case-sensitive. This mapping ID has to be the same as the previous table mapping ID.
Parent Field	Parent of the key that is generated in the JSON. The parent field of the first layer of keys must be kept as a parent in this field.
From Clause	FROM clause of the query that provides the data for the JSON. It should be defined at the parent level whenever we need to define a mapping ID.
Where Clause	WHERE clause of the query that provides the data for the JSON. There should only be one record being returned for the `OBJECT` and `ELEMENT` types. `ARRAYS` may have one or more records, and each of those records will become a separate `ARRAY` element. It should be defined at the parent level, and every time, we need to pass request parameters for the URL and replace the question mark.
Foreign Key	Provides the foreign key for the child array element. Each child array value in the Field has a corresponding Related Mapping ID. You must define the foreign key for that child array. The default is null.

3.1.3 fcc_tpg_table_json_query_params Table

This table contains the request parameters used by the queries in the `fcc_tpg_table_json_query` table.

To view the table values, run the following query:

```
select * from fcc_tpg_table_json_query_param where mapping_id =
'parent_mapping_id value';
```

Table 5 describes the values as follows.

Table 5: fcc_tpg_table_json_query_params Table

Value Name	Description
Mapping ID	Mapping IDs are used in queries to construct a JSON. Each table has a mapping ID assigned to it and is case-sensitive. For example, `TEST_ARRAY_ENH1`. Mapping IDs are unique for every JSON which is constructed.
Parent Field	Parent of the key that is generated in the JSON. The parent field of the first layer of keys must be kept as a parent in this field.
Parameter Order	Order of the parameter within the WHERE clause of the previous table. The ? values will replace values in the WHERE clause in this order. For example, if the WHERE clause is where `ob_cust_seq_id = ?` and `request_id = ?`, the first ? is replaced by the value of the parameter with order 1.
Parameter Name	Name of the query parameter that will be passed through the URL.

Table 5: fcc_tpg_table_json_query_params Table

Value Name	Description
Parameter Source	Source of the parameter. REQUEST is the only supported value now.

After the configurations are done, enter the URL for the JSON in the POSTMAN client based on the following format:

```
http://domain:port/ TabletoJSONService/createtabletojson?mappingId= ” ”
```

3.2 JSON to Table

The following tables are used in this utility:

- fcc_ob_json_table_config Table
- fcc_ob_json_table_map Table.

3.2.1 fcc_ob_json_table_config Table

This table defines the structure of the input JSON, which needs to be persisted in the KYC tables.

To view the table values, run the following query:

```
select * from fcc_tpg_json_table_config where
parent_mapping_id='parent_mapping_id value' order by order_used;
```

Table 6 describes the values as follows.

Table 6: fcc_ob_json_table_config Table

Value Name	Description
PARENT_MAPPING_ID	Parent mapping ID of the JSON. The parent_mapping_id value can be one of the following: • SCORING_RESPONSE • CS_WLS_RESPONSE • INT_WLS_RESPONSE • TRULIOO_ENTITY_RESPONSE • TRULIOO_RESPONSE.
JSON_ELEMENT	This field captures the JSON ID value for each JSON element. This value should match the element names in the JSON.
PARENT_JSON_ELEMENT	This field captures the name of the parent JSON element. If there is no parent element, (null) is displayed by default.
DATA_TYPE	This field captures the logical data type of the JSON element. The default is STRING. Other Data types are String array, Array, or JSON.
ORDER_USED	This field provides the order of the JSON elements which need to be captured among the complete JSON structure. The order of the first element to be captured is 1. The order of each subsequent element increases by 1 whenever a particular JSON element is captured.

3.2.2 fcc_ob_json_table_map Table

This table contains the mappings between the configured JSON elements and the corresponding table elements.

To view the table values, run the following query:

```
select * from fcc_tpg_json_table_map where parent_mapping_id='<
parent_mapping_id value>' order by order_used;
```

Table 7 describes the values as follows.

Table 7: fcc_ob_json_table_map Table

Value Name	Description
MAPPING_ID	Child mapping ID of the parent mapping ID. For example, if the corresponding parent mapping ID is mapped to three different tables, then three unique mapping IDs will be used.
PARENT_MAPPING_ID	Mapping ID which groups all the configurations and the corresponding mappings for the JSON. This must be the same in both config and map tables. The parent_mapping_id value can be one of the following: • SCORING_RESPONSE • CS_WLS_RESPONSE • INT_WLS_RESPONSE • IDV_ENTITY_RESPONSE • IDV_RESPONSE.
JSON_ELEMENT	The JSON elements configured in the config table. Only captures JSON elements of type String or String array. If a JSON element of type JSON or array is defined in the config table, then that JSON element must not be displayed in the map table.
TARGET_TABLE	The table into which data is persisted.
TARGET_COLUMN	The column into which data is persisted.
EXPRESSION	Values can be the service name, system date, or another query expression. If you do not know the actual expression value, provide the value NOTNULL.
ORDER_USED	The same order used for a particular JSON element in the config table. Only captures JSON elements of type string.

4 Viewing JSON

The following steps shows how to view the JSON in different utilities.

To view the JSON for the Table to JSON utility, follow these steps:

1. Open the POSTMAN client.
2. In the Builder tab, select the POST method.
3. Enter a URL in the method field. An example is given below.

   http://domain:port/TabletoJSONService/createtabletojson?mappingId= ‘ ‘
4. Click **Send**.

   The JSON appears in the Request Body editor.

To view the JSON for the JSON to Table utility, follow these steps:

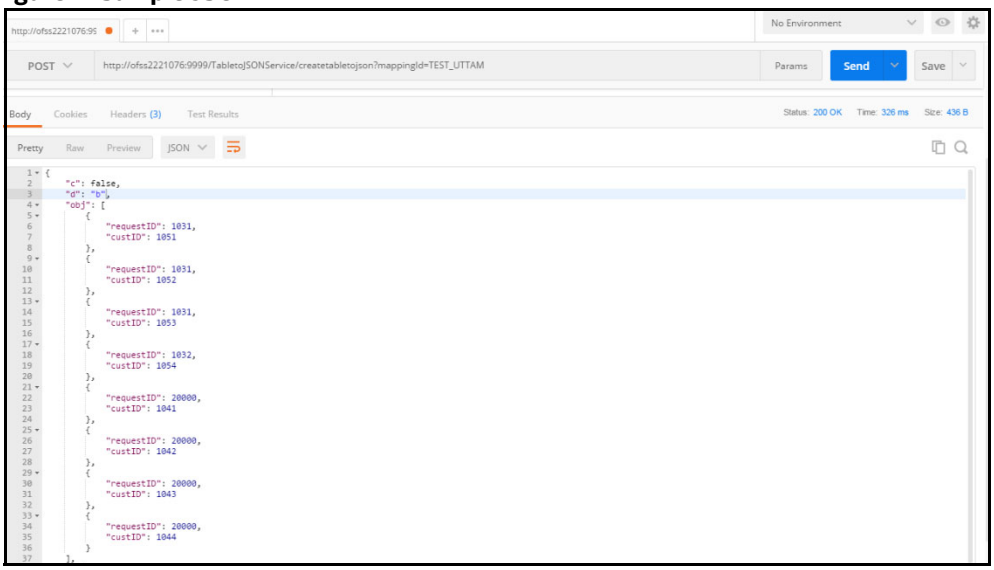
1. Open the POSTMAN client.
2. In the Builder tab, select the POST method.
3. Enter a URL in the method field. An example is given below.

   http://domain:port/JSONToTablePersistenceUtility/persistJSON?mappingID=’ ‘&requestid=’ ‘&OB_CUST_SEQ_ID=’ ‘
4. Click **Send**.

   The JSON appears in the Request Body editor.

The following figure is a sample JSON.

Figure 1: Sample JSON



If there are any errors, they are displayed in the Body editor after you send the request.

5 Mapping IDs and REST URLs for Utilities

This chapter provides the required mapping IDs and REST URLs for the utilities.For information on the JSON preparation, see the Input preparation, Hitting the individual services, or Output capture section in the Oracle Financial Services Know Your Customer Service Guide.

Table 8 provides information on the mapping IDs, REST URLs, and the applicable utilities.

Table 8: Mapping IDs and REST URLs for Utilities

Mapping ID	Description	URL	Utility
CMMN_GATEWAY_INPUT	This mapping ID defines the structure of the JSON to be formed for the common gateway. It holds the definition of each data element and the value to be picked from the table for input creation.	http://#deployed_server#:#port#/TabletoJSONService/createtabletojson?mappingId=CMMN_GATEWAY_INPUT&requestId={OB_REQUEST_ID}&customerCounter={OB_CUST_COUNT}	Table to JSON
CREATE_ASSMNT	This mapping ID defines the structure of the JSON to be formed for creating an assessment. It holds the definition of each data element and the value to be picked from the table for input creation.	http://#deployed_server#:#port#/TabletoJSONService/createtabletojson?mappingId=CREATE_ASSMNT&requestId={OB_REQUEST_ID}	Table to JSON
CS_INPUT_IND	This mapping ID defines the structure of the JSON to be formed for customer screening where the customer type is individual. It holds the definition of each data element and the value to be picked from the table.	http://#deployed_server#:#port#/CommonGatewayService/createtabletojson?mappingId=CS_INPUT_IND&customerId={CUSTOMER_ID}&requestId={REQUEST_ID}	Table to JSON
CS_INPUT_NONIND	This mapping ID defines the structure of the JSON to be formed for customer screening where the customer type is entity. It holds the definition of each data element and the value to be picked from the table.	http://#deployed_server#:#port#/CommonGatewayService/createtabletojson?mappingId=CS_INPUT_NONIND&customerId={CUSTOMER_ID}&requestId={REQUEST_ID}	Table to JSON

Table 8: Mapping IDs and REST URLs for Utilities

Mapping ID	Description	URL	Utility
INTRL_WLS_INPUT	This mapping ID defines the structure of the JSON to be formed for the internal watch list. It holds the definition of each data element and its value to be picked from the table for input creation.	http://#deployed_server#:#port#/CommonGatewayService/createtabletojson?mappingId=INTRL_WLS_INPUT&requestId={REQUEST_ID}	Table to JSON
OB_RESP_1	This mapping ID defines the structure of the JSON to be formed as a final response after the onboarding customer data has been processed through all the services.	http://#deployed_server#:#port#/TabletoJSONService/createtabletojson?mappingId=OB_RESP_1&requestId=1003	Table to JSON
SCORING_INPUT	This mapping ID defines the structure of the JSON to be formed for the scoring service. It holds the definition of each data element and the value to be picked from the table for input creation.	http://#deployed_server#:#port#/TabletoJSONService/createtabletojson?mappingId=SCORING_INPUT&requestId={OB_REQUEST_ID}	Table to JSON
SCORING_RESPONSE	This mapping ID defines where the values of the scoring output in the JSON format have to be captured in the KYC OB tables. This must be in the form of a table. Column mappings for each data element of the JSON.	http://#deployed_server#:#port#/JSONToTablePersistenceUtility/persistJSON?mappingID=SCORING_RESPONSE&requestid={OB_REQUEST_ID}	Table to JSON
CS_WLS_RESPONSE	This mapping ID defines where the values of the customer screening output in the form of JSON have to be captured in the KYC OB tables. This must be in the form of a table. Column mappings for each data element of the JSON.	http://#deployed_server#:#port#/JSONToTablePersistenceUtility/persistJSON?mappingID=CS_WLS_RESPONSE&requestId={OB_REQUEST_ID}&customerId={CUST_SEQ_ID}	JSON to table

Table 8: Mapping IDs and REST URLs for Utilities

Mapping ID	Description	URL	Utility
INT_WLS_RESPONSE	This mapping ID defines where the values of the internal watch list output in the form of JSON have to be captured in the KYC OB tables. This must be in the form of a table. Column mappings for each data element of the JSON.	http://#deployed_server#:#port#/JSONToTablePersistenceUtility/persistJSON?mappingID=INT_WLS_RESPONSE&requestid={OB_REQUEST_ID}&customerId={CUST_SEQ_ID}	JSON to table
CREATE_ASSMNT	This mapping ID defines the table. Column will be updated based on the JSON formed when you create an assessment.	http://#deployed_server#:#port#/JSONToTablePersistenceUtility/persistJSON?mappingID=CREATE_ASSMNT	JSON to table
KYCOB_CASE_RESPONSE	The action taken on cases gives a JSON response. This mapping ID defines in which table. Column value will be updated.	http://#deployed_server#:#port#/JSONToTablePersistenceUtility/persistJSON?mappingID=KYCOB_CASE_RESPONSE	JSON to table

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