



NewgenONE

Data Model Designer Microservices

Developer Guide

Version: 2024.2

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Preface

This chapter provides information about the purpose of this guide, details of the intended audience, revision history, and related documentation for NewgenONE Microservices.

Revision history

Revision date	Description
October 2024	Initial publication

About this document

This developer guide explains the development and integration of NewgenONE Microservices. This guide outlines the Microservices necessary for implementing the workitem and data objects created in the data model and process designer. Also, it provides more flexibility and the ability to run the services independently.

This guide assumes you have functional knowledge of Data Model Designer

To ensure you are referring to the latest and most recent revision of this guide, download it from one of the following locations:



[Newgen Internal Doc Portal](#), if you are a Newgen employee.

[Newgen Partner Portal](#), if you are Newgen partner.

Intended audience

This guide is intended for the developers from internal or external product implementation teams responsible for integrating Application Programming Interface (APIs) exposed as NewgenONE Microservices with custom Portal Applications created using the NewgenONE Process Designer and Data Model Designer. The reader must be comfortable with API Signature formats in JSON to understand API requests and responses.

Related documents

The following documents are related to NewgenONE Microservices:

- NewgenONE 2024.2 Configuration and Deployment Guide for AWS
- NewgenONE 2024.2 Newgen Enterprise Products Containerization for AWS
- NewgenONE 2024.2 Developer Guide

Documentation feedback

To provide feedback or any improvement suggestions on technical documentation, write an email to docs.feedback@newgensoft.com.

To help capture your feedback effectively, share the following information in your email:

- Document name
- Version
- Chapter, topic, or section
- Feedback or suggestions

Introduction to NewgenONE Microservices

Using the exposed APIs in NewgenONE Microservices, Portal applications can perform the Insert, update, delete, select and bulk insert operations on data objects created using the Data Model Designer (DMD).

You can either create a portal application from Process Designer in the existing NewgenONE installation or can implement a custom portal application and call the available NewgenONE Microservices to derive the required results.

Data Model Designer service

This chapter includes the following APIs:

- [CFGetTableDefinition](#)
- [CFUpdateTableData](#)
- [CFGetTableData](#)

CFGetTableDefinition

The CFGetTableDefinition API allows you to get the definition of a table made from the DMD.

- Service URL — *http://<GatewayIp: GatewayPort>/mdm-definition-service-context/mdmDef/getTableDefinition*
Where, GatewayIp is the IP of the machine, and GatewayPort is the port of the machine where the DMD definition service is deployed.
Example — *http://192.168.148.91:8765/mdm-definition-service-context/mdmDef/getTableDefinition*
- Request Media Type — application/json
- Response Media Type — application/json
- Method Type — POST

Header parameters description

The following table describes the header parameters of the *CFGetTableDefinition* API, if OAuth is disabled:

Name	Parameter Scope	Type	Description	Mandatory
Accept-Language	HeaderParam	Locale	Represents the natural language and locale that the client prefers. Example- en-US	No
Tenant-Id	HeaderParam	String	Name of the cabinet.	Yes
Authorization	HeaderParam	String	The session ID of the signed-in user.	Yes
UserId	HeaderParam	String	The user ID of the signed-in user.	No
UserName	HeaderParam	String	The username of the signed-in user.	No

If OAuth is enabled:

Name	Parameter Scope	Type	Description	Mandatory
AppId	HeaderParam	String	Registered AppId of the product	No
Access Token	HeaderParam	String	AccessToken for the signed-in user	No
SessionValid	HeaderParam	String	SessionValid for the signed-in user	No

Request body parameters description

The following table describes the request body parameters of the *CFGetTableDefinition* API:

Name	Parent Tag	Type	Description	Default Values	Valid Values	Mandatory
id	Root	Integer	ID of the user-created data object.	NA		No
name	Root	String	User requested data object name.	NA		Yes
status	Root	Integer	Data object status. For example, it is newly created or modified.	1	1-Created Approved	Yes
from_application	Root	String	Indicates the source of initiated request (portal application, custom application, or Omniapp).	NA	- iForm- When the API is called from a portal or custom application. - Empty String ("")- When the API is called from DMD UI.	No

Response body parameters description

The following table describes the response body parameters of the *CFGGetTableDefinition* API:

Name	Parent Tag	Parameter Type	Description
Status	root	CFCallStatus	Contains the microservice call status details.
maincode	status	Integer	Indicates the API returned success or error code. If API returns the success then, maincode = 0.
suberrorcode	status	Integer	Indicates the specific exception or error that appears during API execution.
typeoferror	status	String	Indicates the error nature.
subject	status	String	Indicates the error name.
description	status	String	Indicates the detailed error message.
errmsg	status	String	Indicates the API returned custom error message.
data	root	OutputData	Contains the object definition information.
session_id	data	Integer	The session ID of the signed-in user.
userid	data	Integer	The user ID of the signed-in user.
batch_size	data	Integer	Indicates the batch size of the object.
id	data	String	Indicates the ID of the requested object.
name	data	String	Indicates the name of the requested object.
alias_name	data	String	The object view name.
dataobject_type	data	String	Indicates the type of data object.
object_type	data	String	Indicates the type of the object.

Name	Parent Tag	Parameter Type	Description
arr_type_do	data	String	Indicates whether this object is an array type or not.
object_id	data	String	Indicates the ID of the object.
operatios_flag	data	String	Indicates the operations flag.
category_name	data	String	Indicates the category name of the object.
category_id	data	String	Indicates the category ID of the object.
approval_status	data	String	Indicates the approval status.
view_attached	data	String	Indicates whether the object has attached view or not.
import_enabled	data	String	Indicates whether the object importing in the current object is enabled or not.
default_sorting	data	String	Indicates the default sorting columns of the object.
columns	default_sorting	ArrayList<CFDataField Base>	Indicates the list of columns where default sorting is enabled.
name	columns (default_sorting)	String	Indicates column name of the object where default sorting is enabled.
sort_order	columns (default_sorting)	String	Indicates default sorting order.
dataobject_mode	data	Integer	Indicates data object modes.
data_sync_enabled	data	Boolean	Indicates whether data synchronization is enabled or not.
maker_checker_enbaled	data	Boolean	Represents if the object is in maker checker mode.
auto_generate_table	data	String	Indicates whether this object is auto generated or not.

Name	Parent Tag	Parameter Type	Description
static_data_object	data	Boolean	Indicates whether this object is used as a static data object or not.
columns	data		Definition list of all the columns in the object.
mappedobject	data	String	Indicates whether an object is mapped or not.
cf_rights	data	CFRights	Displays the user rights on the requested table.
attach_rights	cf_rights	Boolean	Indicates if the user is having attached view rights or not.
access_type	cf_rights	String	The data object access type for a user is as follows: I - Inherited P - Private S - Shared
user_group_acs	cf_rights	String	Displays the user group description.
login_user_rights	cf_rights	Binary String	Indicates the user's rights about modifying the definition of the table.
functions	data	ArrayList <CFFunctionsBase>	Indicates functions information. This functions are used to perform certain actions on the object.
name	functions	String	Indicates the function name.
description	functions	String	Indicates the description of the function.
status	functions	Integer	Indicates the status of the function.
filters	functions	CFFilterInfoBase	Indicates information of filter defined in the function.
conditions	filters	ArrayList<CFConditionInfo>	Indicates the list of conditions in the filter.

Name	Parent Tag	Parameter Type	Description
operator	conditions	Integer	Operator to establish a relation between field name and value. 1 < 2 <= 3 = 4 <> 5 > 6 >= 7 LIKE
start_brace	conditions	Boolean	Determines if a start brace is required or not.
end_brace	conditions	Boolean	Determines if a end brace is required or not.
field_type	conditions	String	Indicates the type of field value in the condition. C - Constant F - Function S - System Variable
field_name	conditions	String	Name of the field on which filter is applied.
type	conditions	Integer	Data type of field on which filter is applied.
field_value	conditions	String	Value of field on which filter is applied.
logical_op	conditions	Integer	Logical operator to establish
parent_op	data	ArrayList<CFParent ChildDO_Base>	Indicates the information of the parent data object of this object.
alias_name	parent_do	String	Indicates alias name of the parent data object given by the user.
name	parent_do	Integer	Indicates name of the parent data object.
status	parent_do	String	Indicates the status of the parent data object.
arr_type_do	parent_do	String	Indicates whether its parent object is of an array type or not.
rel_do_id	parent_do	Integer	Indicates the ID of the parent object.
relation_type	parent_do	String	Indicates the relation type.

Name	Parent Tag	Parameter Type	Description
relations	parent_do	String	Indicates the information of the relations.
base_do_field	relations	String	Indicates a parent's column name that is mapped with this object.
mapped_do_field	relations	String	Indicates a parent's column name that is mapped with this object.
parent_rel_key	relations	String	Indicates whether it is a parent relation key or not.
mapped_do_field_alias	relations	String	Indicates alias name of its parent data object.
child_rel_key	relations	String	Indicates whether it is a child relation key or not.
child_do	data	ArrayList<CFParentChildDo_Base>	Indicates the information of the child's data object of this object.
alias_name	child_do	String	Indicates alias name of the child data object name given by the user.
name	child_do	String	Indicates the name of the child data object.
status	child_do	Integer	Indicates the status of the child data object.
arr_type_do	child_do	String	Indicates whether its child object is of an array type or not.
rel_do_id	child_do	Integer	Indicates the child's object id.
relation_type	child_do	String	Indicates the relation between parent and child data objects.
relations	child_do	JSONArray	Indicates the information of child-parent mapping relations.
base_do_field	relations	String	Indicates current objects's column name that is mapped to its child object.

Name	Parent Tag	Parameter Type	Description
mapped_do_field	relations	String	Indicates a child's column name that is mapped with this object.
parent_rel_key	relations	String	Indicates whether it is a parent relation key or not.
mapped_do_field_alias	relations	String	Indicates alias name of its child data object.
child_rel_key	relations	String	Indicates whether it is a child relation key or not.
constraints	data	HashMap<String, CFConstraintsBase>	Indicates the information of constraints defined in the object.
KeyField	constraints	CFConstraintsBase	Indicates the Key Field information.
definition	KeyField	ArrayList<CF ConstraintBase>	Indicates the list of constraints information.
fields	definition	ArrayList<CF ConstraintBase>	Indicates the list of fields used in the constraints information.
name	fields	String	Indicates the name of the field.
status	definition	Integer	Indicates the name of the constraint.
old_status	definition	Integer	Indicates the old status of constraint.
constraint_id	definition	String	Indicates the ID of the constraint.
type	KeyField	Integer	Indicates the type of key field constraint.
NotNull	constraints	CFConstraintsBase	Indicates the Not Null constraints information.
definition	NotNull	ArrayList<CF ConstraintBase>	Indicates the list of constraints information.
fields	definition	ArrayList<CF ConstraintBase>	Indicates the list of fields used in the constraint.
name	fields	String	Indicates the name of the field.
status	definition	Integer	Indicates the status of constraint.
old_status	definition	Integer	Indicates the old status of constraint.

Name	Parent Tag	Parameter Type	Description
constraint_id	definition	String	Indicates the ID of the constraint.
type	NotNull	Integer	Indicates the type of NotNull constraint.
Indexes	constraints	CFConstraintsBase	Indicates the Index constraints information.
definition	Indexes	ArrayList<CF ConstraintBase>	Indicates the list of constraints information.
fields	definition	ArrayList <CF ConstraintBase>	Indicates the list of fields used in the constraint.
name	fields	String	Indicates the name of the field.
status	definition	Integer	Indicates the status of constraint.
old_status	definition	Integer	Indicates the old status of constraint.
constraint_id	definition	String	Indicates the ID of the constraint.
type	Indexes	Integer	Indicates the type of index constraint.
unique	constraints	CFConstraintsBase	Indicates the unique constraints information.
definition	Unique	ArrayList<CF ConstraintBase>	Indicates the list of constraints information.
fields	definition	ArrayList <CF ConstraintBase>	Indicates the list of fields used in the constraint.
name	fields	String	Indicates the name of the field.
status	definition	Integer	Indicates the status of constraint.
old_status	definition	Integer	Indicates the old status of constraint.
constraint_id	definition	String	Indicates the ID of the constraint.
type	unique	Integer	Indicates the type of unique constraint.
data_source_mapping	data	CFDataSourceMapping	Indicates information of various data source mapping.

Name	Parent Tag	Parameter Type	Description
filters	data_source_mapping	CFFilter	Indicates information of filters defined in the data source mapping.
name	filters	String	Indicates the field name used in the filter.
prefix	filters	String	Indicates prefix value of the filter.
last_value	filters	String	Indicates last_value of the filter.
conditions	filters	ArrayList<CFCondition>	Indicates the list of conditions in the filter.
operator	conditions	Integer	Operator to establish a relation between field name and value.
start_brace	conditions	Boolean	Determines if a start brace is required or not.
end_brace	conditions	Boolean	Determines if end brace is required or not.
field_type	conditions	String	Indicates the type of field value as follows: C - Constant F - Function S - System Variable
field_name	conditions	String	Field name on which the filter is applied.
type	conditions	Integer	Data type of field on which filter is applied.
field_value	conditions	String	Field value on which filter is applied.
logical_op	conditions	Integer	Logical operator to establish a relation between two filters.
update_existing_records	data_source_mapping	Boolean	Indicates whether updating in the existing recorder is enabled or not.
array_field_mapping	data_source_mapping	ArrayList<CFDsTableInfo>	Indicates the information of array field mapping.
joininfo	basic_field_mapping	CFJoinInfo	Indicates the joining information of the mapped data sources.

Name	Parent Tag	Parameter Type	Description
type	joininfo	Integer	Indicates the type of the join used between multiple data sources.
join_query	joininfo	String	Indicates the query for joining multiple data sources.
basic_field_mapping	data_source_mapping	CFBaseFieldMapping	Indicates the information of basic field mapping.
tables	basic_field_mapping	ArrayList<CFDsTableInfo>	Indicates the data object properties of multiple data sources.
tablename	tables	String	Indicates the name of the data object mapped with this object.
datasource	tables	String	Displays the cabinet name (data source) mapped with this object.
primary	tables	String	Indicates whether this data object is marked as a primary or not.
view_name	tables	String	Indicates the attached view name of the data object.
relation_info	tables	JSONObject	Displays the information of relations.
column_name	relation_info	String	Indicates the column name of the mapped object.
column_type	relation_info	String	Indicates the column type of the mapped object.
field_name	relation_info	String	Indicates the field name of the mapped object.
mappings	tables	ArrayList<CFColumnMappingBase>	Indicates column information of the data object.
field_name	mappings	String	Indicates the column name of the data object.
length	mappings	Integer	Indicates the length of the column.
precision	mappings	Integer	Represents the value of float scale.

Name	Parent Tag	Parameter Type	Description
column_name	mappings	String	Indicates the column name of the table that is mapped with this object.
column_type	mappings	Integer	Indicates the column type of the data object.
keyfield	mappings	String	Indicates whether it is a key field or not.
array	columns	Boolean	Indicates whether this column is defined as array type or not.
foreign_key	columns	Boolean	Indicates whether this column is defined as foreign key or not.
primary_key	columns	Boolean	Indicates whether this column is defined as the primary key or not.
id	columns	Integer	Indicates index of the column in the requested table.
status	columns	Integer	The status of the column is as follows: 1 - Status Approved 2, 3, or 4 - Pending for Approval
name	columns	String	Name of the column.
type	columns	Integer	Indicates the type of the column.
alias	columns	String	User has given the alias name to the column.
default_value	columns	String	User has set the default value to the column.
length	columns	Integer	User has set the length of the field on the column.
unique	columns	Integer	Indicates when the column contains the unique value.
unique_index	columns	String	Indicates the unique index of the column.
allow_sorting	columns	Integer	Indicates whether sorting is enabled in this column or not.
currency_symbol	columns	String	Indicates the currency symbol.

Name	Parent Tag	Parameter Type	Description
country_code	columns	String	Indicates the country code.
file_type	columns	String	Indicates the file type used in the column.
auto_generated_enabled	columns	Boolean	Indicates whether in this column auto generation enabled or not.
masking	columns	JSONObject	Indicates masking and encryption properties.
character	masking	String	Indicates the special character used for masking X or * .
variable_length	masking	Boolean	Indicates whether the masking field length is variable or not.
masking_type	masking	Integer	Indicates the special character used for masking. 1 - Credit card, Aadhar, Custom type 2 - PAN
pattern_type	masking	Integer	Indicates type of the pattern used in masking. 1,2 - AADHAR 3 - CREDIT CARD 4 - PAN -1000 - Custom type
data_length	masking	Integer	Indicates length of the field where masking is enabled.
prefix_value	masking	Integer	Indicates the length of the prefix.
suffix_value	masking	Integer	Indicates the length of the suffix.
mask_enabled	masking	Boolean	Indicates when the masking is enabled in this column or not.

Name	Parent Tag	Parameter Type	Description
digit	masking	Binary String	This binary string indicates the masking enabled with respect to each position. 0 - Masking is not enabled in this position 1 - Masking is enabled in this position.
mask_full_length	masking	Boolean	Indicates when the masking enabled on full length or not.
mandatory	columns	Integer	Indicates whether the column is a mandatory field or not.
filter	columns	Integer	Determines whether the filter is applied on the column or not.
extra_columns	columns	extra_columns	Contains the flag IsTrimData and indicates if the data in the column must be trimmed or not.
trim_data	extra_columns	String	Indicates when the data in the column must be trimmed or not.
identity	columns	Integer	Indicates when the column is an identity column.
read_only	columns	Integer	Indicates when the column is ReadOnly.
non-modifiable	columns	Integer	Indicates when a column cannot be modified.
hidden	columns	Integer	Indicates when the column is hidden.
seq_name	columns	String	The sequence name of the column is generated when the column is an identity column.
custom_picklist_data	columns	JSONObject	Definition of the custom picklist applied to the column.
cpl_flag	custom_picklist_data	Boolean	Indicates if custom picklist is attached to the column or not.

Name	Parent Tag	Parameter Type	Description
picklist_type	custom_picklist_data	String	Indicates the type of the picklist. Q - Query C - Custom DO - Data Object
dataobject_id	custom_picklist_data	String	Indicates the ID of the attached data object in the picklist.
multiple_selection	custom_picklist_data	Boolean	Indicates if multiple selections of data are allowed in the custom picklist or not.
separator_selection	custom_picklist_data	Boolean	Determine whether a separator is required or not.
multiple_values	custom_picklist_data	Boolean	Indicates if multiple values can be inserted in the picklist or not.
seperator	custom_picklist_data	String	Represents the separator used in the picklist.
disable_manual_input	custom_picklist_data	Boolean	To enable or disable manual input in the picklist.
query_string	custom_picklist_data	String	Query-based on which custom picklist is formed.
cpl_definition	custom_picklist_data	String	Contains the definition of the mapping of fields in the custom picklist.
value_field	cpl_definition	String	Field name of the data object, in case of the DataObject picklist type.
label_field	cpl_definition	String	Label name of the data object, in case of the DataObject picklist type.
input_mapping	cpl_definition	String	Indicates list of input mappings.
output_mapping	cpl_definition	String	Indicates list of output mappings.

Error codes and description

The following table describes the error codes that can occur while executing the *CFGetTableDefinition* API:

Error Code	HTTP Status	HTTP Status Description	Error Code Description	Comments
7020	404	Not Found	The requested operation failed.	Recheck the request body.
7020	409	Conflict	The requested operation failed.	It is an internal system error. Ensure all the required services are up and running like databases, Apache Kafka, and Redis server.
7020	404	Conflict	No table found.	The table ID or name passed in the input request is incorrect.
801	500	Internal Server Error	SQL Exception Occured.	An SQL exception error stopped the operation. Refer to the error logs for further analysis.
3001	400	Bad Request	Invalid Input Parameters.	Refer to the detailed error message to correct input parameters that have invalid values. You can refer to the below sample for reference (FieldName - Error Description), • TableName - TableName value must be alphanumeric. • from_application - This value can be be iform or an empty string. There can be multiple scenarios for • this error code. To resolve the issue, refer to the detailed error message.
503	503	Temporary	Service is either down or slow.	Service is either unavailable or slow.

Sample request and response

Below is the sample request and response body for *CFGetTableDefinition* API as per the following scenarios.

Definition of data object with multiple datasources

Request:

```
{
  "id": "546552641",
  "name": "db_2",
  "status": "1"
}
```

Response:

```
{
  "status": {
    "maincode": 0,
    "suberrorcode": 0,
    "typeoferror": "",
    "subject": "",
    "description": "",
    "errmsg": ""
  },
  "data": {
    "session_id": 0,
    "userindex": 0,
    "batch_size": 10,
    "bSkipValidateSession": false,
    "approval_def_flag": false,
    "approval_right_flag": false,
    "approval_temp_flag": false,
    "id": "546552641",
    "name": "MultipleDBSources",
    "del_dbt": false,
    "alias_name": "MultipleDBSources",
    "import_enabled": false,
    "data_sync_enabled": false,
    "view_attached": "0",
    "approval_status": "1",
  }
}
```

```

"category_id": "107",
"category_name": "Microservice Testing",
"operations_flag": "111111",
"object_id": "0",
"arr_type_do": "N",
"assoc_w_ap": "Y",
"object_type": "0",
"dataobject_type": "DO",
"data_source_mapping_status": "0",
"cf_rights": {
  "attach_rights": false,
  "access_type": null,
  "user_group_acls": null,
  "login_user_rights": "11111111110000000000"
},
"dataobject_mode": 6,
"mappedobject": "Y",
"columns": [
  {
    "description": "",
    "length": 10,
    "precision": 0,
    "name": "id",
    "type": "2",
    "alias": "id",
    "default_value": "",
    "mandatory": 1,
    "unique": 0,
    "filter": 0,
    "identity": 0,
    "id": 1,
    "status": 1,
    "seq_name": "",
    "unique_index": "",
    "custom_picklist_data": {
      "cpl_definition": {
        "picklist_def": {
          "output_mappings": [],
          "input_mappings": []
        }
      }
    },
    "seperator_selection": false,
    "picklist_type": "Q",
    "cpl_flag": false,
    "dataobject_id": "",
    "multiple_selection": false,
    "multiple_values": false,
    "disable_manual_input": true,
    "seperator": "",
    "query_string": ""
  },

```

```

    "read_only": 0,
    "non_modifiable": 0,
    "allow_sorting": 0,
    "hidden": 0,
    "primary_key": false,
    "foreign_key": false,
    "array": false,
    "currency_symbol": 0,
    "country_code": "null",
    "file_type": "null",
    "auto_generated_enabled": false,
    "auto_generated_field": {
      "auto_generation_enabled": false,
      "identity": false,
      "prefix": "",
      "suffix": ""
    },
    "extra_columns": {
      "trim_data": 0
    }
  },
  {
    "description": "",
    "length": 10,
    "precision": 0,
    "name": "int_primary",
    "type": "2",
    "alias": "int_primary",
    "default_value": "",
    "mandatory": 1,
    "unique": 0,
    "filter": 0,
    "identity": 0,
    "id": 3,
    "status": 1,
    "seq_name": "",
    "unique_index": "",
    "custom_picklist_data": {
      "cpl_definition": {
        "picklist_def": {
          "output_mappings": [],
          "input_mappings": []
        }
      }
    },
    "seperator_selection": false,
    "picklist_type": "Q",
    "cpl_flag": false,
    "dataobject_id": "",
    "multiple_selection": false,
    "multiple_values": false,
    "disable_manual_input": true,

```

```

        "seperator": "",
        "query_string": ""
    },
    "read_only": 0,
    "non_modifiable": 0,
    "allow_sorting": 0,
    "hidden": 0,
    "primary_key": false,
    "foreign_key": false,
    "array": false,
    "currency_symbol": 0,
    "country_code": "null",
    "file_type": "null",
    "auto_generated_enabled": false,
    "auto_generated_field": {
        "auto_generation_enabled": false,
        "identity": false,
        "prefix": "",
        "suffix": ""
    },
    "extra_columns": {
        "trim_data": 0
    }
},
{
    "description": "",
    "length": 10,
    "precision": 0,
    "name": "autogen_int",
    "type": "2",
    "alias": "autogen_int",
    "default_value": "",
    "mandatory": 1,
    "unique": 0,
    "filter": 0,
    "identity": 0,
    "id": 5,
    "status": 1,
    "seq_name": "",
    "unique_index": "",
    "custom_picklist_data": {
        "cpl_definition": {
            "picklist_def": {
                "output_mappings": [],
                "input_mappings": []
            }
        },
        "seperator_selection": false,
        "picklist_type": "Q",
        "cpl_flag": false,
        "dataobject_id": "",

```

```

        "multiple_selection": false,
        "multiple_values": false,
        "disable_manual_input": true,
        "seperator": "",
        "query_string": ""
    },
    "read_only": 0,
    "non_modifiable": 0,
    "allow_sorting": 0,
    "hidden": 0,
    "primary_key": false,
    "foreign_key": false,
    "array": false,
    "currency_symbol": 0,
    "country_code": "null",
    "file_type": "null",
    "auto_generated_enabled": true,
    "auto_generated_field": {
        "auto_generation_enabled": true,
        "identity": true,
        "prefix": "",
        "suffix": ""
    },
    "extra_columns": {
        "trim_data": 0
    }
},
{
    "description": "",
    "length": 255,
    "precision": 0,
    "name": "user_picklist",
    "type": "1",
    "alias": "user picklist",
    "default_value": "",
    "mandatory": 0,
    "unique": 0,
    "filter": 0,
    "identity": 0,
    "id": 7,
    "status": 1,
    "seq_name": "",
    "unique_index": "",
    "custom_picklist_data": {
        "cpl_definition": {
            "picklist_def": [
                {
                    "id": 1,
                    "value": "Terminated"
                }
            ],
            "picklist_def": [
                {
                    "id": 1,
                    "value": "Terminated"
                }
            ]
        }
    }
}

```

```

        "id": 2,
        "value": "Active"
    },
    {
        "id": 3,
        "value": "Retired"
    },
    {
        "id": 4,
        "value": "Suspended"
    },
    {
        "id": 5,
        "value": "Unpaid Leave"
    }
]
},
"picklist_type": "C",
"cpl_flag": true,
"dataobject_id": "",
"query_string": ""
},
"read_only": 0,
"non_modifiable": 0,
"allow_sorting": 0,
"hidden": 0,
"primary_key": false,
"foreign_key": false,
"array": false,
"currency_symbol": 0,
"country_code": "null",
"file_type": "null",
"auto_generated_enabled": false,
"masking": {
    "character": "X",
    "variable_length": false,
    "masking_type": 1,
    "pattern_type": -1000,
    "data_length": 16,
    "prefix_value": 4,
    "suffix_value": 4,
    "mask_enabled": false,
    "digit": "1111000000001111",
    "mask_full_length": false
},
"extra_columns": {
    "trim_data": 0
}
},
{
    "description": "",

```

```

"length": 255,
"precision": 0,
"name": "user_pan_number",
"type": "1",
"alias": "user pan number",
"default_value": "",
"mandatory": 0,
"unique": 0,
"filter": 0,
"identity": 0,
"id": 8,
"status": 1,
"seq_name": "",
"unique_index": "",
"custom_picklist_data": {
  "cpl_definition": {
    "picklist_def": {
      "output_mappings": [],
      "value_field": "",
      "label_field": "",
      "input_mappings": []
    }
  },
  "picklist_type": "DO",
  "cpl_flag": false,
  "dataobject_id": "",
  "query_string": ""
},
"read_only": 0,
"non_modifiable": 0,
"allow_sorting": 0,
"hidden": 0,
"primary_key": false,
"foreign_key": false,
"array": false,
"currency_symbol": 0,
"country_code": "null",
"file_type": "null",
"auto_generated_enabled": false,
"masking": {
  "character": "*",
  "masking": true,
  "variable_length": false,
  "masking_type": 2,
  "pattern_type": 4,
  "data_length": 10,
  "mask_enabled": true,
  "digit": "0111111110",
  "mask_full_length": false
},
"extra_columns": {

```

```

        "trim_data": 0
    }
}
],
"functions": [
    {
        "name": "deleteDb_2",
        "description": "Delete data row as per filter condition",
        "filters": {
            "conditions": []
        },
        "status": 0
    },
    {
        "name": "getDb_2",
        "description": "Get specific data row as per filter condition",
        "filters": {
            "conditions": []
        },
        "status": 0
    },
    {
        "name": "modifyDb_2",
        "description": "Modify data row as per filter condition",
        "filters": {
            "conditions": []
        },
        "status": 0
    }
],
"static_data_object": false,
"auto_generate_table": "N",
"data_source_mapping": {
    "array_field_mapping": [],
    "basic_field_mapping": {
        "joininfo": {
            "type": 0,
            "join_query": " dataobjectone INNER JOIN micro_single micro_single ON
dataobjectone.id = micro_single.int_primary"
        },
        "tables": [
            {
                "tablename": "dataobjectone",
                "datasource": "newgenonepg05mar",
                "primary": "Y",
                "mappings": [
                    {
                        "field_name": "id",
                        "precision": 0,
                        "length": 0,
                        "column_name": "id",

```

```

        "column_type": 2,
        "keyfield": "Y"
    }
],
"view_name": ""
},
{
    "tablename": "micro_single",
    "datasource": "newgenone23mar",
    "primary": "N",
    "mappings": [
        {
            "field_name": "int_primary",
            "precision": 0,
            "length": 0,
            "column_name": "int_primary",
            "column_type": 2,
            "keyfield": "Y"
        },
        {
            "field_name": "autogen_int",
            "precision": 0,
            "length": 0,
            "column_name": "autogen_int",
            "column_type": 2,
            "keyfield": "N"
        },
        {
            "field_name": "user_id",
            "precision": 0,
            "length": 0,
            "column_name": "user_id",
            "column_type": 3,
            "keyfield": "N"
        }
    ],
    "view_name": ""
}
],
},
"filters": null,
"data_sync_source_mode": 0,
"update_existing_records": true
},
"constraints": {
    "KeyField": {
        "type": 1,
        "definition": [
            {
                "constraint_id": "ckf_dataobjectone_id",
                "status": 1,

```

```

        "old_status": 1,
        "fields": [
            {
                "name": "id"
            }
        ]
    },
    {
        "constraint_id": "ckf_micro_single_int_primary",
        "status": 1,
        "old_status": 1,
        "fields": [
            {
                "name": "int_primary"
            }
        ]
    }
]
},
"Unique": {
    "type": 4,
    "definition": []
},
"Indexes": {
    "type": 2,
    "definition": []
},
"NotNull": {
    "type": 5,
    "definition": []
}
},
"maker_checker_enabled": false,
"default_sorting": {
    "columns": []
},
"dataobject_source": "MDM"
}
}

```

CFUpdateTableData

The CFUpdateTableData API performs the insert, update, and delete operations on the created tables in DMD. It also allows you to cater the larger data requests and perform all the operations in a single iteration.

- Service URL — `http://<GatewayIp: GatewayPort >/mdm-operation-service-context/mdm/update`

Where, GatewayIp is the IP of the machine, and GatewayPort is the port of the machine where the DMD operation service is deployed.

- Request Media Type — `application/json`
- Response Media Type — `application/json`
- Method Type — `PUT`

Header parameters description

The following table describes the header parameters of the *CFUpdateTableData* API, if OAuth is disabled:

Name	Parameter Scope	Type	Description	Mandatory
Accept-Language	HeaderParam	Locale	Represents the natural language and locale that the client prefers. Example - en-US	Yes
Tenant-Id	HeaderParam	String	Name of the cabinet.	Yes
Authorization	HeaderParam	String	The session ID of the signed-in user.	Yes

If OAuth is enabled:

Name	Parameter Scope	Type	Description	Mandatory
Appld	HeaderParam	String	Registered Appld of the product	No
Access Token	HeaderParam	String	AccessToken for the signed-in user	No
SessionValid	HeaderParam	String	SessionValid for the signed-in user	No

Request body parameters description

The following table describes the request body parameters of the *CFUpdateTableData* API:

Name	Parent Tag	Type	Description	Default Value	Valid Value	Mandatory
user_id	Root	String	ID of the user who called the API.	NA	Positive Integer Numbers	No
id	Root	Integer	ID of the data object on which the user wants to perform Operations.	NA	Integer Numbers	No
name	Root	String	Object ID of the data object on which the user is trying to perform operations.	NA	Data object ID must start with an alphabet followed by Alphanumeric and underscore characters.	Yes
approval_status	Root	String	Indicates the table status of the table. For example, it is newly created, modified, or deleted.	NA	7 - Modify or Commit.	Yes

Name	Parent Tag	Type	Description	Default Value	Valid Value	Mandatory
from_application	Root	String	Indicates the source of initiated request.(iForm portal application, custom application, or Omniapp).	NA	iForm – Called from portal or custom application. In the case of blank string ("") – It is called from Omniapp."	No
op_form	Root	String	Indicates the request initiation point (iForm portal application, custom application, or Omniapp).	NA	"Opentable - portal application or custom application. In the case of blank, it is called from Omniapp."	No
records	Root	CFRecordBase	Perform insert, modify, or delete operations for the given list of records in data object.	NA	NA	Yes
status	records	String	Represents the performed operation type.	NA	2 - Update 3 - Delete 4 - Insert	Yes

Name	Parent Tag	Type	Description	Default Value	Valid Value	Mandatory
old_status	records	String	Indicates if the record is newly added or already exists.	NA	-1 - New Record, record does not exist in database (insert operation) 1 - Old record, record exists in database (update OR delete operation).	Yes
row_id	records	String	Indicates the performed operation on this record.	NA	-1 - Insert 0 - Delete	No
hashid	records	String	Sequence name which generates the value of the auto-generated column of the data object.	NA	NA	No

Name	Parent Tag	Type	Description	Default Value	Valid Value	Mandatory
columns	records	ArrayList <CFCColumn>	Indicates the columns list of the table on which you can perform operations. In each column entry, provide a column's 'name', 'type', new value in the 'value' tag, and old value in the 'old_value' tag. Also, specify if a column is a primary key or a foreign key to define the relation between two or more data objects.	NA	NA	Yes
childrecords	records	ArrayList<CFACT TableDataInput>	Request for a list of tables for the requested table reference.	NA	NA	No
name	columns	String	Column name of the requested data object.	NA	First character of the column name must be an alphabet followed by alphanumeric characters.	Yes

Name	Parent Tag	Type	Description	Default Value	Valid Value	Mandatory
type	columns	String	Integer value to represent the data type of the column.	NA	0 – Boolean 1 – Text 2 – Integer 3 – Long 4 - Float 5 - Date 6 - Clob 7 - Currency 9 – Short date 10 – Ntext 11 – Dbtext 12 -Nvarcharmax 13- PhoneNumber 14-Email	Yes
value	columns	String	New value the user wants to insert in the current column.	Empty String	Enter new value as a string.	No
old_value	columns	String	Existing value stored in the database for this column.	Empty String	Enter old value as a string.	No
is_foreign_key	columns	boolean	Indicates whether this column is a foreign key or not.	FALSE	True False	No
is_primary_key	columns	boolean	Indicates whether this column is a primary key of the requested data object or not.	FALSE	True False	No

Response body parameters description

The following table describes the response body parameters of the *CFUpdateTableData* API:

Name	Parent Tag	Parameter Type	Description
status	Root	CFCallStatus	Contains the details of status of the microservice call.
data	Root	CFOutputData	Indicates the API returned response.
id	data	Integer	ID of the requested data object.
name	data	String	Object ID or name of the requested data object.
autogenerated_records	data	ArrayList<Map<String, String>>	Map list of auto-generated values for the performed operation on the requested data object.
maincode	status	Integer	The API returned success or error code. If API returns success, then maincode = 0.
suberrorcode	status	Integer	Signifies the specific exception or error appears in API execution.
typeoferror	status	String	Specifies the error nature.
subject	status	String	Name of the error.
description	status	String	Contains the detailed error message.
errormsg	status	String	Indicates the API returned custom error message.

Error codes and description

The following table describes the error codes that can occur while executing the *CFUpdateTableData* API:

Error Code	HTTP Status	HTTP Status Description	Error Code Description	Comments
801	500	Internal Server Error	SQL Exception Occurred.	An SQL exception error stopped the operation. Refer to the Error logs for further analysis.
3001	400	Bad Request	Invalid Input Parameters	Refer to the detailed error message to correct input parameters that have invalid values. You can refer to the below sample for reference (FieldName: ErrorDescription) - records[0].rowId:row_id can have value '0' : for modified record , '-1' : for new record. records[0].column[0].columnName:The column name of a data object can only be alphanumeric. With starting character as an alphabet. records[0].oldStatus:Value of old_status tag must be 1 or -1. There can be multiple failed validations for this error code and they are displayed with separator " "
503	503	Service Unavailable	Service is either unavailable or slow.	Service is either unavailable or slow.
5003	503	Service Unavailable	Service is either down or slow.	Service is either down or slow.
5003	503	Service Unavailable	Redis server is down.	Redis cache server is unavailable.

Error Code	HTTP Status	HTTP Status Description	Error Code Description	Comments
7020	404	Not Found	The requested operation failed.	The API execution is unsuccessful for the requested operation. For more information, refer to the error, sub error code along with their status and description.
7012	404	Not Found	Requested Data Object Not found.	Database does not contain the requested data object. Check the request.
801	404	Not Found	CF_SQL	Exception appears during API execution. Refer to the error message for detailed description.
18	404	Not Found	No More Records.	No records exist for the request. Refer to the error message for detailed description.
3001	404	Not Found	Data object name cannot be null or empty.	If this API is called from portal, then the request must contain the data object name on which the user wants to perform operations.
802	500	Internal Server Error	CF_ILP	The number format exception error appears. Check and update the number value.
803	500	Internal Server Error	CF_SYS	The null pointer exception error appears.

Sample request and response

Below is the sample request and response body for *CFUpdateTableData* API as per the following scenarios.

Inserting data

This section contains the sample request and response to insert data in a single DMD data object.

Request:

```

{
  "session_id": 1305135408,
  "userindex": 0,
  "cabinet_name": "newgenone17jan23",
  "batch_size": 20,
  "option": "CF_UPDATETABLEDATA",
  "sub_option": "",
  "staging_cabinet_name": "",
  "bSkipValidateSession": false,
  "user_id": "",
  "id": 804668506,
  "name": "microtesting",
  "approval_status": "7",
  "from_application": "",
  "op_form": "",
  "data_operation_rollback_flag": "",
  "records": [
    {
      "status": "4",
      "old_status": "-1",
      "row_id": "-1",
      "columns": [
        {
          "name": "country",
          "type": "1",
          "file_info": null,
          "value": "Australia",
          "is_foreign_key": false,
          "is_primary_key": false,
          "old_value": ""
        },
        {
          "name": "pincode",
          "type": "2",
          "file_info": null,
          "value": "131",
          "is_foreign_key": false,
          "is_primary_key": false,
          "old_value": ""
        },
        {
          "name": "bar_code",
          "type": "3",
          "file_info": null,
          "value": "3000",
          "is_foreign_key": false,
          "is_primary_key": false,
          "old_value": ""
        }
      ]
    }
  ]
}

```

```

{
  "name": "rating",
  "type": "4",
  "file_info": null,
  "value": "10.10",
  "is_foreign_key": false,
  "is_primary_key": false,
  "old_value": ""
},
{
  "name": "date_of_creation",
  "type": "5",
  "file_info": null,
  "value": "2025-01-01 10:40:50",
  "is_foreign_key": false,
  "is_primary_key": false,
  "old_value": ""
},
{
  "name": "currency",
  "type": "7",
  "file_info": null,
  "value": "45.0",
  "is_foreign_key": false,
  "is_primary_key": false,
  "old_value": ""
},
{
  "name": "visited",
  "type": "8",
  "file_info": null,
  "value": "false",
  "is_foreign_key": false,
  "is_primary_key": false,
  "old_value": ""
},
{
  "name": "short_date_field",
  "type": "9",
  "file_info": null,
  "value": "2011-01-01",
  "is_foreign_key": false,
  "is_primary_key": false,
  "old_value": ""
},
{
  "name": "ntext_field",
  "type": "10",
  "file_info": null,
  "value": "",
  "is_foreign_key": false,

```

```

    "is_primary_key": false,
    "old_value": ""
  },
  {
    "name": "text_field",
    "type": "11",
    "file_info": null,
    "value": "",
    "is_foreign_key": false,
    "is_primary_key": false,
    "old_value": ""
  },
  {
    "name": "nvarcharmax_field",
    "type": "12",
    "file_info": null,
    "value": "",
    "is_foreign_key": false,
    "is_primary_key": false,
    "old_value": ""
  },
  {
    "name": "phonenumber",
    "type": "13",
    "file_info": null,
    "value": "+11515151515",
    "is_foreign_key": false,
    "is_primary_key": false,
    "old_value": ""
  },
  {
    "name": "email_field",
    "type": "14",
    "file_info": null,
    "value": "kevin@newgensoft.com",
    "is_foreign_key": false,
    "is_primary_key": false,
    "old_value": ""
  },
  {
    "name": "arraystr",
    "type": "1",
    "file_info": null,
    "value": "111|!|112|!|113|!|114",
    "is_foreign_key": false,
    "is_primary_key": false,
    "old_value": ""
  },
  {
    "name": "prefix_suffix_col",
    "type": "1",

```

```

        "file_info": null,
        "value": "",
        "is_foreign_key": false,
        "is_primary_key": false,
        "old_value": ""
    },
    {
        "name": "autogen_int_identity",
        "type": "2",
        "file_info": null,
        "value": "",
        "is_foreign_key": false,
        "is_primary_key": false,
        "old_value": ""
    },
    {
        "name": "autogen_int_seq",
        "type": "2",
        "file_info": null,
        "value": "",
        "is_foreign_key": false,
        "is_primary_key": false,
        "old_value": ""
    }
]
}
],
"childrecords": null,
"data_sync_mode": false,
"update_existing_records": true,
"jwtToken": "eyJhbGciOiJIUzUxMiJ9.eyJzdWIiOiIxNDlfbmV3Z2Vub25lMTdqYW4yMyIsImV4cCI6MTY3Njk4MDU3OSwiaWF0IjoxNjc2OTc0Nzc5fQ.PBtVRPrxh05aWkTJaKlY0wV3x4DoM3cOSZbH-eBVIJwwSL2uCzuJU78Q6a_H_w-sq217tpMoyYV1TvTCXg8p1g"
}

```

Response:

```

{
  "status": {
    "maincode": 0,
    "suberrorcode": 0,
    "typeoferror": "",
    "subject": "",
    "description": "",
    "errmsg": ""
  },
  "data": {
    "id": 804668506,
    "name": "microtesting",

```

```

    "category_id": "",
    "alias_name": "",
    "failed_records": 0,
    "autogenerated_records": []
  }
}

```

Updating record

This section contains the request and response body to update a record of a single DMD data object.

Request:

```

{
  "session_id": 1305135408,
  "userindex": 0,
  "cabinet_name": "newgenone17jan23",
  "batch_size": 20,
  "option": "CF_UPDATETABLEDATA",
  "sub_option": "",
  "staging_cabinet_name": "",
  "bSkipValidateSession": false,
  "user_id": "",
  "id": 804668506,
  "name": "microtesting",
  "comments": "",
  "approval_status": "7",
  "from_application": "",
  "op_form": "",
  "data_operation_rollback_flag": "",
  "records": [
    {
      "status": "2",
      "old_status": "1",
      "row_id": "-1",
      "columns": [
        {
          "name": "country",
          "type": "1",
          "file_info": null,
          "value": "Belgium",
          "is_foreign_key": false,
          "is_primary_key": false,
          "old_value": "Australia"
        },
        {

```

```

    "name": "pincode",
    "type": "2",
    "file_info": null,
    "value": "111",
    "is_foreign_key": false,
    "is_primary_key": false,
    "old_value": "111"
  },
  {
    "name": "bar_code",
    "type": "3",
    "file_info": null,
    "value": "500",
    "is_foreign_key": false,
    "is_primary_key": false,
    "old_value": "3000"
  },
  {
    "name": "rating",
    "type": "4",
    "file_info": null,
    "value": "50",
    "is_foreign_key": false,
    "is_primary_key": false,
    "old_value": "10.10"
  },
  {
    "name": "date_of_creation",
    "type": "5",
    "file_info": null,
    "value": "2015-01-01 10:40:50",
    "is_foreign_key": false,
    "is_primary_key": false,
    "old_value": "2025-01-01 10:40:50"
  },
  {
    "name": "currency",
    "type": "7",
    "file_info": null,
    "value": "11",
    "is_foreign_key": false,
    "is_primary_key": false,
    "old_value": "45.0"
  },
  {
    "name": "visited",
    "type": "8",
    "file_info": null,
    "value": "",
    "is_foreign_key": false,
    "is_primary_key": false,

```

```

      "old_value": "false"
    },
    {
      "name": "short_date_field",
      "type": "9",
      "file_info": null,
      "value": "2019-01-01",
      "is_foreign_key": false,
      "is_primary_key": false,
      "old_value": "2011-01-01"
    },
    {
      "name": "ntext_field",
      "type": "10",
      "file_info": null,
      "value": "this is a test string",
      "is_foreign_key": false,
      "is_primary_key": false,
      "old_value": "this is a test string"
    },
    {
      "name": "text_field",
      "type": "11",
      "file_info": null,
      "value": "this is a test string",
      "is_foreign_key": false,
      "is_primary_key": false,
      "old_value": ""
    },
    {
      "name": "nvarcharmax_field",
      "type": "12",
      "file_info": null,
      "value": "this is a test string",
      "is_foreign_key": false,
      "is_primary_key": false,
      "old_value": ""
    },
    {
      "name": "phonenummer",
      "type": "13",
      "file_info": null,
      "value": "+16666666666",
      "is_foreign_key": false,
      "is_primary_key": false,
      "old_value": "+11515151515"
    },
    {
      "name": "email_field",
      "type": "14",
      "file_info": null,

```

```

      "value": "badmin@newgensoft.com",
      "is_foreign_key": false,
      "is_primary_key": false,
      "old_value": "kevin@newgensoft.com"
    },
    {
      "name": "arraystr",
      "type": "1",
      "file_info": null,
      "value": "6|!|5|!|57|!|4",
      "is_foreign_key": false,
      "is_primary_key": false,
      "old_value": "111|!|112|!|113|!|114"
    },
    {
      "name": "prefix_suffix_col",
      "type": "1",
      "file_info": null,
      "value": "",
      "is_foreign_key": false,
      "is_primary_key": false,
      "old_value": ""
    },
    {
      "name": "autogen_int_identity",
      "type": "2",
      "file_info": null,
      "value": "",
      "is_foreign_key": false,
      "is_primary_key": false,
      "old_value": ""
    },
    {
      "name": "autogen_int_seq",
      "type": "2",
      "file_info": null,
      "value": "",
      "is_foreign_key": false,
      "is_primary_key": false,
      "old_value": ""
    }
  ]
}
],
"childrecords": null,
"data_sync_mode": false,
"update_existing_records": true,
"jwtToken": "eyJhbGciOiJIUzUxMiJ9.eyJzdWIiOiIxNDlfbmV3Z2Vub
25lMTdqYW4yMyIsImV4cCI6MTY3Njk4MDU3OSwiaWF0IjoxNjc2O
Tc4Nzc5fQ.PBtVRPrxh05aWkTJaKlY0wV3x4DoM3cOSZbH-eBVIJwwSL2uCzuJU78Q6a_H_w-

```

```
sq217tpMoyYV1TvTCXg8p1g"
}
```

Response:

```
{
  "status": {
    "maincode": 0,
    "suberrorcode": 0,
    "typeoferror": "",
    "subject": "",
    "description": "",
    "errmsg": ""
  },
  "data": {
    "id": 804668506,
    "name": "microtesting",
    "category_id": "",
    "alias_name": "",
    "failed_records": 0,
    "autogenerated_records": []
  }
}
```

Deleting record

This section contains the request and response body to delete a record from a single DMD data object.

Request:

```
{
  "session_id": 1305135408,
  "userindex": 0,
  "cabinet_name": "newgenone17jan23",
  "batch_size": 20,
  "option": "CF_UPDATETABLEDATA",
  "sub_option": "",
  "staging_cabinet_name": "",
  "bSkipValidateSession": false,
  "user_id": "",
  "id": 804668506,
  "name": "microtesting",
  "comments": "",
  "approval_status": "7",
  "from_application": "",
}
```

```

"op_form": "",
"data_operation_rollback_flag": "",
"records": [
  {
    "status": "3",
    "old_status": "1",
    "row_id": "-1",
    "columns": [
      {
        "name": "country",
        "type": "1",
        "file_info": null,
        "value": "Belgium",
        "is_foreign_key": false,
        "is_primary_key": false,
        "old_value": "Australia"
      },
      {
        "name": "pincode",
        "type": "2",
        "file_info": null,
        "value": "111",
        "is_foreign_key": false,
        "is_primary_key": false,
        "old_value": "111"
      },
      {
        "name": "bar_code",
        "type": "3",
        "file_info": null,
        "value": "500",
        "is_foreign_key": false,
        "is_primary_key": false,
        "old_value": "3000"
      },
      {
        "name": "rating",
        "type": "4",
        "file_info": null,
        "value": "50",
        "is_foreign_key": false,
        "is_primary_key": false,
        "old_value": "10.10"
      },
      {
        "name": "date_of_creation",
        "type": "5",
        "file_info": null,
        "value": "2015-01-01 10:40:50",
        "is_foreign_key": false,
        "is_primary_key": false,

```

```

      "old_value": "2025-01-01 10:40:50"
    },
    {
      "name": "currency",
      "type": "7",
      "file_info": null,
      "value": "11",
      "is_foreign_key": false,
      "is_primary_key": false,
      "old_value": "45.0"
    },
    {
      "name": "visited",
      "type": "8",
      "file_info": null,
      "value": "",
      "is_foreign_key": false,
      "is_primary_key": false,
      "old_value": "false"
    },
    {
      "name": "short_date_field",
      "type": "9",
      "file_info": null,
      "value": "2019-01-01",
      "is_foreign_key": false,
      "is_primary_key": false,
      "old_value": "2011-01-01"
    },
    {
      "name": "ntext_field",
      "type": "10",
      "file_info": null,
      "value": "",
      "is_foreign_key": false,
      "is_primary_key": false,
      "old_value": ""
    },
    {
      "name": "text_field",
      "type": "11",
      "file_info": null,
      "value": "",
      "is_foreign_key": false,
      "is_primary_key": false,
      "old_value": ""
    },
    {
      "name": "nvarcharmax_field",
      "type": "12",
      "file_info": null,

```

```

    "value": "",
    "is_foreign_key": false,
    "is_primary_key": false,
    "old_value": ""
  },
  {
    "name": "phonenumber",
    "type": "13",
    "file_info": null,
    "value": "+16666666666",
    "is_foreign_key": false,
    "is_primary_key": false,
    "old_value": "+11515151515"
  },
  {
    "name": "email_field",
    "type": "14",
    "file_info": null,
    "value": "badmin@newgensoft.com",
    "is_foreign_key": false,
    "is_primary_key": false,
    "old_value": "kevin@newgensoft.com"
  },
  {
    "name": "arraystr",
    "type": "1",
    "file_info": null,
    "value": "6|!|5|!|57|!|4",
    "is_foreign_key": false,
    "is_primary_key": false,
    "old_value": "111|!|112|!|113|!|114"
  },
  {
    "name": "prefix_suffix_col",
    "type": "1",
    "file_info": null,
    "value": "",
    "is_foreign_key": false,
    "is_primary_key": false,
    "old_value": ""
  },
  {
    "name": "autogen_int_identity",
    "type": "2",
    "file_info": null,
    "value": "",
    "is_foreign_key": false,
    "is_primary_key": false,
    "old_value": ""
  },
  {

```

```

        "name": "autogen_int_seq",
        "type": "2",
        "file_info": null,
        "value": "",
        "is_foreign_key": false,
        "is_primary_key": false,
        "old_value": ""
    }
]
}
],
"childrecords": null,
"data_sync_mode": false,
"update_existing_records": true,
"jwtToken": "eyJhbGciOiJIUzUxMiJ9.eyJzdWIiOiIxNDlfbmV3Z2Vub25lMTdqYW4yMyIsImV4cCI6MTY3Njk4MDU3OSwiaWF0IjoxNjc2OTc4Nzc5fQ.PBtVRPrxh05aWkTJaKlY0wV3x4DoM3cOSZbH-eBVIJwwSL2uCzuJU78Q6a_H_w-sq217tpMoyYV1TvTCXg8p1g"
}

```

Response:

```

{
  "status": {
    "maincode": 0,
    "suberrorcode": 0,
    "typeoferror": "",
    "subject": "",
    "description": "",
    "errmsg": ""
  },
  "data": {
    "id": 804668506,
    "name": "microtesting",
    "category_id": "",
    "alias_name": "",
    "failed_records": 0,
    "autogenerated_records": []
  }
}

```

Inserting data in two linked data objects

This section contains the sample request and response body to insert data in two linked DMD data objects. The data Objects are linked through a relation, where the foreign key column of child table points to the primary key column of the parent table.

Request:

```

{
  "session_id": 352119601,
  "userindex": 0,
  "cabinet_name": "newgen21febsql",
  "batch_size": 20,
  "option": "CF_UPDATETABLEDATA",
  "sub_option": "",
  "staging_cabinet_name": "",
  "bSkipValidateSession": false,
  "user_id": "",
  "id": 1419227195,
  "name": "employeeDetails",
  "comments": "",
  "approval_status": "7",
  "from_application": "",
  "op_form": "",
  "data_operation_rollback_flag": "",
  "records": [
    {
      "status": "4",
      "old_status": "-1",
      "row_id": "-1",
      "columns": [
        {
          "name": "insertionorderid",
          "type": "2",
          "file_info": null,
          "value": "",
          "is_foreign_key": false,
          "is_primary_key": true,
          "old_value": ""
        },
        {
          "name": "foreign_key_of_table",
          "type": "2",
          "file_info": null,
          "value": "123",
          "is_foreign_key": false,
          "is_primary_key": false,
          "old_value": ""
        },
        {
          "name": "is_employee_vaccinated",
          "type": "8",
          "file_info": null,
          "value": "true",
          "is_foreign_key": false,
          "is_primary_key": false,
          "old_value": ""
        }
      ]
    }
  ]
}

```

```

    },
    {
      "name": "Address",
      "type": "10",
      "file_info": null,
      "value": "this is a test string",
      "is_foreign_key": false,
      "is_primary_key": false,
      "old_value": ""
    },
    {
      "name": "Date of Birth",
      "type": "9",
      "file_info": null,
      "value": "1999-08-01",
      "is_foreign_key": false,
      "is_primary_key": false,
      "old_value": ""
    },
    {
      "name": "autogen_id",
      "type": "2",
      "file_info": null,
      "value": "",
      "is_foreign_key": false,
      "is_primary_key": false,
      "old_value": ""
    },
    {
      "name": "phone_number",
      "type": "13",
      "file_info": null,
      "value": "+915828963300",
      "is_foreign_key": false,
      "is_primary_key": false,
      "old_value": ""
    },
    {
      "name": "user_email",
      "type": "14",
      "file_info": null,
      "value": "peter@newgensoft.com",
      "is_foreign_key": false,
      "is_primary_key": false,
      "old_value": ""
    }
  ],
  "referenced_tables": [
    {
      "session_id": 352119601,
      "userindex": 0,

```

```

"cabinet_name": "newgen21febsql",
"batch_size": 20,
"option": "CF_UPDATETABLEDATA",
"sub_option": "",
"staging_cabinet_name": "",
"bSkipValidateSession": false,
"user_id": "",
"id": 329253958,
"name": "Employee_Info",
"comments": "",
"approval_status": "7",
"from_application": "",
"op_form": "",
"data_operation_rollback_flag": "",
"records": [
  {
    "status": "4",
    "old_status": "-1",
    "row_id": "-1",
    "columns": [
      {
        "name": "index_column",
        "type": "2",
        "file_info": null,
        "value": "250",
        "is_foreign_key": true,
        "is_primary_key": false,
        "old_value": ""
      },
      {
        "name": "insertion_order_id",
        "type": "2",
        "file_info": null,
        "value": "",
        "is_foreign_key": false,
        "is_primary_key": true,
        "old_value": ""
      },
      {
        "name": "about_user",
        "type": "10",
        "file_info": null,
        "value": "description of user",
        "is_foreign_key": false,
        "is_primary_key": false,
        "old_value": ""
      }
    ]
  }
],
"childrecords": null,

```

```

        "data_sync_mode": false,
        "update_existing_records": true,
        "jwtToken": "eyJhbGciOiJIUzUxMiJ9.eyJzdWIiOiIxMDdmbmV3Z2VuMjFmZWJzcWwiLCJleHAiOjE2Nzg3ODgzOTgsImhhdCI6MTY3ODc4NjU5OH0.ti8HC0xPa1JADCF8QgS2gtY4pxuCoQhT-PSM3JROz5rpgKwQ8Yu5QY5UqOgNTVp7F5rF970J0hooe8luHUnucA"
    }
}
],
"childrecords": null,
"data_sync_mode": false,
"update_existing_records": true,
"jwtToken": "eyJhbGciOiJIUzUxMiJ9.eyJzdWIiOiIxMDdmbmV3Z2VuMjFmZWJzcWwiLCJleHAiOjE2Nzg3ODgzOTgsImhhdCI6MTY3ODc4NjU5OH0.ti8HC0xPa1JADCF8QgS2gtY4pxuCoQhT-PSM3JROz5rpgKwQ8Yu5QY5UqOgNTVp7F5rF970J0hooe8luHUnucA"
}

```

Response:

```

{
  "status": {
    "maincode": 0,
    "suberrorcode": 0,
    "typeoferror": "",
    "subject": "",
    "description": "",
    "errmsg": ""
  },
  "data": {
    "id": 1419227195,
    "name": "employeeDetails",
    "category_id": "",
    "alias_name": "",
    "failed_records": 0,
    "autogenerated_records": []
  }
}

```

CFGetTableData

The CFGetTableData API allows you to retrieve transactional data from DMD tables.

- Service URL — *http://<GatewayIp: GatewayPort >/mdm-operation-service-context/mdm/getTableData*

Where, GatewayIp is the IP of the machine, and GatewayPort is the port of the machine where the DMD operation service is deployed.

- Request Media Type — application/json
- Response Media Type — application/json
- Method Type — POST

Header parameters description

The following table describes the header parameters of the *CFUpdateTableData* API, if OAuth is disabled:

Name	Parameter Scope	Type	Description	Mandatory
Authorization	HeaderParam	String	The session ID of the signed-in user.	Yes
Accept-Language	HeaderParam	Locale	Represents the specific region or language. Example: en-US	No
Tenant-Id	HeaderParam	String	Name of the cabinet.	Yes

If OAuth is enabled:

Name	Parameter Scope	Type	Description	Mandatory
Appld	HeaderParam	String	Registered Appld of the product	No
Access Token	HeaderParam	String	AccessToken for the signed-in user	No

Name	Parameter Scope	Type	Description	Mandatory
SessionValid	HeaderParam	String	SessionValid for the signed-in user	No

Request body parameters description

The following table describes the request body parameters of the *CFGetTableData* API:

Name	Parent Tag	Type	Description	Default Values	Valid Values	Mandatory
id	Root	String	User-defined data object integer ID.	NA	NA	Yes
name	Root	String	Name of a data object required to fetch data.	NA	NA	Yes
data_status	Root	Integer	Current status of data present in the table.	3	3-Approved	Yes
opr	Root	Integer	Defines the batch that gets fetched that is the previous, next, and first batch.	0	0- Current (1st batch) 1- Next batch 2-Previous batch	Yes
sort_order	Root	String	Order in which the displayed data gets sorted.	NA	ASC-Ascending DESC-Descending	No

Name	Parent Tag	Type	Description	Default Values	Valid Values	Mandatory
from_application	Root	String	Indicates the source of the initiated request (iForm portal application, custom application, or Omniapp).	NA	iForm –Called from portal or custom application. For blank string ("") – It is called from Omniapp.	No
advanced_search	Root	boolean	Indicates if the applied advance search on the table is required or not.	NA	NA	No
filter	Root	CFFilter	Contains the filter criteria. For example, Filter criteria can be applied on DMD tables while fetching data.	NA	NA	No
name	filter	String	Name of the column on which filter or search is applied.	NA	NA	No

Name	Parent Tag	Type	Description	Default Values	Valid Values	Mandatory
prefix	filter	String	Column value in the requested table on which filter is applied.	NA	NA	No
filter_type	filter	String	The data type of the column on which the filter is applied.	NA	1-Text 2-Integer 3-Long 4-Float 5-Date 6-Clob 9-Short date 10-Ntext 11-Dbtext 12-Nvarcharmax	No
last_value	filter	String	The column value in the requested table with the filter option available on the records greater than the value.	NA	NA	No
conditions	filter	ArrayList <CFCondition>	Contains the condition list for advance search.	NA	NA	No

Name	Parent Tag	Type	Description	Default Values	Valid Values	Mandatory
start_brace	conditions	boolean	Indicates if the startbrace is present in the advance search Conditions. In case of Y, then this marks the beginning of grouped conditions.	NA	NA	No
col_name	conditions	String	Name of the column on which advance search is applied.	NA	NA	No
col_type	conditions	String	The dataType of the column on which advance search is applied.	NA	1-Text 2-Integer 3-Long 4-Float 5-Date 6-Clob 9-Short date 10-Ntext 11-Dbtext 12-Nvarcharmax	No

Name	Parent Tag	Type	Description	Default Values	Valid Values	Mandatory
operator	conditions	String	An operator is used to define the relation between the column and its value. For example, in condition id>2, > is an operator.	NA	1 –Less than 2 –Less Than_Equal To 3 –Equal To 4 – Not_EqualTo 5 – GreaterThan 6 -Greater Than_EqualTo 7-Like 8 –NotLike 9 –Null 10 –Not Null	No
value	conditions	String	Filter applied column value in the requested table.	NA	NA	No
end_brace	conditions	boolean	Indicates if endbrace is present in advance search conditions. In case of Y, this marks the end of grouped conditions.	NA	NA	No
logical_op	conditions	String	To join the multiple search conditions.	NA	1 - Logical_operator_ 2 - logical_operator_	No

Name	Parent Tag	Type	Description	Default Values	Valid Values	Mandatory
sorting	Root	CFSorting Info	Contains the sorting details of the column.	NA		No
sort_Col	sorting	String	Column name to apply sorting.	NA		No
sort_order	sorting	String	Order of sorting.		A- Ascending D- Descending	No
sortColumn type	sorting	String	The data type of the column on which sorting is applied.	NA	1-Text 2-Integer 3-Long 4-Float 5-Date 6-Clob 9-Short date 10-Ntext 11-Dbtext 12- Nvarcharmax	No
sortColumn Lastvalue	sorting	String	Value of the column in the requested table.	NA	NA	No
sortOrder	sorting	String	Order to sort the displayed data.	NA	NA	No

Name	Parent Tag	Type	Description	Default Values	Valid Values	Mandatory
key_columns	Root	ArrayList <CFKey Column>	The last or first value of the primary key constant for batching.	NA	NA	No
name	key_columns	String	Name of the primary key column.	NA	NA	No
value	key_columns	String	The Last or first value of the primary key column.	NA	NA	No
type	key_columns	String	The data type of the primary key column.	NA	1-Text 2-Integer 3-Long 4-Float 5-Date 6-Clob 9-Short date 10-Ntext 11-Dbtext 12-Nvarcharmax	No
output_fields	Root	ArrayList <String>	The list of columns of the data model user requires in the response.	NA	NA	No
batch_info	Root	CFBatches Info	Contains the list of previous and next batch.	NA	NA	No

Name	Parent Tag	Type	Description	Default Values	Valid Values	Mandatory
prev_batch	batch_info	CFBatch Info	Contains the page number details of previous batch.	NA	NA	No
next_batch	batch_info	CFBatch Info	Contains the page number details of next batch.	NA	NA	No
page_no	next_batch / prev_batch	integer	Represents the status of the page.	NA	NA	No

Response body parameters description

The following table describes the response body parameters of the *CFGetTableData* API:

Name	Parent Tag	Parameter Type	Description
status	Root	CFCallStatus	Contains the details of status of the microservice call.
data	Root	CFOutputData	Contains the API returned response.
id	Root	integer	ID of the requested data object.
name	Root	String	Object ID or name of the requested data object.
enable_next	Root	boolean	Returns if the next batch of data exist in the table.
enable_prev	Root	boolean	Returns if the previous batch of data exist in the table.
totalfetched	Root	boolean	The number of records fetched in the current request.

Name	Parent Tag	Parameter Type	Description
totalrecords	Root	integer	The total number of records is present in the table.
records	Root	ArrayList<CF Record>	Contains all the output records fetched based on request.
headers	Root	ArrayList<CF Header>	Contains the fetched column list details.
name	headers	String	Name of the output column.
type	headers	String	The data type of the output column.
column_id	headers	integer	Contains the ID corresponding to each column.
mandatory	headers	boolean	Indicates whether this column is mandatory or not.
parent_col	headers	String	Contains the name of the parent column linked through the foreign key.
child_col	headers	String	Contains the name of the child column linked through the primary key.
is_child	headers	headers	True-If it is a child of another column in foreign key relation. False-In case of others.
is_parent	headers	headers	True-When a parent of another column is in foreign key relation. False- In the case of others.
name	records	String	Name of the table that requests for data.
rows	records	ArrayList <CFRows>	Contain the output data corresponding to each row.
status	rows	String	Returns the current status of the row data.
row_id	rows	String	Returns the unique ID of all rows appearing in the data.
modified_by	rows	String	Contains the user details who has modified the data.
modified_date_time	rows	String	Contains the modification time details.

Name	Parent Tag	Parameter Type	Description
values	rows	Map<String, Object>	Contains the output data corresponding to each row.
childrecords	rows	ArrayList<CFRecord>	Contains the output data of the child table.
maincode	status	integer	The API returned success or error code. If API returns success then maincode = 0.
suberrorcode	status	integer	Specifies the exception or error appears during API execution.
typeoferror	status	String	Specifies the nature of error.
subject	status	String	Name of the error appears.
description	status	String	Contains the detailed error message.
errormsg	status	String	Indicates the API returned custom error message.

Error codes and description

The following table describes the error codes that can occur while executing the *CFGetTableData* API:

Error Code	HTTP Status	HTTP Status Description	Error Code Description	Comments
801	500	Internal Server Error	SQL Exception Occurred.	An SQL exception occurred which stopped the operation. Refer to the Error logs for further analysis.

Error Code	HTTP Status	HTTP Status Description	Error Code Description	Comments
3001	400	Bad Request	Invalid Input Parameters.	Refer to the detailed error message to correct input parameters that have invalid values. You can refer to the below sample for reference (FieldName: ErrorDescription) - records[0].rowId:row_id can have value '0' : for modified record , '-1' : for new record. records[0].column[0].columnName:The column name of a data object can only be alphanumeric. With starting character as an alphabet. records[0].oldStatus:Value of old_status tag must be 1 or -1.  There can be multiple failed validations for this error code and they are displayed with separator "" ""."
503	503	Service Unavailable	Service is either unavailable or slow.	Service is either unavailable or slow.
5003	503	Service Unavailable	Service is either down or slow.	Service is either down or slow.
5003	503	Service Unavailable	Redis server is down.	Redis cache server is unavailable.
7020	404	Not Found	The requested operation failed.	The requested API operation is unsuccessful. For more information, check suberror code and status -> description.
7012	404	Not Found	Requested Data Object Not found.	The requested data object does not exist in database.
801	404	Not Found	CF_SQL	Exception appears during API execution. Refer to error description for detailed message.
18	404	Not Found	No More Records.	No records exist for the request. For more information, refer to the detailed message.

Error Code	HTTP Status	HTTP Status Description	Error Code Description	Comments
3001	404	Not Found	Data object name cannot be null or empty.	If this API is called from portal then the request must contain the name of the data object on which the user wants to perform operations.
802	500	Internal Server Error	CF_ILP	The number format exception error appears. Check and update with the correct number value.
803	803	Internal Server Error	CF_SYS	The null pointer exception appears.

Sample request and response

Below is the sample request and response body for *CFGetTableData* API as per the following scenarios.

First data batch

This section contains the request and response body of the first batch of data.

Request:

```
{
  "opr": 0,
  "id": "-1193225054",
  "name": "university",
  "data_status": 3,
  "sort_order": "A",
  "advanced_search": false,
  "batchsize": 10
}
```

Response:

```

{
  "status": {
    "maincode": 0,
    "suberrorcode": 0,
    "typeoferror": "",
    "subject": "",
    "description": "",
    "errmsg": ""
  },
  "data": {
    "id": -1193225054,
    "name": "university",
    "sync_enabled": true,
    "records": [
      {
        "name": "university",
        "headers": [
          {
            "name": "address",
            "type": "1",
            "column_id": 3,
            "mandatory": false,
            "parent_col": "",
            "child_col": "",
            "is_child": false,
            "is_parent": false
          },
          {
            "name": "id",
            "type": "2",
            "column_id": 2,
            "mandatory": true,
            "parent_col": "",
            "child_col": "",
            "is_child": false,
            "is_parent": false
          },
          {
            "name": "name",
            "type": "1",
            "column_id": 1,
            "mandatory": false,
            "parent_col": "",
            "child_col": "",
            "is_child": false,
            "is_parent": false
          }
        ]
      }
    ]
  }
}

```

```

    "rows": [
      {
        "status": "1",
        "row_id": "",
        "failed_reason": "",
        "modified_by": "",
        "modified_date_time": "",
        "values": {
          "address": "United Kingdom",
          "id": "1",
          "name": "University of Oxford"
        }
      },
      {
        "status": "1",
        "row_id": "",
        "failed_reason": "",
        "modified_by": "",
        "modified_date_time": "",
        "values": {
          "address": "United Kingdom",
          "id": "2",
          "name": "University of Cambridge"
        }
      }
    ]
  },
  "enable_next": false,
  "enable_prev": false,
  "totalfetches": 2,
  "totalrecords": 2
}

```

Advance search

Request:

```

{
  "opr": 0,
  "name": "university",
  "data_status": 3,
  "filter": {
    "name": "",
    "prefix": "",
    "filter_type": "",

```

```

    "last_value": "",
    "conditions": [
      {
        "start_brace": false,
        "operator": "3",
        "end_brace": false,
        "logical_op": "0",
        "col_name": "name",
        "col_type": "1",
        "value": "University of Cambridge"
      }
    ]
  },
  "sorting": null,
  "sort_order": "A",
  "advanced_search": true,
  "from_application": ""
}

```

Response:

```

{
  "status": {
    "maincode": 0,
    "suberrorcode": 0,
    "typeoferror": "",
    "subject": "",
    "description": "",
    "errormsg": ""
  },
  "data": {
    "id": -1193225054,
    "name": "university",
    "sync_enabled": true,
    "records": [
      {
        "name": "university",
        "headers": [
          {
            "name": "address",
            "type": "1",
            "column_id": 3,
            "mandatory": false,
            "parent_col": "",
            "child_col": "",
            "is_child": false,
            "is_parent": false
          },
          {
            "name": "id",

```

```

        "type": "2",
        "column_id": 2,
        "mandatory": true,
        "parent_col": "",
        "child_col": "",
        "is_child": false,
        "is_parent": false
    },
    {
        "name": "name",
        "type": "1",
        "column_id": 1,
        "mandatory": false,
        "parent_col": "",
        "child_col": "",
        "is_child": false,
        "is_parent": false
    }
],
"rows": [
    {
        "status": "1",
        "row_id": "",
        "failed_reason": "",
        "modified_by": "",
        "modified_date_time": "",
        "values": {
            "address": "United Kingdom",
            "id": "2",
            "name": "University of Cambridge"
        }
    }
]
}
],
"enable_next": false,
"enable_prev": false,
"totalfetches": 1,
"totalrecords": 1
}
}

```