

# Object controller – API

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By using this API, you can retrieve objects and tags by using criteria such as name, date range, attribute, and geofence conditions. In the response, you will find the object's structure levels out of the database. It searches for tags based on name, date range, attribute & geofence conditions and returns objects that fulfill the criteria.

## Method

**POST** /object/v2/getObjects

## Sample Request

```
{
  "objectFilters": [
    {
      "objectTypeId": 1,
      "searchFilters": [
        {
          "objectName": {
            "operator": "contains",
            "value": "Orde"
          },
          "timeRanges": {
            "startUTC": "2020-03-10T03:47:17.652",
            "endUTC": "2020-03-10T03:58:03.587"
          },
          "attributeFilters": [
            {
              "key": "ProductID",
              "operator": "equal",
              "value": "10"
            }
          ],
          "geofence": {
            "operator": "wasever",
            "value": 3
          }
        }
      ]
    }
  ],
  "maxResult": 20
}
```

## Data Type Element Description

Further details on object elements of the Object Controller API and their attributes can be found below.

**Element:** Element Name

**Data Type:** The type of data that can be inserted into this field.

**Required:** Specifies two categories

- **M** = Mandatory, this field must be filled in all cases.
- **O** = Optional, this field may or may not be filled.

**Notes:** Describes any additional information needed while execution.

**Allowed Values:** Specifies the accepted data by this field.

## Request Definitions

Element	Data Type	Required	Description	Notes	Allowed Values
<b>objectTypeId</b>	Integer	M	The value for the object you want to look up. Valid ' <i>objectTypeId</i> ' values are available in our website at <a href="http://www.siemens.com/api/getobjects">www.siemens.com/api/getobjects</a>		
<b>{searchFilters}</b>		O	The array of search filter you want to use. <i>Ex: name, date range, attribute and geofence</i>		
<b>{searchFilters}/{objectName}</b>		M	Data to be retrieved based on 'Name' criteria		
<b>{searchFilters}/{objectName}/operator</b>	String	M	The type of operation needed to search the criteria. <i>Ex: 'contains'</i>		'equal', 'not equal', 'contains' and 'do not contain'
<b>{searchFilters}/{objectName}/value</b>	String	M	The name of the object value based on your selected criteria. <i>Ex: 'Orde'</i>		
<b>{timeRanges}</b>		O	Data to be retrieved based on 'date range' criteria.	The default value is empty.	
<b>{searchFilters}/{timeRanges}/startUTC</b>	Integer	M	The required start date for the search criteria. <i>Ex: 2020-03-10T03:47:17.652</i>	Start date is 'Mandatory' if the ' <i>timeRanges</i> ' are defined.	The acceptable format is YYYY-MM-DDThh:mm:ss.TZD
<b>{searchFilters}/{timeRanges}/endUTC</b>	Integer	O	The required end date for the search criteria. <i>Ex: 2020-03-10T03:58:03.587</i>	The default value is 'Today's date'.	The acceptable format is YYYY-MM-DDThh:mm:ss.TZD
<b>{searchFilters}/{timeRanges}/objectUserStatus</b>	Integer	O	The user status Id for the searched object.	The default value is empty.	
<b>{attributeFilters}</b>		O	The array of data to be retrieved based on 'attribute' filter.	The default value is empty.	
<b>{searchFilters}/{attributeFilters}/</b>	String	O	The name of the attribute to		

key			retrieve. Ex: <i>'ProductID'</i>		
{searchFilters}/{attributeFilters}/operator		O	The type of operation needed to search the criteria. Ex: <i>'equal'</i>	Additional ' <i>'DateTime'</i> ' operators include before, after, and between (stringified value).	equal', 'not equal', 'contains', 'do not contain' and 'greater', 'lesser', etc.
{searchFilters}/{attributeFilters}/value	String	O	To enter the value for the search operation. Ex: <i>10</i>	The value for the 'between' operator should be stringified, and if it does not contain the endUTC, it behaves as the 'after' operator with the startUTC	
{searchFilters}/geofence	String	O	Data to be retrieved based on 'geofence' filter.	The default is empty.	
{searchFilters}/{geofence}/operator		O	To type of operator for geofence filter. Ex: <i>'wasever'</i> or <i>'currentlyin'</i>		
{searchFilters}/{geofence}/value	Integer	O	The geofence ID to return the search criteria. Ex: <i>3</i>		
maxResult	Integer	O	The maximum number of results to be retrieved. Ex: <i>20</i>	The default value is 10.	

## Sample Response

```
{
  "data": {
    "objects": [
      {
        "objectId": 2,
        "parentObjectId": null,
        "objectTypeId": 1,
        "objectName": "T300",
        "objectStatus": 2,
        "objectUserStatus": 2,
        "createUtc": "2020-09-16T09:59:30.452",
        "removeUtc": null,
        "keyValueMap": {
          "Product Number": "1",
          "Volume": "70",
          "Next Station": "Any"
        },
        "children": [
          {
            "objectId": 3,
```

```

        "parentObjectId": 2,
        "objectTypeId": 2,
        "objectName": "132355",
        "objectStatus": 2,
        "objectUserStatus": 2,
        "createUtc": "2020-09-16T10:00:11.842",
        "removeUtc": null,
        "keyValueMap": {
            .....
        }
    },
    {
        "objectId": 1,
        "parentObjectId": null,
        "objectTypeId": 1,
        "objectName": "Employee",
        "objectStatus": 2,
        "objectUserStatus": 2,
        "createUtc": "2020-09-11T07:30:49.972",
        "removeUtc": null,
        "keyValueMap": {
            "Product Number": "Proximity Monitoring",
            "Volume": "0",
            "Next Station": "Any"
        },
        "children": [
            .....
        ]
    }
]
}
}
}
}
}

```

## Response Definitions

Element	Data Type	Required	Description
<b>objectId</b>	Integer	M	The ID of the requested object. Ex: 2
<b>parentObjectId</b>	Integer	M	The ID of the requested parent object. Ex: 3
<b>objectTypeId</b>	Integer	M	The object type ID of the requested data. Ex: 1
<b>objectName</b>	String	M	The name of the requested root object. Ex: <i>T300</i>
<b>objectStatus</b>	Integer	M	The object status ID of the requested data. Ex: 2
<b>objectUserStatus</b>	Integer	M	The object user status ID of the requested data. Ex: 2
<b>createUtc</b>	String	M	The creation time for the requested object shown in 'YYYY-MM-DDThh:mm:ss.TZD' UTC format. Ex: <i>2020-09-16T09:59:30.452</i>
<b>removeUtc</b>	String	M	The deletion time for the requested object shown in 'YYYY-MM-DDThh:mm:ss.TZD' UTC format. Ex: <i>2020-09-16T09:59:30.452</i> or 'null'
<b>keyValueMap</b>		O	The key names objects (defined in Table 1: Object Keys) could be used depending on the 'objectType'. The default value is empty.
<b>{object}/children</b>	String	O	The array of children object. All the parent's children are listed here, including those with a removed date. The default value is empty.

<b>{object}/{children}/objectId</b>	Integer	M	The children object ID of the requested object. Ex: 5
.....			

**Note:** All other field names present in parent object

Object Keys	Data Type	Required	Description	Notes	Allowed Values
<b>{keyValueMap}/ Product Number</b>	String	M	The number assigned to a particular product	The key name required for the object type. A minimum of one key name must be specified.	A key can have an empty value string.
<b>{keyValueMap}/Volume</b>	String	O	The required sequence of the object type. Ex: '70'		
<b>{keyValueMap}/Next Station</b>	String	O	The type of station to use.		

Table 1: List of Object Keys

## Use Cases of Advances Search Filter

Case 1: Obtain the Order type objects with a maximum of 20 results.

**Request:** POST

**Param:** None

**Accept:** application/json

**Content-Type:** application/json

```
{
  "objectFilters": [
    {
      "objectTypeId": 1,
    }
  ],
  "maxResult": 20
}
```

Case 2: Obtain the Order type where its name contains "Orde"

**Request:** POST

**Param:** None

**Accept:** application/json

**Content-Type:** application/json

```
{
  "objectFilters": [
    {
```

```

    "objectTypeId": 1,
    "searchFilters": [
      {
        "objectName": {
          "operator": "contains",
          "value": "Orde"
        }
      }
    ]
  },
  "maxResult": 20
}

```

Case 3: Get the Order type objects where its name contains “Orde” and its attribute “ProductID” equals to 10

**Request:** POST

**Param:** None

**Accept:** application/json

**Content-Type:** application/json

```

{
  "objectFilters": [
    {
      "objectTypeId": 1,
      "searchFilters": [
        {
          "objectName": {
            "operator": "contains",
            "value": "Orde"
          }
        },
        "attributeFilters": [
          {
            "key": "ProductID",
            "operator": "equal",
            "value": "10"
          }
        ]
      ]
    }
  ]
},
  "maxResult": 20
}

```

Case 4: Get the Order type objects where its name contains “Orde” and its geofence name “FinishLine”

**Request:** POST

**Param:** None

*Accept: application/json*

*Content-Type: application/json*

```
{
  "objectFilters": [
    {
      "objectTypeId": 1,
      "searchFilters": [
        {
          "objectName": {
            "operator": "contains",
            "value": "Orde"
          },
          "geofence": {
            "operator": "wasever",
            "value": 3
          }
        }
      ]
    }
  ],
  "maxResult": 20
}
```

Case 5: Get the Order type objects where its Expiry Date is between “2020-03-10 03:47:17.652” and “2020-08-20T03:58:03.587”

**Request:** POST

**Param:** None

*Accept: application/json*

*Content-Type: application/json*

```
{
  "objectFilters": [
    {
      "objectTypeId": 1,
      "searchFilters": [
        {
          "attributeFilters": [
            {
              "key": "Expiry Date",
              "operator": "between",
              "value": "{\"startUTC\": \"2020-03-10T03:47:17.652\", \"endUTC \": \"2020-08-20T03:58:03.587\"}"
            }
          ]
        }
      ]
    }
  ],
  "maxResult": 20
}
```

```
}
```

Case 6: Get the Order type objects whose Expiry Date is between 2020-03-10 03:47:17.652 and the enddate is not specified. It acts as an after operator and applies the startUTC for the search.

**Request:** POST

**Param:** None

**Accept:** application/json

**Content-Type:** application/json

```
{
  "objectFilters": [
    {
      "objectTypeId": 1,
      "searchFilters": [
        {
          "attributeFilters": [
            {
              "key": "Expiry Date",
              "operator": "between",
              "value": "{\"startUTC\": \"2020-03-10T03:47:17.652\"}"
            }
          ]
        }
      ]
    }
  ],
  "maxResult": 20
}
```

## Status Codes and Errors

The following table lists the returned error codes.

Code	Description
1014	The field is not valid.
1025	Invalid time range
1026	The start time range cannot be null.