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## Exploring Multiple Origin using System ID and Client

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While working with Multi Origin in service URL we have to pass additional parameter `SAP-Origin` (i.e. nothing but your system alias pointing to corresponding ECC) in filter and Get entity operation.

When working on same scenarios i found one interesting possibility of passing the System ID (SID) and Client (of ECC) and fetch data from particular system.

### What is Multi Origin?

Multiple origin is used to fetch data from different back-end systems, collect them in one single service and updating different back-end systems using the same user.

### Why System ID and Client?

- When creating OData requests you might not have information on any SAP NetWeaver Gateway system alias.
- You might wish to refrain from exposing the system name of your SAP NetWeaver Gateway system in the URL of your service for security reasons. In this case, instead of the system name you can also use the system ID (SID) together with the corresponding client.

#### Pre-Requisite :

- Gateway system is connected to all back end system
- System alias is available for all back end system
- GW Project is created in all the back end system
- Add all system alias in T-code /n/IWFND/MAINT\_SERVICE for the ZPROJECT\_SRV in GW system
- Using the URL [sap/opu/odata/sap/ZPROJECT\\_SRV;mo/\\$metadata](#) expected output is coming.

Alias eg.

FIORI\_ECC1 : Backend System Alias 1 (SID – ABC, Client -100)

FIORI\_ECC2 : Backend System Alias 2 (SID – XYZ, Client -100)

#### How to Use System ID and Client in URL ?

- In Gateway system Open SAP Reference IMG in transaction SPRO and navigate to



SAP NetWeaver



SAP Gateway



OData Channel



Configuration



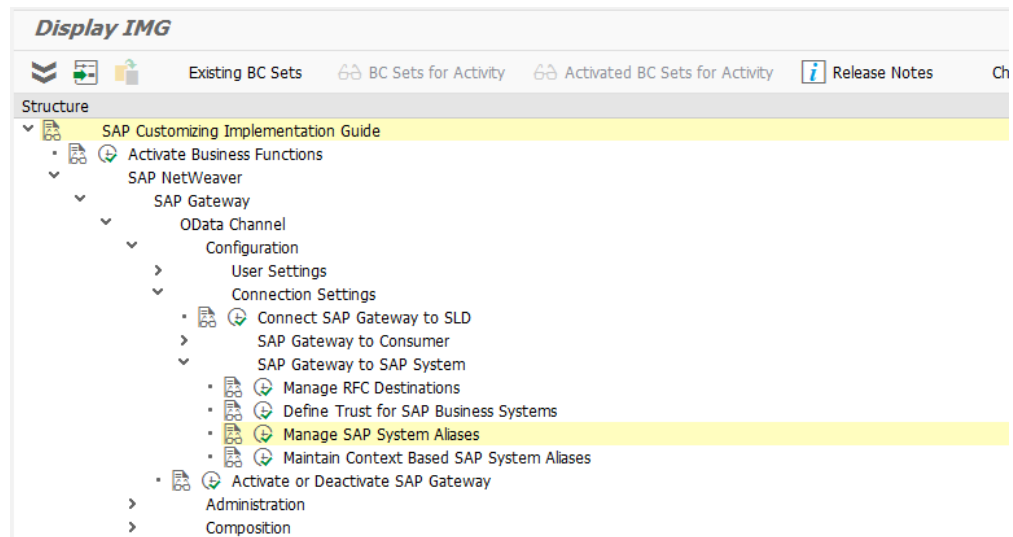
Connection Setting



SAP Gateway to SAP System



Manage SAP System Aliases



- Check for System Alias FIORI\_ECC1 and FIORI\_ECC2 in list.
- Maintain SID and Client against System Alias

Manage SAP System Aliases								
SAP System Alias	Description	Local SAP ...	For Local App	RFC Destination	Software Version	System ID	Client	WS Provider System
FIORI_ECC1	Gateway to ECC1	<input type="checkbox"/>	<input type="checkbox"/>	ECC1_T	DEFAULT	ABC	100	
FIORI_ECC2	Gateway to ECC2	<input type="checkbox"/>	<input type="checkbox"/>	ECC2_T	DEFAULT	XYZ	100	
		<input type="checkbox"/>	<input type="checkbox"/>		<input checked="" type="checkbox"/>			
		<input type="checkbox"/>	<input type="checkbox"/>		<input checked="" type="checkbox"/>			

Now we are all set to test the scenario of using SID and Client in Gateway Service URI

### Syntax for using SID and Client:

/sap/opu/odata/sap/ZPROJECT\_SRV;o=sid(SID.Client)/EntitySet

In our case it will be:- /sap/opu/odata/sap/ZPROJECT\_SRV;o=sid(ABC.100)/EntitySet

See the result which refrains output results only from system ABC-100.

The screenshot shows the SAP Web IDE interface with an HTTP GET request executed. The Request URI is `/sap/opu/odata/sap/ZPROJECT_SRV;o=sid(ABC.100)/EntitySet?$format=json`. The response is a 200 OK status with the following JSON body:

```
1 {
2   "d": {
3     "results": [
4       {
5         "_metadata": {
6           "id": "http://sap/opu/odata/sap/ZPROJECT_SRV;o=sid(ABC.100)/EntitySet('Test%20Property%202')",
7           "uri": "http://sap/opu/odata/sap/ZPROJECT_SRV;o=sid(ABC.100)/EntitySet('Test%20Property%202')",
8           "type": "ZPROJECT_SRV.Entity"
9         },
10        "Property": "Test Property 2"
11      }
12    ]
13  }
14 }
```

### Syntax for using System Alias:

/sap/opu/odata/sap/ZPROJECT\_SRV;o=SystemAlias/EntitySet

or /sap/opu/odata/sap/ZPROJECT\_SRV;mo/EntitySet?\$filter=SAP\_Origin eq 'SystemAlias'

In our case it will be:- /sap/opu/odata/sap/ZPROJECT\_SRV;o=FIORI\_ECC1/EntitySet

See the result which refrains output results only from system alias FIORI\_ECC1.

Execute Select Maintain Service Service Implementation EntitySets Add URI Option

HTTP Method ☒ GET ☐ POST ☐ PUT ☐ PATCH ☐ MERGE ☐ DELETE ☐ Reuse HTTP Connection (e.g. for Soft State)

Request URI  Multiple Rows

Protocol ☒ HTTP ☐ HTTPS Test Group Test Case

Response in Browser Error Log HTTP Header Use as Request Data Explorer

### HTTP Response

Header Name	Value
~status_code	200
~status_reason	OK

```
1 {
2   "d" : {
3     "results" : [
4       {
5         "_metadata" : {
6           "id" : "http://[redacted]/sap/opu/odata/sap/ZPROJECT_SRV;o=FIORI_ECC1/EntitySet('Test%20Property%202')",
7           "uri" : "http://[redacted]/sap/opu/odata/sap/ZPROJECT_SRV;o=FIORI_ECC1/EntitySet('Test%20Property%202')",
8           "type" : "ZPROJECT_SRV.Entity"
9         },
10        "Property" : "Test Property 2"
11      }
12    ]
13  }
14 }
```

Similarly it works for create and deep create operation also.

Below I am showing an example working with create deep entity.

HTTP Method ☐ GET ☒ POST ☐ PUT ☐ PATCH ☐ MERGE ☐ DELETE ☐ Reuse HTTP Connection (e.g. for Soft State)

Request URI  Multiple Rows

Protocol ☒ HTTP ☐ HTTPS Test Group Test Case

Add File Remove File Data Explorer

Response in Browser Error Log HTTP Header Use as Request Data Explorer

### HTTP Request

Header Name	Value
Content-Type	application/json; charset=utf-8
X-CSRF-Token	sIC-DspgA-h02gyqL5m1g==

```
1 {
2   "d" : {
3     "Property" : "Test Property 2",
4     "Entity2" : [
5       {
6         "Property" : "ABC",
7         "Text" : "Test"
8       }
9     ]
10  }
11 }
```

### HTTP Response

Header Name	Value
~status_code	201
~status_reason	Created

```
- <link title="Entity2" type="application/atom+xml;type=feed"
rel="http://schemas.microsoft.com/ado/2007/08/dataservices/related/Entity2"
href="EntitySet('')/Entity2">
  <m:inline/>
</link>
- <content type="application/xml">
  <m:properties>
    <d:Property>
</m:properties>
</content>
</entry>
```

HTTP Method: ☐ GET ☒ POST ☐ PUT ☐ PATCH ☐ MERGE ☐ DELETE Reuse HTTP Connection (e.g. for Soft State)

Request URI:  Multiple Rows

Protocol: ☒ HTTP ☐ HTTPS Test Group Test Case

**HTTP Request**

Header Name	Value
Content-Type	application/json; charset=utf-8
X-CSRF-Token	srC-DspgA-h02gydL5m1g==

```

1 {
2   "d" : {
3     "Property" : "Test Property 2",
4     "Entity2" : {
5       {
6         "Property" : "ABC",
7         "Text" : "Test"
8       }
9     }
10  }
11 }

```

**HTTP Response**

Header Name	Value
~status_code	201
~status_reason	Created

```

<link title="Entity" rel="self" href="EntitySet('')"/>
- <link title="Entity2" type="application/atom+xml;type=feed"
rel="http://schemas.microsoft.com/ado/2007/08/dataservices/related/Entity2"
href="EntitySet('')/Entity2">
  <m:inline/>
</link>
- <content type="application/xml">
  - <m:properties>
    <d:Property/>
  </m:properties>
</content>
</entry>

```

The processing of request is as follows:

1. The SAP NetWeaver Gateway system searches for all existing system aliases for the user and the specified service.
2. The SAP NetWeaver Gateway system checks if one from above system aliases equals sid(ABC.100). If this is the case, this system will be used.
3. If no such system exists underneath the specified service, then SAP NetWeaver Gateway checks whether one of the above system aliases has defined a system ID ABC and client 100.
4. If this is the case, this system ID will be used. Otherwise an error message is displayed.

Hope this fills new developments. ☺

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