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Implementing Batch Operations in OData

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1. Hello Readers,

In this post I am going to write about how to perform batch operations in OData using ABAP ECC server and SAP *NetWeaver Gateway*.

Firstly create an table in SE11 like displayed below :

Dictionary: Display Table

Transparent Table: ZARJUN_BATCH_H Active
 Short Description: BAtch table

Attributes Delivery and Maintenance Fields Entry help/check Currency/Quantity Fields

1 / 5

Field	Key	Ini...	Data element	Data Type	Length	Deci...	Short Description	Group
USERID	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	ZAR_STRING30	CHAR	30	0 String		
NAME	<input type="checkbox"/>	<input type="checkbox"/>	ZAR_STRING30	CHAR	30	0 String		
AGE	<input type="checkbox"/>	<input type="checkbox"/>	ZAR_STRING30	CHAR	30	0 String		
EMAIL	<input type="checkbox"/>	<input type="checkbox"/>	ZAR_STRING30	CHAR	30	0 String		
COUNTRY	<input type="checkbox"/>	<input type="checkbox"/>	ZAR_STRING30	CHAR	30	0 String		

Initially create some entries in the table, like this :

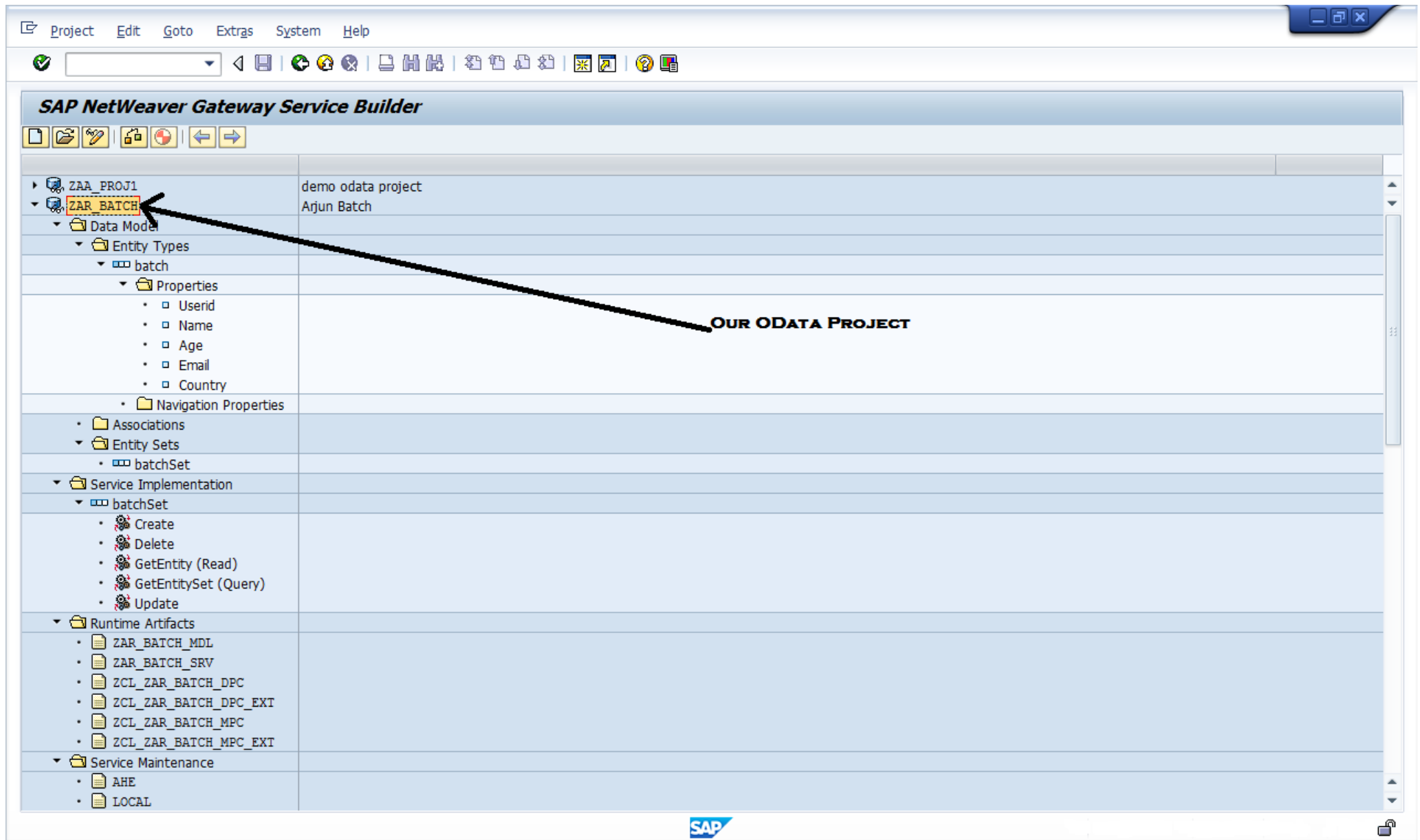
Data Browser: Table ZARJUN_BATCH_H Select Entries 4

	USERID	NAME	A...	EMAIL	COUNTRY
01	Arjun Biswas	91	aa@aa.com	India	
02	ZZZ ZZZ	91	aa@aa.com	India	
03	YYY YYY	91	aa@aa.com	India	

Now go to the transaction SEGW and create an OData project. It should initially display 4 folders :

- Data Model
- Service Implementation
- Runtime Artifacts
- Service Maintenance

Right click on the data model, under import, select from DDIC (Data Dictionary) structure. In the popup that opens, give your table name and create an entity as well as an entity set. Give "USERID" as the primary key. Now generate the runtime artifacts by clicking on the ball-like button in the nav bar. Now your OData project should look something like this :



Now double click on the DPC_EXT class in the runtime artifacts. The following screen should appear.

Class Builder: Display Class ZCL_ZAR_BATCH_DPC_EXT

← → | | Local Definitions/Implementations | Local Test Classes | Source Code-Based | Class documentation

Repository Browser

Class / Interface: ZCL_ZAR_BATCH_DPC_EXT

Object Name: ZCL_ZAR_BATCH_DPC_EXT

Class/Interface: ZCL_ZAR_BATCH_DPC_EXT | Implemented / Active

Properties | Interfaces | Friends | Attributes | **Methods** | Events | Types | Aliases

Parameter | Exception | | Filter

Method	Level	Visibility	M...	Description
/IWBEP/IF_MGW_SOST_SRV_RUNTIME	Instanc...	Public		Called before an APPS operation if soft-state mode is active
/IWBEP/IF_MGW_SOST_SRV_RUNTIM	Instanc...	Public		Called after an APPS operation if soft-state mode is active
/IWBEP/IF_MGW_SOST_SRV_RUNTIM	Instanc...	Public		Reset of the data provider - Clean up the appl session!
/IWBEP/IF_MGW_CORE_SRV_RUNTIM	Instanc...	Public		Core - Execute READ request (CReadUD) - ENTRY -
/IWBEP/IF_MGW_CORE_SRV_RUNTIM	Instanc...	Public		Core - Execute READ request (CReadUD) - STREAM -
/IWBEP/IF_MGW_CORE_SRV_RUNTIM	Instanc...	Public		Core - Execute function import
/IWBEP/IF_MGW_CORE_SRV_RUNTIM	Instanc...	Public		Core - Execute UPDATE request (CRUpdated)
/IWBEP/IF_MGW_CORE_SRV_RUNTIM	Instanc...	Public		Core - Execute CREATE request (CreateRUD)
/IWBEP/IF_MGW_CORE_SRV_RUNTIM	Instanc...	Public		Core - Execute DELETE request (CRUDelete)
/IWBEP/IF_MGW_CORE_SRV_RUNTIM	Instanc...	Public		Core - Execute a READ request (CReadUD) - FEED
/IWBEP/IF_MGW_CORE_SRV_RUNTIM	Instanc...	Public		Core - Initializes the Runtime Implementation
/IWBEP/IF_MGW_CORE_SRV_RUNTIM	Instanc...	Public		Core - Initializes the Request Context
/IWBEP/IF_MGW_CORE_SRV_RUNTIM	Instanc...	Public		Core - Set current context
/IWBEP/IF_MGW_CORE_SRV_RUNTIM	Instanc...	Public		Core - Begin of a changeset
/IWBEP/IF_MGW_CORE_SRV_RUNTIM	Instanc...	Public		Core - End of a changeset
/IWBEP/IF_MGW_CORE_SRV_RUNTIM	Instanc...	Public		Core - Process a changeset (all operations at once)
/IWBEP/IF_MGW_CORE_SRV_RUNTIM	Instanc...	Public		Core - Clean up - Needed as a single instance BADI is used
/IWBEP/IF_MGW_CONV_SRV_RUNTIM	Instanc...	Public		Gets logger
/IWBEP/IF_MGW_CONV_SRV_RUNTIM	Instanc...	Public		Gets message container

In this class, the following are the methods that are to be redefined :

- EntitySetName_GET_ENTITY – To output a single record.
- EntitySetName_GET_ENTITY_SET – To output multiple records.
- EntitySetName_CREATE_ENTITY – To create a record.
- EntitySetName_UPDATE_ENTITY – To update existing record.

- EntitySetName_DELETE_ENTITY – To delete existing record.
- /IWBEP/IF_MGW_APPL_SRV_RUNTIME~CHANGESET_BEGIN – For batch operation.
- /IWBEP/IF_MGW_APPL_SRV_RUNTIME~CHANGESET_END – For batch operation.

You dont need to implement any code in the last two methods, just redefine them and activate them. For the other methods, implement the code as given below :

GET_ENTITY :

```
data wa_key_tab1 type /iwbsp/s_mgw_name_value_pair.
read table it_key_tab into wa_key_tab1 index 1.

select single * from zarjun_batch_h into er_entity where userid = wa_key_tab1-value.
```

GET_ENTITY_SET :

```
select * from zarjun_batch_h into table et_entityset.
```

CREATE_ENTITY :

```
data wa type zcl_zar_batch_mpc=>ts_batch.
io_data_provider->read_entry_data( importing es_data = wa ).

insert into zarjun_batch_h values wa.
```

UPDATE_ENTITY :

```
data wa type zcl_zar_batch_mpc=>ts_batch.  
io_data_provider->read_entry_data( importing es_data = wa ).  
  
update zarjun_batch_h set name = wa-name  
                        age   = wa-age  
                        email  = wa-email  
                        country = wa-country  
where userid          = wa-userid.
```

DELETE_ENTITY:

```
data wa type /iwbsp/s_mgw_name_value_pair.  
read table it_key_tab into wa with key name = 'Userid'.  
  
delete from zarjun_batch_h where userid = wa-value.
```

Next step, check the code using CTRL + F2 and activate using CTRL + F3.

Now in the service maintenance folder, first register and then maintain the service. Now go to the Gateway Client. The following window should open :

SAP NetWeaver Gateway Client

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:

Add File
 Remove File
 Data Explorer

HTTP Request

Header Name	Value
<div>1</div>	

XML Ln 1 Col 1

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

HTTP Response

Header Name	Value

To execute any batch operation, we have to use the \$batch URI.

BATCH GET OPERATION

For Single record :

Request URI : path/SERVICE_NAME/\$batch

HTTP REQUEST :

--batch

Content-Type: `application/http`

Content-Transfer-Encoding: `binary`

Accept: `application/json`

`GET` `batchSet('01')` `HTTP/1.1`

--batch--

SAP NetWeaver Gateway Client

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: /sap/opu/odata/sap/ZAR_BATCH_SRV/\$batch Multiple Rows

Protocol: ☒ HTTP ☐ HTTPS Test Group: Test Case:

HTTP Request

Header Name	Value
Content-Type	multipart/mixed; boundary=batch

```

1  --batch
2  Content-Type: application/http
3  Content-Transfer-Encoding: binary
4  Accept: application/json
5
6  GET batchSet('01') HTTP/1.1
7
8
9  --batch--
  
```

HTTP Response

Header Name	Value
~status_code	202
~status_reason	Accepted

```

1  --2CB5B641D5DC3AA751444D878089DA740
2  Content-Type: application/http
3  Content-Length: 929
4  content-transfer-encoding: binary
5
6  HTTP/1.1 200 OK
7  Content-Type: application/atom+xml;type=entry
8  Content-Length: 817
9  dataserviceversion: 2.0
10
11  <?xml version="1.0" encoding="utf-8"?>
12  <entry xml:base="http://EHP7PRD.sap.in:8048/sap/opu/odata/sap/ZAR_BATCH_SRV/" xm
13  <id>http://EHP7PRD.sap.in:8048/sap/opu/odata/sap/ZAR_BATCH_SRV/batchSet('01')</i
14  <title type="text">batchSet('01')</title>
15  <updated>2017-12-15T05:18:51Z</updated>
16  <category term="ZAR_BATCH_SRV.batch" scheme="http://schemas.microsoft.com/ado/20
17  <link href="batchSet('01')\" rel="self" title="batch"/>
18  <content type="application/xml">
19  <m:properties>
20  </m:properties>
  
```

XML Ln 1 Col 1

BATCH POST OPERATION

For Single record:

Request URI : path/SERVICE_NAME/\$batch

HTTP REQUEST :

--batch

Content-Type: multipart/mixed; boundary=changeset

--changeset

Content-Type: application/http

Content-Transfer-Encoding: binary

POST batchSet HTTP/1.1

Content-Type: application/atom+xml;type=entry

Content-Length: 817

dataserviceversion: 2.0

```
<?xml version="1.0" encoding="utf-8"?>
<entry xml:base="http://EHP7PRD.sap.in:8048/sap/opu/odata/SAP/ZAR_BATCH_SRV/" xmlns="http://www.w3.org/2005/Atom" xmlns:m="http://schemas.microso
<id>http://EHP7PRD.sap.in:8048/sap/opu/odata/SAP/ZAR_BATCH_SRV/batchSet('01')</id>
<title type="text">batchSet('05')</title>
<updated>2017-12-13T09:59:43Z</updated>
<category term="ZAR_BATCH_SRV.batch" scheme="http://schemas.microsoft.com/ado/2007/08/dataservices/scheme"/>
<link href="batchSet('05')" rel="self" title="batch"/>
<content type="application/xml">
<m:properties>
<d:UserId>05</d:UserId>
<d:Name>Arjun Biswas</d:Name>
<d:Age>91</d:Age>
<d:Email>aa@aa.com</d:Email>
<d:Country>India</d:Country>
</m:properties>
</content>
</entry>
```

```
--changeset--  
--batch--
```

For Multiple records:

Request URI : path/SERVICE_NAME/\$batch

HTTP REQUEST :

```
--batch  
Content-Type: multipart/mixed; boundary=changeset
```

```
--changeset  
Content-Type: application/http  
Content-Transfer-Encoding: binary
```

```
POST batchSet HTTP/1.1  
Content-Type: application/xml  
Content-Length: 1000
```

```
<?xml version="1.0" encoding="utf-8"?>  
<entry xml:base="http://EHP7PRD.sap.in:8048/sap/opu/odata/SAP/ZAR_BATCH_SRV/" xmlns="http://www.w3.org/2005/Atom" xmlns:m="http://schemas.microso  
<id>http://EHP7PRD.sap.in:8048/sap/opu/odata/SAP/ZAR_BATCH_SRV/batchSet('01')</id>  
<title type="text">batchSet('05')</title>  
<updated>2017-12-13T09:59:43Z</updated>  
<category term="ZAR_BATCH_SRV.batch" scheme="http://schemas.microsoft.com/ado/2007/08/dataservices/scheme"/>  
<link href="batchSet('06')" rel="self" title="batch"/>  
<content type="application/xml">
```

```
<m:properties>
<d:UserId>06</d:UserId>
<d:Name>XXX YYY</d:Name>
<d:Age>91</d:Age>
<d:Email>aa@aa.com</d:Email>
<d:Country>India</d:Country>
</m:properties>
</content>
</entry>
```

```
--changeset
Content-Type: application/http
Content-Transfer-Encoding: binary
```

```
POST batchSet HTTP/1.1
Content-Type: application/xml
Content-Length: 1000
```

```
<?xml version="1.0" encoding="utf-8"?>
<entry xml:base="http://EHP7PRD.sap.in:8048/sap/opu/odata/SAP/ZAR_BATCH_SRV/" xmlns="http://www.w3.org/2005/Atom" xmlns:m="http://schemas.microso
<id>http://EHP7PRD.sap.in:8048/sap/opu/odata/SAP/ZAR_BATCH_SRV/batchSet('01')</id>
<title type="text">batchSet('07')</title>
<updated>2017-12-13T09:59:43Z</updated>
<category term="ZAR_BATCH_SRV.batch" scheme="http://schemas.microsoft.com/ado/2007/08/dataservices/scheme"/>
<link href="batchSet('07')" rel="self" title="batch"/>
<content type="application/xml">
<m:properties>
<d:UserId>07</d:UserId>
<d:Name>VVV VVV</d:Name>
<d:Age>91</d:Age>
<d:Email>aa@aa.com</d:Email>
```

```
<d:Country>India</d:Country>
</m:properties>
</content>
</entry>
```

```
--changeset--
--batch--
```

BATCH UPDATE (PUT) OPERATION

For Single record:

Request URI : path/SERVICE_NAME/\$batch

HTTP REQUEST :

```
--batch
Content-Type: multipart/mixed; boundary=changeset
```

```
--changeset
Content-Type: application/http
Content-Transfer-Encoding: binary
```

```
PUT batchSet('05') HTTP/1.1
Content-Type: application/xml
Content-Length: 130
```

```
<?xml version="1.0" encoding="utf-8"?>
```

```
<entry xml:base="http://EHP7PRD.sap.in:8048/sap/opu/odata/SAP/ZAR_BATCH_SRV/" xmlns="http://www.w3.org/2005/Atom" xmlns:m="http://schemas.microso
<id>http://EHP7PRD.sap.in:8048/sap/opu/odata/SAP/ZAR_BATCH_SRV/batchSet('')</id>
<title type="text">batchSet('')</title>
<updated>2017-12-13T10:11:04Z</updated>
<category term="ZAR_BATCH_SRV.batch" scheme="http://schemas.microsoft.com/ado/2007/08/dataservices/scheme"/>
<link href="batchSet('')" rel="self" title="batch"/>
<content type="application/xml">
<m:properties>
<d:UserId>05</d:UserId>
<d:Name>HELLO</d:Name>
<d:Age>922</d:Age>
<d:Email>aa@aa223.com</d:Email>
<d:Country>India</d:Country>
</m:properties>
</content>
</entry>

--changeset--
--batch--
```

For multiple records:

Request URI : path/SERVICE_NAME/\$batch

HTTP REQUEST :

```
--batch
Content-Type: multipart/mixed; boundary=changeset
```

--changeset

Content-Type: application/http

Content-Transfer-Encoding: binary

PUT batchSet('07') HTTP/1.1

Content-Type: application/xml

Content-Length: 130

```
<?xml version="1.0" encoding="utf-8"?>
<entry xml:base="http://EHP7PRD.sap.in:8048/sap/opu/odata/SAP/ZAR_BATCH_SRV/" xmlns="http://www.w3.org/2005/Atom" xmlns:m="http://schemas.microso
<id>http://EHP7PRD.sap.in:8048/sap/opu/odata/SAP/ZAR_BATCH_SRV/batchSet('')</id>
<title type="text">batchSet('')</title>
<updated>2017-12-13T10:11:04Z</updated>
<category term="ZAR_BATCH_SRV.batch" scheme="http://schemas.microsoft.com/ado/2007/08/dataservices/scheme"/>
<link href="batchSet('')" rel="self" title="batch"/>
<content type="application/xml">
<m:properties>
<d:UserId>07</d:UserId>
<d:Name>HELLO ALL</d:Name>
<d:Age>922</d:Age>
<d:Email>aa2@aa223.com</d:Email>
<d:Country>India</d:Country>
</m:properties>
</content>
</entry>
```

--changeset

Content-Type: application/http

Content-Transfer-Encoding: binary


```
PUT batchSet('06') HTTP/1.1
Content-Type: application/xml
Content-Length: 130
```

```
<?xml version="1.0" encoding="utf-8"?>
<entry xml:base="http://EHP7PRD.sap.in:8048/sap/opu/odata/SAP/ZAR_BATCH_SRV/" xmlns="http://www.w3.org/2005/Atom" xmlns:m="http://schemas.microso
<id>http://EHP7PRD.sap.in:8048/sap/opu/odata/SAP/ZAR_BATCH_SRV/batchSet('')</id>
<title type="text">batchSet('')</title>
<updated>2017-12-13T10:11:04Z</updated>
<category term="ZAR_BATCH_SRV.batch" scheme="http://schemas.microsoft.com/ado/2007/08/dataservices/scheme"/>
<link href="batchSet('') " rel="self" title="batch"/>
<content type="application/xml">
<m:properties>
<d:UserId>06</d:UserId>
<d:Name>WELCOME BATCH</d:Name>
<d:Age>19232</d:Age>
<d:Email>aa1a@aa223.com</d:Email>
<d:Country>India</d:Country>
</m:properties>
</content>
</entry>

--changeset--
--batch--
```

BATCH DELETE OPERATION

For Single record:

Request URI : path/SERVICE_NAME/\$batch

HTTP REQUEST :

```
--batch
content-Type: multipart/mixed;boundary=changeset

--changeset
Content-Type: application/http
Content-Transfer-Encoding: binary

DELETE batchSet('07') HTTP/1.1

--changeset--
--batch--
```

For multiple records:

Request URI : path/SERVICE_NAME/\$batch

HTTP REQUEST :

```
--batch
content-Type: multipart/mixed;boundary=changeset

--changeset
Content-Type: application/http
Content-Transfer-Encoding: binary

DELETE batchSet('06') HTTP/1.1
```

```
--changeset
Content-Type: application/http
Content-Transfer-Encoding: binary
```

```
DELETE batchSet('05') HTTP/1.1
```

```
--changeset--
--batch--
```

COMBINING BATCH OPERATIONS :

GET and PUT operation :

```
--batch
Content-Type: application/http
Content-Transfer-Encoding: binary
Accept: application/json
```

```
GET batchSet('01') HTTP/1.1
```

```
--batch
Content-Type: multipart/mixed; boundary=changeset
```

```
--changeset
Content-Type: application/http
Content-Transfer-Encoding: binary
```

```
PUT batchSet('04') HTTP/1.1
Content-Type: application/xml
```

Content-Length: 130

```
<?xml version="1.0" encoding="utf-8"?>
<entry xml:base="http://EHP7PRD.sap.in:8048/sap/opu/odata/SAP/ZAR_BATCH_SRV/" xmlns="http://www.w3.org/2005/Atom" xmlns:m="http://schemas.microso
<id>http://EHP7PRD.sap.in:8048/sap/opu/odata/SAP/ZAR_BATCH_SRV/batchSet('')</id>
<title type="text">batchSet('')</title>
<updated>2017-12-13T10:11:04Z</updated>
<category term="ZAR_BATCH_SRV.batch" scheme="http://schemas.microsoft.com/ado/2007/08/dataservices/scheme"/>
<link href="batchSet('')" rel="self" title="batch"/>
<content type="application/xml">
<m:properties>
<d:UserId>05</d:UserId>
<d:Name>WELCOME BATCH</d:Name>
<d:Age>34</d:Age>
<d:Email>aaa@aa.com</d:Email>
<d:Country>India</d:Country>
</m:properties>
</content>
</entry>

--changeset--
--batch--
```

POST, PUT and DELETE operations together :

```
--batch
Content-Type: multipart/mixed; boundary=changeset
```

--changeset

Content-Type: application/http

Content-Transfer-Encoding: binary

POST batchSet HTTP/1.1

Content-Type: application/xml

Content-Length: 130

```
<?xml version="1.0" encoding="utf-8"?>
<entry xml:base="http://EHP7PRD.sap.in:8048/sap/opu/odata/SAP/ZAR_BATCH_SRV/" xmlns="http://www.w3.org/2005/Atom" xmlns:m="http://schemas.microso
<id>http://EHP7PRD.sap.in:8048/sap/opu/odata/SAP/ZAR_BATCH_SRV/batchSet('01')</id>
<title type="text">batchSet('05')</title>
<updated>2017-12-13T11:03:13Z</updated>
<category term="ZAR_BATCH_SRV.batch" scheme="http://schemas.microsoft.com/ado/2007/08/dataservices/scheme"/>
<link href="batchSet('05')" rel="self" title="batch"/>
<content type="application/xml">
<m:properties>
<d:UserId>05</d:UserId>
<d:Name>Arjun Biswas</d:Name>
<d:Age>91</d:Age>
<d:Email>aa@aa.com</d:Email>
<d:Country>India</d:Country>
</m:properties>
</content>
</entry>
```

--changeset

Content-Type: application/http

Content-Transfer-Encoding: binary

PUT batchSet('3000000005') HTTP/1.1

Content-Type: application/xml

Content-Length: 130

```
<?xml version="1.0" encoding="utf-8"?>
<entry xml:base="http://EHP7PRD.sap.in:8048/sap/opu/odata/SAP/ZAR_BATCH_SRV/" xmlns="http://www.w3.org/2005/Atom" xmlns:m="http://schemas.microso
<id>http://EHP7PRD.sap.in:8048/sap/opu/odata/SAP/ZAR_BATCH_SRV/batchSet('01')</id>
<title type="text">batchSet('05')</title>
<updated>2017-12-13T11:03:13Z</updated>
<category term="ZAR_BATCH_SRV.batch" scheme="http://schemas.microsoft.com/ado/2007/08/dataservices/scheme"/>
<link href="batchSet('05')" rel="self" title="batch"/>
<content type="application/xml">
<m:properties>
<d:UserId>05</d:UserId>
<d:Name>Arjun Biswas 1</d:Name>
<d:Age>91</d:Age>
<d:Email>a1a@aa.com</d:Email>
<d:Country>India</d:Country>
</m:properties>
</content>
</entry>
```

--changeset

Content-Type: application/http

Content-Transfer-Encoding: binary

DELETE batchSet(Userid='04') HTTP/1.1

--changeset--

--batch--

Combining all CRUD methods together :

--batch

Content-Type: application/http

Content-Transfer-Encoding: binary

Accept: application/json

GET batchSet('01') HTTP/1.1

--batch

Content-Type: multipart/mixed; boundary=changeset

--changeset

Content-Type: application/http

Content-Transfer-Encoding: binary

POST batchSet HTTP/1.1

Content-Type: application/xml

Content-Length: 130

```
<?xml version="1.0" encoding="utf-8"?>
<entry xml:base="http://EHP7PRD.sap.in:8048/sap/opu/odata/SAP/ZAR_BATCH_SRV/" xmlns="http://www.w3.org/2005/Atom" xmlns:m="http://schemas.microso
<id>http://EHP7PRD.sap.in:8048/sap/opu/odata/SAP/ZAR_BATCH_SRV/batchSet('01')</id>
<title type="text">batchSet('05')</title>
<updated>2017-12-13T11:03:13Z</updated>
<category term="ZAR_BATCH_SRV.batch" scheme="http://schemas.microsoft.com/ado/2007/08/dataservices/scheme"/>
<link href="batchSet('04')" rel="self" title="batch"/>
<content type="application/xml">
```

```
<m:properties>
<d:UserId>04</d:UserId>
<d:Name>Arjun Biswas </d:Name>
<d:Age>91</d:Age>
<d:Email>aa@aa.com</d:Email>
<d:Country>India</d:Country>
</m:properties>
</content>
</entry>
```

--changeset

Content-Type: application/http

Content-Transfer-Encoding: binary

PUT batchSet('05') HTTP/1.1

Content-Type: application/xml

Content-Length: 130

```
<?xml version="1.0" encoding="utf-8"?>
<entry xml:base="http://EHP7PRD.sap.in:8048/sap/opu/odata/SAP/ZAR_BATCH_SRV/" xmlns="http://www.w3.org/2005/Atom" xmlns:m="http://schemas.microso
<id>http://EHP7PRD.sap.in:8048/sap/opu/odata/SAP/ZAR_BATCH_SRV/batchSet('01')</id>
<title type="text">batchSet('05')</title>
<updated>2017-12-13T11:03:13Z</updated>
<category term="ZAR_BATCH_SRV.batch" scheme="http://schemas.microsoft.com/ado/2007/08/dataservices/scheme"/>
<link href="batchSet('05')" rel="self" title="batch"/>
<content type="application/xml">
<m:properties>
<d:UserId>05</d:UserId>
<d:Name>Arjun Biswas 1</d:Name>
<d:Age>91</d:Age>
<d:Email>a1a@aa.com</d:Email>
<d:Country>India</d:Country>
```



```
</m:properties>  
</content>  
</entry>
```

```
--changeset
```

```
Content-Type: application/http
```

```
Content-Transfer-Encoding: binary
```

```
DELETE batchSet(Userid='05') HTTP/1.1
```

```
--changeset--
```

```
--batch--
```

That's basically it. Using the above methods you can perform any batch operations on any number of entity sets in one HTTP request only. The output can be both checked at the HTTP Response, as well as from SE11.

You should take care while performing batch operations in the request body as a single space or extra line can cause errors. Many might have faced an issue like below :

SAP NetWeaver Gateway Client

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: /sap/opu/odata/SAP/ZBATCH_SRV/\$batch Multiple Rows

Protocol: HTTP HTTPS Test Group Test Case

HTTP Request

Header Name	Value
Content-Type	multipart/mixed; boundary=batch
X-CSRF-Token	kp6NRkEqgUZg98BDSPVR6w==

HTTP Response

Header Name	Value
~status_code	202
~status_reason	Accepted

Information

Empty response body: Check your batch request body. See also SAP note 1869434.

```
--batch
content-Type: multipart/mixed;boundary=changeset
--changeset
Content-Type: application/http
Content-Transfer-Encoding: binary
--changeset--
--batch--
////////////////////////////////////
```

```
--BAE078792487AD8DA510950FA5ECD2DB0
Content-Type: application/http
Content-Length: 871
content-transfer-encoding: binary

HTTP/1.1 404 Not Found
Content-Type: application/xml
Content-Length: 768
dataserviceversion: 1.0

<?xml version="1.0" encoding="utf-8"?>
<error xmlns="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata">
<code>005056A509B11EE1B9A8FEC11C21D78E</code>
<message xml:lang="en">Resource not found for the segment 'batchSet('06')'.</mes
<innererror xmlns="http://schemas.microsoft.com/ado/2007/08/dataservices/metadat
<transactionid>5E5BE1E756E3F196ABE9005056C00008</transactionid>
<timestamp>20171215054826.0090000</timestamp>
<Error_Resolution>
<SAP_Transaction>Run transaction /IWFND/ERROR_LOG on SAP NW Gateway hub system a
<SAP_Note>See SAP Note 1869434 for error analysis (https://service.sap.com/sap/...
```

This happens even when you miss a line while writing the HTTP Request. Any batch request starts with the “--batch” statement and ends with the “--batch--” statement.

Regards,

Arjun Biswas

Alert Moderator

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7 Comments

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Eliu Gonzalez

January 31, 2018 at 3:08 pm

Hi [Arjun Biswas](#)

thanks for sharing that example, but I wonder what code do I have to type these method:

- /IWBEP/IF_MGW_APPL_SRV_RUNTIME~CHANGESET_BEGIN – For batch operation.
- /IWBEP/IF_MGW_APPL_SRV_RUNTIME~CHANGESET_END – For batch operation.

or just I leave it in blank?

best wishes

Eliu

Like (1)



[Arjun Biswas](#) | Post author

February 1, 2018 at 3:43 am

Hi [Eliu Gonzalez](#),

Thank you for the comment. Yes, you have to leave the two methods blank. Just redefine them and activate your DPC_EXT class. Don't write any code in them.

Regards,

Arjun Biswas

Like (0)



Mohammed Zia Shaik

November 27, 2018 at 11:19 am

Hi Arjun,

Can you be more specific ? You are saying not to write any code in the below methods

- /IWBEP/IF_MGW_APPL_SRV_RUNTIME~CHANGESSET_BEGIN – For batch operation.
- /IWBEP/IF_MGW_APPL_SRV_RUNTIME~CHANGESSET_END – For batch operation.

But then where we need to write the below highlighted code, which you have written for – BATCH UPDATE (PUT) OPERATION and what URI we need to give to the Frontend developer to call ?

I have a requirement where we need to approve multiple Sales Orders by selecting from the Master page of the Fiori App. So from ODATA , how can I implement this ?

For multiple records:

Request URI : path/SERVICE_NAME/\$batch

HTTP REQUEST :

–batch

Content-Type: multipart/mixed; boundary=changeset

–changeset

Content-Type: application/http

Content-Transfer-Encoding: binary

PUT batchSet('07') HTTP/1.1
Content-Type: application/xml
Content-Length: 130

Like (0)



Gaurav Sharma

June 2, 2018 at 6:20 am

Hi Arjun,

When i am posting multiple entries i am getting an error of

RFC Error: The current application triggered a termination with a short dump.

But single entry is working fine.

Regards

Gaurav sharma

Like (0)



Ankur Gokhale

August 15, 2018 at 1:00 pm

Hi [Arjun Biswas](#) , are you really able to update records? If you put a breakpoint in your UPDATE_ENTITY method, does it fire up?

When I put breakpoint in CREATE_ENTITY method, it fires up but not for UPDATE_ENTITY.

Thanks in advance.

Like (0)



Jumar Añonuevo

November 30, 2018 at 9:15 am

I experienced this with my PUT method. I specified merge: false and i was able to fire up my UPDATE_ENTITY.

```
//Create Batch
this.oOdataModel.setUseBatch(true);
for (var count = 0; count <= iCount; count++) {
  sPath = "/WorkItemSet(workitemId='" + selectedData[count].workitemId + "')";

  this.oOdataModel.update(sPath, selectedData[count], {
    method: "PUT",
    merge: false,

    success: function (data) {
      // Do something
    },

    error: function (e) {
      // Do something
    }
  });

  this.oOdataModel.submitChanges({
    success: function (data, response) {
      //Do something here
    },
    error: function (e) {
      //Do something here
    }
  });
}
```

Like (0)



Ankur Gokhale

February 13, 2019 at 7:59 am

Hi Jumar,

Please refer to my post:

<https://answers.sap.com/answers/606516/view.html>

Like (0)

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