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November 10, 2014 5 minute read

Custom header parameters in Gateway

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I started off with GW learning as part of my new UI5 project .As you all know Gateway is a framework to expose the rich backend SAP data in the form of ODATA protocol.I am not going to give so many motherhood statements as it is well documented elsewhere

Now .. The Problem Statement

During so many scenarios, I came across a common requirement to pass some HTTP request header parameters .

To tell one sample scenario, there is an entity type Exemption .This entity type Exemption can be 'Requested' or 'Approved' from a business perspective from a UI application . The 'Request' or 'Approve' action can be done in batch for the Exemption record .If we model this as a property(I will call it the BusinessAction) in entity type Exemption, the problem is that the payload will have to repeat this property for all the records that it is sending. 😞 . All the more from a modelling perspective it does look silly to have BusinessAction in that entity type 😜

Then I came across a blog <http://scn.sap.com/community/developer-center/netweaver-gateway/blog/2013/06/21/odata-custom-parameters-gateway-can-have-them-too> from [Ron Sargeant](#). This involved changes to both the GW Hub system layer and the backend BEP layer. In our case we did not have developer authorisation in GW hub system . The GW hub system is just used for registration of backend service..

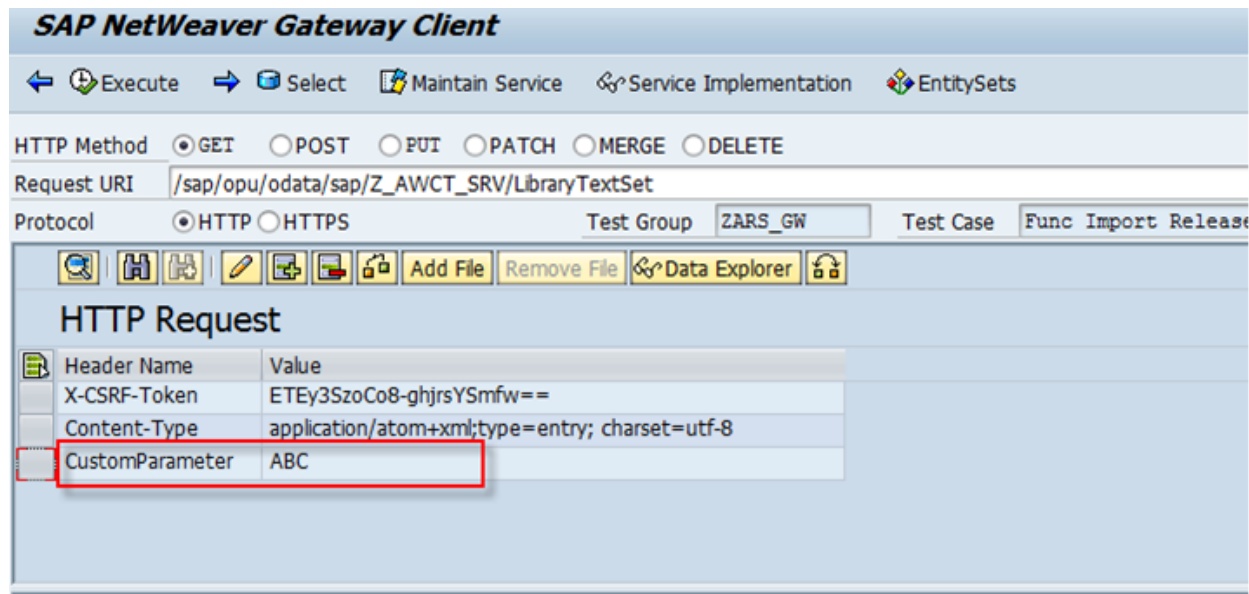
So whats the option we have ??



Welcome Mr Trial & Error ...

I just tried a sample scenario where in I send a sample HTTP request header parameter and see how does it reach our Broker GW and then ultimately to Uncle backends home..

I tired to send a Custom parameter via request header parameter for a sample Entity type.Now I put the break point in the our DPC class corresponding entity GET_ENTITYSET.The values



This part of debugging is called '*Happy Debugging*'

.I was happy to see the values appear in the importing parameter `io_tech_request_context` 😊

When I checked in debugger the `io_tech_request_context` is of type `/IWBEP/CL_MGW_REQUEST` with protected attribute `MR_REQUEST`

Objects

Indiv.Display

Reference

IO_TECH_REQUEST_CONTEXT

Object

{0:32*\CLASS=/IWBEF/CL_MGW_REQUEST}

View

Attribute

St...	Bin...	Vis...	Attrib.	Val...	Val.
			OBJECT		
			/IWBEF/CL_MGW_REQUEST		
			MR_REQUEST	⇒	Structure: deep
			MT_HEADERS		[2x2(16)]Standard Table
			MO_FILTER		{0:33*\CLASS=/IWBEF/CL_MGW_REQ_FILTER}
			MO_MODEL		{0:17*\CLASS=/IWBEF/CL_MGW_ODATA_MODEL}
			GCS_PARAM_CONSTANTS		Structure: deep

The attribute MR_REQUEST has deep structure TECHNICAL_REQUEST which has attributes like below and has a attribute REQUEST_HEADER

TECHNICAL_REQUEST	Structure: deep
SOURCE_ENTITY_TYPE	LibraryText
TARGET_ENTITY_TYPE	LibraryText
SOURCE_ENTITY_SET	LibraryTextSet
TARGET_ENTITY_SET	LibraryTextSet
KEY	
KEY_TAB	[0x2(68)]Standard Table
NAVIGATION_PATH	[0x7(256)]Standard Table
FILTER_SELECT_OPTIONS	[0x2(16)]Standard Table
FILTER_STRING	
ORDER	[0x3(96)]Standard Table
SELECT	[0x1(60)]Standard Table
TOTALS	[0x1(60)]Standard Table
EXPAND	
COMPONENTS	[0x1(8)]Standard Table
ACTION_NAME	
ACTION_PARAMETERS	[0x2(16)]Standard Table
ACTION_RETURN_TYPE	
PARAMETERS	[0x2(16)]Standard Table
KEY_CONVERTER	{0:41*\CLASS=/IWBEF/CL_M...
FILTER_EXPRESSIONS	[0x11(248)]Standard Table
FILTER_FUNCTIONS	[0x3(80)]Standard Table
REQUEST_HEADER	[6x2(16)]Standard Table

When we went inside we have the request header parameter that we set on the journey...

Table Contents		
Table	{A:25*\INTERFACE=/IWBEF/IF_MG...	
Attributes	{A:25*\INTERFACE=/IWBEF/IF_MGW_CORE_SRV_RUNTIME\TYPE=TY_S_MGW_REQUEST_CONTEXT)-TECHNICAL_REQUEST-REQUEST_HEADER	
Insert Column		Columns ...
Row	NAME [Cstring]	VALUE [Cstring]
1	-request_uri	/sap/opu/odata/sap/Z_AWCT_SRV/LibraryTextSet('T001_ARS')
2	content-type	application/atom+xml;type=entry; charset=utf-8
3	content-length	0
4	customparameter	ABC
5	requestid	00155DA9CC181ED4909362E619C700C6
6	user-agent	SAP NetWeaver Application Server (1.0;740)
7	host	appgwxddev01.zespr1.zil:8000
8	accept-encoding	gzip

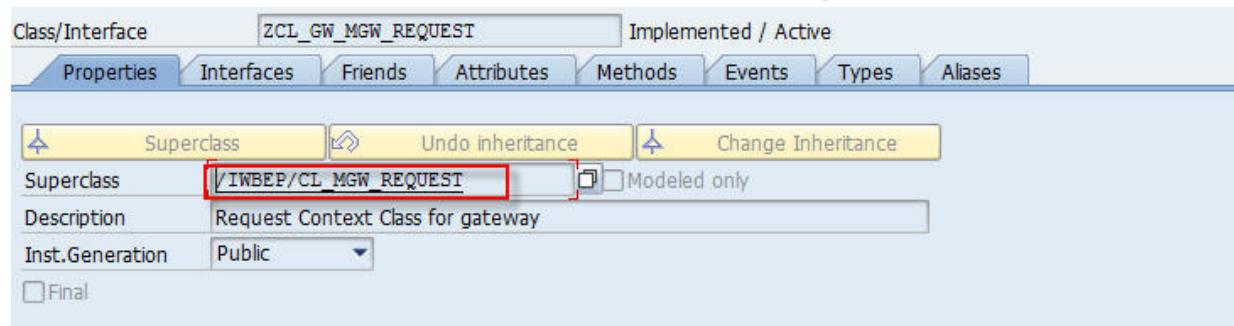
Now I thought its just a matter of reading the values .Its matter of reading values from io_tech_request_context->mr_request->request_header...(So simple)

This part of debugging is called 'Not so happy Debugging'

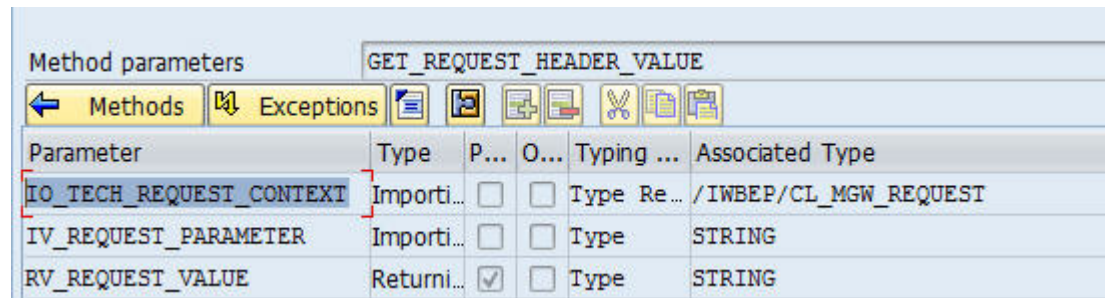
I realised the attribute MR_REQUEST is a protected attribute and cannot be accessed by simple assignment to local variable. 😞

So Whats the workaround?

I made a subclass of the standard class /IWBEP/CL_MGW_REQUEST..



I wrote a method GET_REQUEST_HEADER_VALUE where in takes the request context object, header parameter and returns back the value



The code inside the method for reading the header parameter is as below

```
data:lo_request type ref to /IWBEP/IF_MGW_CORE_SRV_RUNTIME=>TY_S_MGW_REQUEST_CONTEXT,
```

```
lt_request_headers TYPE tihttpnvp,
```

ls_request_header like LINE OF lt_request_headers.

lo_request = io_tech_request_context->mr_request.

lt_request_headers = lo_request->technical_request-request_header.

READ TABLE lt_request_headers into ls_request_header with key name = iv_request_parameter.

if sy-subrc eq 0.

rv_request_value = ls_request_header-value .

endif.

Reading the value

Now I just need to use the utility method GET_REQUEST_HEADER_VALUE of subclass to get the custom parameter value.

Use the following code in your CRUDQ method to read the request header

DATA: lo_tech_request TYPE REF TO /iwbep/cl_mgw_request,

lo_tech_request_sub TYPE REF TO zcl_gw_mgw_request,

lt_headers TYPE tihttpnvp,

lv_request_header type string,

lv_request_header_value type string.

***Casting and Assigning importing parameter to local variable*

lo_tech_request ?= io_tech_request_context.

****Instantialte subclass with some dumy header parameters*

CREATE OBJECT lo_tech_request_sub

EXPORTING

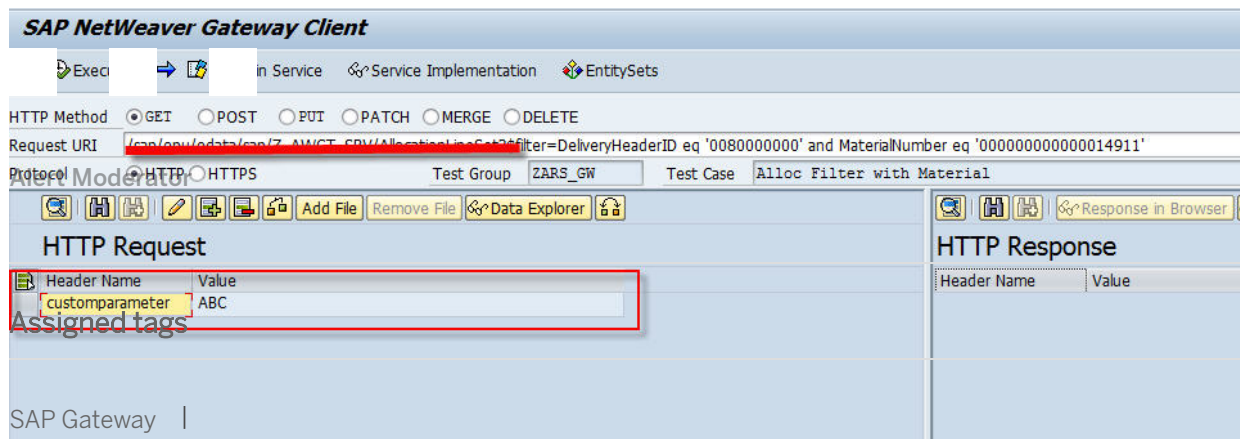
it_headers = lt_headers..

lv_request_header_value = lo_tech_request_sub->get_request_header_value(EXPORTING io_tech_request_context = lo_tech_request

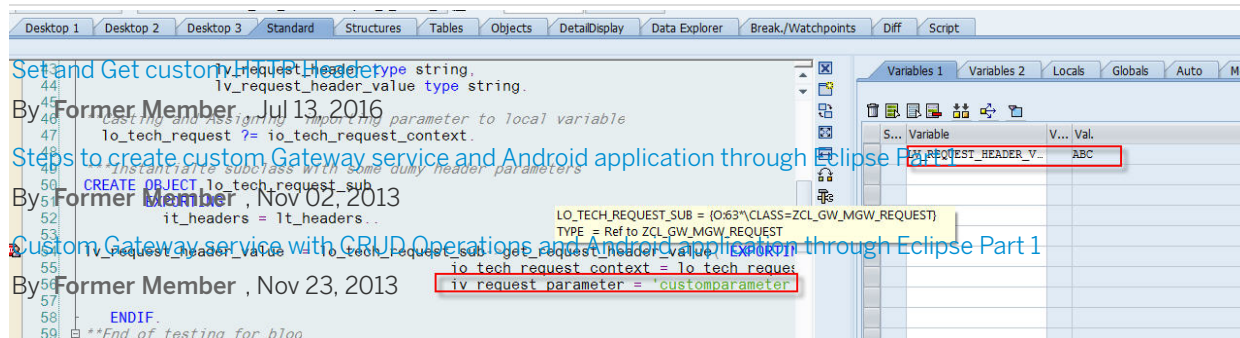
iv_request_parameter = 'customparameter').

Testing the code -Final showdown..

Now in GW client in the GW hub system I run the below URL with HTTP header request custom parameters



Now in the debugger of GET_ENTITYSET...



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Former Member

[November 10, 2014 at 8:34 am](#)

will try this when i get the requirement.

Like (0)



[Arshad Ansary](#) | Post author

[November 10, 2014 at 9:14 am](#)

Thanks Vishnu...

Like (0)



[Jonathan Bourne](#)

[November 13, 2014 at 8:17 am](#)

There is no need to use a custom subclass in Gateway 2.0 SP09 (not sure about other Support Packs) when using the following code in your DPC_EXT class:

```
DATA: lo_facade TYPE REF TO /iwbep/if_mgw_dp_int_facade,  
      lt_request_headers TYPE tihttpnvp,  
      ls_request_headers LIKE LINE OF lt_request_headers.
```

* Read the HTTP Request headers.

```
lo_facade ?= /iwbep/if_mgw_conv_srv_runtime~get_dp_facade( ).  
lt_request_headers = lo_facade->get_request_header( ).
```

Regards,

JB

Like (3)



Prasad Sundara Raghavan

November 19, 2014 at 4:34 am

Thanks Jonathan. This really helps.

Like (0)



' Pavan ' Golesar

October 25, 2015 at 7:07 am

Hello [Arshad](#),

Again a absolutely awesome blog posted.

Its fun to see how you dramatize the learning process.. 😊 😏 esp. the lines:

This part of debugging is called '*Happy Debugging*'

Keep up the good work.

Thanks for share !

Best Regards,

PavanG

Like (0)



Amarpreet Singh

September 26, 2016 at 2:48 pm

Hi ,

for some reason any custom headers that i add in the request do not reach the back-end, I'll looking at the same place as u in the debugger.

I'm unable to find out where it is that they are getting removed.

Would you know anything about this behavior .

Thanks

Amarpreet.

Like (0)



Former Member

November 8, 2017 at 8:39 am

Hi All,

I seem to getting a similar issue. I am passing headers to my oModel via setHeaders in UI. But I cannot even see the headers in my request headers in the Network Tab.

Any idea what could be the issue?

Thanks,

Amita

Like (0)



Lokeswar Reddy Byni

April 16, 2018 at 9:52 am

Is there any possibility to send language as HTTP Request Parameter ?

I tried with the below options:

Accept-Language – DE

CustomParameter – DE

Please suggest.

Regards,

Lokeswar.

Like (0)

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