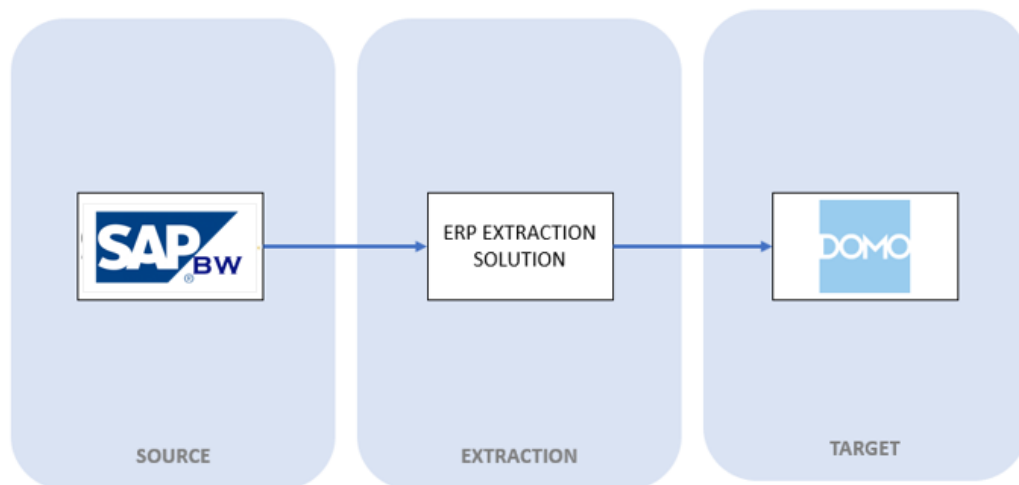


## ERP Rapid Extraction Solution

The *ERP Extraction Solution* has been created to ease the transfer of data between SAP BW and DOMO. Using the *ERP Extraction Solution* means that by performing few steps data transfers can be done in an easy, timely manner without the requirement of complex IT/coding knowledge. The *ERP Extraction Solution* also enables these transfers to be done with ease across devices, including via mobile phones and tablets. The Accelerated framework acts as an automated bridge between SAP and DOMO where several operations can be performed as listed in the subsequent sections.



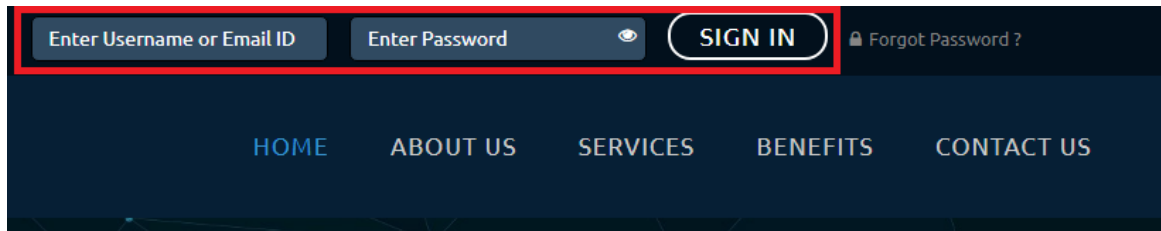
*Fig.1. Illustration of ERP Extraction Solution acting as a bridge between SAP BW and Domo*

The Centre of Excellence and assist in multiple ways; there are other methods of extraction besides from this solution that can be explored to best fit the requirements of the business.

### Performing Various Operations in the ERP Extraction Solution

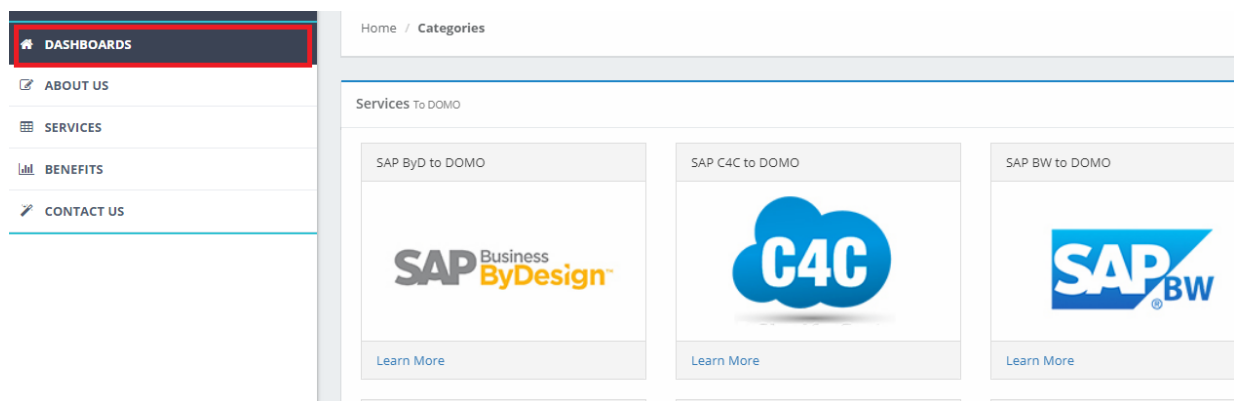
- 1) Go to the ERP Extraction Solution Portal located at: <http://erpextractionsolution.co.uk/>

- 2) Log in using the details provided to you by the Manzeera Solutions Team in the box at the top of the webpage. These details are provided on an individual basis, for subsequent log in credentials please contact the Manzeera Solutions team on [centreofexcellence@manzeerasolutions.co.uk](mailto:centreofexcellence@manzeerasolutions.co.uk)



*Fig.2. Log in Panel of Portal*

- 3) Upon logging in, you will be brought to the 'Dashboard' page. This page can be accessed any time in the portal by clicking the word 'Dashboard' in the menu.



*Fig.3. Dashboard and Menu Panel of Portal*

- 4) Within the Dashboard, select the correct service you require. For example, for SAP BW click 'Learn More' to proceed.

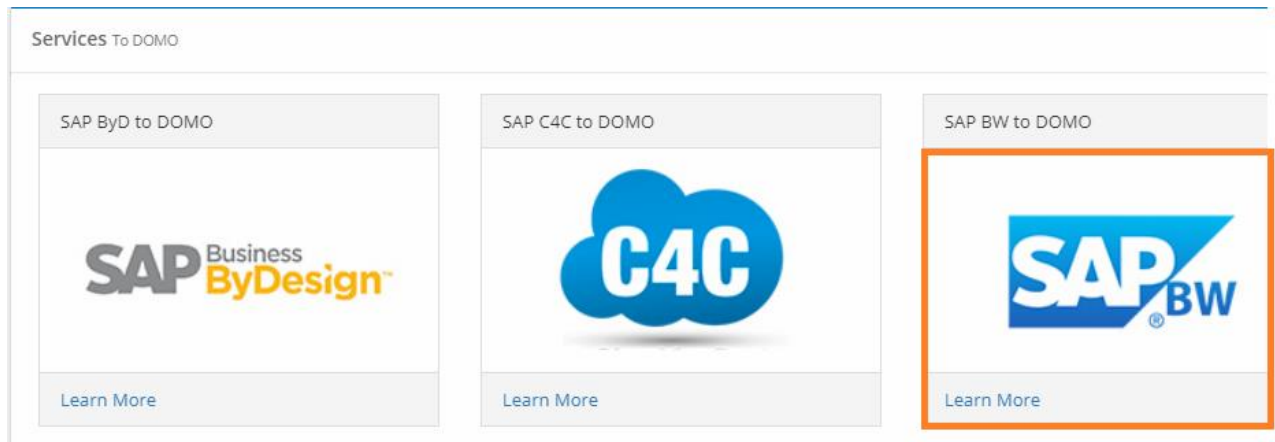
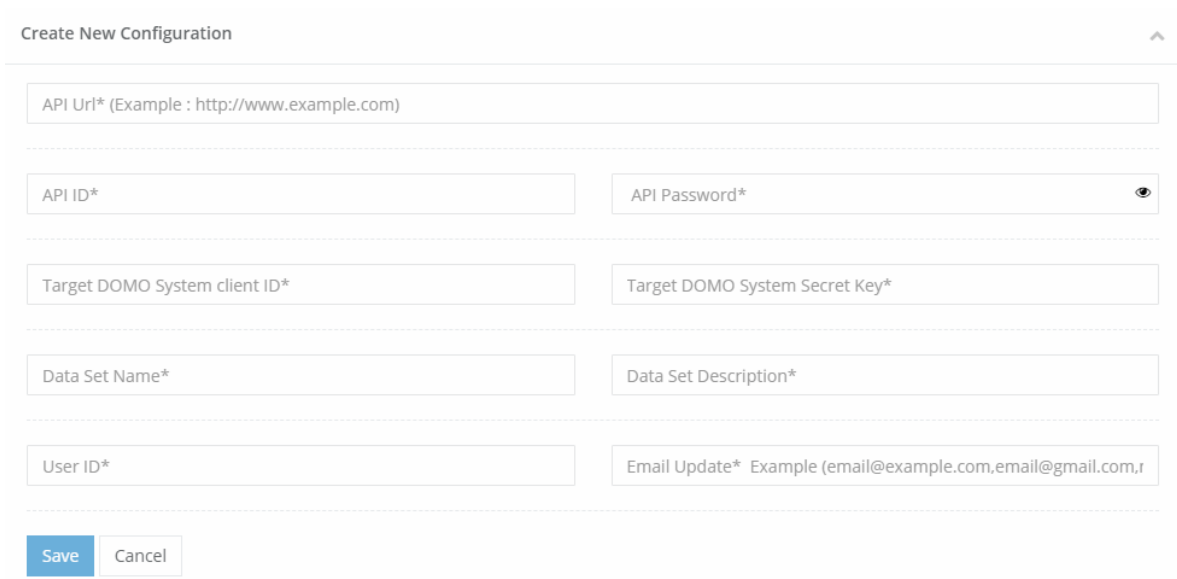


Fig.4. Illustration of SAP BW Selection in Portal Dashbaord

- 5) Once you have selected your desired service, you will see the option to Create a New Configuration. This New Configuration refers to a new use case of data being required to move from an SAP BW to Domo.



The screenshot shows the 'Create New Configuration' form. It has the following fields:

- API Uri\* (Example : http://www.example.com)
- API ID\*
- API Password\* (with an eye icon for toggling visibility)
- Target DOMO System client ID\*
- Target DOMO System Secret Key\*
- Data Set Name\*
- Data Set Description\*
- User ID\*
- Email Update\* Example (email@example.com,email@gmail.com,...

At the bottom, there are 'Save' and 'Cancel' buttons.

Fig.5. Creating a New Configuration in the Portal

The following information has to be input into the webpage in order for a New Configuration to be created:

- API URL:

In this field a suitable OData API must be provided.

*SAP BW offers OData for SAP BW Analytics to access Analytics Data. Users can query and retrieve characteristics and measures used in the SAP BW reports.*

*Centre of Excellence proposes to use BW OData API to extract data in non-real-time mode. In order to use the accelerated framework created by CoE, providing the correctly constructed API is the most critical element of successful extraction. Following steps demonstrate the steps to create the API URL*

#### *OData Parameter*

*The BW OData URL consists of 4 components:*

- *your system host name,*
- *a shortened name of the BW work center,*
- *a report ID, and*
- *query options.*

*URL pattern: https://<your system host name>.com/sap/bw/odata/<shortened name of work center>\_analytics.svc/RP<report ID>QueryResults?<query options>*

*BW OData supports the following query options:*

#### *\$select*

*Expansion: \$select=<one or more specified characteristics separated by commas>*

#### *\$orderby (ascending)*

*Expansion: \$orderby=<one or more specified characteristics followed by asc, separated by commas>*

#### *\$orderby (descending)*

*Expansion: \$orderby=<one or more specified characteristics followed by desc, separated by commas>*

#### *\$totals*

*Expansion: \$totals=<one or more specified characteristics separated by commas>*

#### *\$filter*

*Expansion: \$filter=<specified characteristic> eq '<filter value>'*

#### *\$top*

*Expansion: \$top=<specified number>*

#### *\$skip*

*Expansion: \$skip=<specified number>*

#### *\$count*

#### *\$inlinecount*

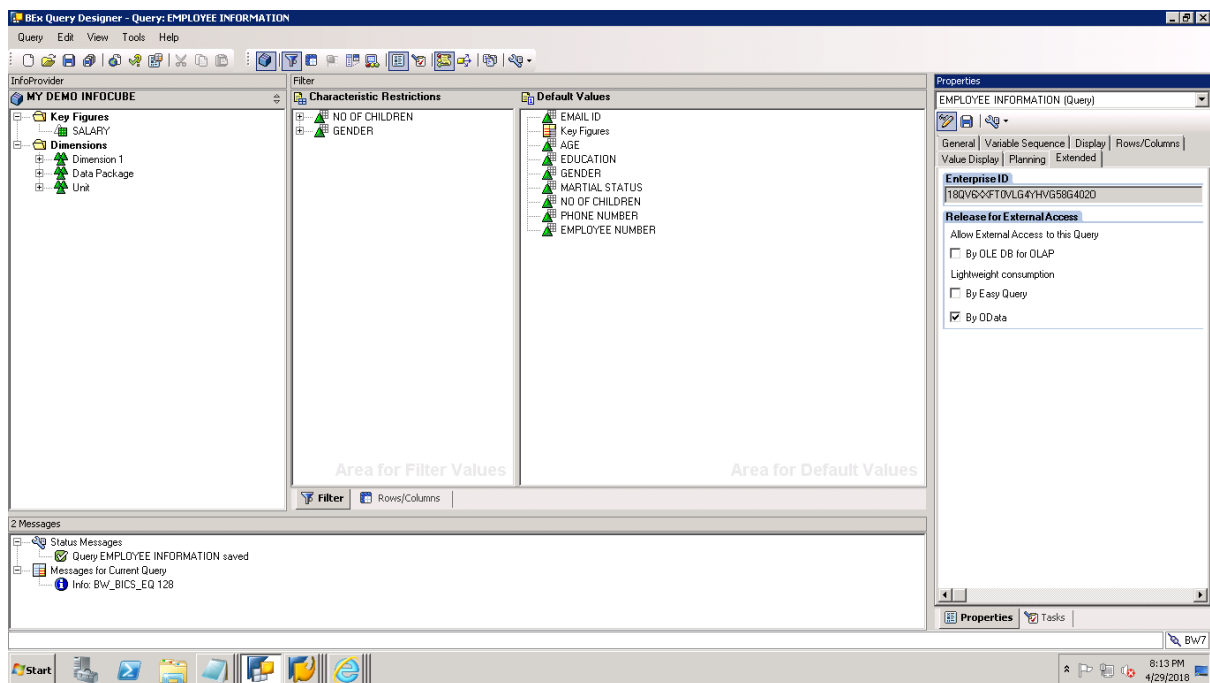
#### *\$format*

## Steps required in SAP BW

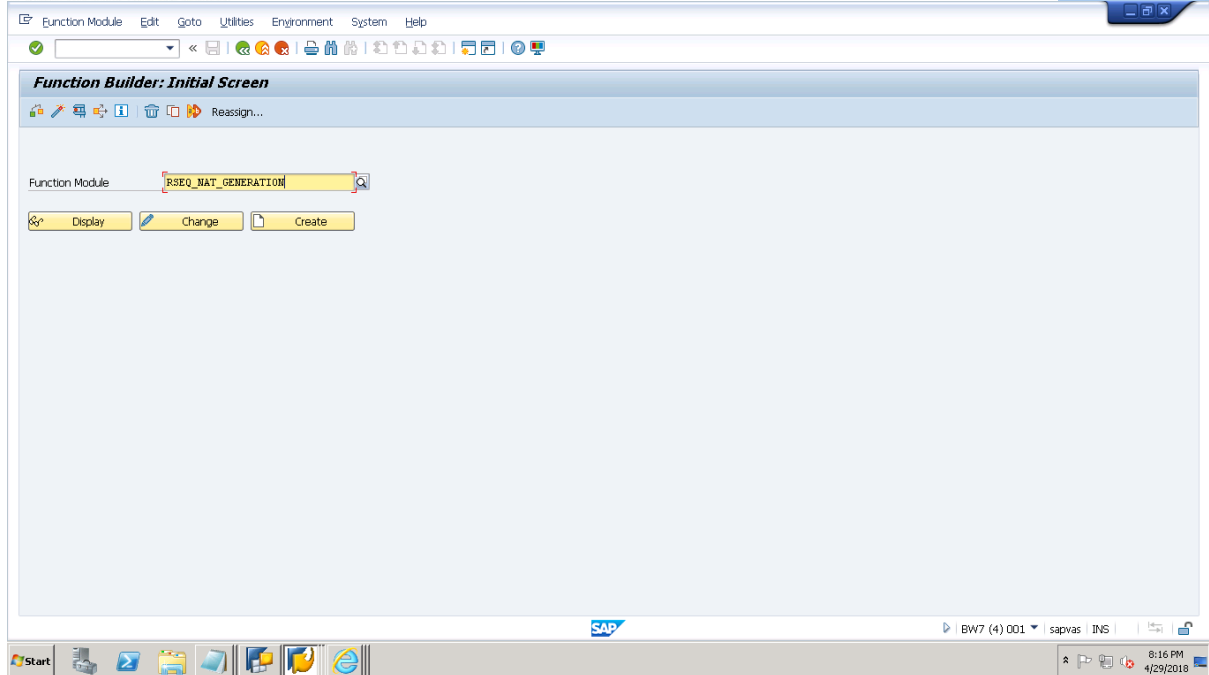
The following steps need to be undertaken in SAP BW in order for the framework to be utilised.

The Manzeera DOMO Bridge utilises SAP BeX queries as a source to pump data to DOMO instance.

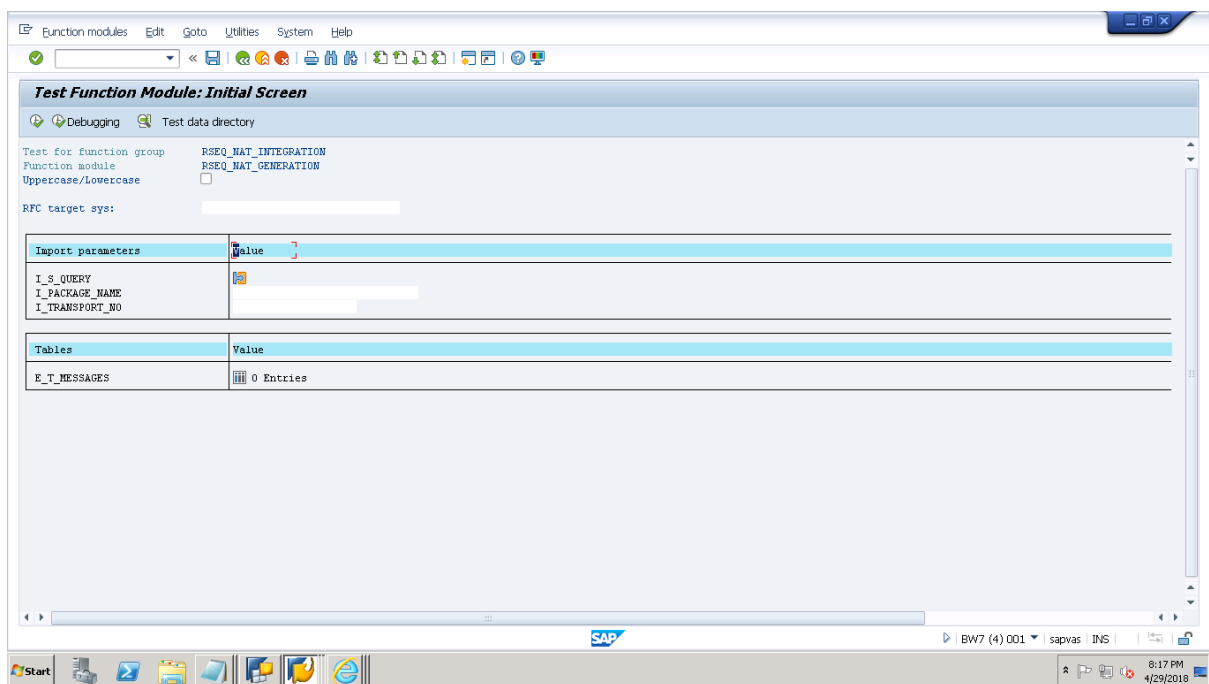
### 1) Mark SAP Bex for external Access in By OData



### 2) Activate the service using the following FM



### 3) Execute and Enter the Query name and the package name

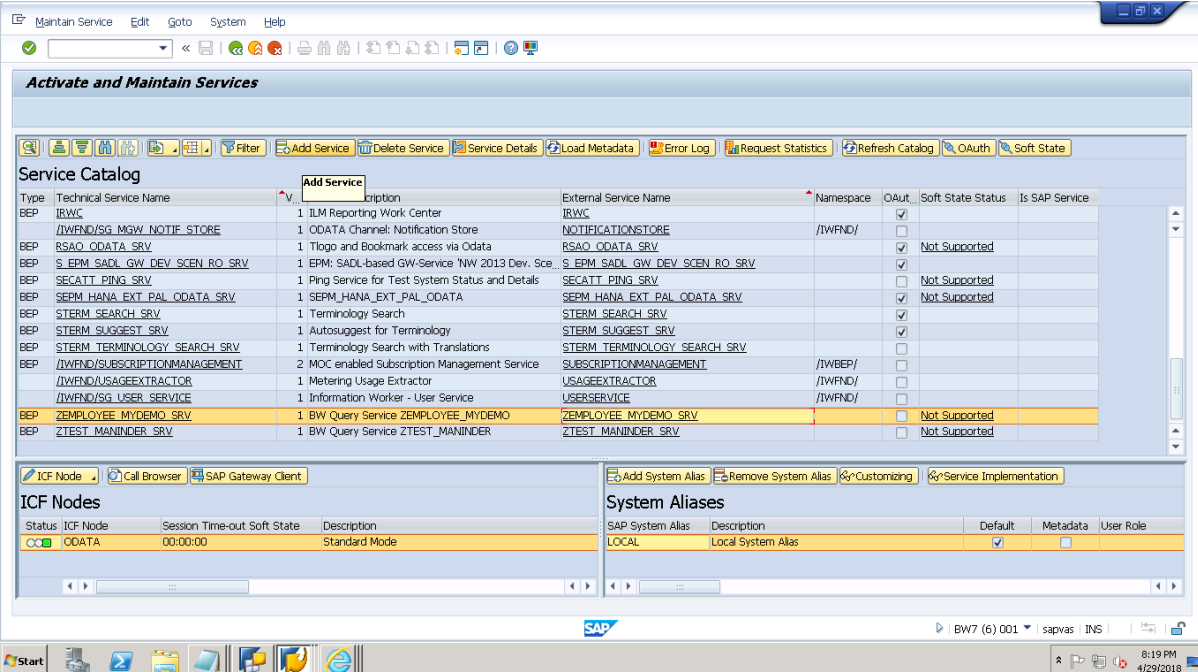


### 4) Execute the FM

5) Add the service using the following transaction:

/IWFND/MAINT\_SERVICE

Click Add Service



The screenshot shows the SAP 'Maintain Service' transaction (transaction code /IWFND/MAINT\_SERVICE). The main window is titled 'Activate and Maintain Services'. It features a 'Service Catalog' table with columns for Type, Technical Service Name, Description, External Service Name, Namespace, OAuth, Soft State Status, and Is SAP Service. Below the catalog, there are sections for 'ICF Nodes' and 'System Aliases'. The 'ICF Nodes' section shows a table with columns for Status, ICF Node, Session Time-out, Soft State, and Description. The 'System Aliases' section shows a table with columns for SAP System Alias, Description, Default, Metadata, and User Role. The bottom status bar indicates the user is 'sapvas' in the 'INS' role, and the date is 4/29/2018.

Type	Technical Service Name	Description	External Service Name	Namespace	OAuth	Soft State Status	Is SAP Service
BEP	/IWFND/SG_MGW_NOTIF_STORE	1. ILM Reporting Work Center	IRWC		<input checked="" type="checkbox"/>		
BEP	BSAO_ODATA_SRV	1. ODATA Channel: Notification Store	NOTIFICATIONSTORE	/IWFND/	<input checked="" type="checkbox"/>	Not Supported	
BEP	S_EPM_SADL_GW_DEV_SCEN_RO_SRV	1. Tlog and Bookmark access via Odata	BSAO_ODATA_SRV		<input checked="" type="checkbox"/>	Not Supported	
BEP	SECATT_PING_SRV	1. EPM: SADL-based GW-Service NW 2013 Dev. Sc	S_EPM_SADL_GW_DEV_SCEN_RO_SRV		<input checked="" type="checkbox"/>	Not Supported	
BEP	SEPM_HANA_EXT_PAL_ODATA_SRV	1. Ping Service for Test System Status and Details	SECATT_PING_SRV		<input checked="" type="checkbox"/>	Not Supported	
BEP	STERM_SEARCH_SRV	1. SEPM_HANA_EXT_PAL_ODATA	SEPM_HANA_EXT_PAL_ODATA_SRV		<input checked="" type="checkbox"/>	Not Supported	
BEP	STERM_SUGGEST_SRV	1. Terminology Search	STERM_SEARCH_SRV		<input checked="" type="checkbox"/>		
BEP	STERM_TERMINOLOGY_SEARCH_SRV	1. Autosuggest for Terminology	STERM_SUGGEST_SRV		<input checked="" type="checkbox"/>		
BEP	/IWFND/SUBSCRIPTIONMANAGEMENT	1. Terminology Search with Translations	STERM_TERMINOLOGY_SEARCH_SRV		<input checked="" type="checkbox"/>		
BEP	/IWFND/USAGEEXTRACTOR	2. MOC enabled Subscription Management Service	SUBSCRIPTIONMANAGEMENT	/IWBEP/	<input checked="" type="checkbox"/>		
BEP	ZEMPLOYEE_MYDEMO_SRV	1. Metering Usage Extractor	USAGEEXTRACTOR	/IWFND/	<input checked="" type="checkbox"/>		
BEP	ZTEST_MANINDER_SRV	1. Information Worker - User Service	USERSERVICE	/IWFND/	<input checked="" type="checkbox"/>		
BEP		1. BW Query Service ZEMPLOYEE_MYDEMO	ZEMPLOYEE_MYDEMO_SRV		<input checked="" type="checkbox"/>	Not Supported	
BEP		1. BW Query Service ZTEST_MANINDER	ZTEST_MANINDER_SRV		<input checked="" type="checkbox"/>	Not Supported	

Status	ICF Node	Session Time-out	Soft State	Description
CC	ODATA	00:00:00		Standard Mode

SAP System Alias	Description	Default	Metadata	User Role
LOCAL	Local System Alias	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

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Add Service Edit Goto System Help

Get Services

Filter

System Alias: LOCAL

Technical Service Name: Version: External Service Name: External Mapping ID:

Select Backend Services

Type	Technical Service Name	Ver.	Service Description	External Service Name	Namespace	External Mapping ID
BEP	ILM_STORE_DECONF_SERVICE	1	ILM Store Define Config for Operations cust	ILM_STORE_DECONF_SERVICE		
BEP	LXE_TEXT_TRACEABILITY_SRV	1	Text traceability	LXE_TEXT_TRACEABILITY_SRV		
BEP	RSPCM_GW_SERVICE_SRV	1	Monitor daily process chains	RSPCM_GW_SERVICE_SRV		
BEP	S_EPM_SADL_GW_DEV_SCEN_TEMPL_SRV	1	EPM: SADL-based GW Service 'Developer Scenario	S_EPM_SADL_GW_DEV_SCEN_TEMPL_SRV		
BEP	S_EPM_SADL_GW_DEV_SCEN_TX_SRV	1	EPM: SADL-based GW-Service 'Developer Scenario	S_EPM_SADL_GW_DEV_SCEN_TX_SRV		
BEP	S_EPM_SADL_GW_ODA_NAV_SO_SRV	1	S_EPM_BSA_ODA	S_EPM_SADL_GW_ODA_NAV_SO_SRV		
BEP	SEPM_HCM_SCENARIO_SRV	1	ODATA services for HCM/HCI	SEPM_HCM_SCENARIO_SRV		
BEP	SM_CATALOG_SRV	1	Social Media Remote Catalog OData Service	SM_CATALOG_SRV		
BEP	SM_INTEGRATION_SRV	1	[[DEPRECATED]]-Social Media Integration Odata	SM_INTEGRATION_SRV		
BEP	SM_INTEGRATION_V2_SRV	1	Social Media Integration OData Service Version 2	SM_INTEGRATION_V2_SRV		
BEP	STERM_GET_ADD_LANGUAGES_SRV	1	Determine Additional Languages	STERM_GET_ADD_LANGUAGES_SRV		
BEP	STERM_GET_TERM_VARIANTS_SRV	1	Determine Variants for Term	STERM_GET_TERM_VARIANTS_SRV		
BEP	UCONHTTP_SRV	1	Gateway Service for UCON RFC	UCONHTTP_SRV		
BEP	UCONRFC_SRV	1	Gateway Service for UCON RFC	UCONRFC_SRV		
BEP	VBI_APPL_DEF_SRV	1	CL_VBI_APPL_DEF_D1_DPC_EXT	VBI_APPL_DEF_SRV		
BEP	VBI_GEOCODER_SRV	1	GeoCoding Service	VBI_GEOCODER_SRV		

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- 6) Select your Query Service and Add the service
- 7) Test your service

Manzeera Solutions

Maintain Service Edit Goto System Help

Activate and Maintain Services

Filter Add Service Delete Service Service Details Load Metadata Error Log Request Statistics Refresh Catalog OAuth Soft State

Service Catalog

Type	Technical Service Name	Ver.	Service Description	External Service Name	Namespace	OA/...	Soft State	Status	Is SAP Service
BEP	IRWC	1	ILM Reporting Work Center	IRWC		<input checked="" type="checkbox"/>			
BEP	/IWFND/SG_MGW_NOTIF_STORE	1	ODATA Channel: Notification Store	NOTIFICATIONSTORE	/IWFND/	<input type="checkbox"/>			
BEP	RSAD_ODATA_SRV	1	Tilgo and Bookmark access via Odata	RSAD_ODATA_SRV		<input checked="" type="checkbox"/>	Not Supported		
BEP	S_EPM_SADL_GW_DEV_SCEN_RO_SRV	1	EPM: SADL-based GW-Service 'NW 2013 Dev. Sce	S_EPM_SADL_GW_DEV_SCEN_RO_SRV		<input checked="" type="checkbox"/>			
BEP	SECATT_PING_SRV	1	Ping Service for Test System Status and Details	SECATT_PING_SRV		<input type="checkbox"/>	Not Supported		
BEP	SEPM_HANA_EXT_PAL_ODATA_SRV	1	SEPM_HANA_EXT_PAL_ODATA	SEPM_HANA_EXT_PAL_ODATA_SRV		<input checked="" type="checkbox"/>	Not Supported		
BEP	STERM_SEARCH_SRV	1	Terminology Search	STERM_SEARCH_SRV		<input checked="" type="checkbox"/>			
BEP	STERM_SUGGEST_SRV	1	Autosuggest for Terminology	STERM_SUGGEST_SRV		<input checked="" type="checkbox"/>			
BEP	STERM_TERMINOLOGY_SEARCH_SRV	1	Terminology Search with Translations	STERM_TERMINOLOGY_SEARCH_SRV		<input checked="" type="checkbox"/>			
BEP	/IWFND/SUBSCRIPTIONMANAGEMENT	2	MOC enabled Subscription Management Service	SUBSCRIPTIONMANAGEMENT	/IWBEP/	<input type="checkbox"/>			
BEP	/IWFND/USAGREXTRACTOR	1	Metering Usage Extractor	USAGREXTRACTOR	/IWFND/	<input type="checkbox"/>			
BEP	/IWFND/SG_USER_SERVICE	1	Information Worker - User Service	USERSERVICE	/IWFND/	<input type="checkbox"/>			
BEP	ZEMPLOYEE_MYDEMO_SRV	1	BW Query Service ZEMPLOYEE_MYDEMO	ZEMPLOYEE_MYDEMO_SRV		<input type="checkbox"/>	Not Supported		
BEP	ZTEST_MANINDER_SRV	1	BW Query Service ZTEST_MANINDER	ZTEST_MANINDER_SRV		<input type="checkbox"/>	Not Supported		

ICF Nodes

Call Browser

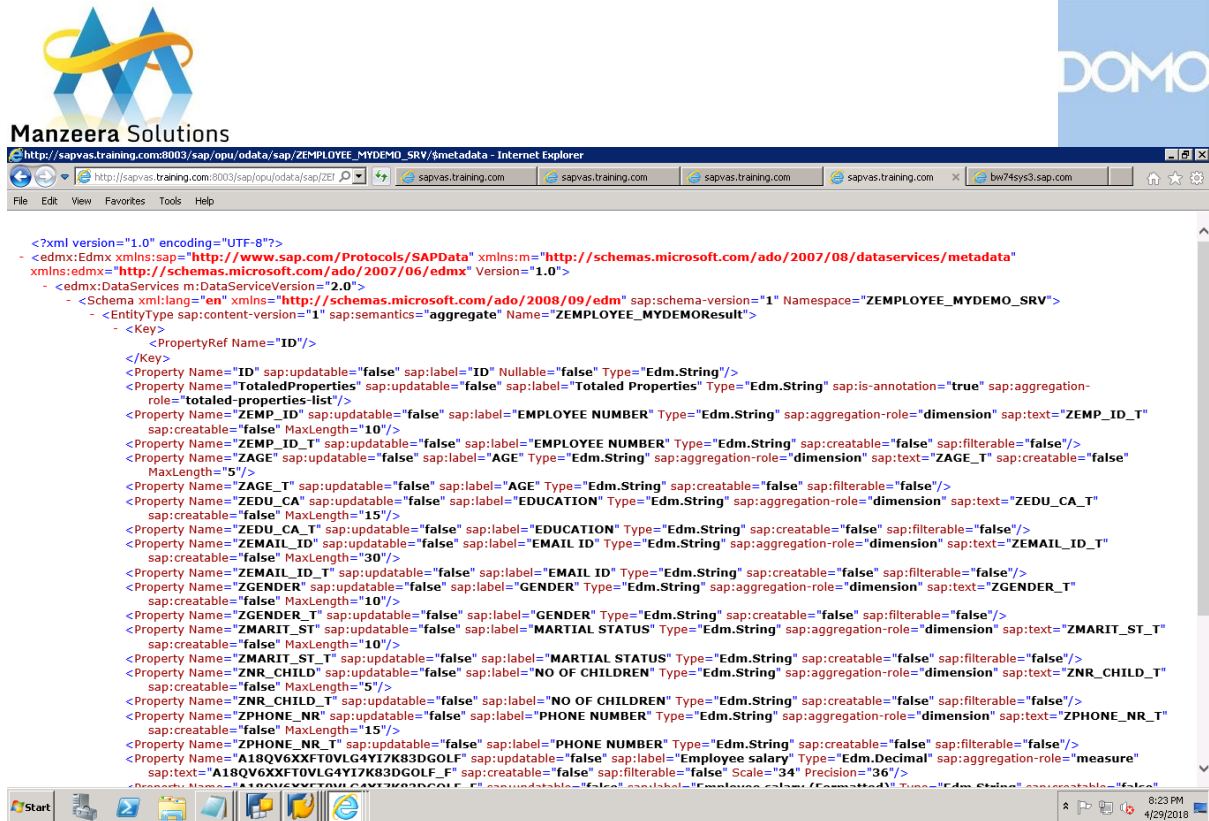
System Aliases

SAP System Alias Description Default Metadata User Role

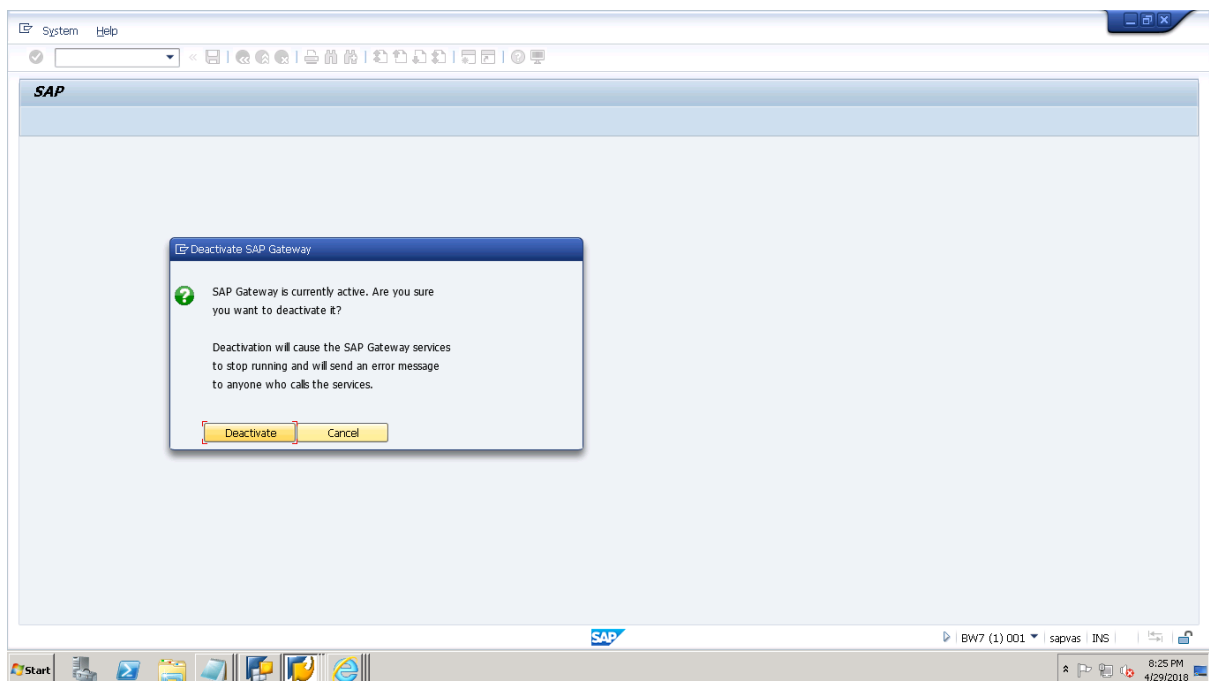
Metadata Routing is based on IWF customizing (GSDO Group based)

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- 8) Activate the SAP Gateway /o/IWFND/IWF\_ACTIVATE
- 9) If SAP Gateway is deactivated, use this transaction to activate



- 10) If ports are not opened, use transaction to open HTTP Port:

/nSMICM

```
<?xml version="1.0" encoding="UTF-8"?>
  <edmx:Edmx xmlns:sap="http://www.sap.com/Protocols/SAPData" xmlns:m="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata"
    xmlns:edmx="http://schemas.microsoft.com/ado/2007/06/edmx" Version="1.0">
    <edmx:DataServices m:DataServiceVersion="2.0">
      <Schema xmlns:lang="en" xmlns:s="http://schemas.microsoft.com/ado/2008/09/edm" sap:schema-version="1" Namespace="ZEMPLOYEE_MYDEMO_SRV">
        <EntityType sap:content-version="1" sap:semantics="aggregate" Name="ZEMPLOYEE_MYDEMOResult">
          <Key>
            <PropertyRef Name="ID"/>
          </Key>
          <Property Name="ID" sap:updatable="false" sap:label="ID" Nullable="false" Type="Edm.String"/>
          <Property Name="TotalledProperties" sap:updatable="false" sap:label="Totalled Properties" Type="Edm.String" sap:is-annotation="true" sap:aggregation-
            role="totalled-properties-list"/>
          <Property Name="ZEMP_ID_T" sap:updatable="false" sap:label="EMPLOYEE NUMBER" Type="Edm.String" sap:aggregation-role="dimension" sap:text="ZEMP_ID_T"
            sap:createable="false" MaxLength="10"/>
          <Property Name="ZEMP_ID_T" sap:updatable="false" sap:label="EMPLOYEE NUMBER" Type="Edm.String" sap:createable="false" sap:filterable="false"/>
          <Property Name="ZAGE" sap:updatable="false" sap:label="AGE" Type="Edm.String" sap:aggregation-role="dimension" sap:text="ZAGE_T" sap:createable="false"
            MaxLength="5"/>
          <Property Name="ZAGE_T" sap:updatable="false" sap:label="AGE" Type="Edm.String" sap:createable="false" sap:filterable="false"/>
          <Property Name="ZEDU_CA" sap:updatable="false" sap:label="EDUCATION" Type="Edm.String" sap:aggregation-role="dimension" sap:text="ZEDU_CA_T"
            sap:createable="false" MaxLength="15"/>
          <Property Name="ZEDU_CA_T" sap:updatable="false" sap:label="EDUCATION" Type="Edm.String" sap:createable="false" sap:filterable="false"/>
          <Property Name="ZEMAIL_ID" sap:updatable="false" sap:label="EMAIL ID" Type="Edm.String" sap:aggregation-role="dimension" sap:text="ZEMAIL_ID_T"
            sap:createable="false" MaxLength="30"/>
          <Property Name="ZEMAIL_ID_T" sap:updatable="false" sap:label="EMAIL ID" Type="Edm.String" sap:createable="false" sap:filterable="false"/>
          <Property Name="ZGENDER" sap:updatable="false" sap:label="GENDER" Type="Edm.String" sap:aggregation-role="dimension" sap:text="ZGENDER_T"
            sap:createable="false" MaxLength="10"/>
          <Property Name="ZGENDER_T" sap:updatable="false" sap:label="GENDER" Type="Edm.String" sap:createable="false" sap:filterable="false"/>
          <Property Name="ZMARIT_ST" sap:updatable="false" sap:label="MARTIAL STATUS" Type="Edm.String" sap:aggregation-role="dimension" sap:text="ZMARIT_ST_T"
            sap:createable="false" MaxLength="10"/>
          <Property Name="ZMARIT_ST_T" sap:updatable="false" sap:label="MARTIAL STATUS" Type="Edm.String" sap:createable="false" sap:filterable="false"/>
          <Property Name="ZNR_CHILD" sap:updatable="false" sap:label="NO OF CHILDREN" Type="Edm.String" sap:aggregation-role="dimension" sap:text="ZNR_CHILD_T"
            sap:createable="false" MaxLength="5"/>
          <Property Name="ZNR_CHILD_T" sap:updatable="false" sap:label="NO OF CHILDREN" Type="Edm.String" sap:createable="false" sap:filterable="false"/>
          <Property Name="ZPHONE_NR" sap:updatable="false" sap:label="PHONE NUMBER" Type="Edm.String" sap:aggregation-role="dimension" sap:text="ZPHONE_NR_T"
            sap:createable="false" MaxLength="15"/>
          <Property Name="ZPHONE_NR_T" sap:updatable="false" sap:label="PHONE NUMBER" Type="Edm.String" sap:createable="false" sap:filterable="false"/>
          <Property Name="A18QV6XFXTOVLVG4Y17K83DGLF" sap:updatable="false" sap:label="Employee salary" Type="Edm.Decimal" sap:aggregation-role="measure"
            sap:text="A18QV6XFXTOVLVG4Y17K83DGLF" sap:createable="false" sap:filterable="false" Scale="34" Precision="36"/>
        </EntityType>
      </Schema>
    </edmx:DataServices>
  </edmx:Edmx>

```

- API ID:

The API ID is the SAP BW User ID which has the required access to the suitable work centres authorised for extraction

- API Password:

This is the password of the above User ID that has the authorisation to extract data from the relevant API

- Target DOMO System Client ID:

This field is specific to your instance of Domo. Please contact Manzeera Solutions on [centreofexcellence@manzeerasolutions.co.uk](mailto:centreofexcellence@manzeerasolutions.co.uk) for the specific values applicable to your instance of Domo

- Target DOMO System Secret Key:

This field is specific to your instance of Domo. Please contact Manzeera Solutions on [centreofexcellence@manzeerasolutions.co.uk](mailto:centreofexcellence@manzeerasolutions.co.uk) for the specific values applicable to your instance of Domo

- Data Set Name:

This is the name of the dataset that will be created in Domo. As a best practice, please use this dataset for staging purposes only. No cards should be created directly onto this dataset in order to avoid disruptions or negative impact on the cards due to changes in the source structure.

- Data Set Description:

This is the description of the dataset that will be reflected in Domo.

- User ID:

This is the user ID of the portal as given by the Manzeera Solutions team. This user is responsible for a specific user case and can perform several operations such as running the use case, changing the use case, maintaining logs etc. as listed in subsequent sections.

- Email Update:

This holds the email IDs of the relevant stakeholders that need to be updated as to the success or failure of data loads when they occur.

Once these have been successfully completed, the 'Save' button should be pressed in to add the configuration to your system.

- 6) Underneath the 'Create New Configuration' section, you will find the 'Batch Schedule' options. This will enable you to schedule your configurations to be scheduled as a single batch. The first field is the hourly interval, the second and third fields describe valid to and

valid from dates. Since this is a resource intensive activity it is recommended to contact Manzeera Solutions on [centreofexcellence@manzeerasolutions.co.uk](mailto:centreofexcellence@manzeerasolutions.co.uk) in order to define the appropriate batch schedule.

Batch Schedule

0.2	18/04/2018 2018-04-18	29/04/2018 2018-04-29	Schedule Config
-----	--------------------------	--------------------------	-----------------

Fig.6. Batch Scheduling in the Portal

- Underneath the 'Batch Schedule' section, you will find the catalogue of your existing configurations. In this section you will find the names of your configurations, their status and various actions that can be taken against these configurations including Update, View Logs, Run Now and Activate/Deactivate. Here various operations are performable on the different use cases.

Name of Configuration	Status	Action			
projectVariance	Deactivated	Update	View Logs	Run Now	Activate
projectLineItems	Activated	Update	View Logs	Run Now	Deactivate
salesOrderVolume	Activated	Update	View Logs	Run Now	Deactivate
opportunityVolume	Deactivated	Update	View Logs	Run Now	Activate
Name of Configuration	Status	Action			

Fig.7. Catalogue of existing Configurations

- Update:

This allows you to make changes to existing configurations by editing fields and saving updated changes

API Url	<input type="text"/>
API ID	<input type="text"/>
User ID	<input type="text"/>
API Password	<input type="password"/>
Target DOMO System client ID	<input type="text"/>
Target DOMO System Secret Key	<input type="text"/>
Data Set Name	<input type="text" value="projectVariance"/>
Data Set Description	<input type="text" value="Project Variance1"/>
Email Update	<input type="text"/>
<input type="button" value="Update changes"/> <input type="button" value="Close"/>	

Fig.8. Update Configurations

- View Logs:

This allows you to view the history of the configuration

View Logs		
Dataset Name	Message	Timestamp
projectVariance	Data Uploaded for Data Set Name: projectVariance Data Set Desc: Project Variance1	Apr 9, 2018 9:37:20 PM
projectVariance	Data Uploaded for Data Set Name: projectVariance Data Set Desc: Project Variance1	Apr 9, 2018 6:17:34 PM

Fig.9. View Logs of Configurations

- Run Now

Selecting this enables the configuration to be run instantly on demand



- **Activate/Deactivate:**

Selecting this enables the configuration to be activated or deactivated instantly

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