



DvSum SAP Connector Setup Guide

Version 3.0

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Introduction

SAP is a transactional system. DvSum is an external application that reads and writes into SAP. DvSum does bulk read queries to SAP and can do mass update (write-back) operations. DvSum connector includes all the drivers required to make connections to different data sources like RDBMS, Excel Files, Flat Files, REST services. For making connections to SAP ECC, DvSum provides an RFC-enabled BAPI that is optimized to handle data query type of requests utilized in DvSum. This follows SAP's recommendation for how external connections should be made to ECC. Additional details below.



1.1 Data Flow

- Connector requests and receives instructions from Cloud
- Connector calls RFC-enabled Function Module on SAP using JCO
- Connector processes results and passes to DvSum Cloud

Support

For any questions regarding Account Information, Technical Support or inquire about our additional services, you can contact us 24x7 on the following channels.

Self-service Help Desk	https://dvsum.zendesk.com/hc OR Click on Help on the left navigation in the UI
Email support (fastest response)	support@dvsum.com
Phone	1.844.855.3282

DvSum Gateway Components

2 Components

2.1 DvSum Connector

DvSum Connector is a light-weight J2EE compliant service that makes connections to the data sources and generates information used in the DvSum processes. The connector is a unified service that encapsulates native data connection drivers (e.g. JDBC, ODBC, SAP JCo, etc.), scheduler, connection routing, security, and server that handles requests. A single connector is required across the entire enterprise with ability to service multiple data sources and users. DvSum connector can also be integrated to ESB middleware to make connections to underlying data sources. (E.g. TIBCO EMS, WebMethods, IBM MQ, Oracle Fusion, Mulesoft, etc.)

2.2 SAP Function Module

For making connections to SAP ECC, DvSum provides an RFC-enabled BAPI that is optimized to handle data query type of requests utilized in DvSum.

1. Dynamic Query Objects

Package: ZDVSUM

Function Group: ZDVSUM_FUNCTION_GROUP

Function Module: ZDVSUM_DYNAMIC_QUERY

Structure: ZSSDYNA_QUERY

2. Product Write back API Objects

Package: ZDVSUM_CUSTOM

Function Group: ZDVSUM_PRODUCT

Function Module: ZDVSUM_DYNAMIC_PRODUCT_SAVE

3. Custom Table Write back API Objects

Package: ZDVSUM_CUSTOM

Function Group: ZDVSUM_CUSTOM

Function Module: ZDVSUM_DYNAMIC_CUSTOM_SAVE

Structure: ZDVSUM_CUSTOM_TABLE_HEADER

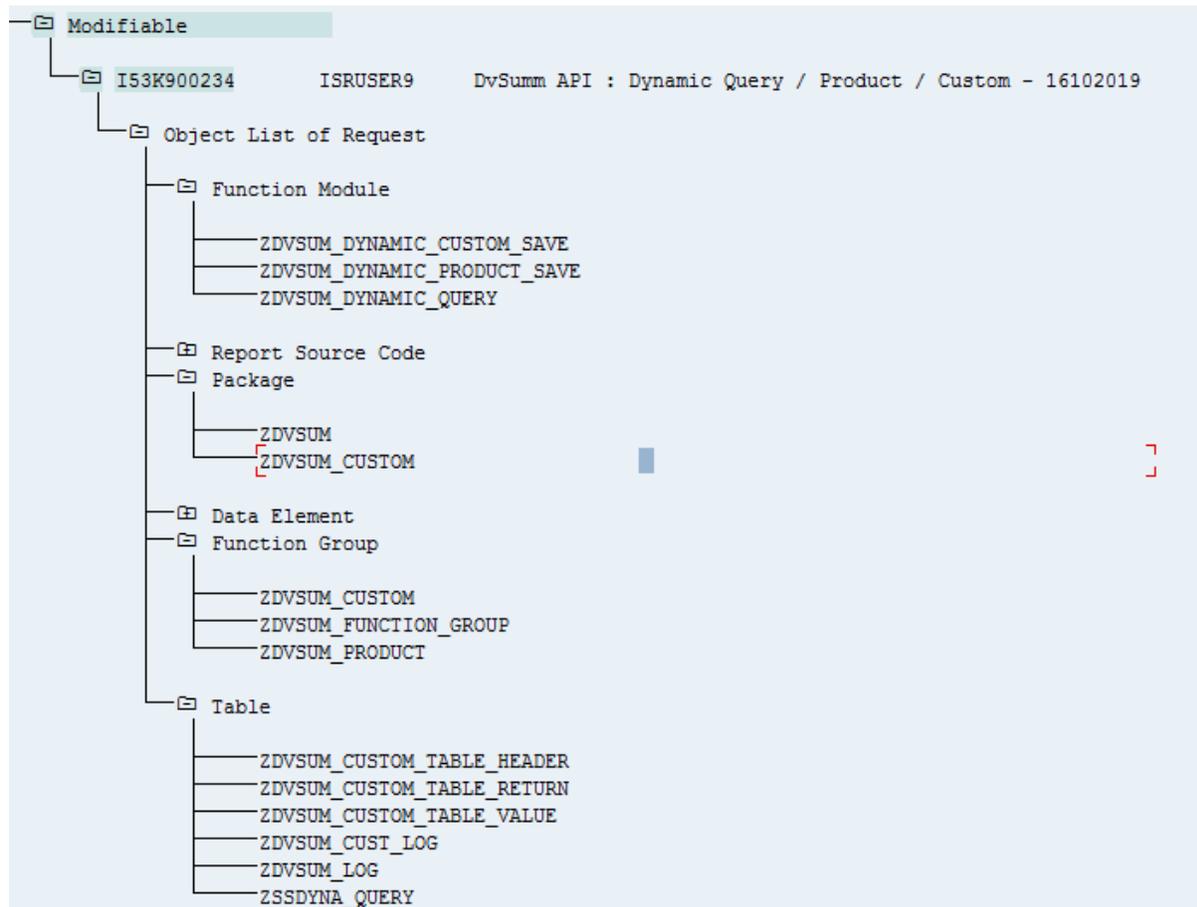
ZDVSUM_CUSTOM_TABLE_RETURN

ZDVSUM_CUSTOM_TABLE_VALUE

Table: ZDVSUM_CUST_LOG

DvSum Gateway Components

Below is the snapshot of the Function Modules that are installed inside SAP for DvSum to perform its actions with SAP.



Installation – Dynamic Read

3 Instructions

3.1 Download the Zip file

Download the following transports from this location

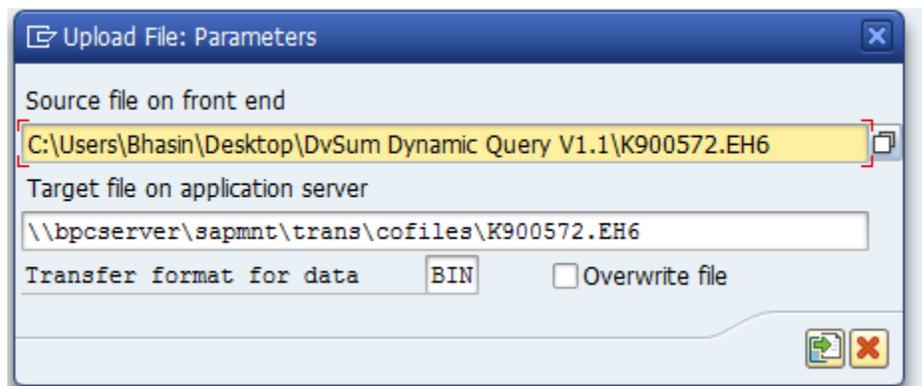
<https://dvsum.zendesk.com/hc/en-us/articles/360043550373>

- 1-DvSum-SAP-Transport-Read.zip (50 KB)
- 2-DvSum-SAP-Transport-MM-Write.zip (40 KB)
- 3-DvSum-SAP-Transport-Custom-Table.zip (20 KB)
- 4-DvSum-SAP_Transport-Cust-Write1.zip (30 KB)
- 5-DvSum-SAP-Transport-Cust-Write2.zip (20 KB)

3.2 Logon on SAP and run the Transaction Code: CG3Z

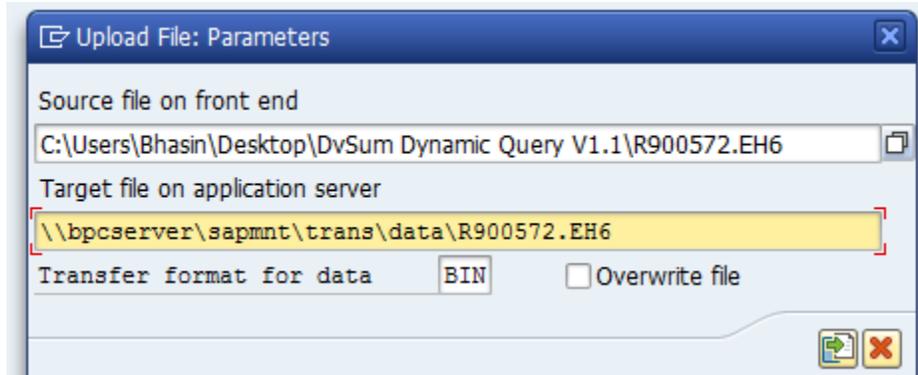
3.2.1 Upload Co-Files

- Specify the relevant Co-File (e.g. **K900234.I53**) in Source File
- Target file [\\<servername>\sapmnt\trans\cofiles\](#) **K900234.I53**



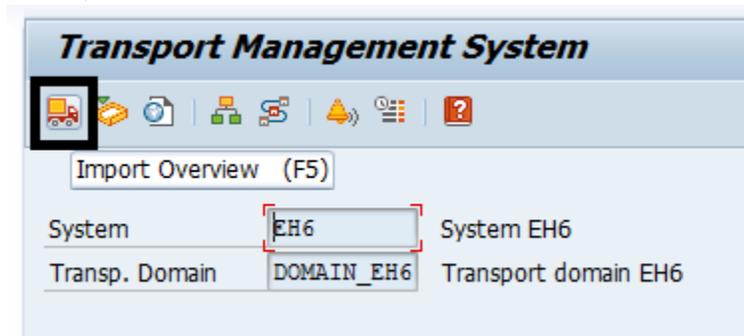
3.2.2 Upload Data File

- Specify the Data File (e.g. **R900234.I53**) in Source File
- Target file [\\<servername>\sapmnt\trans\data\](#) **R900234.I53**

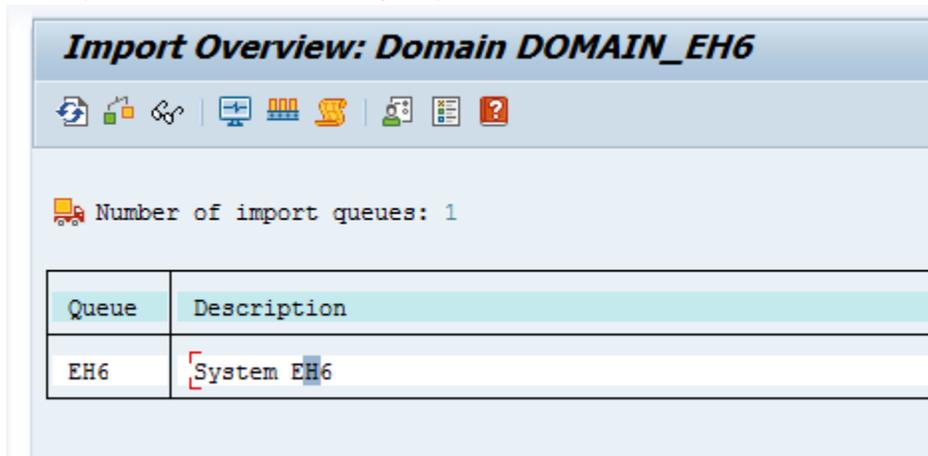


3.3 Run Transaction Code: STMS

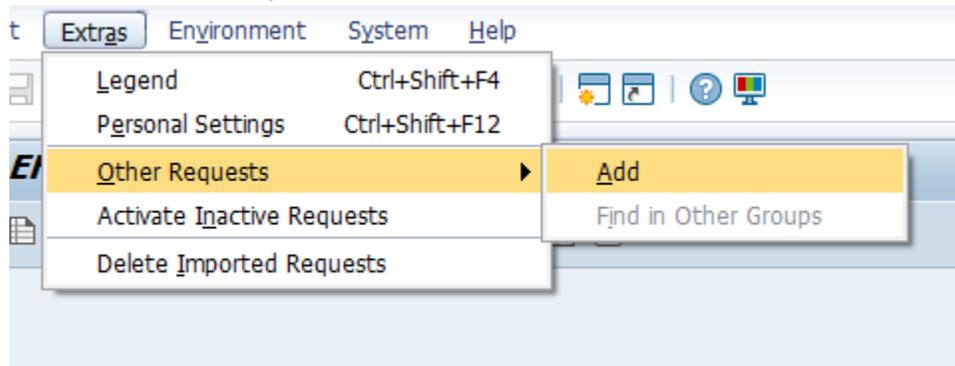
3.3.1 Click on Import Overview



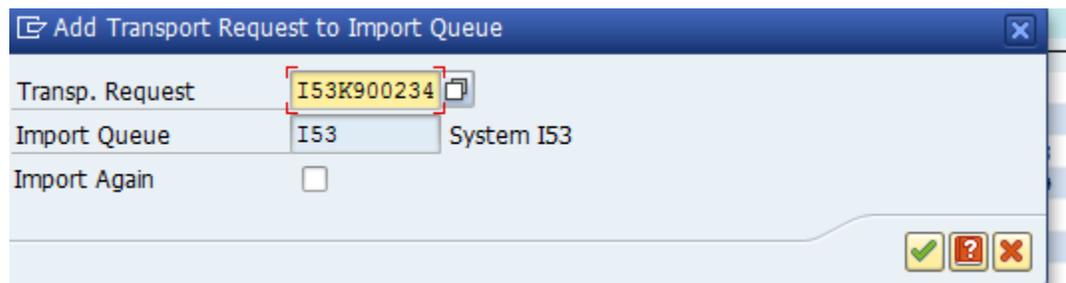
3.3.2 Click on Import Queue Based on Target System



3.3.3 Click on Extras > Other Request>Add



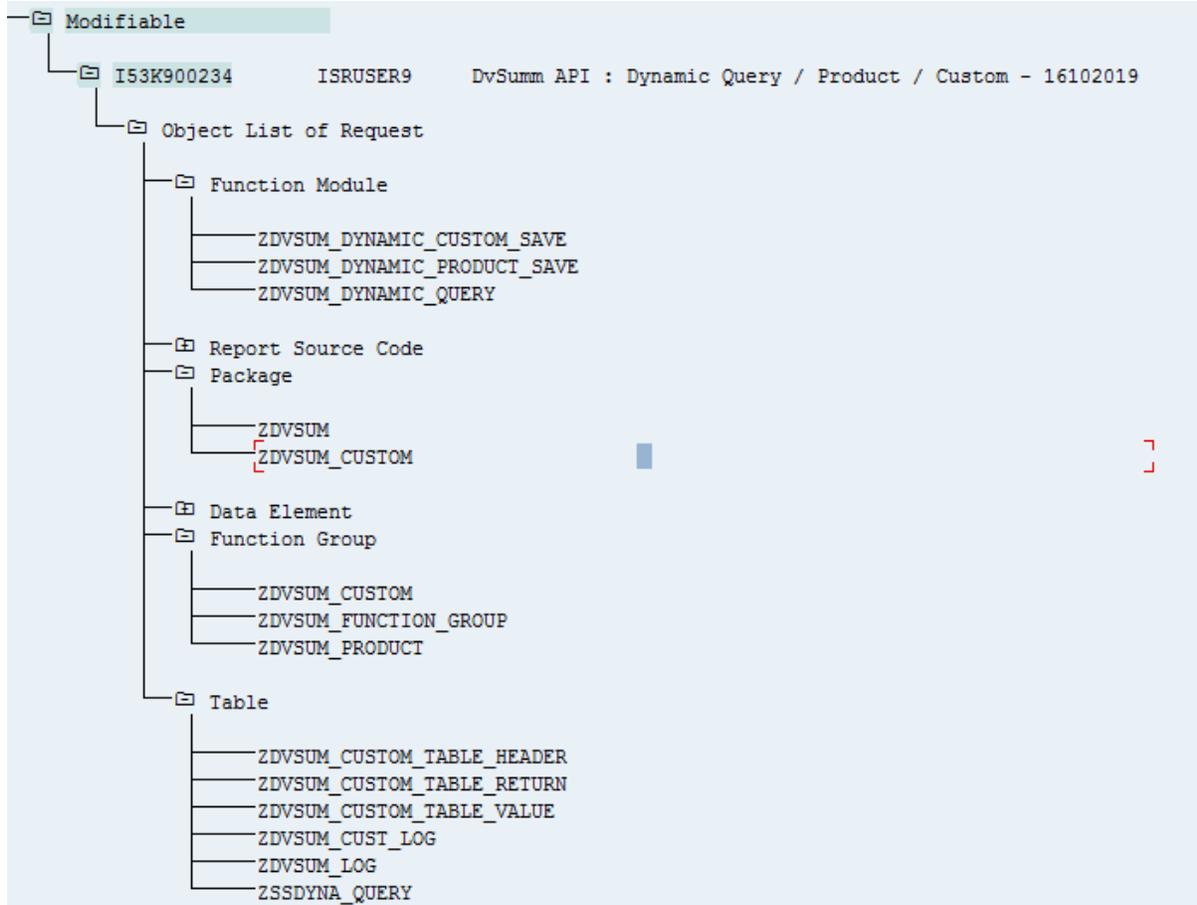
3.3.4 Add the Transport Request I53K900234 and Click Ok



3.3.5 The Transport I53K900234 is now part of Import Queue

3.3.6 Import the Transport by Clicking on  Import Request

3.3.7 Below are the objects Part of Transport



User Profile & Authorization – Non-Dialog User

4 Non-dialog user

A non-dialog user needs to be created in SAP in order to execute the ZDVSUM_DYNAMIC* functions to perform read operations on SAP. DvSum does not use individual user’s profile and authorizations for read operations.

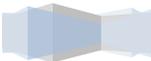
4.1 Authorization Controls

DvSum Data Management application Reads data through SAP function module (ZDVSUM_DYNAMIC_QUERY) via transaction code SE11.

Non-dialog user must have authorization object ‘S_RFC’ with authorization value is ‘ZDVSUM_FUNCTION_GROUP’, which is required to connect DvSum to SAP.

User must have relevant authorizations to read data from SAP.

Security	The non-dialog and dialog user running the API should have access to below SAP Transaction codes - SE37 /SE11
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Installation – Material Master Write-back

5 Instructions

5.1 Download the Zip file

Download the following transports from this location

<https://dvsum.zendesk.com/hc/en-us/articles/360043550373>

DvSum SAP Connector Installation Instructions v2.0.pdf (400 KB)

1-DvSum-SAP-Transport-Read.zip (50 KB)

2-DvSum-SAP-Transport-MM-Write.zip (40 KB)

3-DvSum-SAP-Transport-Custom-Table.zip (20 KB)

4-DvSum-SAP_Transport-Cust-Write1.zip (30 KB)

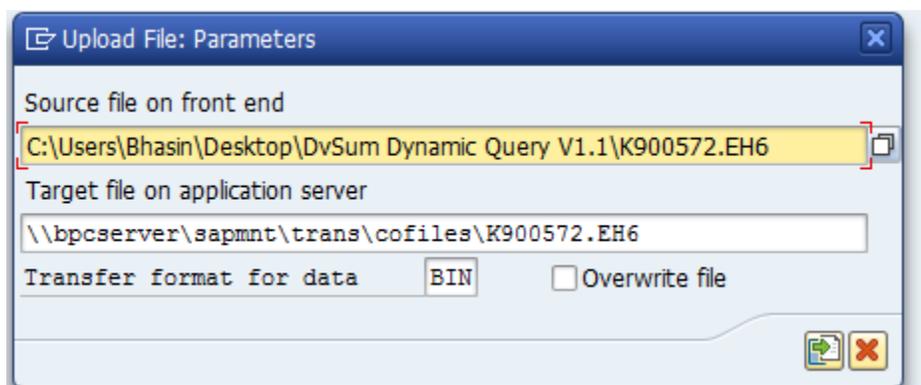
5-DvSum-SAP-Transport-Cust-Write2.zip (20 KB)

Please note, to execute these transports, you should have already executed the 1-DvSum-SAP-Transport-Read.zip. Below Steps should be executed for each of the 2 transports.

5.2 Logon on SAP and run the Transaction Code: CG3Z

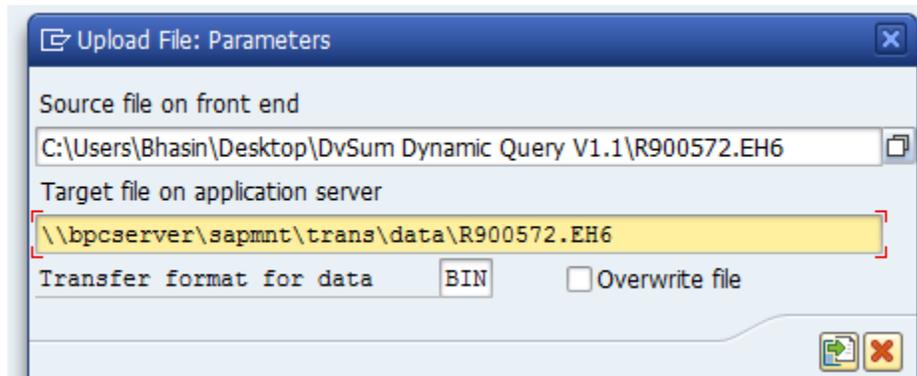
5.2.1 Upload Co-Files

- Specify the relevant Co-File (e.g. **K900234.I53**) in **Source File**
- Target file `\\<servername>\sapmnt\trans\cofiles\ K900234.I53`



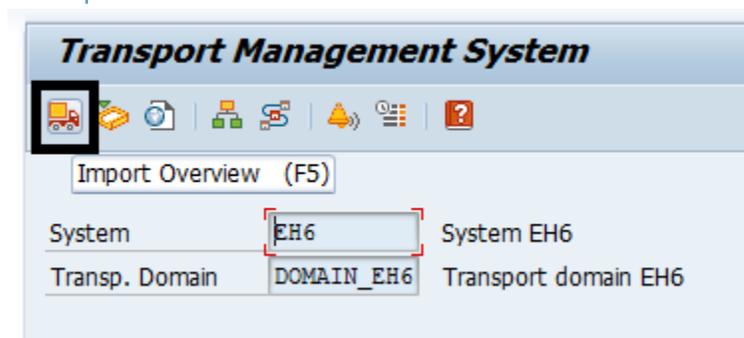
5.2.2 Upload Data File

- Specify the Data File (e.g. R900234.I53) in Source File
- Target file `\\<servername>\sapmnt\trans\data\ R900234.I53`

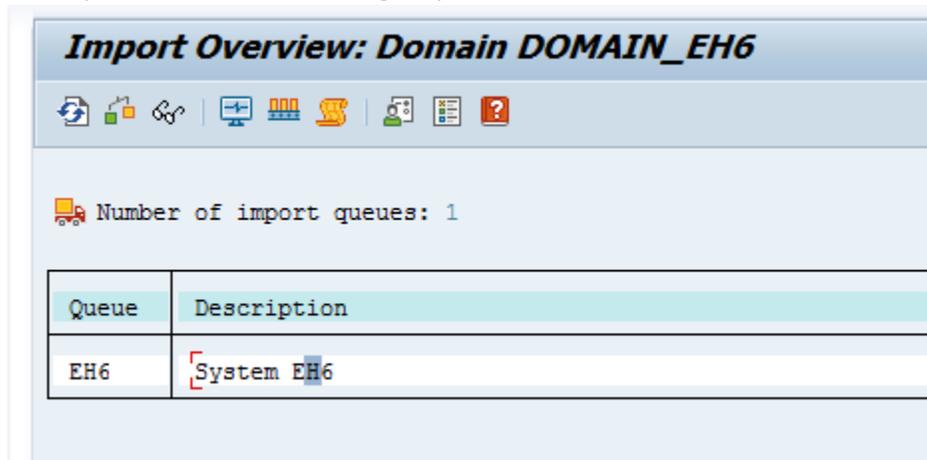


5.3 Run Transaction Code: STMS

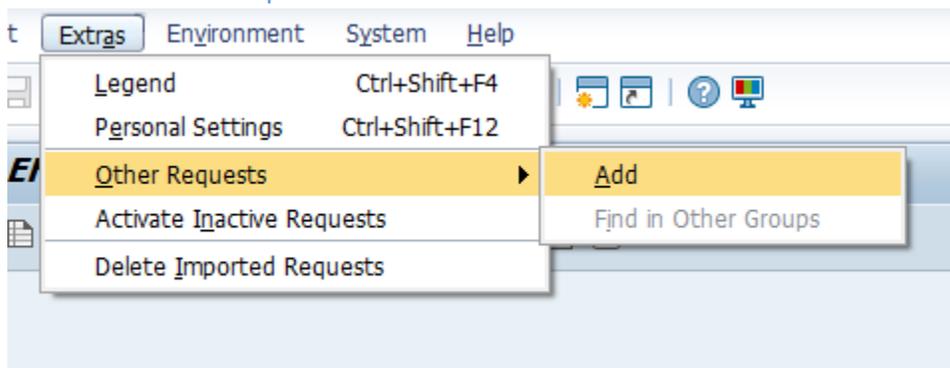
5.3.1 Click on Import Overview



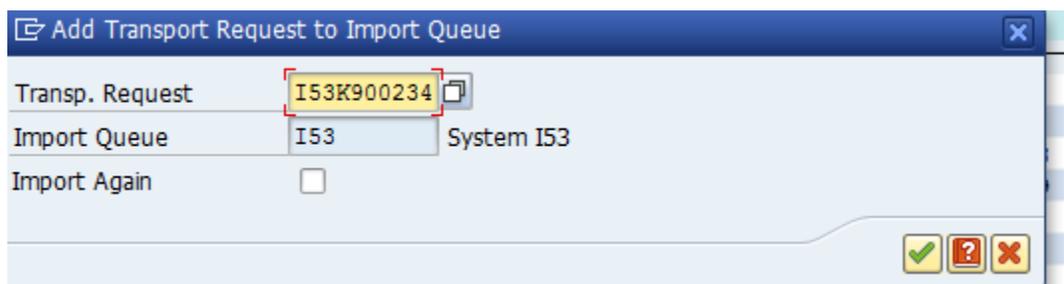
5.3.2 Click on Import Queue Based on Target System



5.3.3 Click on Extras > Other Request>Add



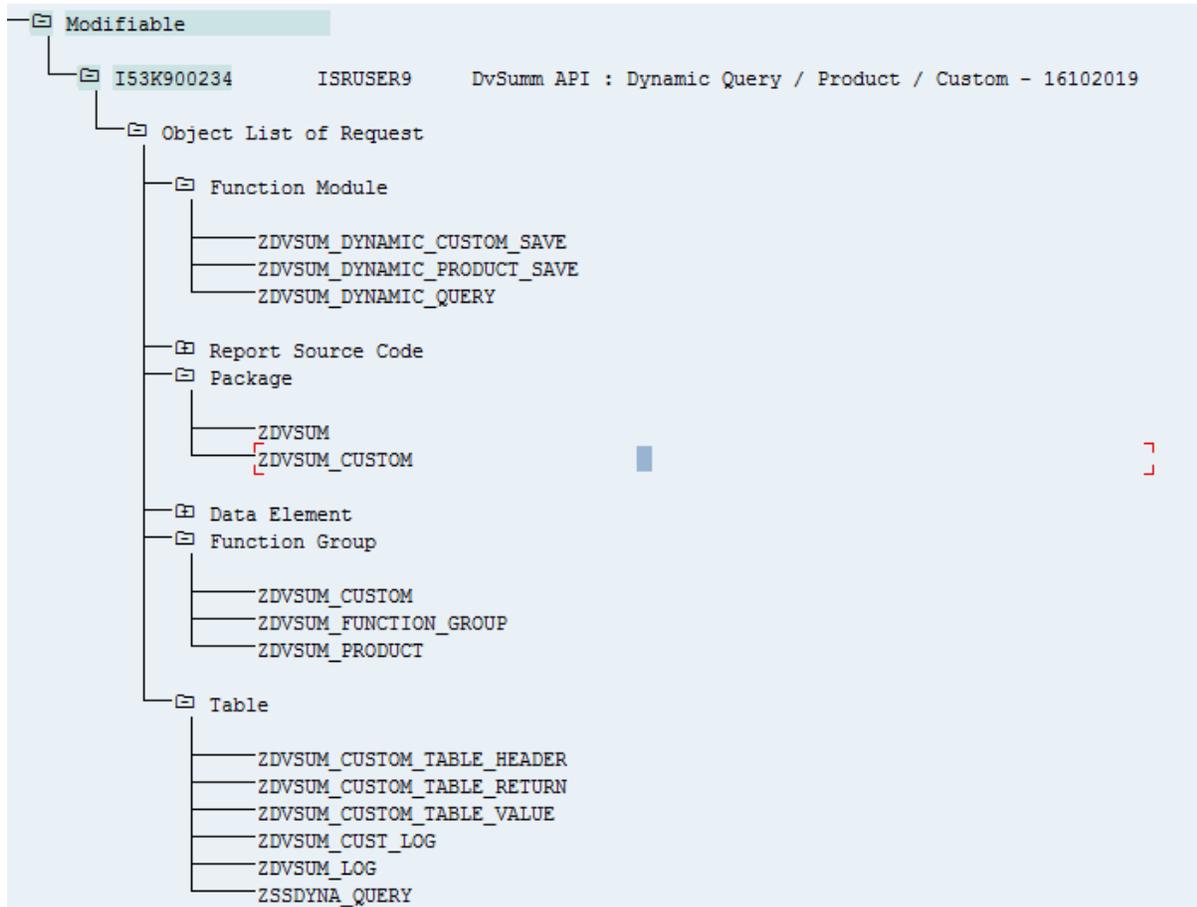
5.3.4 Add the Transport Request I53K900234 and Click Ok



5.3.5 The Transport I53K900234 is now part of Import Queue

5.3.6 Import the Transport by Clicking on Import Request

5.3.7 Below are the objects Part of Transport



Installation – Customer Master Write-back

5.4 Download the Zip file(s)

Download the following transports from this location

<https://dvsum.zendesk.com/hc/en-us/articles/360043550373>

- DvSum SAP Connector Installation Instructions v2.0.pdf (400 KB)
- 1-DvSum-SAP-Transport-Read.zip (50 KB)
- 2-DvSum-SAP-Transport-MM-Write.zip (40 KB)
- 3-DvSum-SAP-Transport-Custom-Table.zip (20 KB)
- 4-DvSum-SAP_Transport-Cust-Write1.zip (30 KB)
- 5-DvSum-SAP-Transport-Cust-Write2.zip (20 KB)

Please note, to execute these transports, you should have already executed the previous 3 transports.

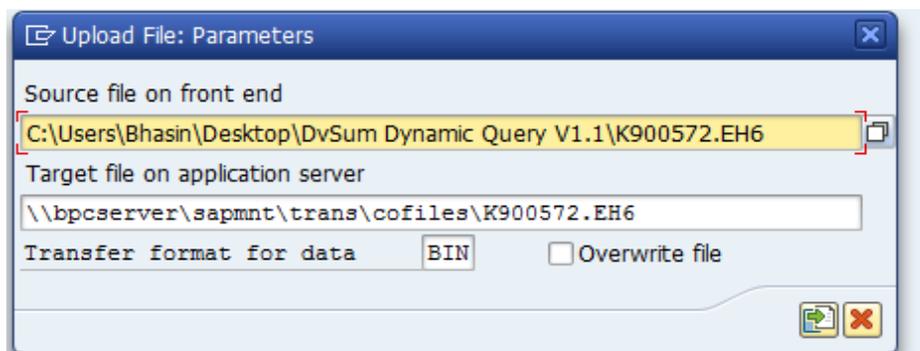
Below Steps should be executed for each of the 2 transports.

5.5 Logon on SAP and run the Transaction Code: CG3Z

5.5.1 Upload Co-Files

- Specify the Co-File (e.g. **K900368.I53**) in **Source File**
- Target file `\\<servername>\sapmnt\trans\cofiles\ K900368.I53`

Note: Given the sample screen below, path and file name will be changed as per the environment.

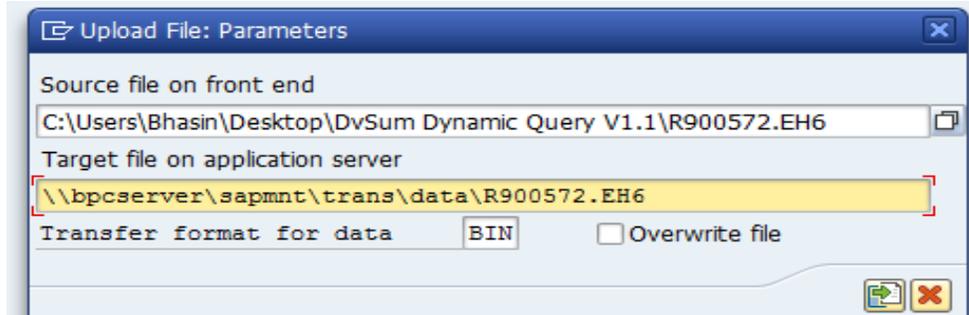


5.5.2 Upload Data File

- Specify the Data File (e.g. **R900368.I53**) in **Source File**

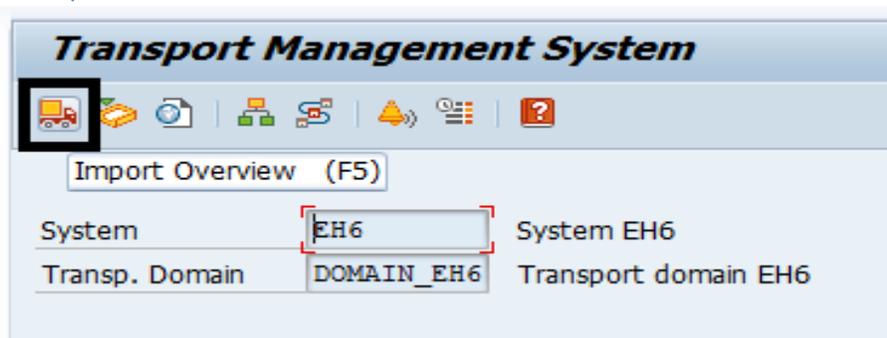
- Target file `\\<servername>\sapmnt\trans\data\R900368.I53`

Note: Given the sample screen below, path and file name will be changed as per the environment.

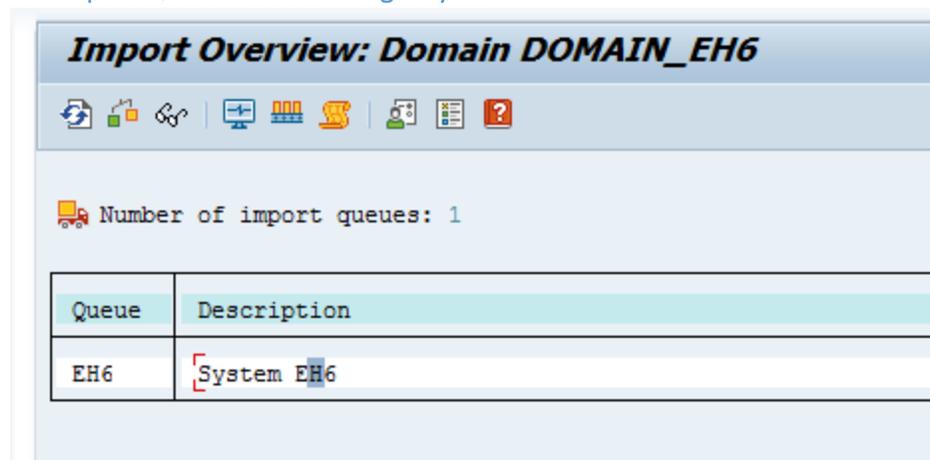


5.6 Run Transaction Code: STMS

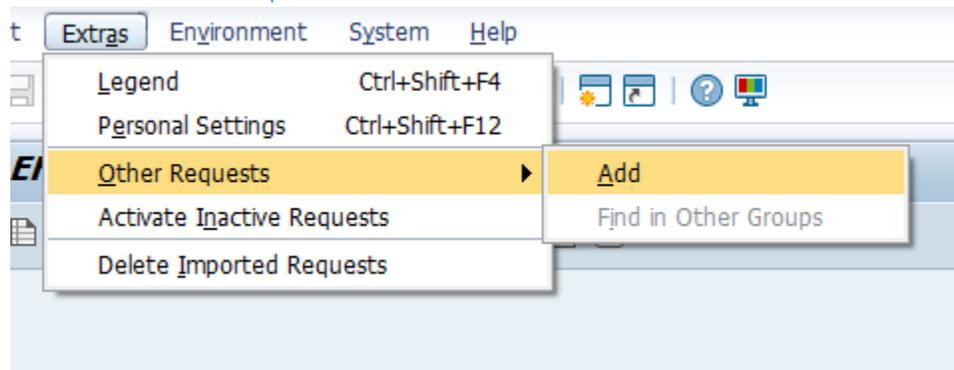
5.6.1 Click on Import Overview



5.6.2 Click on Import Queue Based on Target System

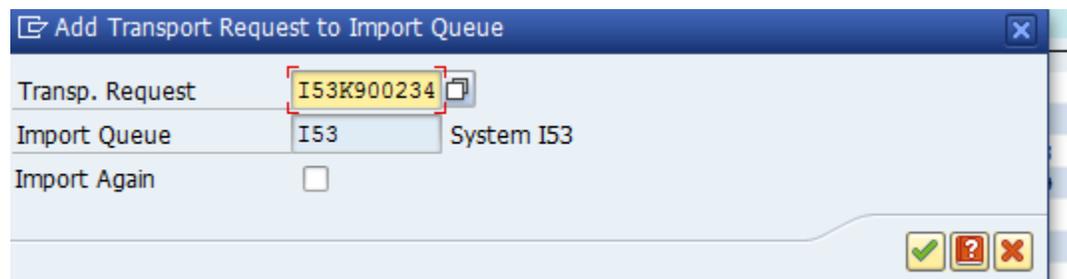


5.6.3 Click on Extras > Other Request>Add



5.6.4 Add the Transport Request I53K900368 and Click Ok

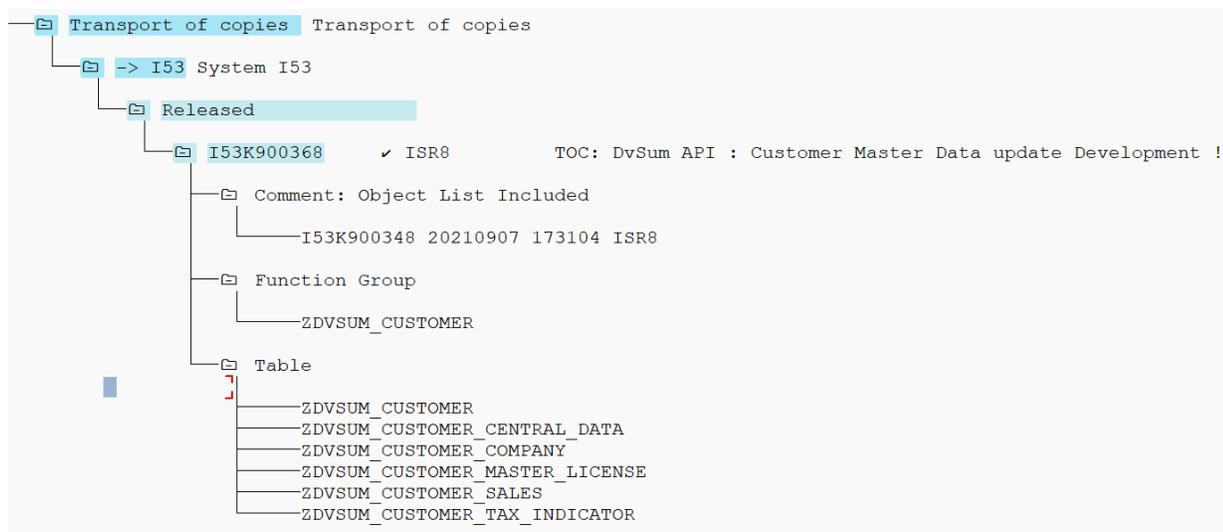
Note: Given the sample screen below, transport request will be changed as per the environment.



5.6.5 The Transport I53K900368 is now part of Import Queue

5.6.6 Import the Transport by Clicking on  Import Request

5.6.7 Below are the objects Part of Transport



1. Customer Master Data Write back API Objects

Function Group: ZDVSUM_CUSTOMER

Function Module: ZDVSUM_DYNAMIC_CUSTOMER_SAVE

Structure: ZDVSUM_CUSTOMER

ZDVSUM_CUSTOMER_CENTRAL_DATA

ZDVSUM_CUSTOMER_COMPANY

ZDVSUM_CUSTOMER_MASTER_LICENSE

ZDVSUM_CUSTOMER_SALES

ZDVSUM_CUSTOMER_TAX_INDICATOR

5.7 DvSum Customer Master Write-back Authorization Controls

To write back into the SAP, we have list down following authorization needs to be in place in SAP –

1. User must have authorization object '**S_RFC**' with authorization value is '**ZDVSUM_CUSTOMER**', which is required to connect DvSum to SAP.
2. User must have relevant Organization levels authorization in place, i.e., Company Code, Sales Organization, Distribution Channel, Division etc.
3. User must have relevant authorizations to change in the Customer Master data in SAP.

User Profile & Authorizations – Dialog Users

6 Dialog Users

When data update (write-back) operations are to be performed for cleansing the data and writing it back into SAP, DvSum uses the specific user’s credentials and profile to execute the write-back. This is to ensure that correct audit trail information is generated.

DvSum Administrator(s) of the Client should contact their SAP BASIS team to create the appropriate profile and authorize users on those profiles. An example is shown below.

Display of Entries Found

Table to be searched: AGR_1251 Authorization data for the activity group

Number of hits: 2.955

Runtime: 0 Maximum no. of hits: []

Role	ID	Authorization object	Authorization	Variant Field name	Authorization value	and Object stat.	ID whether object is deleted	ID whether object is copi.	ID whether object is new	ID
ZR3SBCU500_ALL_USERS_BASIS	58	S_RFC	ZR3SBCU50000	RFC_NAME	ZSC_LOGON_SYNC	U			O	6
ZR3SBCU500_ALL_USERS_BASIS	60	S_RFC	ZR3SBCU50000	RFC_NAME	ZPRREQ	U			O	6
ZR3SBCU500_ALL_USERS_BASIS	59	S_RFC	ZR3SBCU50000	RFC_NAME	ZPR_IPMS	U			O	6
ZR3SBCU500_ALL_USERS_BASIS	61	S_RFC	ZR3SBCU50000	RFC_NAME	ZPOBAPI	U			O	6
ZR3SBCU500_ALL_USERS_BASIS	62	S_RFC	ZR3SBCU50000	RFC_NAME	ZHR_WEBPAN	U			O	6
ZR3SBCU500_ALL_USERS_BASIS	63	S_RFC	ZR3SBCU50000	RFC_NAME	ZERP_HRDA	U			O	6
ZR3RMMU507_PURCH_PARTS_BUY	234	S_RFC	ZR3RMMU507	RFC_NAME	ZDVSUM*	G			O	9
ZR3RMMU507_PURCH_PARTS_BUY	290	S_RFC	ZR3RMMU507	RFC_NAME	ZDVSUM_PRODUCT	G			O	9
ZR3RMMU507_PURCH_PARTS_BUY	289	S_RFC	ZR3RMMU507	RFC_NAME	ZDVSUM_FUNCTION_GROUP	G			O	9
ZR3RMMU507_PURCH_PARTS_BUY	288	S_RFC	ZR3RMMU507	RFC_NAME	ZDVSUM_CUSTOM	G			O	9
ZR3SBCU500_ALL_USERS_BASIS	64	S_RFC	ZR3SBCU50000	RFC_NAME	SYSU	U			O	6
ZR3SBCU500_ALL_USERS_BASIS	65	S_RFC	ZR3SBCU50000	RFC_NAME	SYST	U			O	6
ZR3SBCU500_ALL_USERS_BASIS	66	S_RFC	ZR3SBCU50000	RFC_NAME	SWRC	U			O	6
ZR3SBCU500_ALL_USERS_BASIS	67	S_RFC	ZR3SBCU50000	RFC_NAME	SWOR	U			O	6
ZR3SBCU500_ALL_USERS_BASIS	68	S_RFC	ZR3SBCU50000	RFC_NAME	SWK1	U			O	6
ZR3SBCU500_ALL_USERS_BASIS	69	S_RFC	ZR3SBCU50000	RFC_NAME	SWF_VMD_READ	U			O	6
ZR3SBCU500_ALL_USERS_BASIS	71	S_RFC	ZR3SBCU50000	RFC_NAME	SJSW	U			O	6
ZR3SBCU500_ALL_USERS_BASIS	54	S_RFC	ZR3SBCU50000	RFC_NAME	SJSO	U			O	6
ZR3SBCU500_ALL_USERS_BASIS	37	S_RFC	ZR3SBCU50000	RFC_NAME	SURL	U			O	6
ZR3SBCU500_ALL_USERS_BASIS	70	S_RFC	ZR3SBCU50000	RFC_NAME	SU_USER	U			O	6
ZR3SBCU500_ALL_USERS_BASIS	38	S_RFC	ZR3SBCU50000	RFC_NAME	STFC	U			O	6
ZR3SBCU500_ALL_USERS_BASIS	39	S_RFC	ZR3SBCU50000	RFC_NAME	SSCV	U			O	6
ZR3SBCU500_ALL_USERS_BASIS	40	S_RFC	ZR3SBCU50000	RFC_NAME	SRFC	U			O	6
ZR3SBCU500_ALL_USERS_BASIS	41	S_RFC	ZR3SBCU50000	RFC_NAME	SPRT	U			O	6
ZR3SBCU500_ALL_USERS_BASIS	42	S_RFC	ZR3SBCU50000	RFC_NAME	SPR4	U			O	6
ZR3SBCU500_ALL_USERS_BASIS	43	S_RFC	ZR3SBCU50000	RFC_NAME	SPOF	U			O	6
ZR3SBCU500_ALL_USERS_BASIS	44	S_RFC	ZR3SBCU50000	RFC_NAME	SM02	U			O	6
ZR3SBCU500_ALL_USERS_BASIS	45	S_RFC	ZR3SBCU50000	RFC_NAME	SLS1	U			O	6
ZR3SBCU500_ALL_USERS_BASIS	46	S_RFC	ZR3SBCU50000	RFC_NAME	SKBW	U			O	6
ZR3SBCU500_ALL_USERS_BASIS	47	S_RFC	ZR3SBCU50000	RFC_NAME	CLFD	U			O	6

6.1 Material Master Writeback

Security	<p>The user running the API should have access to below SAP Transaction codes</p> <ul style="list-style-type: none"> - MM01/ MM02 - MM41/MM42 - SE37 /SE11
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6.1.1 Authorization Controls:

DvSum Data Management application allow changes to be written back into SAP through the function module (ZDVSUM_DYNAMIC_PRODUCT_SAVE) that we have created to change the existing data in the Material Master Data via transaction code MM02, MM42.

To writeback into the SAP, we have list down following authorization needs to be in place in SAP –



1. User must have authorization object ‘**S_RFC**’ with authorization value is ‘**ZDVSUM_PRODUCT**’, which is required to connect DvSum to SAP.
2. User must have relevant Organization levels authorization in place, i.e., Materials Data, Plants, Sales Organization, Distribution Channel, Product Hierarchy etc.
3. User must have relevant authorizations to change in the Material Master data in SAP.

6.2 Customer Master Writeback

DvSum Data Management application allow changes to be written back into SAP through the function module (ZDVSUM_DYNAMIC_CUSTOMER_SAVE) that we have created to change the existing data in the Customer Master Data via transaction code XD02.

Security	<p>The user running the API should have access to below SAP Transaction code</p> <ul style="list-style-type: none"> - XD01/ XD02 - SE37 /SE11
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6.2.1 Authorization Controls:

DvSum Data Management application allow changes to be written back into SAP through the function module (ZDVSUM_DYNAMIC_CUSTOMER_SAVE) that we have created to change the existing data in the Customer Master Data via transaction code XD02.

To writeback into the SAP, we have list down following authorization needs to be in place in SAP –

1. User must have authorization object ‘**S_RFC**’ with authorization value is ‘**ZDVSUM_CUSTOMER**’, which is required to connect DvSum to SAP.
2. User must have relevant Organization levels authorization in place, i.e., Company Code, Sales Organization, Distribution Channel, Division etc.

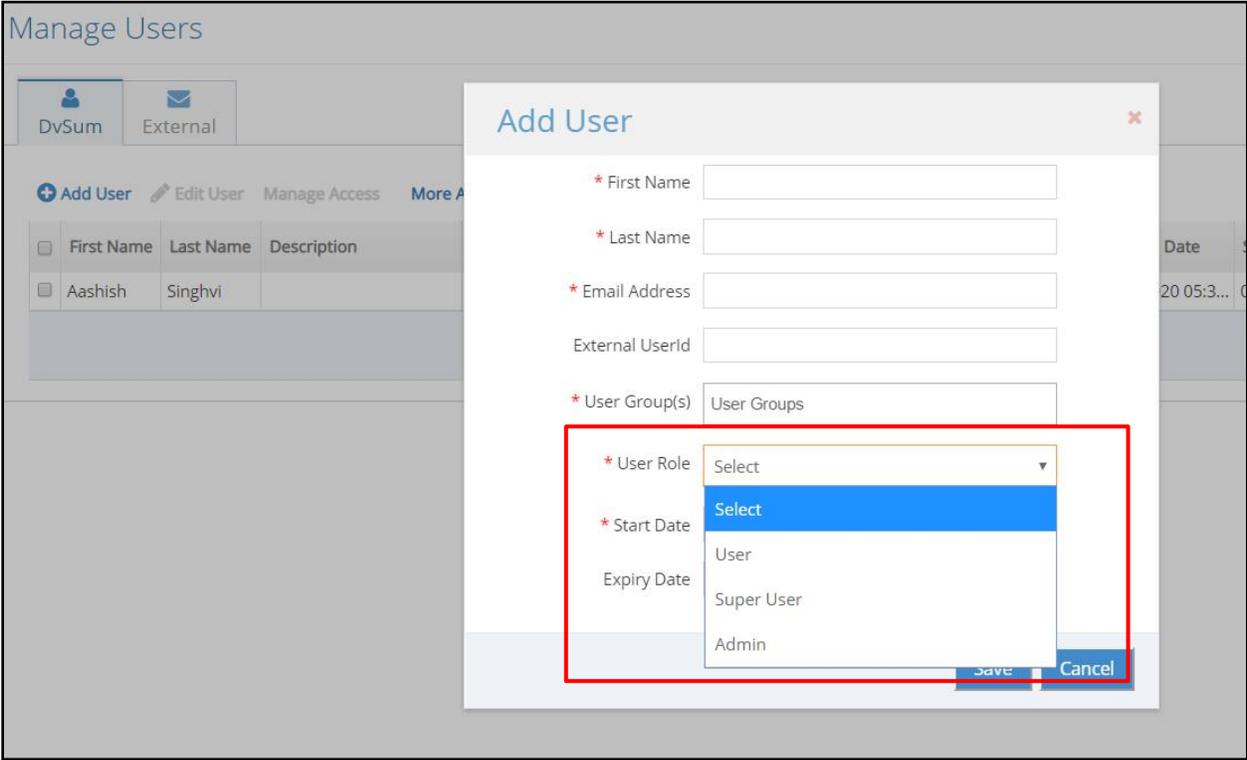
User must have relevant authorizations to change in the Customer Master data in SAP.

DvSum User Configuration

7 Application Roles

Each user in DvSum is assigned a role which controls the level of access they have in the application. Elevated roles are given only to limited users to perform operations that can impact performance when accessing SAP through DvSum

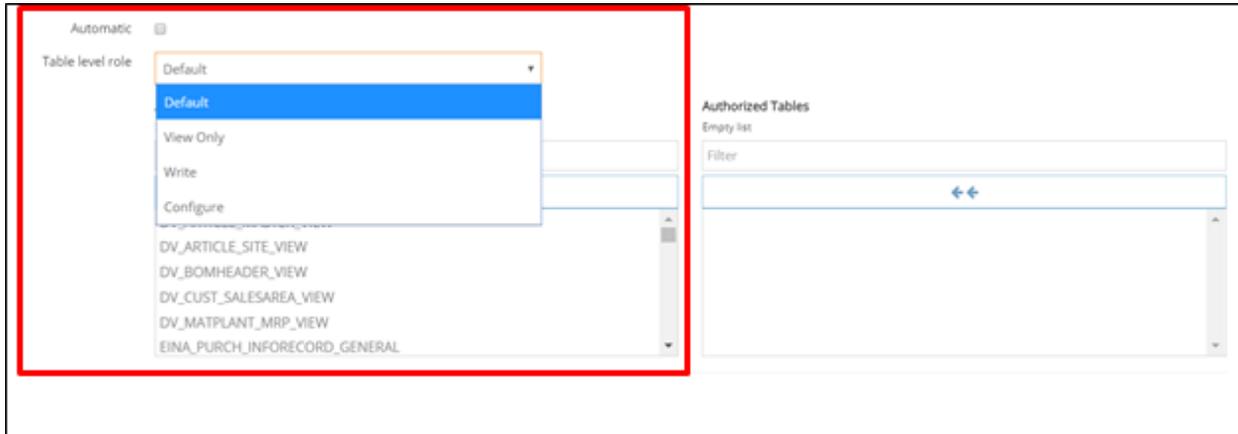
Role	Functions	Type users
Owner	Manage Account and Manage Source Connections, Manage Users	Controlled by IT / DvSum
Admin	Manage Source connections, Manage Users	Designated IT/ functional administrators
Users	Profile Data, Create and Execute rules. View and edit other user rules	Advanced trained users on DvSum, Data Stewards
User	Profile Data, Create and Execute rules. Only access to their own created or assigned rules	End Users



21 7.1 Activity Controls

For Super User and User roles, activities that can be performed can be further controlled at SAP instance or fine-grain control at Object level

Access Level	Level of access
View	Only view profiling results or exception reports. No operations allowed
Default	Execute profiling of objects, ability to create, delete rules
Write	Perform write operations of cleansed data to source
Configuration	Change configuration of SAP catalog inside DvSum. Hide / Show columns, flag fields for analysis, set and unset fields that can be performance write-back operations on

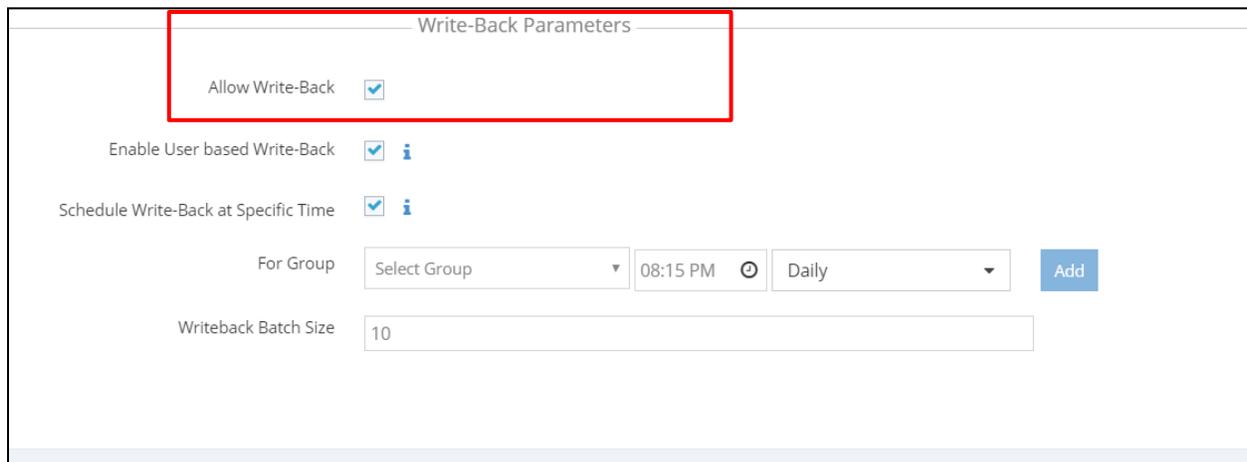


8 Write-Back Controls

Write-back operation calls SAP BAPI to execute update operations into SAP. Since changes are being made into SAP, following controls are provided to manage write-back into SAP

8.1 Allowing Write-Back

Allowing write-back can be controlled at SAP Client level, object, or field level. Write-back to a field can only happen if client level control is Yes and Table level writeback is Yes. By default, Client level is set to No Write-Back, Table level is Yes and Field level is Yes. (for fields that are supported by SAP Update BAPI)



Configuration

Name:

Subject Area:

Limit Records

Records updated since last audit identified by:

Field(s) that can uniquely identify a data record:

Filter Condition:

Exception Records Limit:

Write-Back Parameters

Allow Write-Back:

Enforce Write-Back Controls For Workflow:

Updated On:

Updated By User:

Updated By System:

MARA_ARTICLE_GENERAL Summary Go Back

ReadinessScore

6,660 Rows

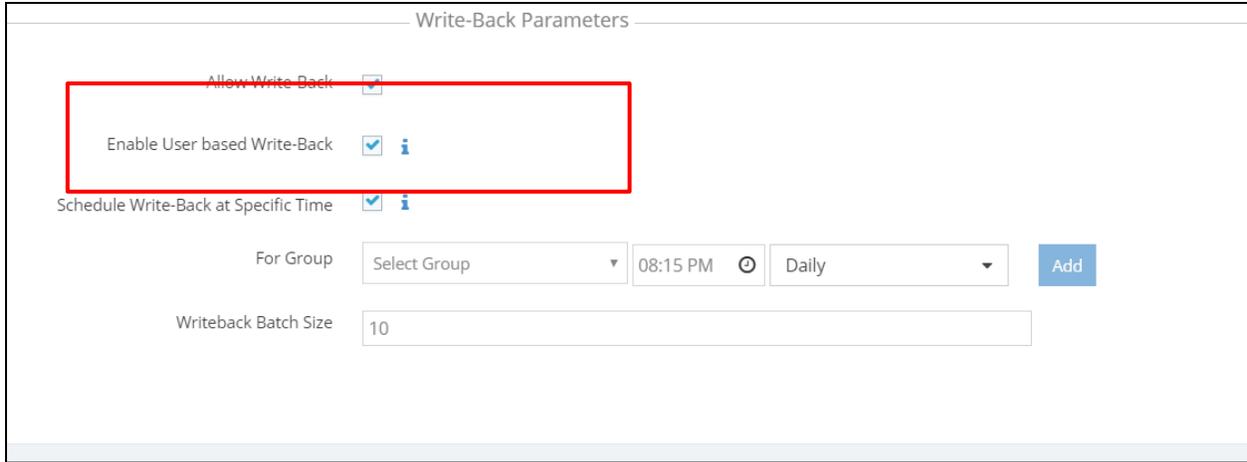
Feb 19, 2020 Status

Profiling
Data Quality
Data Analysis
Field Configuration
Staging Configuration

Column Name	Data Type	Unique Count	Published	Mark as attribute	Write-back Mapping	Reference Mapping	Write-back Enabled
AENAM_CHANGED_BY	String	56	☑	☑			☑
ATTYP_ARTL_CATEGORY	String	10	☑	☑			☐
BBTYP_ASTMT_LIST_TYPE	String	13	☑	☑			☐
BRAND_ID_BRAND	String	5	☑	☑			☐
BREIT_WIDTH	Number	49	☑	☑			☐
BRGEW_GROSS_WEIGHT	Number	94	☑	☑			☐
BSTAT_CREATION_STATUS	String	2	☑	☑			☐
BSTME_ORDER_UNIT	String	8	☑	☑			☑
BWSCL_SUPPLY_SOURCE	String	4	☑	☑			☑

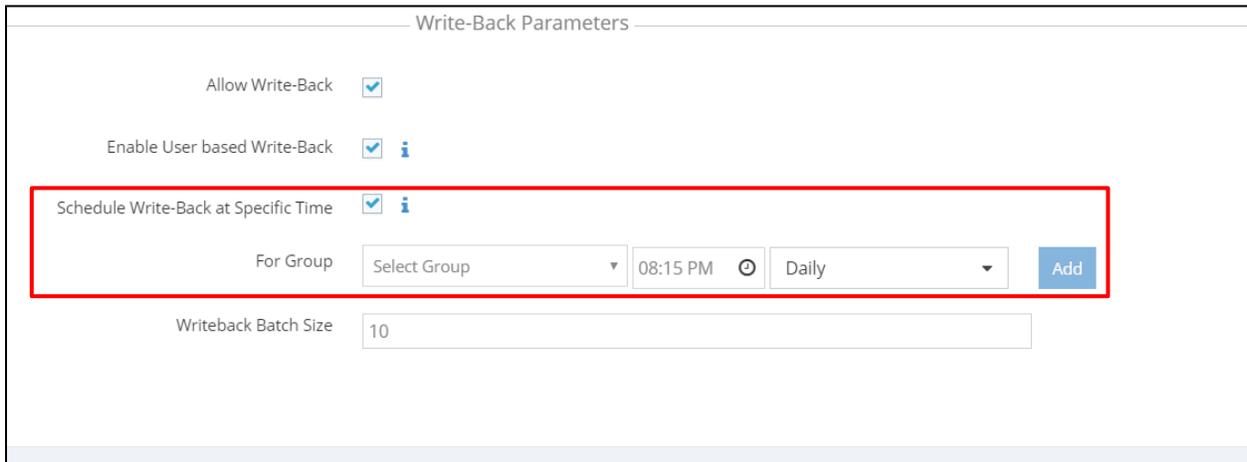
8.2 User SAP Credentials for Write-Back

Read connections to SAP are done using a generic non-dialog user. Write-operations by default are configured to use the user specific SAP credentials. User SAP profile needs to have appropriate T-code access to be able to perform write-back operations. (e.g. MM02 or MM42 for executing Material BAPI)



8.3 Batch Scheduling / Queuing Write-Back Operations

Write-Back operations are always run as a batch between DvSum and SAP, even if it is a single record update. SAP Client connection can be set to only performance write-back operations at a certain time of the day. When this is set, all changes made by users are queued to run at the defined time. This can be used to for example, perform update operations during off-hours.



8.4 Batch Size to control number of records

Batch size allows controlling how many records can be updated within a single job. If the number of updates submitted by users exceed the batch size, the updates are split into multiple job schedules and they are scheduled to run sequentially one after the after.

Write-Back Parameters

Allow Write-Back

Enable User based Write-Back i

Schedule Write-Back at Specific Time i

For Group Select Group 08:15 PM 🕒 Daily Add

Writeback Batch Size 10

8.5 Canceling Write-Back Jobs (already sent to SAP)

Once a write-back job is in Running state, (which means, it has already been submitted to SAP) and if user or SAP Administration wants to cancel it, the cancellation has to be performed inside SAP. Once canceled within SAP, the DvSum connector will receive interrupt signal and it will update with the appropriate error code in the DvSum job and communicated to the user. When this interrupt signal is received on DvSum side, all batches scheduled for write-back on this SAP client are put on hold automatically. They have to removed from hold status to continue executing them.

8.6 Canceling or putting on Hold Write-Back Jobs (not sent to SAP)

Write-back jobs in Scheduled / Stand By state can be put on hold or Canceled by user directly in DvSum using the Scheduler page

Home > Scheduler

Scheduler

Today
From Date 02/20/2020
To Date 02/20/2020
Apply Filter

📅 New Schedule
▶ Run Now
✎ Edit Schedule
🗑 Delete Schedule
🔄 Refresh Now
☐ All Users
Search

Job Name	Description	Start Time	End Time	Status
JB-000024	WRB 🔗 On Demand for Write Back Exception Fixes DQ-0000004	02/20/2020 05:30 AM	02/20/2020 05:30 AM	Completed
JB-000024	WRB 🔗 On Demand for Write Back Exception Fixes DQ-0000004	02/20/2020 05:29 AM	02/20/2020 05:29 AM	Completed
JB-000024	WRB 🔗 On Demand for Write Back Exception Fixes DQ-0000004	02/20/2020 05:28 AM	02/20/2020 05:28 AM	Completed
JB-000023	WRB 🔗 On Demand for Write Back Exception Fixes DQ-0000004	02/20/2020 05:17 AM		StandBy (Deleted)
JB-000022	WRB 🔗 On Demand for Write Back Exception Fixes DQ-0000004	02/20/2020 05:11 AM	02/20/2020 05:12 AM	Completed
JB-000022	WRB 🔗 On Demand for Write Back Exception Fixes DQ-0000004	02/20/2020 05:10 AM	02/20/2020 05:11 AM	Completed
JB-000022	WRB 🔗 On Demand for Write Back Exception Fixes DQ-0000004	02/20/2020 05:09 AM	02/20/2020 05:10 AM	Completed

8.7 Governed Write-Back

When Governed Write-Back is flagged for an SAP object in DvSum, then DvSum will enforce following additional controls for write-back

- Write-back operation can only be performed with a workflow
Workflow will require separate “Fixer” and “Approver” users