ABAP Utility: Automated Mass CDS View Generation for Cortex Data Foundation

Summary :

This document outlines the design and functionality of an ABAP utility program for bulk creation of CDS views, catering specifically to the requirements of Cortex Data Foundation. The program streamlines the process by automating view generation based on user-provided input, ensuring seamless integration with Cortex through a 1:1 mapping with SAP source tables.

Problem Statement :

Manually creating CDS views for each SAP source table targeted for Cortex integration is time-consuming and error-prone. This approach necessitates a more efficient and automated solution.

Key Features:

- Automated CDS View Creation: Generates CDS views for designated SAP tables, eliminating manual development effort.
- Bulk Processing: Efficiently handles large datasets of tables through file upload (CSV/TXT formats).
- Cortex Compatibility: Guarantees one-to-one correspondence between CDS views and source tables, adhering to Cortex expectations.
- Transport and Package Management: Integrates with the SAP transport system for controlled deployment and versioning of CDS views.
- Comprehensive Error Handling: Catches and reports potential errors during data processing and view creation.

Technical Design :

User Interface:

- An intuitive selection screen allows users to:
  - Upload an input file (CSV or TXT format) containing a list of SAP tables for CDS views creation/generation.

- Provide the target transport request for saving the generated views.
- Input the package where the CDS views will be assigned.

Application Logic:

- The program extracts table names from the input file.
- Program then reads the corresponding schema/structure of the respective input tables from the SAP DD03L table for CDS view structure build
- For each table, it dynamically creates and generates the corresponding CDS view definition using the required annotations and content for view generation.
- It also generates the underlying SQL view for the DDL defined CDS view
- Utilizes ABAP's built-in capabilities to activate and transport the generated views.
- Implements robust error handling mechanisms to address potential issues during processing.

Output Screen:

- Provides a summary of processed tables and generated CDS views.
- Highlights successful creations and reports any failures with detailed reasons.
- Displays the assigned transport and package information for generated views.

Technical details/Components :

Function module : **IUUC_DD03L_EXTRACT** - To read the structure details from DD03L table of the required input table

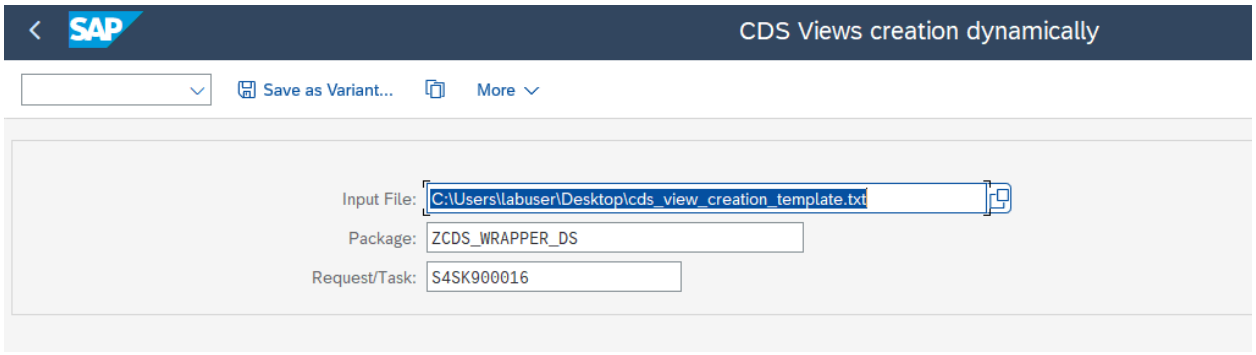
CL_DD_DDL_HANDLER_FACTORY : Save, Activate and Write_TADIR and Write_TRKORR - Which saves the CDS views and activates it and writes the same to TADIR and TRKORR(Transport)

CL_SALV_TABLE : For Output layout

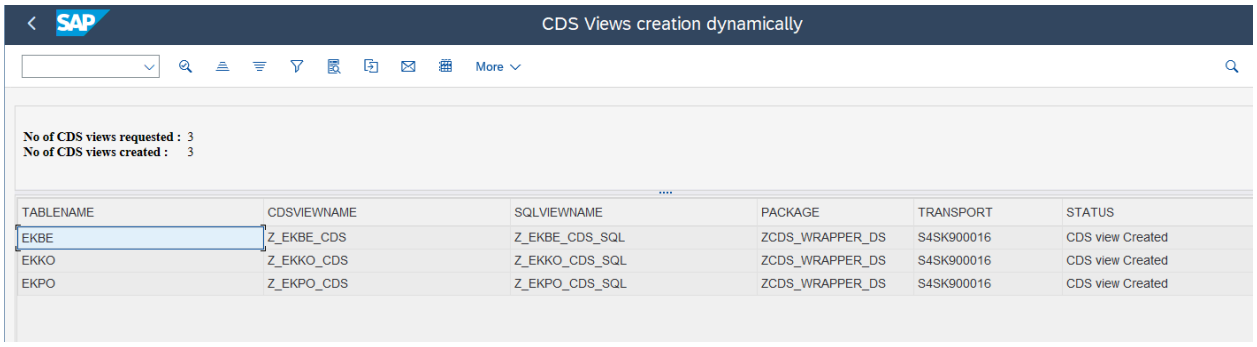
Appendix :

Screenshots for Reference :

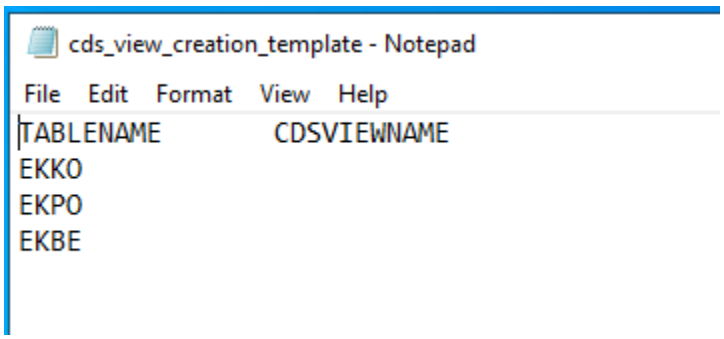
Input :



Output :

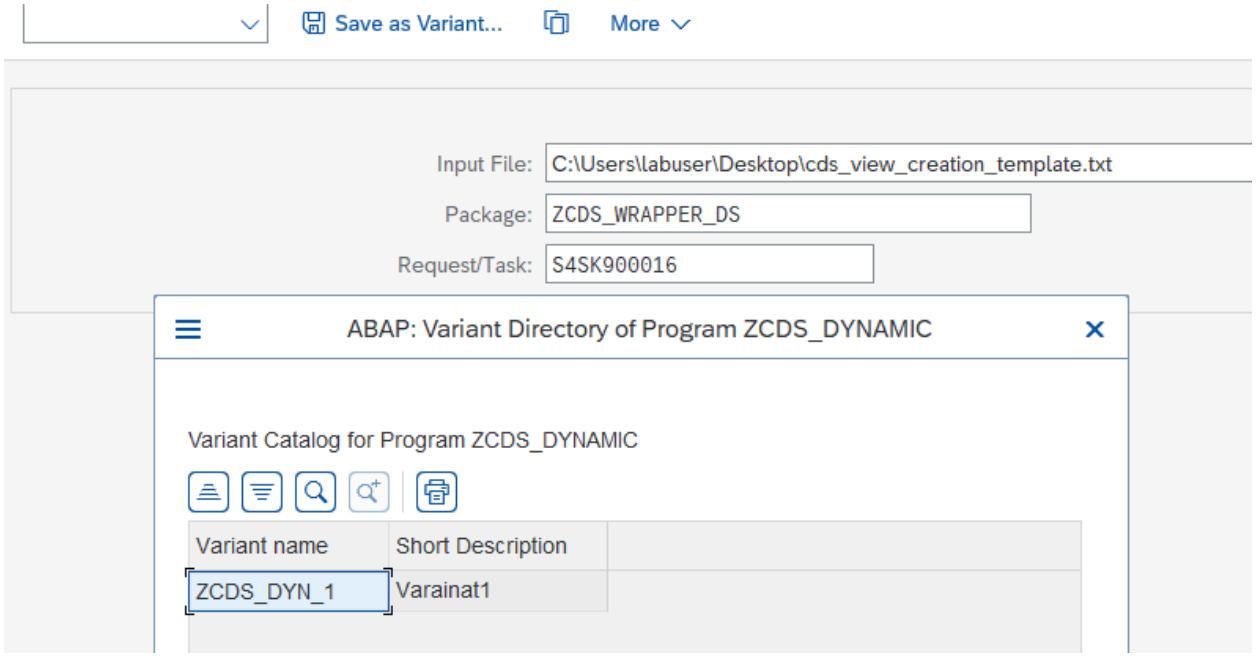


Input File :



CDS view name is optional , program takes care of creating CDS VIEW name for the corresponding table

Variant details



Conclusion :

This ABAP utility offers a robust and efficient solution for generating large volumes of CDS views, tailored to meet the specific requirements of Cortex Data Foundation. By automating view creation and ensuring accurate mapping with SAP source tables, the program significantly streamlines the data integration process and facilitates seamless utilization of Cortex functionalities.

ABAP Utility Import Process ;

Mass CDS Generator Utility program Import and Execution process:

Mass CDS generator program has been captured in the TR and exported for Customer to Import into their system using the attached files , to import the files we are sharing the blog along with the files
1. K900045.S4S (Attached)
2. R900045.S4S (Attached)
3. Input file (Columns : TABLENAME , CDS VIEWNAME) and file type (txt/csv)
4. Run the Above imported program with the file provided in step3 which generates the CDS views
5. Go to Step 4 in the above table and follow till step 7 to get the views replicated to GCP BQ

How to Import the above files into the SAP system :
https://kb.theobald-software.com/sap/how-to-import-an-sap-transport-request-with-the-transport-management-system-stms

Observations :

- Few CDS views which were created already is missing the MANDT field in the some CDS views at Datasphere (this field is being used by Cortex in Reporting and Looker dashboards)
- Customer team should run this Program for all the Cortex required tables which takes care of the MANDT field as well wherever it applies .

Sample Input file : < Provided separately in mail>