



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.
- **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 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 :

The screenshot shows the SAP 'CDS Views creation dynamically' interface. At the top, there is a dark blue header bar with the SAP logo on the left and the title 'CDS Views creation dynamically' on the right. Below the header, there is a toolbar with a dropdown menu, a 'Save as Variant...' button, a copy icon, and a 'More' dropdown. The main area contains three input fields: 'Input File:' with the value 'C:\Users\labuser\Desktop\cds_view_creation_template.txt', 'Package:' with the value 'ZCDS_WRAPPER_DS', and 'Request/Task:' with the value 'S4SK900016'. Each field has a small icon to its right for file selection or help.



Output :

The screenshot shows the SAP S/4HANA interface for 'CDS Views creation dynamically'. It displays a table with 6 columns: TABLENAME, CDSVIEWNAME, SQLVIEWNAME, PACKAGE, TRANSPORT, and STATUS. Three rows are listed, corresponding to tables EKBE, EKKO, and EKPO. Each row shows a generated CDS view name (e.g., Z_EKBE_CDS), SQL view name (e.g., Z_EKBE_CDS_SQL), package (ZCDS_WRAPPER_DS), transport (S4SK900016), and status (CDS view Created). Above the table, it indicates 'No of CDS views requested : 3' and 'No of CDS views created : 3'.

TABLENAME	CDSVIEWNAME	SQLVIEWNAME	PACKAGE	TRANSPORT	STATUS
EKBE	Z_EKBE_CDS	Z_EKBE_CDS_SQL	ZCDS_WRAPPER_DS	S4SK900016	CDS view Created
EKKO	Z_EKKO_CDS	Z_EKKO_CDS_SQL	ZCDS_WRAPPER_DS	S4SK900016	CDS view Created
EKPO	Z_EKPO_CDS	Z_EKPO_CDS_SQL	ZCDS_WRAPPER_DS	S4SK900016	CDS view Created

Input File :

The screenshot shows a Notepad window titled 'cds_view_creation_template - Notepad'. The text inside is as follows:

```
File Edit Format View Help
|TABLENAME      CDSVIEWNAME
|EKKO
|EKPO
|EKBE
```

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



Variant details

▼

Save as Variant...

More ▼

Input File: C:\Users\labuser\Desktop\cds_view_creation_template.txt

Package: ZCDS_WRAPPER_DS

Request/Task: S4SK900016

ABAP: Variant Directory of Program ZCDS_DYNAMIC

Variant Catalog for Program ZCDS_DYNAMIC

Variant name	Short Description
ZCDS_DYN_1	Varinat1

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.