MICRO FOCUS

Data Express 4.0

Toolkit for z/OS

Contents

z/OS Toolkit Guide

Outlines the concepts and procedures used by the Data Express Toolkit, which is a collection of utilities that help provide input to Data Express processes in order to automate data inventory functionality. It shows how to start and work with the toolkit in a mainframe environment.

This guide is for users who want to verify the integrity of data contained in databases (DB2 or DL/I) or data sets (VSAM, SEQUENTIAL, or GDG) of applications running on z/OS systems that are either developed internally or purchased by external suppliers.

The use of Data Express requires a minimum experience of z/OS.

Considerations

Bear in mind the following points about Data Express:

- You do not need to analyze the sources of the programs in the application in order to use Data Express.
- This product does not perform any operation capable of altering the analyzed data.
- To use this product, you must have the correct licence. Refer to the *Installation Guide* for more details.

The tables defined during the installation phase and updated by the toolkit are described in the *Appendix A. Toolkit Tables*.

Load Sequential File with DB2 Catalog

The process `Load Sequential File` reads the DB2 system catalog (starting from the list of tables that need to be loaded into the knowledge base), and then produces the sequential file containing the information needed for the load. After a new `Load File From External Interface` job is created and scheduled, the sequential file is used when the job executes to perform the load.

For more information about the data inventory process, see the section *Data Inventory* in the chapter *Project Implementation* in the *Process Guide for z/OS*.

For information about the structure of the output sequential file, see the section *Direct Access - API Load Sequential File* in the chapter *Sequential Files* in the *Data Model Guide*.

> **Note:** The filename listed in the **FILENAME** field can be indicated by a partial name or the special value `'*ALL'`. The function will then populate all the DB2 tables with the name in accordance with the value specified.

To load the sequential file with the DB2 catalog:

1. From the **Main Menu** panel, enter the following command: `TSO CUINFIL`.
2. Specify the company name and press `Enter`.
3. Insert parameter names into all fields as required:

Data Set Name Inp	Name of the sequential file which contains the list of the files that must be loaded into Data Express.
Data Set Name Out	Name of the sequential file which will be created from this function, with all the information about the files that must be loaded into Data Express.
Process Id	Identifier for the process.

Select Count	Type of select to get the total number of records:

1. `select count` on DB2 table (slowest).
2. `select` on `SYSIBM.SYSTBALES` (fastest).
3. `select` on `SYSIBM.SYSTBALES` and if there aren't statistics, a `select count` on the DB2 table is performed.

Load IMPSRC for Life Cycle

The `Life Cycle` is a feature that enables automatic updates for file layout information. The Life Cycle process can use a guide file, which is a sequential file with a name that is similar to the project and group specification and followed by the `IMPSRC` file. It can be completed by the user (using an interface from Endevor, Changeman, or any other change management tool) or directly with the job `Load Sequential for Life Cycle`.

The job `Load Sequential for Life Cycle` writes the `IMPSRC` file (starting from a PDS with the copy loaded in the knowledge base or from a DB2 owner (schema)) with all the copy or the new or changed DB2 tables. After a new job is created and scheduled, the `IMPSRC` file is used when the job executes to schedule the `Life Cycle` phases.

> **Note:** The `Life Cycle` process uses only one `IMPSRC` file. Therefore, we recommend that the process be executed for every DB2 owner (database schema) or for every partitioned data set.

For more information about the `Life Cycle`, see the chapter *Life Cycle* in the *Process Guide for z/OS*.

To load the `IMPSRC` file for the `Life Cycle`:

1. From the **Main Menu** panel, enter the following command: `TSO CUINLIC`.
2. Insert parameter names into all fields as required:

Data Set Type	Mode with which you want to work.

> **Note:** Like the `Analyze FDT` report, the `Life Cycle for ADABAS` lets you analyze an `FDT` report, but with the difference that you can analyze multiple FDT Reports simultaneously.

Data Set Name	Name of the partitioned data set or DB2 Owner (schema name) with which you want to work.

> **Note:** If you are using Life Cycle for ADABAS, the data set name must be the name of the PDS file that contains the desired FDT Report as a member.

Select Count	Type of select to get the total number of records:

1. `select count` on DB2 table (slowest).
2. `select` on `SYSIBM.SYSTBALES` (fastest).
3. `select` on `SYSIBM.SYSTBALES` and if there are no statistics, a `select count` on the DB2 table is performed.

DB2 Catalog Synchronization

Use the z/OS process `DB2 Catalog Synchronization` to produce the sequential file containing the information needed for the load, unless the file can be produced in another manner. After a new `DB2 Catalog Synchronization` (client) job is created and scheduled, the sequential file is used when the

job executes to load information for the cardinality for DB2 tables and the existence of a key or the existence of an image copy into the knowledge base.

The `DB2 Catalog Synchronization` (client) job should be executed before beginning the data subset extraction process, so that all the information is synchronized and this process can be independent of the system tables. For more information about the job, see the section *DB2 Catalog Synchronization Job* in the chapter *Work with Jobs* in the *Front End Guide*.

> **Note:** For information about the structure of the output sequential files for `HEADER`, `INTERNAL KEY`, `EXTERNAL KEY`, and `IMAGE COPY` see the section *DB2 Catalog Synchronization Information* in the chapter *Sequential Files* in the *Data Model Guide*.

To synchronize the DB2 catalog:

1. From the **Main Menu** panel, enter the following command: `TSO CUINSYNC`.

2. Indicate the scope of the process by specifying the DB2 tables you need in the **DB2 Owner** and **Table Name** fields, and the name of the sequential file in the **Data Set Name** field.

3. Set the **Select Count** parameter to retrieve the total number of records in a DB2 table, using one of these options:

   - **Select count on DB2 table** – the slowest option, default setting
   - **Select count on SYSIBM.SYSTABLES** – the fastest option

   > **Note:** For the **DB2 Owner** and **Table Name** fields, you can specify `*ALL` if you want to process all owner names or all table names.

Create CSV File from Referential Integrity

The process `Create CSV file from Referential Integrity` analyzes a SQL DDL generated by the Erwin Data Modeler that describes the referential integrity relation using the IBM DB2 standard, and then creates a CSV file that contains all relations described in the DDL. After a new `Import Method From Referential Integrity` job is created and scheduled, the CSV file is used when the job executes to create the method needed to generate the test environment. For more information about method creation, see the chapter *Data Subsetting* in the *Process Guide for z/OS*.

To create the CSV file from referential integrity:

1. From the **Main Menu** panel, enter the following command: `TSO CVTEARI`.

2. Insert parameter names into fields as required:

PDS or Data set name	Name of the DDL source data set or PDS containing the referential integrity relation generated by the Erwin Data Modeler.
Source Name	Name of the member of PDS that contains the DDL generated by the Erwin Data Modeler.
CSV data set name	Name of the CSV data set that will contain the referential integrity relation. The CSV data set will be created if it does not exist. If it already exists, it will be written in append mode.

Load Sequential File with ADABAS FDT Report

The process `Analyze ADABAS FDT report` reads the `FDT Report source` sequential file (generated by the command ADAREP REPORT) and then produces the output sequential file containing the information needed for the load. After a new `Load Data Store From External Interface` job is created and scheduled, the output sequential file is used when the job executes to perform the load.

For more information about the Data Inventory process, see the section *Data Inventory* in the chapter *Project Implementation* in the *Process Guide for z/OS*.

For information about the structure of the output sequential file, see the section *ADABAS - API Load Sequential File* in the chapter *Sequential Files* in the *Data Model Guide*.

To load the sequential file with the `ADABAS FDT report`:

1. From the **Main Menu** panel, enter the following command: `TSO CVURAAD`.
2. Select the appropriate **Machine ID** and **company name**, and press **Enter**. The **Analyze ADABAS FDT report (BURAAD)** panel displays.
3. Insert parameter names into fields as required:

PDS or data set name	Name of the PDS or sequential file that contains the FDT report ADABAS files.
Source Name	Name of the member that contains the FDT report ADABAS files.
Data Set Name Out	Name of the sequential file to create which will contain all the information about the ADABAS files that must be loaded into Data Express.

Toolkit Tables

During toolkit installation, the following tables are created:

Table Name	Description
HSSYSCKS	View of `SYSIBM.SYSCHECKS`
HSSYSCOL	View of `SYSIBM.SYSCOLUMNS`
HSSYSDAU	View of `SYSIBM.SYSDBAUTH`
HSSYSDBA	View of `SYSIBM.SYSDATABASE`
HSSYSDEP	View of `SYSIBM.SYSCHECKDEP`
HSSYSFKE	View of `SYSIBM.SYSFOREIGNKEYS`
HSSYSIND	View of `SYSIBM.SYSINDEXES`
HSSYSIPA	View of `SYSIBM.SYSINDEXPART`
HSSYSKEY	View of `SYSIBM.SYSKEYS`
HSSYSRAU	View of `SYSIBM.SYSRESAUTH`
HSSYSREL	View of `SYSIBM.SYSRELS`
HSSYSSYN	View of `SYSIBM.SYSSYNONYMS`
HSSYSTAB	View of `SYSIBM.SYSTABLES`
HSSYSTAU	View of `SYSIBM.SYSTABAUTH`
HSSYSTPA	View of `SYSIBM.SYSTABLEPART`
HSSYSTSP	View of `SYSIBM.SYSTABLESPACE`
HSSYSVDE	View of `SYSIBM.SYSVIEWDEP`
HSSYSVIE	View of `SYSIBM.SYSVIEWS`
HSURDCOL	View of `SYSIBM.SYSCOLUMNS`

Table Name	Description
HSURDSYC	View of SYSIBM.SYSCOPY

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