

# ETI Data System Libraries for Teradata

DSL for SQL/Teradata DA

DSL for Teradata Utilities DA

## Release Notes

### Revision 4.3.1A

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# 1 PREREQUISITES

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The ETI Data System Library (DSL) for SQL/Teradata DA and the DSL for Teradata Utilities DA require the following products to be at the indicated release number *or later*:

- **ETI Solution® Version 5.2.1 with patch 1 applied.** Required to ensure that the DSLs will generate the expected code.
- **Shared Objects 4.3.0.5.** This component will be loaded automatically during the installation of the DSL.
- **TCL Functions 4.3.2.1.** This component will be loaded automatically during the installation of the DSL.
- **DSL for COBOL/FS DA 4.2.** This DSL is required if you are planning to use the DSL for Teradata Utilities DA with COBOL/FS DA single-step.

## 2 DSL INSTALLATION

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### 2.1 If You Have ETI Solution Installed

To install ETI Data System Libraries, you must follow the directions listed in:

- *ETI Solution Administration Guide*, Chapter 2, “Getting Started”

**Warning:** If you do not follow the DSL installation procedures described in the manual listed above, but instead manually copy files from the CD-ROM, then you will not get the updated version of the DSL install script, which will cause the DSL installation to fail.

### 2.2 Loading the DSL

The DSL for SQL/Teradata DA and the DSL for Teradata Utilities DA are separately licensed products that can be loaded and used independently of each other. However, as both products share a common Data Access System (`sqlteradata_da`), Retrieve Schema, and several other common Teradata components, selecting the DSL for Teradata Utilities DA from the **Load DSLs** screen with the ETI Administration Client will load *both* the DSL for SQL/Teradata DA and the DSL for Teradata Utilities DA products.

To load any DSL, simply use the normal procedure for loading a DSL by following the directions listed in:

- *ETI Solution Administration Guide*, Chapter 3, “Populating MetaStores”

With the new DSL patch process, a DSL can be shipped with any available patches. The DSL Load process will load any available patches automatically.

## 2.3 Post-Installation Information Instructions when Using Teradata Utilities DA with COBOL/FS DA Single-Step

If you want to use the DSL for Teradata Utilities DA with COBOL/FS DA single-step conversions to generate COBOL programs that produce Teradata load files, you should be aware of the following special requirements:

- You must manually replace the `cobolfs_tgt_part_da` grammar on the `cobolfs_da` DAS object with the grammar `cobolfs_tla_tgt_part_da`.
- ETI suggests that you manually add additional DAS types to the `cobolfs_da` DAS object to avoid errors with retrieve schema. See the limitation “Unsupported Data Types produce errors with retrieval of Teradata schemas for COBOL/FS DA.” in section 5.3 for details.

### 2.3.1 If COBOL/FS DA is Loaded *Before* the DSL for Teradata Utilities DA

Loading the DSL for Teradata Utilities DA into a MetaStore which *already* contains an installation of COBOL/FS DA 4.2 requires no special installation instructions. Note that the following updates will automatically be applied to the following COBOL/FS DA objects:

- A new template library `cobolfs_tla_pop_da` will be attached to the `cobolfs_da` DAS object so that the populate step can generate Teradata load scripts.
- A new GEM `tla_cobolfs_filter_fcns_42` will be attached to the COBOL/FS DA target database, unit, and part grammars.
- New shell, batch, and JCL template libraries will be attached to the COBOL/FS DA shell and batch populate template definitions and the JCL populate scripts.

### 2.3.2 If COBOL/FS DA is Loaded *After* the DSL for Teradata Utilities DA

When the DSL for COBOL/FS DA is loaded into a MetaStore which *already* contains the DSL for Teradata Utilities DA, you will need to manually make the modifications to the following COBOL/FS DA objects:

- Attach the the template definition `cobolfs_tla_pop_da` to the `cobolfs_da` DAS object
- Attach the GEMs in the table below to the corresponding grammars; each GEM must be the *first* GEM attached (at the top of the list):

To the following grammar:	Attach the following as the <i>first</i> GEM:
<code>cobolfs_tgt_db_da</code>	<code>tla_cobolfs_filter_fcns_42</code>
<code>cobolfs_tgt_unit_da</code>	<code>tla_cobolfs_filter_fcns_42</code>
<code>cobolfs_tla_tgt_part_da</code>	<code>cobolfs_filter_fcns_42</code>

- Attach the following template libraries to the corresponding template definitions:

To the following template definition:	Attach the following template library:	Attach before:
cobolfs_bat_pop_exe_da	tla_cobolfs_bat_42	sh_cobolfs_42
cobolfs_bat_pop_std_da	tla_cobolfs_bat_42	sh_cobolfs_42
cobolfs_cbl_pop_da	tla_cobolfs_42	das_cobolfs_42
cobolfs_sh_pop_exe_da	tla_cobolfs_sh_42	sh_cobolfs_42
cobolfs_sh_pop_std_da	tla_cobolfs_sh_42	sh_cobolfs_42
jcl_pop_exe_da	tla_jcl_42	jcl_populate_42
jcl_pop_std_da	tla_jcl_42	jcl_populate_42
js_exe_da	tla_jcl_42	jcl_js_42
js_std_da	tla_jcl_42	jcl_js_42

## 3 IMPORTANT NOTICES

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### 3.1 Format Provided for Casting Dates to Character Strings

When you cast a date to a character string, the character string is automatically formatted to convert the date to the right format and length for your target string.

If you are upgrading from the DSL for SQL/Teradata DA 4.1, this requires all business rules casting a date to a character string to be replayed. See the documentation for the **ex\_replayBr** command in Appendix G: “Invoking ETI•EXTRACT Tools from the Command Line” of the *ETI Solution User’s Guide* for details.

### 3.2 ex\_fixFilters.pl Utility

Several filters have been modified to correct reported filter problems. You must run the **ex\_fixFilters.pl** utility to scan your conversion and fix these invalid filters. The **ex\_fixFilters.pl** utility is located in the MetaStore’s™ bin directory (for example, on UNIX the \$EXTRACT\_METASTORE/files/<MetaStore\_name>/bin directory) . Refer to the documentation for **ex\_fixFilters.pl** in Appendix B, “ETI Solution Administration Command Descriptions”, of the *ETI Solution Administration Guide* for description and usage. You should run this utility whenever you are migrating MetaStores that use any *relational* DA DSLs or upgrading DSLs. RELEASE 4.3.1 of the DSL for SQL/Teradata DA

### 3.3 Documentation Update: Information from Views Not Retrieved

The *DSL for SQL/Teradata 4.2.1 Release Notes* incorrectly stated “Information from views can now be retrieved using V2R5.” Teradata views *cannot* be retrieved using V2R5 or V2R6.

## 4 RELEASE 4.3.1 OF THE DSL FOR SQL/TERADATA DA

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### 4.1 Purpose

The DSL for SQL/Teradata DA provides various bug fixes and enhancements, as well as compatibility with the new DSL for Teradata Utilities DA release.

### 4.2 New Features in Release 4.3.1

The following new features are available with the DSL for SQL/Teradata DA DSL:

- Support for shell, batch, and JCL scripts to execute the conversion
- Support for Teradata V2R6

Please review the *ETI Data System Libraries for Teradata User's Guide* for additional details on the new functionality.

#### 4.2.1 Support for Shell, Batch, and JCL Scripts to Execute the Conversion

Previous versions of SQL/Teradata DA only generated the BTEQ scripts for the conversion. With this release, the DSL for SQL/Teradata DA now generates the supporting shell, batch, or JCL scripts to execute the conversion.

#### 4.2.2 Teradata V2R6

The DSL for SQL/Teradata DA now supports Teradata V2R6 as well as V2R5.

### 4.3 Limitations of This Release

- Derived tables are not currently supported.

For restrictions which apply to this release, please refer to the section “Restrictions Table” on page 2-2 of the *ETI Data System Libraries for Teradata User's Guide*.

## 5 RELEASE 4.3.1 OF THE DSL FOR TERADATA UTILITIES DA

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### 5.1 Purpose

This is the first release of the new DSL for Teradata Utilities DA. The DSL for Teradata Utilities provides the ability to automatically generate utilities for loading and unloading Teradata.

### 5.2 Features

- Support for Teradata utilities including:
  - FASTEXPORT
  - MULTILOAD
  - FASTLOAD
  - TPUMP

- Supports retrieving Teradata schemas for use with COBOL/FS DA
- Supports shell, batch, and JCL scripts to execute the conversion
- Support for Teradata V2R6

### **5.2.1 Support for Teradata Utilities**

With the DSL for Teradata Utilities DA, you have a single means of accessing all of the Teradata utilities (Fastload, Multiload, Fastexport, and TPUMP for real time access), regardless of platform. As new support is added for other utilities, you are insulated from the details while immediately benefiting from them.

### **5.2.2 Write Modes**

The following write modes are supported and provide access to the Teradata Utilities.

#### **5.2.2.1 delete\_then\_insert**

Deletes each target record processed based on record key value. Then adds records to a target database by inserting into it all records processed.

#### **5.2.2.2 replace\_record**

Replaces all records processed with the current data. This setting is normally used when the user is replacing existing records completely with the current data being processed. All records processed must already exist in the target database.

#### **5.2.2.3 update\_or\_insert**

Reads the current record by key in order to update the record with the data in the mapped parts. If the record key does not exist, inserts the current data. This setting is normally used when you are updating more records in a database rather than inserting new ones.

### **5.2.3 Retrieving Teradata Schemas for Use with COBOL/FS DA**

Using the DSL for Teradata Utilities DA, you can retrieve a Teradata schema input file for use as a COBOL/FS DA target database. See “Retrieving a Teradata Schema for Use with COBOL/FS DA or C/FS DA Single-Step Conversions” in Chapter 3 of the *ETI Data System Libraries for Teradata User’s Guide* for more information.

### **5.2.4 Support for Shell, Batch, and JCL Scripts to Execute the Conversion**

The DSL for Teradata Utilities DA generates the supporting shell, batch, or JCL scripts to execute the conversion.

When using the DSL for Teradata Utilities DA with COBOL/FS DA single-step, the shell, batch, or JCL scripts generated are to execute the COBOL/FS DA portion of the conversion. The user is responsible for the shell, batch, or JCL scripts for loading into Teradata.

### **5.2.5 Teradata V2R6**

The DSL for Teradata Utilities DA supports Teradata V2R6 as well as V2R5.

## **5.3 Limitations of This Release**

- While documented in the *ETI Data System Libraries for Teradata User’s Guide*, C/FS DA single-step is not yet supported with the DSL for Teradata Utilities DA 4.3 release. It will be supported in a future release.

- The DSL for Teradata Utilities DA does not currently support Teradata Warehouse Builder tools and utilities.
- Derived tables are not currently supported.
- Unsupported Data Types produce errors with retrieval of Teradata schemas for COBOL/FS DA.

When you select the option **Use Teradata Schema Input File** to retrieve a Teradata schema input file using the `cobolfs_da` DAS, the following unsupported Teradata types cause a retrieve schema error: `VARBYTE`, `TIME`, `TIMESTAMP`. To work around this error, you can add these DAS types to the `cobolfs_da` DAS with an EX type of `unknown`.

In addition, you can add the DAS type `UNKNOWN` with an EX type of `unknown` to avoid errors caused by a DAS type specified as '?' in the schema input file.

These additions are summarized in the table below:

DAS type	EX type
VARBYTE	unknown
TIME	unknown
TIMESTAMP	unknown
UNKNOWN	unknown

This workaround allows schemas with these DAS types to be successfully retrieved, however you will receive template generation warnings when you generate programs.

- The Teradata load scripts generated by COBOL/FS DA 4.2 do not set the environment variables for the Teradata load files. This will be fixed in a later release of COBOL/FS DA.

To work around this problem, *either*:

- Rename the Teradata load files to match the names specified in the Teradata load scripts.

For the example Teradata load script shown below, you would rename the Teradata load file to be `abcquery0aa.load`.

*OR*

- Prior to running the COBOL/FS DA script, set the `LOADn` environment variable, where *n* is the Teradata table number starting at 1, to the corresponding input file name specified in the Teradata load script.

For the example Teradata load script shown below, the name of the input file for the first table is `abcquery0aa.load`, so you would set the first environment variable **LOAD1** to this value.

**Example:** A portion of a Teradata load script with the load file name highlighted is shown below:

```
.BEGIN IMPORT MLOAD
  TABLES db_ges_dte.SRC_STUDENT
  WORKTABLES db_ges_dte.WT_SRC_STUDENT
  ERRORTABLES db_ges_dte.OTHR_SRC_STUDENT
              db_ges_dte.DUPS_SRC_STUDENT
  AMPCHECK NONE;

.LAYOUT layout_srcstdnt;
.FIELD STUDENT_ID * CHAR(6) NULLIF STUDENT_ID = ' ';
.DML LABEL I_srcstdnt;
```

```
INSERT INTO db_ges_dte.SRC_STUDENT
  (STUDENT_ID)
VALUES
  (:STUDENT_ID);
. IMPORT INFILE abcquery0aa.load ← Name of the load file
  FORMAT TEXT
  LAYOUT layout_srcstdnt
  APPLY I_srcstdnt;
.END MLOAD;
```

For restrictions which apply to this release, please refer to the section “Restrictions Table” on page 2-2 of the *ETI Data System Libraries for Teradata User’s Guide*.