



Trillium Software® System

Release Notes

Version 16.0

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Preface

This document describes the enhancements incorporated into the Version 16.0.0 release of Trillium DQ, referred to as Trillium Software® System, along with important information about installations, documentation, and troubleshooting.

This document is a general reference for Trillium DQ, which includes Trillium Quality, Trillium Discovery, and Trillium Quality in real time.

For information about releases from Trillium Quality for Big Data, Trillium Discovery for Big Data, and Trillium Quality for Dynamics, see the individual release notes for those solutions available from MySupport. For information on accessing the latest documentation online, see [TSS Documentation on page 20](#).

Intended Audience

This document is intended for new and existing TSS customers who want to learn more about the latest versions of the software.

Trillium Resources

For a comprehensive resource library of Trillium white papers, case studies, solution overviews, webcasts, education webinars, and related information, visit the [Syncsort website](#).

General Contact Information

Email	info@syncsort.com
Tel	+1 (978) 436-8900

Customer Support

Trillium Customer Support is available Monday through Friday, 24 hours a day, to help you with any questions you may have about the Trillium Software System. This service is available to all customers who have active Trillium maintenance plans.

Email	■ support@syncsort.com
Tel	■ 978-901-0000 (Worldwide Headquarters) ■ +44 (0) 118 940 7676 (European Headquarters)

Education Services

A variety of training is available on Trillium Software System:

- Classroom-based training at your location
- Online training
- Recorded webinars

For more information about selecting courses, requesting in-person training sessions, and to view webinars, visit the [Syncsort University website](#).

Trillium Consulting

Trillium offers comprehensive and expedient technical consulting services that include:

- **Advisory Services:** Accelerate implementation, adoption, and ensure rapid time-to-value, with our best-practice guidance and sustainable data quality and data governance processes.
- **Implementation Services:** Drive ongoing data quality improvement with a proven approach that blends our methodology, technology, and expertise.
- **Customized Solutions:** Improve customer and reference data, and design and implement sustainable data governance processes.

To inquire about consulting services, visit the [Syncsort Resource Center](#).

CHAPTER 1

Installation Information

TSS v16.0 includes full 64-bit support for the Trillium DQ solution, including Trillium Quality and Trillium Discovery (profiling) data processing.

This chapter describes important information about this release of TSS, including information about platform support, guidelines for existing TSS customers, and details about the software installation package.

The chapter includes the following sections:

- [Platform Support on page 7](#)
- [Guidelines for Existing Customers on page 8](#)
- [Trillium Installation Package on page 9](#)

Platform Support

TSS v16.0 includes 64-bit processing support for Linux systems only. The TSS 64-bit server software, the 64-bit Trillium Quality EDQ core, and TS Quality Real-Time software are not available on Windows. Support for Windows will be available in a later v16 release.

Note the following:

- As of TSS v16.0, Windows 7 and Windows Server 2008 are no longer supported for Control Center.
- Because the server will be installed on Linux, it is recommended that you do not install Global Address Verification (GAV) tables on Windows systems for this release as it may affect performance.
- Country Templates are available for installation on Linux systems only.
- The AIX platform is not supported for this release.
- As of v15.8, Sun Solaris is no longer supported. TSS v15.7 is the last release to support Sun Solaris.

Guidelines for Existing Customers

Upgrades to existing TSS software is not available for TSS v16.0. If you currently have TSS installed in your environment, before you install TSS v16.0, note the following guidelines:

- If you have an earlier version of TSS installed on your Linux system and you plan to install the v16.0 repository server and/or 64-bit Trillium Quality EDQ core side-by-side on the same system, ensure you use different installation directories and port numbers. Different versions of TSS cannot share these configurations on the same system.
- Migrating or converting existing repositories to v16.0 is not supported. Therefore, you cannot use a pre-v16.0 version of a Trillium repository with v16.0. After you install v16.0, you must create new repositories, data/loader connections, and data sources/entities.

① *Repository migration support will be available in a later v16 release.*

- To use existing Trillium Quality projects in v16.0, export them from any TSS server (including those on a Windows platform), import them into TSS v16.0, run them using the latest software, then export to your batch or real-time environments. This ensures the projects are properly configured for 64-bit processing, use the Trillium Quality 64-bit core components, and are deployed to a 64-bit environment.

① *For information, see the Control Center help topic [About Exporting/Importing Projects](#). For Library projects, see the help topic [Exporting and Importing Library Projects](#).*

- To use existing business rules in v16.0, load your data sources into v16.0, then, from the earlier TSS version export the Library Entity .ebr file (Control Center) or Rule Set .xml file (Discovery Center) that contains the rules and import them into v16.0.

① *For information about rule export and import in Control Center, see the Control Center help topic [Exporting and Importing Library Entities](#). When working in Discovery Center, see the Discovery Center help topics [Exporting Rule Sets](#) and [Importing Rule Sets](#).*

- Different major TSS versions (for example, v15.0 and v16.0) of the Control Center and Batch Deployment Tool (BDT) client applications can reside side-by-side on the same Windows system. (You cannot install minor versions side-by-side on Windows; for example, 15.7.0 and 15.7.4.)
- TSS 16.0 versions of the TSS 32-bit ODBC reporting adapter, 64-bit reporting adapter, and the 64-bit OLE DB provider applications cannot be installed on the same system or systems as earlier versions of the same applications. Ensure you install the v16.0 version of these applications on a different system or systems.

- If you have previously modified configuration files (such as `config.txt` and `gaserver.ini`) in your existing TSS software, copy those changes you want to use in v16.0 manually into the new v16.0 versions of the files. Do *not* replace the new files with the old files because important and required settings information will be missing.
- ① *Trillium will continue to support TSS v14.x.x until a software upgrade process and repository migration solution for v16 is available, at which time TSS v14.x.x versions will be deprecated.*

Trillium Installation Package

The TSS installation packages are available as downloads from the TSS File Portal FTP site. Table 1-1 describes the naming conventions and configurations for the TSS v16.0 installation package available to you, depending on the license you purchased.

- For v16.0, the Trillium Discovery profiling software is unavailable as a standalone installation. Trillium Discovery is available when you install the repository server, which includes Trillium Quality and Trillium Discovery functionality.
- For information about Trillium Big Data installations, see the separate release notes and installation guides available for the Trillium Discovery for Big Data and Trillium Quality for Big Data solutions.
- To install Trillium Software System, see the *TSS Installation Guide* PDF for guidelines and procedures. The PDF is installed with the Control Center client, and also available as follows:
 - On the Syncsort MySupport Customer Service Portal (see [Accessing Documentation on page 21](#)).
 - On the TSS file portal FTP website, in the Documentation folder.

① The software posted on the FTP site is subject to change.

Table 1-1 TSS Installation Package Delivery

FTP Directory	Contents
Linux	<p>Includes the following install packages.</p> <p>Linux_Rep_Server_16.0.0.zip file contains the following:</p> <ul style="list-style-type: none"> ■ Repository Server executable tss_server_16.0.0.build#_linux.sh ■ Trillium Quality EDQ 64-bit and, for Trillium DQ Enterprise customers with a product code, TS Quality for Real Time functionality: tss_edq_16.0.0.build#.xx_linux.bin ■ Batch Deployment Tool (BDT) executable: tss_bdt_16.0.0.build#_linux.sh ■ Country Templates executable: tss_ct_16.0.0.build#_linux.bin <p>Windows_Control_Center_Client_16.0.0.zip file contains the following:</p> <ul style="list-style-type: none"> ■ Batch Deployment Tool executable: tss_bdt_16.0.0.build#_win.exe ■ Control Center client executable: tss_client_16.0.0.build#_win.exe ■ OLEDB64 Reporting Adapter executable: tss_oledb64_16.0.0.build#_win.exe ① <i>The 32-bit version of the OLE DB TS Reporting Adapter is installed automatically when you install the Control Center.</i> ■ ODBC 32-bit Reporting Adapter software: tss_Odb32_16.0.0.zip ■ ODBC 64-bit Reporting Adapter software: tss_Odb64_16.0.0.zip <p>TSS_Vendor_ODBC_Adapter_16.0.0.zip file contains the following ODBC Vendor-Supplied Adapter files:</p> <ul style="list-style-type: none"> ■ 0x0409.ini ■ Data1.cab ■ Setup.ini ■ TSS 16 - Vendor ODBC Setup (x64).msi ■ tss_odbc_16.0.0.build#_win.exe
Documentation	<p>PDFs of manuals and bulletins to help you install the software, including:</p> <ul style="list-style-type: none"> ■ TSS Install Guide ■ TSS Release Notes ■ TSS Technical Requirements <p>Additional documents and online help are installed with the software and available from the Syncsort website.</p>

CHAPTER 2

Important Changes

TSS v16.0 includes full 64-bit support for Trillium Quality and Trillium Discovery (profiling) data processing. All processing through the TSS repository server is 64-bit compatible. 32-bit processing is not supported.

This chapter describes changes made to TSS throughout the v15.x.x release cycle to support the 64-bit data processing fully supported in v16. This chapter is recommended for existing customers and includes the following sections:

- [Deprecated Applications on page 11](#)
- [64-Bit Data Processing on page 12](#)
- [Trillium Global Address Verification Tables on page 13](#)
- [Trillium Director Clients on page 14](#)
- [Scripts and Variables on page 14](#)
- [TSS Installation on page 15](#)

① *TSS v15.7 is the last release to support 32-bit processing.*

Deprecated Applications

TSS v15.7.x (unless otherwise noted) is the last release to support the following applications:



As of TSS v16.0, Windows 7 and Windows Server 2008 are no longer supported for Control Center.

- 32-bit Trillium-Supplied ODBC loader connections. Trillium-Supplied ODBC connections now support accessing data sources residing in 64-bit databases.
- Excel sample templates for the Trillium Reporting Adapters.
- TS Case Management.

- Enterprise Connectivity Solutions (ECS), the 32-bit implementation of Trillium Director, along with the 32-bit Director applications TS Connector for Siebel, TS Director SDK, and Director Monitor.
 - ① *64-bit versions of TS Web Services (TSI) and Director SDK are available when you install EDQ 64-bit. The Trillium Director SOAP web service is installed with EDQ 64-bit.*
- TS Director XML-Over-HTTP.
- TS Director IIS .Net Web Services.
- Trillium Postal Download Web Service. The current implementation of this automated download service (introduced in v15.7) is deprecated as of TSS v15.8 and cannot be used to track and download Global Address Verification (GAV) tables and Geocoder (latitude and longitude) tables. Instead, use the TSS File Portal FTP website, which allows you to manually download tables and related files.
- As of v15.7, TS Quality for Hadoop is discontinued. To work with your data quality projects in Hadoop, use Trillium Quality for Big Data. Trillium Quality for Big Data is a Hadoop extension of Trillium Quality and is integrated with Syncsort Connect for Big Data (DMX-h) to provide a highly scalable, high-performance implementation of data cleansing and matching services within the Hadoop environment.
- HP-UX Itanium. As of TSS v15.4, HP-UX Itanium systems are no longer supported. TSS v15.3 was the last release to support HP-UX.
- Trillium Precise, the JSON-based web service, is no longer available for use in any Trillium release.

64-Bit Data Processing

This section includes information about how TSS processes 64-bit data and guidelines for customers with existing versions of TSS that support only 32-bit data processing:

- All Trillium Quality projects in the Control Center are deployed to a 64-bit environment. There are no longer options to deploy to 32-bit and 64-bit.
- Control Center remains a 32-bit application, but utilizes the 64-bit repository server processing capabilities.
- After you install TSS v16.0, to use existing projects, export them from the pre-v16.0 version of TSS (from any TSS server system), import them into TSS v16.0, rerun the projects in the Control Center, and export to your batch or real-time environments. This ensures the projects are properly configured for the 64-bit changes, use the Trillium Quality 64-bit core components, and are deployed to a 64-bit environment.
- If you have an existing 32-bit SDK client application developed with a pre-v15.8 TSS version, re-compile it for 64-bit processing. For the 64-

bit Director API, only C# and Java are supported. C / C++ are no longer supported.

- ODBC Trillium-Supplied drivers are now 64-bit enabled. Use these drivers with the ODBC Trillium-Supplied data (loader) connections to connect to data sources in 64-bit enabled databases. The drivers are installed with the TSS server software. If you have previously configured ODBC drivers in your environment, note the following:
 - On Linux, entries in `.odbc.ini` need to be updated with information about the specific database you want your data/loader connections to point to.
- ① *If you create a 64-bit DSN with the name of an existing 32-bit DSN, then you do not need to modify the name of that DSN in the `.odbc.ini` file.*
- If you use the ODBC Trillium-Supplied drivers with a database server client component, after installing TSS v16.0, ensure you install the 64-bit version of the client component.
- Driver/connection support is no longer available for the following databases:
 - Btrieve, Pervasive SQL
 - dBASE, FoxPro, and Clipper
 - XML (tabular/hierarchical format)
- Prior to v15.8, two instances of Apache Tomcat were needed when you used both 32-bit TS Director and 64-bit EDQ. Now one 64-bit instance of Apache Tomcat, installed with Trillium Quality 64-bit EDQ, is needed to support the 64-bit Trillium Quality core modules and web services for TSI and Trillium Director. Ensure all services that reference Tomcat point to the 64-bit Tomcat location: `...install_path/tsq/Software/apache-tomcat-8.5.32`

Trillium Global Address Verification Tables

GAV tables (previously called postal tables or postal directories) are enabled for 64-bit, UTF-8 character encoding. Tables using any other encoding mechanism, including 32-bit tables, are not compatible with TSS v16.0 Postal Matchers.

Note the following:

- By default, all GAV and Geocoder tables and files are installed in the `.../tables` directory in the TSS server installation path. The 64-bit, UTF-8 tables are installed in the `postal_tables` sub-directory. The `postal_utf8` directory is no longer created.
- Ensure the 64-bit GAV tables reside in 64-bit tables directory. The default location on Linux is `.install_path/tsq/tables`

- Due to the TSS repository server install supported on Linux only, it is recommended that you do not install GAV tables on Windows systems as doing so may affect performance.

Trillium Director Clients

Enterprise Connectivity Solution (ECS), the 32-bit implementation of Trillium Director, is no longer supported. The following Trillium Director (real-time) applications are now 64-bit enabled and installed with the TSS Control Center / client software:

- Director System Manager - A graphical user interface that allows you to control Director cleansing and matching.
- Project Rule Analyzer - A tool that allows you to test cleansing and matching rules and logic.
- Web Service Manager - A web service test tool that allows you to send REST and SOAP requests for cleansing and matching services using Trillium Server Interface (TSI).

Scripts and Variables

Note the following changes and guidelines for TSS scripts and variables:

- The `TS_QUALITY` environment variable now points to the 64-bit directories. Previously this variable pointed to the 32-bit location. The `TS_QUALITY_64` variable is no longer supported.
- Prior to v15.8, there were two project scripts to support deployments to both 32-bit and 64-bit environments. Now there is one script named `runprojectN.sh` used for all deployments. The `runprojectN_64.sh` script is no longer used.
- The 32-bit batch script configuration file, `Config_batch.tbl`, is no longer supported. The `Config64.tbl` configuration file is now used for all processing.
- Confirm the library path environment variable includes the correct path to the `TGenClient.a`, `libtrilTGenClientLibrary.so`, and `libtsi.so`. By default, on Linux this is `install_path/tsq/Software/bin/`

TSS Installation

Note the following information about how TSS software is installed:

- The 64-bit Trillium Quality EDQ core files are installed in the `.install_path/tsq/` EDQ default install location:
 - The `/tsq` directory contains the following directories:
 - `_uninst`
 - `DataAdapter`
 - `DataDirect`
 - `Legacy`
 - `logs`
 - `projects`
 - `Software`
 - `tables`
 - `Templates`
 - The `/tsq/Software` directory contains the following sub-directories:
 - `apache-tomcat-8.5.32`
 - `bin`
 - `conf`
 - `docs`
 - `encodings`
 - `lib`
 - `samples`
 - `schemas`
 - `xslt`
- The Batch Deployment Tool (BDT) is now 64-bit enabled and installed in the following 64-bit directory:
`C:\Program Files\Trillium Software\BDT\16\` (Previously the path was `C:\Program Files (x86)\Trillium Software\BDT\version\`)

- The following real-time applications are installed with the Trillium Quality EDQ 64-bit software depending on your product key:
 - TS Web Services, which enables Trillium Quality processing through REST and SOAP requests to the Apache Tomcat web server using Trillium Server Interface (TSI).
 - Director SDK, which enables Trillium Quality processing through a Director client.
 - TS Quality for SAP, which installs Trillium for SAP, enabling Trillium Quality integration with the SAP NetWeaver RFC client.

CHAPTER 3

TSS v16.0 Enhancements

This chapter describes the enhancements for Trillium DQ v16.0:

- [Trillium DQ for Big Data on page 17](#)
- [Trillium Software System on page 19](#)

Trillium DQ for Big Data

The Trillium DQ for Big Data solution includes the Trillium Quality for Big Data and Trillium Discovery for Big Data products. Trillium DQ for Big Data v16.0 is integrated with Trillium Quality and Trillium Discovery, and includes the features and enhancements described in this section.

- ① *Trillium DQ for Big Data is available under a separate license and requires separate product installations.*

Trillium Discovery for Big Data

Trillium Discovery for Big Data, a data profiling solution for Big Data, allows you to profile large data sets in your Hadoop Distributed File System (HDFS). Integrated with Syncsort Connect for Big Data (DMX-h), Trillium Discovery for Big Data provides standard data profiling such as column/key and business rule analysis run against Hadoop data sources.

Use Discovery Center to add HDFS data sources (using HDFS data connections added in the Administration Center), run business rule analysis, and view profiling and analysis results.

You install Trillium Discovery for Big Data as a separate solution. For more information about installing and using the product, see the *Trillium Discovery for Big Data Installation Guide*.

Trillium Discovery for Big Data v16.0 has been enhanced with the following functionality:

- **Integration with Quality.** Trillium Discovery for Big Data is now integrated with Trillium Software System and Trillium Quality for Big Data. You can now create a Quality project in the Control Center for HDFS data sources, profile the project in Trillium Discovery for Big Data, and then deploy and run cleansing and matching in Trillium Quality for Big Data.
- **Business Rules Performance.** Performance of running business rules against HDFS data sources is improved.

Trillium Quality for Big Data

Trillium Quality for Big Data is a Hadoop extension of Trillium Quality. Trillium Quality for Big Data integrates Trillium's data quality application with Syncsort Connect for Big Data (DMX-h) to provide a highly scalable, high-performance implementation of data cleansing and matching services within the Hadoop environment.

With Trillium Quality for Big Data, you create a Quality project in the Control Center for HDFS data sources then deploy and run cleansing and matching in your Hadoop environment. Use the Administration Center to add HDFS data connections. This allows you to profile your data set in a Big Data environment.

The screenshot shows the 'Add Data Connection' form in the Administration Center. The title bar indicates 'Data Connection: HDFS_DelimitedQA' and a 'Required field' note. The form is divided into several sections:

- Name:** HDFS_DelimitedQA
- Enabled:** ☒
- Data Connection Id:** 6
- NameNode Address:** * (Required field) hdfs://cdh5-02-master.syncdi1.us.syncsort.com:8020
- Data Connection Type:** HDFS Delimited
- Description:** * hdfs delimited connection
- Data Directory:** */user/tssadmin/HDFS-DelimitedQA
- Schema Directory:** */user/tssadmin/HDFS-DelimitedQA
- Data Extensions:** csv txt
- Schema Extensions:** ddl ddx
- Default Filter:** (Empty field)
- Access:** ☒ All ☐ Selected [Edit Access List](#)

 At the bottom right are 'Save' and 'Done' buttons.

Figure 3-1 Adding HDFS Data Connection in Administration Center

You install Trillium Quality for Big Data as a separate solution. For more information about installing and using the product, see the *Trillium Quality for Big Data Installation Guide*.

Trillium Quality for Big Data v16.0 has been enhanced to integrate with Trillium Quality and Trillium Discovery for Big Data. You can now profile a Quality project for HDFS data sources in Trillium Discovery for Big Data before deploying to the Hadoop environment, and then import and re-profile the project for evaluation after performing data quality.

Trillium Software System

TSS v16.0 includes these enhancements.

TSS Integration with Big Data

Trillium Software System is now fully integrated with the Trillium DQ for Big Data products, enabling you to perform data profiling and data quality tasks for HDFS data sources in the Hadoop environment within the same Trillium Version 16 product suite.

You create a Quality project for HDFS data sources in the Control Center, and then cleanse, match, export, and import the big data project.

From Discovery Center, you load HDFS data sources, add business rules, and run data analysis and profiling in your big data environment.

TSS ODBC Linux 64-bit Drivers

The built-in TSS ODBC (Trillium-supplied) drivers have been upgraded to include the latest Linux 64-bit database versions for Apache Hive, Microsoft SQL Server, Oracle, and Salesforce. For detailed information, see the *TSS Repository Administration Guide* or the Administration Center help.

CHAPTER 4

TSS Documentation

This chapter includes information about the documentation available and how to access it. This chapter includes the following sections:

- [TSS Documentation Set on page 20](#)
- [Accessing Documentation on page 21](#)

TSS Documentation Set

In addition to this document, see the following documents installed with software:

- *Control Center Help*. Task-based documentation that guides you through the steps of profiling and standardizing your data to support all your data quality initiatives.
- *TSS Installation Guide*. Describes procedures for installing Trillium Quality, the repository server, country templates, and the Control Center client.
- *TSS Repository Administrator's Guide*. Describes procedures for using the Repository Manager application to manage repositories, TSS users, data connections, and to perform other system tasks.
- *Administration Center Help*. Describes procedures for Discovery Center administrators to manage repositories, data connections, and web services.
- *Discovery Center Help*. Describes procedures for working with data sources, attributes, business rules, library rule sets, and other data profiling activities.
- *Trillium REST API Documentation*. Provides methods of accessing and manipulating repositories, entities (data sources), and business rules. Available from the Discovery Center online help.

Note the following:

- The online help systems support the following browsers:
 - Google Chrome
 - Firefox
 - Internet Explorer versions 10 and 11
 - Microsoft Edge

If you use a browser other than those listed to view the online help, certain formatting elements will not display correctly.

- If you find errors in this or any TSS documentation, have suggestions for additional topics, or have any other comments, please contact the Documentation team through Trillium Customer Support. See [Customer Support on page 6](#).
- The Administration Center and Discovery Center interfaces offer a full set of online documentation and contextual help. Most views, panels, and windows of the Administration Center and Discovery Center include a question mark icon (?). Click the icon for more information about the task or tasks that you can perform in the current view, panel, or window.

Accessing Documentation

The TSS documentation is available as follows:

- **Online.**
 - The latest technical documentation for each TSS release is posted and maintained on the [Syncsort MySupport Website](#). Manuals and technical bulletins are available as PDFs and can be downloaded from the website, which is constantly updated. Check the website occasionally to ensure you have the latest edition of a manual or technical bulletin. All customers with an active maintenance plan have access the documentation online.
 - Search for PDFs from the [Syncsort Knowledge Base](#).
- **From Control Center and Repository Manager.** The TSS Control Center Help, release notes, *TSS Repository Administrator's Guide*, *TSS Beyond the Basics*, and *the Trillium Reporting Adapter for Excel User's Guide* are accessible in the Control Center and Repository Manager by opening the Trillium Software System Documentation page:
 - Click the Help options icon (?) and select **Manuals**.
 - (Control Center only) From the Getting Start page under Helpful Links, click **View Documentation**.

- **From Administration Center.** To access the main Administration Center Online Help system:
 - Click **Help > Online Help**. The Help menu is always available regardless of which panel or page you are on.
 - Press the **F1** key to launch the Online Help at any time.
- **From Discovery Center.** To access the main Discovery Center Online Help system:
 - Click **Help > Online Help**. The Help menu is always available regardless of which panel or page you are on.
 - Press the **F1** key to launch the Online Help at any time.

CHAPTER 5

Troubleshooting

This chapter describes important troubleshooting workarounds. It includes the following sections:

- [Setting the LD_LIBRARY_PATH Variable when Exporting Quality Profiling Projects to Batch \(Linux\) on page 23](#)
- [Connecting DB2 Adapter to iSeries on page 24](#)
- [Discovery Center or Administration Center Does Not Open on page 25](#)

Setting the LD_LIBRARY_PATH Variable when Exporting Quality Profiling Projects to Batch (Linux)

Before you run a batch script for an exported project that contains Quality profiling processes, you must set the LD_LIBRARY_PATH environment variable to point to your system's libcore library directory.

This procedure applies to exported Quality projects that contain one or more of the following profiling processes:

- Business Rules
- Dependencies
- Keys
- Load

① *For more information about exporting projects that contain profiling processes, see the TSS Control Center Help: Develop > TS Quality Processes > Profiling Processes.*

Note the following:

- You must be a TSS repository or systems administrator to complete this procedure.
- Set the environment variable at any time before you export the project and run it in batch.

- This procedure permanently sets the LD_LIBRARY_PATH environment variable in your environment so that you do not have to set it each time you start a session.

► **To set the LD_LIBRARY_PATH on UNIX**

1. Open the .cshrc settings file, located in your home directory.

```
set path= ( /bin /usr/bin /usr/ucb /usr/local/bin /usr/sbin \
  /usr/dt/bin /opt/local/bin /usr/openwin/bin /usr/bin/X11 \
  /usr/ccs/bin /usr/sfw/bin \
  /tril09/qainstall/$OS/16/Software/bin \
  /tril09/qainstall/$OS/16/DataAdapter/bin \
  /oracle/product/10.2.0/client_1/bin \
  /app/oracle/product/11.2.0/client_1/bin \
  /oracle/OraHome_1/bin )

#set OS=`uname`

setenv TS_QUALITY /tril09/qainstall/$OS/16/Software
setenv TS_LANGUAGE en
setenv ORACLE_HOME /app/oracle/product/11.2.0/client_1
setenv LD_LIBRARY_PATH /usr/dt/lib:/usr/openwin/lib:/usr/lib:/usr/local/lib
/ucblib:/tril09/qainstall/$OS/16/Software/bin
```

Figure 5-1 .cshrc File Example

2. Add the LD_LIBRARY_PATH environment variable to the variable list.
3. Set it to point to Software/bin directory of your TSS installation. This is used as the libcore library directory.

For example, `setenv LD_LIBRARY_PATH ../../Linux/16/tsq/Software/bin`

4. Save the file.
5. Source the file by running the following command:

```
source .cshrc
```

Connecting DB2 Adapter to iSeries

When adding DB2 data connections to iSeries DB2 platform (AS/400), for the connection to your repository to be properly configured, you must modify the TSS `config.txt` file by adding the entry **value iseries 1** to the end of the key `rdbms` section. For example:

```
key rdbms {
  value uncommitted_read "off"
  value records_read 100
  value records_read_odbc 1
  value iseries 1
}
```


Make this change either before or after you add the loader connection in the Repository Manager, but use the connection only after the change.

The `config.txt` file is located in the server install directory on your TSS server system. On Linux this directory is `install_path/metabase/etc`.

Discovery Center or Administration Center Does Not Open

Problem

Logging in to the Discovery Center or Administration Center fails with a message telling you the page cannot be displayed.

Solution

On the TSS server system, start the TSS 16 Rest APIs service and try logging in again.

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