Ascential **DataStage™**

Installation and Configuration Guide for Supplemental Stages

Version 1.1

Ascential Software

Part No. 00D-TB035
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How to Use This Guide

This technical bulletin describes general information about installation and configuration applicable to all supplemental stages. It also documents the platforms supported by each stage, as applicable. Version 1.1 is compatible with Ascential DataStage Release 7.5.1.

Audience

This guide is intended for DataStage designers who create or modify jobs that use any of the DataStage supplemental stages.

How This Book is Organized

The following table lists topics that may be of interest to you and it provides links to these topics.

To learn about	Read...
Configuration requirements	"Configuration Requirements" on page 1
Supported database releases	"Supported Database Releases" on page 3
Configuring the environment	"Configuring the Environment" on page 16
Installation	"Installing a Supplemental Stage" on page 21
Accessing a supplemental stage	"Accessing a Supplemental Stage" on page 24
Reject row handling	"Reject Row Handling" on page 26
Relationships to the Enterprise Edition	"Supplemental Stages and the Parallel Canvas" on page 26

Related Documentation

To learn more about documentation from other Ascential products as they relate to the *Supplemental Stages Installation and Configuration Guide*, refer to the following sections/tables.

Ascential Software Documentation

Guide	Description
Ascential DataStage Install and Upgrade Guide	General information about configuration requirements
Ascential DataStage Server Job Developer's Guide	Instructions for using a stage in a DataStage job
Ascential DataStage Designer Guide	General principles for designing jobs

Conventions

Convention	Used for...
bold	Field names, button names, menu items, and keystrokes. Also used to indicate filenames, and window and dialog box names.
user input	Information that you need to enter as is.
code	Code examples
variable or <variable>	Placeholders for information that you need to enter. Do not type the greater-/less-than brackets as part of the variable.
>	Indicators used to separate menu options, such as: **Start >Programs >Ascential DataStage**
[A]	Options in command syntax. Do not type the brackets as part of the option.
B...	Elements that can repeat.
A|B	Indicator used to separate mutually-exclusive elements.
{}	Indicator used to identify sets of choices.

Contacting Support

To reach Customer Care, please refer to the information below:

Call toll-free: 1-866-INFONOW (1-866-463-6669)

Email: support@ascentialsoftware.com

Ascential Developer Net: http://developernet.ascential.com

Ascential eService: http://www.ascential.com/eservice

Please consult your support agreement for the location and availability of customer support personnel.

To find the location and telephone number of the nearest Ascential Software office outside of North America, please visit the Ascential Software Corporation website at http://www.ascentialsoftware.com.

Contents

Introduction

Supplemental stages are specialized packages that allow you to connect to specific databases or perform other special functions. This technical bulletin, updated in conjunction with Ascential DataStage Release 7.5.1, describes configuration and installation requirements for the supplemental stages that are provided with DataStage.

Configuration Requirements

Any supplemental stage requires the installation of Ascential DataStage on the DataStage client and server machines. The current versions of the supplemental stages are compatible with Release 7.5.1 of DataStage. For additional information about DataStage configuration requirements, see *Ascential DataStage Install and Upgrade Guide*.

Table 1 specifies the names of the supplemental stages provided with Ascential DataStage and the current release number of each. It also contains the names of the operating systems on which each supplemental stage runs. The term Windows is used to represent the following:

- Windows 2000
- Windows Server 2003

Table 1 Supplemental Stage Release and Platform

Supplemental Stage	Current Release	Operating System Platform
Command Stage	1.0	Windows
Complex Flat File	2.0	Windows UNIX
DataStage TX Map	1.0.1	Windows UNIX
DB2/UDB API	1.2	Windows UNIX
DB2/UDB Load	2.1	Windows UNIX
Dynamic Relational Stage	1.0	Windows UNIX

Table 1 Supplemental Stage Release and Platform (Continued)

Supplemental Stage	Current Release	Operating System Platform
FTP Plug-In	2.3	Windows Unix
Informix CLI	1.3	Windows UNIX
Informix Load	2.1	Windows UNIX
Informix XPS Load	1.2	Windows UNIX
Merge	1.2	Windows UNIX
MS OLEDB	2.0	Windows
MS SQL Server Load	1.0	Windows
Oracle Express Load	1.0	Windows
Oracle OCI[1]	1.1	Windows UNIX
Oracle OCI 8i	5.1	Windows UNIX
Oracle OCI Load	1.0	Windows UNIX
Pivot	1.0	Windows UNIX
RedBrick Load	1.3	Windows UNIX
Row Merger	1.0	Windows UNIX
Row Splitter	1.0	Windows UNIX
Sort	1.2	Windows UNIX
Stored Procedure Stage	2.0	Windows UNIX
Sybase IQ12 Load	1.2	Windows UNIX

Table 1 Supplemental Stage Release and Platform (Continued)

Supplemental Stage	Current Release	Operating System Platform
Sybase OC	2.1	Windows UNIX
Teradata API	1.2	Windows UNIX
Teradata Load	1.5	Windows UNIX
Teradata MultiLoad	1.2	Windows UNIX
WebSphere MQ	2.0	Windows UNIX

1 In prior releases, the Oracle OCI stage was known as the Oracle OCI 9i stage.

For additional information about configuration requirements, see *Ascential DataStage Install and Upgrade Guide*. For the latest information about the current Ascential DataStage release, including supplemental stages, see the readme.txt file for your platform.

Where applicable, before installing a supplemental stage, consult the documentation for its associated database for any specific configuration requirements.

You are asked to select the supplemental stages you want to install during the installation of Ascential DataStage. But you can install them at any time. If an update to a supplemental stage is available, you can download it from the e-Service web site at the following address:

http://www.ascentialsoftware.com:8080/eservice/index.html

You need a valid product serial number and a password to access this site. Call Ascential Technical Support at 866.INFONOW (866.463.6999) if you have questions.

For any specific configuration requirements, see the appropriate supplemental stage chapter.

Supported Database Releases

Many of the Ascential DataStage supplemental stages provide access to databases to extract or load data. These supplemental stages are compatible with specific releases of the database software.

Important Ascential DataStage is a 32-bit application. If you are running in a 64-bit environment, you must ensure any database clients you use are also 32 bit. For example, Oracle 9*i* is available with both 32- and 64-bit clients. You must use the 32-bit client with DataStage.

The following sections contain tables that provide the supported software releases for each database for both Windows and the various UNIX platforms.

- See Table 2 on page 5 for database information pertaining to the majority of the supplemental stages.
- See Table 3 on page 10 for database information pertaining to DataStage TX Map.
- See Table 4 on page 13 for database information pertaining to Dynamic Relational Stage.
- See Table 5 on page 15 for database information pertaining to the Stored Procedure stage.

Supported Database Releases for Most Supplemental Stages

Table 2 provides database information for all supplemental stages except DataStage TX Map, and Dynamic Relational Stage, and Stored Procedure Stage.

Table 2 Supported Database Releases

Supplemental Stage	All Windows	Solaris 2.8/2.9/10	AIX 5.1/5.2	HP-UX 11.11/11.23pi	Compaq Tru64 5.1a/5.1b	RedHat Linux Advanced Server 3.0/ SUSE LINUX Enterprise Server 9
Command Stage	Not applicable	Not supported	Not supported	Not supported	Not supported	Not supported
Complex Flat File	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
DataStage TX Map	See Table 3 on page 10	See Table 3 on page 10	See Table 3 on page 10	See Table 3 on page 10	Not supported	See Table 3 on page 10
DB2/UDB API	DB2 UDB 8.1 or 8.2	DB2 UDB 8.1 or 8.2	DB2 UDB 8.1 or 8.2	DB2 UDB 8.1 or 8.2	Not supported	DB2 UDB 8.1.5 or 8.2
DB2/UDB Load	DB2 UDB 8.1 or 8.2	DB2 UDB 8.1 or 8.2	DB2 UDB 8.1 or 8.2	DB2 UDB 8.1 or 8.2	Not supported	DB2 UDB 8.1.5 or 8.2
Dynamic Relational Stage[1]	See Table 4 on page 13	See Table 4 on page 13	See Table 4 on page 13	See Table 4 on page 13	See Table 4 on page 13	See Table 4 on page 13
FTP Plug-In	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
Informix CLI	Informix Client SDK 2.7; Informix Dynamic Server database 9.4	Informix Client SDK 2.7; Informix Dynamic Server database 9.4	Informix Client SDK 2.8; Informix Dynamic Server database 9.4	Informix Client SDK 2.8; Informix Dynamic Server database 9.4	Informix Client SDK 2.7; Informix Dynamic Server database 9.4	Informix Client SDK 2.8.1; Informix Dynamic Server database 9.4

Table 2 Supported Database Releases (Continued)

Supplemental Stage	All Windows	Solaris 2.8/2.9/10	AIX 5.1/5.2	HP-UX 11.11/11.23pi	Compaq Tru64 5.1a/5.1b	RedHat Linux Advanced Server 3.0/ SUSE LINUX Enterprise Server 9
Informix Load	No special requirements; Manual mode only	No special requirements; Manual mode only	No special requirements; Manual mode only	No special requirements; Manual mode only	No special requirements; Manual mode only	No special requirements; Manual mode only
Informix XPS Load	No special requirements; Manual mode only	Informix Client SDK 2.7; Informix XPS database 8.5	Informix Client SDK 2.8; Informix XPS database 8.5	Informix Client SDK 2.8; Informix XPS database 8.5	Informix Client SDK 2.7; Informix XPS database 8.5	No special requirements; Manual mode only
Merge	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
MS OLEDB	MDAC SDK 2.6	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
MS SQL Server Load	MDAC SDK 2.6; SQL Server 2000	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
Oracle Express Load	Oracle Express 6.2.0	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable

Table 2 Supported Database Releases (Continued)

Supplemental Stage	All Windows	Solaris 2.8/2.9/10	AIX 5.1/5.2	HP-UX 11.11/11.23pi	Compaq Tru64 5.1a/5.1b	RedHat Linux Advanced Server 3.0/ SUSE LINUX Enterprise Server 9
Oracle OCI	Oracle Client 9.2 or 10*g*; Oracle Server 9.2 or10*g*	Oracle Client 9.2 or 10*g*; Oracle Server 9.2 or10*g*	Oracle Client 9.2 or 10*g*; Oracle Server 9.2 or 10*g* Note: Built on AIX 5.1 64-bit system; Requires 32-bit client libraries to connect to database	Oracle Client 9.2 or 10*g*; Oracle Server 9.2 or 10*g* Note: Built on HP-UX 64-bit system; Requires 32-bit client libraries to connect to database	Oracle Client 9.2 or 10*g*; Oracle Server 9.2 or10*g*	Oracle Client 9.2 or 10*g* Oracle Server 9.2or 10*g*
Oracle OCI 8*i*	Oracle Client 8.1.7; Oracle Server 8.1.7	Oracle Client 8.1.7; Oracle Server 8.1.7	Oracle Client 8.1.7; Oracle Server 8.1.7	Oracle Client 8.1.7; Oracle Server 8.1.7	Oracle Client 8.1.7; Oracle Server 8.1.7	Not supported

Table 2 Supported Database Releases (Continued)

Supplemental Stage	All Windows	Solaris 2.8/2.9/10	AIX 5.1/5.2	HP-UX 11.11/11.23pi	Compaq Tru64 5.1a/5.1b	RedHat Linux Advanced Server 3.0/ SUSE LINUX Enterprise Server 9
Oracle OCI Load	Oracle Client 8.1.7, 9.2, or 10*g*; Oracle Server 8.1.7, 9.2, or 10*g*	Oracle Client 8.1.7, 9.2, or 10*g*; Oracle Server 8.1.7, 9.2, or 10*g*	Oracle Client 8.1.7, 9.2, or 10*g*; Oracle Server 8.1.7, 9.2, or 10*g* Note: Built on AIX 5.1 64-bit system; Requires 32-bit client libraries to connect to database	Oracle Client 8.1.7, 9.2, or 10*g*; Oracle Server 8.1.7, 9.2, or 10*g* Note: Built on AIX 5.1 64-bit system; Requires 32-bit client libraries to connect to database	Oracle Client 8.1.7, 9.2, or 10*g*; Oracle Server 8.1.7, 9.2, or 10*g*	Oracle Client 9.2 or 10*g*; Oracle Server 9.2 or 10*g*
Pivot	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
RedBrick Load	Red Brick 6.3	Red Brick 6.3	Red Brick 6.3	Red Brick 6.3	Red Brick 6.3	Red Brick 6.3
Row Merger	Not applicable	Not applicable	Not applicable Note: Runs only on AIX 5.1 or 5.2	Not applicable Note: Runs only on HP-UX 11.11	Not supported	Not applicable
Row Splitter	Not applicable	Not applicable	Not applicable Note: Runs only on AIX 5.2 or 5.3	Not applicable Note: Runs only on HP-UX 11.11 or 11.23pi	Not supported	Not applicable
Sort	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable

Table 2 Supported Database Releases (Continued)

Supplemental Stage	All Windows	Solaris 2.8/2.9/10	AIX 5.1/5.2	HP-UX 11.11/11.23pi	Compaq Tru64 5.1a/5.1b	RedHat Linux Advanced Server 3.0/ SUSE LINUX Enterprise Server 9
Stored Procedure Stage	See Table 5 on page 15	See Table 5 on page 15	See Table 5 on page 15	See Table 5 on page 15	See Table 5 on page 15	See Table 5 on page 15
Sybase IQ12 Load	Sybase Open Client 12.4.3	Sybase Open Client 12.4.3	Sybase Open Client 12.4.3	Sybase Open Client 12.4.3	Sybase Open Client 12.4.3	Sybase Open Client 12.5
Sybase OC	Sybase Open Client 12.5 or 12.6	Sybase Open Client 12.5 or 12.6	Sybase Open Client 12.5 or 12.6	Sybase Open Client 12.5 or 12.6	Sybase Open Client 12.5 or 12.6	Sybase Open Client 12.5 or 12.6
Teradata API	Teradata Client 6.1.1, 7.0, 7.1[2], or 8.0	Teradata Client 6.1.1, 7.0, 7.1, or 8.0	Teradata Client 6.1.1, 7.0, 7.1, or 8.0	Teradata Client 6.1.1, 7.0, 7.1, or 8.0	Not supported	Teradata Client 7.0 or 7.1
Teradata Load	Teradata Client 6.1.1, 7.0, 7.1[2], or 8.0	Teradata Client 6.1.1, 7.0, 7.1, or 8.0	Teradata Client 6.1.1, 7.0, 7.1, or 8.0	Teradata Client 6.1.1, 7.0, 7.1, or 8.0	Not supported	Teradata Client 7.0 or 7.1
Teradata MultiLoad	Teradata Client 6.1.1, 7.0, 7.1[2], or 8.0	Teradata Client 6.1.1, 7.0, 7.1, or 8.0	Teradata Client 6.1.1, 7.0, 7.1, or 8.0	Teradata Client 6.1.1, 7.0, 7.1, or 8.0	Not supported	Teradata Client 7.0 or 7.1
WebSphere MQ	MQSeries 5.2 or 5.3	MQSeries 5.2 or 5.3	MQSeries 5.2 or 5.3	MQSeries 5.2 or 5.3	MQSeries 5.1	MQSeries 5.3 Patch Level 5 without SSL support

1 If you are using ODBC with the Dynamic Relational Stage, see the documentation for the specific driver you are using to connect to the database.

2 Windows 2003 requires Teradata Client 7.1 or later.

Supported Database Releases for DataStage TX Map

Table 3 contains the releases of the various databases supported by DataStage TX Map.

Table 3 Releases of Databases Supported by DataStage TX Map

Database	All Windows	Solaris 2.8/2.9	AIX 5.2	HP-UX 11.11[1]	RedHat Linux Advanced Server 3.0
DB2/UDB[2]	Not supported	Not supported	Not supported	Not supported	Not supported
Informix	For 2000 only: Informix Client SDK 2.81 and Informix Dynamic Server 9.4	Not applicable	Not applicable	Not applicable	Not applicable
MS SQL Server	MS SQL Server Enterprise 2000 and Client 2000	Not applicable	Not applicable	Not applicable	Not applicable
ODBC	Ascential Connect 4.2; MS ODBC Libraries for Windows (Microsoft Access), 4.0; MS ODBC Libraries for Windows (Microsoft SQL Server2000) for 2000 only, 2000.80.194;Oracle Enterprise Client for Windows 2000 only, 8.1.7	Ascential Connect 4.2	Ascential Connect 4.2	Ascential Connect 4.2	Ascential Connect 4.2

Table 3 Releases of Databases Supported by DataStage TX Map

Database	All Windows	Solaris 2.8/2.9	AIX 5.2	HP-UX 11.11[1]	RedHat Linux Advanced Server 3.0
MS OLE DB	MS OLE DB specification for 2000 only, 2.0; MS OLE DB provider for SQL Server for 2000 only, 2000.80.194.007.10.0623; Oracle OLE DB provider for SQL Server for 2000 only, 8*i* or 9*i*	Not applicable	Not applicable	Not applicable	Not applicable
Oracle 8i	For 2000 only: Oracle Client 8.1.7; Oracle Server 8.1.7	For 2.7 or 2.8 only: Oracle Client 8.1.7; Oracle Server 8.1.7	Oracle Client 8.1.7; Oracle Server 8.1.7	Oracle Client 8.1.7; Oracle Server 8.1.7[3]	Not applicable
Oracle 9i	For 2000 and 2003: Oracle Client 9.2; For 2000 only: Oracle Server 9.0.1	Oracle Client 9.2	Oracle Client 9.2	Oracle Client 9.2[3]	Oracle Client 9.2
Sybase	Sybase Adaptive Server Enterprise - Clients 12.5	Sybase Adaptive Server Enterprise - Clients 12.5	Sybase Adaptive Server Enterprise - Clients 12.5	Not supported.[4]	Sybase Adaptive Server Enterprise - Clients: 12.5

1 Configuring maps that use Java Class Adapters on HP-UX have special requirements. See *Ascential DataStage TX Map Stage* for details.

2 To access DB2 databases, use the TX ODBC adapter, DataStage ODBC stage, or DataStage DB2/UDB API stage.

3 To access Oracle databases on the Parallel Canvas, use the Oracle Enterprise stage.

4 To access Sybase Databases, use the DataStage Sybase OC stage.

Note DataStage TX Map also interfaces with a number of components other than databases. For all platform support requirements, refer to support_3rdparty.htm, which is located in the root directory of the DataStage TX Map installation CD.

Updates to this information, if any, are available through the Customer Care web site. Point your browser to http://www.ascential.com. Follow these steps:

1. Navigate to SERVICES ‰ Customer Care.
2. From the menu on the left of the page, select **Product Availability**.
3. Log in using your serial number and password.
4. Select the appropriate product family version link.

Supported Database Releases for Dynamic Relational Stage

Table 4 contains the releases of the various databases supported by Dynamic Relational Stage.

Table 4 Releases of Databases Supported by the Dynamic Relational Stage

Database	All Windows	Solaris 2.8/2.9/2.10	AIX 5.1/5.2	HP-UX 11.11/ 11.23pi	Compaq Tru64 5.1a/5.1b	RedHat Linux Advanced Server 3.0/ SUSE LINUX Enterprise Server 9
DB2/UDB	DB2 UDB 8.1 or 8.2	DB2 UDB 8.1 or 8.2	DB2 UDB 8.1 or 8.2	DB2 UDB 8.1 or 8.2	Not supported	DB2 UDB 8.1.5 or 8.2
Informix	Informix Client SDK 2.7; Informix Dynamic Server database 9.4	Informix Client SDK 2.7; Informix Dynamic Server database 9.4	Informix Client SDK 2.8; Informix Dynamic Server database 9.4	Informix Client SDK 2.8; Informix Dynamic Server database 9.4	Informix Client SDK 2.7; Informix Dynamic Server database 9.4	Informix Client SDK 2.8.1; Informix Dynamic Server database 9.4
MS SQL Server	MDAC SDK 2.6; SQL Server 7.0 or later	SQL Server 7.0 or later	SQL Server 7.0 or later	SQL Server 7.0 or later	SQL Server 7.0 or later	SQL Server 7.0 or later
Oracle 8*i*	Oracle Client 8.1.7; Oracle Server 8.1.7	Oracle Client 8.1.7; Oracle Server 8.1.7	Oracle Client 8.1.7; Oracle Server 8.1.7	Oracle Client 8.1.7; Oracle Server 8.1.7	Oracle Client 8.1.7; Oracle Server 8.1.7	Not supported

Table 4 Releases of Databases Supported by the Dynamic Relational Stage (Continued)

Database	All Windows	Solaris 2.8/2.9/2.10	AIX 5.1/5.2	HP-UX 11.11/ 11.23pi	Compaq Tru64 5.1a/5.1b	RedHat Linux Advanced Server 3.0/ SUSE LINUX Enterprise Server 9
Oracle 9*i*	Oracle Client 9.2; Oracle Server 9.2	Oracle Client 9.2; Oracle Server 9.2	Oracle Client 9.2; Oracle Server 9.21 Note: Built on AIX 5.1 64-bit system; Requires 32-bit client libraries to connect to database	Oracle Client 9.2; Oracle Server 9.2 Note: Built on HP-UX 64-bit system; Requires 32-bit client libraries to connect to database	Oracle Client 9.2; Oracle Server 9.2	Oracle Client 9.2.0.3-9.2.0.5; Oracle Server 9.2.0.3-9.2.0.5
Oracle 10g	Oracle Client 10g; Oracle Server 10g	Oracle Client 10g; Oracle Server 10g	Oracle Client 10g; Oracle Server 10g	Oracle Client 10g; Oracle Server 10g	Oracle Client 10g; Oracle Server 10g	Oracle Client 10.1.0.2; Oracle Server 10.1.0.2
Sybase	Sybase Open Client 12.5 or 12.6	Sybase Open Client 12.5 or 12.6	Sybase Open Client 12.5 or 12.6	Sybase Open Client 12.5 or 12.6	Sybase Open Client 12.5 or 12.6	Sybase Open Client 12.5 or 12.6

Supported Database Releases for Stored Procedure Stage

Table 5 contains the releases of the various databases supported by the Stored Procedure Stage.

Table 5 Releases of Database Supported by the Stored Procedure Stage

Database	All Windows	Solaris 2.7/2.8/2.9	AIX 5.1/5.2	HP-UX 11.00/11.11	Compaq Tru64 5.1	RedHat Linux Advanced Server 3.0/ SUSE LINUX Enterprise Server 9
DB2/UDB	DB2 UDB 8.1 or 8.2	DB2 UDB 8.1 or 8.2	DB2 UDB 8.1 or 8.2	DB2 UDB 8.1 or 8.2	Not supported	DB2 UDB 8.1.5 or 8.2
Oracle 9*i*	Oracle Client 9.2; Oracle Server 9.2	Oracle Client 9.2;Oracle Server 9.2	Oracle Client 9.2; Oracle Server 9.2 Note: Built on AIX 5.1 64-bit system; Requires 32-bit client libraries to connect to database	Oracle Client 9.2; Oracle Server 9.2 Note: Built on HP-UX 64-bit system; Requires 32-bit client libraries to connect to database	Oracle Client 9.2; Oracle Server 9.2	Oracle Client 9.2;Oracle Server 9.2
Oracle 10g	Oracle Client 10g; Oracle Server 10g	Oracle Client 10g; Oracle Server 10g	Oracle Client 10g; Oracle Server 10g	Oracle Client 10g; Oracle Server 10g	Oracle Client 10g; Oracle Server 10g	Oracle Client 10.g; Oracle Server 10.g
Sybase	Sybase Open Client 12.5 or 12.6	Sybase Open Client 12.5 or 12.6	Sybase Open Client 112.5 or 12.6	Sybase Open Client 12.5 or 12.6	Sybase Open Client 12.5 or 12.6	Sybase Open Client 12.5 or 12.6

Configuring the Environment

On Windows platforms

DataStage TX Map requires the setting of an environment variable in order to work correctly. Table 6 identifies the required environment variable.

Table 6 Required Environment Variable for Windows

For...	Set the following environment variable on the DataStage server machine...
DataStage TX Map	MERC_DO_NOT_CHDIR=TRUE

On UNIX platforms

Certain supplemental stages require the setting of environment variables in order to work correctly.

General Requirements for Environment Variables

Table 7 identifies those supplemental stages that require one or more environment variables and the specific environment variables that are required.

Table 7 Required Environment Variables for UNIX

For...	Set the following environment variable on the DataStage server machine...
DataStage TX Map	The environment variables vary by platform. See Table 8 on page 19.
DB2/UDB API	DB2DIR DB2INSTANCE INSTHOME LD_LIBRARY_PATH[1] THREADS_FLAG
DB2/UDB Load	DB2DIR DB2INSTANCE INSTHOME LD_LIBRARY_PATH[1] THREADS_FLAG
Dynamic Relational Stage	See Table 9 on page 20.

Table 7 Required Environment Variables for UNIX (Continued)

For...	Set the following environment variable on the DataStage server machine...
Informix CLI	INFORMIXDIR LD_LIBRARY_PATH[1] INFORMIXSERVER
Informix Load	INFORMIXDIR LD_LIBRARY_PATH[1] INFORMIXSERVER
Informix XPS Load	INFORMIXDIR LD_LIBRARY_PATH[1] INFORMIXSERVER
Oracle OCI	ORACLE_HOME TWO_TASK ORACLE_SID LD_LIBRARY_PATH[1, 2]
Oracle OCI 8i	ORACLE_HOME TWO_TASK ORACLE_SID LD_LIBRARY_PATH[1, 2] LINK_CNTRL set to LPTHREADS_D7 (AIX only)
Oracle OCI Load	ORACLE_HOME TWO_TASK ORACLE_SID LD_LIBRARY_PATH[1, 2]
Stored Procedure Stage for Oracle	ORACLE_HOME TWO_TASK ORACLE_SID LD_LIBRARY_PATH[1, 2]
Sybase IQ12 Load	SYBASE ASDIR SYBASE_OCS LD_LIBRARY_PATH[1]
Sybase OC[3]	SYBASE SYBASE_OCS LD_LIBRARY_PATH [1, 4]
Teradata API	LD_LIBRARY_PATH[1] PATH

Table 7 Required Environment Variables for UNIX (Continued)

For...	Set the following environment variable on the DataStage server machine...
Teradata Load	LD_LIBRARY_PATH[1] PATH
Teradata Multiload	LD_LIBRARY_PATH[1] PATH

1 The name of one particular environment variable, referred to as LD_LIBRARY_PATH above, differs depending on the platform. See the following to determine the correct name to use for your environment.

- If the platform is AIX, use LIBPATH.
- If the platform is HP_UX, use SHLIB_PATH.
- If the platform is LINUX, Solaris, or Tru64, use LD_LIBRARY_PATH.

2 The following applies to Oracle OCI, Oracle OCI 8i, Oracle OCI Load, and DataStage STP stages running on HP-UX platforms and using ODBC. For the SHLIB-PATH environment variable, the DataStage library entries must be referenced before any branded-ODBC library entries at run time.

3 To run successfully on Linux, Sybase OC requires the language environment variable LANG = en.

4 In Sybase OC applications, for the LD_LIBRARY_PATH environment variable, the DataStage library entries must be referenced before the Sybase Open Client library entries at run time.

To add or change an environment variable, include any environment variables in the *dsenv* file.

Use the database-supplied configuration tools to configure the environment on a Windows platform.

Environment Variables Required by DataStage TX Map

Table 8 identifies the environment variables for DataStage TX Map by UNIX platform.

Table 8 Environment Variables Required by DataStage TX Map

For...	Set the following environment variable on the DataStage server machine...
AIX , HP-UX, and Linux	MERC_DO_NOT_CHDIR=TRUE export MERC_DO_NOT_CHDIR . <DataStage TX Installation Directory>/setup
Solaris	MERC_DO_NOT_CHDIR=TRUE export MERC_DO_NOT_CHDIR MERC_HOME_DIR=<DataStage TX Installation Directory> export MERC_HOME_DIR MERC_TMP_DIR=$MERC_HOME_DIR/tmp export MERC_TMP_DIR LD_LIBRARY_PATH=$MERC_HOME_DIR/LIBS:$LD_LIBRARY_PATH export LD_LIBRARY_PATH

Important DataStage TX Map uses the dynamic link libraries in DataStage TX 7.5.1. Therefore, you must add the following to the system environment variable PATH before you install the DataStage TX Map client.

- For Windows, add DataStage TX install dir to the path
- For UNIX, add DataStageTX_install_dir/libs

Environment Variables Required by the Dynamic Relational Stage

Table 9 identifies those database available through the Dynamic Relational Stage that require one or more environment variables and the specific environment variables that are required.

Table 9 Environment Variables Required by the Dynamic Relational Stage

For...	Set the following environment variable on the DataStage server machine...
DB2/UDB	DB2DIR DB2INSTANCE INSTHOME LD_LIBRARY_PATH[1] THREADS_FLAG
Informix	INFORMIXDIR LD_LIBRARY_PATH[1] INFORMIXSERVER
Oracle 8*i*	ORACLE_HOME TWO_TASK ORACLE_SID LD_LIBRARY_PATH[1, 2] LINK_CNTRL set to LPTHREADS_D7 (AIX only)
Oracle 9*i*	ORACLE_HOME TWO_TASK ORACLE_SID LD_LIBRARY_PATH[1, 2]
Sybase OC	SYBASE SYBASE_OCS LD_LIBRARY_PATH[1, 3]

1 The name of one particular environment variable, referred to as LD_LIBRARY_PATH above, differs depending on the platform. See the following to determine the correct name to use for your environment.

- If the platform is AIX, use LIBPATH.
- If the platform is HP_UX, use SHLIB_PATH.
- If the platform is LINUX, Solaris, or Tru64, use LD_LIBRARY_PATH.

2 With Oracle running on HP-UX platforms and using ODBC, for the SHLIB-PATH environment variable, the DataStage library entries must be referenced before any branded-ODBC library entries at run time.

3 In Sybase OC applications, for the LD_LIBRARY_PATH environment variable, the DataStage library entries must be referenced before the Sybase Open Client library entries at run time.

To add or change an environment variable, include any environment variables in the *dsenv* file.

Use the database-supplied configuration tools to configure the environment on a Windows platform.

Installing a Supplemental Stage

There are three scenarios for installing a supplemental stage. Each scenario is documented in the next section. For any specific installation instructions, see the appropriate supplemental stage guide.

Installing Supplemental Stages while Installing Ascential DataStage

The installation process presents you with a list of all the supplemental stages provided with Ascential DataStage. Select the individual supplemental stages with which you plan to work or select all of them. The supplemental stages you select are automatically installed with Ascential DataStage.

Note The Oracle OCI stage was known formerly as the Oracle OCI 9i stage. If the name Oracle OCI 9i appears in the palette, you have not installed the latest version. Use the package installer to install the Oracle OCI stage from the installation CD (see "Installing Supplemental Stages from the CD after Installing Ascential DataStage" on page 22).

Note If you miss one you need, you can install it later by following the instructions below (see "Installing Supplemental Stages from the CD after Installing Ascential DataStage" on page 22).

Installing Supplemental Stages from the e.Service Web Site

If an update to a supplemental stage is available, you can download it from the e.Service web site.

Windows

For a Windows operating system, a supplemental stage on the e.Service Web Site is either a self-extracting Zip file or a traditional Zip file. Download the supplemental stage, and then double-click the name of the self-extracting file or run WinZip to extract the supplemental stage components. Enter and record the name of the supplemental stage directory. Continue by following the instructions in "Installing Supplemental Stages from the CD after Installing Ascential DataStage."

UNIX

For the UNIX operating system, a supplemental stage on the e.Service Web Site is a *tar* file. A *tar* file is the UNIX equivalent of a Zip file. Run the following *tar* command:

```
tar -xvf <filename>
```

Record the name of the directory where the package was extracted. Continue by following the instructions in "Installing Supplemental Stages from the CD after Installing Ascential DataStage" on page 22.

Installing Supplemental Stages from the CD after Installing Ascential DataStage

You must install a compatible set of server and client GUI components for a supplemental stage.

Note Several supplemental stages do not have a GUI but use the grid editor. Therefore, ignore the instructions for installing the client GUI with the following supplemental stages.

- DB2/UDB Load
- FTP Plug-In
- Informix Load
- Informix XPS Load
- MS SQL Server Load
- Oracle Express Load

- Oracle OCI Load
- RedBrick Load
- Sort
- Sybase IQ12 Load

Installing the Server Supplemental Stage

Ascential DataStage automatically installs the server supplemental stage only if you select it. If you install the supplemental stage package separately from the DataStage installation, follow these instructions to install the supplemental stage on the DataStage server machine. Note there are different instructions for Windows or UNIX. Then see "Installing the Client GUI" on page 23 for instructions for installing the client GUI.

Windows

1. Choose **Start** ‰ **Programs** ‰ **Ascential DataStage** ‰ **DataStage Package Installer**.
2. When prompted to enter the Package Directory, enter the name of the directory where the supplemental stage resides, for example, C:\directory path\package directory.

UNIX

1. Log in as *dsadm*.
2. Change the directory to the bin subdirectory of the DataStage server engine home directory. The location of the DataStage server engine home directory is stored in */.dshome*. For example, enter **cd 'cat /.dshome/bin'** (using the backward single quotation mark) to go to the location.
3. Run the dspackinst command. For example, enter **./dspackinst**.
4. When prompted to enter the Package Directory, enter the name of the directory where the supplemental stage resides, for example, / directory path/package directory.

With Windows or Unix operating systems, the Package Installer prompts you to select projects in which to install the supplemental stage. Select the appropriate projects, and then proceed with the installation.

Installing the Client GUI

Ascential DataStage automatically installs the supplemental stage client GUIs on the DataStage client machine when you install the DataStage client. If an update to a supplemental stage client GUI is

available, you can download it from the e.Service web site. You must have administrator privileges on your Windows client to install the supplemental stage client GUI.

A supplemental stage client GUI on the e.Service Web Site is either a self-extracting Zip file or a traditional Zip file. Download the supplemental stage client GUI, and then double-click the name of the self-extracting file or run WinZip to extract the supplemental stage components. Enter the name of the supplemental stage directory.

To install the supplemental stage client GUI:

1. Open the directory where you extracted the supplemental stage client GUI.
2. Double-click **setup.exe**.
3. You are given the option to check client/server supplemental stage compatibility to ensure that you have the correct version of the server supplemental stage. If a version incompatibility exists, upgrade the server supplemental stage.

   Note Install the server supplemental stage before you install the supplemental stage GUI if you want to check version compatibility.

After installing the supplemental stage GUI, start the supplemental stage editor from Ascential DataStage Designer by doing one of the following:

- Double-click the supplemental stage in the Diagram window
- Select the stage and choose **Properties** from the shortcut menu
- Select the stage and choose **Edit** ‰ **Properties** from the Ascential DataStage Designer window.

Accessing a Supplemental Stage

You access a supplemental stage through the Ascential DataStage Designer Palette. The Palette is organized by category. The table below lists each supplemental stage followed by its category in the Palette.

Table 10 Palette Categories

Supplemental Stage	Category in the Palette
Command Stage	Processing
Complex Flat File	File

Table 10 Palette Categories (Continued)

Supplemental Stage	Category in the Palette
DataStage TX Map	Processing
DB2/UDB API	Database
DB2/UDB Load	Database
Dynamic Relational Stage	Database
FTP Plug-In	Processing
Informix CLI	Database
Informix Load	Database
Informix XPS Load	Database
Merge	Processing
MS OLEDB	Database
MS SQL Server Load	Database
Oracle Express Load	Database
Oracle OCI	Database
Oracle OCI 8i	Database
Oracle OCI Load	Database
Pivot	Processing
RedBrick Load	Database
Row Merger	Processing
Row Splitter	Processing
Sort	Processing
Stored Procedure Stage	Database
Sybase IQ12 Load	Database
Sybase OC	Database
Teradata API	Database
Teradata Load	Database
Teradata MultiLoad	Database
Websphere MQ	Real Time

Reject Row Handling

To use Ascential DataStage's Reject Row Handling capability with supplemental stages, set **Transaction size** to 1. If the supplemental stage has an **Array size** text box, set it to 1 also.

Supplemental Stages and the Parallel Canvas

Only a subset of the supplemental stages is available on the Parallel Canvas. Those that are available have additional instructions for mapping string data when NLS is turned on. (See "Mapping of String Data"on page 28.)

Available Supplemental Stages

Some supplemental stages can run on the Parallel Canvas. The default for *all* stages is Sequential. "In Parallel" mean you can set it to run in parallel, but this is *not* the default. Use Table 11 to determine which supplemental stages are available on the Parallel Canvas.

Table 11 Availability on the Parallel Canvas

Supplemental Stage	Available on the Parallel Canvas	Used as a Source or a Target or for Processing	Runs Sequentially or In Parallel
Command Stage	No		
Complex Flat File	No		
DataStage TX Map	Yes	Source, Target, or Processing	Sequential
DB2/UDB API	Yes	Source or Target	Source: Sequential; Target: In Parallel
DB2/UDB Load	Yes	Target	Sequential
Dynamic Relational Stage	Yes	Source or Target	Source:Sequential;Target: In Parallel
FTP Plug-In	Yes	Source or Target	Sequential
Informix CLI	Yes	Source or Target	Source: Sequential; Target: In Parallel
Informix Load	Yes	Target	Sequential
Informix XPS Load	Yes	Target	Sequential
Merge	No		
MS OLEDB	No		
MS SQL Server Load	No		
Oracle Express Load	No		
Oracle OCI	No		
Oracle OCI 8i	No		
Oracle OCI Load	Yes	Target	Sequential
Pivot	Yes	Source or Target	Sequential
RedBrick Load	Yes	Target	Sequential
Row Merger	No		
Row Splitter	No		
Sort	No		

Table 11 Availability on the Parallel Canvas (Continued)

Supplemental Stage	Available on the Parallel Canvas	Used as a Source or a Target or for Processing	Runs Sequentially or In Parallel
Stored Procedure Stage	Yes	Source or Target	Sequential
Sybase IQ12 Load	Yes	Target	Sequential
Sybase OC	Yes	Source or Target	Source: Sequential; Target: In Parallel
Teradata API	Yes	Source or Target	Source: Sequential; Target: In Parallel
Teradata Load	Yes	Target	Sequential
Teradata MultiLoad	Yes	Source or Target	Sequential
Websphere MQ	Yes	Source or Target	Sequential

Mapping of String Data

The purpose of the NONE map on the Server canvas is to turn off mapping of string data in any stage in which the map is set, i.e., to pass the data through verbatim. This feature is handled differently on the Parallel Canvas. When you define string data (char, varchar, etc.), there is an additional field in the stage's Columns grid called Extended. This can be set to blank or Unicode. If this option is set to blank, no mapping occurs (i.e. "NONE"); the map specified on the NLS tab is ignored. If this option is set to Unicode, the NLS map is applied. In order to read or write Japanese data, for example, set Extended to Unicode. When the job compiler detects this combination (char, varchar, etc. and Unicode), it generates the appropriate run-time code.