

IBM InfoSphere DataStage

Server side tracing



Information Management

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This module provides details regarding server side tracing when using DataStage® V7.5, 8.0.1, and 8.1.

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This presentation provides an overview of server side tracing, including server side tracing from the DataStage administrator and from the engine prompt. There is information regarding server tracing using the errlog technique. An example of a trace file and an errlog file is also included.

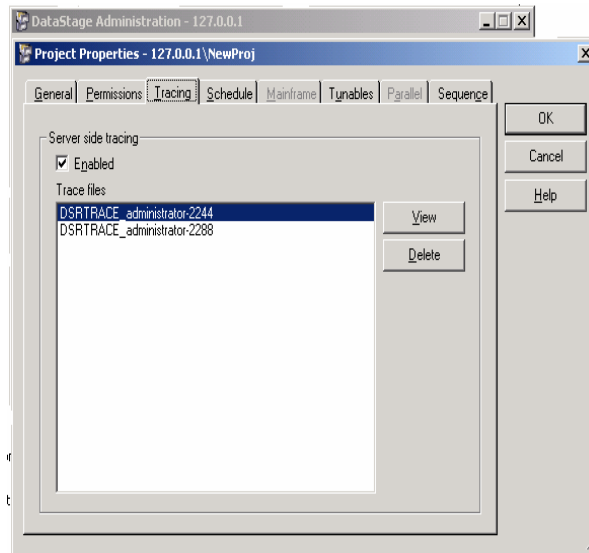
Overview

- Set through DataStage Administrator
 - Can alternately be set from engine prompt
- Project specific
- Creates a trace file in &COMO& directory
- Creates huge amounts of data
- View and delete trace files from DataStage Administrator
- Ascii files readable with any editor or viewer
- Traces all actions on server including client connections

The server side tracing can be turned on from both the DataStage Administrator and from the DataStage engine prompt at the operating system level. The tracing will only trace the project from which it is turned on. It will trace all connections to that project. Each process that is traced will create a trace file in the &COMO& directory of the project that has the tracing turned on. Since tracing creates large amounts of data, it is important that you turn the tracing on, re-create your issue, and then turn tracing off. The trace files can be viewed and deleted from the DataStage Administrator. You can also view them at the operating system level by going into the &COMO& directory and viewing the trace files directly from there. These files are all ascii files and can be read with any editor or viewer. The server side trace will capture trace information for all actions on the server within the project including client connections.

Server side tracing from DataStage administrator

- Open Administrator
- Click Tracing tab
- Click Enable check box
- View or delete



If you want to enable server side tracing from the DataStage administrator, open the Administrator and click the Tracing tab. Click the “Enabled” check box to turn tracing on. All existing trace files are listed in the Trace Files box. From there, you can click a trace file and view it or delete it.

Server side tracing from engine prompt (1 of 3)

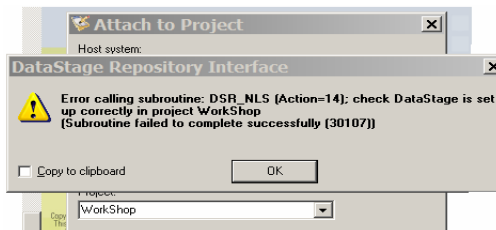
- Server side tracing set at engine prompt
 - Type "TRACE ON" to enable tracing
 - Type "TRACE OFF" to disable tracing
- Keep trace files in &COMO&
 - Readable with any text editor

You can also turn server side tracing on at an engine prompt. You will do this if you can not get into the DataStage Administrator because of a connection issue.

From the engine prompt type TRACE ON to turn server side tracing on and type TRACE OFF to turn tracing off. When you turn it off at the engine prompt, you are asked if you want to clear out the trace files. If you still need to look at the trace files, click No. If you are ready to delete files, click Yes. You can then go into the &COMO& directory and read the trace files with any text editor or viewer.

Server side tracing from engine prompt (2 of 3)

- Read error message
- Go to DataStage Engine prompt
- UNIX® and Linux®
 - dsenv file in DSEngine
- Windows® operating system
 - ..\..\Engine\bin\uv
- UNIX and Linux
 - \$DSHOME/bin/uvsh



This slide shows an example of a read error message you can see when trying to connect with the DataStage Designer client. If you receive this error, go to a DataStage Engine prompt. For UNIX and Linux only, if you do not automatically source the dsenv file in DSEngine on your UNIX or Linux system, you will need to do that first. Next, change to the directory of the project that you want to trace. Type `..\..\Engine\bin\uv` for Windows operating systems and `$DSHOME/bin/uvsh` for UNIX and Linux operating systems.

Server side tracing from engine prompt (3 of 3)

- Type WHO command
- Type TRACE ON
- TRACE ON message
- Try connection again
- Look at trace file in &COMO&

After changing to the directory of the project that you want to trace, type the command WHO at the “greater than” prompt to be sure that you are in the correct project. Next type TRACE ON. You will receive a message that the tracing has been turned on. Try the connection again. Once connected, you can look at the trace file in the &COMO& directory.

Trace file example

```
2007-10-02 14:32:46: DSR-NLS IN =  
  Arg1=14  
Program "DSR-NLS": Line 1256, Read operation failure. 2007-10-02  
14:33:04: DSR_PROJECT IN =  
  Arg1=1  
  Arg2=WorkShop  
  Arg3=7.5.2/14  
2007-10-02 14:33:04: DSR_ADMIN IN=  
  Arg1=28  
2007-10-02 14:33:04: DSR_ADMIN OUT=  
  Arg2=72161\8\1/1/2500\1  
  Arg3=1  
Program "*DataStage*DSR_LOADSTRING": Line 110, Read operation failure.  
2007-10-02 14:33:04: DSR_PROJECT OUT=  
  Arg2=7.5.2/14/2/51  
  Arg3=WARNING: Repository Interface Tracing is switched ON.
```

This slide shows an example of a trace file. At the top of the file, you can see that the error is a read failure on a file. Read operation failures generally indicate a broken hashed file.

Server side tracing from the engine prompt

- Turn off tracing
 - Command line or DataStage administrator
 - Type TRACE OFF
 - Warning message if tracing not turned off

Once you have re-created your error message and created your trace file, turn tracing off. At the “greater than” prompt, type TRACE OFF. You can also go into the DataStage Administrator to turn trace off. If you do not turn tracing off, you will see a warning message every time you open a client reminding you that the server side tracing feature is still on.

Server tracing using errlog technique

- Create errlog file in DSEngine directory
- Error messages written to errlog file
- Default 100 lines maximum
 - MAXERRLOGENT setting for line increase
- Message number in brackets
- Text found in SYS.MESSAGE file

When using the errlog tracing technique, be aware that the errlog file is not in the DSEngine directory by default and will need to be created. If you are on Windows, ensure Windows does not add a .txt extension to the file. Be sure to give everyone write permissions to the file. If the file exists, DataStage will write to it. If there are error messages thrown by the DataStage engine, it is written to the errlog file. Errlog is a circular file that by default will only have a maximum of 100 lines. Once it hits 100 lines, it will start writing at the top of the file. Use the \$DSHOME/uvconfig setting called MAXERRLOGENT to increase the number of lines in the errlog file.

When you search the file for your errors, be sure to look at the entire file; you can have new entries at the top and the bottom if the errors started to wrap in the file. The errlog messages will contain a message number in brackets. The text for that number can be found in the SYS.MESSAGE file. To see the text for the error number, go into an engine prompt and type LIST SYS.MESSAGE and the message number, where the number is the error number received in the errlog entry.

errlog file example

```
Tue Feb 27 11:41:30 0 informix Program "DSR_EXECJOB": Line 455, Message[001902]
Tue Feb 27 11:41:34 0 informix Program "DSR_EXECJOB": Line 455, Message[001902]
Tue Feb 27 11:48:48 0 informix DELETED file definition record "H_Dim_Zeitschiene" in the VOC file.
Tue Feb 27 11:51:15 0 informix Program "DSD.GenRuntime": Line 427, Message[001902]
Tue Feb 27 11:51:17 0 informix Program "DSR_EXECJOB": Line 455, Message[001902]
Tue Feb 27 11:51:21 0 informix Program "DSR_EXECJOB": Line 455, Message[001902]
```

This slide shows an example of output from the errlog file. In this example, you are receiving an error code 001902. You then will look up the code in the SYS.MESSAGE file.

Server tracing - errlog

```
> LIST SYS.MESSAGE 001902  
LIST SYS.MESSAGE 001902 09:59:26am 01 Mar 2001 PAGE 1  
SYS.HELP. 001902  
MESSAGE.. Unable to allocate Type 30 descriptor, table is full  
1 records listed
```

You can look up the error code in the SYS.MESSAGE file from an engine prompt or from the DataStage administrator. From the prompt, type the command:

LIST SYS.MESSAGE <error code>, in this example it would be LIST SYS.MESSAGE 001902. Be sure to put in leading zeros since they are part of the record key.

The error text that is returned is:

MESSAGE.. Unable to allocate Type 30 descriptor, table is full

So in this example you would know that you need to increase the T30FILE entry in the uvconfig file.

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