

# InfoSphere Information Server DataStage

## Troubleshooting project creation issues



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This presentation will discuss how to troubleshoot different types of project creation issues with Information Server DataStage® version 8.

## Objectives

- Causes of DataStage project creation problems
- Creating a DataStage project
- Troubleshoot project creation errors
- Common problems and resolutions when creating DataStage projects

The objectives of this module are to list the causes of DataStage project creation problems and show how to create a DataStage project. You will also learn how to troubleshoot project creation issues and to review common problems and resolutions when creating DataStage projects.

## Causes of project creation problems

- Incorrectly configured or customized locale settings
- Firewall configuration
- Trusted authentication failure
- Repository database configuration
- Lack of directory disk space or directory permissions

There are many issues that can cause project creation to fail. Some of the causes of project creation problems are incorrectly configured or customized locale settings and firewall configuration. There can also be a trusted authentication failure, repository database configuration, and lack of directory disk space or directory permissions.

## DataStage project creation

- During installation of Information Server DataStage
- Use Information Server DataStage Administrator client
- Use dsadmin command

There are three ways to create a DataStage project. Projects can be created during the installation of Information Server DataStage. You can use the Information Server DataStage Administrator client to create a project after the installation. You may also use the command line utility, dsadmin, to create a project.

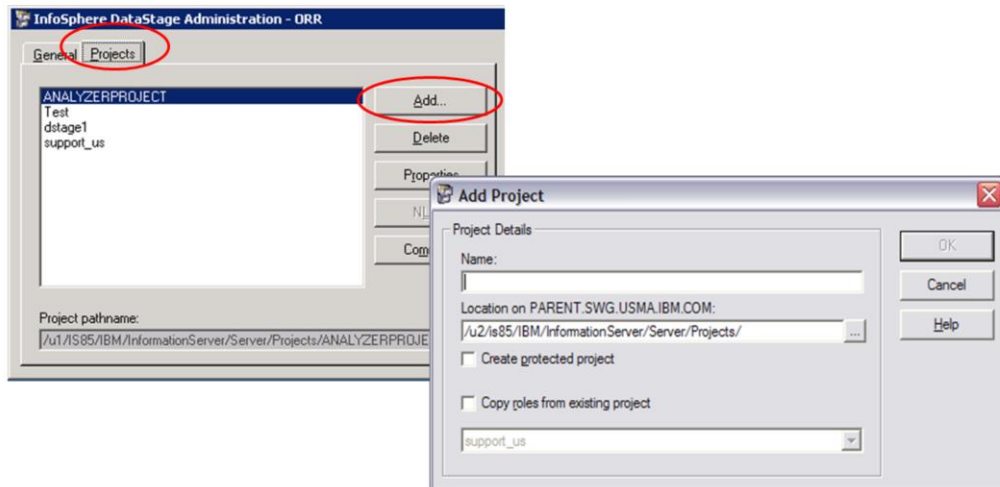
## Create project during installation of Information Server

- Excerpt from ISInstall log
  - E:\IBM\InformationServer\Server\DSEngine\bin\uvsh RUN BP DSR\_QUICKADD.B  
60806\999\01\01\2500\pepvdv11628\0 dstage1  
E:\IBM\InformationServer\Server\Projects\dstage1 CREATE
- Command can be used for manually creating project

When you install DataStage, you must create at least one project. This slide displays an excerpt from the ISInstall log where the project “dstage1” is being created. This command is important to note because sometimes it is used when troubleshooting project creation issues when you want to see if you can manually create the project.

## Use the Administrator Client to create project

- Project creation from Administrator
  - Click Projects Tab => Add



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The Administrator Client can also be used to create a DataStage project by clicking the Projects tab and then choosing Add.

## Use dsadmin command to create project

- Located in DSEngine/bin
- `dsadmin -domain domainname -user isadmin -password xxxxxx -server servername -createproject projectname -location /tmp/projectname`
- Example  
`dsadmin -domain mydomain -user isadmin -password isadpass -server myserver -createproject proj1 -location /u1/iis/Projects/myProject`  
Status code = 0

You can also use the command line utility, dsadmin, to create projects. This slide displays an example of the syntax for using the dsadmin command to create a DataStage project using the `-createproject` option. If the command runs successfully, it should return a status of 0.

## Troubleshooting project creation problems (1 of 6)

- Locate error message
- Installation
  - Search install logs for "RUN BP DSR\_QUICKADD.B"
- Administrator client
  - Error displayed in message box
- dsadmin command
  - Error message displayed on console

It is important to know how to troubleshoot project creation problems. The first step is to locate the error message. The error message location is based on how the project creation was started. If it fails at installation time, look in your installation logs. A quick way to locate the error is to search for the string "RUN BP DSR\_QUICKADD.B".

If you are doing the installation from the DataStage Administrator, the error is displayed in a message box.

If you are using the dsadmin command, you will see the errors right in the console window.



## Troubleshooting project creation problems (2 of 6)

- Detailed information in dstage\_wrapper\_trace log files
  - \$HOME/ds\_logs/dstage\_wrapper\_trace\_N.log
    - N is a number from 1 to 20
    - log files for last 20 DataStage sessions
    - \$HOME - Home directory for user name that DataStage credentials are mapped to

After you locate the error message, check for more detailed error messages in the `dstage_wrapper_trace` log files in the users home directory under `ds_logs`. These logs are located on both the DataStage client and the DataStage server machine.

## Troubleshooting project creation problems (3 of 6)

- Tracing DataStage Server processes
  - Truss
    - AIX®: "truss -o /tmp/dsrpcd\_truss.out -feap <dsrpcdPID>"
    - RedHat: "strace -feap <dsrpcdPID> 2> /tmp/dsrpcd\_strace.out"
  - Server side tracing
- Refer to IBM Education Assistant DataStage tracing modules  
[http://publib.boulder.ibm.com/infocenter/ieduasst/mv1r0/topic/com.ibm.iea.infosphere\\_is/infosphere\\_is/8.5/ds\\_qs\\_ProblemDetermination.html](http://publib.boulder.ibm.com/infocenter/ieduasst/mv1r0/topic/com.ibm.iea.infosphere_is/infosphere_is/8.5/ds_qs_ProblemDetermination.html)

Sometimes tracing the dsrpcd and child processes can produce useful information from which IBM support can narrow down the causes of a project creation problem. Operating systems differ in how to trace processes but a few examples are displayed on this slide. The truss and strace commands attach to the running dsrpcd process and will record all of the system calls made by that process and its children during subsequent client-server sessions. Server side tracing is also another way to get additional tracing information. For more information on how to use these tracing methods, see the IBM Education Assistant DataStage tracing modules. Links to the Operating system tracing module and the Server side tracing module are displayed on this slide.

## Troubleshooting project creation problems (4 of 6)

- Enabling JVM startup tracing
- UNIX® and Linux®
  - IBM/InformationServer/Server/DSEngine/dsenv
    - XMOG\_TRACE\_LEVEL=TraceVerbose; export XMOG\_TRACE\_LEVEL
    - XMOG\_TRACE\_FILE=/tmp/xmogtrace.txt; export XMOG\_TRACE\_FILE
- Windows®
  - Set as System Environment Variables in Control panel

To produce extra diagnostic information for the JVM initialization after all of its libraries have been successfully loaded, you can add the lines displayed to `/opt/IBM/InformationServer/Server/DSEngine/dsenv`.

Remember to restart the DataStage Server engine processes after adding these variables. Also, remove these environment variables after they are no longer needed for troubleshooting.

## Troubleshooting project creation problems (5 of 6)

- Enabling repository database tracing
  - Create file on DataStage Server  
/opt/IBM/InformationServer/ASBNode/conf/NewRepos.debug.properties
  - Add three lines  
log4j.logger.com.ascential.dstage=DEBUG  
log4j.logger.com.ibm.datastage=DEBUG  
NewRepos.spy.trace=true
  - Reproduce error
  - Error files in \$HOME/ds\_logs/dstage\_wrapper\_trace\_N.log

Another troubleshooting technique is to enable repository tracing. To do this, create a new file called `NewRepos.debug.properties` in your `ASBNode/conf` directory. Add the three lines displayed on this slide to the file. Reproduce the error and look at the `dstage wrapper trace` log files that are produced.

## Troubleshooting project creation problems (6 of 6)

- Run project creation manually
- Linux and UNIX

```
cd /opt/IBM/InformationServer/Server/DSEngine
./dsenv
bin/uvsh
> RUN BP DSR_QUICKADD.B <arguments from log file>
> QUIT
```
- Windows

```
- cd C:\IBM\InformationServer\Server\DSEngine
- bin\uvsh
- RUN BP DSR_QUICKADD.B <arguments from log file> <newProjectName>
  C:\IBM\InformationServer\Server\Projects\<newProjectName> CREATE
- QUIT
```

A good troubleshooting technique is to try to create the project manually using the DSR\_QUICKADD.B program. In many cases, this will produce a better error message than with the gui. You will need to get the DSR\_QUICKADD command from your install logs. Locate the full "RUN BP DSR\_QUICKADD.B" command line from the domain installation log files on /opt/IBM/InformationServer/logs.

Use the commands displayed on this slide to run DSR\_QUICKADD.B so that you can view the console output.

## Common problems – Invalid magic number

- Module has invalid magic number
  - Error message is seen on AIX systems only
  - AIX systems install libicu in /usr/lib
  - Information Server installs copy of libicu in /opt/IBM/InformationServer/Server/DSComponents/lib
- Error message
  - “Unable to confirm the JVM can be loaded into the DataStage Server process because running 'DSR\_CREATE.PROJECT.B TestJVM' failed. Exit code was 255, output was:  
  
Could not load program <install dir>/IBM/InformationServer/Server/DSEngine/bin/uvsh:  
Dependent module /usr/lib/libicui18n.a could not be loaded.  
The module has an invalid magic number”
- Resolution
  - Adjust library path LIBPATH in dsenv file to ensure /usr/lib is at end of library path

The next section will discuss some common issues that are seen when trying to create DataStage projects.

When trying to create a DataStage project on AIX, it is possible to get the error: ‘The module has an invalid magic number’.

Information Server installs a copy of libicu files that it needs in /opt/IBM/InformationServer/Server/DSComponents/lib.

If the libicu libraries in /usr/lib are 32-bit, uvsh has a load issue, reporting an invalid magic value.

In order to resolve the problem, adjust the library path LIBPATH in the dsenv file to make sure that /usr/lib is at the end of the library path.

## Common problems – Error 30107 (1 of 4)

- Windows only
  - Error calling subroutine: \*DataStage\*DSR.ADMIN (Action=21); check DataStage is set up correctly in project UV (Subroutine failed to complete successfully (30107))
  
  - Error messages
    - Errors were detected during project creation that may render project PROJECT\_NAME unstable.  
Please contact your support provider if you encounter problems.  
Caused by: DSR.ADMIN: Error creating DR elements, Error Was Program \*DataStage\*DSR.ADMIN": Line 2416, Exception raised in GCI subroutine:  
  
Error calling subroutine: \*DataStage\*DSR.ADMIN (Action=21); check DataStage is set up correctly in project UV (Subroutine failed to complete successfully (30107))

The next issue that is sometimes seen when creating a project is the error “Subroutine failed to complete successfully” with an error code of 30107.

On Windows, the PATH to the DataStage installation includes mixed-case directory names. Some functions require the case of directory names in the PATH environment variable exactly match the directory name on disk. In the specific case of project creation, PATH must contain the correct case for the directory displayed.

Normally, the PATH will contain the correct case at time of installation, but other programs or users which modify the PATH may have changed it. In this specific case, the installation program of other software recently added to the machine, uppercased the existing directories in PATH when modifying the value for the PATH environment variable.

## Common problems – Error 30107 (2 of 4)

- Resolution
  - Confirm location on DataStage server machine of directory
    - example: C:\IBM\InformationServer\ASBNode\lib\cpp
  - Confirm PATH environment variable contains wrong case for directory
  - Type from Windows command prompt
    - echo %PATH%

To resolve the problem, first confirm the location on your DataStage server machine of the directory. In this example you will use the path displayed on this slide.

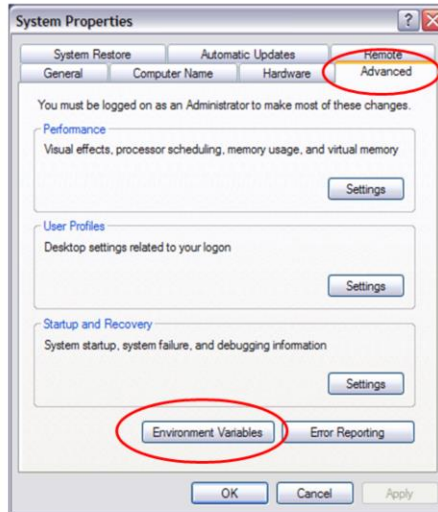
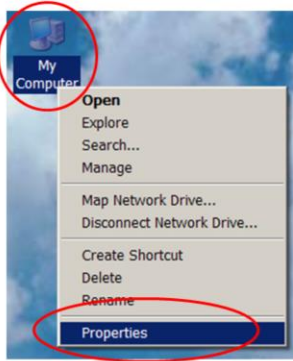
The path on your system may differ from this example. Once you locate the ASBNode\lib\cpp directory, make note of the exact case of the full path to this directory.

Next, confirm that the PATH environment variable contains the wrong case for the directory. From a Windows command prompt you can type “echo %PATH%” to display the path.



## Common problems – Error 30107 (3 of 4)

- Correct path
  - Right-click “My Computer”
  - Select Properties from context menu
  - Click Advanced Tab => Environment Variables



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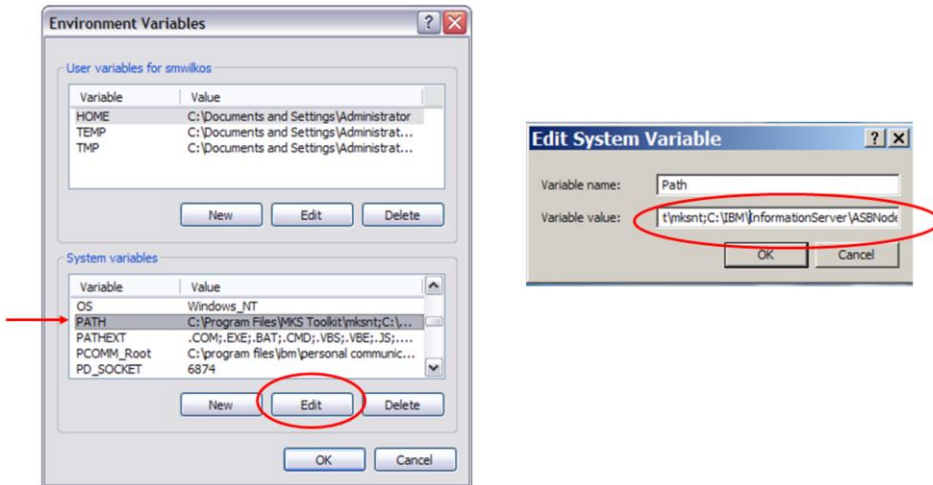
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Right-click "My Computer" and select Properties. Next, click the Advanced tab and then click Environment Variables.

## Common problems – Error 30107 (4 of 4)

- Modify PATH to correct case for C:\IBM\InformationServer\ASBNode\lib\cpp and restart server engine



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Select PATH in the System variables section and click the EDIT button.

Modify the path to correct the case for directory:

C:\IBM\InformationServer\ASBNode\lib\cpp (or the local equivalent).

After making this change, you will need to restart the server engine before the change take effect. In some cases, the DataStage server may need to be rebooted for the changes to take effect.

## Common problems – Error creating log file

- Error message
  - 8.0 error message:  
“Error creating DR elements, Error was -1”
  - 8.1 and later error message:  
“DSR.ADMIN: Error creating DR elements, Error was log4j:ERROR setFile(null,true) call failed.”
  - Log file created on DataStage Server
    - UNIX and Linux
      - \$HOME/ds\_logs
    - Windows
      - C:\Documents and Settings\UserName\ds\_logs
- Resolution
  - User has no home directory or user does not have appropriate permissions on directory

Another issue that may occur when creating a project is the error “*DSR.ADMIN: Error creating DR elements*” with an error calling setFile.

Just before the metadata repository is populated with the default project contents, a log file is created on the DataStage Server in \$HOME/ds\_logs. \$HOME is the home directory of the user creating the project. Remember, if you are using credential mapping, this is the home directory of the credential mapped user. If this log file cannot be created, the project creation will fail. Typically the log cannot be created because the user has no home directory or the user does not have the appropriate permissions to write to the directory. To resolve this issue, create the proper home directory for the user and make sure the directory has write permissions set for the user.

## Common problems - Incorrect locale

- Incorrectly configured locale on DataStage Server
- Error message
  - 8.0 error message:  
*"Error creating DR elements, Error was -1"*
  - 8.1 and later error message:  
*"DSR.ADMIN: Error creating DR elements, Error was Unmatched quotation marks"*
- "hostname" command returns
  - "couldn't set locale correctly"
- Resolution
  - Correct bad locale configuration on DataStage server system

Another issue that can occur creating a project is the error *"DSR.ADMIN: Error creating DR elements, Error was Unmatched quotation marks"*. This problem is caused by a bad locale configuration on the DataStage server system. The "hostname" command is run during project creation, and instead of returning the correct hostname it returns the string "couldn't set locale correctly".

To resolve this issue, correct bad locale configuration on the DataStage server system.

## Common problems – Failed to load JVM

- Failed to load JVM into DataStage Server process (dsapi\_slave)
- Error message
  - 8.0 error message:  
"*(The connection is broken (81002))*"
  - 8.1 and later error message:  
"*CDSRUserAccess.EnterCS: Internal error - Failed to open file : UV.ACCOUNT (81002)*"
- Resolution
  - Library path is too long and caused buffer overflow
  - Incompatible or missed patches on Client, Server and Domain systems
  - Environment variables such as LDR\_CNTRL may have been added or incorrectly modified in IBM/InformationServer/Server/DSEngine/dsenv file
  - Incorrect operating system kernel parameters

Sometimes when creating a project, the Java™ Virtual Machine, referred to as JVM, can fail to load for several reasons. If it does fail to load, the dsapi\_slave process is terminated. This will result in connection broken error 81002 produced on the client.

A core file may be produced which can be used to determine what caused the process to be terminated.

There are several issues that can cause the JVM to fail to load. The first is the library path environment variable being too long. This can be confirmed by using the Administrator client to start the "env" command using the Command button. If the contents of the library path appears to have been duplicated, then it is probable that dsenv has been sourced twice. The dsenv does not need to be sourced when starting the DataStage Server engine.

Another problem can be a mismatch on the patches between the client, server, and or domain systems. By looking in the Version.xml file of each system you can confirm what patches have been installed. Ensure that patches have been installed on all appropriate systems.

Another issue can be that environment variables such as LDR\_CNTRL may have been added or incorrectly modified in the dsenv file. Generally speaking, the LDR\_CNTRL setting in dsenv should not be modified unless otherwise directed by IBM.

Finally, check that your kernel parameters are set correctly according to the DataStage documentation.

## Common problems – Firewall configuration

- Firewall configuration
  - Error message:
    - 8.0 error message:  
"Error creating DR elements, Error was -1"
    - 8.1 and later error message:  
"DSR.ADMIN: Error creating DR elements, Error was com.ascential.xmeta.exception.ServiceException"
- Check log on DataStage server
  - \$HOME/ds\_logs/dstage\_wrapper\_trace\_N.log
  - Ex: Connection refused:host=<hostname>,port=2809
- Resolution
  - Ensure necessary ports are open  
telnet <DomainServer> <port>  
from DataStage Server machine to domain server
  - On Linux:  
nc -v -z <DomainServer> <Port>

Project creation issues may also occur if there is an issue with the firewall configuration. You will see the error "*DSR.ADMIN: Error creating DR elements*" with a `ServiceException` error. The DataStage Server systems need to communicate with the domain system, which means that certain ports need to be open between these systems if they are located on separate machines. Check the `dstage_wrapper_trace_N.log` file for errors similar to the connection error displayed on this slide. Ensure the firewall is correctly configured and that all the necessary ports are open. To do this, telnet to the domain host and port number from the DataStage Server machine to the domain server to confirm the port is accessible. On Linux, you can run the "nc" command to check if the port is open. The necessary firewall configuration can be found in the installation guide.

## Common problems – Trusted authentication failed

- Trusted authentication between DataStage Server system and Domain system failed
- Error message
  - 8.0 error message:  
*"Error creating DR elements, Error was -1"*
  - 8.1 and later error message:  
*"DSR.ADMIN: Error creating DR elements, Error was Mapping failed to copy attributes: MetaTable -> DSTableDefinition (EObject: null, MetaTable)"*
- Resolution
  - Windows only
    - Client install in different directory causes certificate exchange to fail
      - See tech note:  
<http://www-01.ibm.com/support/docview.wss?uid=swg21409412>
    - Number of trusted sessions reaches maximum limit
      - Restart WebSphere®

Another issue that may be seen when creating a project is a trusted authentication failure. You will typically see errors similar to those displayed on this slide. The DataStage Server system authenticates with the Domain system by a process called trusted authentication. This uses a secure certificate exchange rather than explicit user name and password authentication. If this fails, the project creation will not succeed. Trusted authentication failure is typically identified by multiple exceptions in the DataStage Server ds\_logs that say "Null session".

This can fail for several reasons. If the DataStage Server is installed onto a Windows system, for example C:\IBM\InformationServer, installing the clients into a different directory, for example C:\IBM\InformationServer2 will cause the certificate exchange to fail, ultimately causing the project creation to fail. See TechNote #1409412 and APAR JR34441 for more information.

Another reason for failure is the number of trusted sessions has reached the maximum limit and a new session cannot be started. This is typically identified by an entry in the WebSphere logs that says the limit has been reached. If this is the case, restarting WebSphere Application Server will clear everything so that new sessions can be created and project creation can succeed.

## Common problems – DataStage repository component not registered on domain server

- DataStage repository component not registered on Domain system
- Error message
  - 8.0 error message:  
*"Error creating DR elements, Error was -1"*
  - 8.1 and later error message:  
*"DSR.ADMIN: Error creating DR elements, Error was Mapping failed to copy attributes: Meta Table -> DSTableDefinition (EObject: null, Meta Table)"*  
*"The package with URL "http:///1.1/DataStageX.ecore" is not registered".*
- Resolution
  - Rerun Information Server Domain
  - Select DataStage
  - Deselect all other components

During the Information Server installation, it is possible for the project creation to fail. When the Domain and DataStage Server are installed on different physical systems, the installation of DataStage Server will fail to create projects specified in the installer if the DataStage repository component has not been installed on to the Domain. The errors displayed on this slide is found in the installation logs.

Furthermore, attempting to create projects using the Administrator client or command line will also fail. In both these cases, the exceptions will say "The package with URL "http:///1.1/DataStageX.ecore" is not registered".

To resolve this issue, the DataStage repository component can be added to the Domain system by re-running the domain installer, selecting DataStage, and deselecting the other components.



## Common problems – Modified client region settings

- Locale (regional settings) customized on Client system
  - Customized short date format
    - Example: “ddd dd/MM/yyyy”
- Error message
  - 8.0 error message:  
“Error creating DR elements, Error was -1”
  - 8.1 and later error message:  
“Invalid Node Name %1”
- Resolution
  - Install patch for APAR JR34770

Another issue that can cause a project creation failure is if the regional language settings on the DataStage Client machine have been modified to use a customized short date format. This can cause the DataStage Administrator client to send the wrong date information to the DataStage Server, causing project creation to fail with errors similar to those displayed on this slide. A patch for this issue has been created under APAR JR34770.

## Common problems – Not enough disk space

- Disk partition full or user quota reached on DataStage Server system
- Error message
  - 8.0 error message:  
*"Error creating DR elements, Error was -1"*
  - 8.1 and later error message:  
*"DSR.ADMIN: Error creating DR elements, error was log4j: ERROR failed to flush writer."*
- Resolution
  - Free up disk space
  - Check user disk quota

If your system is running low on disk space, this can also cause your project creation to fail. The project creation operation will create a log file on the DataStage Server system called `dstage_wrapper_trace_N.log`. Project creation will fail if the disk partition is full or the user to which credentials have been mapped to has reached their disk quota. One resolution involves freeing up disk space as necessary and retry creating the project. The other resolution is to check to see if the user to which credentials have been mapped to has reached their disk quota.

## Common problems – Failure at “initializing demo files”

- Project creation fails at "Initializing demo files..." within Administrator client
- Error message - 8.5  
"Errors were detected during project creation that may render project <name> unstable  
Caused by: DSR.ADMIN: Error creating DR elements, Error was <date timestamp>  
java.util.prefs.FileSystemPreferences\$2 run"
- Resolution
  - Disable SE (Security Enhanced) Linux
    - Check SELinux is installed and in enforcing mode
      - check /etc/sysconfig/selinux file
      - run sestatus command
      - check /var/log/messages file for SELinux notices (Notice format might differ between RHEL 4 and RHEL 5)
  - User does not have home directory
    - Create home directory with appropriate write permissions

The next problem that is seen when creating projects is a failure at the point where it is “Initializing demo files”. This error states that there was a problem with being able to write Java preference data.

One issue that can cause this error on Linux is if Security Enhanced Linux is enabled. If this is the case, it needs to be disabled.

A second problem that can cause this error is if the user ID that is trying to create the project does not have a local home directory. If this is the case, you need to create a local home directory with 775 permissions.

## Common problems – Unable to find template location

- Error message
  - DSR.ADMIN: Unable to find the new project template location
- Resolution
  - Recreate Template.ini
    - Windows
      - DataStage 8  
C:\IBM\Information Server\Server
      - DataStage 7 and earlier  
C:\Ascential\DataStage
    - UNIX and Linux
      - DataStage 8  
IBM/InformationServer/Server
      - DataStage 7 and earlier  
/opt/Ascential/DataStage
  - Create Template.ini in text editor  
[Project]  
Location=/opt/IBM/InformationServer/Server/Template  
FreeDiskSpace=74607302

Another issue that can occur when creating a project is the error “DSR.ADMIN: Unable to find the new project template location”. The Template.ini file is used when creating new projects. The error message indicates that the Template.ini file can be missing or incorrect. Check to see if the Template.ini file exists in the appropriate directory depending on your platform and release. If Template.ini is missing, re-create it in a text editor such as VI on UNIX and Linux or Wordpad on Windows. The contents of the file should be the three lines displayed on this slide. You need to use the correct path to your Template directory in the second line for Location.

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