

Information Server DataStage V8 and V9

How does the DataStage client connection work?



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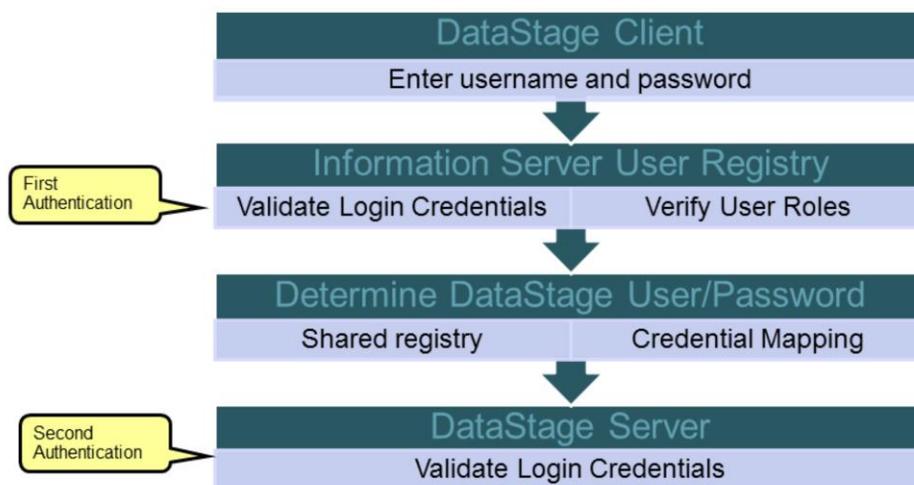
This presentation will discuss each step of the DataStage® client server connection process. This presentation covers all versions of DataStage 8 and 9.

Objectives

- High level overview
- Step by step connection process

The objectives of this presentation are to show a high level overview of the entire client server connection process and then explain each step of the process and what errors may be presented at each step. This will help you understand exactly where a connection may be failing and where to look for a resolution.

High level overview

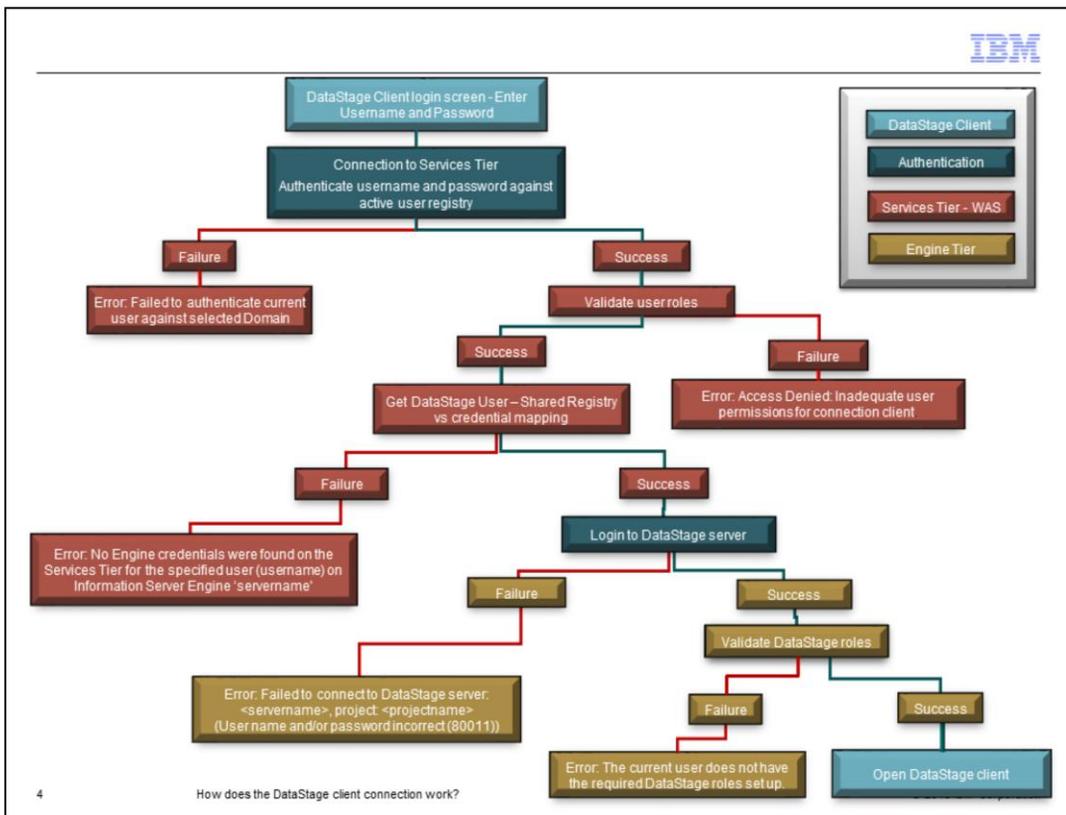


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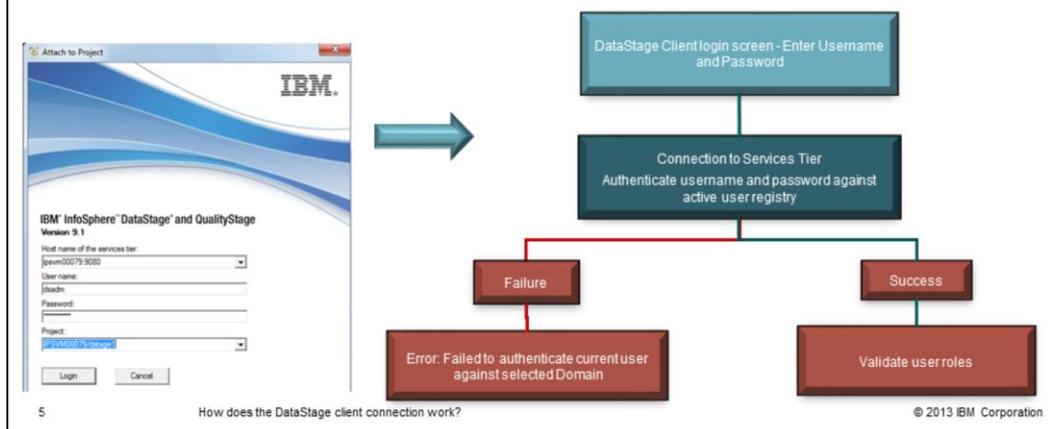
This first slide provides a high level overview of how the DataStage client connects. When you open the DataStage client, enter your username and password, and click OK, two separate authentications take place. The first is a login to Information Server and an authentication against the active user registry. Once that succeeds and the user roles are verified, a second authentication takes place against the DataStage server.



This slide displays a more detailed view of the entire connection process. This presentation will go through each step of the connection, possible failures, and the most likely place the errors may occur.

Steps in a DataStage connection (1 of 7)

- User enters login credential
- Connects to services tier
- Authenticates user against active user registry
 - Successful – Validate user roles
 - Failure - Error: Failed to authenticate current user against selected domain

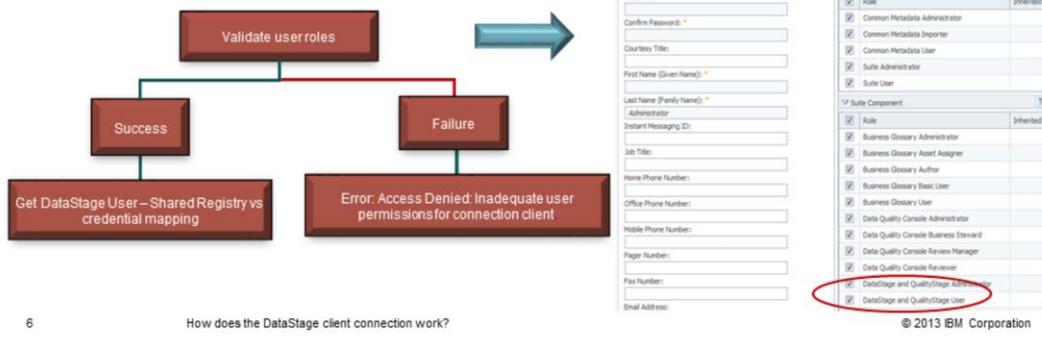


The first step is executing one of the DataStage clients. This example starts the DataStage Designer. The client will prompt for a username and password. At this point, you can take the default for the project, type a project name in, or click the drop down and select a project. If the project drop down is selected, DataStage will attempt to connect to the services tier and authenticate you against the active user registry. This registry may be LDAP, the local OS, the Information Server Internal registry or, starting at 8.7, the extended custom user registry. If the drop down is not clicked, then the connection and authentication will begin when the Login button is pressed.

If the authentication fails, you will see the error: “Failed to authenticate current user against selected Domain”. If the authentication is successful, the application will take the next step and validate that you have the appropriate roles needed to use the client application you have executed.

Steps in a DataStage connection (2 of 7)

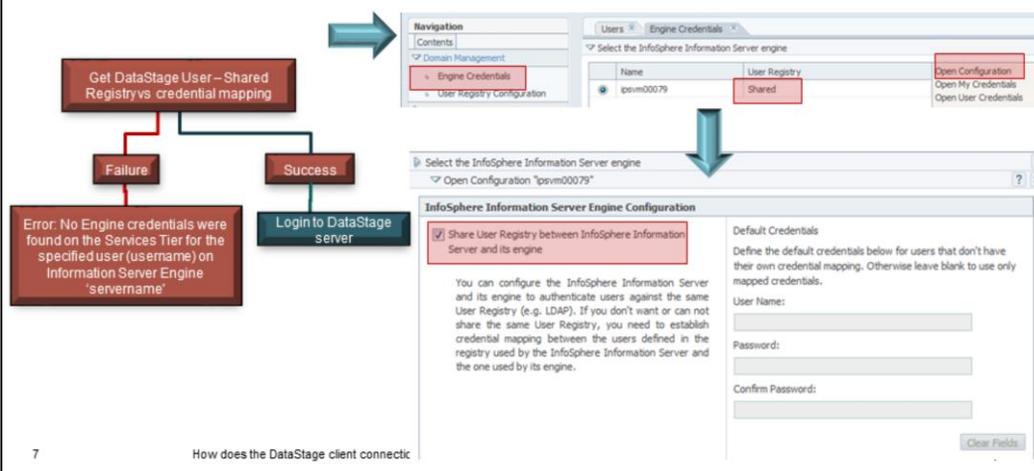
- Check user record in xmeta to validate user roles
 - Roles are configured in Information Server Web Console
- Validation failure
 - Error: Access Denied: Inadequate user permissions for connection client
- Validation successful
 - Obtain DataStage login credentials



The application will validate your roles by checking the user record in the xmeta database to determine if you will be granted access to DataStage using the client you have selected. These are the roles that are configured for users in the Information Server Web Console under Users and Groups. If the validation fails, you will receive the error: Error: “Access Denied: Inadequate user permissions for connection client”. If the validation is successful, the application will continue to the next step and obtain the DataStage login credentials.

Steps in a DataStage connection (3 of 7)

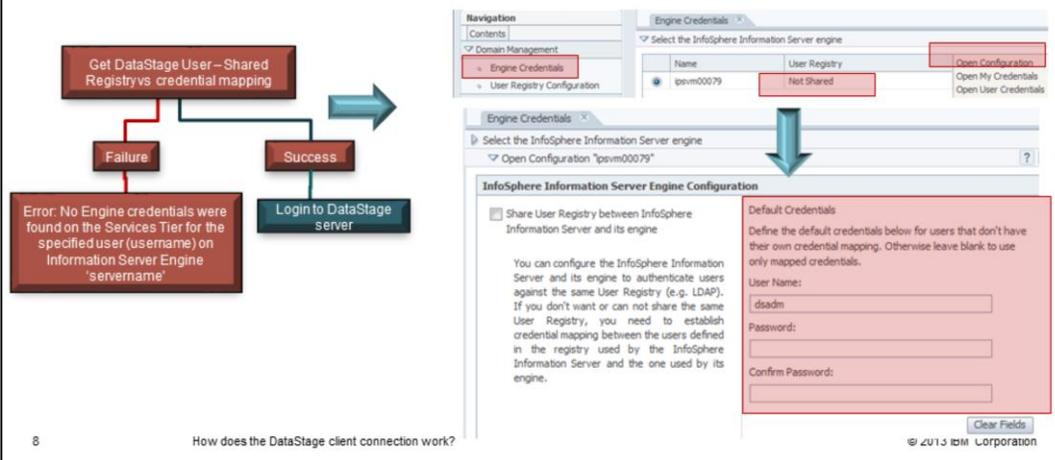
- Shared registry
- Use same username and password used on DataStage login screen



In order to determine which credentials need to be used, Information Server needs to look at the user registry configuration. There are two ways to configure the active user registry. It can be configured to be Shared or Not Shared. The example displayed on this slide shows a Shared registry. If you are in the IS web console and click Domain Management and then Engine Credentials, you will see that Shared is selected. In this case, the application will use the same username and password that you typed in on the DataStage login screen to login to the DataStage server machine also known as the Engine tier.

Steps in a DataStage connection (4 of 7)

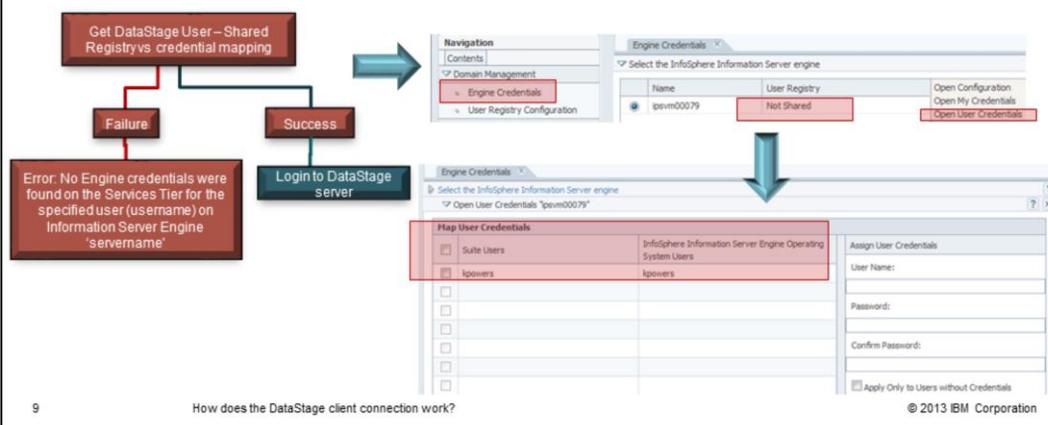
- Not Shared registry
- Must set up user credentials
 - Username and password for DataStage server connection
- Default credentials for users without an individual credential mapping



The registry can also be configured as Not Shared. In this case, the administrator will have to set up credential mapping for all of the users. When a user is attempting to login, credential mapping tells the application what user name and password to use for that particular user when connecting to the DataStage Server or Engine tier. In this example, the registry is set to Not Shared. When Open Configuration is clicked, Shared is not checked and the default user credentials are listed. The default user credentials are used for any user that logs in that does not have their own individual credential map set. The default credential map can be left blank if you do not want users who do not have a credential map to be able to login.

Steps in a DataStage connection (5 of 7)

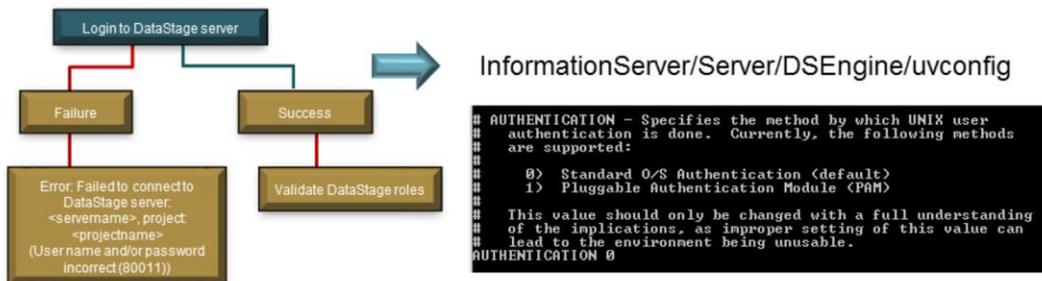
- Individual user credentials can be set
- Take precedence over default map



To check if you have an individual credential mapping set, in the Information Server Web Console under Engine Credentials, select your DataStage engine server and click Open User credentials. This will list all of the users on the system that have an individual credential map set. A user credential map will take precedence over the default user map so it is important to always check if individual maps are set. If the registry is set to Not Shared and no credential mapping is set for the user, the error “No Engine credentials were found on the Services Tier for the specified user (username) on Information Server Engine ‘servername’” is displayed.

Steps in a DataStage connection (6 of 7)

- Second authentication takes place to DataStage server machine
- Authentication method set in uvconfig file
 - Local OS or PAM



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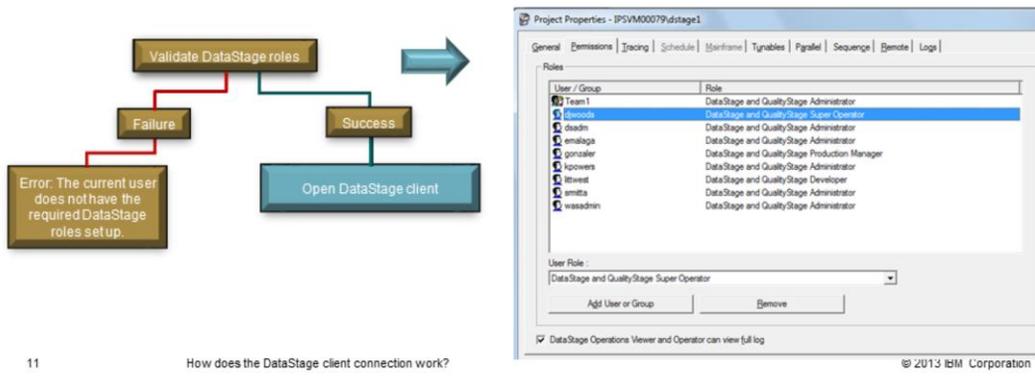
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Once Information Server has determined the login credentials for the DataStage server, it will attempt to connect to the DataStage server and authenticate. This is the second authentication that takes place and is in no way related to the configuration of the first authentication seen on slide five. By default, DataStage will use local OS authentication for the connection. If LDAP authentication is preferred, DataStage can be configured to use PAM authentication instead. The PAM client must be configured at the OS level first. Once this step is completed by the system administrator, DataStage can then be configured to use PAM authentication instead of OS authentication. If the authentication to DataStage fails, you will receive the error “Failed to connect to DataStage server: <servername>, project: <projectname> (User name and/or password incorrect (80011)).

Once the DataStage authentication succeeds, the next step is to validate the DataStage user roles against the selected project.

Steps in a DataStage connection (7 of 7)

- Validate DataStage roles
- Set by user or group
- Successful => DataStage client opens
- Unsuccessful => Error: The current user does not have the required DataStage roles set up



DataStage allows the administrator to set more granular roles for users and groups by project. A user or group that has the DataStage user role assigned in the Information Server Web Console can now be given the role of DataStage Operator, Super Operator, Developer, Production Manager, or Operations Viewer. If the user has the appropriate roles assigned to them, the DataStage client opens. If they do not, they will receive the error “The current user does not have the required DataStage roles set up.”

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