WhereScape® RED

WHERESCAPE RED RELEASE NOTES

6.8.6.0

WhereScape®

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WHERESCAPE RED 6.8.6.0 JUNE RELEASE UPDATE

JUNE 2016

WhereScape is pleased to announce that the WhereScape RED 6.8.6.0 is now available.

UPGRADING TO VERSION 6.8.6.0

To upgrade to version 6.8.6.0, login to **http://www.wherescape.com** to download RED from the downloads page in the **Support** section.
A full list of WhereScape RED's previous release notes is also available for download on the website.

Upgrading: when upgrading from previous versions of RED, it is necessary to update each RED metadata repository to complete the upgrade. This is done by completing a **validate and recompile of all metadata procedures** in WhereScape Administrator.

Please see all Important Messages that are relevant for your RED Upgrade below.

Kind Regards,

WhereScape RED Team

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WHERESCAPE RED 6.8.6.0 IMPORTANT MESSAGES

1 "Runtime Libraries Error "Missing api-ms-win-crt-runtime-l1-1.0.dll"
   Our Testing Team has discovered that, in some situations, a system error mentioning missing runtime libraries may occur. These Runtime Libraries are normally installed with the regular Windows Updates but can easily be added manually by following the Microsoft article https://support.microsoft.com/en-us/kb/2999226.
   Without this "Microsoft Visual C++ Redistributable for Visual Studio 2015" update installed, the OLAP, SSIS or new MS Tabular Cube functionality may not function correctly.

2 Due to previous changes in RED, from 6.8.6.0, users with Export objects that use double quote character as an enclosing character will need to update those Export Objects' metadata by Validating the Metadata and compiling the procedures from Setup Administrator.

3 For SQL Server, Oracle and DB2 customers using cursor based update procedures, please note that we have changed the calls to procedures/functions get_<DIM_NAME>_key within the updated procedure generation to named notation.

4 For **UNIX/Linux exports and loads** in versions after 6.8.2.0, the logic used for defining the SID value for connecting to the repository has been modified. If the ORACLE_SID environment variable is set in your Unix/Linux environment, this will be the variable used. If this environment variable is not set then the value from the Linux/Unix connection object will be used.

5 The **Linux Scheduler scripts for Oracle, Teradata and DB2** have been altered and will need to be manually applied.

6 From RED 6.8.5.0, there were changes made to the WhereScape RED Target Licenses and customers with those licenses will need to have their licenses re-issued.
   Please contact your WhereScape Sales Representative or email sales@wherescape.com.

7 When processing Teradata loads from Hive/HDFS using Apache Sqoop, the generic Teradata JDBC driver has several issues. We recommend that you use vendor supplied drivers, such as 'Hortonworks Connector for Teradata'.

8 From RED 6.8.5.0 the RED Generated Documentation is now using different images with different sizing. The format of the company_logo.jpg image has also been changed from .jpg to .png.
Customers that have created their own banners will need to resize the images according to the table below and also convert the company_logo.jpg image to .png.
The new .png files can be found in the WhereScape RED DocImages installer folder.

Previous Image File	New Image File	Action(s) required
1. company_logo.jpg (528 x 108) has been replaced by:	C:\Program Files (x86)\WhereScape\DocImages\company_logo.png new image size: (408 x 134)	company_logo.jpg needs to be **converted** to **company_logo.png** and **resized**.
2. poweredbyred.png (331 x 100) has been replaced by:	C:\Program Files (x86)\WhereScape\DocImages\poweredbyred.png new image size: (415 x 134)	**poweredbyred.png** needs to be **resized.**

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SIGNIFICANT NEW FEATURES AND IMPROVEMENTS IN RED 6.8.6.0

New Features and Improvements

1 Hive as a fully supported Target database.

2 Loads from Hive into target databases using Apache Sqoop.

3 Loads from HDFS into target databases using Apache Sqoop.

4 Support for MSAS Tabular mode databases in WhereScape RED.

5 Support for Microsoft SQL Server 2016.

6 New option to show job dependency diagram from the context menu of a job.

7 New functionality allows navigating to the object in the browser pane from the reports pane.

8 New option to set a default directory for browsing Windows, Linux and Hadoop connections.

9 Native ODBC loads to Oracle now support inclusion of Options clause for SQLLoader call.

10 Improved Metadata table structures for Teradata.

IN THIS CHAPTER

MSAS TABULAR MODE FUNCTIONALITY ENABLED IN WHERESCAPE RED

WhereScape RED 6.8.6.0 introduces the new MSAS Tabular Mode functionality enabled for SQL Server, Oracle, Teradata and DB2 repositories, which is available only for Dimension, Fact and EDW3NF objects.
To be able to use this new RED functionality, users will need to ensure they have a Microsoft Analysis Services Server running in Tabular mode available.

An instructional video is available on the Wherescape website:
https://www.wherescape.com/support/wherescape-university/wherescape-red-tabular-models-video/

In addition, the following step-by-step instructions provide an overview of the the new Tabular functionality in RED, detailing the following:

- Ensuring the installation of Microsoft Analysis Services Server is running in Tabular mode
- The creation of a new Tabular connection with associated tabular targets
- Setup of an MSAS connection string in the DataWarehouse connection
- Creating Fact, Dimension or EDW3NF tables by Dragging and Dropping, then choosing a Tabular Target Location
- Querying the results via Excel

1   Follow your SQL Server setup's Installation to "New SQL Server stand-alone installation or add features to an existing installation" option to ensure that your Analysis Server Configuration has been installed for **Tabular Mode**.
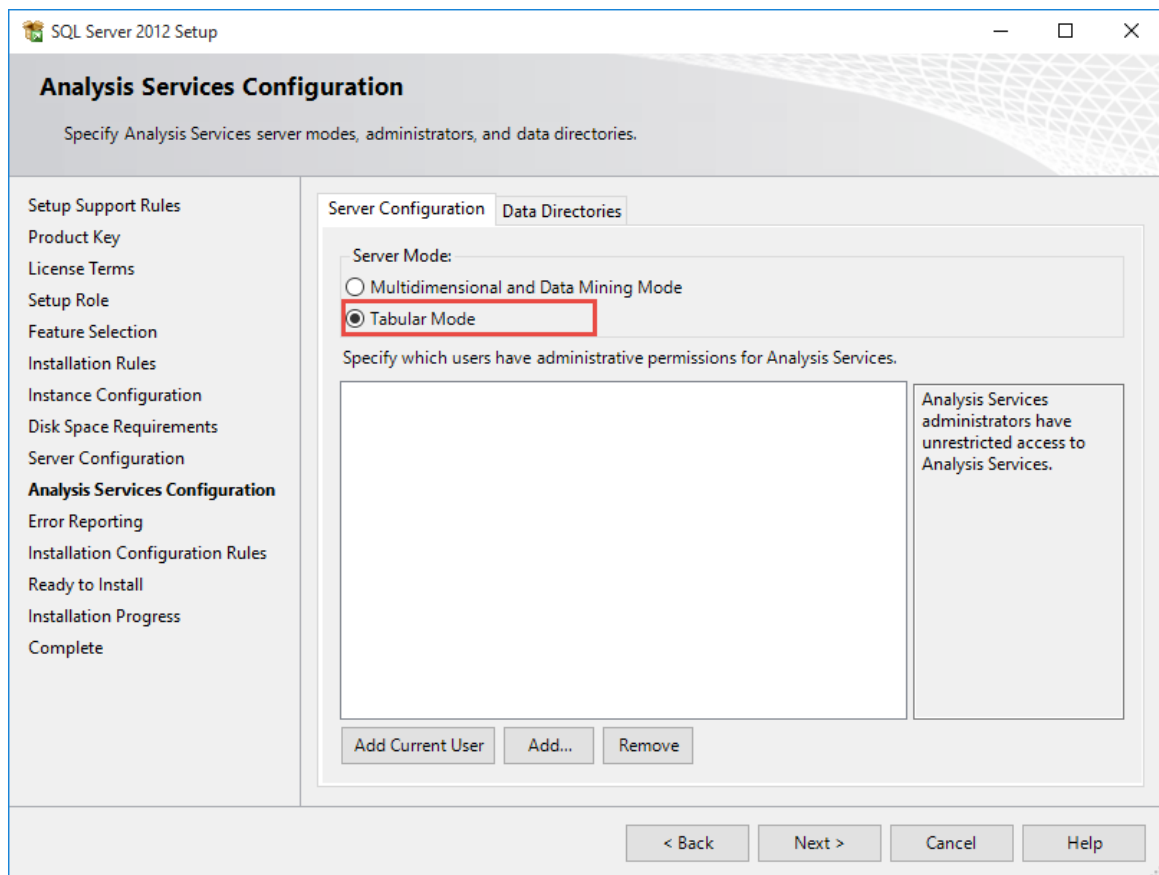

2   In RED, create a new **Connection**.

- Give your connection a relevant name for your system. In this example, we have named the connection "Tabular".
- Click **Add**.
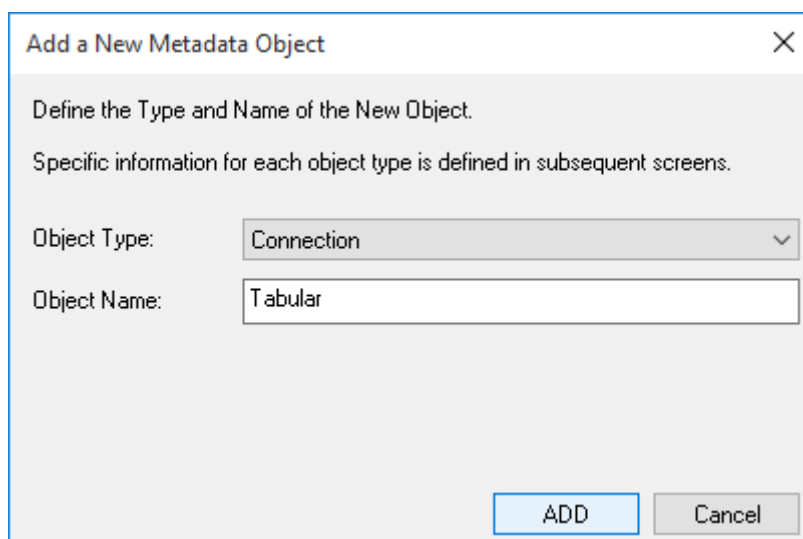
3 Select "Microsoft Analysis Server 2005+" for your **Connection Type**.

- Select "Tabular" for your **Server Mode**.
- Select the **SSAS Client Version** to connect for your SSAS database.

Please note it is recommended that the client version matches the database version.
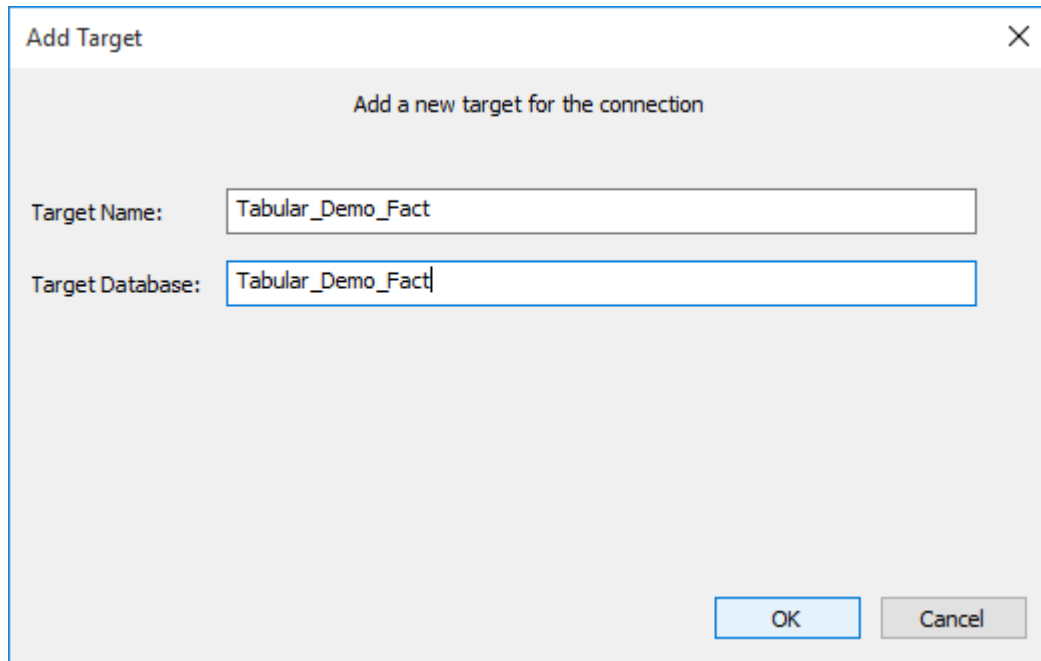
- For the **Analysis Services (SSAS) Server Name**, enter the same server name used when installing Microsoft Server Analysis Services in Tabular Mode.
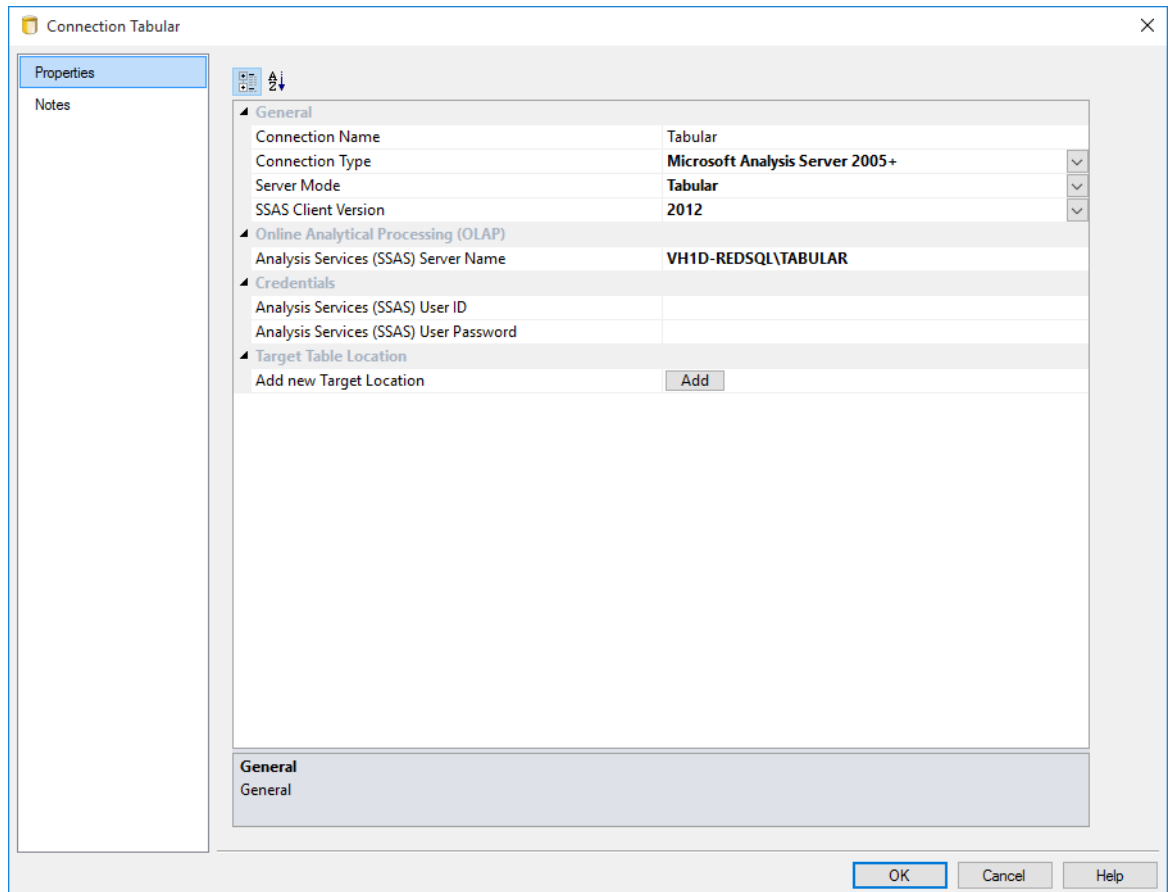
Note: If you are running RED or the Scheduler on a machine which does not have SQL Server Analysis Services 2012 running on it then the required SQL Server Analysis Management Objects (AMO) will be missing. Installing the SQL Server 2012 Feature Pack from Microsoft will install the SQL Server AMO. You may also need to specify the port number of the Analysis Services instance. To find your port number, follow the procedure documented in this Microsoft article: https://support.microsoft.com/en-us/kb/2466860.

An example of your Analysis Server (SSAS) Server Name using the port number in RED would be: VH1D-REDSQL:49449\TABULAR

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4 Create your Tabular targets by clicking the **Add** button and entering a name for the Target and the Target Database.

- The **Target Name** will be the relevant Tabular Database's name displayed in RED.
- The **Target Database** will be the relevant Tabular Database's name displayed in Analysis Services.

5 For the ease of exploring the new Tabular functionality in RED and differentiate it from the existent database tables, we have created another Project and named it "Tabular".
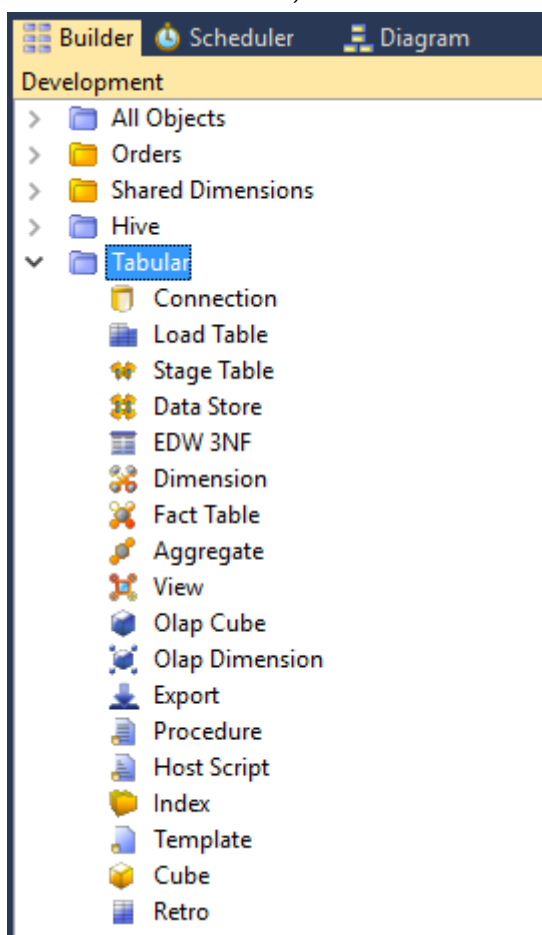
6 Click on your **Datawarehouse** connection and ensure you have set your MSAS Connection String and other relevant Analysis Server required fields.

If you have already set the MSAS Connection String for use with Multidimensional (OLAP) Cubes, you should not need to change it.

For more information about setting up this connection string, refer to section 1*7.1.2 Defining the Data Source for the OLAP Cube* of the RED User Guide.
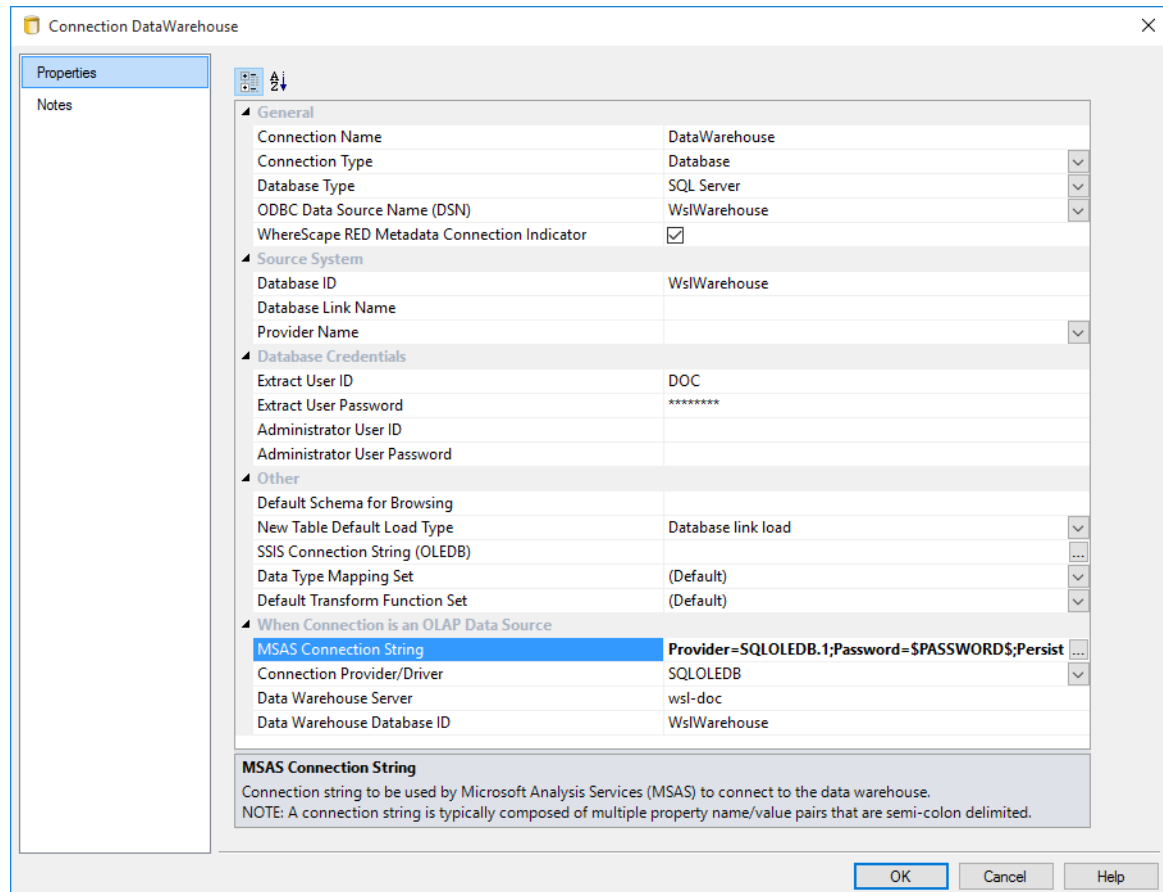
7 Browse your **Datawarehouse** connection.

8 Within your Tabular Project, click on the **Fact Table** object group on the left pane to set your work pane to be your Fact Tables.

9 Then from the right pane, drag a **Fact Table** into the middle pane, rename it with a tabular or relevant reference and select the Tabular target you want to place the table in.

- We have renamed this table to "fact_order_detail_tabular" and selected the "Tabular_Demo_Fact target" to place it in.
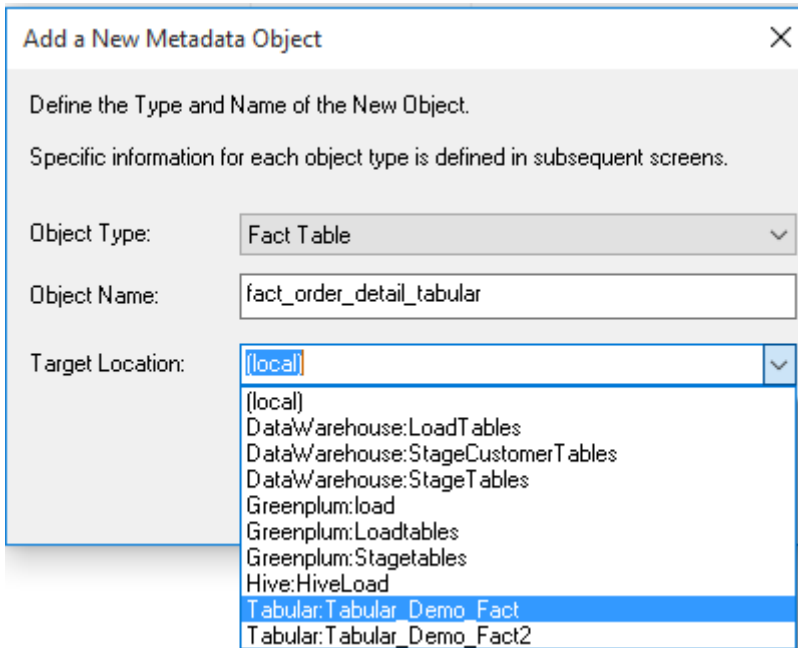
10 Click **OK** on the Properties screen.

11 When a new Tabular fact table is created, all numeric columns that are market as additive (apart from key columns) will have auto-created measure totals.

12 If the created columns are not relevant for the table, they can be deleted by using the right-click option to **Delete Column**.

13 To add new **measures** to your Tabular Fact table,   right-click on a column in the middle pane and click **Add Columns.** In the table column properties, set the following fields:

- **Column name:** "measure_sales_total"
- **Business Display Name:** "Sales Total"
- **Type:** Measure

14 Click the **Transformation** tab, add **SUM** to the Column   Transformation Code and then select a sales column from the list. Click **OK**.
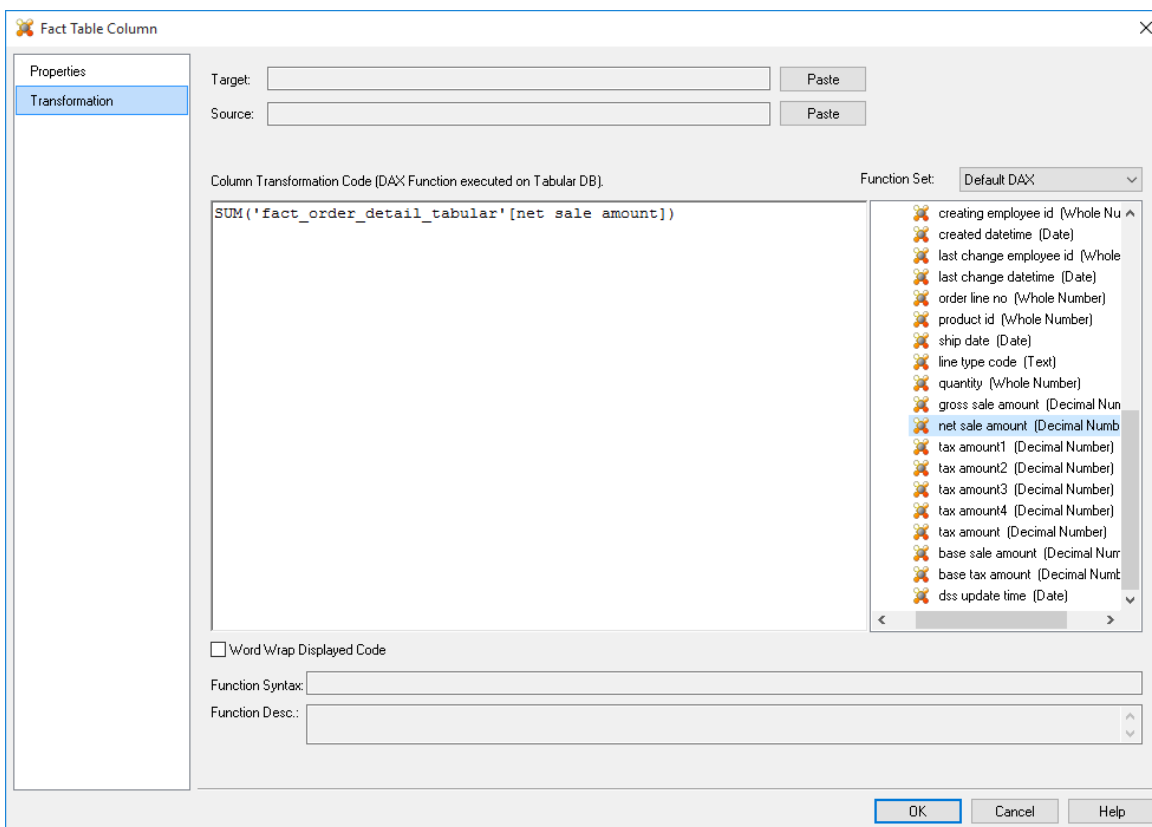
15 To add **calculated columns** to your Tabular Fact tables, right-click anywhere in the middle pane and click **Add Column**.

16 In the table column properties set the following fields:
- **Column name:** "combined_tax"
- **Business Display Name:** "Combined Tax"
- **Type:** Column

17 Click the **Transformation** tab and select the following:

- **After Load** as as the Transformation Stage
- **Default DAX** as the Function Set
- Add a **SUM** and select the tax amount columns from the list of available columns on the right
- Click **OK** on the fact column transformation screen
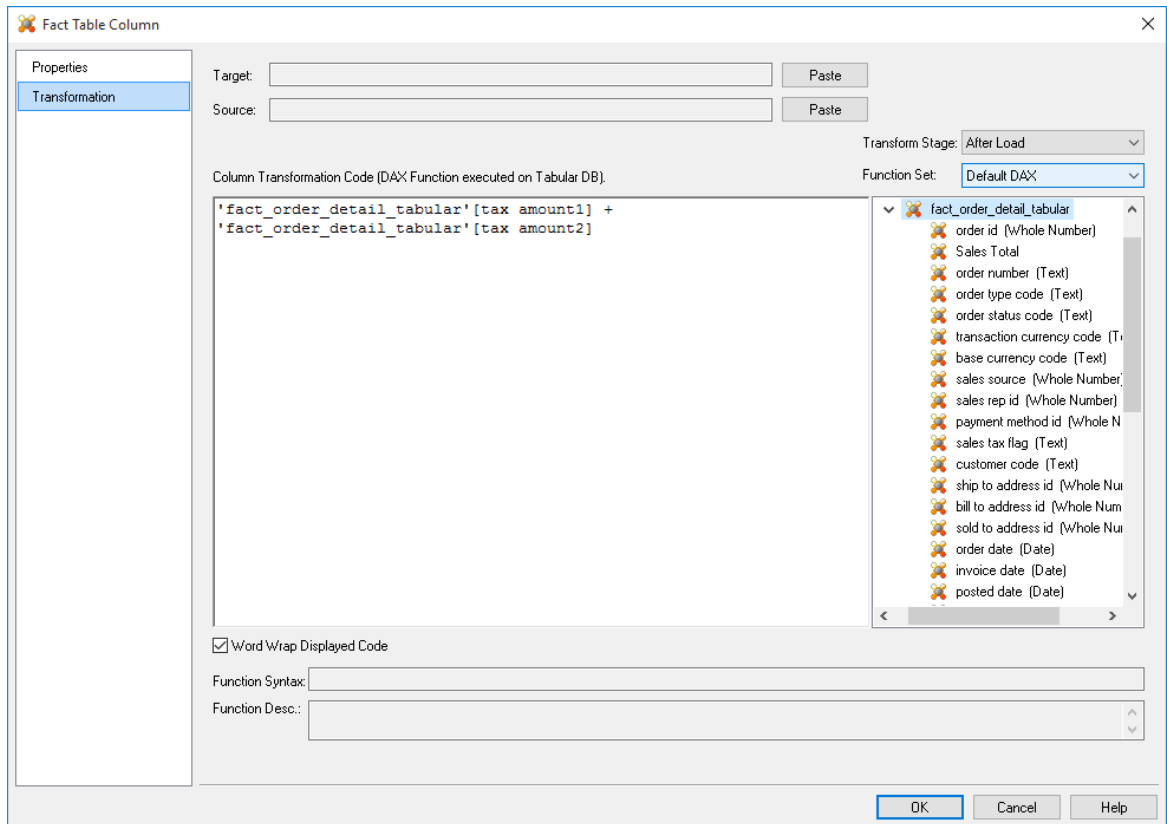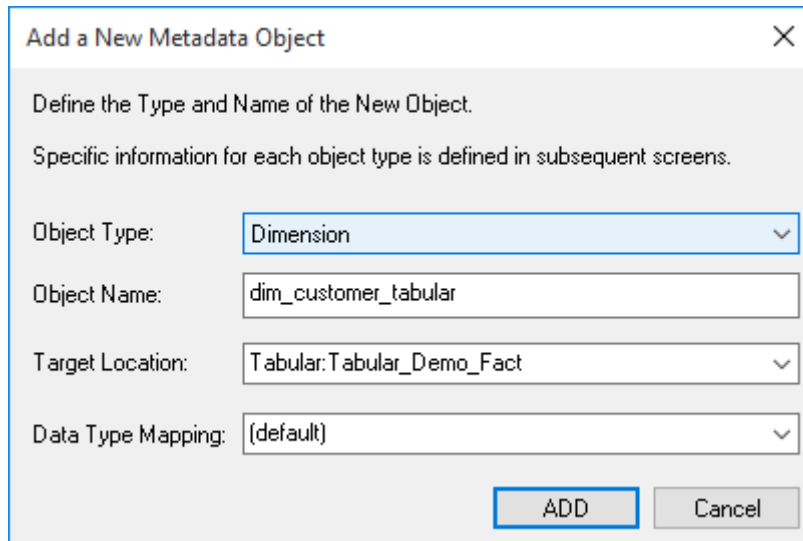
18 Right click on the table **fact_order_detail_tabular** from the left pane and select **Create(Recreate)**.

19 After the table has been recreated, right click again and select **Update** to update the table.

20 Browse your Datawarehouse connection again, set your work pane to be Dimension tables and drag your Customer Dimension from the right pane into the middle pane Dimension group.

21 Change the **Object Type** from Dimension View to **Dimension** and give the table a relevant name.

- Select a tabular target location to place the table.

22 Click **OK** on the Properties screen.

23 Right click on the dim_customer_tabular table from the left pane and select **Create(Recreate)**.

24 After the table has been recreated, right-click again and select **Update** to update the table.

25 Repeat steps 19 to 23 for all other dimension tables joined to your tabular fact table.

26 Right-click the **fact_order_detail_tabular** and select **Query Via Excel** to view the table in Excel.

NOTE: RED operations such as Validate Against Database, Generate Statistics, Table Row Count and Regenerate Indexes are currently not supported with Tabular mode.

SETTING A DEFAULT DIRECTORY FOR BROWSING WINDOWS, UNIX/LINUX AND HADOOP CONNECTIONS

With 6.8.6.0 of WhereScape RED, users can set a default directory for browsing Windows, UNIX/Linux and Hadoop Connections.

In your UNIX/Linux connections, scroll to the Default Path for Browsing field and browse or type the initial directory you want to use after browsing Windows, UNIX/Linux and Hadoop Connections
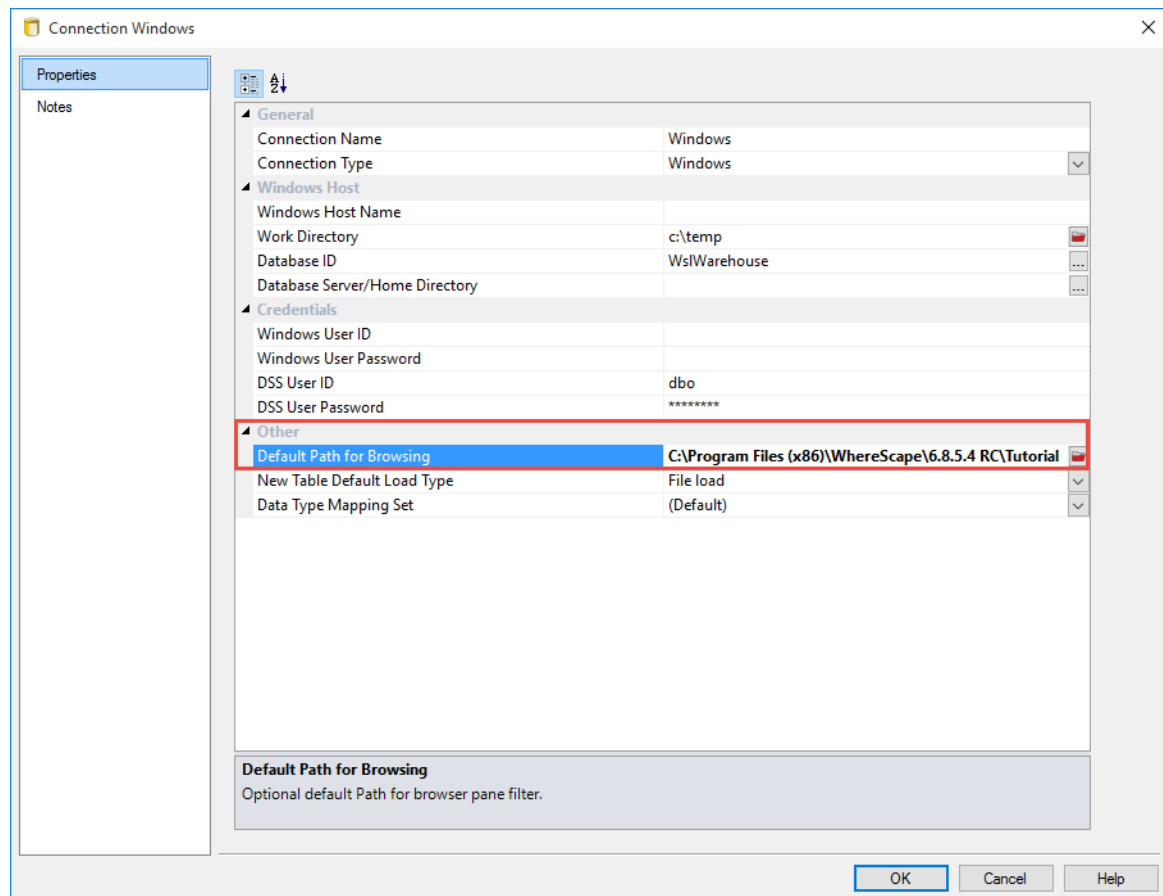
When a path has been selected in this field, it becomes the initial point for browsing and it is also expanded on open in the right hand browser pane.
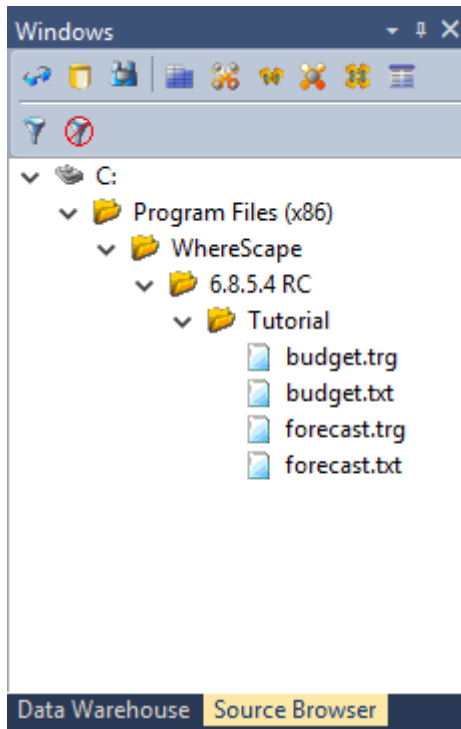
NEW OPTION TO SHOW JOB DEPENDENCY DIAGRAM FROM THE CONTEXT MENU OF A JOB

RED has been improved with the new **Show Dependency Diagram** option in the Scheduler pane. This enables users to right click on any job and view all job dependencies displayed as a Diagram.

RESOLVED ISSUES IN RED 6.8.6.0

Changes since 6.8.5.0

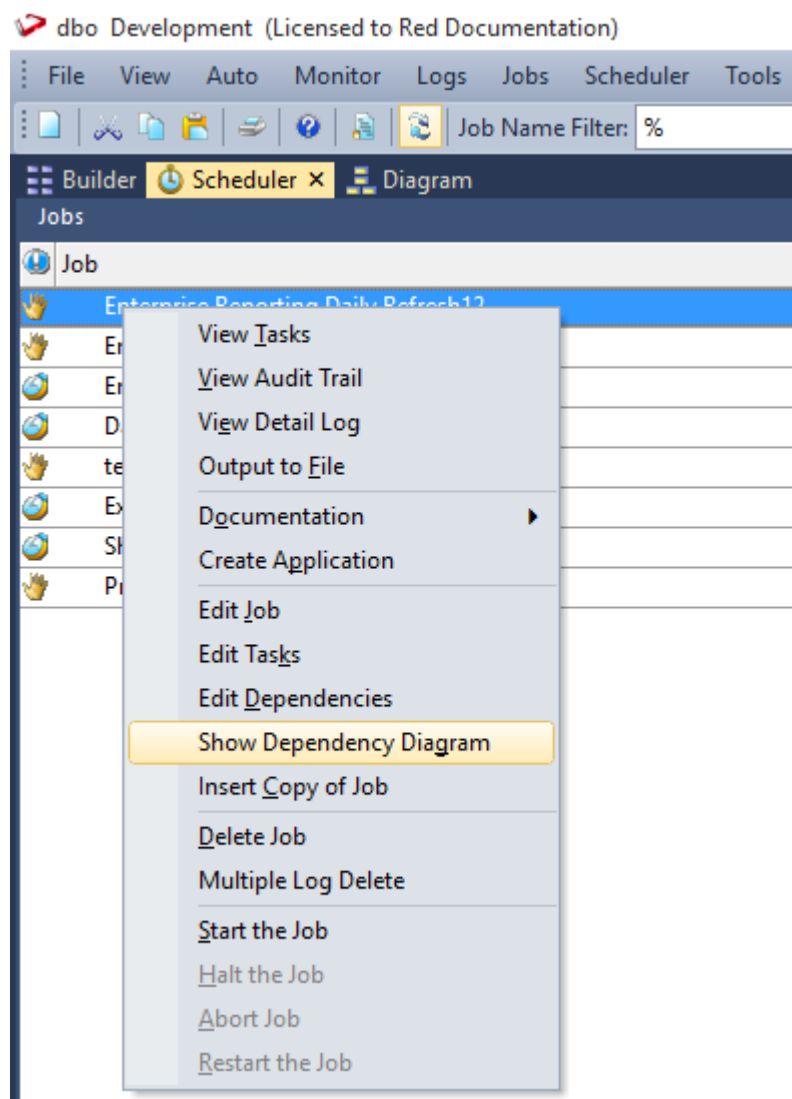| Database	Key	Release Note
Improvements		
Common	RED-5077	File based Connections can now have a default browser path entered. When provided the path provided becomes the starting point for browsing and is also expanded on open.
Common	RED-5375	The following dialog boxes have had their list boxes widened and will use a horizontal scroll bar when the text entered into them is long: Procedure Compilation, Cursor Map, Validate Tables, Validate Procedures, Validate Indexes, Validate Load Tables.
Common	RED-6132	The Job Task dialog can be resized.
Common	RED-6143	Procedure return messages show now keyword "distinct" if DISTINCT data select was chosen.
Common	RED-6419	Column names will have leading and trailing whitespace trimmed. Invalid characters, including internal whitespace, will not be modified.
Common	RED-6204	The Setup Administrator process will return one value from a set of well known exit codes from its process when exiting. The set is: AdmExitedNormally = 0 InternalMfcError = 1 CommandCancelled = 2 RequiredParameterMissing = 3 OdbcError = 4 FileIoError = 5 ServiceControlManagerError = 6 OracleCompilationError = 7 MetaDataError = 8 ItemsCheckedOut = 9
Common	RED-6281	Any DDL specified in 3D will now be exported to RED. If the object is a VIEW it will be of type 'user defined view'.

Common	RED-6321	Enabled send to file for meta validate report.
Common	RED-6348	New item on Results Pane context menu to clear the results.
Common	RED-6378	3 additional fields now available for Job Report display: Scheduler, Threads and Job Frequency. To enable use menu option in scheduler (Tools/Select Job Report Fields) and drag required fields to where required on the report.
Common	RED-6425	New context menu option added to reports pane to locate reported object within the Object Pane.
Common	RED-6456	New job context menu to show dependency diagram.
Common	RED-6564	Job Edit Scheduler List now includes all available schedulers to allow selection of named scheduler to limit processing to.
Common	RED-6704	Business key is now retained when dragging and dropping from tables within the datawarehouse.
SQLServer, Teradata	RED-5414	The 'View Create Statement' will be formatted nicely when viewed via non-WhereScape tools e.g. executing a 'SHOW VIEW view_name;' statement in Teradata SQL Assistant, or similar command in SQL Server Management Studio.
Oracle	RED-6611	Native ODBC loads to Oracle now support inclusion of Options clause for SQLLoader call. An example being OPTIONS(DIRECT=TRUE).
Teradata	RED-4607	Improved exit handler and removed need for grant to select a DBC table.
Teradata	RED-5581	The DDL for new Teradata metadata repository tables has been redesigned to improve query performance. Metadata tables are now distributed on object key or job key and the tables are multiset, with unique constraints if required. The metadata varchar and char columns are now created as CHARACTER SET LATIN which negates the requirement to set the repository database collation as LATIN. NOTE: these changes are not applied if upgrading an existing metadata repository.
Teradata	RED-6549	The JDBC connection string used by BDA for Sqoop loads can now include $OBJECT_DATABASE$, which is replaced by the name of the database containing the object. This is required for loading into Teradata using the Teradata-specific Sqoop Connection Manager.
Teradata	RED-6555	Some Teradata procedure generation has change to move 'zero key' row insert to be last step in process order to improve initial load performance.

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Hive	RED-5662	Added dialogue for BDA job progress. The new dialogue shows job status, running time and the last message from the server. It has two buttons: Run in the background (closes dialogue and job continues to run on the server; note that no further feedback is provided) and Halt (attempt job abort; not guarantee to succeed -- in case of failure job continues to run in the background).
Hive	RED-5773	Requests to the BDA server are now authenticated using a cryptographic message authentication code to prove that the client has access to the metadata. BDA client applications have been updated to supply this authentication information automatically.

Resolved Issues		
Common	RED-5883	The load data wizard will now correctly create hi-ascii column labels. Note that these may still be displayed incorrectly in the data wizard.
Common	RED-773	WhereScape supplied date roll procedures in base_1 applications and tutorials have been updated to improve the calculations and to include: Current_Fin_Day, Current_Fin_Quarter, Moving_Fin_Quarter.
Common	RED-6110	When creating a View Alias that uses single quotes in its where clause, RED will correctly escape the quotes.
Common	RED-6189	When importing an application with Setup Administrator either via the command line or interactively, the ID and version of the application will be correctly copied into the metadata.
Common	RED-6236	Now shows correct active flag for index types displayed when double click All Objects project or a specific project or a specific group.
Common	RED-6352	When selecting the Add to Project menu item from the context menu shown when right-clicking an object in the middle pane, this operation will now add all associated objects (including indexes which were not previously added) into the target project when the Include Associated Objects option is selected.
Common	RED-6384	New option added to Auto Refresh of scheduler window settings to control maximum number of rows displayed via autorefresh
Common	RED-6403	Corrected faulty query in Glossary creation.
Common	RED-6515	Default browsing schema for connections now supports spaces in the list of schema.
Common	RED-6547	Disable Show Columns check box in Diagram Selection dialog when a Job is selected.

Common	RED-6832	The tables being created during importation, and their columns, will have their names passed through the same validity checks that WhereScape RED uses when drag/dropping to create a table. The source tables of these tables and columns, as listed in the XML file, will not have encapsulation identifiers added i.e. [ ] or " ".
SQLServer, DB2, Oracle, Teradata	RED-881	The Failure Command can now be enabled to be executed due to Job Dependency failure. Once-only jobs will now leave a log entry in the scheduler window.
SQLServer, DB2, Oracle, Teradata	RED-3285	Changing the order of a load table's columns and not re-creating the table will not affect a load of type Database Link Load and ODBC Load.
SQLServer, DB2, Oracle	RED-5942	Changed calls to procedures/functions get_<DIM_NAME>_key to named notation to remove dependency of argument order. This only applies to Cursor based update procedures.
SQLServer, DB2, Oracle, Teradata	RED-6052 RED-6138 RED-6199	A change to how Export Object's enclose-by character was saved into metadata if set to double quote character was introduced in release 6.8.1.2 -- it was no longer saved as a single character but instead it was preceded with escape (backslash) character. This change has now been reverted and all export code (file/script, interactive/scheduler) has been modified to support this. Note that this is potentially a breaking change -- in order to force RED to update your Export Objects' meta you may need to open and resave preferences for all your Export objects that use double quote character as an enclosing character. This change also includes fixes for handling of single quote and backslash characters when used as enclosing characters for Export Objects. However, with single quote and backslash characters there have been no changes to meta and no action is required to update Export Objects using single quote or backslash characters as enclosing characters. SQL Server only: enclosing characters have previously not been added when column type was 'nchar' or 'nvarchar'. This issue is now resolved. Scheduler fix requires stored procedures to be updated.
SQLServer	RED-6260	Fixed issue on SQL Server with multiple parent jobs calling same child job.
SQLServer	RED-6441	Fixed issue with update expiring rows when change track column is a surrogate key.
Oracle, Teradata	RED-6297	View object DDL has been corrected where the word 'from' was found in the from/where clause.
Oracle	RED-6383	Compress option no longer available for Oracle bitmap indexes.

Oracle	RED-6406	Fixed issue that causes an error for the rebuild of a procedure of a dimension in Oracle.
Teradata	RED-3953	Teradata 'Load Metadata from Disk' now creates all metadata tables as multiset.
Teradata	RED-6127	Corrected issue with Create and Load of XML file to Teradata not referencing the correct load target.
Teradata	RED-6149	Teradata application import with native procedure/script loads will now include local ansi characters.
Teradata	RED-6198	The size of the transform code was limited to 256 characters. Increased this limit to 4000 characters.
Teradata	RED-6292	Teradata ws_act_host_script has improved null handling for export object metadata.
Teradata	RED-6449	Fixed issue when default database in the ODBC connection points to a different WhereScape RED repository in Teradata.
Teradata	RED-6463	Changes made to the methods used to save generated procedures within RED to improve overall meta update performance.
Teradata	RED-6505	Corrected teradata script load to correctly identify latest file to load if that option is selected
Teradata	RED-6563	Corrected table reference for Teradata Build View Join clause to eliminate duplicated []'s.
Netezza, Greenplum	RED-6351	Corrected options for load post load procedure generation for Netezza and Greenplum
Greenplum	RED-5442	Fixed issue with returns codes from failed stored procedures when using Greenplum ODBC driver from DataDirect.
Greenplum, PDW, Hive	RED-6122	Fixed issue with pre drop of indexes for PDW in scheduler
Hive	RED-6028	Diagrams are now Hive/target aware for Load tables and their source.
Hive	RED-6464	A data type mapping for loading from SQL Server varbinary columns into Hive has been added.

SIGNIFICANT NEW FEATURES - PREVIOUS VERSIONS

IN THIS CHAPTER

SIGNIFICANT NEW FEATURES 6.8.5.0

Detailed Features

1 Multiple default object subtypes can be set in Tools/Options

2 ValueColumn setting added for Microsoft Analysis OLAP Cubes' attributes

3 Default storage location enabled for all available objects

4 Target databases enabled for Teradata Data Warehouses

5 Improved File Load Wizard and default load options

6 Change of storage location enabled for multiple objects

Other New Features

1 WhereScape RED now supports Teradata 15.10 as a data warehouse database

2 WhereScape RED certified for PDW AU4 upgrade

3 Azure SQL Database enabled as a new Metadata Repository/Data Warehouse

4 Flat file loads into PDW using dwloader

5 For Teradata TPT script-based loads from files, the check for source file existence can now be omitted from the script, making it easier to use built-in TPT functionality.

IN THIS CHAPTER

MULTIPLE DEFAULT OBJECT SUBTYPES CAN BE SET IN TOOLS/OPTIONS
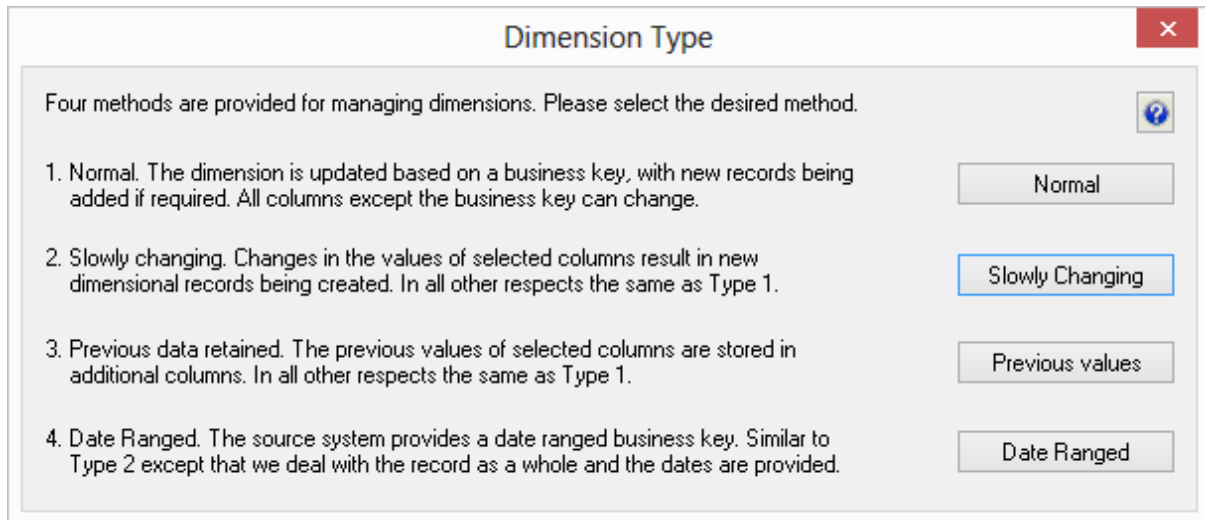
The setting of default object sub types has been extended and it is now possible to set default sub types for all for enabled object types in RED.

To set default sub types for an object type in RED, go to **Tools/Options -> Object Sub Types**.

As an example, to have **Dimension** objects created in RED as **Changing Dimensions** at the time of drag and drop, select the **Changing Dimension** option in the **Default Sub Type for Dimension Objects**.
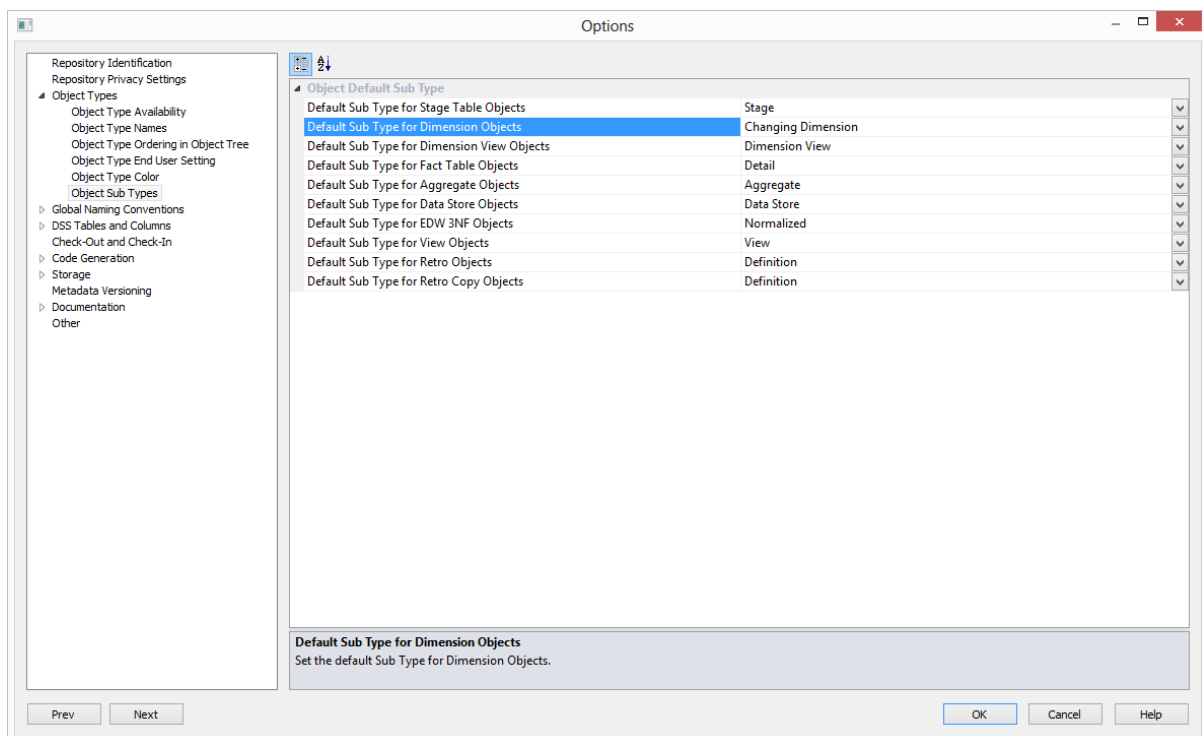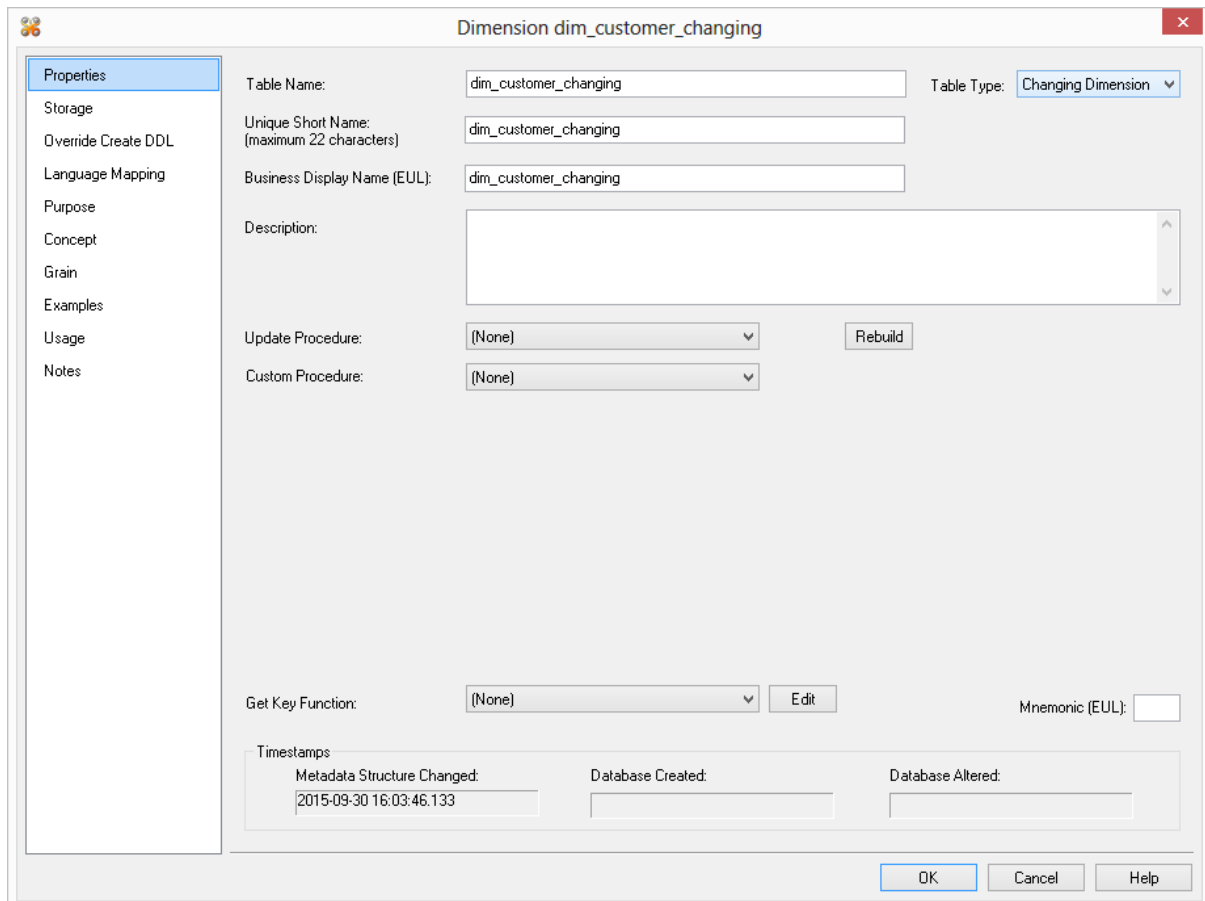
After the table is dragged and dropped, users can simply hit enter to proceed on the Dimension Type where the Slowly Changing type is already defaulting to the sub type option previously selected in Tool/Options.

The Dimension Properties' screen will reflect the selected table sub type on the **Table Type** drop-down list.

VALUECOLUMN SETTING ADDED FOR MICROSOFT ANALYSIS OLAP CUBES' ATTRIBUTES

New functionality for defining Microsoft Analysis OLAP Cubes Dimension Attributes has been added to RED. In addition to adding Key column and Name column setting, now **ValueColumn** settings can also be defined in RED.
Value Column setting specifies the details of the binding to the column containing the member value.

Using the Value Column OLAP cube attribute setting for Excel date filtering
In the relevant OLAP Date dimension ensure the OLAP Dimension Type property is set to "Time", then for the Key Attribute of the OLAP Date Dimension (e.g. dim_date_key) set the Value Column property to a date data type column (e.g. calendar_date). Usually it will be useful to set the Name Value property for the Key Attribute to a column containing a textual date format (e.g. dates presented in dd/mm/yy format). After publishing and processing the OLAP cube use Microsoft Office Excel PivotTables to expose date-specific filtering options for this dimension's hierarchies instead of label filtering options.

Note: For the ValueColumn setting to work, enabling date filtering in Excel Pivot Tables, the **OLAP Dimension Type** property must be set to **Time**.

DEFAULT STORAGE LOCATION ENABLED FOR ALL AVAILABLE OBJECTS

Table Location Options enables users that are placing objects across multiple schemas or databases to set default target locations for new tables.

In order to be able to use the target location functionality, the **Allow Object Schema** option must be enabled in the Repository Identification - see **Settings - Repository Identification** in the RED User Guide.

Default table target locations can be set for the following objects: **Load, Stage, Dimension, Dimension View, Kpi Fact, Fact, Aggregate, Join Index (Teradata Only), Data Store, Normalized and View Default.**
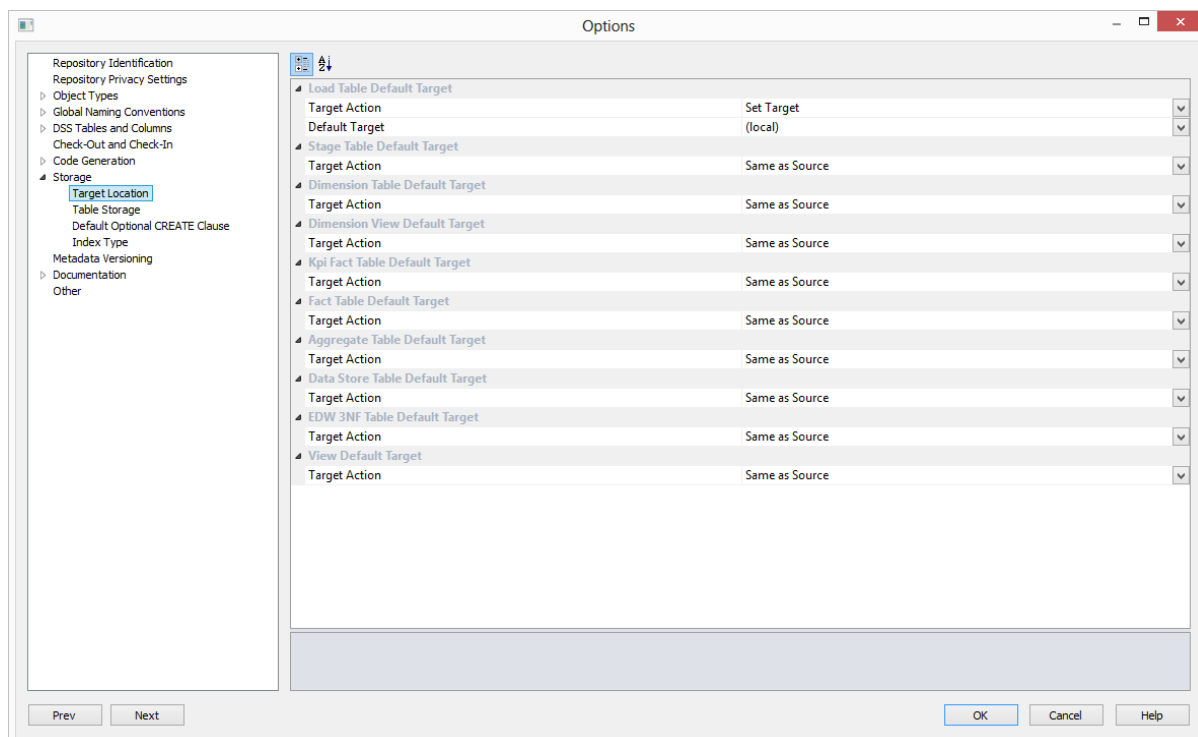
Target Location

Set Target

This option enables users to set a target and enables the Default Target drop-down list where a specific target for new tables can be selected.
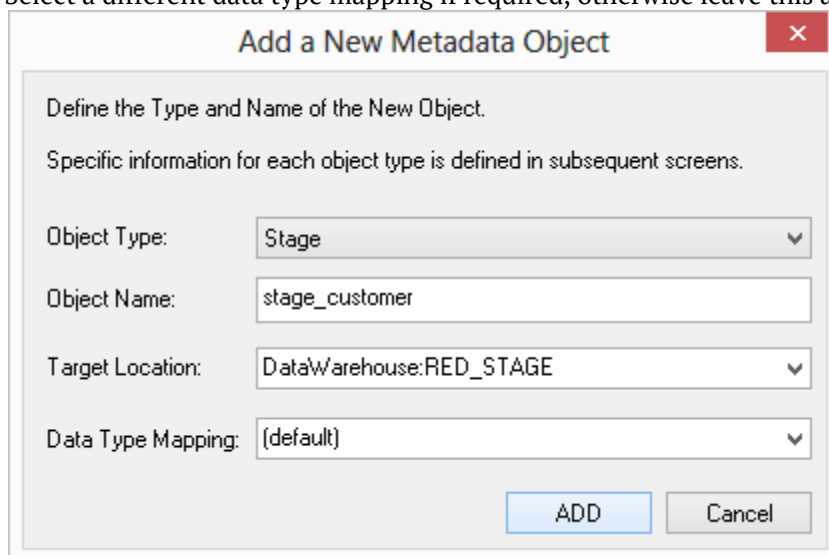
Same as Source

This option should be selected if the table's default storage should be same as the original source where the table is coming from. This option cannot be selected for Load Tables.

Default Target

A default target can only be entered if the **Set Target** action has been selected in the Target Action drop-down list.
With this option users can choose between setting a table's default location to **(local)** or to any other **target locations** that have been defined in the relevant connections.

1   When defining a new table in RED, the correct target location options should be set in the **Target Location** options before the table is created in the database.
    However, when using **drag and drop**, it is also possible to change the target database location of a particular table as you create it.

   • To locate a table in different target locations, select the relevant **Target Location** from the target location drop-down list as you drag and drop the table.

   • Select a different data type mapping if required, otherwise leave this as (default).

3. Even though the default target   is typically set in the Target Location Options, this setting can also be changed after the table has been created on the **Storage** tab of each table's Properties screen. To see more information about changing the schema after a table has been created, refer to the **Table Storage Properties** topics in User Guides.

IMPROVED FILE LOAD WIZARD AND DEFAULT LOAD OPTIONS

In WhereScape RED 6.8.6.0, the Flat File load wizard has been improved for file loads from **Windows, UNIX/Linux** and **Hadoop** connections.
After the **drag and drop** process from the right pane to the middle pane, the following dialog will display for these connection types.

1 The load type defined in the connection dialog will be the pre-selected option in the **Load type** drop-down list.

- To change the desired load type and file parsing, use the **Load type** and **File parsing** drop-down list options.
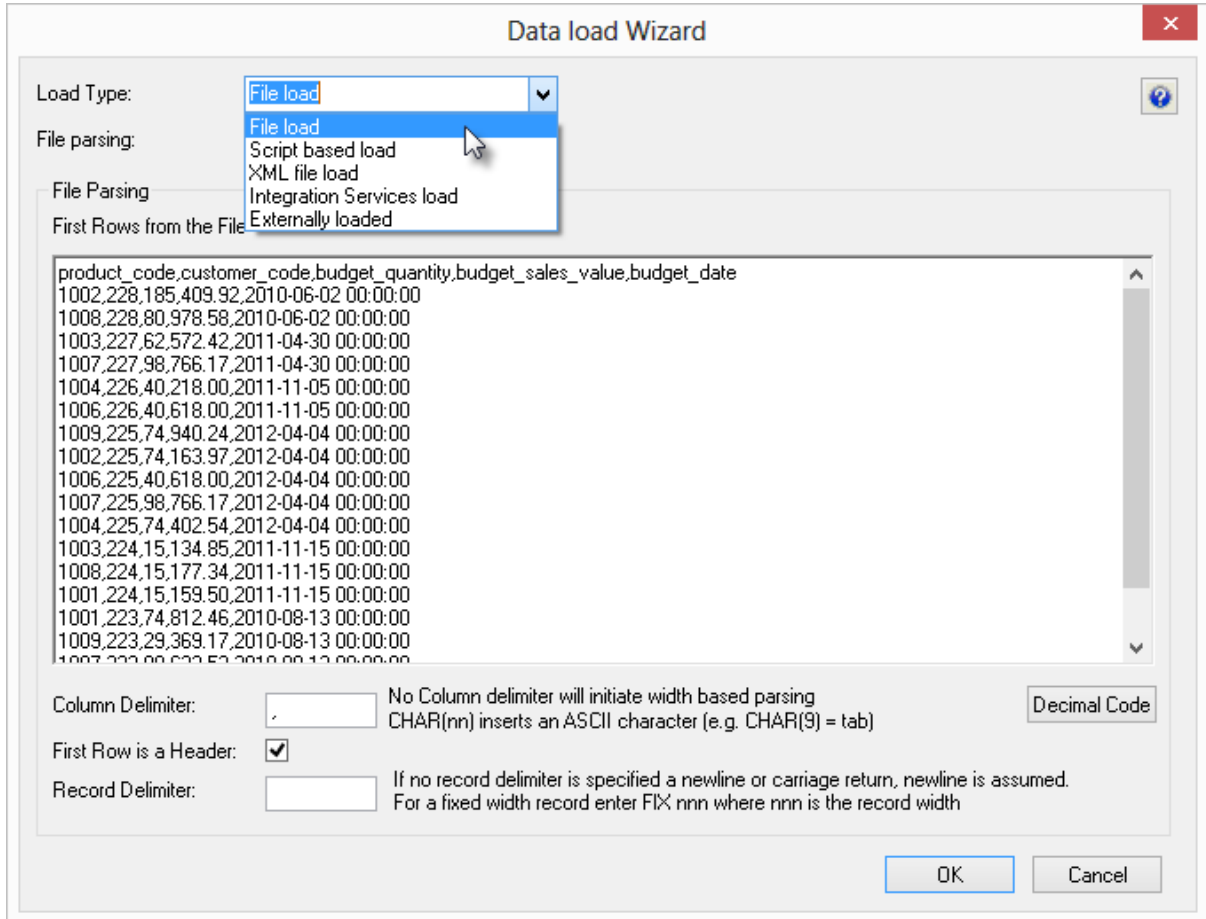
WhereScape RED TIP: To set or change the default load type for file loads, set the desired load type in the **New Table Default Load Type** field of the relevant connection.
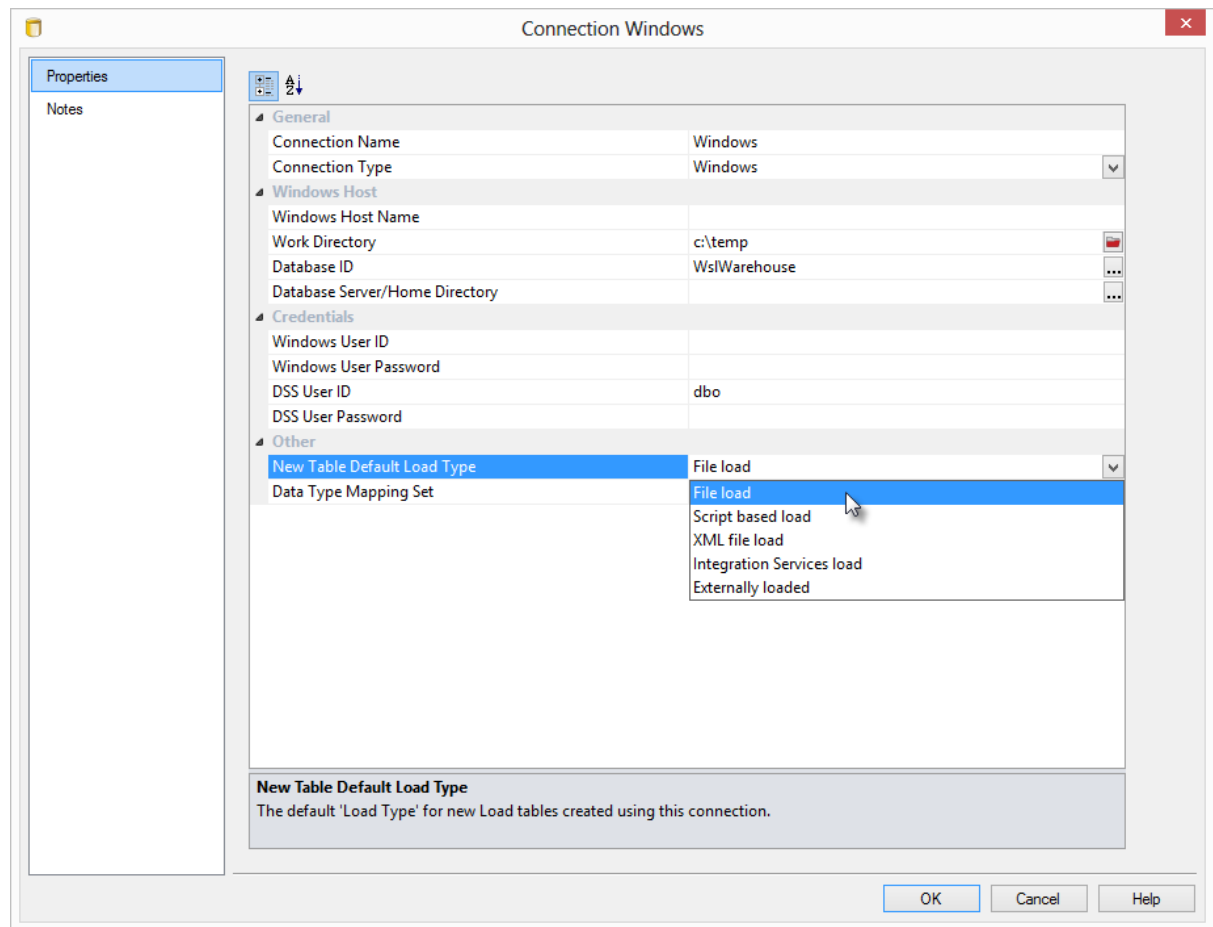
2   For more information on **Load type options** and **File Parsing options**, please refer to the **Flat File Load** sections in the User Guides.

# TARGET DATABASE LOCATIONS ENABLED FOR TERADATA DATA WAREHOUSES

RED 6.8.6.0 introduces "targets" on connections for Teradata Data Warehouses. This new feature allows the user to define the database storage for a table on a connection level enabling simpler handling of deployments and database storage changes.
The basic steps to use target locations in WhereScape RED for Teradata are:

- Ensure the relevant target databases exist in Teradata. Create any databases that do not exist.
- Set the **Enable Targets for setting object location** option in the RED Repository Identification options.
- Add one or more target locations to the Data Warehouse connection in RED for each database you intend to use.
- Configure the Data Warehouse connection in RED to browse all required databases by default.
- Set the default target locations for **new tables** in the RED **Table Location** options.
- When defining a new table in RED, check and ensure the correct target is set on the **Storage** tab.

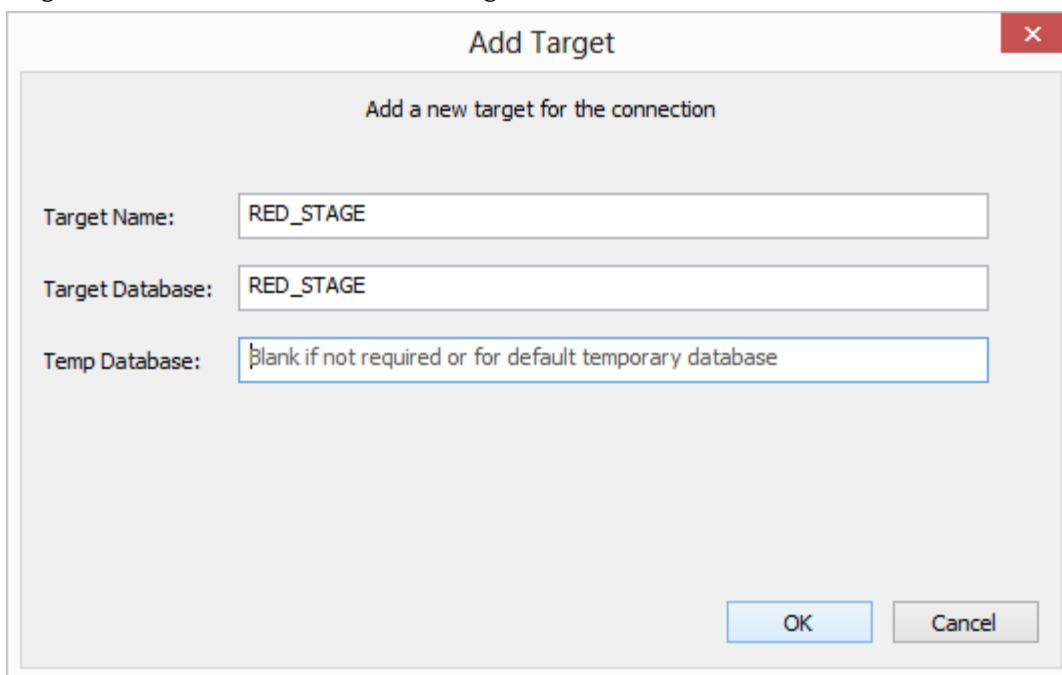**Highlights for using Target database locations for Teradata Data Warehouses in RED:**

1   After logging in to WhereScape RED, make sure the   **Enable Targets for setting object location** option is set in the **Tools->Options->Repository Identification** settings.
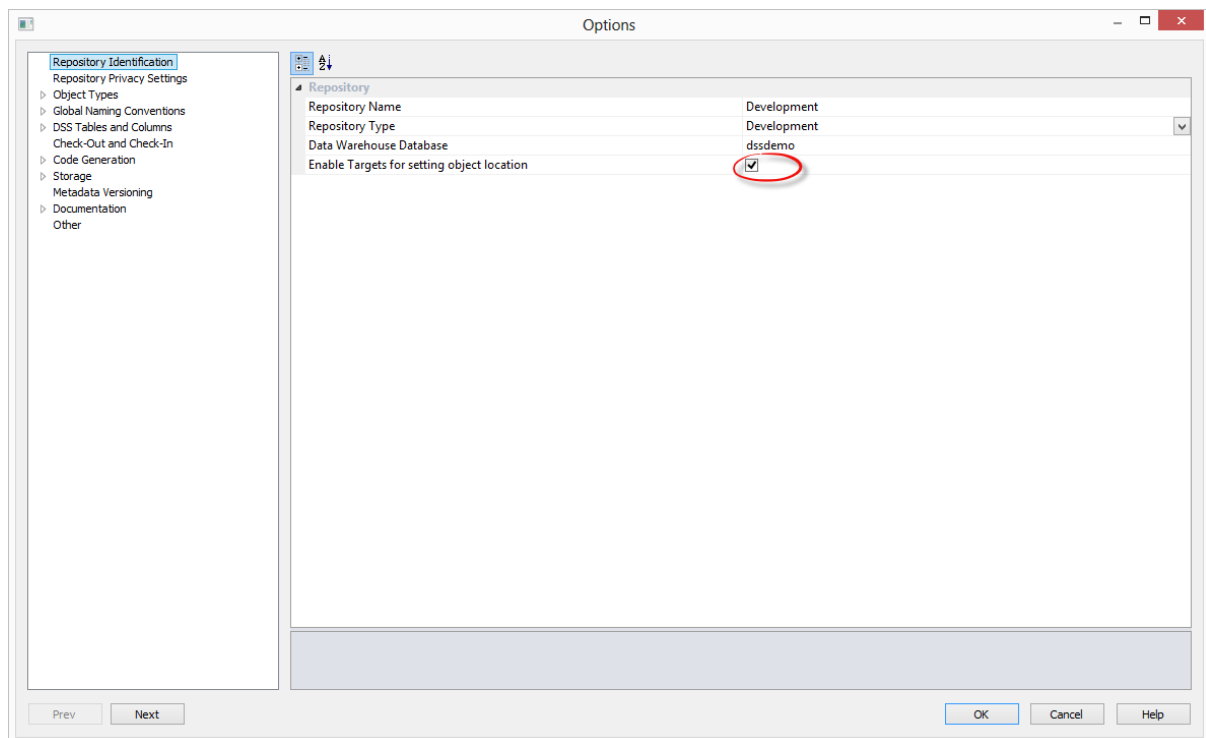
2 Add one or more target locations to the Data Warehouse connection in RED for each target database you want to use:

- Click the **Add** button to add the required target locations for this connection.
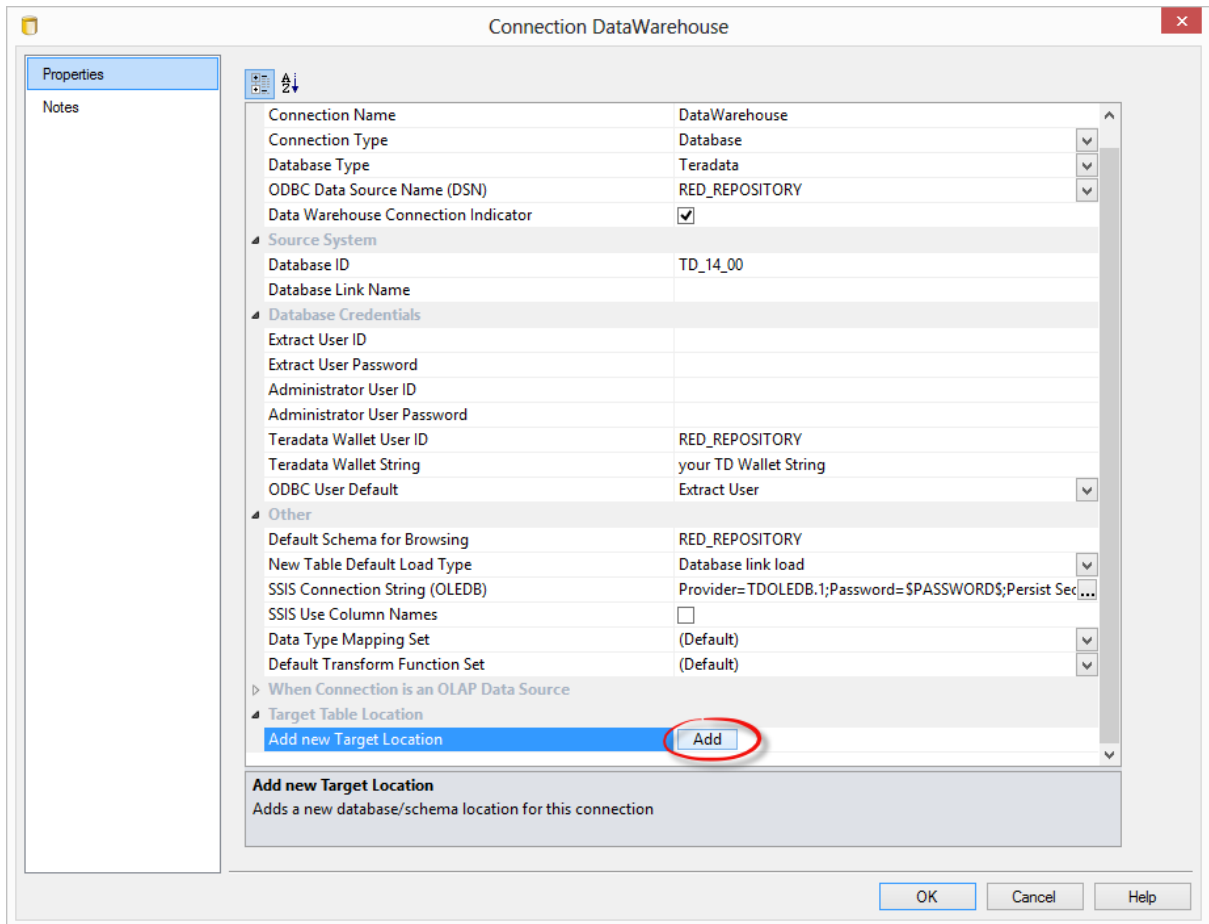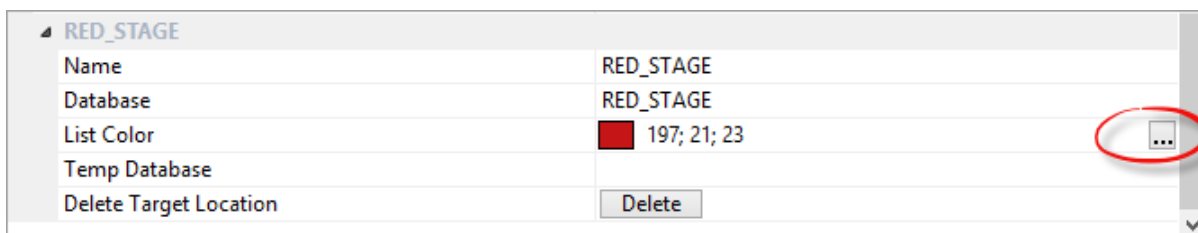
3 Give the new **Target Database** a name and then enter the target's database. It is best to set the target name to the same name as the target database.

4 Expand the target locations to change target database location colors or to delete target databases.

5 Still in the **DataWarehouse** connection, add the new databases to the **Default Schema for Browsing** field separated by commas.
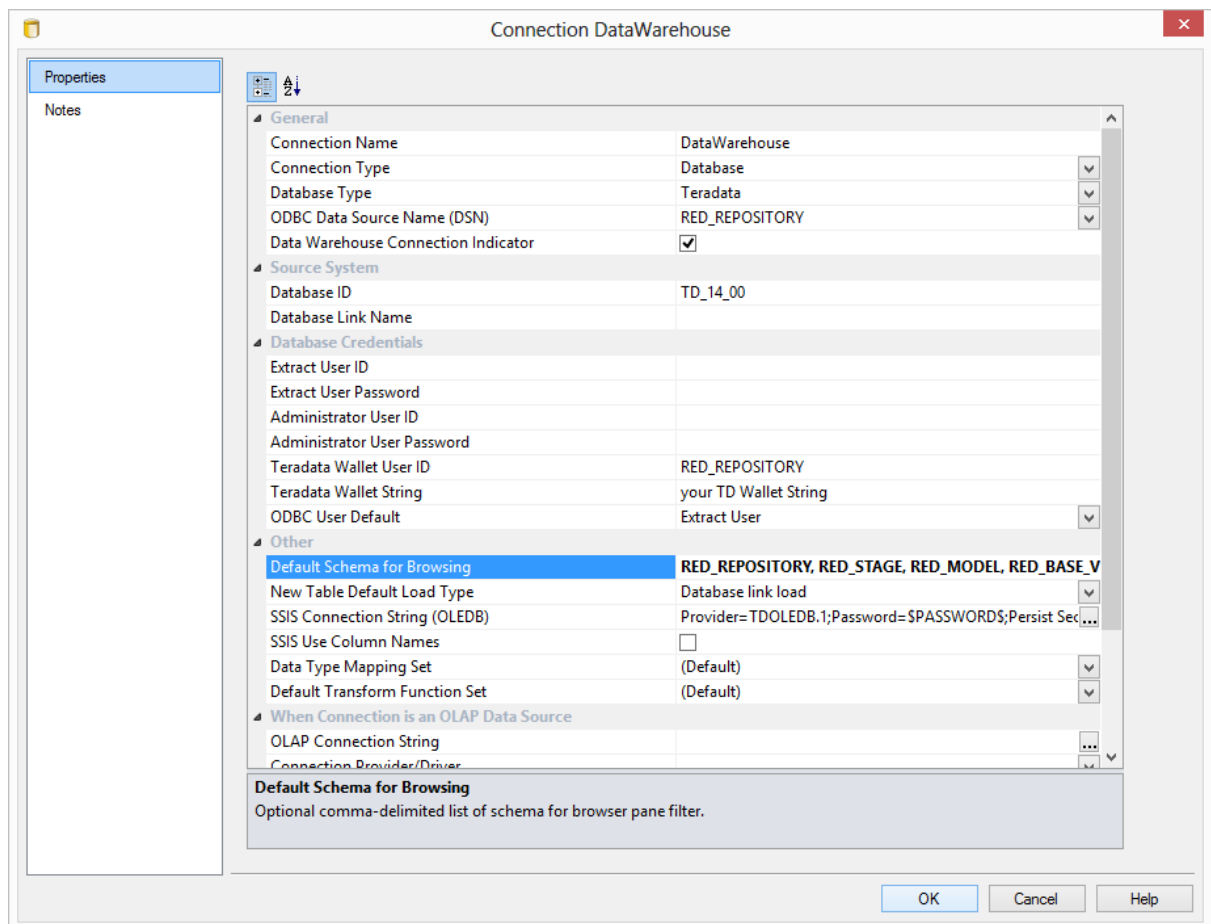
NOTE: While browsing this connection, RED will then display a list with all the target databases and their associated objects on the right-hand browser pane.

6 You are also able to set the default target location for **New Tables** in **Tools/Options**. This default target location is only applied when a new table is created, not for existing tables.

- Select between the **Set Target** option to set a default target location for new tables (or to to use the table's storage) or

- **Same as Source** to place new tables in the same database as their source.
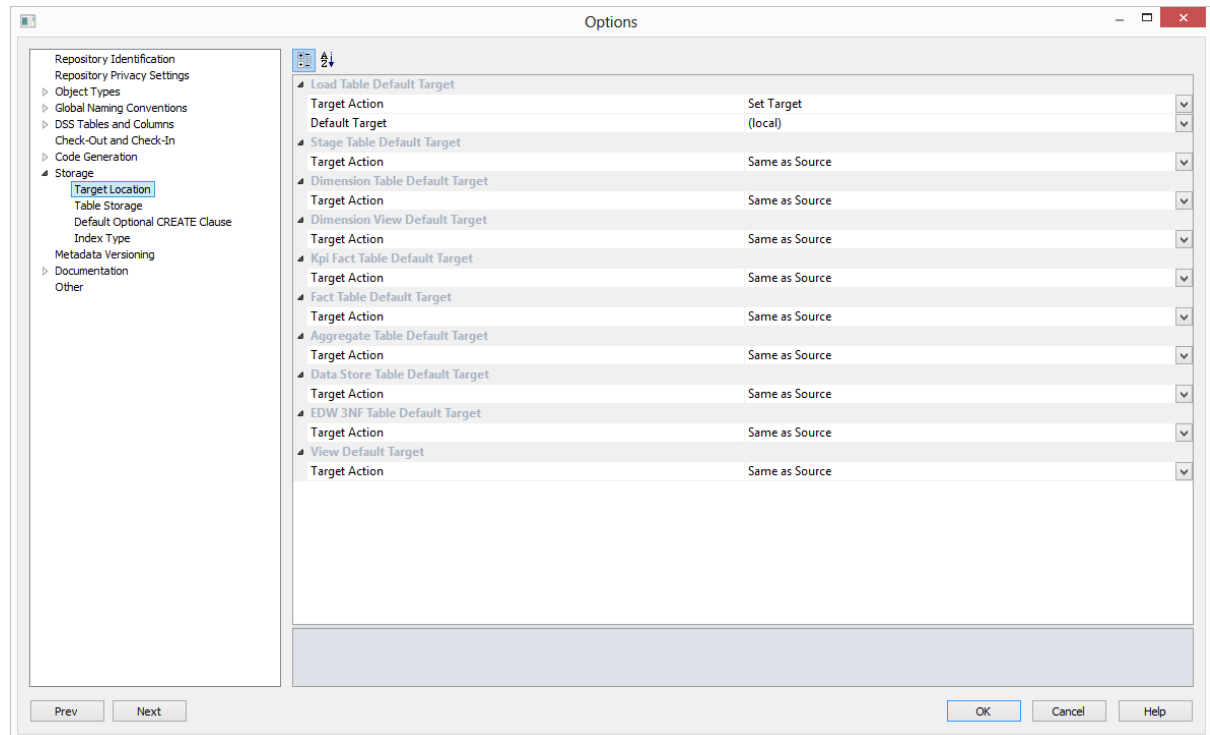
7 Follow the usual steps for creating objects by using the drag and drop functionality.
As you are defining a new table in RED, ensure the correct target location options are set in the **Target Location** options before creating the table in the database.
When using drag and drop, it is also possible to change the target database location of a particular object as you create it.
After a table has been created, it is also possible to change its target location on the **Storage** tab of the table's Properties screen.

NOTE: When upgrading from a RED version previous to 6.8.2.0 and moving existing objects to a target location, all procedures that reference those objects will need to be rebuilt.
Any **FROM** clauses will also need to be manually regenerated in order for the table references to be updated to the new [TABLEOWNER] form.

CHANGE OF STORAGE LOCATION ENABLED FOR MULTIPLE OBJECTS

Table Storage locations can be changed through the Storage tab on a table's Properties dialog but with WhereScape RED 6.8.6.0 they can also be changed in bulk by using the following process:

1 Double-click on the desired object group in the left pane. This will display all the tables in that group in the middle pane.

2 Select the tables that you wish to change the storage for using standard Windows selection.

3 Right-click to bring up a menu and select **Storage**.

4 On the Target Schema Location Selection dialog, select the desired **Connection** for the schema change.

- Select the new Target location to change all the selected load tables in bulk on the **Target** drop-down list.
- Select any new required Filegroups in the **Filegroup** drop-down list in Oracle and SQL Server databases.
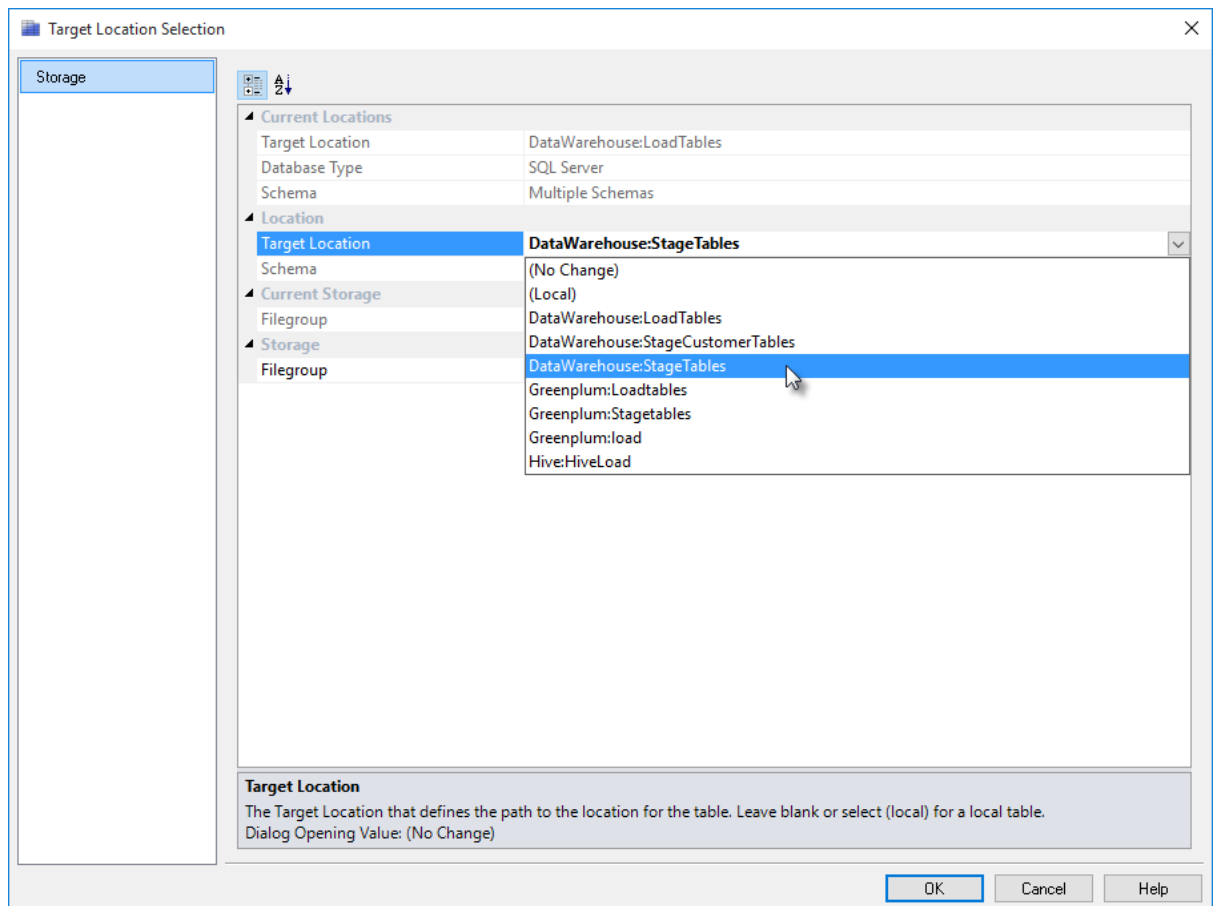
5 Follow the next dialogs to complete the bulk storage change.
Please note that **all procedures** from the affected tables will need to be **manually changed or regenerated** after a bulk storage change.

6 If the database type does not support moving tables such as Oracle, Greenplum, Netezza, Teradata and PDW, all affected tables will also need to be **manually recreated** after the storage change.

WARNING: Please note that changing the Storage for Dimension and Fact tables will need to be handled very carefully as artificial key relationships between Dimension and Fact could become out of sync.
Recreating Fact Tables and large Dimension tables might take a considerable amount of time.

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