WhereScape Enablement Pack for Azure Synapse

This is a guide to installing the WhereScape Enablement Pack for Azure Synapse for WhereScape RED 8.6.1.x

Prerequisites For SQL Server Metadata

Before you begin the following prerequisites must be met:

- Create Database and ODBC DSN :
    - Supported* version of SQL Server or Azure SQL
        - A database to house the RED Metadata Repository.
          Note : This needs to be Empty Database with optional permissions SELECT,INSERT,UPDATE,EXECUTE
        - A database for the Range Table DB (Optional)
- Software Installations
    - WhereScape RED version 8.6.1.0 or higher with valid license key entered and EULA accepted
    - WhereScape Enablement Pack for target database version 8.6.1.0 or higher

- Windows Powershell (64 bit) version 4 or higher
    - To check Windows Powershell Version:
        - Run below command in Windows Powershell

```
Get-Host|Select-Object Version
```

        - Run below command in Command Prompt

```
powershell $psversiontable
```

* : *RED supports the following versions for the metadata repository: MS SQL SERVER 2012 to 2019 and Azure SQL DB*

Prerequisites For Azure Synapse

Before you begin the following prerequisites must be met:

1. Access to an Azure Synapse (Target Environment), with the following connectivity information:
    a. Server Name
    b. Database Name
    c. User Name
    d. Password
    e. At least one schema available to use as a RED Data Warehouse Target
    f. Connection String to connect to Azure Synapse
        i. e.g Server=tcp:<server>,<port>;Database=<database>;User ID=$USERNAME$;Password=$PASSWORD$;
           Trusted_Connection=False;Encrypt=True;Connection Timeout=30;
    g. Blob Storage Setup
        i. Azure Storage Account Name
        ii. Azure Storage Account Access Key
        iii. Azure Storage Container Name
        iv. External Data Source Name
2. Azure Synapse software installed
    - Azure Synapse ODBC driver (64-bit)
        a. Add ODBC DSN for Azure Synapse Target Database
    - .Net Framework 4.8 or higher
    - Windows Powershell version 5 or higher
    - Azure Storage powershell functionality installed.

a. Run these commands in "Windows PowerShell":

    i. **[Net.ServicePointManager]::SecurityProtocol = [Net.SecurityProtocolType]::Tls12**
    ii. **Install-Module Az.Storage**

b. Note: make sure this is done using a 64-bit powershell terminal

* : *RED supports the following versions for the metadata repository: MS SQL SERVER 2012 to 2019 and Azure SQL DB*

Enablement Pack Setup Scripts

The Enablement Pack Install process is entirely driven by scripts. The below table outlines these scripts, their purpose and if "Run as Administrator" is required.

#	Enablement Pack Setup Scripts	Script Purpose	Run as Admin	Intended Application
1	install_New_RED_Repository.ps1	Setup and configure a **new** RED Metadata Repository for Snowflake	Yes	New RED installations ONLY
2	install_WslPowershell_Modules.bat	Installs or updates WslPowershell Modules on this machine	Yes	New and Existing installations
3	import_powershell_templates.ps1	Imports or updates the Powershell Templates to a RED Metadata Repository. Also includes any Script or Procedure Imports	No*	Existing installations
4	set_default_templates.ps1	Applies the RED Connection defaults in a RED Metadata Repository for Python or Powershell templates	No*	Existing installations

* *Note that on some systems executing Windows Powershell scripts is disabled by default, see troubleshooting for workarounds*

Each Powershell script in the list above provides some help at the command line, this can be output by passing the "-help" parameter to the script.For Example > .\install_New_RED_Repository.ps1 -help

Step-By-Step Guide

Setup and configure a new RED Metadata Repository for Snowflake

Run Powershell as Administrator:

```
Script 1 > Powershell -ExecutionPolicy Bypass -File .\install_New_RED_Repository.ps1
```

Install or Update WhereScape Powershell Modules

Run Script As Administrator

```
Script 2 > install_WslPowershell_Modules.bat
```

Install or Update WhereScape Powershell Templates (For Existing Installations)

Run Script as Administrator

```
Script 2 > install_WslPowershell_Modules.bat
Script 3 > import_powershell_templates.ps1
Script 4 > set_default_templates.ps1
```

Note : Skip this step for new installations.

Set Connection defaults for a Template Set (For Existing Installations)

```
Script 4 > set_default_templates.ps1
```

Post Install Steps - Optional

Configure Connections

There were two connections added that will optionally require your attention:

1. Azure Target Connection : Set below extended properties
   - Blob Storage Account
   - Blob Storage Access Key
   - Blob Storage Container
   - Blob Data Source
2. Connection: 'Database Source System' - this connection was setup as an example source connection,
   - open it's properties and set it up for a source DB in your environment
   - or you can remove it if not required

Enable Script Launcher Toolbar

There are a number of stand-alone scripts which provide some features, these scripts have been added to the Script Launcher menu but you will need to enable the menu toolbar item to see them.

To enable the Script Launcher menu in RED: Select menu item 'View->Toolbars->Script Launcher'

Source Enablement Pack Support

Source Pack Name	Supported By Azure Synapse	Supported Features
Amazon S3	No	None
Azure Data Lake Storage Gen2	Yes	Load file from Azure Data Lake Storage Gen2 bucket to Azure Synapse Install Python package: • pip install azure-storage-file-datalake Required Properties: • Azure Data Lake Storage Gen2 Account Name • Azure Data Lake Storage Gen2 Access Key • Azure Data Lake Storage Gen2 SAS Token • Azure Data Lake Storage Gen2 Container Name • Azure Data Lake Storage Gen2 Directory Name (Created in Container)
Google Drive	No	None
Google Cloud	No	None

Troubleshooting and Tips

Run As Administrator

Press the Windows Key on your keyboard and start typing cmd.exe, when the cmd.exe icon shows up in the search list right click it to bring up the context menu, select "Run As Administrator"

Now you have an admin prompt navigate to to the folder where you have unpacked your WhereScape Red Enablement Pack to using the 'cd' command:

C:\Windows\system32> cd <full path to the unpacked folder>

Run batch (.bat) scripts from the administrator prompt by simply typing the name at the prompt and hit enter, for example:

C:\temp\EnablementPack>install_WslPowershell_Modules.bat

Run Powershell (.ps1) scripts from the administrator prompt by typing the Powershell run script command, for example:

C:\temp\EnablementPack>Powershell -ExecutionPolicy Bypass -File .\install_New_RED_Repository.ps1

Notes: In the event you can not bypass the Powershell execution policy due to group policies you can instead try "-ExecutionPolicy RemoteSigned" which should allow unsigned local scripts.

Windows Powershell Script Execution

On some systems Windows Powershell script execution is disabled by default. There are a number of workarounds for this which can be found by searching the term "Powershell Execution Policy".

Here is the most common workaround which WhereScape suggests, which does not permanently change the execution rights:

Start a Windows CMD prompt as Administrator, change directory to your script directory and run the WhereScape Powershell scripts with this command:

- cmd:>Powershell -ExecutionPolicy Bypass -File .\<script_file_name.ps1>

Restarting failed scripts

Some of the setup scripts will track each step and output the step number when there is a failure. To restart from the failed step (or to skip the step) provide the parameter "-startAtStep <step number>" to the script.

Example:

Powershell -ExecutionPolicy Bypass -File .\<script_file_name.ps1> -startAtStep 123

Tip: to avoid having to provide all the parameters again you can copy the full command line with parameters from the first "INFO" message from the beginning of the console output.

Setting the Snowflake driver LogLevel setting in the Windows Registry

The default LogLevel for Snowflake driver is set too high and can produce undesired info messages on the error stream. This in turn can cause some tasks look like failures in RED even though they were successful.

To disable the diver logging you can run the registry file provided in this Enablement Pack, or alternatively open it in a text editor to see the required changes.

Registry file: ".\Auto Execute\Disable Snowflake ODBC Driver Logging.reg"

Note: The Snowflake ODBC DSN level setting for Tracing must also be set to 0

Python requirements for offline install

Additionally to the base Python installation being required, the WhereScape Python Template set also requires certain additional Python libraries. The install scripts uses the PIP (package manager) to download these libraries, however for offline installs you will need to install the required libraries yourself.

Required Python libraries/add-ons:

- pywin32-ctypes
- python-tds
- pywin32
- glob2
- gzip-reader
- regex
- pyodbc

If a valid RED installation can not be found

If you have Red 8.5.1.x or higher installed but the script (install_New_RED_Repository.ps1) fails to find it on you system then you are most likely running PowerShell (x86) version which does not show installed 64 bit apps by default. Please open a 64 bit version of Powershell instead and re-run the script.

AzureRM migration warning when executing load table

"WARNING: Because the Az modules have all the capabilities of AzureRM modules and more, we will

retire the AzureRM.."

If you get this warning in RED while executing load template,run below commands in Powershell as administrator

```
Enable-AzureRmAlias -Scope CurrentUser
Disable-AzureRmAlias -Scope CurrentUser
Install-Module Az.Storage
```