

# Install Guide - SetupWizard - Snowflake - RED 10.2

## WhereScape Enablement Pack for Snowflake - RED 10.2

This is a guide to installing the WhereScape Enablement Pack for Snowflake for WhereScape RED

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### Prerequisites For PostgreSQL Metadata

Before you begin the following prerequisites must be met:

- Create Database and ODBC DSN :
  - Supported\* version of PostgreSQL (PostgreSQL 12 or higher)
    - A database to house the RED Metadata Repository.
    - A database for the Range Table DB (Optional)
    - A database to house scheduler (Optional)
- Software Installations
  - WhereScape RED10 with valid license key entered and EULA accepted
  - WhereScape Enablement Pack for target database version RED10
- 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
```

- Run the following command using PowerShell
  - The security protocol TLS 1.0 and 1.1 used by PowerShell to communicate with PowerShell gallery has deprecated and TLS 1.2 has been made mandatory

```
[Net.ServicePointManager]::SecurityProtocol = [Net.ServicePointManager]::  
SecurityProtocol -bor [Net.SecurityProtocolType]::Tls12  
Register-PSRepository -Default -Verbose  
Set-PSRepository -Name "PSGallery" -InstallationPolicy Trusted
```

- Progress bar placeholder info line

```
Install-Module -Name PoshProgressBar -SkipPublisherCheck -Force
```

\* : RED supports the following versions for the metadata repository: PostgreSQL 12 or higher

## Prerequisites For Snowflake

Before you begin the following prerequisites must be met:

- Create Database and ODBC DSN :
  - Snowflake ([ODBC driver version 2.22.01 or higher\(64-bit\)](#))
    - At least one schema available to use as a RED Data Warehouse Target
    - Snowflake driver Log Level set to 0 in the Windows Registry and the Snowflake DSN Tracing set to 0

### Configuring DSN using key-pair authentication:

- Generate either an encrypted version of the private key or an unencrypted version of the private key followed by public key generation. Attach the key to Snowflake account.
- Create a new DSN and enter the following details:
  - **Server** : <account\_name>.snowflakecomputing.com
  - **User** : Snowflake username
  - **Role/Warehouse/Database/Schema** : optional defaults
  - **Authenticator** : snowflake\_jwt
  - **Private Key File Path** : Path to rsa\_key.p8 file
  - **Private Key Password** – required only if encrypted
- Click **Test** in the ODBC DSN setup window.

Snowflake Configuration Dialog

Data Source: snowflake\_mfa

User: [redacted]

Password: [redacted]

Server: [redacted].snowflakecomputing.com

Database: WHERESCAPE\_EP

Schema: [redacted]

Warehouse: WHERESCAPE\_ENTERPRICE

Role: [redacted]

Tracing(0-6): 0

Authenticator: snowflake\_jwt

Proxy: [redacted]

NoProxy: [redacted]

Private key file: C:\Windows\System32\rsa\_key.p8

Private key password: [redacted]

**Note:** A detailed setup document "[Setup Guide\\_Snowflake\\_key-pair\\_authentication](#)" is available in the Enablement Pack folder for reference.

### Configuring DSN using OAUTH authentication:

- Snowflake supports the [OAuth 2.0](#) protocol for authentication and authorization using several options. Please go through official document <<https://docs.snowflake.com/en/user-guide/oauth-intro>> to understand which applications are supported.
- Illustrating how to configure Snowflake as an OAuth Resource and Okta as an External OAuth authorization server.
- Create a new DSN and enter the following details:
  - **Server**: <your\_account>.snowflakecomputing.com
  - **Role/Warehouse/Database/Schema** : optional defaults
  - **Authenticator**: oauth

Under OAuth section:

- **OAuth Client ID**: <okta\_client\_id>
- **OAuth Client Secret**: <okta\_client\_secret>
- **Scope**: session:role:<role\_name>
- **Token URL**: [https://<okta\\_domain>/oauth2/default/v1/token](https://<okta_domain>/oauth2/default/v1/token)
- **Auth URL**: [https://<okta\\_domain>/oauth2/default/v1/authorize](https://<okta_domain>/oauth2/default/v1/authorize)

Snowflake Configuration Dialog

Data Source: Snowflake\_OAUTH

User:

Password:

Server:

Database:

Schema:

Warehouse:

Role:

Tracing(0-6):

Authenticator:

Proxy:

NoProxy:

Private key file:

Private key password:

OAuth

Client Id:

Client Secret:

Scope:

Authorization URL:

Token Request URL:

Redirect URI:

Add access token in **Registry Editor** by following the below steps:

- Press Win + R, type regedit, and press Enter.
- Navigate to:  
Computer\HKEY\_LOCAL\_MACHINE\SOFTWARE\ODBC\ODBC.INI\
- Locate and select your DSN (Data Source Name).
- Right-click in the right pane and select New > String Value.
- Enter the appropriate field name and value, ensuring they match the required configuration.

Edit String

Value name:

Value data:

OK Cancel

- Click OK.
- Now, click **Test** in the ODBC DSN setup window to verify the connection.

**Note:** A detailed setup document "**Setup Guide\_Snowflake\_oauth\_okta\_authentication**" is available in the Enablement Pack folder for reference.

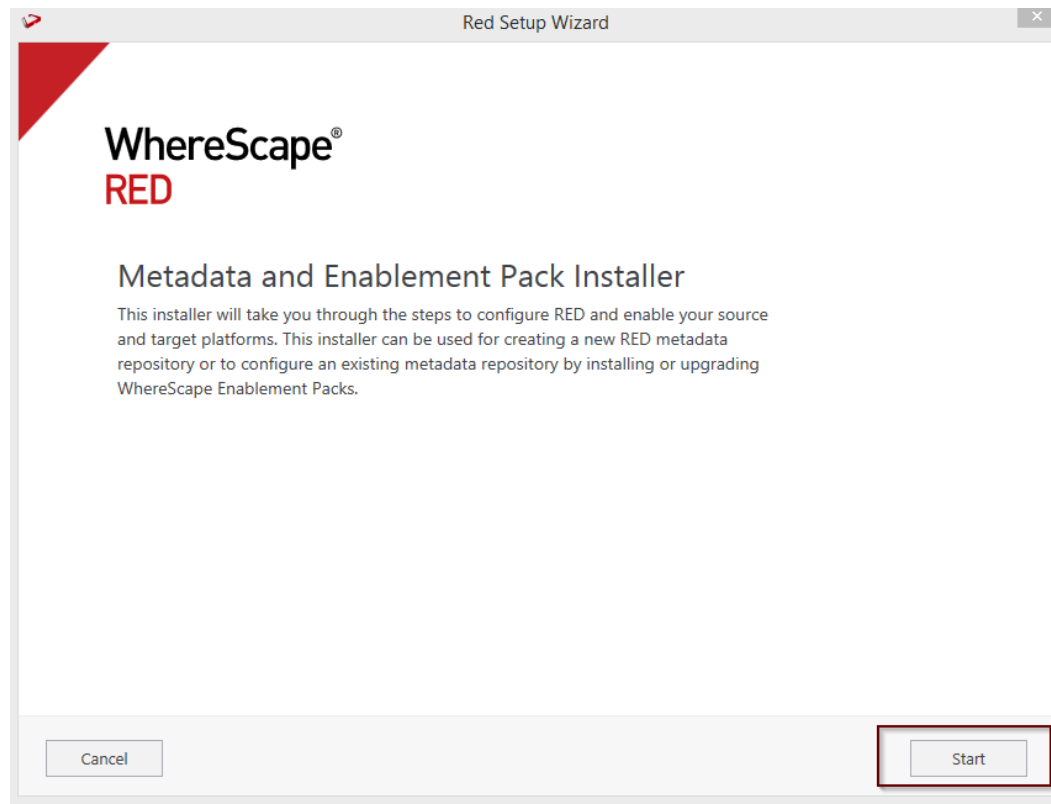
#### Python 3.11 or higher

- Select "Add Python 3.11 to PATH" from installation Window
- Pip Manager Install with command : `python -m pip install --upgrade pip`

*Note: Some of the libraries might be deprecated in the newer versions of python (Python 3.12 and higher)*

## Installation Through Setup Wizard

Run Setup Wizard as administrator



Create new repository or upgrade already existing repository.

Red Setup Wizard

## Metadata Repository

WhereScape RED requires a PostgreSQL database repository to store its metadata.

Create a new metadata repository or select an existing metadata repository to continue:

☒ **Create new repository**  
Install the RED metadata, configure connections and install Enablement Packs

☐ **Use existing repository**  
Validate/upgrade your RED metadata and install/upgrade Enablement Packs

Cancel Next

Select the created ODBC DSN, input login details and then select "Validate". Press Next

Red Setup Wizard

## Configure Metadata Database

RED will need a database to store information about your data warehouse. Create a database for the RED metadata and connect to it here.

Data Source Name **REQUIRED**

test\_sf (64-bit) [v] [refresh]

A Data Source Name created with the ODBC admin tool

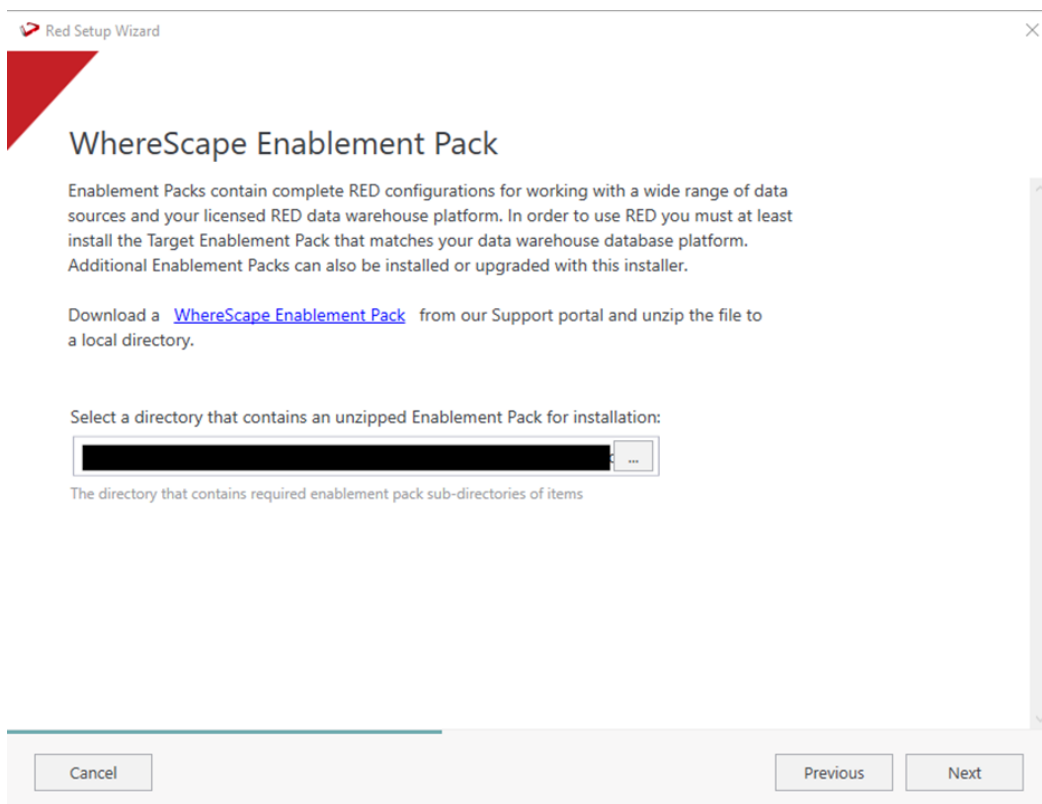
User Name  
[redacted]

Password  
[redacted]

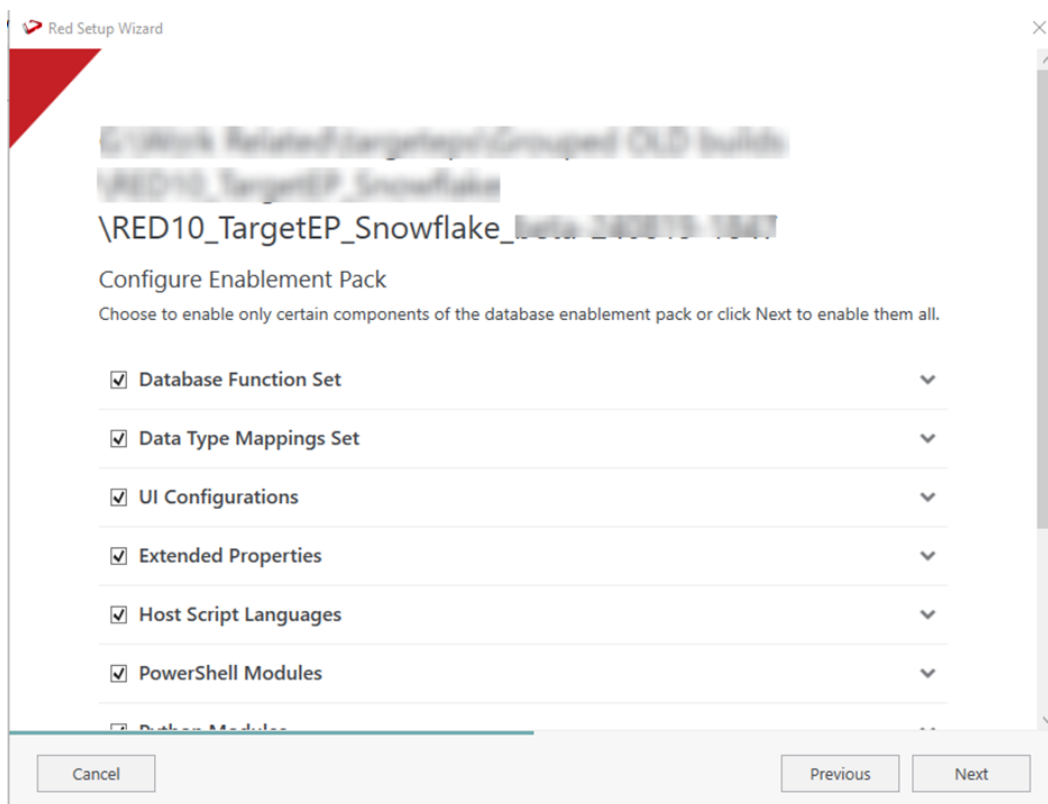
Connection String  
[redacted]

Validate  Validated OK

Select the directory that contains unzipped Enablement Pack for installation. Press Next



Using the check boxed list, include or exclude the components that are to be installed. Press Next



Configure a target connection (example, Data Warehouse) and its target locations. Validate and press ADD.

Red Setup Wizard

Data source name **REQUIRED**

Snowflake (64-bit)

A Data Source Name created with the ODBC admin tool

User Name

Password

Connection String

Target Storage Locations **REQUIRED**

Existing schema (or database names depending on platform) for object storage

✕

✕

✕

☒ Validated OK

When done, press ADD and then Press Next to advance.

Red Setup Wizard

## Add Targets

Configure the connection where your data warehouse will live.

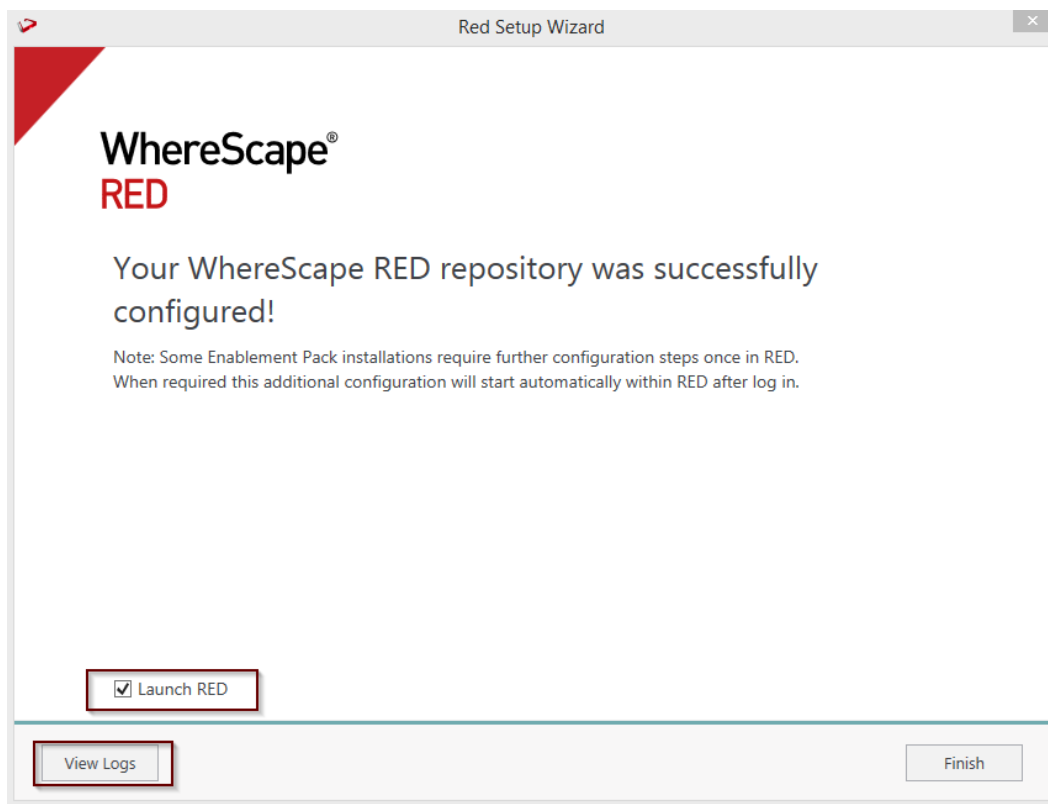
### Added Targets

|                |   |
|----------------|---|
| Data Warehouse | ✕ |
| Snowflake      |   |

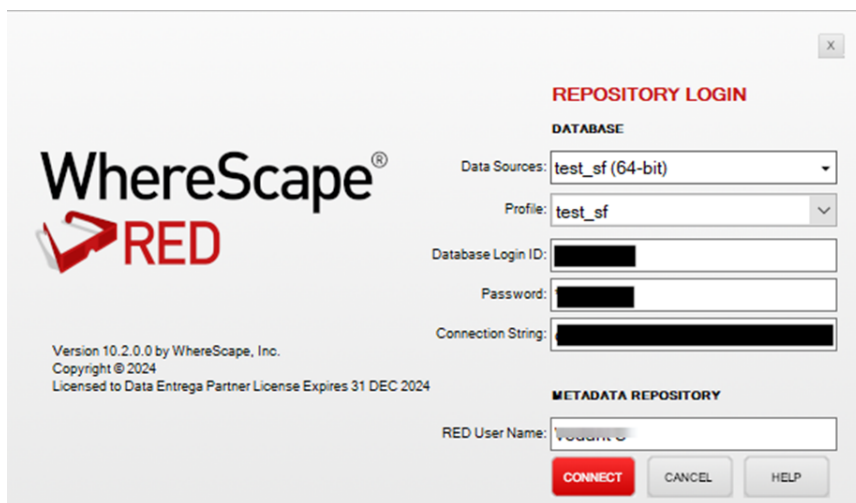
Configure a data source connection (optional) and its target locations. Validate and press ADD. Press Next to advance.



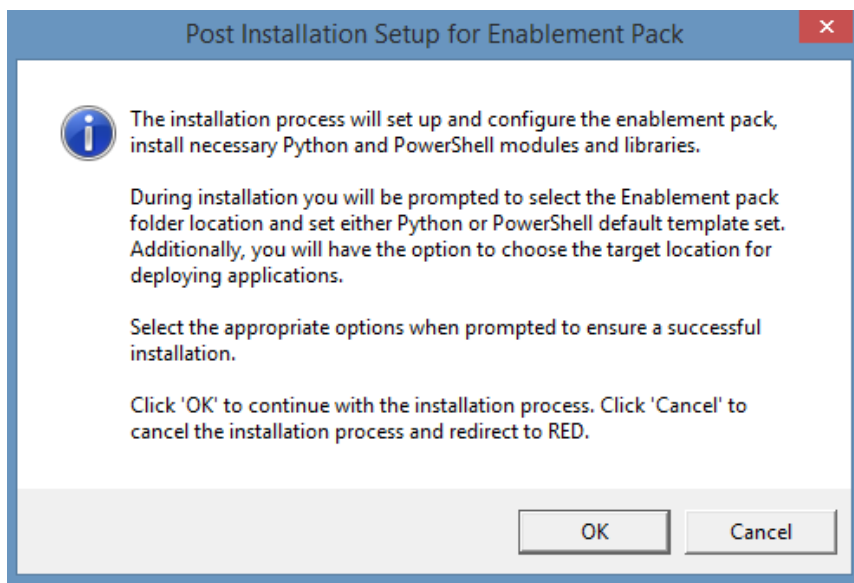




Login to WhereScape RED.

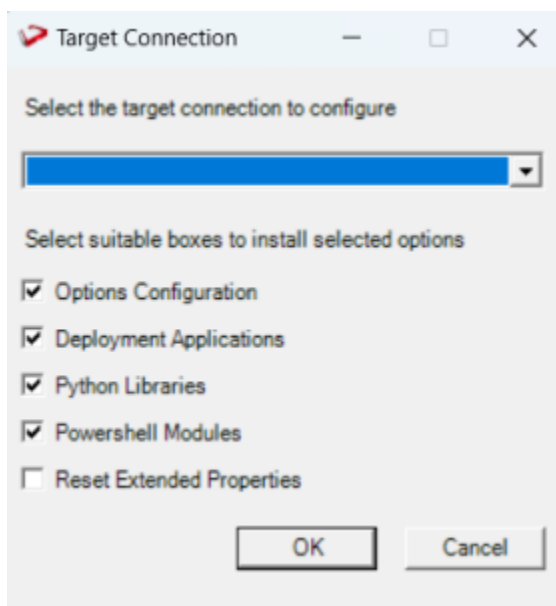


Note: There is a post-install script that will run at the first login to RED10 to complete the post setup wizard installation process. You will be directed to below PowerShell window which will give brief explanation about post installation process.

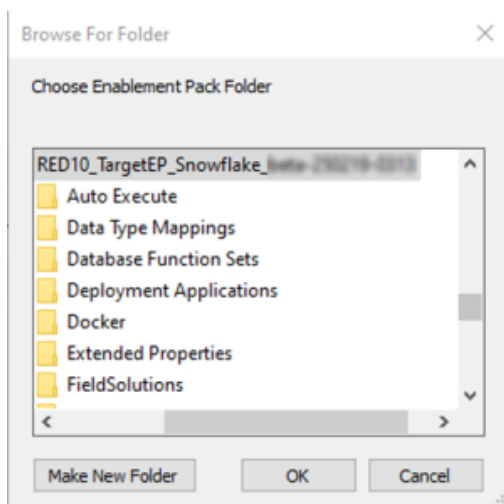


Press OK to start the post installation. If pressed Cancel installation will stop and user will be directed to RED.

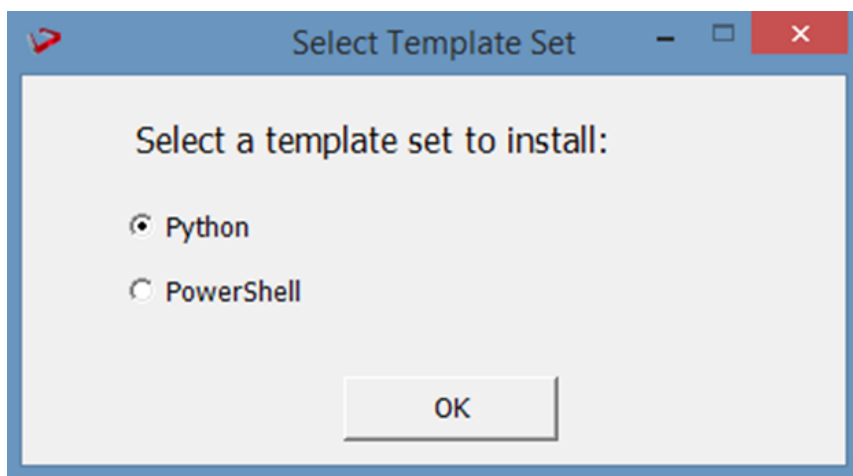
The user will be directed to the window below, where they have to select the target connection to be configured. Additionally, by deselecting the provided options, the user can choose not to install a particular option. "Reset Extended Properties" is deselected by default.



You will be directed to below PowerShell window. Provide the directory that contains unzipped Enablement Pack.

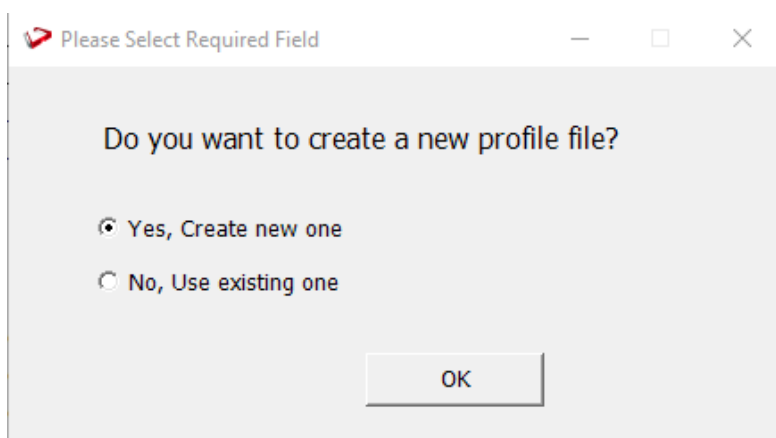


Select the template set for installation either Python or PowerShell.



Press OK

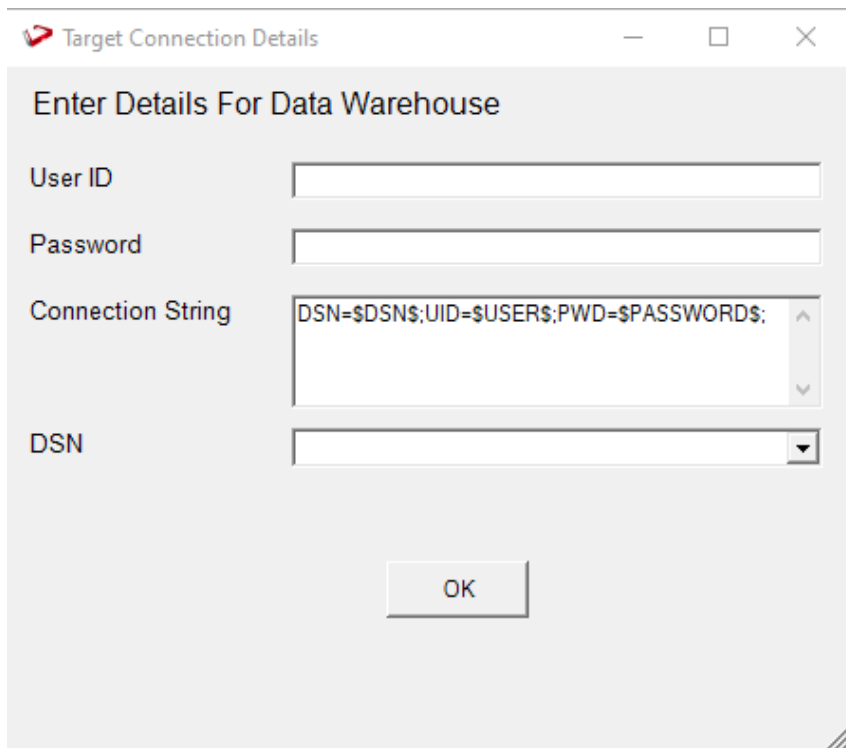
The user will be directed to the window below, where they have to select the Create new profile or use existing one option.



Note: For fresh installation RED will create profile file with same name as DSN, which the user can use or choose to create new profile file.

Press Ok.

For "Yes, Create new one" option , user will be directed to the window below.



Target Connection Details

Enter Details For Data Warehouse

User ID

Password

Connection String

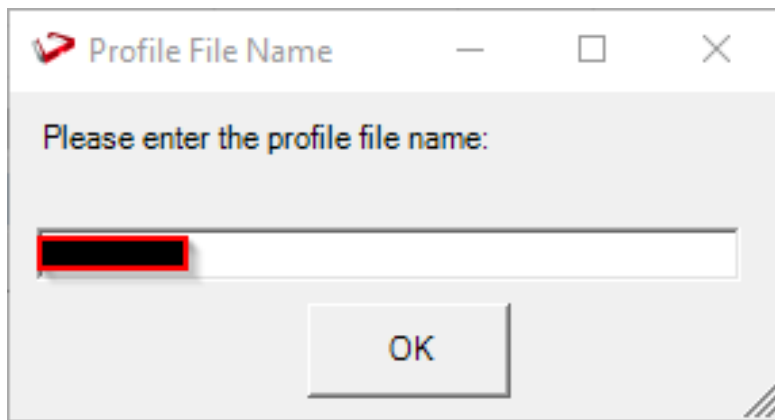
DSN

OK

Note: User can use default connection string or input new one.

Press OK

The user will be directed to the window below, where user can add profile name.



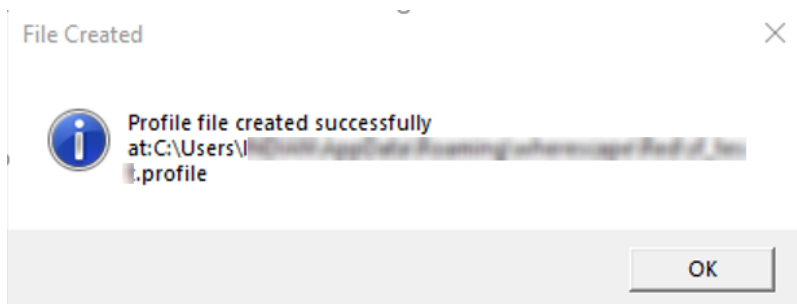
Profile File Name

Please enter the profile file name:

OK

Press Ok.

The below pop up will come to confirm the user that profile is created at that location



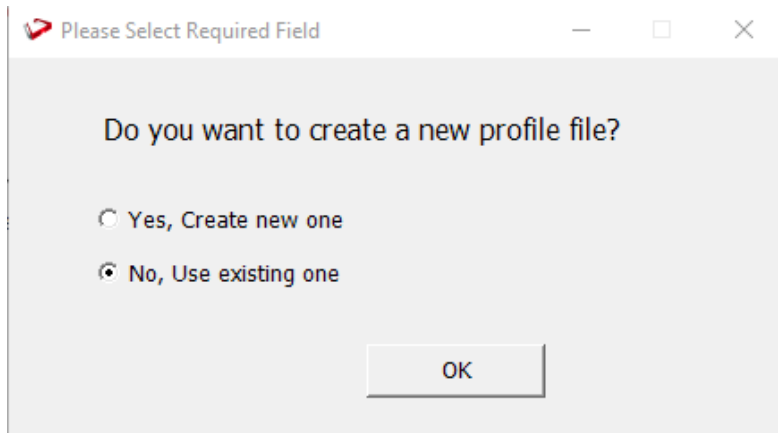
File Created

Profile file created successfully  
at: C:\Users\...\.profile

OK

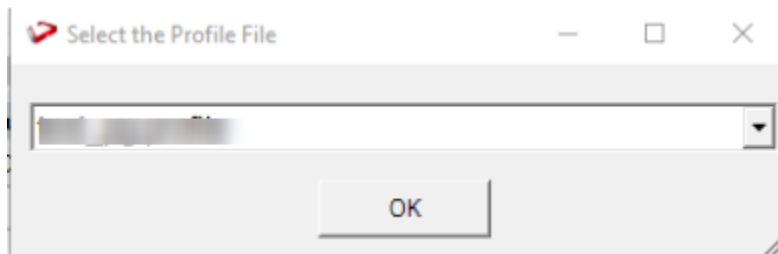
Press OK.

If the user choose "No, Use existing one" option.



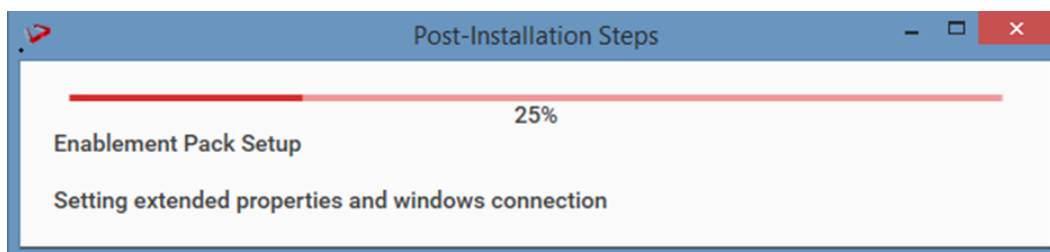
Press OK

The user will be directed to the window below ,where user can select the exiting profile file.

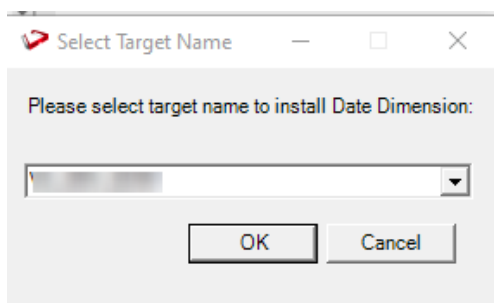


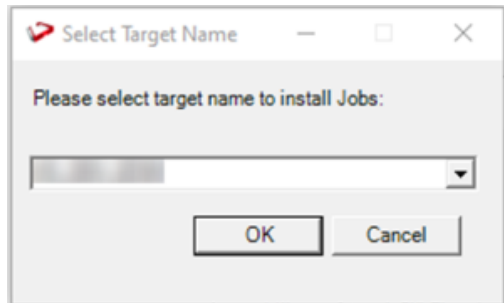
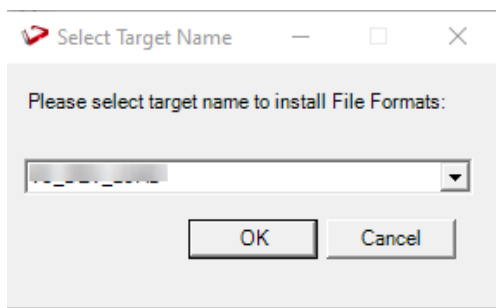
Press OK.

The progress bar will show the post installation progress.

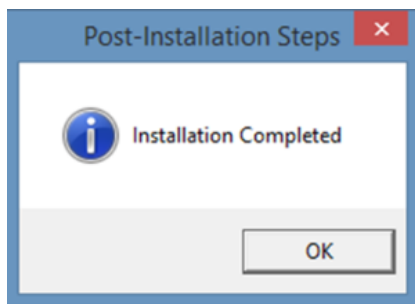


User will have to choose the schema for the target setting that were provided. Three of such pop up will come for setting default target schema for Date Dimension, File Formats and Jobs.

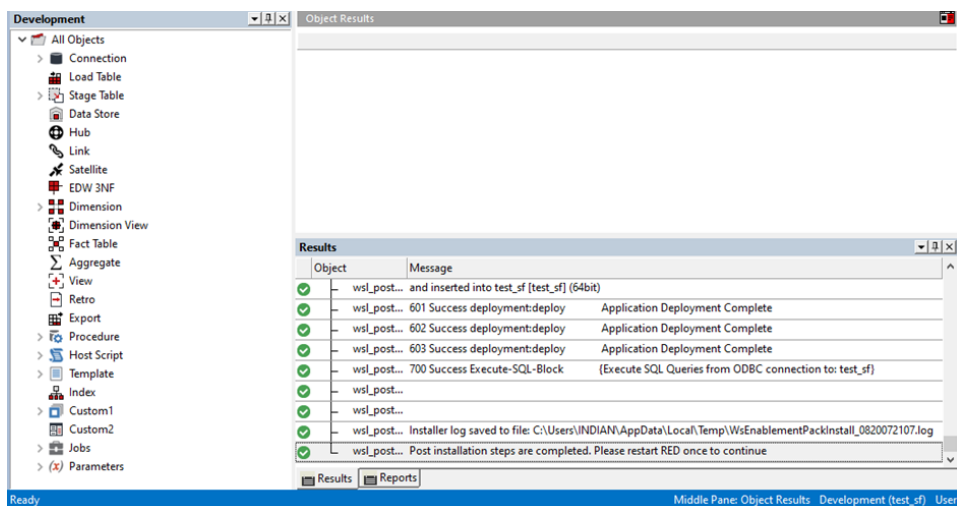




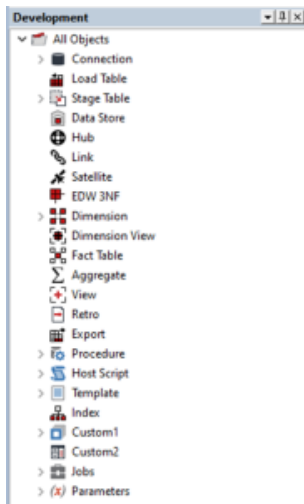
After selecting the target schema progress bar will show the progress for the installation and once it's completed, you will get the below pop up.



After pressing OK RED10 will open automatically.



User will need to refresh the All Objects tree once.



## Upgrade Of Existing Repository

For upgrade of existing repository

- From host script set script type of *wsl\_post\_install\_enablement\_pack* as Auto Execute - PowerShell Script

The image shows a dialog box titled 'Host Script wsl\_post\_install\_enablement\_pack'. It has a 'Properties' tab on the left. The main area contains fields for 'Name' (wsl\_post\_install\_enablement\_pack), 'Type' (Auto Execute - PowerShell :), 'Purpose' (This script was inserted by WhereScape RED CLI), 'Owner' (WhereScape RED CLI), 'Last Update By:', 'Connection Name:', 'Edit Lock' (Locked For Edit By: and Edit Lock Reason or Last Update: New Script), and 'Timestamps' (Created: 05-MAY-2023 13:23:43, Last Update: 04-MAY-2023 13:23:43, Compiled:). There are 'OK', 'Cancel', and 'Help' buttons at the bottom.

## Important Upgrade Notes

If RED upgrade the repository option is chosen.

This enablement pack will overwrite any existing Source Enablement Pack UI Configs:

| Connection UI Config         | Load UI Config                         |
|------------------------------|----------------------------------------|
| Amazon S3                    | Load From Amazon S3                    |
| Azure Data Lake Storage Gen2 | Load From Azure Data Lake Storage Gen2 |
| Google Cloud                 | Load From Google Cloud                 |

To ensure existing Source Enablement Pack connections and associated Load Tables continue to browse and load:

Go into UI Configuration Maintenance in RED prior to installing this Enablement Pack and rename the affected UI Configurations. While the updated Load Template will work with previous Source Enablement Pack's we recommend moving these previous versions of Load Tables to newly created Parser based connections following this install. The earlier versions of the Source Enablement Pack will be deprecated following this release.

### Important Upgrade Notes



A change to the script exit code has been introduced. Whenever a load/update script is regenerated, it is essential to regenerate the linked action script. Similarly, regenerating the action scripts requires regenerating the associated load/update scripts to keep both scripts in sync.

## Post Install Steps – Optional

If you used the script Setup Wizard for installation then the following optional post install steps are available.

### Configure Connections

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

1. Connection: Data Warehouse ('Snowflake')- This connection was setup as per parameters provided in Setup Wizard
2. Connection: 'Database Source System' - this connection was setup as an example source connection,
  - a. open its properties and set it up for a source DB in your environment
  - b. or you can remove it if not required

### Enable Script Launcher Toolbar

There are a number of stand-alone scripts which provide some features such as "Ranged Loading", 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 Snowflake | Supported Features     | Prerequisites                                                                                                                                                                                                                                                                                                |
|------------------------------|------------------------|------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Amazon S3                    | Yes                    | Bulk load to Snowflake | For PowerShell Load :<br>Install-Module -Name AWSPowerShell                                                                                                                                                                                                                                                  |
| Azure Data Lake Storage Gen2 | Yes                    | Bulk load to Snowflake | Generate and add SAS token to Azure Data Lake Storage Gen2 connection properties:<br><a href="https://docs.snowflake.com/en/user-guide/data-load-azure-config.html#option-2-generating-a-sas-token">https://docs.snowflake.com/en/user-guide/data-load-azure-config.html#option-2-generating-a-sas-token</a> |



|                      |     |                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|----------------------|-----|--------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Google Cloud Storage | Yes | Bulk load to Snowflake                                                                     | <ol style="list-style-type: none"> <li>1. Create Storage Integration (Snowflake)<br/> <pre>CREATE OR REPLACE STORAGE INTEGRATION &lt;STORAGE_INTEGRATION_NAME&gt; TYPE = EXTERNAL_STAGE STORAGE_PROVIDER = GCS ENABLED = TRUE STORAGE_ALLOWED_LOCATIONS = ('&lt;BUCKET_PATH&gt;');</pre> </li> <li>2. Create Staging Area (Snowflake)<br/> <pre>USE DATABASE &lt;DATABASE_NAME&gt;; CREATE OR REPLACE STAGE &lt;STAGE_NAME&gt; url = '&lt;BUCKET_PATH&gt;' storage_integration = &lt;STORAGE_INTEGRATION_NAME&gt;</pre> </li> <li>3. Get Storage Integration Desc (Snowflake)<br/> <pre>DESC STORAGE INTEGRATION &lt;STORAGE_INTEGRATION_NAME&gt;</pre> </li> <li>4. Copy <i>STORAGE_GCP_SERVICE_ACCOUNT</i> and create IAM on Google Cloud Console with following permissions<br/> <pre>storage.buckets.get storage.objects.createstorage.objects.delete storage.objects.get storage.objects.list</pre> </li> <li>5. Add extended properties to Google Cloud Storage Connection in RED<br/> <pre>GCS_STORAGE_INTEGRATIONGCS_STAGE_AREA_NAME</pre> </li> <li>6. Please refer the official link for steps to download gsutil:<br/> <a href="https://cloud.google.com/storage/docs/gsutil_install">https://cloud.google.com/storage/docs/gsutil_install</a> </li> </ol> |
| Google Drive         | Yes | Downloads file From Google Drive and uploads to Snowflake Table                            | None                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Windows Parser       | Yes | Load Template, Source Properties will have option to select parser type to load the files. | Refer to Windows Parser Guide.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

## 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 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 .\Setup_Enablement_Pack.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>

## Re-install Python Libraries

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 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>uninstall_WslPython_Modules.bat
```

For installation of Python libraries there are two methods

- Method 1

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 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_WslPython_Modules.bat
```

- Method 2

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"

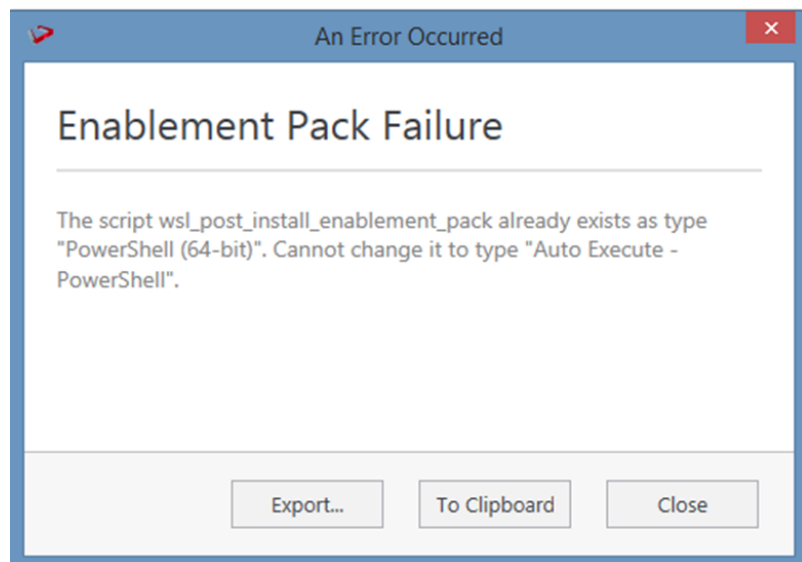
Now you have an admin prompt navigate to the folder where you have unpacked your WhereScape Red Enablement Pack to using the 'cd' command:

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

Run the below command

```
python -m pip install -r requirements.txt
```

## For upgrade of existing repository



In upgrade of exiting repository if the user gets above error then it means the script type of `wsl_post_install_enablement_pack` is set to PowerShell(64-bit) change the script type to Auto Execute-PowerShell before upgrade or manually run the `wsl_post_install_enablement_pack` script from host script from RED after upgrade.

## If a valid RED installation can not be found

If you have RED 10.x or higher installed but the script (Setup\_Enablement\_Pack.ps1) fails to find it on your 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.

## **AWS PrivateLink Documentation**

Please refer to the link below for the configuration of AWS PrivateLink for Snowflake:

<https://community.snowflake.com/s/article/Setup-On-Premise-DNS-to-work-in-conjunction-with-AWS-PrivateLink>