Install Guide - SetupWizard - Databricks

WhereScape Enablement Pack for Databricks - RED 10

This is a guide to installing the WhereScape Enablement Pack for Databricks for WhereScape RED10

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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 Databricks Target Database

Before you begin the following prerequisites must be met:

- Create Database and ODBC DSN :
  - Databricks (ODBC driver version 2.7.5 or higher(64-bit))
    - At least one schema available to use as a RED Data Warehouse Target
- Software Installations
  - Databricks CLI - Refer to *Setup Guide Databricks CLI Setup*
- Python 3.8 or higher
  - Select "Add Python 3.8 to PATH" from installation Window
  - Pip Manager Install with command : *python -m pip install --upgrade pip*

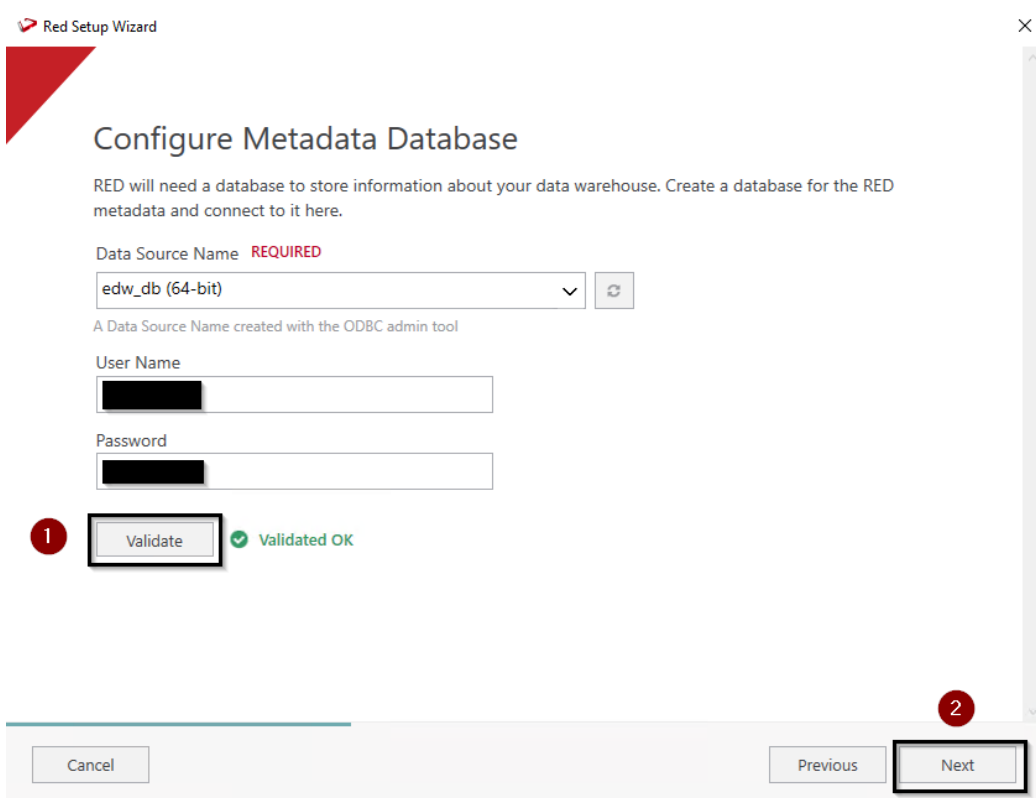# Installation Through Setup Wizard
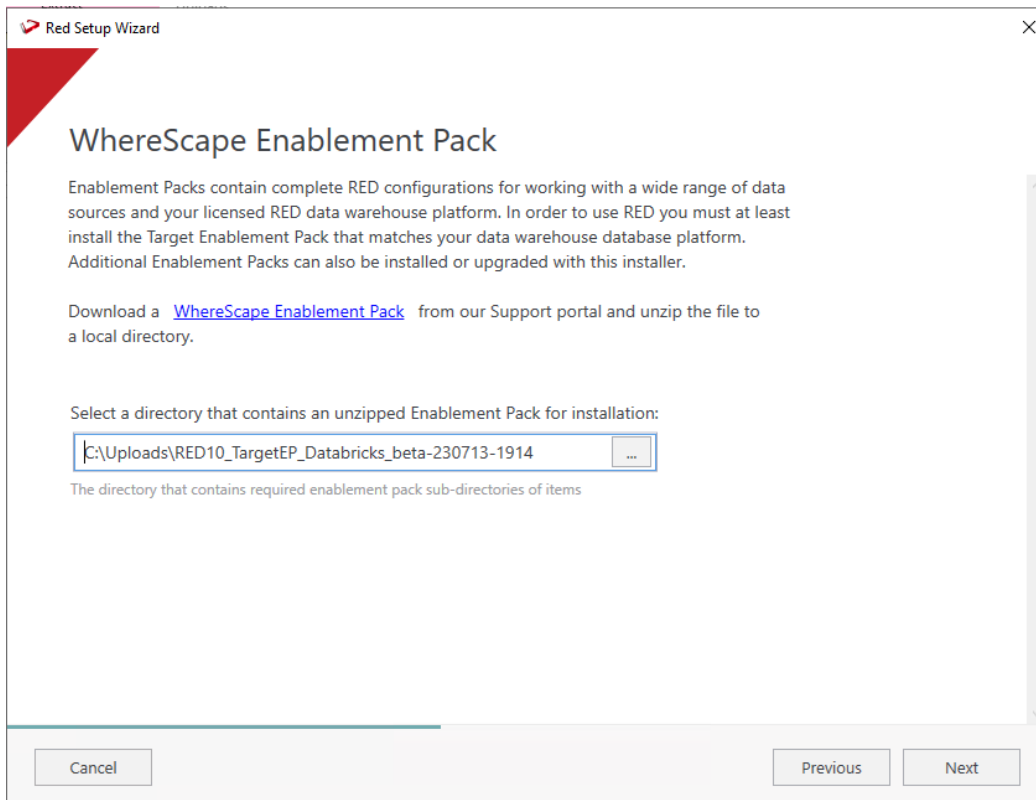
Run Setup Wizard as administrator
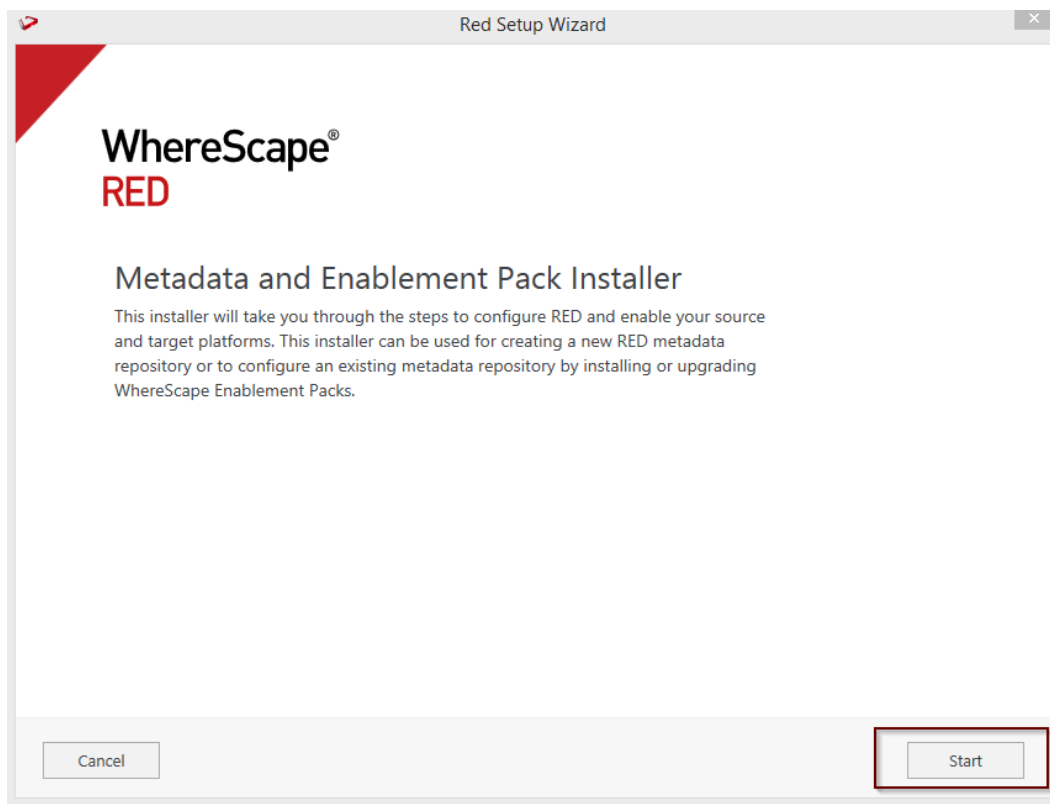
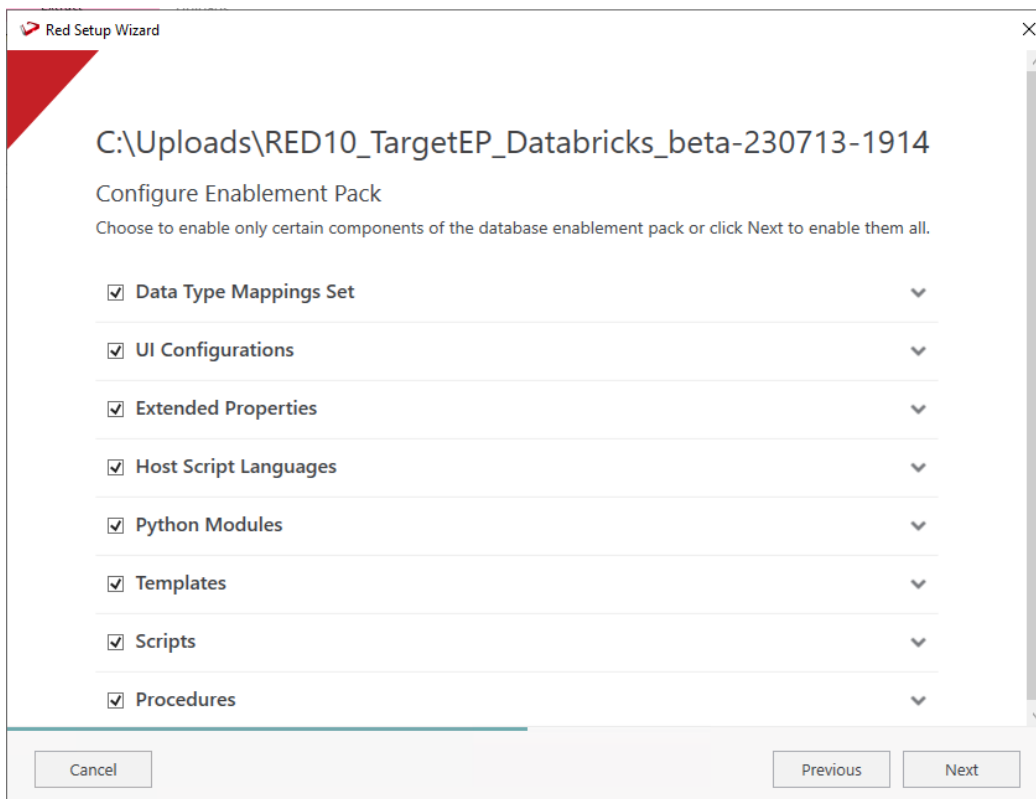Create new repository or upgrade already existing repository.
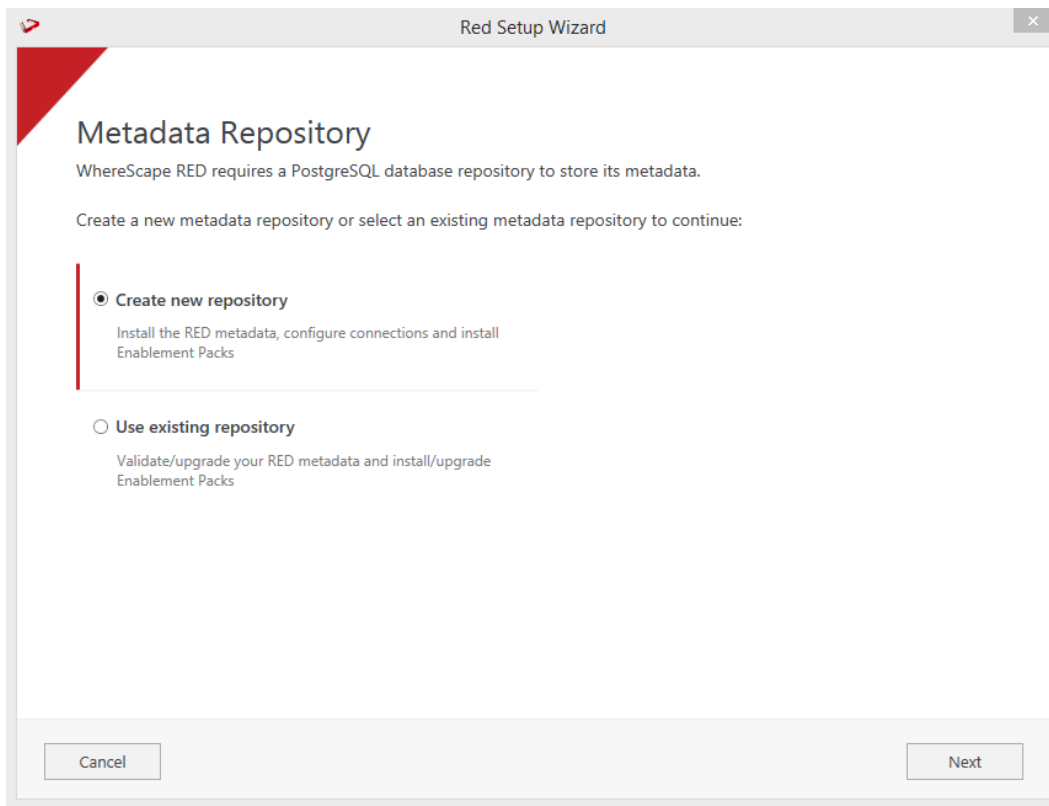
Select the created ODBC DSN, input login details and then select "Validate". Press Next

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.

When done, press ADD and then Press Next to advance.
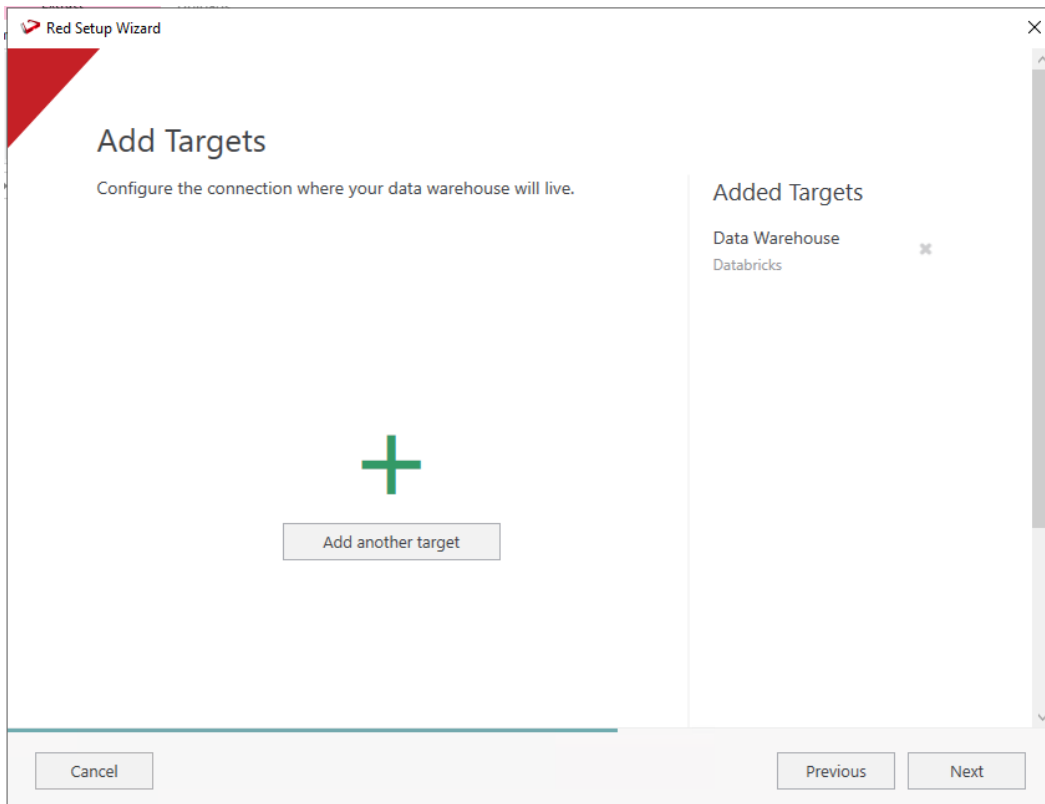
Configure a data source connection (optional) and its target locations. Validate and press ADD. Press Next to advance.
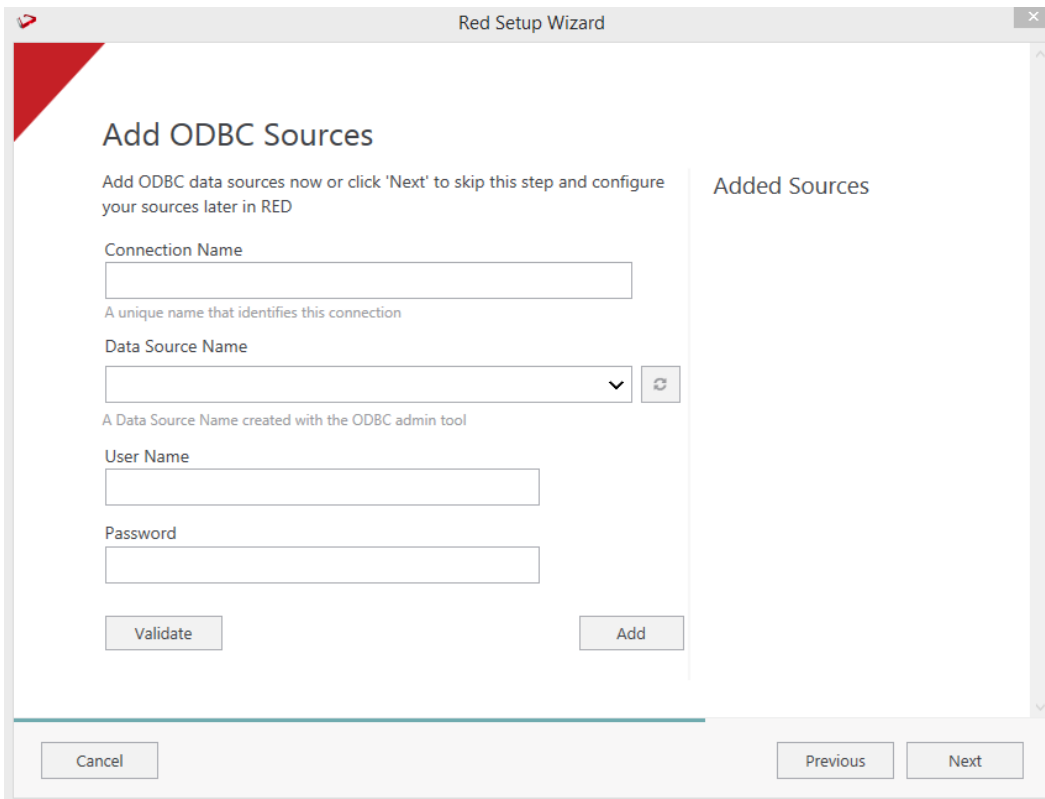
Review the installation summary and click Install

Clicking on the View Logs will take to the installation log. Click on Finish once the installation is completed successfully.
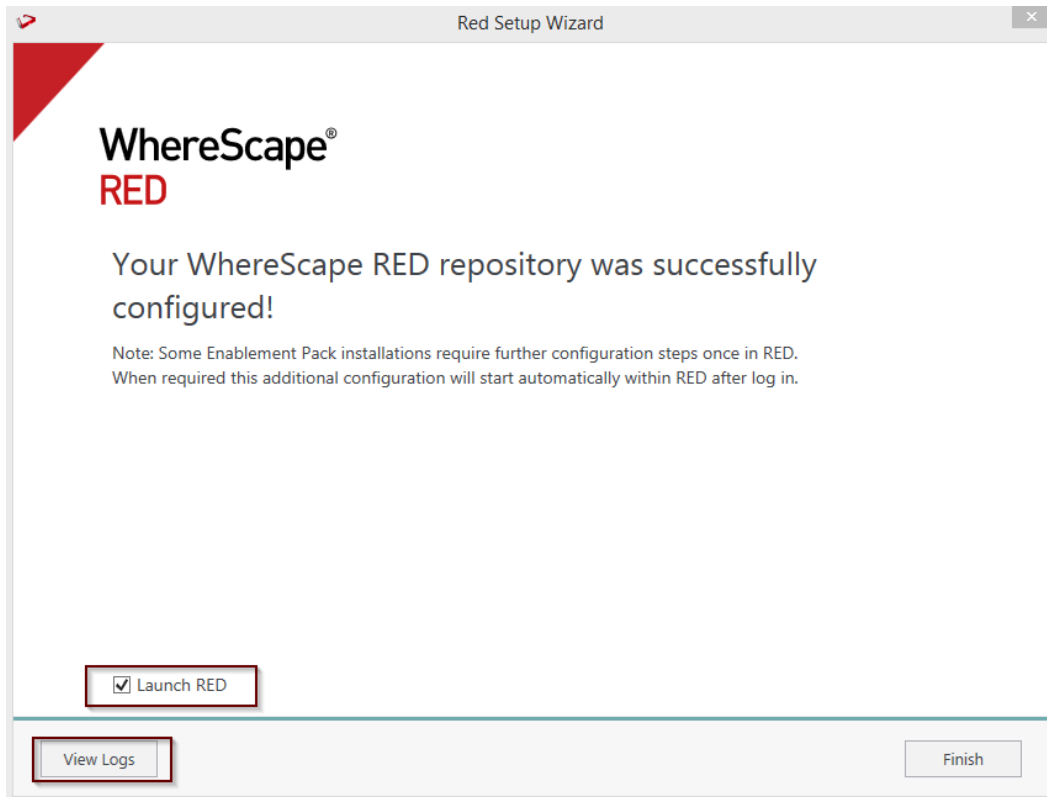
Login to WhereScape RED.
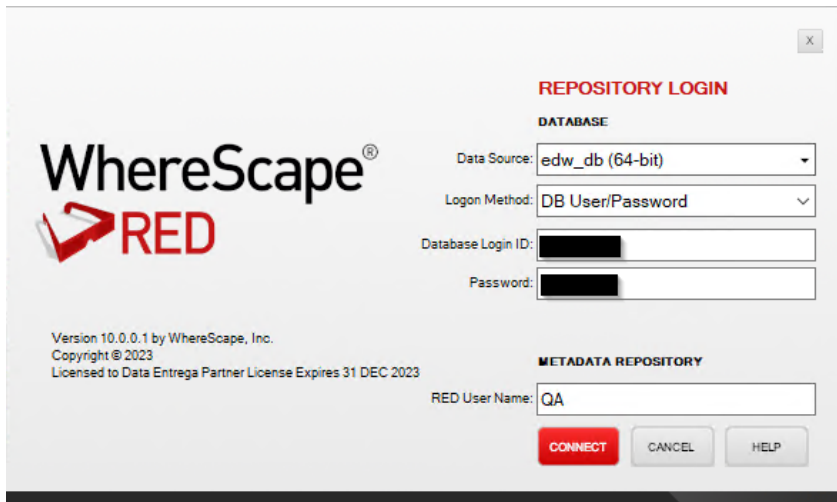
Note: There is a post-install script that will run at the first login to RED10 to complete the post setup wizard installation process.
You will be directed to below PowerShell window which will give brief explanation about post installation process.
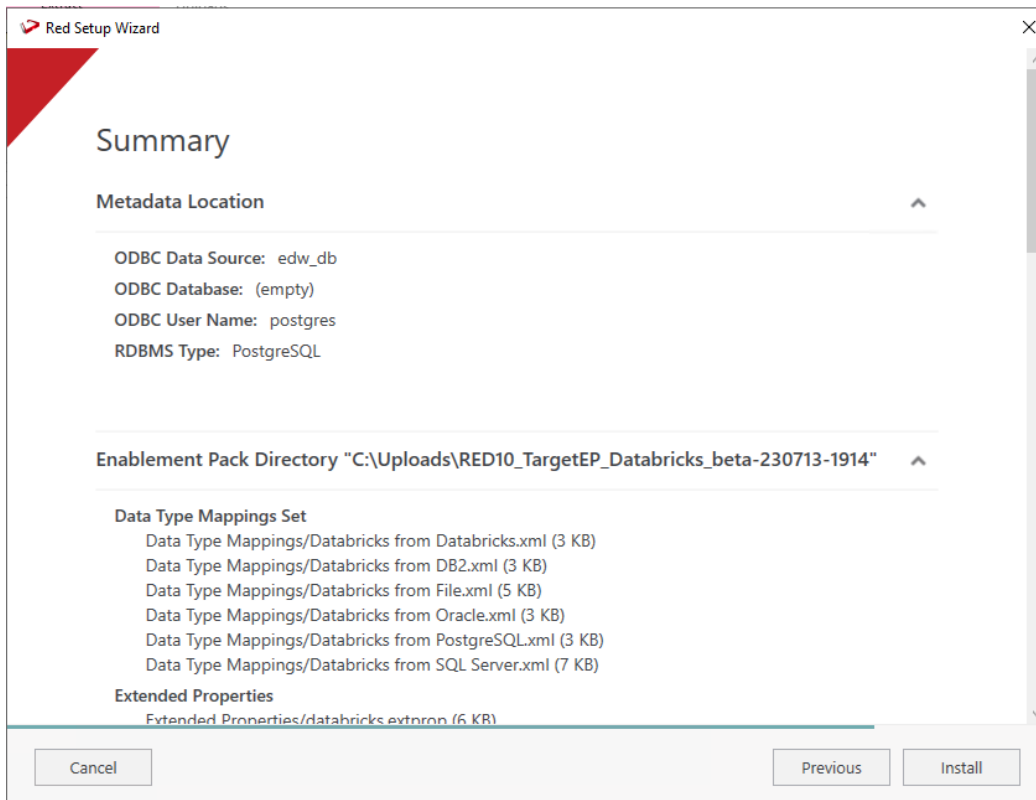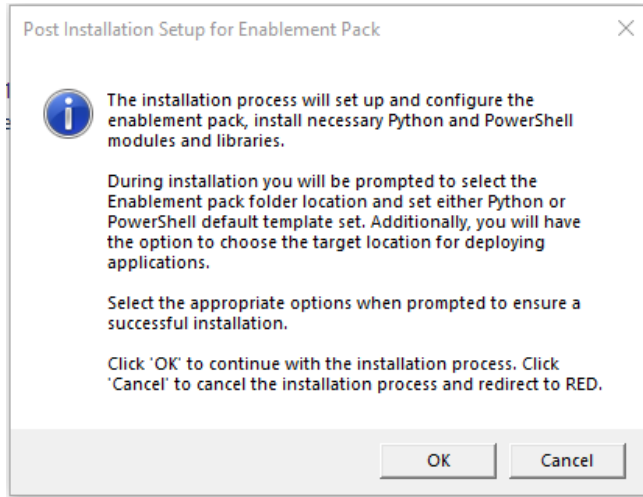

Press OK to start the post installation. If pressed Cancel installation will stop and user will be directed to RED.

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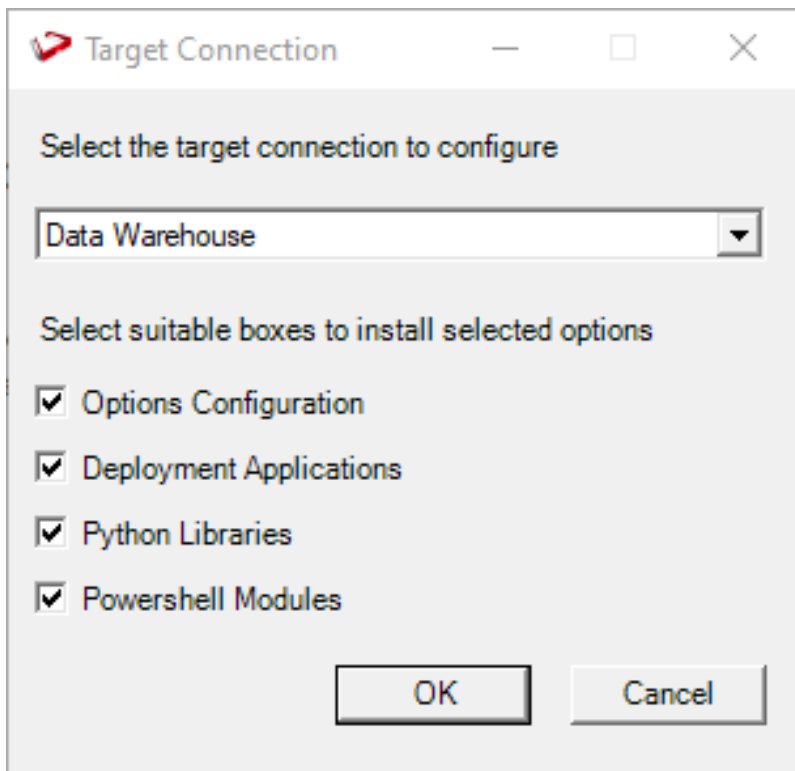
You will be directed to below PowerShell window. Provide the directory that contains unzipped Enablement Pack.
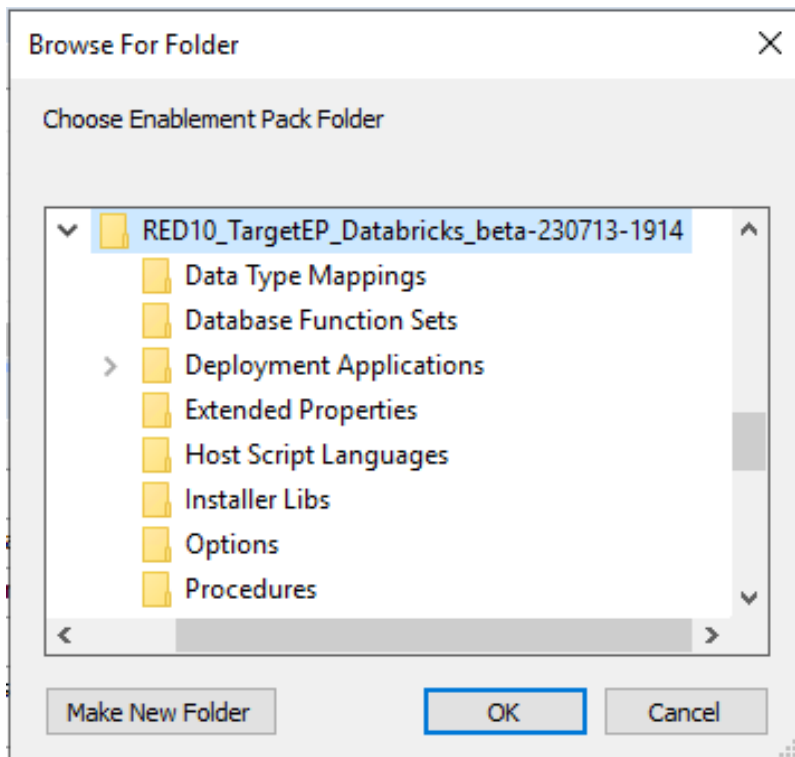
Press OK

The progress bar will show the post installation progress.
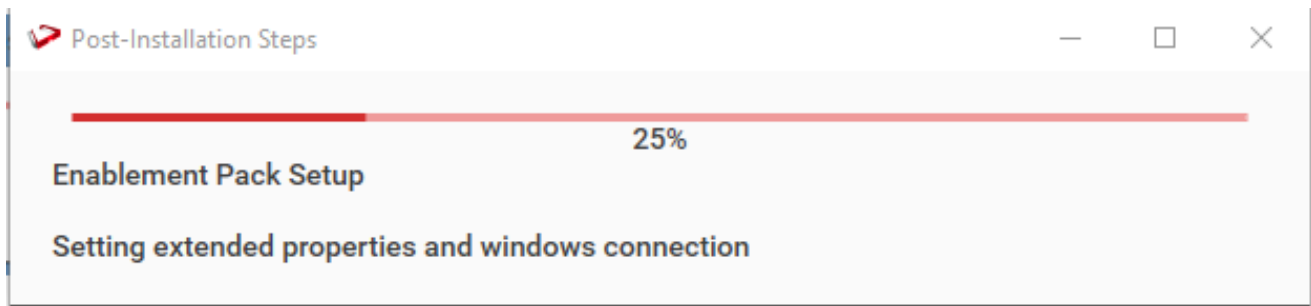
User will have to choose the schema for the target setting that were provided. One pop up will come for setting default target schema for Date Dimension.
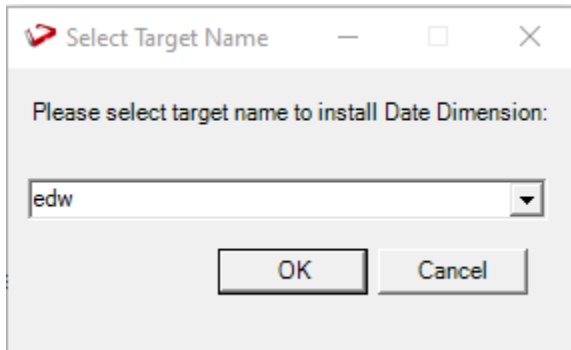
After selecting the target schema progress bar will show the progress for the installation and once it's completed, you will get the below pop up.
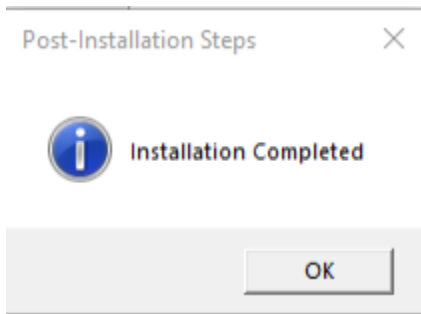
After pressing OK RED10 will open automatically.
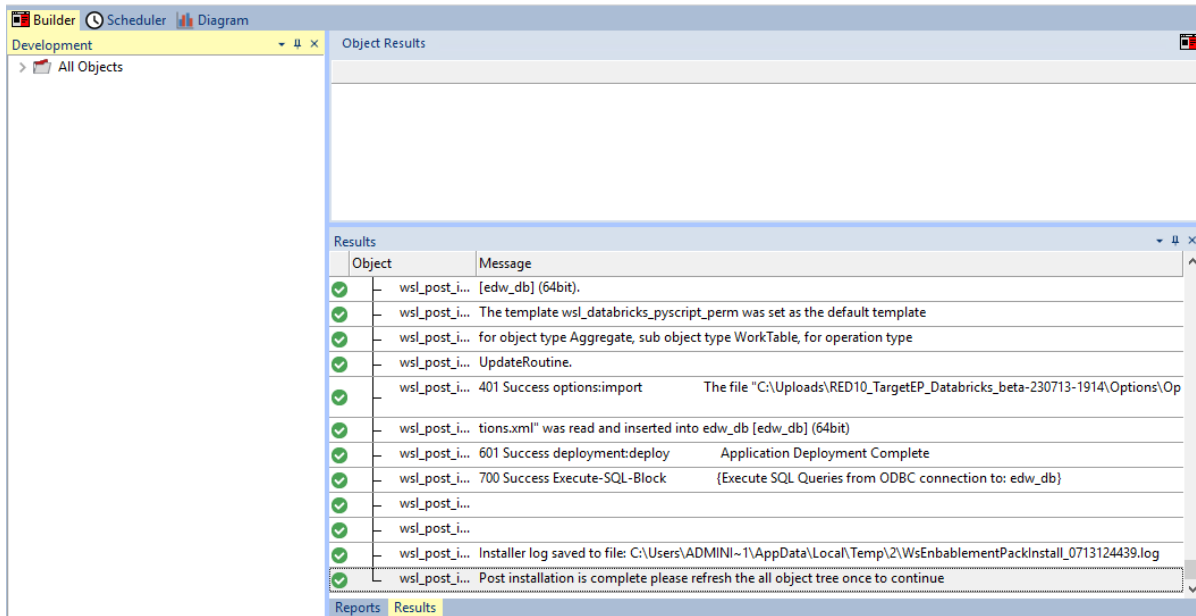
User will need to refresh the All Objects tree once.
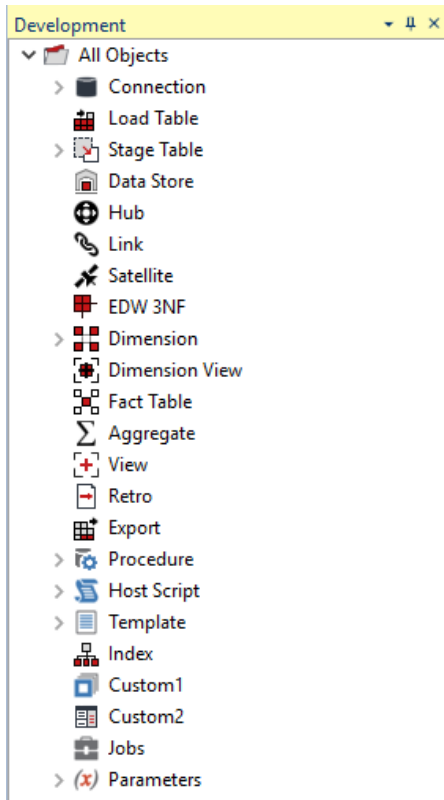
Upgrade Of Existing Repository

For upgrade of existing repository

- From host script set script type of *wsl_post_install_enablement_pack* as Auto Execute - PowerShell Script
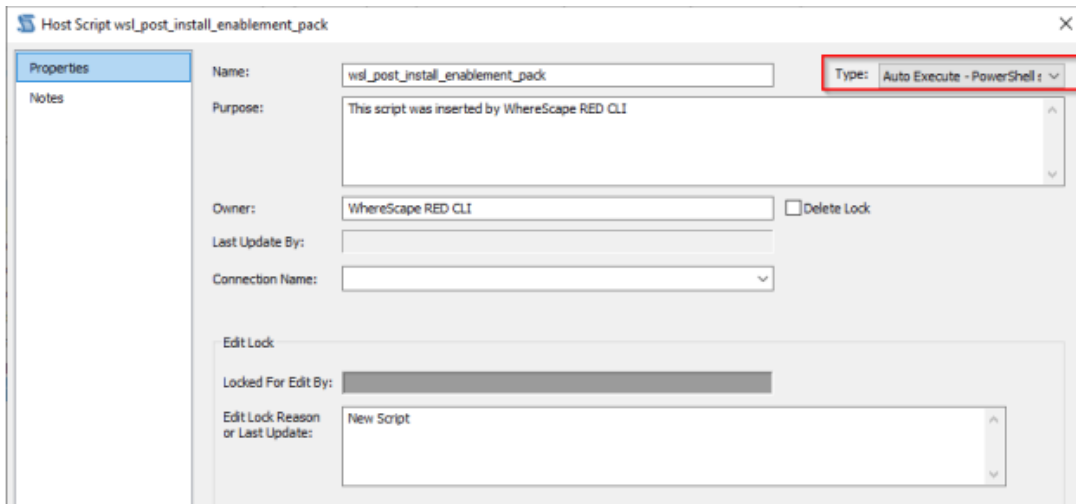
Important Upgrade Notes

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.

Post Install Steps – Optional

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

Configure Connections

These connections added that will optionally require your attention:

1. Connection: Data Warehouse ('Databricks')- This connection was setup as per parameters provided in Setup Wizard
   a. open properties and check if **Database ID** is setup correctly
   b. open properties and check extended properties tab, set it up for **HTTP_PATH,SERVER_HOSTNAME,DB_ACCESS_TOKEN** and **D BFS_TMP**
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 'Home->Script Launcher'

Source Enablement Pack Support

Source Pack Name	Supported By Databricks	Supported Features	Prerequisites
Amazon S3	Yes	Bulk load to Databricks	Include the Access Key and Secret Key in the Amazon S3 Cloud Parser Connection for S3. For guidance on obtaining these credentials, please refer to the relevant documentation: https://docs.aws.amazon.com/IAM/latest/UserGuide/security-creds.html
Azure Data Lake Storage Gen2	Yes	Bulk load to Databricks	Add the SAS Token to the ADLG2 Cloud Parser Connection. Refer to https://learn.microsoft.com/en-us/azure/storage/common/storage-sas-overview for information on SAS Tokens.

Google Cloud Storage	Yes	Bulk load to Databricks	**Step 1: Service Account Setup**
			
			1. Create a service account in Google Cloud Console.
			2. Navigate to IAM and Admin > Service Accounts.
			3. Click + CREATE SERVICE ACCOUNT, enter details, and create the account.
			
			Step 2: Generate Access Key for GCS Bucket
			
			1. In the service accounts list, click the created account.
			2. In the Keys section, click ADD KEY > Create new key.
			3. Choose JSON key type and click CREATE to download the key file.
			
			Step 3: Bucket Configuration
			
			1. Configure bucket details in Google Cloud Console.
			2. Navigate to the Permissions tab and click ADD next to Permissions.
			3. Grant Storage Admin permission to the service account on the bucket.
			4. Click SAVE.
			
			Step 4: Databricks Cluster Configuration
			
			1. In the Spark Config tab, set the keys using the following snippet:
			
			`spark.hadoop.google.cloud.auth.service.account.enable true`
			`spark.hadoop.fs.gs.auth.service.account.email <client-email>`
			`spark.hadoop.fs.gs.project.id <project-id>`
			`spark.hadoop.fs.gs.auth.service.account.private.key {{secrets/scope/gsa_private_key}}`
			`spark.hadoop.fs.gs.auth.service.account.private.key.id {{secrets/scope/gsa_private_key_id}}`
			
			Replace `<client-email>` and `<project-id>` with values from the downloaded JSON key.
			
			For detailed documentation, refer to:
			
			https://learn.microsoft.com/en-us/azure/databricks/storage/gcs

Windows Parser	1. CSV 2. Excel 3. JSON 4. XML 5. AVRO 6. ORC 7. PARQUET	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 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

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.

Setting Up Databricks Configuration

1.Add a system variable DATABRICKS_CONFIG_FILE to point to a location that permits you to configure the databricks-cli.
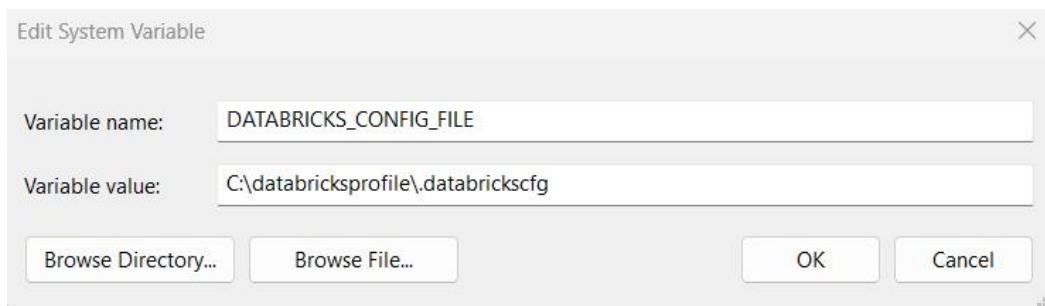
2.open command prompt and configure databricks-cli using "databricks configure --aad-token".
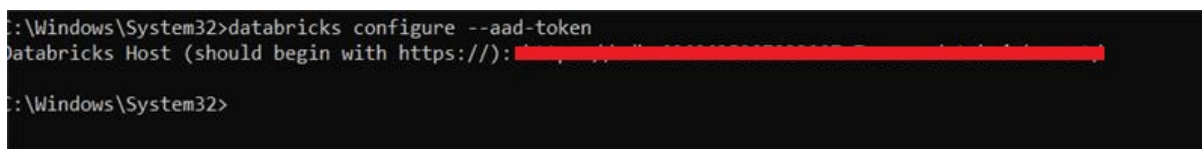
3.On running this command, config file should be created in the location specified in the config file system variable
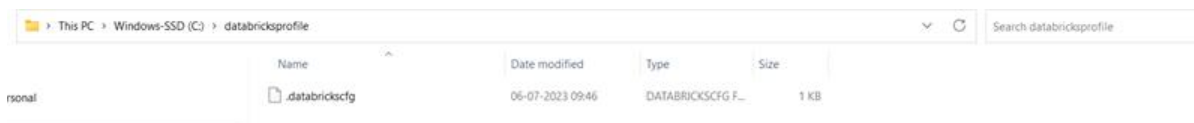
Windows Powershell Script Execution

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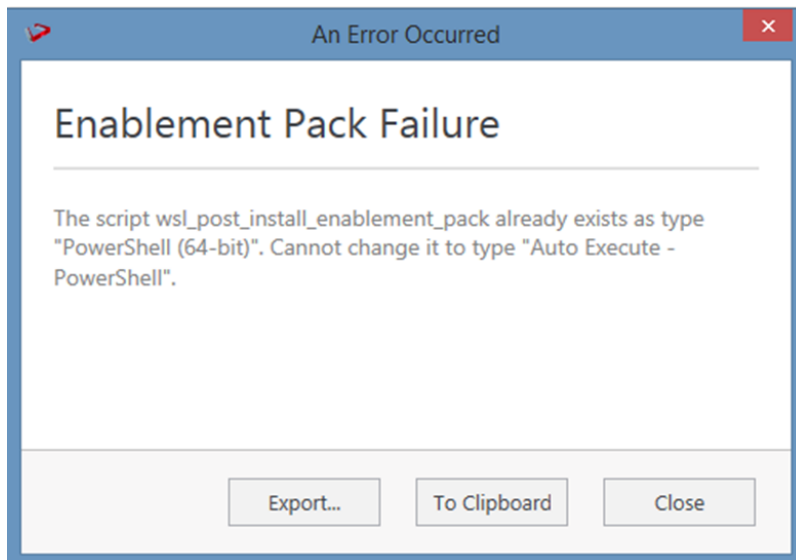
Now you have an admin prompt navigate to to the folder where you have unpacked your WhereScape Red Enablement Pack to using the 'cd' command:

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 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