Install Guide - SetupWizard - Google BigQuery

WhereScape Enablement Pack for Google BigQuery - RED 10

This is a guide to installing the WhereScape Enablement Pack for Google BigQuery 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 Google BigQuery

Before you begin the following prerequisites must be met:

- Create Database and ODBC DSN :
 - Google BigQuery (ODBC driver version 3.00.xx.xxxx or higher(64-bit))
 - At least one schema available to use as a RED Data Warehouse Target
- Software Installations
 - Google Cloud SDK for utilities GSUTIL and BQ installed and on the Windows system path
 - Download and Install Google Cloud SDK Installer from https://cloud.google.com/sdk/docs/quickstart
 - Note: To use the Google Cloud SDK and its associated tools (GSUTIL and BQ), authentication, initialization, and project configuration are required.
 - Please refer to the provided instructions for completing this process from https://cloud.google.com/sdk/docs/install-sdk
 Important: Google Cloud SDK and its associated tools (GSUTIL and BQ) must be authenticated again after installation.
 - For reauthentication please refer this process from https://cloud.google.com/sdk/gcloud/reference/auth/application-default /login
 - or run below command as admin in Command Prompt and follow prompted instructions.
 - A complete system restart is recommended after this process.

gcloud auth application-default login

- ° ODBC DSN created to connect to your RED Data Warehouse on BigQuery
- Google BigQuery Catalog Name
- At least one storage bucket needs to created on Google Cloud Storage.
 Permission Required : Upload, Read and Delete File
- Python 3.8 or higher (Tested with 3.8-3.11)
 - Select "Add Python 3.8 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

Configure Motodat	a Databasa
Configure Metadat	
RED will need a database to store i metadata and connect to it here.	nformation about your data warehouse. Create a database for the RED
Data Source Name REQUIRED	
edw_gbq_guide (64-bit)	~ 2
A Data Source Name created with the OI	BC admin tool
User Name	
postgres	
Password	
••••	
Validate Validated OK	

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

8	Red Setup Wizard	×
	WhereScape Enablement Pack	
	Enablement Packs contain complete RED configurations for working with a wide range of data sources and your licensed RED data warehouse platform. In order to use RED you must at least install the Target Enablement Pack that matches your data warehouse database platform. Additional Enablement Packs can also be installed or upgraded with this installer.	~
	Download a <u>WhereScape Enablement Pack</u> from our Support portal and unzip the file to a local directory.	
	Select a directory that contains an unzipped Enablement Pack for installation:	
	The directory that contains required enablement pack sub-directories of items	
		~
	Cancel Previous Next]

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

\mathbf{v}	Red Setup Wizard			×
				^
	G:\GBQ1749\RED10_TargetEP_Google- BigQuery_beta-240103-1749			
	Configure Enablement Pack Choose to enable only certain components of the database enablement pack or click Next to enable them	n all.		
	✓ Database Function Set	~		
	☑ Data Type Mappings Set	~		
	✓ UI Configurations	~		
	✓ Extended Properties	~		
	✓ Host Script Languages	~		
	✓ Python Modules	~		1
	✓ Templates	~		~
Ca	Previous		Next]

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

Add Targets	
Configure the connection where your data warehouse will live.	Added Targets
Connection Name REQUIRED	-
Data Warehouse	
A unique name that identifies this connection	
Data Source Name REQUIRED	
GBQ10 (64-bit) 🗸	0
Password	
Townsh Champer I a set is a s	
Existing schema (or database names depending on platform) for object storage + Add Location	
Farget Storage Locations REQUIRED Existing schema (or database names depending on platform) for object storage + Add Location Validate	d

Validate and press ADD.

Red Setu	p Wizard	×
Data Warehouse		1
A unique name that identifies this connection		
Data Source Name REQUIRED		
GBQ10 (64-bit)	✓ C	
A Data Source Name created with the ODBC admin tool		
User Name		
Passward		
Target Storage Locations REQUIRED Evision schema for database names depending on platform) for object	storage	
Target Storage Locations REQUIRED Existing schema (or database names depending on platform) for object load	storage	
Target Storage Locations REQUIRED Existing schema (or database names depending on platform) for object load stage	storage 3%	
Target Storage Locations REQUIRED Existing schema (or database names depending on platform) for object load stage edw	storage X	
Target Storage Locations REQUIRED Existing schema (or database names depending on platform) for object load stage edw + Add another Location	storage %	
Target Storage Locations REQUIRED Existing schema (or database names depending on platform) for object load stage edw + Add another Location Validate Validated OK	storage	

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 GBQ10	х
+		
Add another target		
		~
Cancel	Previous	Next

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

Add ODBC data sour	ces now or click 'Next' to skip th	is step and configure	Added Sources	
your sources later in	RED		Added Sources	
Connection Name				
A unique name that ider	tifies this connection			
Data Source Name				
		v 0		
A Data Source Name cre	ated with the ODBC admin tool			
User Name				
Password				
Validate		Add		

Review the installation summary and press Install

Summary	
Metadata Location	^
ODBC Data Source: edw_gbq_guide	
ODBC Database: (empty)	
ODBC User Name: postgres	
RDBMS Type: PostgreSQL	
Enablement Pack Directory "G:\GBQ1749\RED10_TargetEP_Google- BigQuery_beta-240103-1749"	^
Database Functions Set Database Function Sets/BigQuery Function Set.xml (41 KB)	
Data Type Mappings Set	
Data Type Mappings/BIGQUERY from BIGQUERY.xml (3 KB)	
Data Type Mappings/BIGQUERY from DB2.xml (3 KB)	
Data Type Mappings/BIGQUERY from File.xml (4 KB)	
Data Type Mappings/BIGQUERY from FIXED WIDTH FILEXMI (TKB)	
Data Type Mannings/BIGOLIERY from Other yml (5 KB)	

Clicking on the View Logs will take to the installation log. Click on Finish once the installation is completed successfully.

1

2	Red Setup Wizard	×
WhereScap RED)e [®]	
Your WhereS configured!	cape RED repository was successfully	
Note: Some Enablement When required this addit	Pack installations require further configuration steps once in RED. tional configuration will start automatically within RED after log in.	
Launch RED		
View Logs		Finish

Login to WhereScape RED.

		X REPOSITORY LOGIN
WhereScape [®]	Data Source: Logon Method: Database Login ID:	edw_gbq_guide (64-bit) DB User/Password
Version 10.0.0.3 by WhereScape, Inc.	Password:	*****
Copyright @ 2023 Licensed to Data Entrega Partner License Expires 31 DEC 2023	RED User Name:	CONNECT CANCEL HELP

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.

Post Installation Setup for Enablement Pack	
The installation process will set up and configure the enablement pack, install necessary Python and PowerShell modules and libraries. During installation you will be prompted to select the Enablement pack folder location and set either Python or PowerShell default template set. Additionally, you will have the option to choose the target location for deploying applications. Select the appropriate options when prompted to ensure a successful installation. Click 'OK' to continue with the installation process. Click 'Cancel' to cancel the installation process and redirect to RED.	
OK Cancel	

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.

Target Connection ×							
• Select the target connection to configure							
Data Warehouse							
Select suitable boxes to install selected options							
Options Configuration							
Deployment Applications							
✓ Python Libraries							
Powershell Modules							
OK Cancel							

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



The progress bar will show the post installation progress.

Post-Installation S	teps 🗕 🗖	×					
25% Enablement Pack Setup							
Setting extended properties and windows connection							

User will have to choose the schema for the target setting that were provided. One of such pop up will come for setting default target schema for Date Dimension.

>	Select Target Name	-		×
Ple	ase select target name to insta	II Date	Dime	nsion:
lan	4			_
lioad				•
	ОК		ancel	

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.

Post-Installation Steps
Installation Completed
ОК

After pressing OK RED10 will open automatically.

> •					postgres Develo	opment (License	d to Data	Entrega Part	ner License Expires 3	1 DEC 2023)		-	. Ø ×
Home	Tools Deploys	ments Reporting	Help										
Log	Options User Preferences	Backup - Validate -	(X) Paramete	script Launcher*	New New Project Grou	Project Object Maintenance	Search						
Exit	User Settings	To	ols		Groups	+ Projects	Search						
Build	er 🕓 Scheduler 🚮 🛙	Diagram											
g Dev	elopment	+ # ×	most :	script									JD Data
3	All Objects		Name	nort install e	ablement nack	Hort Seriet	Active	Target	Projects				Wa
	A Load Table												eho
	Stage Table												esn
	Data Store		_										8
	🔁 Hub								Results			× .	Lice
	🗞 Link		0	Object	Messa	ae						^	Bro
	Satellite		0	wsl_pos	t_install set as	5 the default temp	late for						ASe
	Dimension		0	wsl_pos	- t_install object	type Aggregate	sub objec	:t					-
	Dimension View		0	- wsl_pos	t_install type V	VorkTable, for op	peration						_
	Fact Table		0	- wsl_pos	t_install type U	pdateRoutine.							_
	∑ Aggregate		0	- wsl_pos	t_install 401 Su	ccess options in	port	The file	*G:\GBQ1749\RED1	0_TargetE			_
	+ View		0	- wsl_pos	t_install P_Goo	gle-BigQuery_b	eta-240103	-1749					
	- Retro		0	- wsl_pos	t_install \Optic	ins\Options.xml	was read						
	Export		0	- wsl_pos	t_install and in	serted into edw_	gbq_guide						_
	> Fo Procedure		0	- wsl_pos	t_install [edw_	gbq_guide] (64b	it)						_
			0	- wsl_pos	t_install 601 Su	iccess deployme	nt:deploy	App	lication Deployment	Complete			
	A Index		0	 wsl_pos 	Linstall								
	Custom1		0	- wsl_pos	Linstall								
	Custom2		0	 wsl_pos 	t_install Install	er log saved to fi	le: C:\User	s\HP\AppDa	ita\Local\Temp\Ws	inbablementPackin	stall_0104113908.log		
	💼 Jobs		0	wsl_pos	t_install Post in	nstallation steps	are compl	eted. Please	restart RED once to a	ontinue		 	_
	(x) Parameters											~	

User will need to restart RED once.



After Restart



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

Indes Purpose: This script was inserted by WhereScape RED CLI Owner: WhereScape RED CLI Owner: WhereScape RED CLI Delete Lock Last Update By: Connection Name: V Edit Lock Edit Lock Reason New Script Timestamps Created: [05:MAY-2023 13:23:43 Otherwise Compled: Compled: Compled: Compled: Owner: WhereScape RED CLI Owner: WhereScape RED CLI Owner: WhereScape RED CLI Owner: Owner: WhereScape RED CLI Owner: Owner: Connection Name: V Edit Lock Locked For Edit By: Edit Lock Reason New Script Timestamps Created: [05:MAY-2023 13:23:43 Otherwise Compled:	roperties	Name:	wsl_post_install_enabl	lement_pack	Type: Auto Execute - Pow	erShell 😢
Owner: WhereScape RED CLI Last Update By: Connection Name: Edit Lock Locked For Edit By: Edit Lock Reason or Last Update: Created: Created: Crea	Notes	Purpose:	This script was inserted	d by WhereScape RED CLI		
Last Update By: Connection Name: Edit Lock Locked For Edit By: Edit Lock Reason or Last Update: Timestamps Created: Created: 05-MAY-2023 13:23:43 04-MAY-2023 13:23:43 Compled:		Owner:	WhereScape RED CLI		Delete Lock	
Connection Name: Edit Lock Locked For Edit By: Edit Lock Reason or Last Update: Timestamps Created: Dreated:		Last Update By:				
Edit Lock Locked For Edit By: Edit Lock Reason or Last Update: New Script Timestamps Created: OSMAY-2023 13:23:43 Utdate: Compled: Compled		Connection Name:			*	
Locked For Edit By: Edit Lock Reason or Last Update: Timestamps Created: O5-MAY-2023 13:23:43 O4-MAY-2023 13:23:43 Compled: Compl		Edit Lock				
Edit Lock Reason or Last Update: New Script Timestamps		Locked For Edit By:				
Timestamps Last Update: Compiled: 05-MAY-2023 13:23:43 04-MAY-2023 13:23:43		Edit Lock Reason or Last Update:	New Script			
Timestamps Last Update: Compiled: 05-MAY-2023 13:23:43 04-MAY-2023 13:23:43						
Created: Last Update: Compiled: 05-MAY-2023 13:23:43 04-MAY-2023 13:23:43		Timestamps				
05-MAY-2023 13:23:43 04-MAY-2023 13:23:43		Creater	d:	Last Update:	Compiled:	
		05-MA	Y-2023 13:23:43	04-MAY-2023 13:23:43		

Important Upgrade Notes

If RED repository exists, it will prompt to upgrade the repository.

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

Amazon S3	Load From Amazon S3
Azure Data Lake Storage Gen2	Load From Azure Data Lake Storage Gen2
Google Cloud	Load From Google Cloud
REST API	Load From REST API

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

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

- Connection: Data Warehouse ('Google BigQuery') This connection was setup as per parameters provided in Setup Wizard

 a. open it's properties and check extended properties tab, set it up for GBQ_BUCKET and LOCATION
- 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 Pack Name	Supported By Google BigQuery	Supported Features	Prerequisites/Permissions Required Google Big Query
Google Cloud Storage	Yes	Download to local and load	None
Google Drive	No	N/A	None
Azure Data Lake Storage Gen2	Yes	Download to local and load	None
Amazon S3	Yes	Download to local and load	None
Windows Parser	1. CSV 2. Excel 3. JSON 4. AVRO 5. ORC 6. PARQUET	Load Template, Source Properties will have option to select parser type to load the files.	Refer to Windows Parser Guide

Source Enablement Pack Support

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_WsIPowershell_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 Google BigQuery Configuration

1.Add a system variable GOOGLE_APPLICATION_CREDENTIALS to point to a location where credentials get generated.

Edit System Variable		×
Variable name:	GOOGLE_APPLICATION_CREDENTIALS	_
Variable value:	C:\Users\DELL\AppData\Roaming\gcloud\application_default_credentials.json	
Browse Directory	Browse File OK Cancel	

2.open command prompt and cereate Google BiqQuery file using "gcloud auth application-default login"

C:\Windows\System32>gcloud auth application-default login Your browser has been opened to visit:
https://accounts.google.com/o/oauth?response_type=code&client_id=764886051850-6gr4p6gpi6hn506pt&gjuq83di341hur.apps.googleusercontent.com&redirect_uri=http%3A%2F%2Flocalhost%3A8085%2F&scope=openid+http %\$X%2F%2Fwww.googleapis.com%2Fauth%2Fuserinfo.email+https%3A%2F%2Fwww.googleapis.com%2Fauth%2Fsqlservice.login&state=GRN14561xztbeT8btFH3Mr4vLx4Tol&acces s_type=offline&code_challenge=CliZabY8gpjg1YLSa_jF9R7uz0Mb08xF7-Xbd3TDTWI&code_challenge_method=5256
Credentials saved to file: [C:\Users\DELL\AppOata\Roaming\gcloud\appLication_default_credentials.json]
These credentials will be used by any library that requests Application Default Credentials (ADC). AMANIMO: Gannot add the project "wdd-development" to ADC as the quota project because the account in ADC does not have the "serviceusage.services.use" permission on this project. You might receive a "quota_exceeded" or " API not enabled" error. Run \$ gcloud auth application-default set-quota-project to add a quota project.
C:\Windows\System32>

3.On running this command, config file should be created in the location specified in the config file system variable

This PC \rightarrow OS (C:) \rightarrow Users \rightarrow	DELL > AppData	> Roaming > g	gcloud >
▲) 🖄 🗊 ↑↓ Sort ~ ■	View ~ •••		
Name	Date modified	Туре	Size
configurations	04-12-2023 14:53	File folder	
legacy_credentials	04-12-2023 14:57	File folder	
logs	05-01-2024 12:11	File folder	
last_opt_in_prompt.yaml	04-12-2023 14:47	Yaml Source File	1 KB
last_survey_prompt.yaml	04-12-2023 14:47	Yaml Source File	1 KB
last_update_check.json	02-01-2024 12:04	JSON Source File	1 KB
access_tokens.db	08-12-2023 10:50	Data Base File	20 KB
active_config	04-12-2023 14:57	File	1 KB
application_default_credentials.json	08-12-2023 10:50	JSON Source File	1 KB
Config_sentinel	05-12-2023 11:06	File	0 KB
credentials.db	04-12-2023 14:57	Data Base File	12 KB
default_configs.db	04-12-2023 14:57	Data Base File	12 KB
🗋 gce	05-01-2024 12:11	File	1 KB

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

An Error Occurred	×					
Enablement Pack Failure						
The script wsl_post_install_enablement_pack already exists as type "PowerShell (64-bit)". Cannot change it to type "Auto Execute - PowerShell".						
Export To Clipboard Close						

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.