COHESITY

Version 1.1

July 2024

SQL Adapter Installation and Configuration Guide

Installing and Configuring Cohesity SQL Adapter for SQL Servers on Windows

ABSTRACT

This guide offers practical recommendations for installing the adapter for SQL Servers on Windows.

Table of Contents

Figures

Tables

One Adapter, Many Technologies

The Cohesity SQL Adapter unites several technologies to provide a single, integrated interface that allows for a rich set of Cohesity features.

Cohesity recommends installing and using the SQL Adapter for backup and recovery of SQL Server Databases.

Start with Active Directory

Active Directory is a common repository for information about objects that reside on the network, such as users, groups, computers, printers, applications, and files. Active Directory also manages access for each object, which allows you to maintain permissions and control who can access and manage those objects.[1]

Recommendations

Cohesity recommends that the Cohesity cluster be joined to the same Active Directory that manages the customer's SQL Server hosts.

Cohesity recommends that the service accounts for MS SQL Server and SQL Adapter be configured in Active Directory and have domain user permissions.

IMPORTANT: To successfully link a cluster to an AD server, the domain must be resolvable, and the DNS server must be reachable. For more information on joining a cluster to Active Directory, see Active Directory in the online Help.

[1] Desmond, Brian, et al. (2013). *Active Directory: Designing, Deploying, and Running Active Directory*. (5th ed., p. 1). O'Reilly.

Consider Accounts and Permissions

There are three accounts that you must consider while installing the Cohesity Adapter:

- **Installation account**: The account you use to log in to the host and run the installer.
- **Service account**: The account under which the Cohesity Adapter service runs on the SQL Server host (selected at the time of installation).
- **SQL Server login account**: The SQL Server account by which the Cohesity Adapter has access to the databases (configured after installation).

Installation Account: To Install the Adapter

When installing the Cohesity Adapter on a Microsoft Windows host, you must log onto the SQL Server host with an account that has local administrator privileges. This is because the Windows adapter installer installs the Cohesity Adapter service.

Microsoft requires the installation account to have administrator privileges on the host.

Service Account: To Run the Adapter

This is the account under which the adapter runs on the SQL host. The installer gives you the option between two types of service accounts:

- LocalSystem account
- User account

Assigning privileges to the service account will differ depending on which type of account you choose. Cohesity recommends using either the LocalSystem account or an Active Directory Domain user account. See the table below for a comparison of service account types:

Table 1: Comparison of Service Account Types

SERVICE ACCOUNT	TYPE	DEFINITION	RECOMMENDATION
LocalSystem Account (Default)	LocalSystem Account (Built-in Host Account)	The LocalSystem account is a predefined local account on the host computer.	**Recommended:** The LocalSystem account is a predefined local account used by the service control manager. It has extensive privileges on the local computer, and acts as the computer on the network. Its token includes the NT AUTHORITY\SYSTEM and BUILTIN\Administrators SIDs; these accounts have access to most system objects.[2]
User Account	Domain User Account (Active Directory)	A user whose username and password are stored in Active Directory.	**Recommended:** A domain user account enables the service to take full advantage of the service security features of Windows and Microsoft Active Directory Domain Services. The service has whatever local and network access is granted to the account, or to any groups of which the account is a member.[3]
	Local User Account (Host Account)	In Windows, a local user is one whose username and encrypted password are stored locally, only on the computer itself.	**Not Recommended**: When you log in as a local user, the computer checks its own list of users and its own password file to see if you are allowed to log in to the computer. The computer itself then applies all the permissions and restrictions that are assigned to you for that computer.

TIP: If you are unsure which account to use, choose the LocalSystem account. This account already has most of the required permissions. The adapter service account can be changed later if needed.

[2] For more, see Microsoft's LocalSystem Account article.
[3] For more, see Microsoft's Using a Domain User Account as a Service Logon article.

Pros and Cons of Service Account Types

Different types of service accounts have advantages and disadvantages that you should be aware of when deploying the Cohesity Adapter. See the table below:

Table 2: Service Account Types

INSTALLER ACCOUNT CHOICE	ACCOUNT TYPE	PROS	CONS
LocalSystem (Default)	LocalSystem Account (Built-in Host Account)	• The LocalSystem account is a predefined local account on the host computer and therefore requires the minimum setup and configuration. • The LocalSystem account already exists on Windows machines. • Has access to most system objects.	• The difficulty of managing each individual LocalSystem account increases as the number of machines increases. For example, 200 machines = 200 LocalSystem accounts to manage. • No central location to manage security. • No central location to manage permissions. • Additional permissions need to be managed in order to access network computers and storage.
User Account	Domain User Account (Active Directory)	• Account username and password are stored in Active Directory. • Can take full advantage of the service security features of Windows and Microsoft Active Directory Domain Services. • Centralized location to manage security. • Centralized location to manage permissions.	This account must be created before adapter installation.

INSTALLER ACCOUNT CHOICE	ACCOUNT TYPE	PROS	CONS
		• Access to network computers and storage is easily available. • Very scalable.	
	Local User Account (Host account)	Good for a single system.	Not scalable in a production environment.

Assign Service Account Permissions

The service account needs permissions (authentication) from several different areas:

- MS SQL Server Instance
- Windows SQL Server host
- MS Active Directory (if applicable)

As usage of your Cohesity cluster increases, it will need permissions to network entities such as users, groups, applications, computers, storage, shares, files, and other Cohesity clusters.

Table 3: Service Account Permissions Minimums

ADAPTER SERVICE ACCOUNT TYPE	ADAPTER SERVICE ACCOUNT PERMISSIONS		
	IN ACTIVE DIRECTORY	IN SQL SERVER	ON WINDOWS HOST
LocalSystem	N/A	"NTAuthority\System" login must also have the sysadmin role.	• Must also be a member of the Administrators group. • Must have rights to "log on as a service."
User Account (Active Directory)	• Must also be a member of the Domain Users group. • Must also be a member of the Administrators group.	Login must also have the sysadmin role.[4]	

NOTE: A common deployment error when using the LocalSystem account is to assume that the LocalSystem account belongs to the Administrators group on the host server. This is not always the case. Verify that the LocalSystem account belongs to the Administrators group.

[4] Backup or restore operations that use the Microsoft SQL Server Virtual Device Interface (VDI) require that the server connection for SQL Server that is used to issue the BACKUP or RESTORE commands must be logged on as the sysadmin fixed server role.

For more, see Set Up MS SQL Server for Cohesity Protection in the online Help, and Microsoft's About Service Logon Accounts article.

> **NOTE**: A common deployment error is to forget to assign the SQL Server sysadmin role to the adapter service account in SQL Server.

Install the Cohesity Adapter for Windows

Cohesity recommends using adapter-based backups as the preferred method. This allows you to have a single Protection Job that protects multiple SQL databases across multiple SQL instances, and the ability to back up and restore individual databases.

NOTE: To recommend the best possible deployment, you have to know how the SQL instance is configured. Not understanding the SQL Server configuration can lead to errors when you register it as a Cohesity source.

Cohesity recommends you know the SQL Server host configuration in order to properly register it as a Cohesity source.

Before registering a physical server with the Cohesity cluster, you'll have to download and install the Cohesity Adapter for Windows on each server you plan to register. When you install the Cohesity Adapter, you will be prompted to choose file-based or volume-based options, or both. See the next section for more information.

Install the Adapter

You are now ready to install the Cohesity Adapter for Windows on each SQL Server you plan to back up with Cohesity Platform. From the SQL Server host, log in to Cohesity Platform, navigate to **Protection > Sources**, and download the Cohesity Adapter Windows. Install the Cohesity Adapter by launching the downloaded executable. The adapter starts automatically.

You can install the Cohesity Adapter for Windows on multiple Windows servers through the Cohesity Platform CLI (command line interface).

NOTE: You can upgrade the Cohesity Adapter through the MS SQL Dashboard in Cohesity Platform. When an upgrade becomes available for any adapters that you've installed, an **Upgrade Adapter** icon will appear next to that adapter in the MS SQL Dashboard.

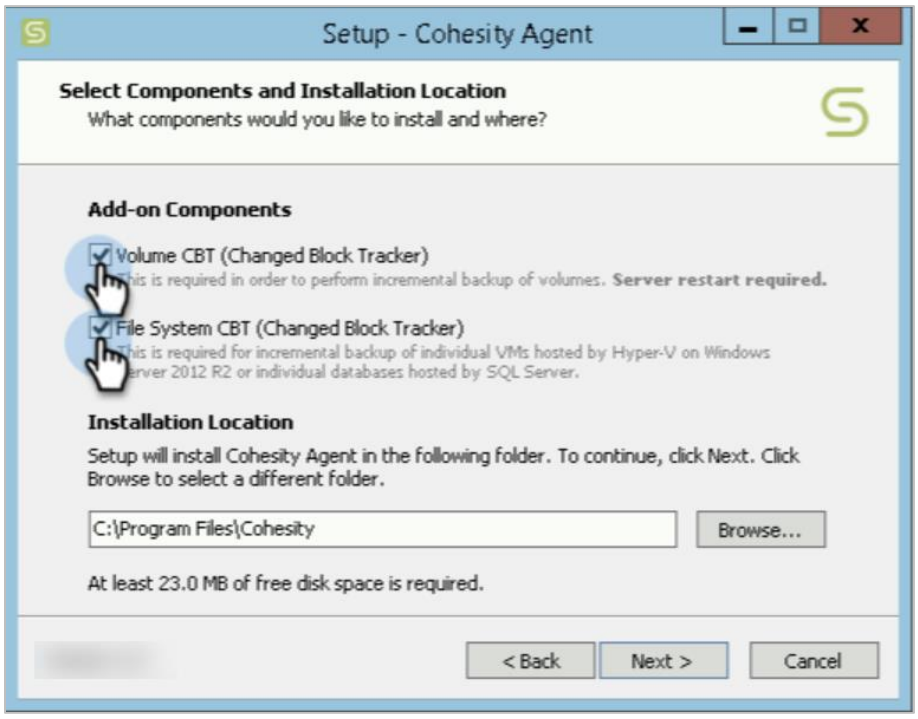
Choose the Right Components

By default, the Volume CBT (Changed Block Tracker) component is selected for installation. This component is required to perform incremental backups and requires a reboot to function. Without a reboot, you can perform only full backups on the server.

The File System CBT component is required for MS SQL file-based Protection, as well as incremental backups of database files. The installation does not require a reboot for this component to function.

Cohesity recommends installing both the Volume and File CBT components of the Cohesity Adapter.

Figure 1: Cohesity Adapter Installation Options



Now that you have installed the adapter, you are ready to register the SQL host as a source in Cohesity.

Your Feedback

Was this document helpful? Send us your feedback!

About the Authors

Scott Lorenz is a SQL Solutions Engineer at Cohesity. In his role, Scott focuses on business-critical applications, MS SQL Server databases, and data protection with Enterprise and Cloud Storage.

Other essential contributors include:

- Bart Abicht, Sr Technology Writer & Editor, Technical Marketing & Solutions Engineering
- Subash Babu, Staff Technology Editor, Technical Marketing Engineering

Document Version History

VERSION	DATE	DOCUMENT HISTORY
1.1	July 2024	Republishing
1.0	Feb 2022	First release

ABOUT COHESITY

Cohesity is a leader in AI-powered data security and management. Aided by an extensive ecosystem of partners, Cohesity makes it easier to protect, manage, and get value from data – across the data center, edge, and cloud. Cohesity helps organizations defend against cybersecurity threats with comprehensive data security and management capabilities, including immutable backup snapshots, AI-based threat detection, monitoring for malicious behavior, and rapid recovery at scale. Cohesity solutions are delivered as a service, self-managed, or provided by a Cohesity-powered partner. Cohesity is headquartered in San Jose, CA, and is trusted by the world's largest enterprises, including six of the Fortune 10 and 44 of the Fortune 100.

Visit our website and blog, follow us on Twitter and LinkedIn and like us on Facebook.