



CIM Explorer - Help Manual

© 2023 by SAPIEN Technologies Inc., all rights reserved

1. Welcome to CIM Explorer	3
2. Introduction	4
About CIM Explorer	4
Real-life Example	5
How to Buy CIM Explorer	9
3. Getting Started	10
Installing CIM Explorer	10
Staying Up-to-date	15
Getting Help	16
4. Basic Orientation	18
Customizing Your Workspace	18
Find the Current Computer	20
Search	21
Find a String	23
Query	24
Query in PowerShell	28
Export Query Results	29
5. Remote Connections	31
Connect to a Remote Computer	31
Disconnect and Reconnect	33
Update Connection Data	34
Update CIM/WMI Data	34
Troubleshooting Connections	35
6. Run in PowerShell	36
About Windows PowerShell Console	36
Run a CIM Query in PowerShell	37
Get the PowerShell Command for a Query	38
Show and Hide the Console	39
7. Create and Run Queries	41
Ways to Query Data	41
Run a PowerShell Query	43

- Run a Custom Query 45
 - Examine Query Results 46
- 8. Advanced Features 49**
 - Find a Class, Property or Method 49
 - Filter Results 49
 - Export Results 50
 - Display WMI Help and Examples 51
- 9. Reference 52**
 - SAPIEN Updates 52
 - Keyboard Shortcuts 55
 - Appendices 56
 - Appendix A: Manual Version 56
 - Appendix B: Icon License Attribution 57

1 Welcome to CIM Explorer

Accessing data about a computer has never been easier!



CIM Explorer is the premier tool for accessing managed data about any local or remotely connected computer. Whether you are using Windows Management Instrumentation (WMI) or Common Information Model (CIM), CIM Explorer is the tool of choice. Let CIM Explorer help you get a handle on classes along with their properties and methods.

For a complete list of current features, visit the [CIM Explorer product page](#).

About this documentation

This help is designed to show you how to use CIM Explorer and also as an ongoing reference while you are working with the tool. You can do a quick overview to get started, work through the topics in detail, and refer back to this guide for additional information when needed.

Getting started - new users

- [Download and install CIM Explorer](#).
- Quickly learn the basics of the program in [Getting Started](#) .
- Visit the [support forum](#) to get help from SAPIEN staff and other experienced CIM Explorer users.

2 Introduction

This section provides an overview of the CIM Explorer features, lets you know how to get answers to your questions, and shows you how to purchase directly online or through a reseller.

2.1 About CIM Explorer

CIM Explorer allows you to use Common Information Model (CIM) and Windows Management Instrumentation (WMI) to view the vast landscape of managed data on any computer. Utilizing a simple, intuitive design, CIM Explorer enables newcomers and experts alike to be more productive.

Key Features

- **View all CIM and WMI managed data** in a hierarchical tree structure, including namespaces and classes.
- **View all properties and methods of a class**, with help descriptions.
- **Search** for text in the name or description of a class, property, method, or all of the above, and then filter the results.
- **Explore and query** any class on a local or remote computer. Use CIM Explorer preset queries or write your own.
- **Run in PowerShell or PowerShell Core**. Click to run a [Get-CimInstance](#) command for any class or property in the built-in Windows PowerShell console.
- **Export query results** in HTML, XML, CSV, or text format.
- **View and run built-in help examples** customized for your computer. Or, click to search for the class description in Google or MSDN.

WMI and CIM

Windows Management Instrumentation (WMI) envisions all of Windows hardware and software as a set of management classes that you can use to view and script any Windows system. It's the Microsoft version of [WBEM](#), an industry-wide environment-independent system that abstracts generic computer system features—like physical and logical disks—so you can view, automate, and manage them on any system.

WMI is Microsoft's implementation of the Common Information Model (CIM), an industry standard that represents systems, applications, networks, devices, and other managed components. CIM adheres to the [DMTF](#) standard, which makes it ideal for cross-platform environments. The CIM classes are the parent classes upon which the WMI classes are built.

Beginning in Windows PowerShell 3.0, Microsoft recommends using CIM cmdlets, such as [Get-CimInstance](#), instead of the traditional Get-WMIObject cmdlet. Beginning with PowerShell 7, Get-WMIObject is no longer available.

Why use CIM Explorer?

CIM Explorer is like having an assistant who is a CIM and WMI expert. It knows the classes, namespaces, and properties. It caches in advance to speed up searches. It writes queries for you and runs them with a click, either in its handy display or in its Windows PowerShell browser. It knows VBScript and PowerShell, and it teaches you its query language by generating commands that you can view, copy, and reuse.

 [See a real-life example of how to use CIM Explorer](#) 

 CIM Explorer does not run elevated by default. Some CIM classes and their properties, or methods, require elevation. You will need to run CIM Explorer elevated to access protected elements.

Product Updates

You can learn about product updates on our blog and in the release build log, and you can also submit product feedback and suggestions.

- Check out the CIM Explorer articles on the [SAPIEN blog](#).
- View the CIM Explorer [version history](#).
- Submit [feedback and suggestions](#).

2.2 Real-life Example

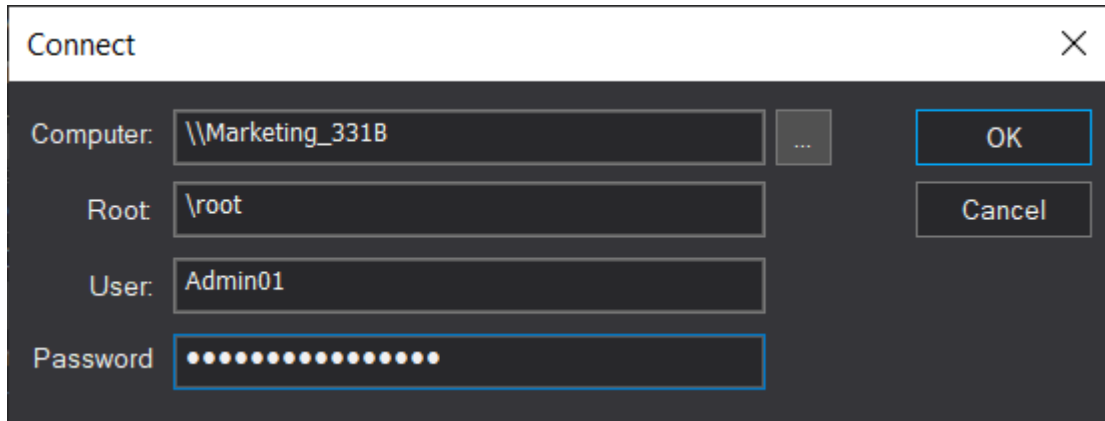
Below is an example of how CIM Explorer can be used in a real-life scenario:

You work in IT Support, and you get a call about a failing battery in a user's computer. Instead of trying to get information from the busy and inexperienced user, you decide to use Windows PowerShell.

You do not know which of the hundreds of CIM and WMI classes contain information about the battery. You can use Get-CimInstance -List, but it's quicker to launch CIM Explorer and search for battery classes.

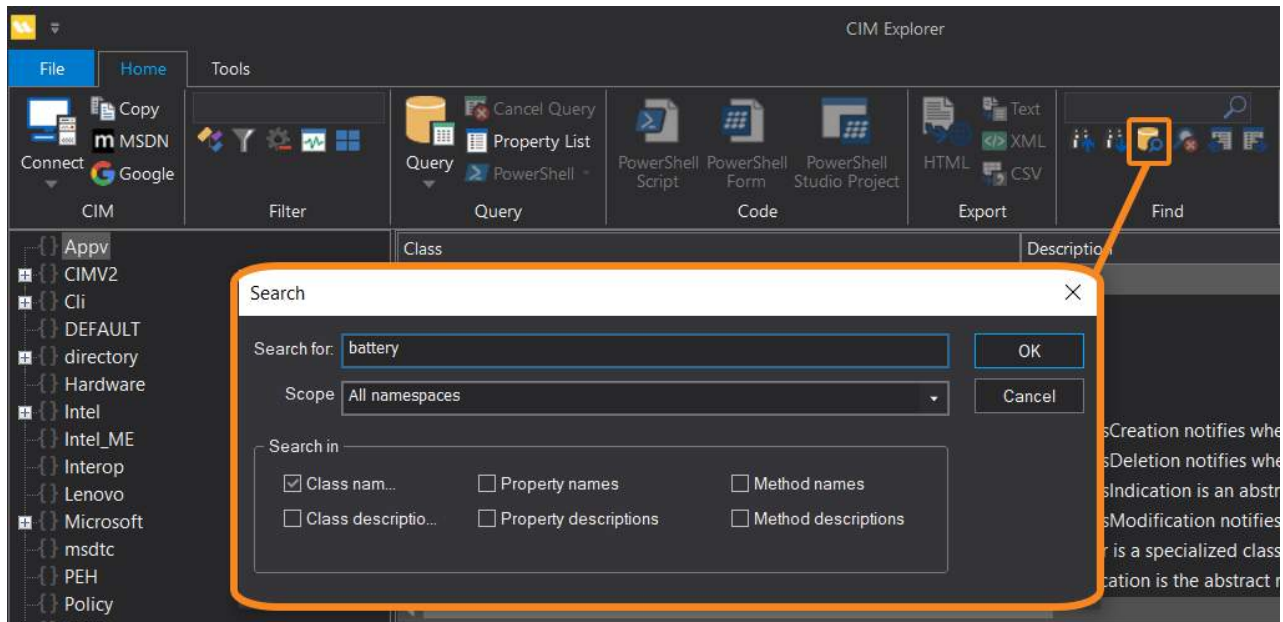
You start by connecting to the user's computer from CIM Explorer.

 On the **Home** tab > in the **CIM** section, click **Connect** and then connect to the user's computer.



Next, you search for battery classes on the target computer. To make the search as efficient as possible, you uncheck all **Search in** options other than **Class names**.

👍 On the **Home** tab > in the **Find** section, click the **Search** icon.



The search results appear in the Output panel.

Output		
Name	Type	Namespace
 CIM_AssociatedBattery	Class	\root\CIMV2
 CIM_Battery	Class	\root\CIMV2
 Win32_Battery	Class	\root\CIMV2
 Win32_PortableBattery	Class	\root\CIMV2
 BatteryCycleCount	Class	\root\WMI
 BatteryFullChargedCapacity	Class	\root\WMI
 BatteryRuntime	Class	\root\WMI
 BatteryStaticData	Class	\root\WMI
 BatteryStatus	Class	\root\WMI
 BatteryStatusChange	Class	\root\WMI
 BatteryTagChange	Class	\root\WMI
 BatteryTemperature	Class	\root\WMI

You are not familiar with these classes, so you use the **Class** and **Property/Method** displays to scan the properties for the ones that would be useful. You settle on the **Win32_PortableBattery** class.

Class	Description
 Win32_PointingDevice	The Win32_PointingDevice class represents an input device used to point to and select regions on the display of a Win32 computer.
 Win32_PortableBattery	The Win32_PortableBattery class contains the population of the DMTF Portable Battery group, as defined in the DMTF Mobile
 Win32_PortConnector	The Win32_PortConnector class represents physical connection ports, such as DB-25 pin male, Centronics, and PS/2.

Property / Method	CIMType / .NET Type	Description
 ManufactureDate	string / System.String	The ManufactureDate property identifies the date when the battery was manufactured.
 Manufacturer	string / System.String	The Manufacturer property indicates the manufacturer of the battery.
 MaxBatteryError	uint16 / System.UInt16	The MaxBatteryError property indicates the difference between the highest estimated amount of energy left in the battery and
 MaxRechargeTime	uint32 / System.UInt32	MaxRechargeTime indicates the maximum time, in minutes, to fully charge the battery. This property represents the time to r
 Name	string / System.String	
 PNPDeviceID	string / System.String	Indicates the Win32 Plug and Play device ID of the logical device. Example: "PNP030b"
 PowerManagementCapabilities	uint16 / System.UInt16	Indicates the specific power-related capabilities of the logical device. The array values, 0="Unknown", 1="Not Supported" and
 PowerManagementSupported	boolean / System.Boolean	Boolean indicating that the Device can be power managed - ie, put into a power save state. This boolean does not indicate th
 SmartBatteryVersion	string / System.String	The Smart Battery Data Specification version number supported by this battery. If the battery does not support this function, t
 Status	string / System.String	
 StatusInfo	uint16 / System.UInt16	StatusInfo is a string indicating whether the logical device is in an enabled (value = 3), disabled (value = 4) or some other (1) c
 SystemCreationClassName	string / System.String	The scoping System's CreationClassName.

Then you run a basic query on the **Win32_PortableBattery** class on the user's computer. You find two portable batteries, one in back and one in front.

 In the **Class** window > right-click **Win32_PortableBattery**, and then click **Query** this.

Output

	Availability	BatteryStatus	CapacityMultiplier	Caption	Chemistry	ConfigManagerErrorCode	ConfigManagerUserConfig	CreationClassName	Description	DesignCapacity	DesignVoltage
1			10	Portable Battery	2			Win32_PortableBattery	Portable Battery	23510	11250
2			10	Portable Battery	2			Win32_PortableBattery	Portable Battery	26330	11400

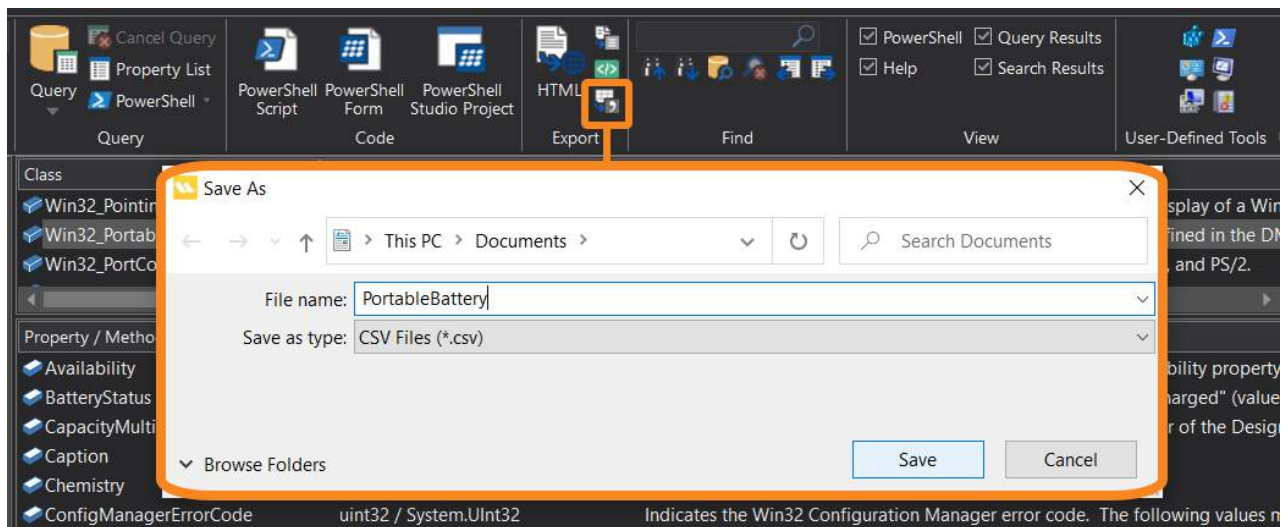
To drill down, you examine the property values for the suspect battery and find the information needed.

 Click a battery class entry > in the **Query** section of the ribbon, click **Property List**.

Output		
	Property	Value
21	Location	Front
22	ManufactureDate	
23	Manufacturer	SANYO
24	MaxBatteryError	0
25	MaxRechargeTime	
26	Name	00HW022
27	PNPDeviceID	
28	PowerManagementCapabilities	
29	PowerManagementSupported	
30	SmartBatteryVersion	03.01
31	Status	

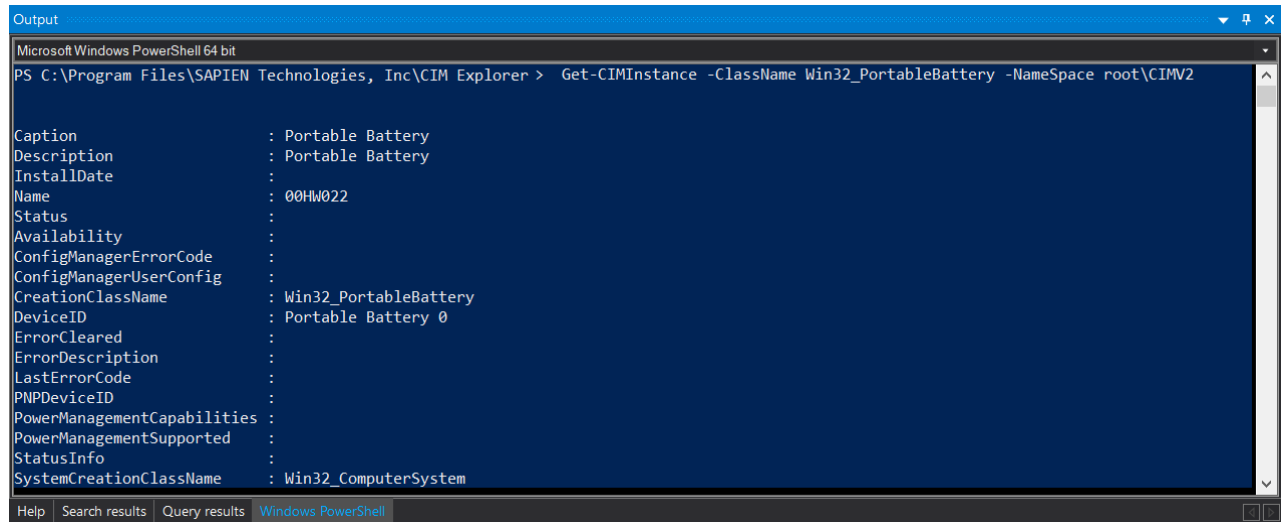
You export the information to a CSV file for your records.

👍 In the **Export** section of the ribbon > click **CSV**.



You would like to use this query in some scripts so you run it in the CIM Explorer PowerShell console. Then, you copy the PowerShell command into your script.

👍 In the **Query** section of the ribbon, click **PowerShell** > then **right-click PowerShell** and click **Copy PowerShell Code**.



```
Output
Microsoft Windows PowerShell 64 bit
PS C:\Program Files\SAPIEN Technologies, Inc\CIM Explorer > Get-CIMInstance -ClassName Win32_PortableBattery -Namespace root\CIMV2

Caption           : Portable Battery
Description       : Portable Battery
InstallDate       :
Name              : 00HW022
Status            :
Availability       :
ConfigManagerErrorCode :
ConfigManagerUserConfig :
CreationClassName : Win32_PortableBattery
DeviceID          : Portable Battery 0
ErrorCleared       :
ErrorDescription   :
LastErrorCode      :
PNPDeviceID       :
PowerManagementCapabilities :
PowerManagementSupported :
StatusInfo         :
SystemCreationClassName : Win32_ComputerSystem
```

2.3 How to Buy CIM Explorer

You can buy CIM Explorer online with all major credit cards. As soon as your transaction completes you can download and install the program.

For answers to your pre-order questions, check out the [SAPIEN Frequently Asked Questions](#) or post in the [Trial Software / Pre-sales Technical Questions](#) forum.

Order link and CIM Explorer product page

Online orders:

<https://www.sapien.com/store/cim-explorer-23>

Worldwide authorized resellers:

<https://www.sapien.com/company/resellers>

CIM Explorer product page:

<https://www.sapien.com/software/cimexplorer>

3 Getting Started

This section provides information to help you install CIM Explorer and keep it up-to-date.

3.1 Installing CIM Explorer

To get started using CIM Explorer, follow the instructions below to download and install the program.

Downloading CIM Explorer

All SAPIEN Technologies software products are downloadable only. Download registered products from your [SAPIEN Account Registered Products page](#).

Select the 64-bit version of CIM Explorer to download. The installer software will save to your default download folder (e.g., *CIM23Setup_2.4.105_011323_x64.exe*).

 Starting with the CIM Explorer 2020 product release, 32-bit versions are no longer available. Current owners of a license that includes a 32-bit product will have access to that from their [SAPIEN Account Registered Products page](#).

Want to try before you buy? You can [download a trial version here](#).

Installing CIM Explorer

Follow these instructions to install CIM Explorer.

How to install CIM Explorer

1. In your default download folder, double-click on the downloaded program (e.g., *CIM23Setup_2.4.105_011323_x64.exe*).
2. Reply **Yes** to the "Do you want to allow this app to make changes to your device?" prompt.

The installation wizard will first check several items, such as available disk space and the presence of previous builds. If the environment is adequate, the installer will display the legal agreement which you must accept to proceed:

- a. **Read** the terms of the license agreement.
- b. **Accept** the terms of the license agreement. You should never accept license terms unless you have read them, and you understand them.
- c. Once you have accepted the terms, click **Install**.

 The software will install in the default location as shown, unless you change the path.

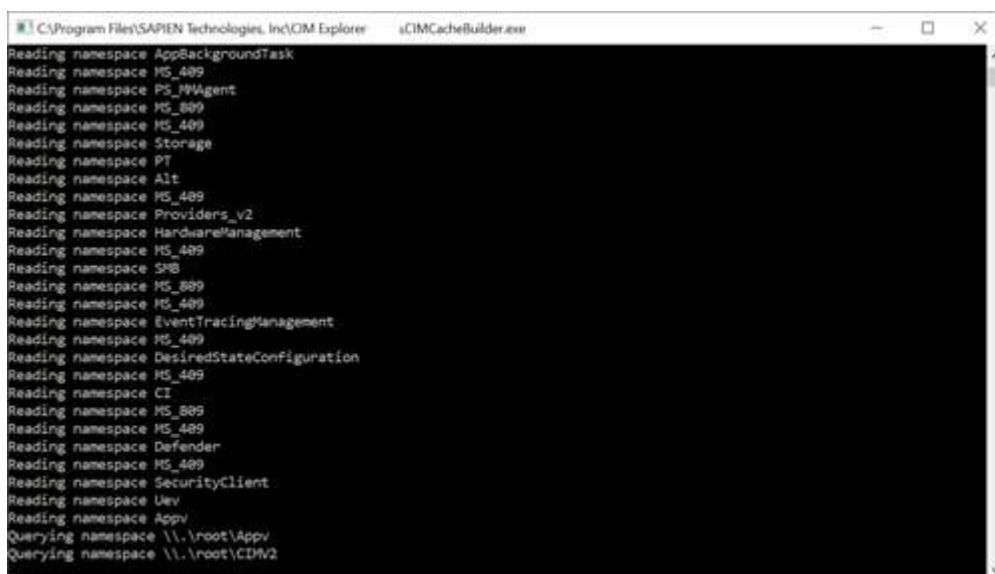


3. The installation may take several minutes.

i The install time may take longer if the setup determines that some of the prerequisites needed to run CIM Explorer are missing.



4. CIM Explorer will build the WMI cache.



5. When CIM Explorer successfully completes the installation, click **Finish**.



Troubleshooting Installation

If you encounter problems installing CIM Explorer, please report them in the [Installation Issues support forum](#).

Activating and Deactivating CIM Explorer

Software activations are outlined in our [End-User License Agreement](#). The number of activations allowed will differ depending on your type of license. For Perpetual Licenses, each licensed user is allowed to have a maximum of two devices activated and operating at any given time for personal use. For [Subscriptions*](#), each licensed user is allowed to have the software activated on a total of 20 devices with a maximum of two devices operating simultaneously at any given time for personal use.

Product Activation

Registration is required to activate and operate the product, and also to obtain any customer service

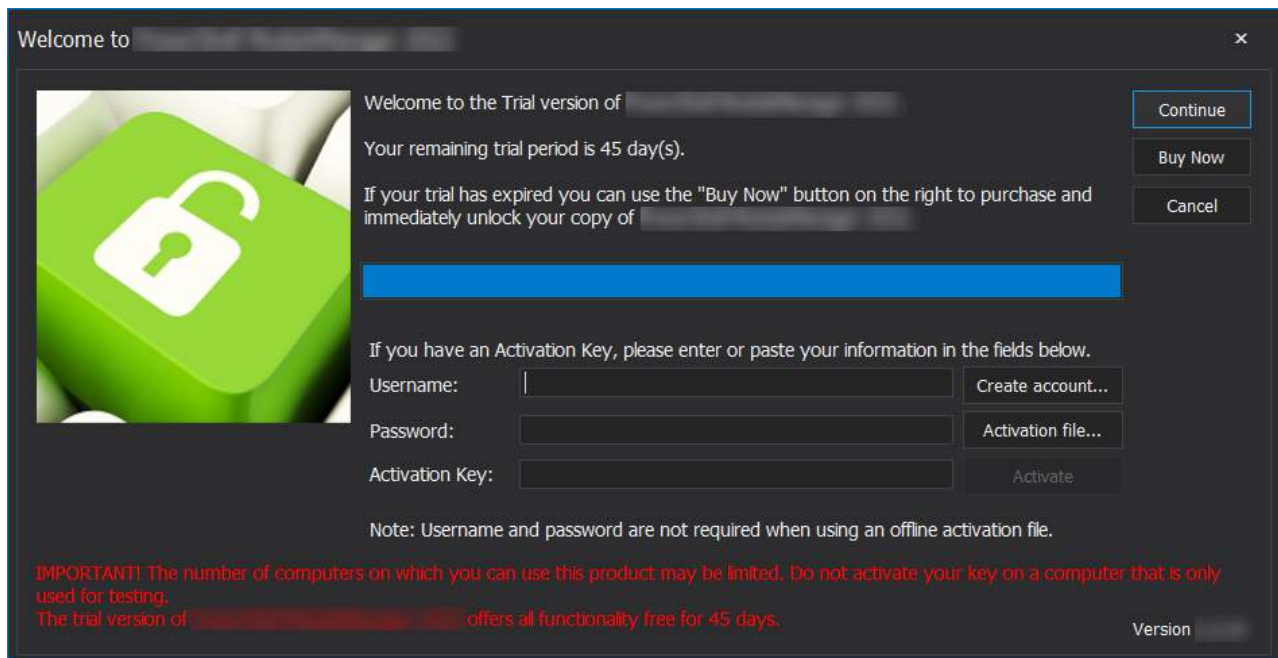
or technical support benefits. Registration only takes a few moments to complete and provides you with access to special offers including preferred pricing on renewals. *You will need an active internet connection to complete product registration.*

An active internet connection may not be required if you have a legitimate reason for needing [offline access](#). To request offline activation [please fill out this request](#). All requests are considered on a case-by-case basis. Please note: Activation keys belonging to [Subscriptions](#)* are not eligible for Offline Activation.

** Information about software activations for Subscriptions only applies to SAPIEN Technologies products with a Subscription purchase offer.*

To activate CIM Explorer

The first time you launch a SAPIEN product, the Welcome screen is displayed.



The steps to activate the product vary depending on whether or not you already have a SAPIEN account.

👍 Follow the steps in the [Quick Guide to SAPIEN Software Activation](#) to activate the software.

If you are unable to activate the product, contact sales@sapien.com.

Product Deactivation

Removing a software activation, also known as "deactivating", allows you to free up an activation for use on another device.

You may deactivate your devices to free up your activations at your leisure, but there are certain circumstances where proper deactivation is crucial to prevent the loss of [your allotted activations](#)¹³.

❗ Uninstalling the software from your device does **not** deactivate the activation key.

To deactivate your activation key

In the top-right of CIM Explorer above the ribbon, click the Activation Information button.



The Activation Information window will open.

👍 Follow the steps in the [SAPIEN Software Activation / Deactivation FAQ](#) to deactivate your activation key.

3.2 Staying Up-to-date

We are continually updating CIM Explorer, both to remove bugs and to add and improve product features. We recommend always staying current with the most recent version to ensure that you are taking advantage of the latest features, functionality, and product stability.

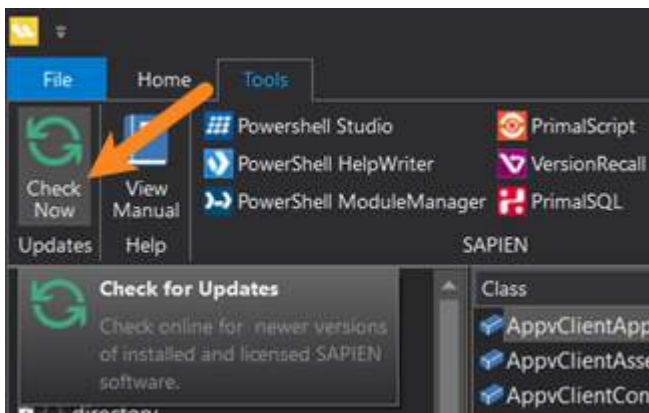
ℹ The details for every CIM Explorer release are available in the [version history](#).

Check for Updates

By default, CIM Explorer will automatically check for software updates. You can also manually check for updates.

To check for updates

- On the **Tools** ribbon (Updates section) > click **Check Now** to open the [SAPIEN Updates](#)⁵² tool and see if there is a new CIM Explorer build available:



3.3 Getting Help

This help manual has been designed to provide all the information you will need for using CIM Explorer. In addition to the information in this guide, you can also ask questions in the [online support forums](#) .

 View CIM Explorer product feature demonstrations and release details on [our blog](#).

Accessing the help manual

To view the help manual online

- In CIM Explorer, select the **Tools** ribbon > then in the **Help** section, click **View Manual**.

 The SAPIEN Information Center provides direct access to [all of the SAPIEN product manuals](#).

User forums and support

Every registered CIM Explorer perpetual license with active maintenance includes basic support in our [CIM Explorer product support forum](#).

 If your CIM Explorer maintenance has expired, you must [renew](#) in order to obtain support.

Support Forums

Use the SAPIEN forums to get help with CIM Explorer, get answers to your scripting questions, submit feature requests, and more.

- [CIM Explorer forum](#)
- [CIM Explorer feature requests](#)
- [Scripting support forums](#)
- [All SAPIEN support options](#)

 To report a problem in the CIM Explorer forum, you will need to provide your SAPIEN product and OS [version information](#) .

How to copy version information

To report a problem in the [CIM Explorer forum](#), you will need to include the product version and build, and also your OS version and build—and indicate 32 or 64-bit for each.

To copy the required version information

1. Click the **About** button in the top-right of the CIM Explorer workspace.

2. In the About CIM Explorer window, select **Copy Version Info**.
3. Paste the version information into your [CIM Explorer forum](#) post.

4 Basic Orientation

This section shows you how to easily customize your workspace, and explains the basic tasks you will use when working with CIM Explorer. The topics are presented roughly in the order that you would perform the tasks.

4.1 Customizing Your Workspace

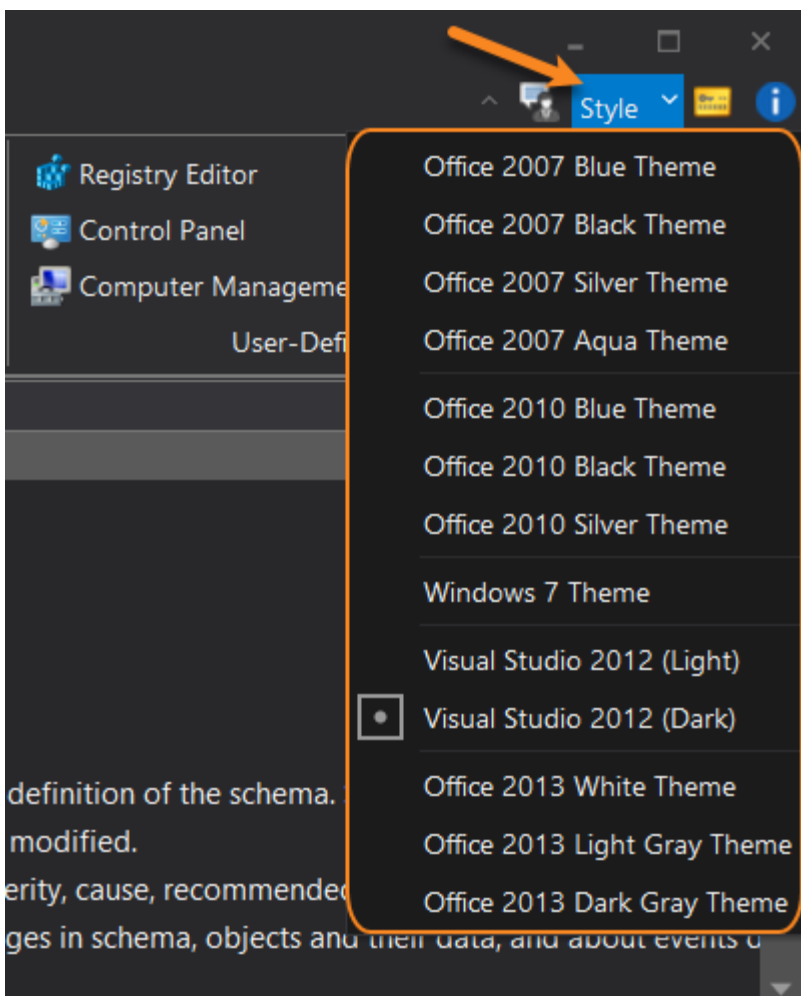
The CIM Explorer workspace can be easily customized to suit your personal preference.

Changing the color themed style

You can change the style (color theme) of the application to a predefined style.

To change the style

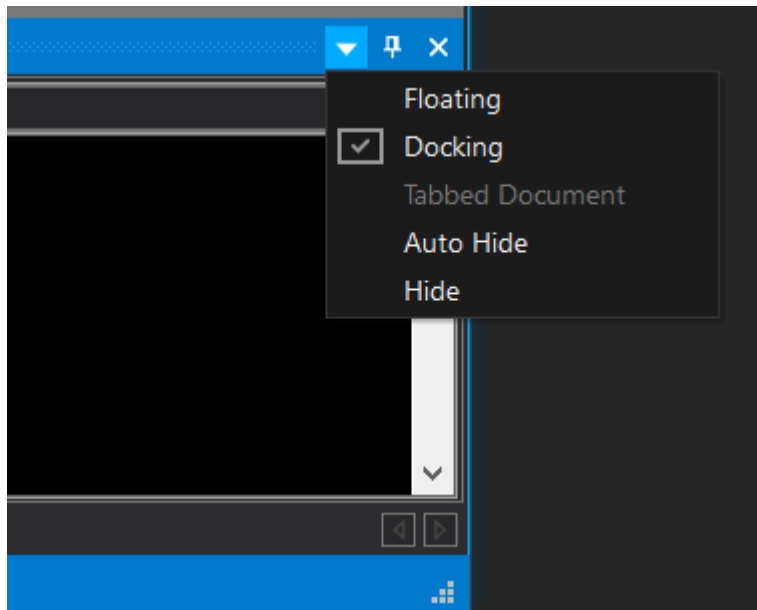
- Click the **Style** menu on the top-right of the CIM Explorer window, then **select a style**:



Manipulating workspace elements and the Ribbon

Output window

The Output window at the bottom of the CIM Explorer workspace can be resized, hidden, floated, or docked:



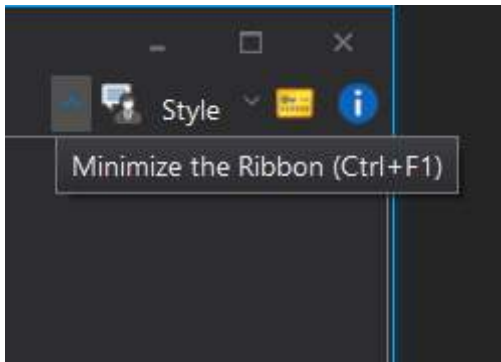
The Ribbon

The tabbed ribbon automatically resizes and compresses as you adjust the size of the CIM Explorer application.

You can also easily hide the ribbon.

To minimize the ribbon

- On the top-right above the ribbon, **click the arrow** to the left of the Send Feedback button (**Ctrl+F1**):

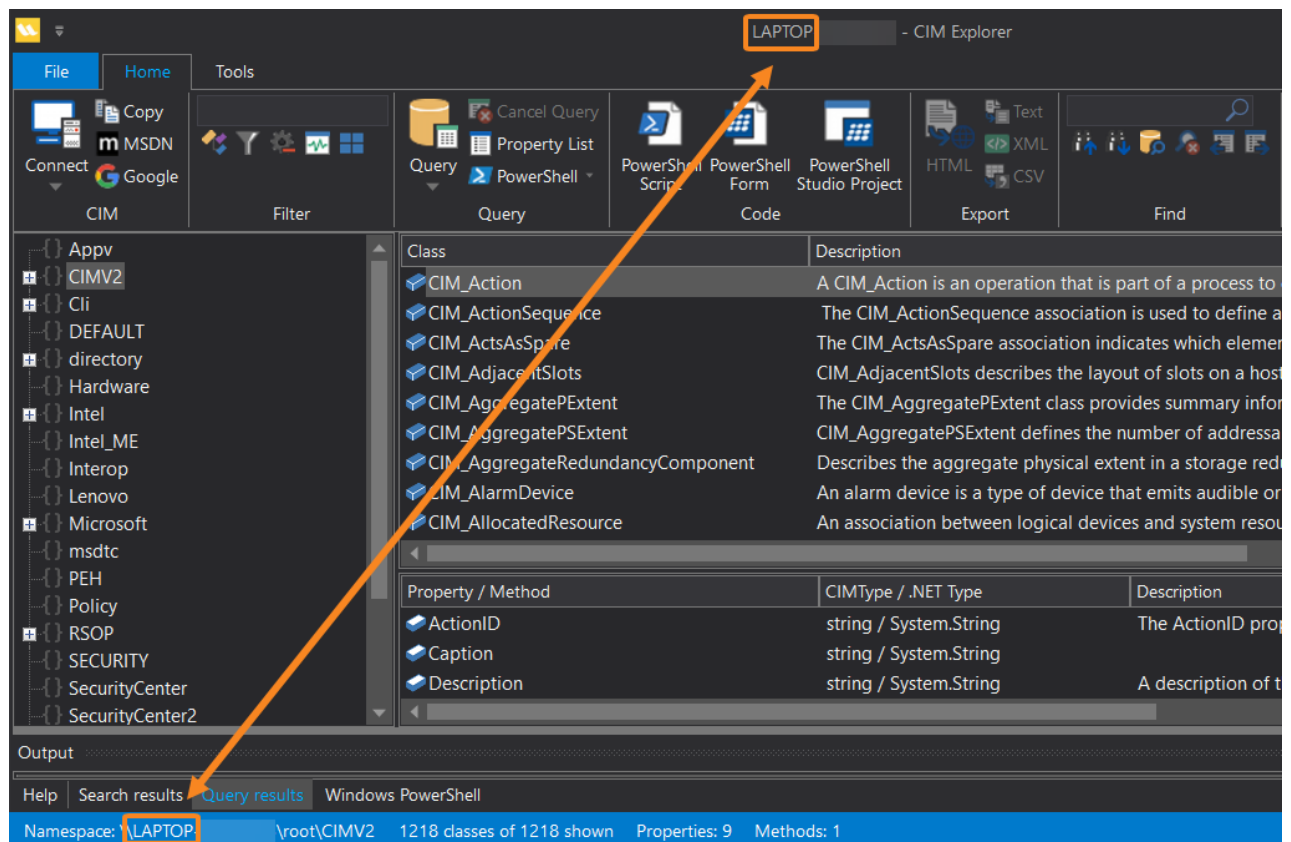


4.2 Find the Current Computer

This is the first in a series of brief topics to help you quickly get oriented to using CIM Explorer.

By default, CIM Explorer displays and queries CIM/WMI on the *local* computer.

The name of the current computer is displayed in the title bar at the top of the screen and in the status bar at the bottom of the screen.



4.3 Search

Search is one of the most valuable features of CIM Explorer. You can search for a phrase in the name or description of a CIM or WMI class, property, or method. You can also filter your search to make it more efficient.

👍 Looking for the **Win32_*** classes? They're in the CIMV2 namespace.

- In the namespace tree, click CIMV2.
- Then, in the Class window, click any entry, and then type W.

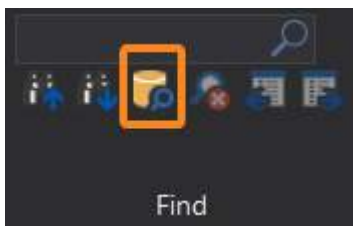
CIM Explorer has two related features, [Search](#)^[21] and [Find](#)^[23].

👍 Start with **Search**, and then, if you need to filter further, use **Find**.

Search finds a text string in the name or description of a class, property, or method.

To start a search

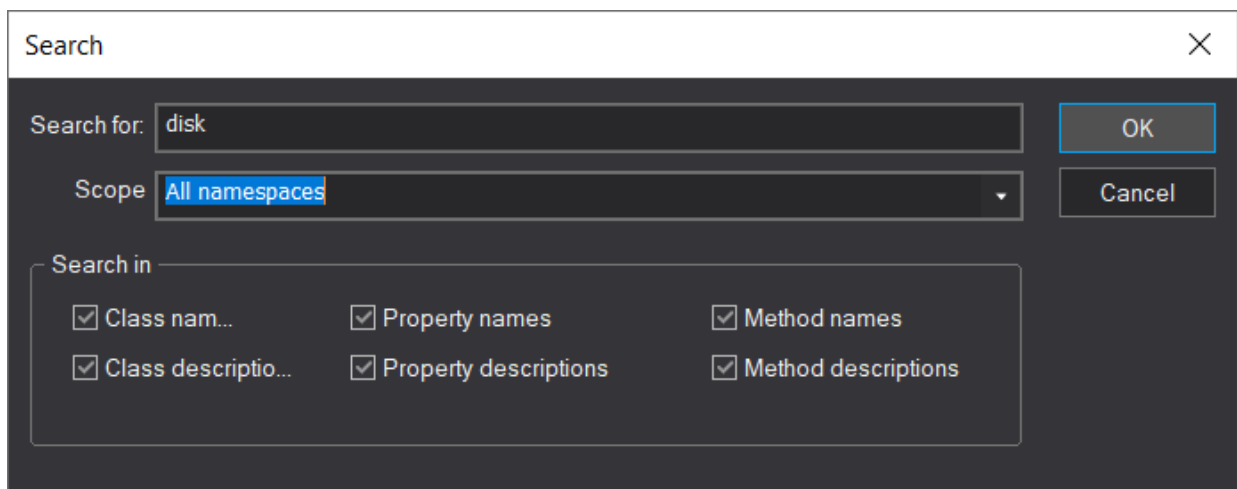
1. To start a search, in the Find section of the menu, click **Search**.



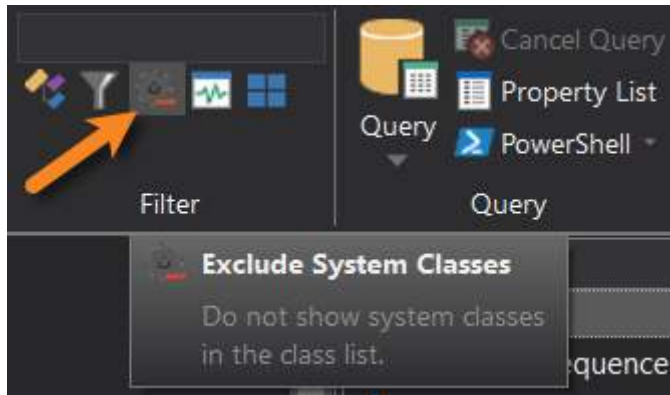
2. In Search for, **type the search phrase**.

📘 Search is literal, so don't enter wildcard characters (*), quotation marks, or escape symbols.

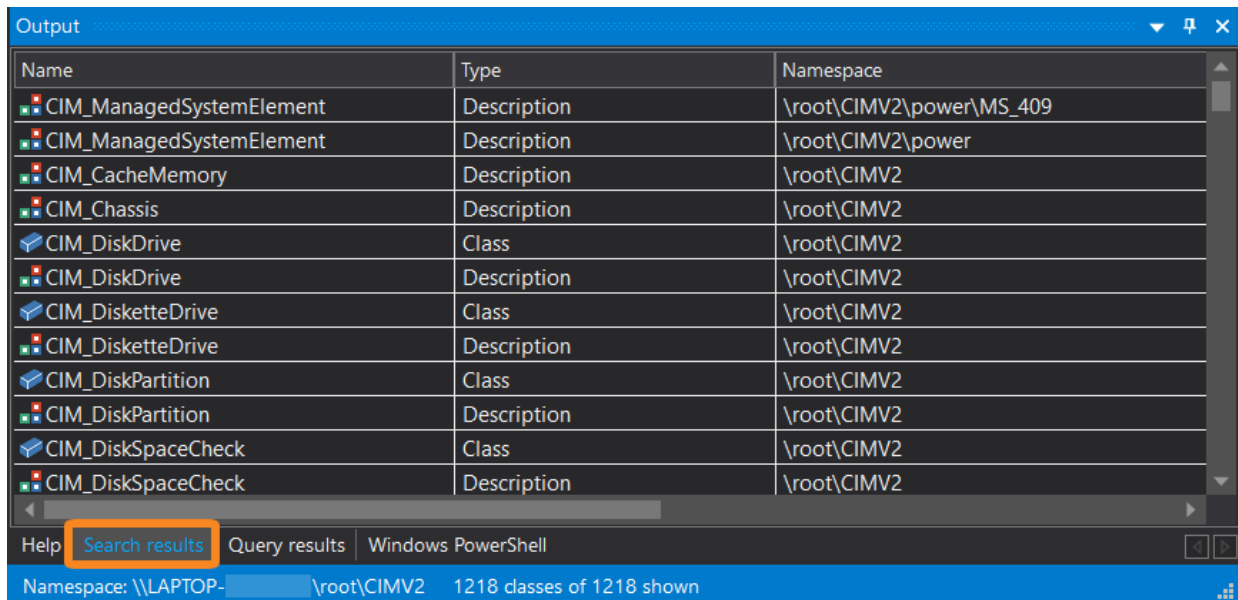
Set the **Scope** and **Search in** attributes.



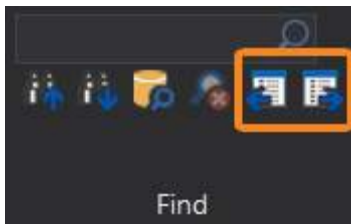
3. You can also **select a Filter** (either before or after the search completes).



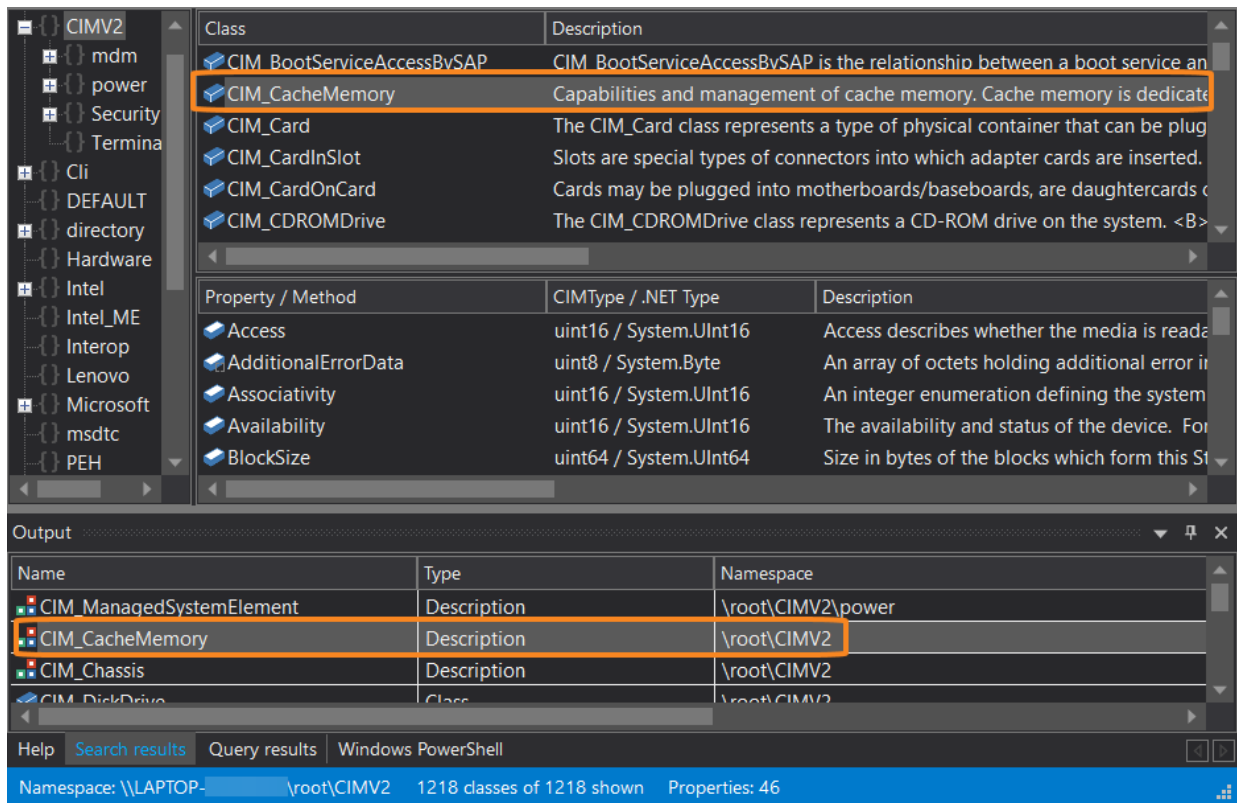
4. View the results in the **Search results** pane. (It's one of the tabs in the Output window at the bottom of the screen.)



5. To review the results, **double-click each entry** in Search results. Or, in the Find section of the menu, click **Previous Result** and **Next Result**.



6. When you select an entry in Search results, the class and its members appear in the **Class** and **Property/Method** panes.



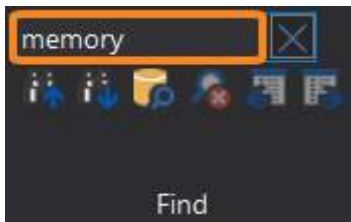
4.4 Find a String

The Find feature searches for a string in the results of a search or a query.

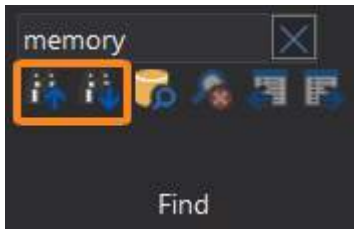
To find a string

1. In the Find section of the menu, **type a string**.

i Find is literal, so don't enter wildcard characters (*), quotation marks, or escape symbols.



2. To find more matches, in the Find section of the menu, click **Find Previous** and **Find Next**.



4.5 Query

CIM and WMI objects represent the manageable aspects of a computer, including its hardware, software, and environment. When you perform a successful query, the query returns a CIM/WMI object with its properties and methods. You can use that information to manage the computer.

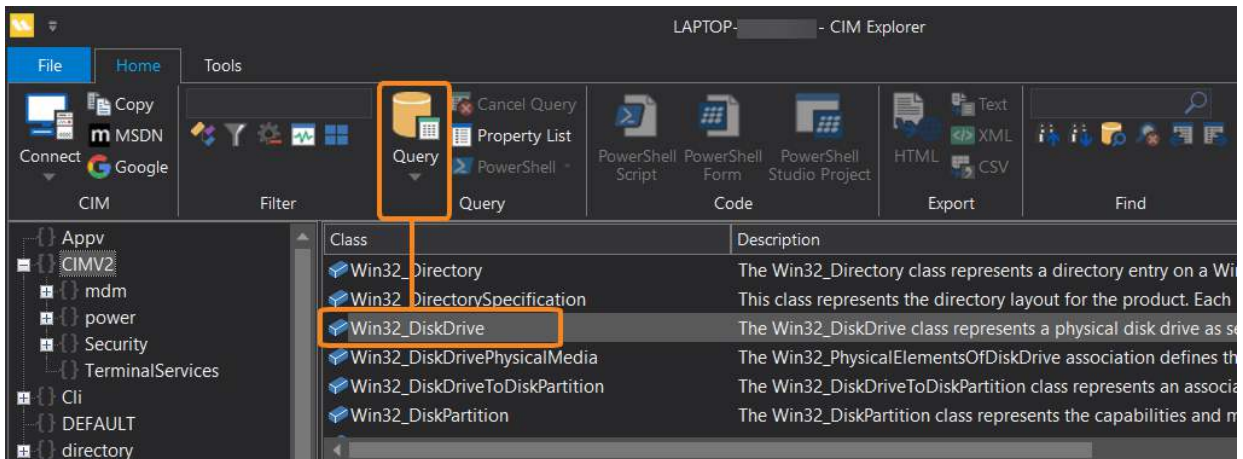
To query CIM/WMI, you can use [WMI Query Language \(WQL\)](#) or the [Get-WMIObject](#) or [Get-CIMInstance](#) cmdlets. But, CIM Explorer does it for you!

To query all properties of a CIM or WMI class

1. Select a CIM or WMI class.

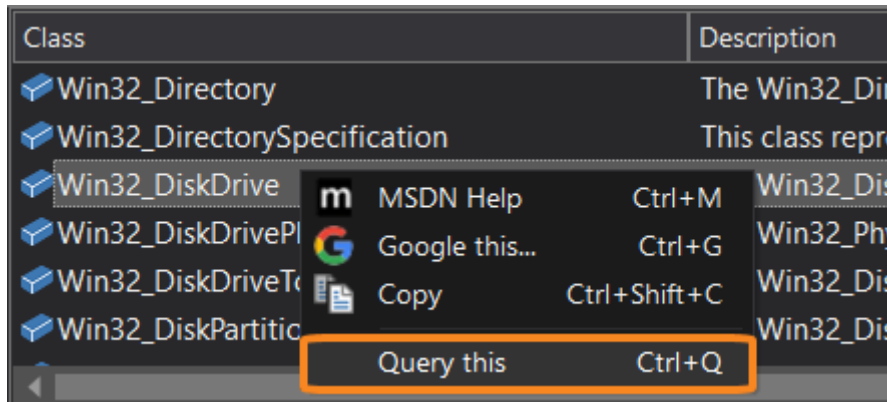
👍 You can use the Namespace and Class windows to navigate to the class, or use the Search and Find features to find the class.

2. In the Query section of the ribbon, click **Query** (*Ctrl+Q*).



-OR-

Right-click the class name and select Query this.



To query selected properties of a CIM or WMI class

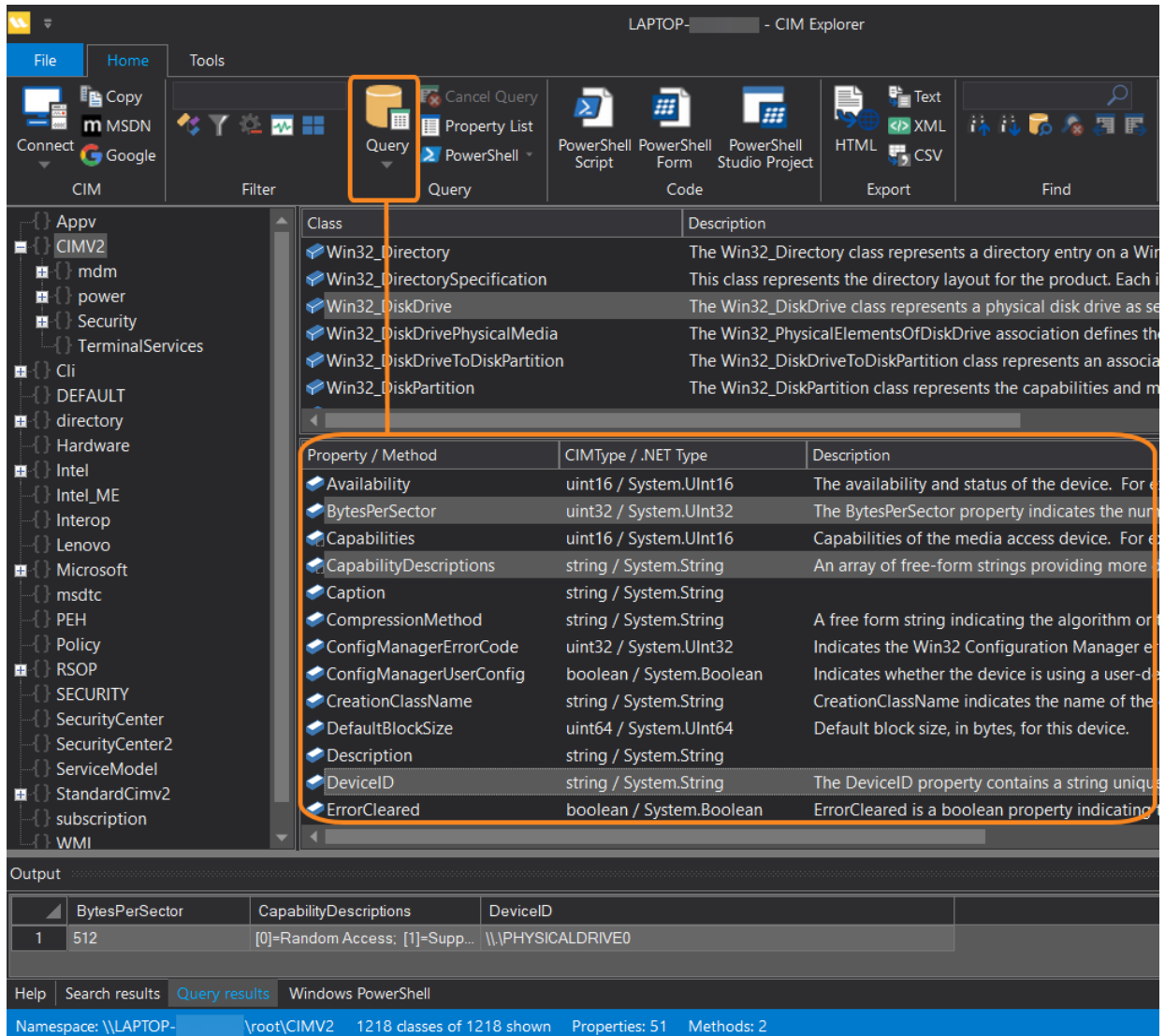
1. Select a CIM or WMI class.

👍 You can use the Namespace and Class windows to navigate to the class, or use the Search and Find features to find the class.

2. In the Property/Method pane, **select properties**.

👍 To select multiple properties, use *Ctrl+Click* and *Shift+Click*.

3. In the Query section of the ribbon, click **Query** (*Ctrl+Q*).



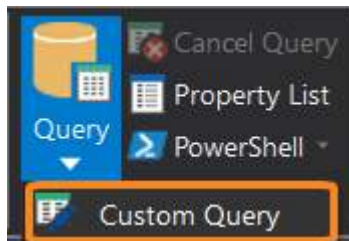
-OR-

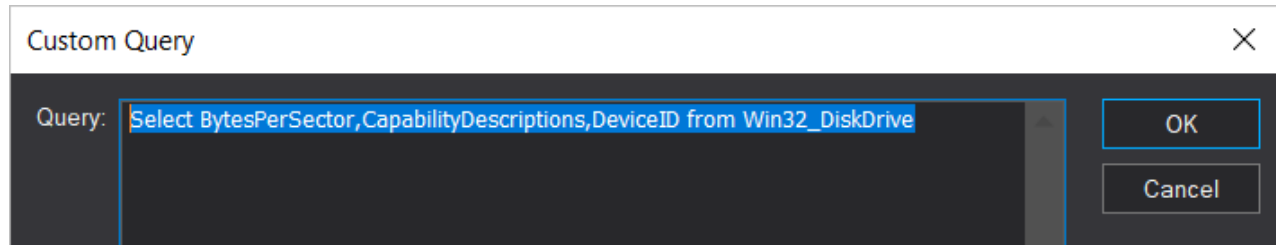
Right-click any highlighted item (a class name or a property name) and then click **Query this**.

Class	Description
Win32_Directory	The Win32_Directory class represents a directory
Win32_DirectorySpecification	This class represents the directory layout for the p
Win32_DiskDrive	The Win32_DiskDrive class represents a physical d
Win32_DiskDrivePhysicalMedia	The Win32_PhysicalElementsOfDiskDrive associat
Win32_DiskDriveToDiskPartition	The Win32_DiskDriveToDiskPartition class represe
Win32_DiskPartition	The Win32_DiskPartition class represents the capa

Property / Method	CIMType / .NET Type	Description
Availability	uint16 / System.UInt16	The availability and status of the
BytesPerSector	uint32 / System.UInt32	The BytesPerSector property indi
Capabilities	uint16 / System.UInt16	Capabilities of the media access
CapabilityDescriptions	string / System.String	An array of free-form strings pro
Caption		
CompressionMethod		A free form string indicating the
ConfigManagerErrorCode		Indicates the Win32 Configuratio
ConfigManagerUserConfig		Indicates whether the device is u
CreationClassName	string / System.String	CreationClassName indicates the
DefaultBlockSize	uint64 / System.UInt64	Default block size, in bytes, for th
Description	string / System.String	
DeviceID	string / System.String	The DeviceID property contains a
ErrorCleared	boolean / System.Boolean	ErrorCleared is a boolean proper

👍 To get the query command that CIM Explorer ran, in the Query section of the menu, click the arrow key below the Query icon, and then click **Custom Query**:



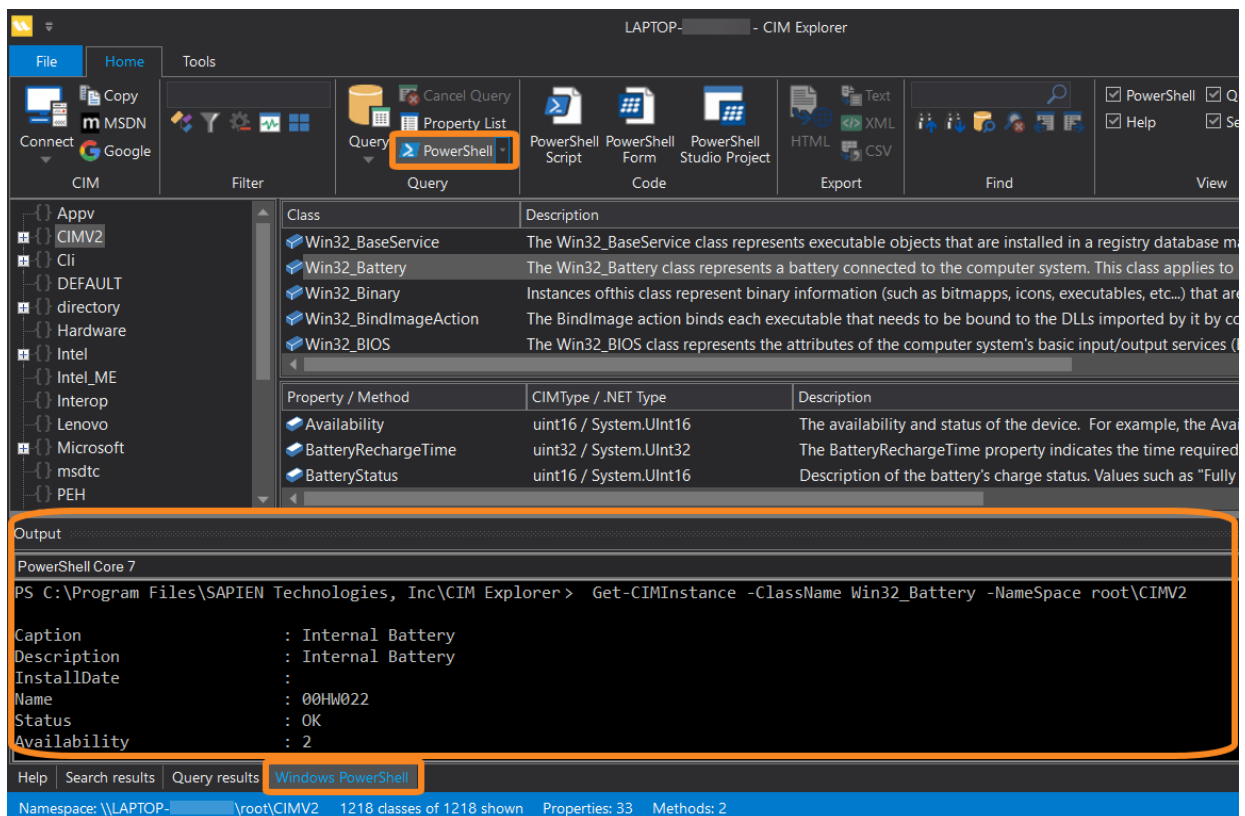


4.6 Query in PowerShell

You can also run CIM/WMI queries in a Windows PowerShell console. CIM Explorer runs a Get-CIMInstance command in the Windows PowerShell console of the Output panel.

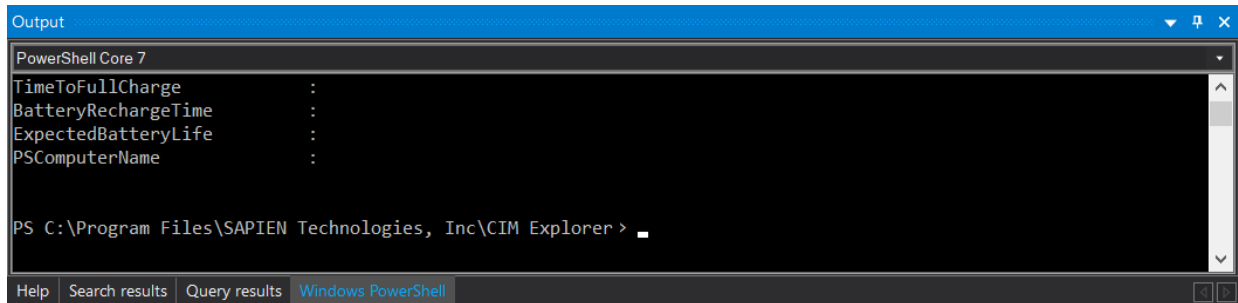
To create a PowerShell Query

1. In the Namespace and Class panes, **select a class** (or search for a class).
 🟢 To query particular properties of the class, in the Property/Method pane, select the properties.
2. In the Query section on the ribbon, click **PowerShell** (*Ctrl+P*).



3. You can view and copy the output in the Windows PowerShell console and run follow-up com-

mands.



👍 To recall the command that CIM Explorer ran, click the arrow key beside the PowerShell icon and then click **Copy PowerShell Code**:

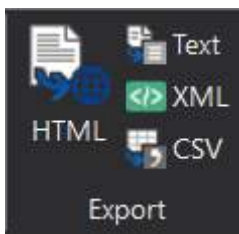


4.7 Export Query Results

You can export the results of the most recent CIM/WMI query to a file and save it on any available file system or cloud service.

To export the results of the most recent query

- In the Export section of the menu, click an output format.



To export the results of the most recent query in PowerShell

- In the Windows PowerShell console in CIM Explorer, recall the command and pipe the result to an **Export cmdlet**, such as [Export-Csv](#) or [Export-Clixml](#).

To export an HTML representation of the query results, use the [ConvertTo-Html](#) cmdlet and [redirect the output](#) (>) or pipe it to the [Out-File](#) cmdlet.

Output

```
Microsoft Windows PowerShell 64 bit
PS C:\> Get-CIMInstance -ClassName Win32_Desktop -Namespace root\CIMV2
```

SettingID	Name	ScreenSaverActive	ScreenSaverSecure	ScreenSaverTimeout
NT AUTHORITY\SYSTEM		False		
LAPTOP- \Paulette		False	False	60
.DEFAULT		False		

```
PS C:\> Get-CIMInstance -ClassName Win32_Desktop -Namespace root\CIMV2 | Export-Clixml -Path .\SAPIEN\DesktopInfo.xml
PS C:\> Get-CIMInstance -ClassName Win32_Desktop -Namespace root\CIMV2 | ConvertTo-Html | Out-File .\SAPIEN\DesktopInfo.htm
PS C:\>
```

Help | Search results | Query results | Windows PowerShell

5 Remote Connections

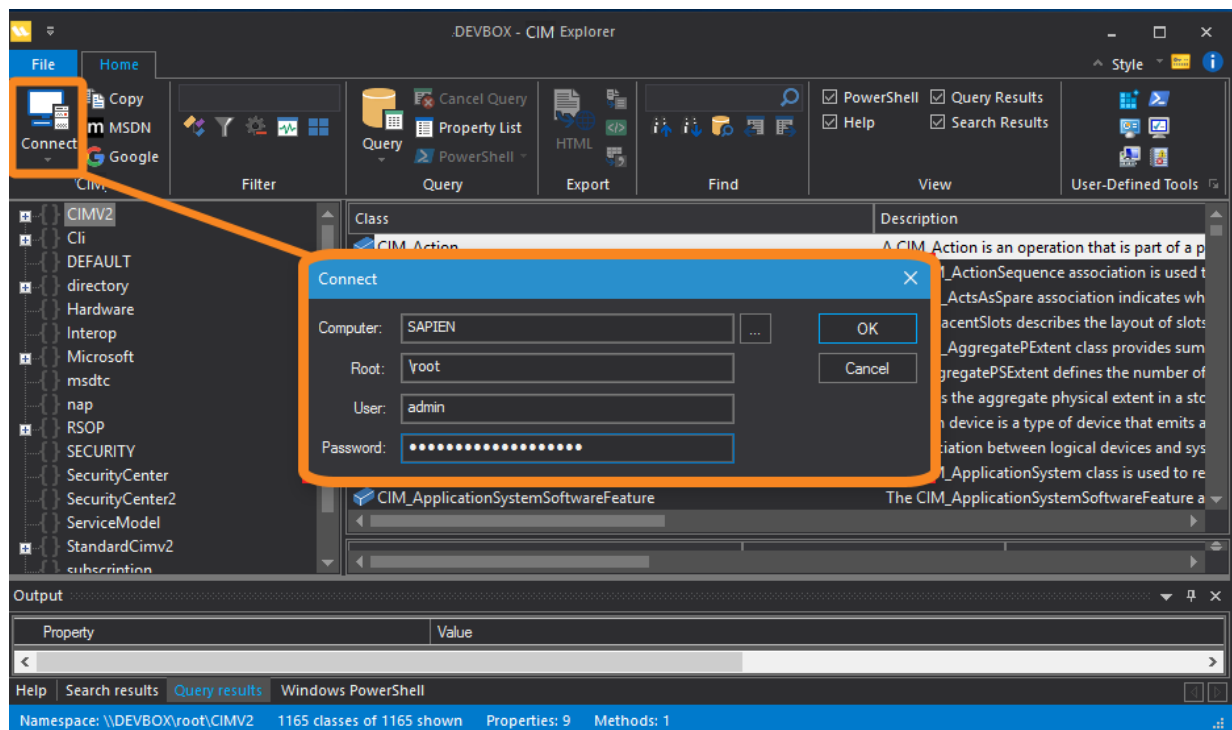
You can use CIM Explorer to search and query CIM/WMI on a local or remote computer. This section shows you how to work with remote connections.

5.1 Connect to a Remote Computer

To connect to a remote computer, either make a new connection or select from a list of connected computers.

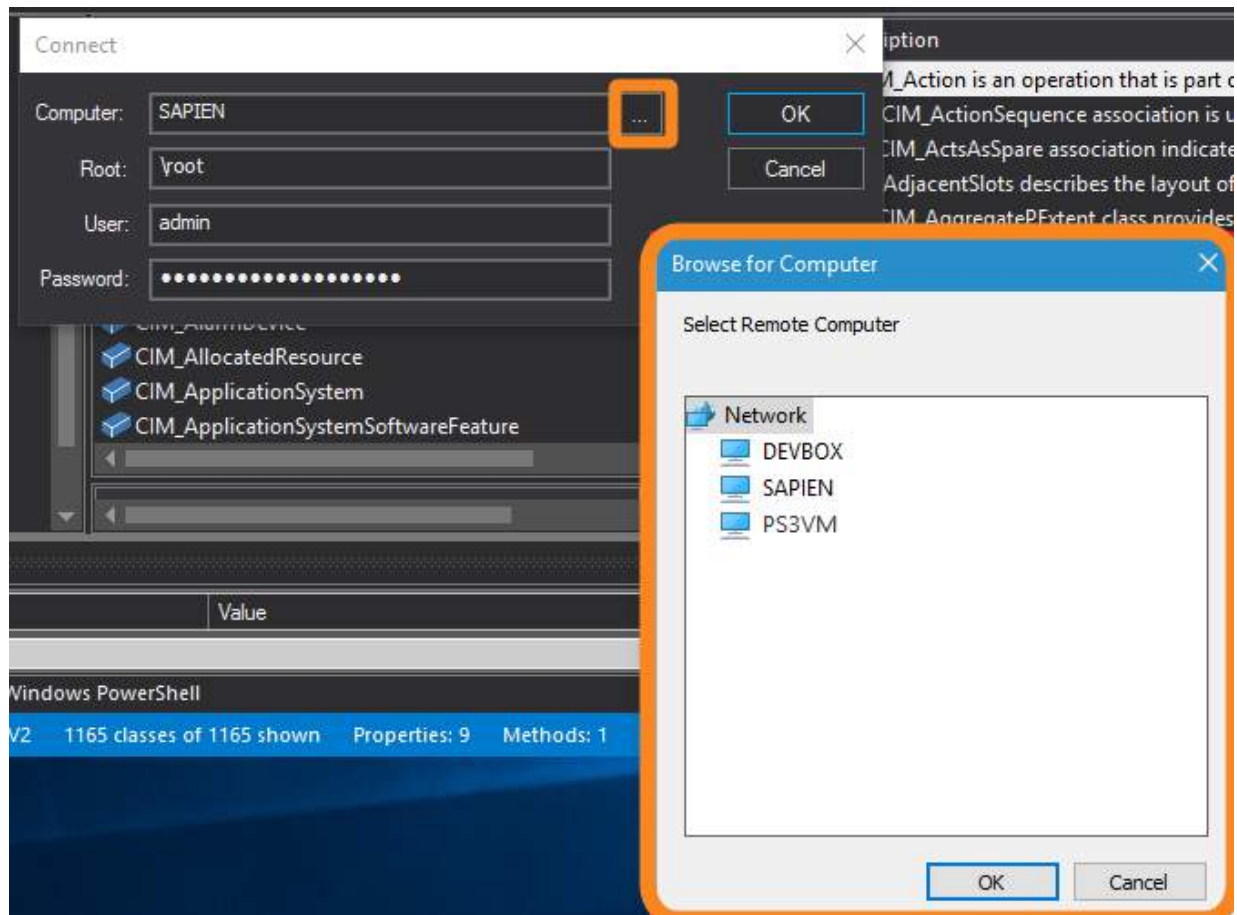
To connect to a remote computer

1. In the **CIM** group on the ribbon, click **Connect**.
2. In the **Connect** box, type the **computer name**, an **SSH root** (if necessary), and the **credentials** of a user with connection privileges:

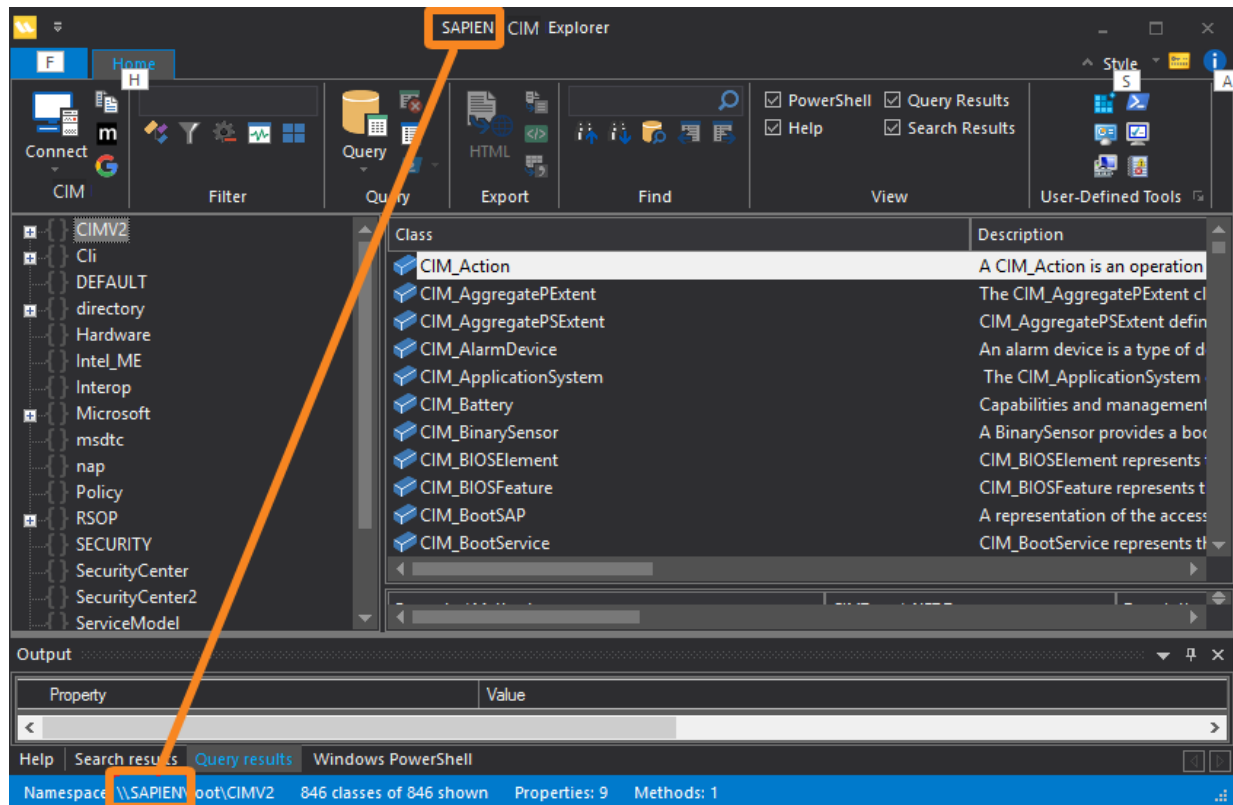


To select from a list of connected computers

1. In the **CIM** group on the ribbon, click **Connect**.
2. Click the **ellipsis (...)** in the **Connect** box, then **select a remote computer** and click **OK**:

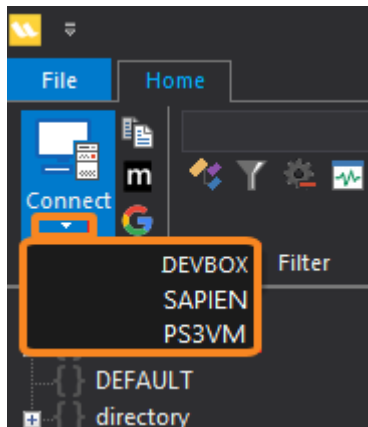


i When the command completes, the name of the remote computer appears in the title bar and status bar:



5.2 Disconnect and Reconnect

When you connect to a remote computer, CIM Explorer saves the connection settings for that computer, including the user name and password:



To reconnect to the local computer

- Click the **Connect** arrow, and select the name of the **local computer**.

To reconnect to a remote computer

- Click the **Connect** arrow, and select the name of the **remote computer**.

To connect to a new computer

- Click **Connect**.

5.3 Update Connection Data

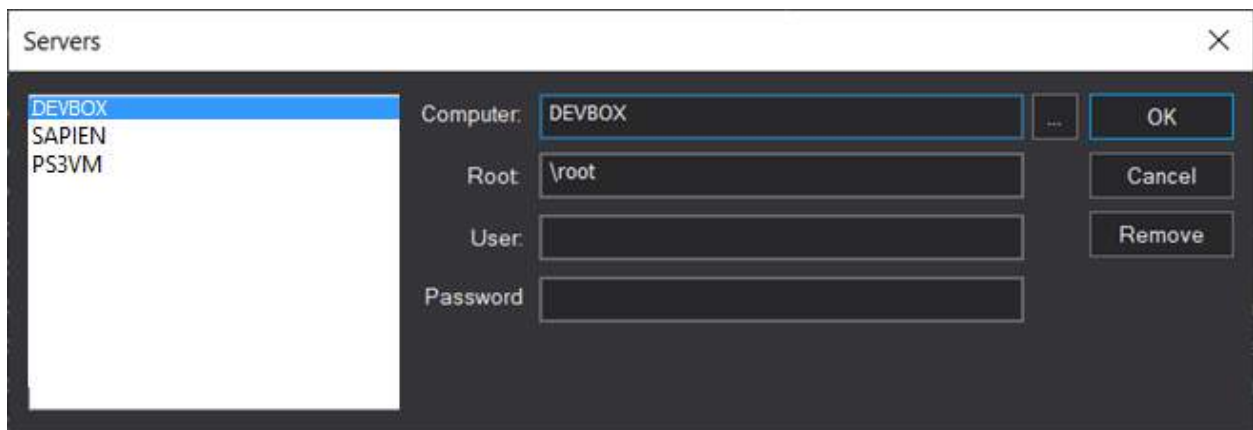
When you connect to a remote computer, CIM Explorer saves your connection information, which makes it quick and easy to reconnect.

To update changed credentials

- Click **Connect** and enter the same computer name with the new credentials. CIM Explorer will automatically update the entry.

To manage stored connection information

- Click the **File** tab, and then click **Servers...** > then click a **computer name** and edit or delete the stored information.



5.4 Update CIM/WMI Data

To improve CIM Explorer responsiveness, the CIM and WMI structures for the current computer are cached during install. CIM and WMI structures do not change frequently, so the cache does not need to be refreshed for each session. If necessary, you can update the CIM and WMI structures for the local or remote computers as needed.

To update the CIM/WMI cache for a computer

- On the ribbon, click **File** > **Clear Cache**.
- CIM Explorer prompts you for confirmation, explaining that it updates the cache when it connects. Click **Yes** to update the CIM/WMI cache on the local computer.
-  The cache update may take a few minutes to complete.

5.5 Troubleshooting Connections

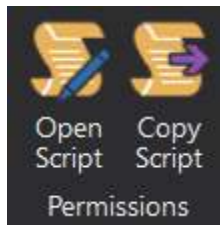
Follow the instructions below if you are having issues establishing a connection to a Windows computer from CIM Explorer.

Requirements for enabling CIM Explorer to connect to a remote machine

- Allow Remote Administration through the Windows Firewall.
- Allow remote access to COM security.
- Allow remote access to WMI root namespace and sub-namespaces.

To set these permissions you can [run a script](#) that we have provided that sets WMI access permissions for Windows 8 and Windows 10. This script must be run elevated, that is, with the permissions of a member of the Administrators group on the computer.

 You can open or copy the script from CIM Explorer, on the **Tools** tab > **Permissions** group:



Still need help?

If you have followed these instructions and you still cannot connect, create a post on the [SAPIEN CIM Explorer forum](#).

6 Run in PowerShell

You can run the CIM Explorer search and query features in Windows PowerShell. This feature helps you to automate your CIM/WMI queries and to learn the equivalent Windows PowerShell commands.

6.1 About Windows PowerShell Console

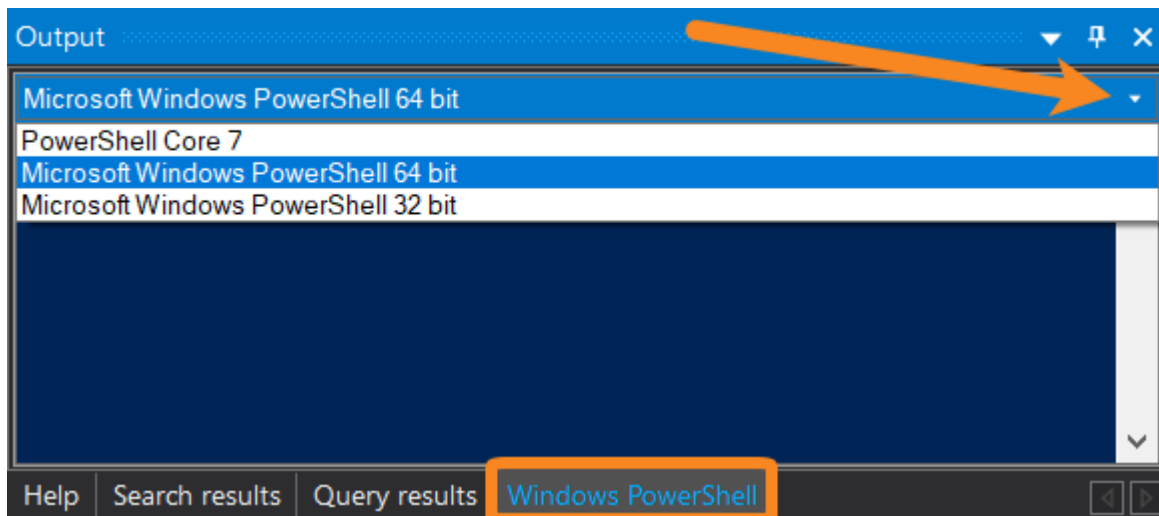
CIM Explorer includes a fully-featured Windows PowerShell console in the Windows PowerShell tab of the Output panel. You can use the console to run any Windows PowerShell or PowerShell Core scripts and commands, as well as import modules, and export objects.

The versions of PowerShell available in the Windows PowerShell panel are determined by the versions that you have installed. The console choices are determined dynamically on startup, so if you install a new PowerShell Core version you simply need to restart CIM Explorer.

i The Windows PowerShell console is added, not hosted, so it uses the same Windows PowerShell profile as the standard Windows PowerShell console, *Microsoft.PowerShell_profile.ps1*.

To select a PowerShell version in the Windows PowerShell console

- Click the drop-down arrow in the top-right of the console and **select a PowerShell version**:



Switching between different instances enables you to verify that different CIM and WMI classes can be used from PowerShell Core or from a different bit-level console.

To run a session without your profile

- In the Windows PowerShell panel of CIM Explorer (or any Windows PowerShell console), at the prompt, type:
`powershell.exe -nopprofile`

To start a new session of Windows PowerShell console in CIM Explorer

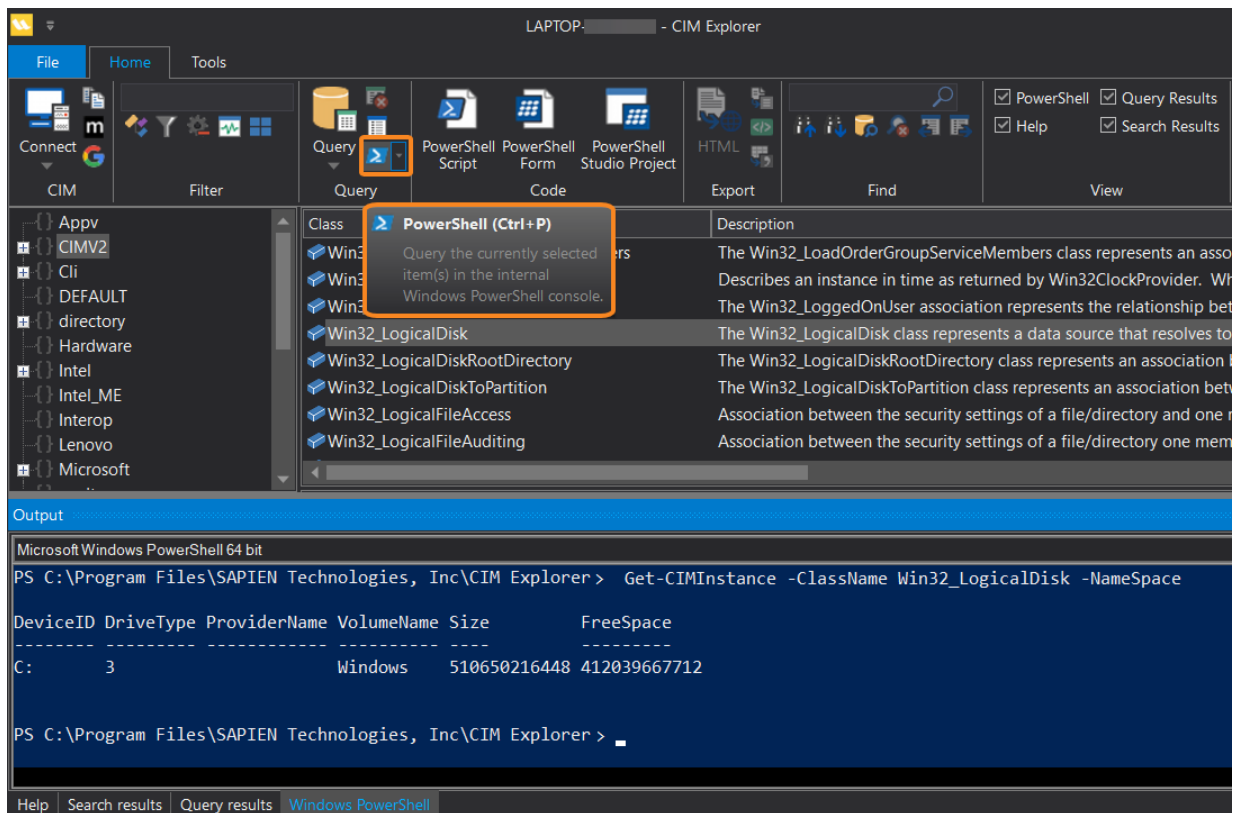
- Right-click the console and then click **Reset**.

6.2 Run a CIM Query in PowerShell

You can run any CIM Explorer query in the PowerShell console in CIM Explorer.

To run a query

1. Create a query by selecting a class (with or without properties) or writing a [custom query](#).
2. In the Query group of the ribbon, click **PowerShell (Ctrl+P)**.

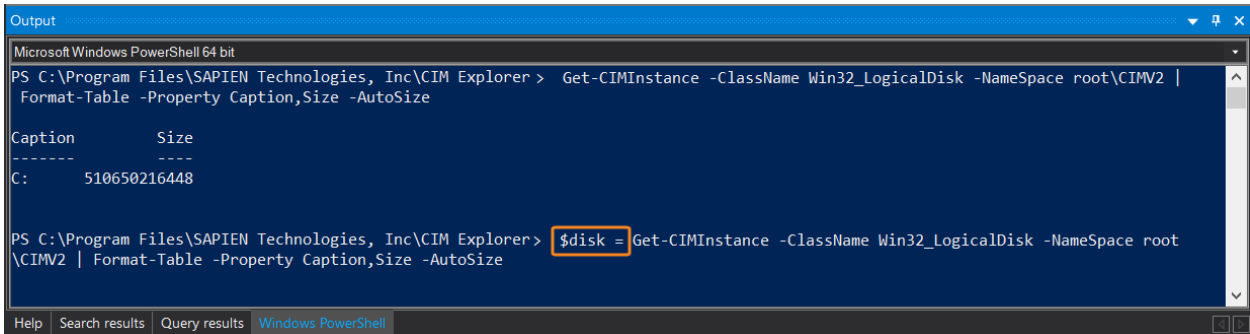


CIM Explorer runs the query in the Windows PowerShell console.

- To run a default query, CIM Explorer uses the [Get-CIMInstance](#) cmdlet with the *ClassName* and *Runspace* parameters.
- If the query includes properties, CIM Explorer pipes the output of the *Get-CIMInstance* command to the [Format-Table](#) cmdlet. It uses the *Property* parameter with the specified properties as values, and the *AutoSize* parameter which formats the output without extraneous spaces.

To save the output of the command (or any part of the command in a variable)

- In the console, use the **up-arrow** to recall the last command and then edit the command line.



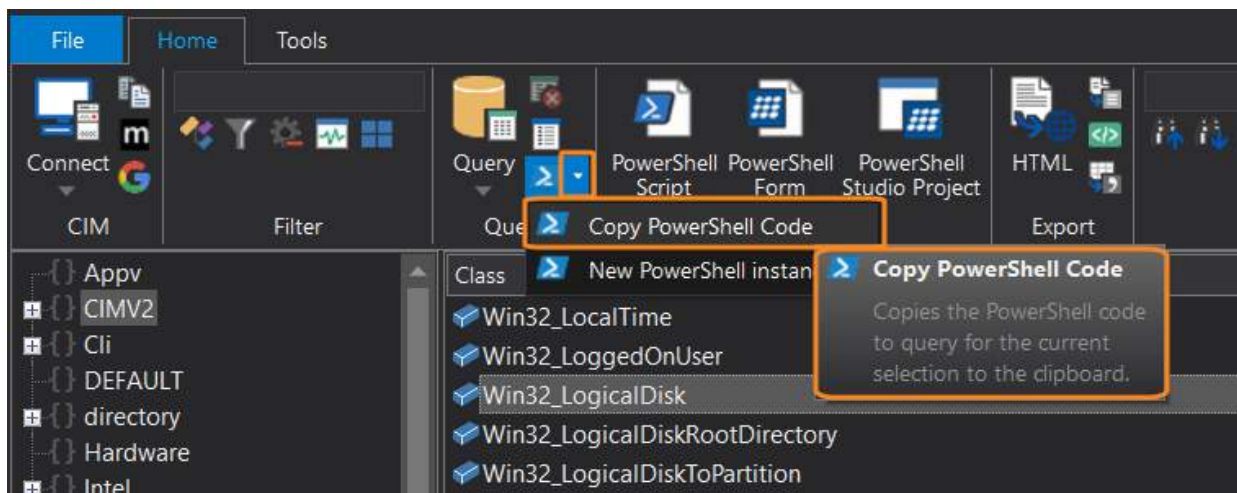
- i** To run a [Get-CimInstance](#) command for the Win32_Computer class on the local computer, do not use the *ComputerName* parameter.

6.3 Get the PowerShell Command for a Query

After testing a query in CIM Explorer you might want to add it to a script that you are writing in a Windows PowerShell editor, such as [PowerShell Studio](#), [PrimalScript](#), or [PrimalPad](#).

To get the equivalent Windows PowerShell command for a query

1. Create a query by selecting a class (with or without properties) or writing a custom query.
2. In the Query group of the ribbon, click the arrow beside **PowerShell** (*Ctrl+P*), and then click **Copy PowerShell Code**.



Copy PowerShell Code copies the Windows PowerShell command to your Windows clipboard.

To paste the command in a standard Windows PowerShell console

- Simply right-click.

To paste the command in most other documents and editors, including the PowerShell console in CIM Explorer

- Right-click and select **Paste** (*Ctrl+V*).

To edit the command after pasting the command in the CIM Explorer PowerShell console

- You can use the [Select-Object](#) cmdlet to specify property names instead of using the [Format-Table](#) cmdlet. The result is a custom object (PSCustomObject) that you can pipe to other cmdlets.

```
Get-CimInstance -ComputerName SAPIEN01 -ClassName Win32_LogicalDisk |  
Select-Object -Property DeviceID, Caption
```

6.4 Show and Hide the Console

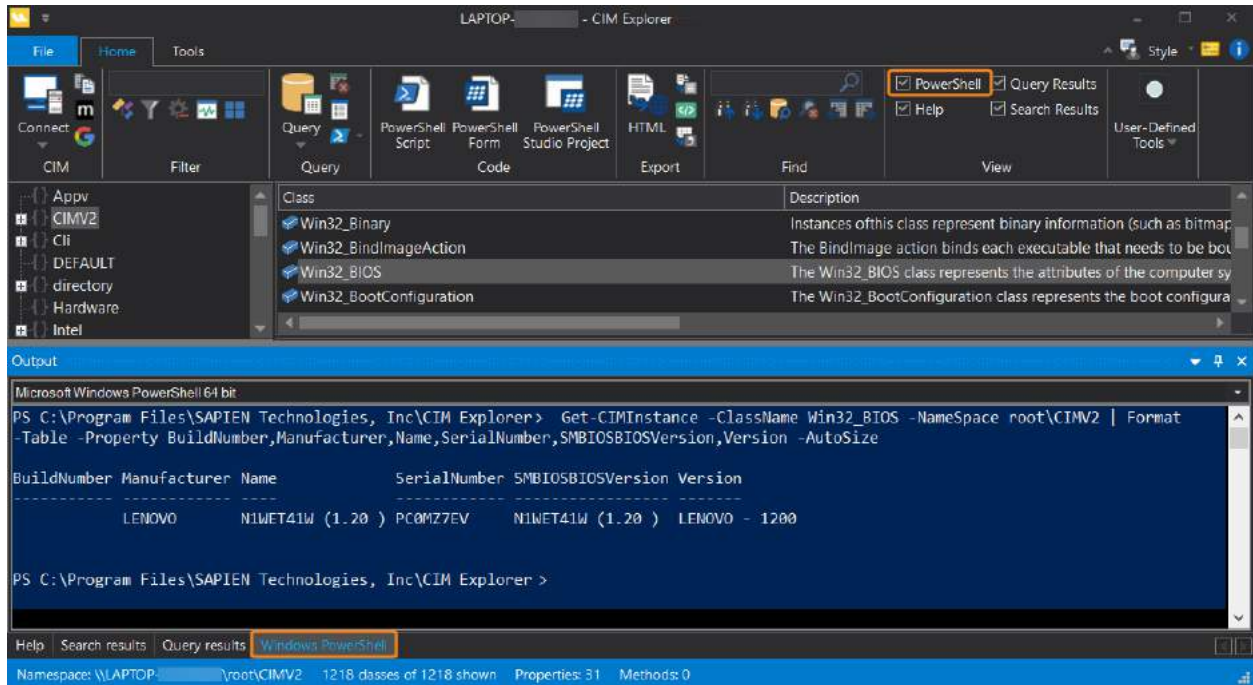
The PowerShell console in CIM Explorer appears in the Windows PowerShell tab in the Output panel. By default, the Output panel and its tabs appear at the bottom of the CIM Explorer window.

To display the PowerShell console

- In the Output panel at the bottom of the screen, click the **Windows PowerShell** tab.

-OR-

- If the Output panel or the tab are hidden, in the View group on the ribbon, click **PowerShell**.

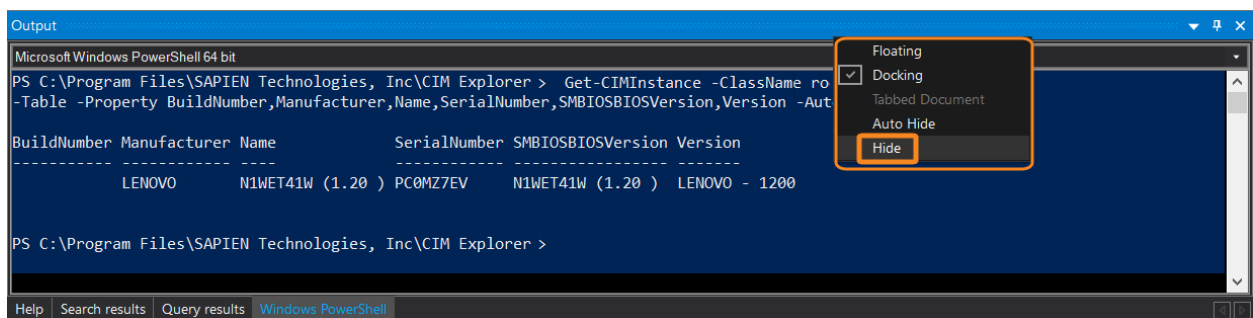


To hide the PowerShell console

- In the View group on the ribbon, **uncheck PowerShell**.

To hide the Output panel (and all of its tabs)

- Right-click the title bar of the Output panel, and then click **Hide**.



7 Create and Run Queries

You can use CIM Explorer to create and run queries on local and remote computers. This section shows you how to run queries and examine query results.

7.1 Ways to Query Data

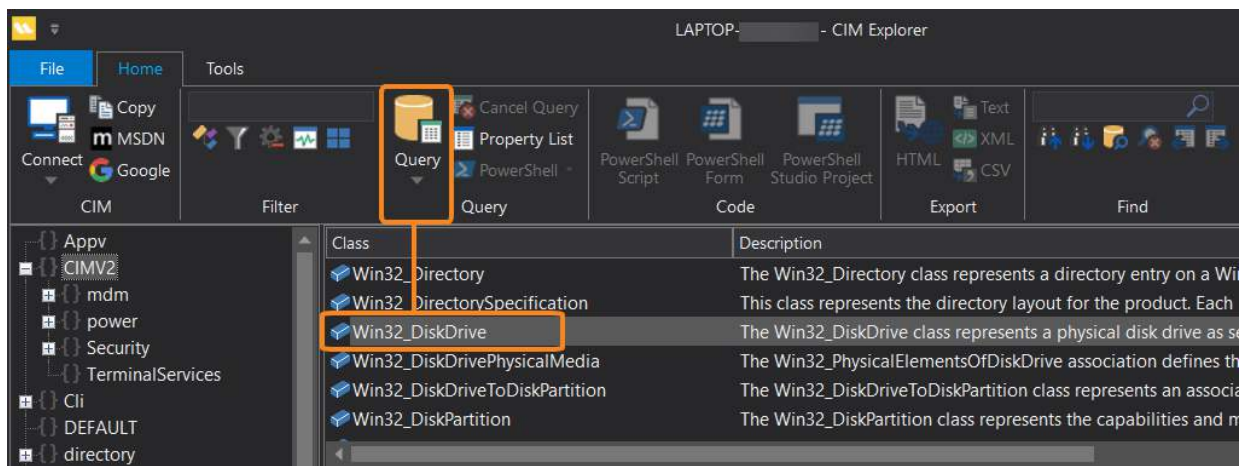
The simplest way to create and run a query for any CIM or WMI class on the currently connected computer is to select a class and click the Query button, or right-click and select Query this.

To query all properties of a CIM or WMI class

1. Select a CIM or WMI class.

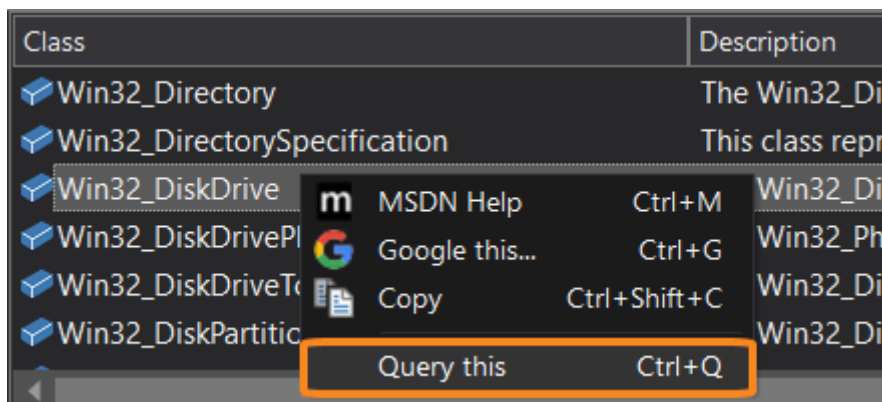
👍 You can use the Namespace and Class windows to navigate to the class, or use the Search and Find features to find the class.

2. In the Query section of the ribbon, click **Query** (*Ctrl+Q*).



-OR-

Right-click the class name and select Query this.



To query selected properties of a CIM or WMI class

1. Select a CIM or WMI class.

👍 You can use the Namespace and Class windows to navigate to the class, or use the Search and Find features to find the class.

2. In the Property/Method pane, select properties.

👍 To select multiple properties, use *Ctrl+Click* and *Shift+Click*.

3. In the Query section of the ribbon, click **Query** (*Ctrl+Q*).

The screenshot shows the CIM Explorer application interface. The ribbon at the top includes 'File', 'Home', and 'Tools'. The 'Tools' ribbon is active, showing the 'Query' button highlighted with an orange box. Below the ribbon, the 'Class' pane on the left shows a tree view of namespaces, with 'CIMV2' expanded. The 'Class' pane on the right shows a list of classes, with 'Win32_DiskDrive' selected. The 'Property / Method' pane at the bottom shows a list of properties and methods for the selected class, with several items highlighted in blue. An orange box highlights the 'Property / Method' pane. The 'Output' pane at the bottom shows the results of the query, displaying a table with columns for 'BytesPerSector', 'CapabilityDescriptions', and 'DeviceID'.

Property / Method	CIMType / .NET Type	Description
Availability	uint16 / System.UInt16	The availability and status of the device. For e
BytesPerSector	uint32 / System.UInt32	The BytesPerSector property indicates the num
Capabilities	uint16 / System.UInt16	Capabilities of the media access device. For e
CapabilityDescriptions	string / System.String	An array of free-form strings providing more e
Caption	string / System.String	
CompressionMethod	string / System.String	A free form string indicating the algorithm or
ConfigManagerErrorCode	uint32 / System.UInt32	Indicates the Win32 Configuration Manager e
ConfigManagerUserConfig	boolean / System.Boolean	Indicates whether the device is using a user-d
CreationClassName	string / System.String	CreationClassName indicates the name of the
DefaultBlockSize	uint64 / System.UInt64	Default block size, in bytes, for this device.
Description	string / System.String	
DeviceID	string / System.String	The DeviceID property contains a string unique
ErrorCleared	boolean / System.Boolean	ErrorCleared is a boolean property indicating

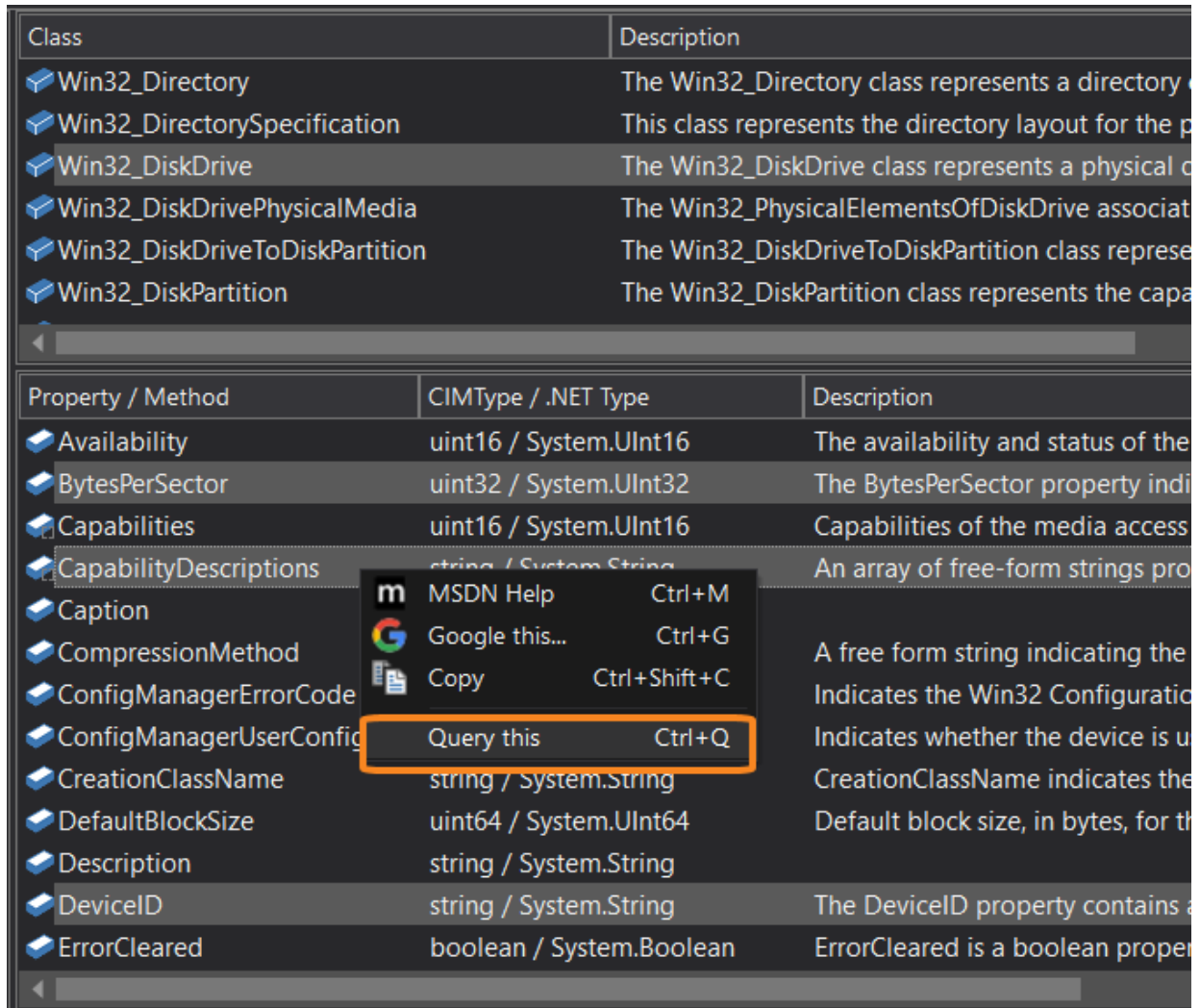
	BytesPerSector	CapabilityDescriptions	DeviceID
1	512	[0]=Random Access; [1]=Supp...	\\.\PHYSICALDRIVE0

Help | Search results | **Query results** | Windows PowerShell

Namespace: \\LAPTOP-... \root\CIMV2 1218 classes of 1218 shown Properties: 51 Methods: 2

-OR-

Right-click any highlighted item (a class name or a property name) and then click **Query this**.



7.2 Run a PowerShell Query

You can run queries in the Windows PowerShell console in CIM Explorer.

 For more details, see [Run in PowerShell](#) .

When you run a query in the PowerShell console, you can view and edit the PowerShell command that CIM Explorer generates, and pipe the command to other cmdlets.

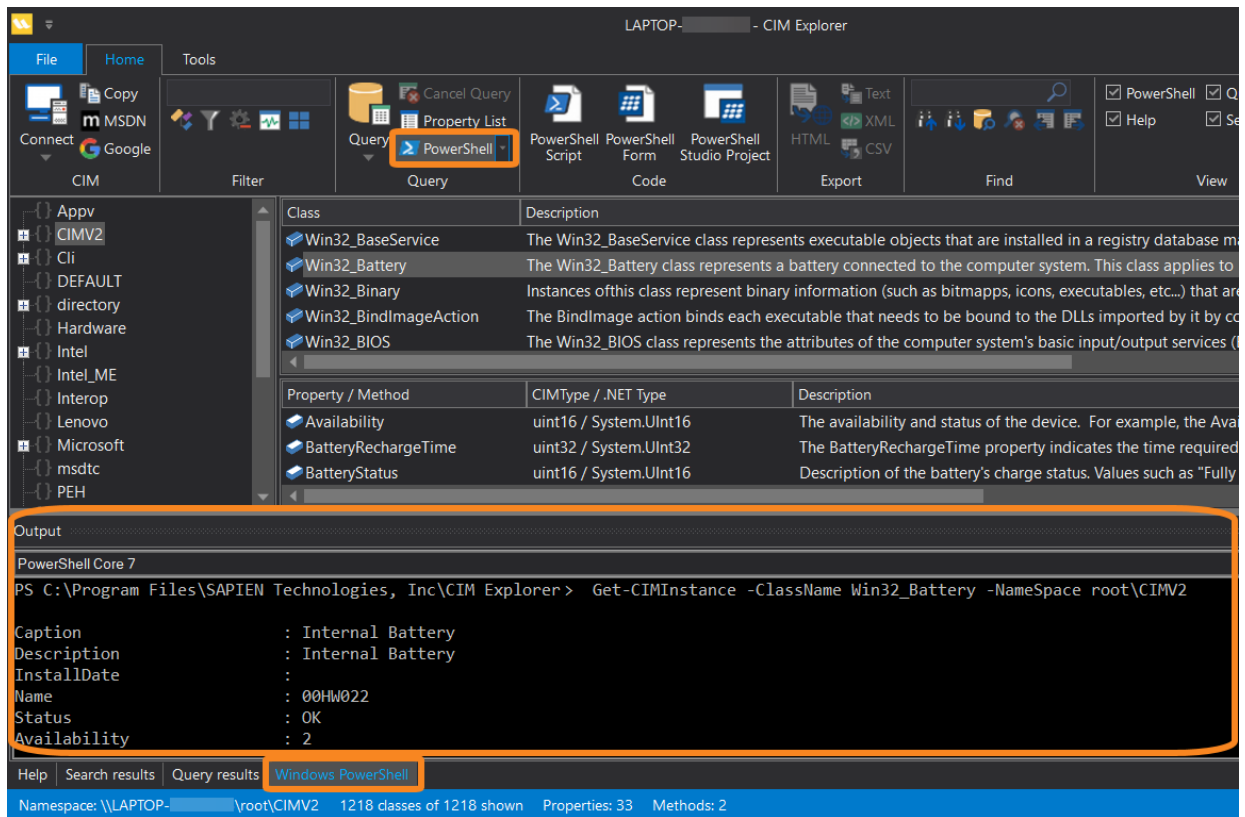
To create a PowerShell Query

1. In the Namespace and Class panes, **select a class** (or search for a class).

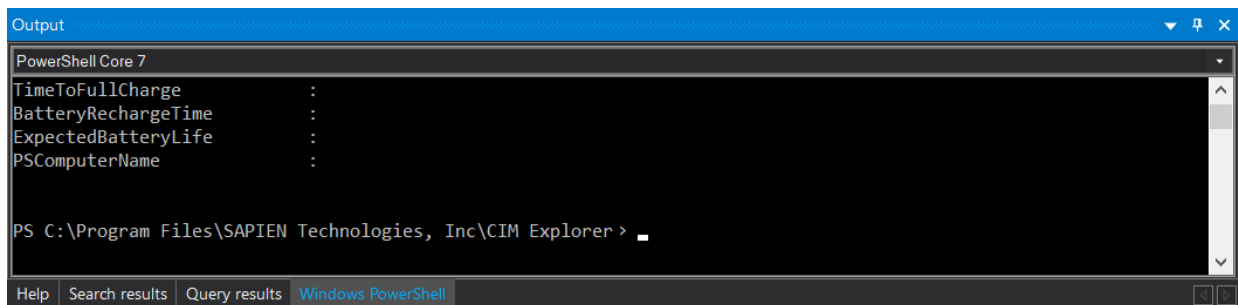
 To query particular properties of the class, in the Property/Method pane, select the proper-

ties.

2. In the Query section on the ribbon, click **PowerShell** (*Ctrl+P*).



3. You can view and copy the output in the Windows PowerShell console and run follow-up commands.



👍 To recall the command that CIM Explorer ran, click the arrow key beside the PowerShell icon and then click **Copy PowerShell Code**:



7.3 Run a Custom Query

Most CIM/WMI queries are relatively simple, but occasionally you may want to create a more complex query.

To create a custom query

Start with a basic query:

1. Select a CIM or WMI class.

👍 You can use the Namespace and Class windows to navigate to the class, or use the [Search](#)²¹ and [Find](#)²³ features to find the class.

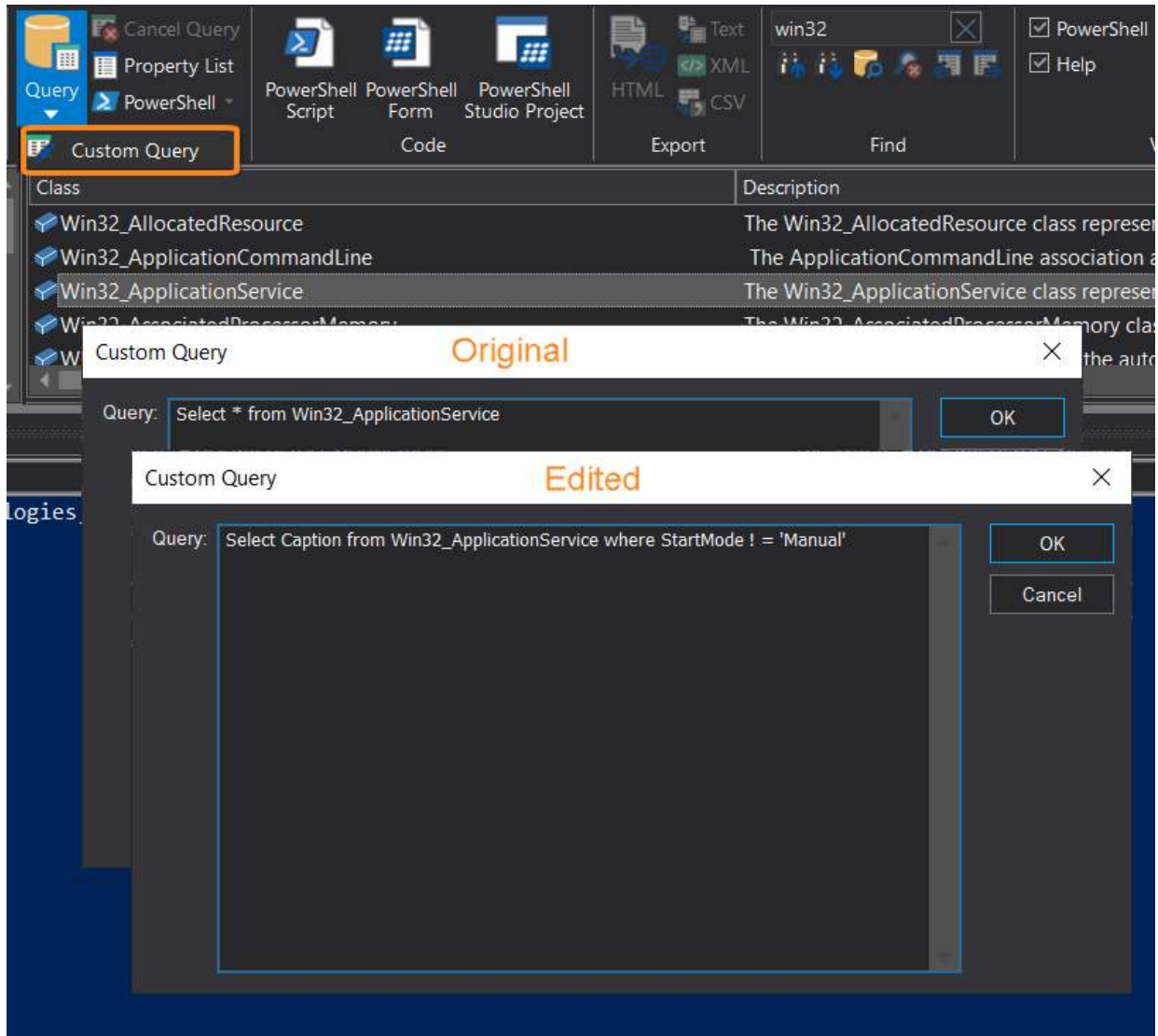
2. [Optional] In the Property/Method pane, select properties.

👍 To select multiple properties, use *Ctrl+Click* and *Shift+Click*.

3. On the ribbon, in the Query group, click the arrow under the Query button, and then select **Custom Query**.

📘 CIM Explorer displays the current query in WMI Query Language ([WQL](#)).

4. In the Custom Query window, edit the original WQL query to **include the custom options**, then click **OK**.



7.4 Examine Query Results

When you run a query, CIM Explorer automatically displays the results in table format in the Query Results tab of the Output pane:

Output							
	DesignVoltage	DeviceID	EstimatedChargeRemaining	Name	PowerManagementSupported	Status	
1	12788	369SANYO00HW022	100	00HW022	False	OK	
2	12796	1999SANYO01AV405	100	01AV405	False	OK	

Help Search results Query results Windows PowerShell

i By default, query results are displayed in a table with one row for each result.

👍 To get the query command that CIM Explorer ran, in the Query section of the menu, click the arrow key below the Query icon, and then click **Custom Query**.

To view the same query results in list format

- On the ribbon, in the Query group, click **Property List**:

Output		
	Property	Value
1	DesignVoltage	12788
2	DeviceID	369SANYO00HW022
3	EstimatedChargeRemaining	100
4	Name	00HW022
5	PowerManagementSupported	False
6	Status	OK
7		
8	DesignVoltage	12796
9	DeviceID	1999SANYO01AV405
10	EstimatedChargeRemaining	100
11	Name	01AV405
12	PowerManagementSupported	False
13	Status	OK
14		

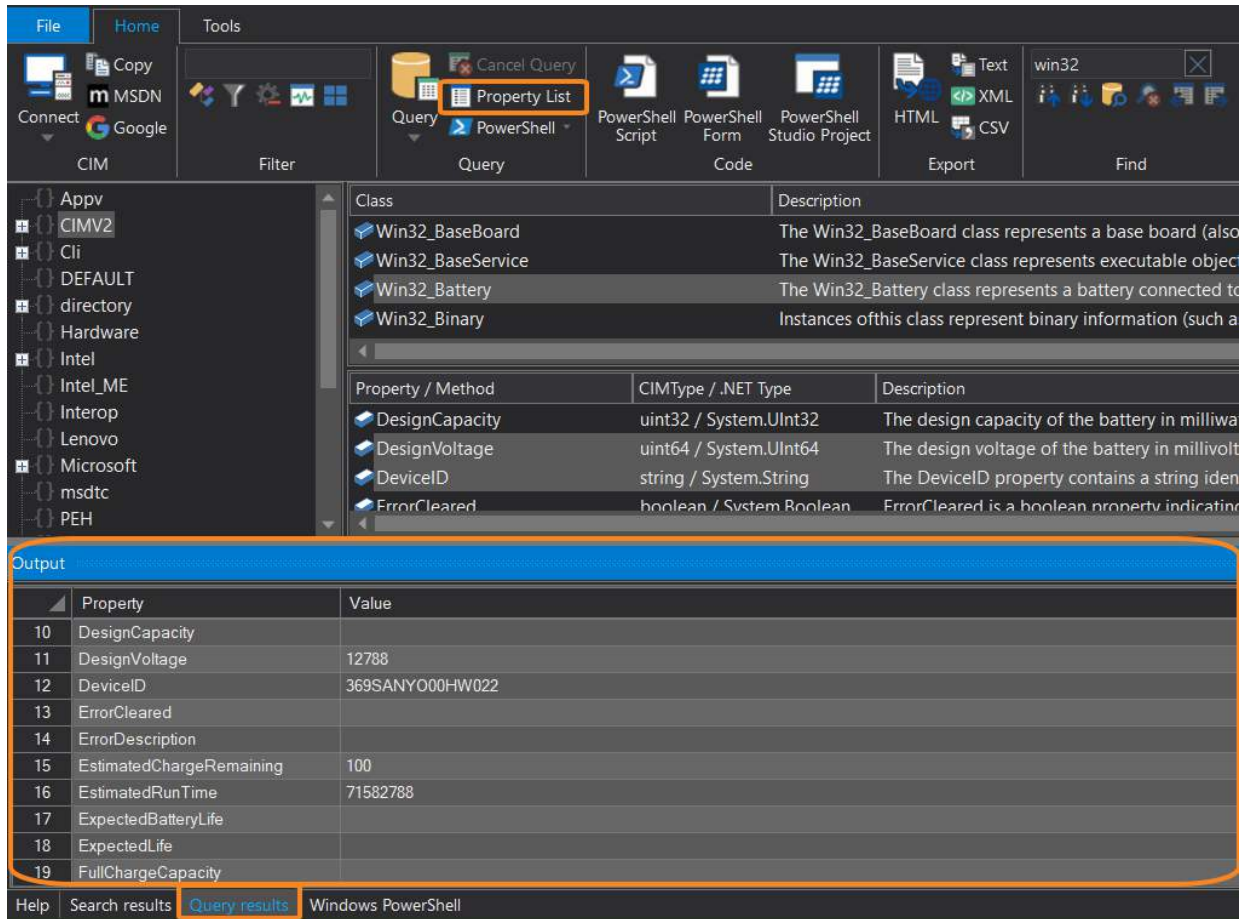
◀

Help | Search results | **Query results** | Windows PowerShell

To see the property values of a selected object in the results

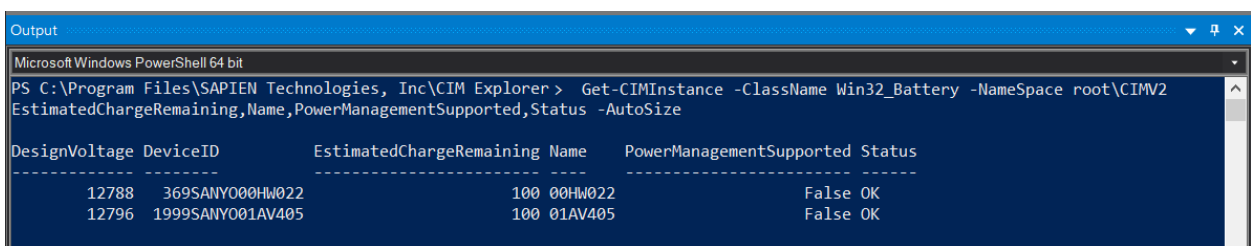
- In the Query results pane, **click to select an object**. Then, in the Query section of the menu, click **Property List**.

If you need help understanding the classes or the property values, use the Description field of the Class and Property/Method displays.



To examine the results in Windows PowerShell

- On the ribbon, in the Query group, click **PowerShell**:



8 Advanced Features

In addition to the features covered in [Basic Orientation](#)¹⁸, CIM Explorer has advanced features to make it easier to search CIM/WMI and refine your queries.

8.1 Find a Class, Property or Method

The Find feature finds strings in the names of classes, properties, and methods that CIM Explorer displays. If you click a namespace and use Find, Find locates classes in the namespace. If you click a class, it finds properties and methods in the class.

To find a string in a class name



1. In the Namespace pane, **select a namespace**.
2. On the ribbon, in the Find group, **enter the word you want to find**.
3. Press **Enter**, or click **Find Next** or **Find Previous**.

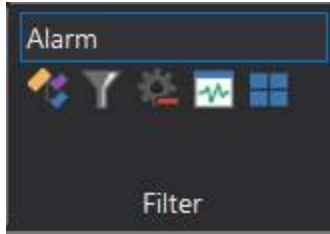
To find a string in a property or method name

1. In the Namespace pane, **select a namespace**.
2. In the Class pane, **select a class**.
3. On the ribbon, in the Find group, **enter the word you want to find**.
4. Press **Enter**, or click **Find Next** or **Find Previous**.

8.2 Filter Results

You can filter the results of the *Search*, *Find*, and *Query* features in CIM Explorer. When set, the Filter feature includes strings and excludes categories of classes from the results.

To exclude categories of classes from CIM Explorer results



- Click the buttons to select from the options.

From left to right:

- o Exclude CIM classes (class names that begin with 'CIM_')
- o Exclude Win32 classes (class names that begin with 'Win32_')
- o Exclude system classes (class names that begin with '__System')
- o Exclude performance classes (class names that include 'Perf')
- o Exclude MSFT classes (class names that begin with 'MSFT_')

To include only classes with a specified word in the class name

- In the Filter box, **type the word**.

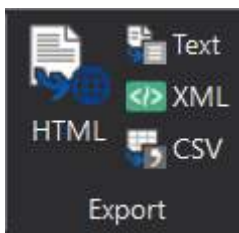
For example, if you type *Alarm*, CIM Explorer displays only classes with 'Alarm' in the class name.

8.3 Export Results

You can export query results in HTML, Text, XML, or CSV format.

To export results

1. Run a query. For help, see [Create and Run Queries](#)⁴¹.
2. On the ribbon, in the Export group, **select an output format**:



3. Navigate to the path and assign a file name for the exported file.

To export results from a Windows PowerShell query, use the cmdlets

- HTML

ConvertTo-HTML | Out-File

- Text

Out-File or Set-Content

- XML

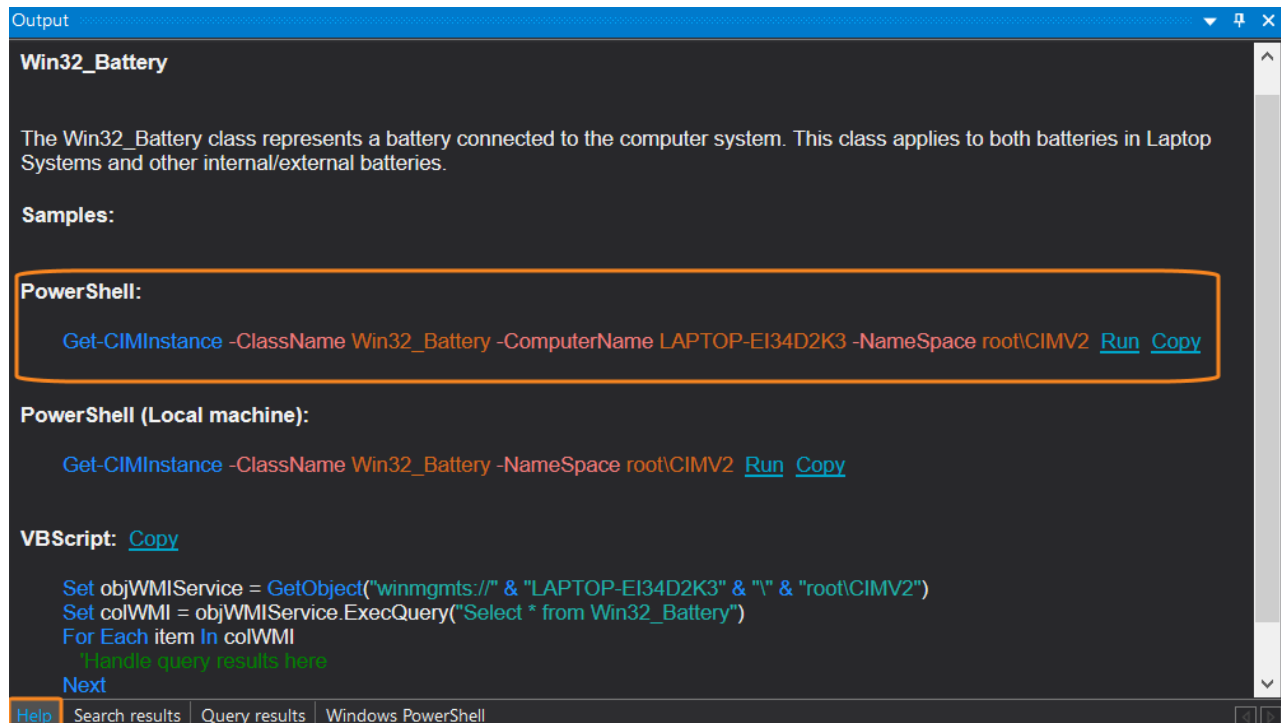
Export-Clixml

- CSV

Export-CSV

8.4 Display WMI Help and Examples

CIM Explorer includes help for all classes, properties, methods, and dynamically generated examples that you can run to query WMI on your local computer.



To display help for a class, property, or method

- Select the element > in the Output panel, click the Help tab.

To run an example

- Click the Run link.

9 Reference

This section provides an overview of the SAPIEN Updates tool, and lists the keyboard shortcuts available in CIM Explorer.

9.1 SAPIEN Updates

We are continually updating our software, both to remove bugs and to add and improve product features. We recommend always staying current with the most recent versions to ensure that you are taking advantage of the latest features, functionality, and product stability.

Every SAPIEN product has a built-in update tool—**SAPIEN Updates**—which will check for updates on all current activations and unexpired trial versions of our products. Available product updates are indicated in the SAPIEN Updates tool and also in the [Notifications dialog](#)⁵² (see below).

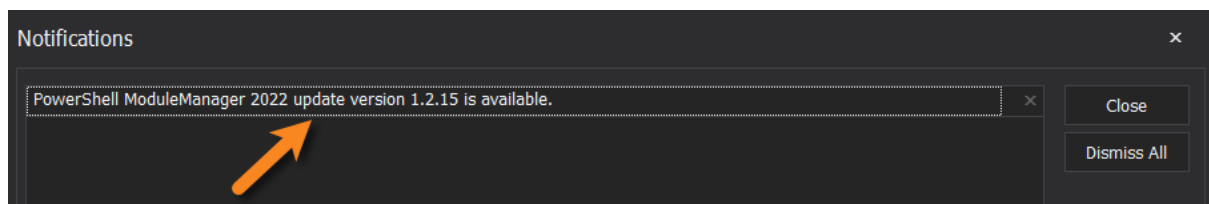
SAPIEN Notifications

SAPIEN products provide automatic notifications when there is a software update available, or when your maintenance is about to expire. Notifications are indicated by a 'flag' icon in the top-right of the program window:



How to view SAPIEN notifications

- Click the notification flag icon above the ribbon to open the Notifications dialog:



- If a product update is available, click the update notification to open the SAPIEN Updates tool.

👍 Click the X button to dismiss individual notifications or select **Dismiss All**. Dismissed notifications will not be shown again.

SAPIEN Updates - Tool Overview

The SAPIEN Updates tool indicates when an update is available for any SAPIEN program installed on your computer.

i To minimize the impact on your system, the tool does not run during Windows startup or continuously in the system tray.

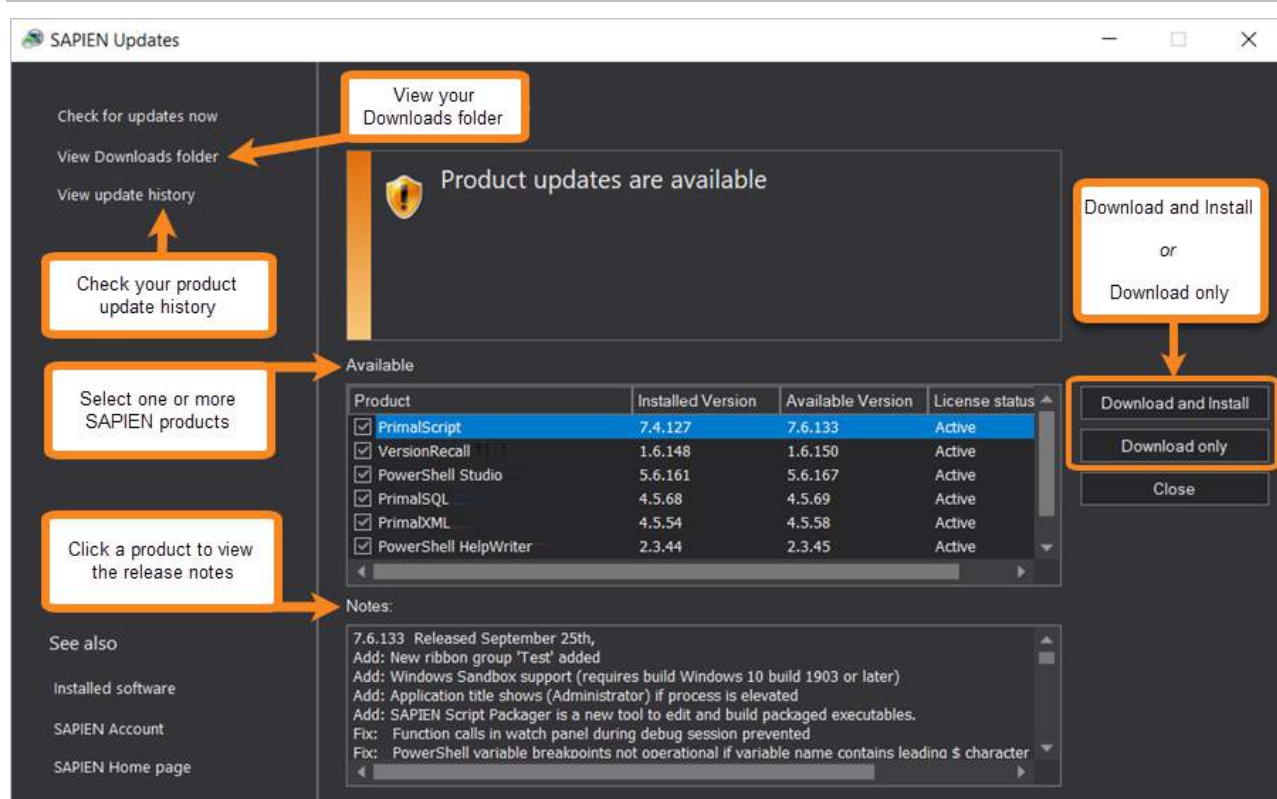
How to access the SAPIEN Updates tool

- On the Help or Tools ribbon > click Check Now or Check For Updates (Updates section).

-OR-

- Click the [notification icon](#) ⁵² above the ribbon > then in the Notifications dialog, click the update notification.

SAPIEN Updates Tool



SAPIEN Updates Tool

SAPIEN Updates - Options

Check for updates now	Immediately checks to see if additional product updates are available.
View Downloads folder	Displays the Downloads folder in File Explorer.
View update history	Displays the history of all downloaded and installed product updates.
Available	Displays a selectable list of available product updates.  Select one or more products to Download or Download and Install.
Download and Install	Downloads and installs the updates for the product(s) selected in the Available updates list.
Download only	Downloads the updates for the product(s) selected in the Available updates list.
Close	Closes the SAPIEN Updates tool.
Notes	Displays a brief synopsis of what was changed, added, or fixed for the products selected in the Available window.  The build history for all SAPIEN products is available here.

Update On-Demand

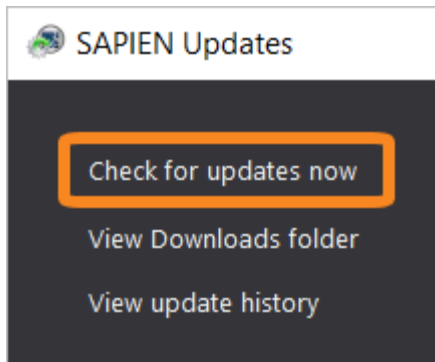
You don't need to wait to be notified when an update is available; you can check for updates at any time. This is particularly useful if you've heard about a new update and want to install it immediately, or if you are ready to start a new project and want to complete all updates before you begin.

How to check for updates on-demand

- On the **Help** or **Tools** ribbon > select **Check Now** or **Check For Updates** to open the SAPIEN Updates tool.

 These instructions may vary between SAPIEN products.

- In the SAPIEN Updates tool, select **Check for updates now**:



The latest product updates are displayed in the SAPIEN Updates **Available** window.

Security and Permissions

Installing updates to programs in a Program Files directory requires the permissions of a member of the Administrators group on the computer. When you click **Download and Install** in the SAPIEN Updates tool, or if you install after downloading, you will be prompted for administrator credentials.

The update tool requires a functioning internet connection and unimpeded access through your internet firewall. For some installations, you might need to create a firewall rule to allow access or make some accommodations.

9.2 Keyboard Shortcuts

This section covers the keyboard shortcuts available in CIM Explorer.

General Commands

Copy	<i>Ctrl + Shift + C</i>
Connect to another computer	<i>Ctrl + N</i>
Minimize the Ribbon	<i>Ctrl + F1</i>

Search Commands

Search Microsoft Learn	<i>Ctrl + M</i>
Search Google	<i>Ctrl + G</i>

Find Commands

Search classes, properties, or methods	<i>Ctrl + S</i>
Previous Result	<i>Shift + 4</i>
Next Result	<i>F4</i>
Find Previous	<i>Shift + F3</i>
Find Next	<i>F3</i>

Query Commands

Query	<i>Ctrl + Q</i>
Query - select multiple properties	<i>Ctrl + Click</i> or <i>Shift + Click</i>
Query Property List	<i>Ctrl + L</i>
Query with PowerShell	<i>Ctrl + P</i>

9.3 Appendices

Appendices for CIM Explorer Help Manual

[Appendix A: Manual and Product Version](#)  ⁵⁶

[Appendix B: Icon License Attribution](#)  ⁵⁷

9.3.1 Appendix A: Manual Version

Appendix A
Manual Version

This help manual is in the process of being updated. Some features and images in this manual version may not reflect the current product functionality.

Blog articles

For the latest product tips and feature demonstrations, check out the CIM Explorer articles on the [SAPIEN blog](#).

Release details

To view a brief description of what was changed, added, or fixed in the most recent CIM Explorer builds, view the product [version history](#).

Need more help?

Please direct your product related questions to the [CIM Explorer support forum](#), and your scripting questions to the appropriate [Scripting Answers forum](#).

9.3.2 Appendix B: Icon License Attribution

Appendix B

Icon License Attribution

Some of the icons used in this manual were made by [Freepik](#) at www.flaticon.com and are licensed under [CC BY 3.0](#):   
