

## SIMCA-Q

Embedded solution

### SIMCA-Q Readme and Installation Guide

12 May 2023

Thank you for your interest in SIMCA®-Q 18.

This guide describes how to install and get started with SIMCA-Q on a PC running Windows. There is also a Linux build that comes with its own instructions; however, the main topics here also covers Linux.

In general, the high-level steps to get started are:

1. Install SIMCA-Q
2. Activating the license
3. Use SIMCA-Q from your app

### More information

General information about SIMCA-Q can be found at [SIMCA®-Q Embedded Multivariate Data Analytics Software | Sartorius](#).

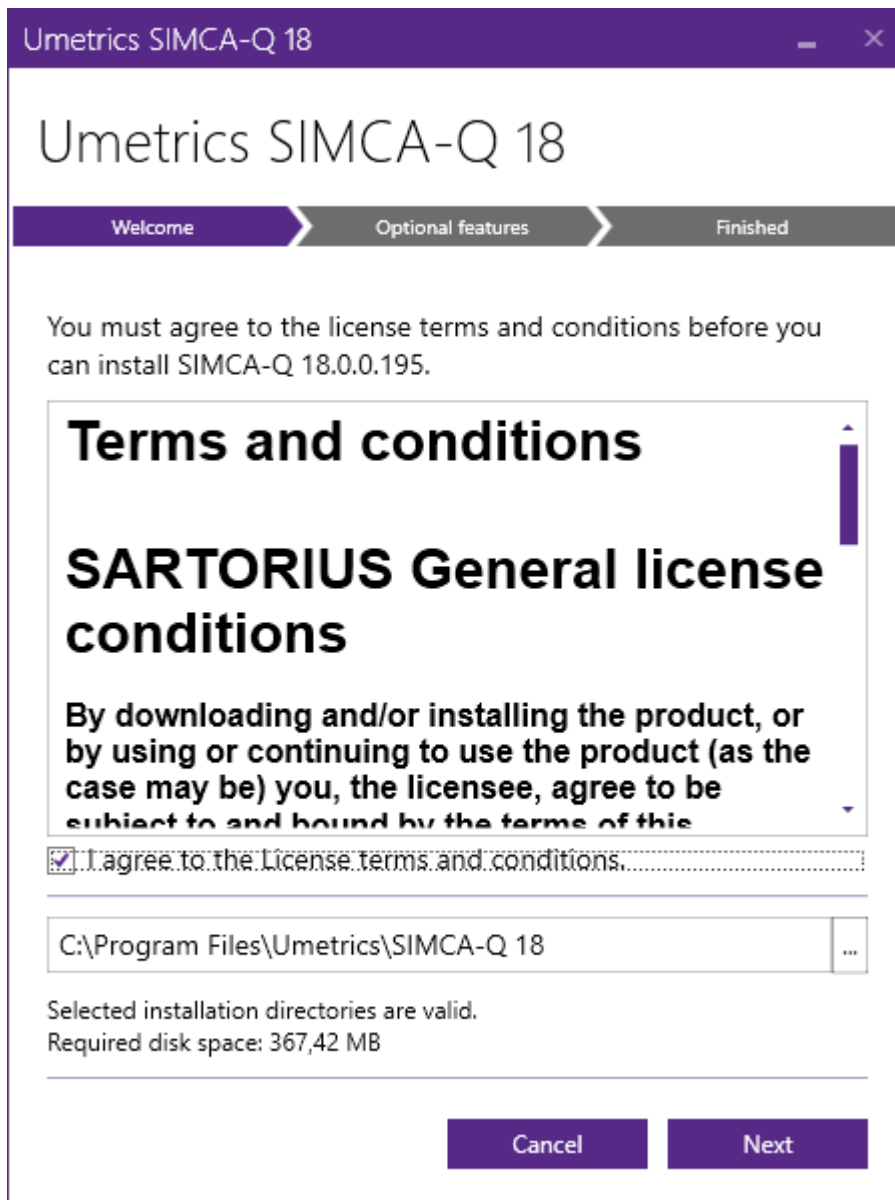
The [SIMCA-Q 18 knowledge base article](#) contains the latest updates and system requirements.

### Requirements

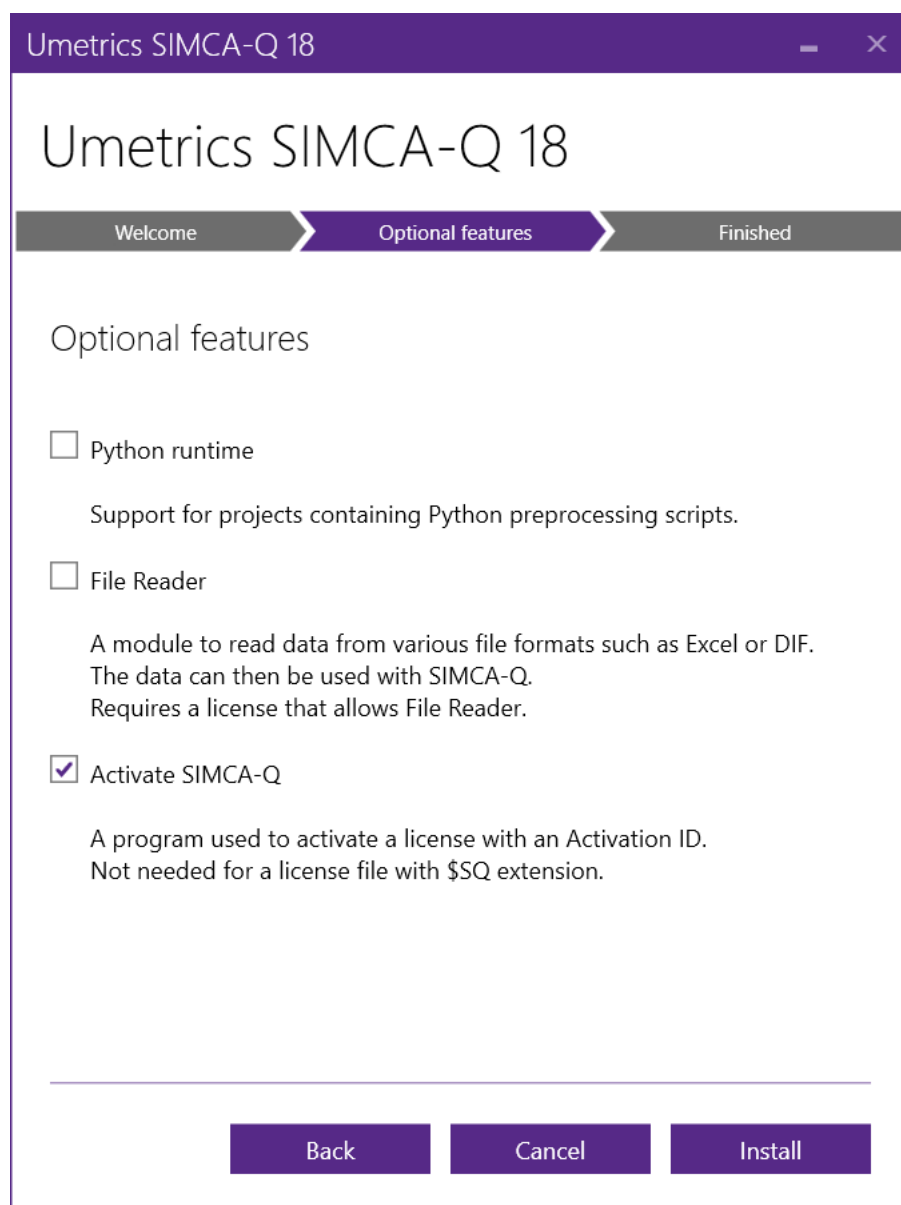
- A license to use SIMCA-Q.
- A PC to install the software on. SIMCA-Q is supported on all Windows versions supported by Microsoft.
- A 64-bit computer is recommended, but there is also a 32-bit version of SIMCA-Q available.
- SIMCA projects files created in SIMCA 16 – 18.

### Installation

As an Administrator, run the SIMCA-Q\_18\_x64\_Setup.exe to start the installation wizard. This will install the necessary files on your PC so that you can use it.



Accept the end user license agreement and click **Next**.



Make sure **Activate SIMCA-Q** is selected and click **Install**.

Then finish the installation by following the instructions on-screen and close the installation wizard when it has completed.

## Licensing

To run SIMCA-Q 18, a license for it is required. The license specifies available features and may have an expiry date. A license for a previous version does not work.

There are two ways SIMCA-Q can be licensed:

- Using an **Activation ID** (either over the internet or using an offline procedure), similarly to how licensing for SIMCA works. The same Activation ID can allow one or more activations. This is how you can license SIMCA-Q for testing or development, but it is not the way you license the product for the end-users of your app.
- Using a **\$SQ license file** with an embedded OEM password. To integrate SIMCA-Q with your app, you – the OEM integrator - typically bundle your app with SIMCA-Q and a license file. The app unlocks


SIMCA-Q by calling a function SetOEMPassword with the password specified in the license. Without this password SIMCA-Q cannot be used. Also see Deploying SIMCA-Q with your app to .

## Activating the license with an Activation ID

This section shows how to activate a license using an Activation ID.


Start the **Activate SIMCA-Q** app that was installed with SIMCA-Q. You find it in Windows Start.

SIMCA-Q

 Activate SIMCA-Q

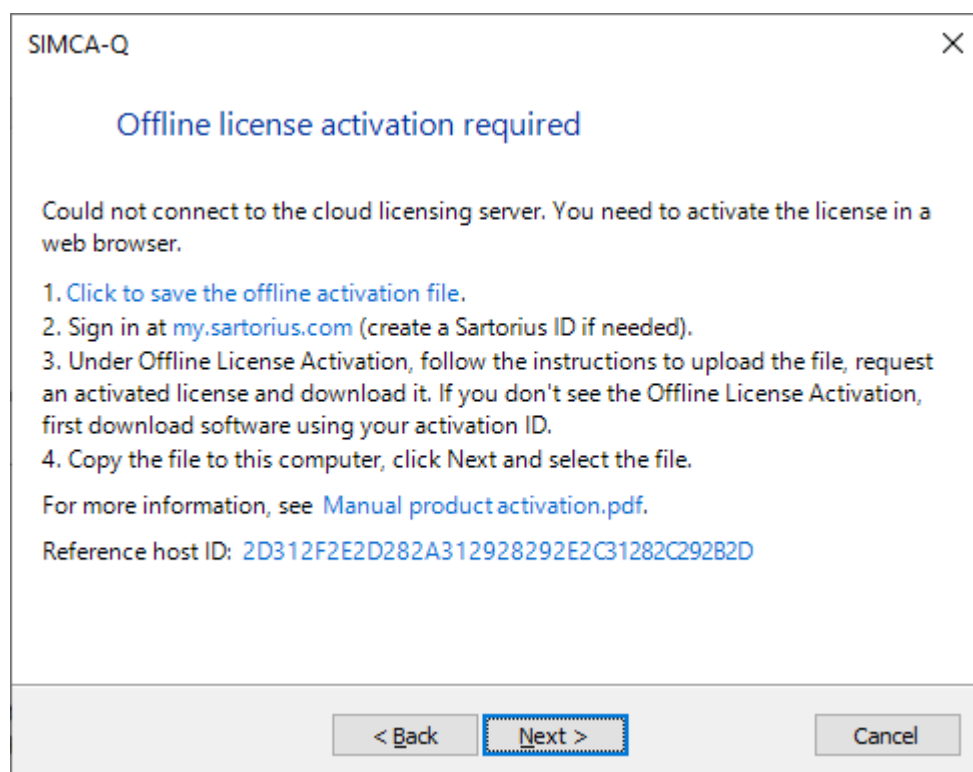
Please enter your activation ID. The activation ID is delivered from Sartorius Data Analytics in the electronic delivery following an order.

Activation ID:

Perform offline license activation 

< Back   Next >   Cancel

Provide the activation ID you received from Sartorius and click **Next**. With internet access, the license is then activated and locked to your PC.



If you don't have internet access on the computer the activation will fail, and you must follow a manual activation procedure using a different computer where you have internet access. Instructions for this are given on-screen and in the Manual Product Activation.pdf linked to in the dialog (the pdf is in the SIMCA-Q program files folder).

## License locations

The license is by default located in the folder %programdata%\Umetrics\SIMCA-Q\18.0.

A SIMCA-Q license file has the extension \$SQ. Note that if you have licensed using an Activation ID, then you don't have a license file, but the license information is still stored in the above location.

The license file need not be in the above folder: use the function SetLicensePath to specify the location of your license.

SIMCA-Q searches for the license in multiple locations: first the path specified by SetLicensePath, then the executable's location, then the SIMCA-Q.dll location and finally the above programdata folder.

## Use SIMCA-Q from your app

Once SIMCA-Q has been installed and licensed you can use it from the code in your app.

### COM or C interface

First decide whether to use the COM interface or the C interface.

What to select depends on your experience and what is easiest in your application. COM works well with C# and C works well from C++. Both interfaces have the same API, but the C function names start with SQ\_ and the first parameter is always a pointer to the object to perform the action on. For example the COM function project.GetModel(1) corresponds to the C function SQ\_GetModel(projectHandle, 1).

### Code snippet to get started

This block of code shows the top-level steps that are used to initialize SIMCA-Q:

```
SIMCAQ simcaq = new SIMCAQ();
```

```
// unlock the functionality of SIMCA-Q:
simcaq.SetOEMPassword("monkey123"); // the OEM password specified in your
agreement (.$SQ license file). Omit this step if no password is used

Project project = simcaq.OpenProject(projectPath, nullptr);
```

Then continue to use the *project* you obtained to call other functions in SIMCA-Q.

## Learn more about the API

Learn more on how to use SIMCA-Q API in:

- the **PDF files Interface Description, User Guide, Quick Tutorial**
- the **CHM help** files with detailed technical information for the **C** and **COM** interfaces in the SIMCA-Q program folder)
- the **sample projects**, and their readme files included in the CodingSamples.zip file

The **docs are included in the SIMCA-Q.zip file** and in the SIMCA-Q program folder (C:\Program Files\Umetrics\SIMCA-Q by default).

## Advanced topics

### Deploying SIMCA-Q with your app to end-users

To deploy SIMCA-Q with your app you can do something like this:

- Include the SIMCA-Q DLL and other files in the SIMCA-Q folder with the installation of your application.
- Include your SIMCA-Q \$SQ license file, and make sure it is placed in the location where SIMCA-Q can find it (learn more below).
- Make sure the Latest supported Visual C++ Redistributable downloads is installed on the PC. This is installed automatically when you install SIMCA-Q but typically you don't want your customers to run that setup program.

### Using the SIMCA-Q COM interface

Before using the COM Interfaces in the Q-products, SIMCA-Q.dll must be registered in Windows. This is done by the installation program, but if the DLL file is moved it needs to be re-registered.

To register, start the command prompt as an administrator and type:

```
regsvr32 "PATH\SIMCA-Q.dll"
```

where PATH is the full path to the SIMCA-Q.dll.

### Activating on the command line instead of manual activation

If you don't want to perform the above manual procedure to activate the license, you can use command line parameters to ActivateSIMCAQ.exe to automate this.

Option	Parameter
/AK	Activation ID on the form XXXX-XXXX-XXXX-XXXX- XXXX-XXXX-XXXX-XXXX
/L	Path to a log file that is useful for troubleshooting. The file should not exist when you run the command. For example: c:\temp\log.txt

/silent      No parameter. Automatically downloads a license file without GUI. The activation ID is required using /AK.

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/host      No parameter. The host ID needed for manual activation is written to the log file.

On success the application returns 0, otherwise an error code is returned, and the error is written to the log file. If not in silent mode, the errors are displayed as messages.

<b>Value</b>	<b>Meaning</b>
0	Success
1	The license is invalid for this version of SIMCA-Q
2	Could not call SIMCA-Q
3	License could not be saved
4	Failed to write log file
5	No activation key (silent mode)

## Support

See [www.sartorius.com/umetrics-support](http://www.sartorius.com/umetrics-support).