



Agilent OpenLab CDS Workstation

Installation and Configuration

Notices

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Agilent Technologies, Inc.
5301 Stevens Creek Blvd.
Santa Clara, CA 95051,

USA

Software Revision

This guide is valid for revision 2.8 of OpenLab CDS.

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In This Book

This document provides instructions for installation, configuration, administration, and maintenance of an OpenLab CDS Workstation. It includes information on the license generation with SubscribeNet and operating system configuration.

Table 1: Terms and abbreviations used in this document

Term	Description
Control Panel	Control Panel for Agilent OpenLab software
Microsoft Control Panel	Part of the Microsoft Windows operating system
Shared Services	Set of administrative services that control, for example, the security policy and the central configuration of OpenLab CDS. Shared services are accessed via the Control Panel.



1 Prepare Your PC

Install and Upgrade Windows 7

Install the .NET 3.5 and 4.x Framework 9

Run the System Preparation Tool 12

Install and Upgrade Windows

- 1 Access *OpenLab CDS Requirements and Supported Instruments (CDS_v2.8_Requirements_en.pdf, D0028027)* from the Setup\Docs folder on the installation media. Check that your settings comply with the network requirements, and determine whether your hardware and software will support the system.
- 2 Decide on a computer name, using the following characters (to make sure that a DNS server can resolve the computer name, follow the internet standard for protocols RFC952):
 - Letters (a-z, A-Z)
 - Digits (0-9)
 - Hyphen (-)

NOTE

Do not use an underscore. Installation is not possible if the computer name contains an underscore.

The computer name will be reflected in the license. Agilent recommends to keep the computer name unchanged after installing OpenLab CDS.

NOTE

Changing the hostname after installation is not recommended. It is tedious and requires specific actions. Please contact your Agilent support representative if you need to change your hostname.

- 3 Install the Windows operating system from the Microsoft installation media or qualified PC image media provided by your IT department. During the setup, provide the computer name, administrator password, and network settings.
Choose to either join an existing domain or set up the system in a workgroup mode. Domain naming has to be consistent with RFC-1034.
- 4 Update to the recommended version of Windows. See the [Windows upgrade FAQ](#) section of the OpenLab CDS page (<https://www.agilent.com/>, search for "Windows upgrade").

Prepare Your PC

Install and Upgrade Windows

- 5 Check for Windows quality updates, and apply all critical security patches. Do not choose to install a newer version of Windows (see previous step). Make sure the Windows quality updates have finished installing before proceeding to install OpenLab CDS.
- 6 In the Windows Settings under Time & language > Date & time: Choose the time zone of your regional location.

Install the .NET 3.5 and 4.x Framework

If .NET 3.5 and .NET 4.x are not installed on your system, either the System Preparation Tool or the installation wizard automatically triggers their installation. This may require a system reboot. To avoid the system reboot during installation, install .NET in advance.

NOTE

This requires an internet connection. If it does not work as expected, or the computer has no internet access, install .NET 3.5 manually. Microsoft offers several options for the installation. For details, refer to:

<https://docs.microsoft.com/en-us/windows-hardware/manufacture/desktop/deploy-net-framework-35-by-using-deployment-image-servicing-and-management--dism>

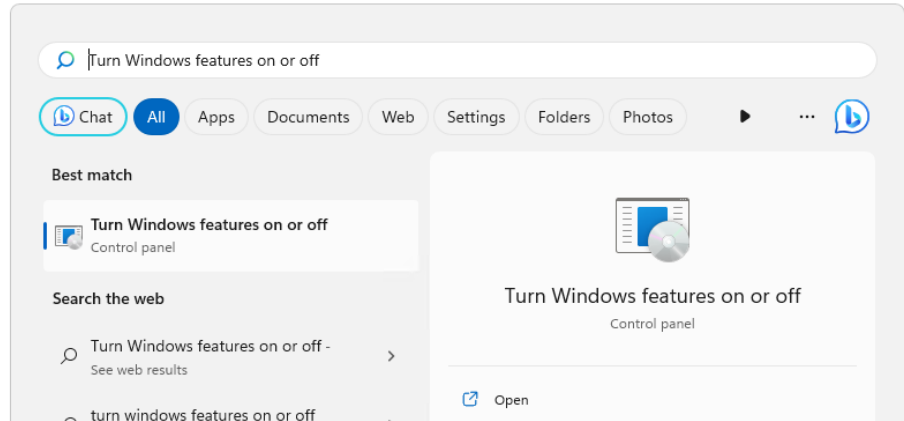
or

<https://docs.microsoft.com/en-us/dotnet/framework/install/dotnet-35-windows>

Prepare Your PC

Install the .NET 3.5 and 4.x Framework

- 1 In the Windows Start menu, search for *Turn Windows features on or off*. Open the search result found in the Microsoft Control Panel.



- 2 Enable .NET 3.5 as follows:
 - a Expand the .NET Framework 3.5 (includes .NET 2.0 and 3.0) node.
 - b Select the Windows Communication Foundation Non-HTTP Activation check box.

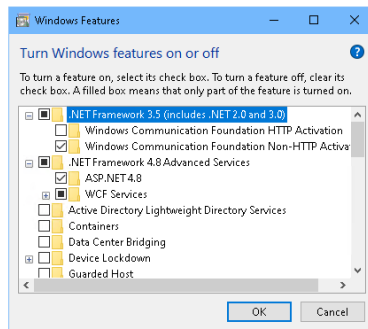


Figure 1: Enable .NET 3.5 (Win 11)

- 3 Select the .NET Framework 4.8 Advanced Services check box. Use the default values for sub items.

Prepare Your PC

Install the .NET 3.5 and 4.x Framework

NOTE

Check Transport Layer Security (TLS) protocols

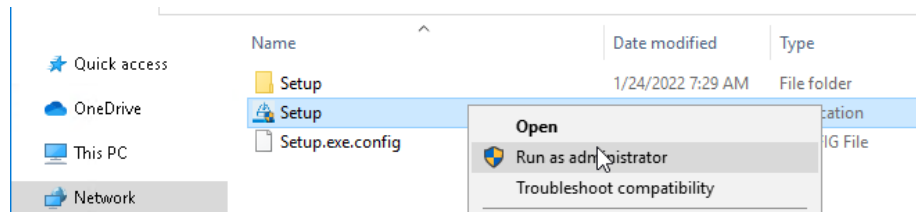
TLS 1.2 (or higher) supports a wide selection of cipher suites, some of which may be vulnerable to attack. OpenLab CDS supports all TLS 1.2 (or higher) cipher suites and is not impacted if any weak or vulnerable cipher suite is disabled by your IT policies. Older Transport Layer Security (TLS) security protocols TLS 1.0, TLS 1.1, and SSL 3.0 are not required by OpenLab CDS and present a security risk. Disable them according to instructions from Microsoft and in accordance to your IT policies.

Some OpenLab CDS components require Microsoft .Net 3.5. By default, this version of framework does not enforce the usage of TLS 1.2 or higher. In most IT environments, TLS 1.2 is enabled for .Net 4.5 or older frameworks. A script to assist making these changes is available on the installation media under `\Setup\Tools\Support\TLS\FixTLSVersions.ps1`. Please contact your system administrator for assistance in running the script.

Run the System Preparation Tool

The System Preparation Tool (SPT) checks and applies Windows settings on your machine. The OpenLab installer applies these settings automatically when run. Running the SPT in advance helps you to shorten the installation process and avoid PC reboots. For an overview of both mandatory and recommended settings, refer to the chapter *System Preparation Tool* in *OpenLab CDS Requirements and Supported Instruments (CDS_v2.8_Requirements_en.pdf, D0028027)*.

- 1 Optional: Copy the entire content of the USB media to a local drive or centralized folder, then remove the USB media from the PC.
- 2 To open the installer, right-click the setup.exe file, and run it as administrator.



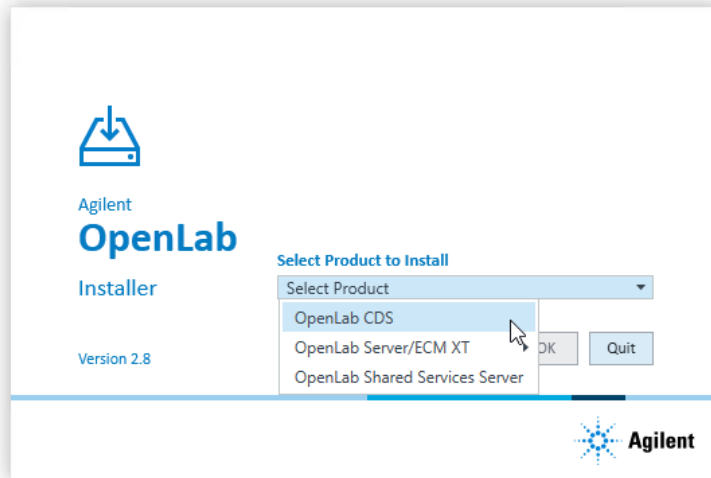
NOTE

If User Account Control (UAC) is switched on, this step requires active confirmation to continue.

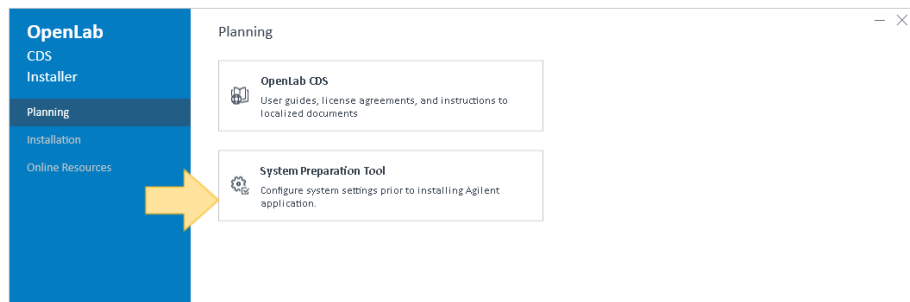
Prepare Your PC

Run the System Preparation Tool

- 3 On the start screen, select OpenLab CDS, and click OK.



- 4 From the Planning tab, select System Preparation Tool.



The System Preparation Tool window opens.

- 5 Select the product configuration
OpenLab CDS~Workstation~Win10 or
OpenLab CDS~Workstation~Win11 from the drop-down list, and click
Continue.

The installer automatically applies all mandatory Windows settings to ensure proper installation.

- 6 Select which recommended settings to apply to the system.

Prepare Your PC

Run the System Preparation Tool

Recommended settings can improve the performance and stability of your system, but do not need to be completed to deploy the application. The recommended settings are listed after the mandatory settings.

You can clear the check boxes for recommended settings. Mandatory settings cannot be cleared. Recommended actions are selected by default and will be applied unless they are cleared.

- 7 Click Apply Fixes to apply the correct settings.

The System Preparation Tool attempts to update the selected settings and displays the new status on the Update Configuration page. All actions are saved to a log file. A link to the log file is provided at the bottom of the page.

- 8 Click Next to proceed to the System Preparation Report page.

The System Preparation Report is displayed. It lists the new status for all selected settings.

The System Preparation Report is saved to disk. Its location is shown at the top of the page.

- 9 Click Print Report to print the System Preparation Report.

You may print to a file, for example, using the Adobe PDF printer, and add comments.

- 10 The System Preparation Report lists any mandatory or recommended settings that are not automatically updated by the System Preparation Tool. Follow the instructions provided in the Actions Required section of the System Preparation report to manually update operating system settings.

- 11 Click Finish.

- 12 Reboot your system if requested to do so.



2 Install OpenLab CDS Workstation

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Installation Workflow Overview

Prepare

- Check OpenLab CDS Requirements guide for details
- Run System Preparation Tool



Install

1. Run installation wizard, incl. software verification
2. Post installation:
Prepare centralized printing
3. Optional:
Improve performance on offline machines



Get Licenses

1. Obtain licenses via SubscribeNet
2. Install your license

- Run the System Preparation Tool before starting the installation to avoid reboots during the installation. See [Run the System Preparation Tool](#) on page 12
- If you plan scripted installations, see [Silent Installation](#) on page 24.

- See [Install OpenLab CDS Workstation](#) on page 15
- If you plan scripted installations, see [Silent Installation](#) on page 24.
- See [Post Installation Tasks](#) on page 30
- See [Optional Procedures](#) on page 42

- See [Licensing](#) on page 47



Configure

- Authentication
- Projects, incl. audit trail settings
- Instruments

- See [Configure OpenLab CDS Workstation](#) on page 56.
- Configuration tasks are performed in the Control Panel.
- For more details, refer to the Control Panel section in [OpenLab Help & Learning](#).

Before you Begin

- 1 Install all required hardware, including any cables, instrument detectors, and communication cables. GPIB interfaces may be required for some non-Agilent instruments.
- 2 Ensure that the Named Pipe Activation is selected for .NET 4.x.
 - a In the Windows Start menu, search for *Turn Windows features on or off*.
 - b Open the search result found in the Microsoft Control Panel.
 - c Expand .NET Framework 4.8 Advanced Services.
 - d Expand WCF Services.
 - e Select Named Pipe Activation.

- 3 Ensure to open the firewall ports listed in the Firewall Settings of *OpenLab CDS Requirements and Supported Instruments (CDS_v2.8_Requirements_en.pdf, D0028027)*.

Use the Windows command `netstat -aon` to display all active ports on which the computer is listening, and the respective process IDs (PID) that you would need to shut down.

Make sure that the TCP ports 80 and 443 are available.

NOTE

If these ports are occupied by other programs: Try setting the startup type of the World Wide Web Publishing Service to Manual or Disabled, or disable Internet Information Services (IIS).

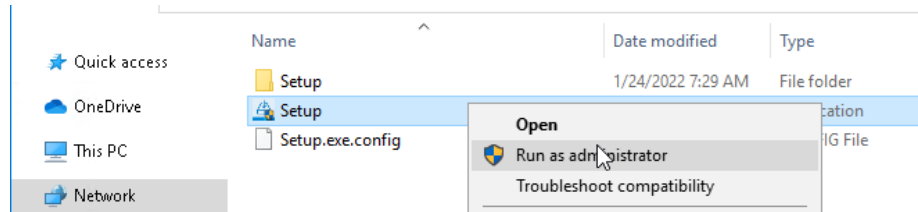
The command `net stop http` lists all services that are dependent on the HTTP service and would also be stopped. You may need to disable one of them.

- 4 Protect your system from viruses:
 - a Install an antivirus program.
 - b Make sure that the antivirus software is disabled during the installation.
 - c If you use Trend Micro™ as an antivirus software, turn off Web Reputation to allow the installation of all components.
- 5 Prepare a local administrator account with administrative privileges to run the installation. If the PC is in a domain, prepare a domain user who is a member of the local Administrators group

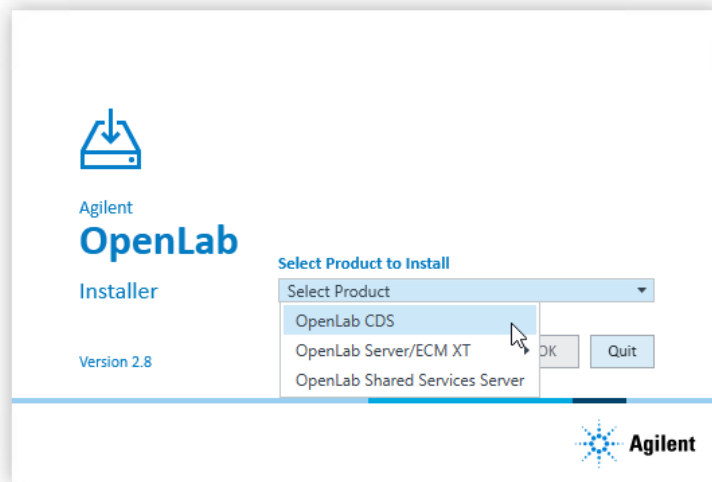
By default, the Windows privilege Debug programs is granted to all users. Do not remove this privilege, it is required for installing the OpenLab CDS software.

Run the OpenLab Installer

- 1 To open the installer, right-click the setup.exe file, and run it as administrator.



- 2 On the start screen, select OpenLab CDS, and click OK.

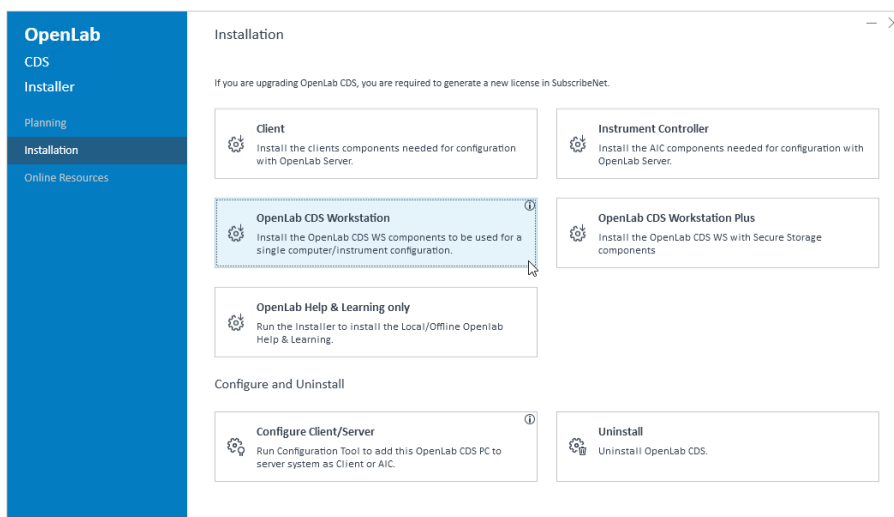


- 3 Optional: Run the System Preparation Tool in advance to shorten the installation process and avoid PC reboots. See [Prepare Your PC](#) on page 6.

Install OpenLab CDS Workstation

Run the OpenLab Installer

- 4 On the Installation tab, click OpenLab CDS Workstation.



- 5 License Agreement: Read and confirm Agilent terms and conditions. Click Next.
- 6 Installation Folder: Provide an installation folder for OpenLab CDS. Do not use the root folder of any drive. Click Next.
- 7 Storage Configuration: Provide a folder for storing the project data. Do not use the root folder of any drive.

NOTE

The maximum file path length is 256 characters. The characters of project folder names and file names (for example, sequences files or report templates) will also contribute to the maximum number of characters.

If you want to allow access to the projects root path only from within OpenLab CDS, select Secure CDS Storage path. For more information, see [Secure Projects Folders](#) on page 76.

Click Next to proceed.

- 8 Database Credentials: Provide the superuser password for PostgreSQL which is used to host the Shared Services and Data Repository databases (user *postgres*).

NOTE

Make sure to document the password at a secure location.

Click Next to proceed.

- 9 Component Credentials: Provide a password to be used by software components. You may be asked to provide a new password if existing password does not meet the requirements.

Passwords must adhere to the following general guidelines:

- Minimum 8 characters
- At least one uppercase letter
- At least one lowercase letter
- At least one number
- Only contains allowed characters

Overall Allowed Characters:

- Uppercase letters A-Z
- Lowercase letters a-z
- Numbers 0-9
- Special characters: !@#\$\$%^&-+ _=

NOTE

Make sure to document your password at a secure location.

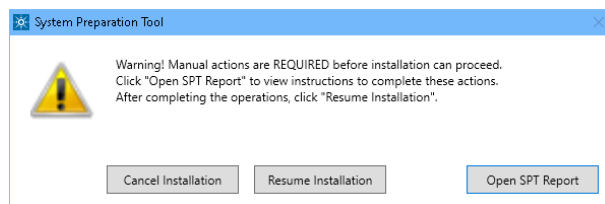
Click Next to proceed.

- 10 System Preparation: The installer shows the list of recommended settings for the system. You may clear the check boxes for items that you do not want to apply on the system. Mandatory settings will be applied automatically during installation. For an overview of both mandatory and recommended settings, refer to the chapter *System Preparation Tool* in *OpenLab CDS Requirements and Supported Instruments (CDS_v2.8_Requirements_en.pdf, D0028027)*.

Click Next to proceed to the Review page. The settings will be applied as part of the installation.

- 11 Review: All components that will be installed, and all settings that will be applied are listed here.
- To save a properties file for a future silent installation (see [Silent Installation](#) on page 24), click Save to config File.
 - To start the installation, click Install.

12 The following warning is displayed when user actions are required in the operating system:



Options to proceed

- *Recommended:* Click Open SPT Report, and review the Required Actions section for the instructions to verify if updates are needed. After completing the operations, click Resume Installation.
- **Cancel Installation:** Installation is aborted. Make necessary updates and restart installation.
- **Resume Installation:** The dialog is closed, and installation continues with the installation of the CDS components even if a setting was not applied. If needed, the settings can be updated after the installation has been completed.

13 Install: After the installation has completed, click Next.

14 Finish:

- To view the report of the applied Windows settings, click the link under System Preparation. If you still need to apply settings manually, a warning will be displayed. You will find details in the linked report.
- To confirm everything has been installed correctly, click Run Software Verification ¹.
- To complete the installation, select the Reboot the computer now check box, and click Finish.

15 In case of errors during the installation: Check the installation log files under %ProgramData%\Agilent\InstallLogs\

The installation includes a set of standard instrument drivers. If you need other instrument driver software, install it in a separate step. See [Install or Upgrade Driver Software](#) on page 28.

¹ To start the tool separately at a later point in time, select Start > (All apps >) Agilent Technologies > Software Verification Tool.

Silent Installation

OpenLab CDS supports a command-line mode for installation, also referred to as *silent installation*. This mode supports installation, upgrade, and uninstallation. You can execute silent installations either manually or as part of software management systems such as LANDesk or HP CM.

Export installation parameters

The OpenLab Installer supports a feature to export the installation parameters into an XML file which you can then use for the silent installation.

- 1 Launch the OpenLab Installer.
- 2 Follow the instructions of the wizard.
- 3 When you have reached the Review screen, click Save to config file.
Save the file to a suitable location. The file will automatically be saved as an .XML file.

You can now use the XML file for the silent installation.

Run installation

Preparations

- You have prepared an XML file for silent installation. See [Export installation parameters](#) on page 24.
 - .Net Framework is present on your system. If it is not, it will automatically be installed. You must then manually select Accept to agree with the license agreement.
- 1 Copy the content of the USB media to a centralized folder.
 - 2 Copy the XML file to a suitable folder.

- 3 Right-click the executable of the command prompt or Power shell prompt, and run it as administrator.

- 4 Navigate to the location where you have saved the installation files.

For example: C:\CDS

- 5 To start the installation, call CDSInstaller.exe with the following syntax:

```
CDSInstaller.exe -s -norestart CdsProductType="SecureWorkstation"  
StorageType="Filesystem" -LicenseAccepted=True -Configfile="<Path and  
Filename>"
```

where *<Path and Filename>* is the path and filename of the prepared file.

For example:

```
CDSInstaller.exe -s -norestart CdsProductType="SecureWorkstation"  
StorageType="Filesystem" -LicenseAccepted=True -Configfile="C:  
\ConfigFiles\configuration.xml"
```

With this command, you start the OpenLab Installer without a user interface.

- 6 Wait about 5 minutes while the installation takes place. To check the process of installation, look at the log files under %ProgramData%\Agilent\InstallLogs.

If a required installable is missing, the OpenLab Installer will create an entry in a log file, and, depending on the component type, will continue or roll back the installation. An error code will be returned in such scenarios.

- 7 After the installation has finished, reboot the PC.

Return codes

After installation, uninstallation, or upgrade in the command-line mode, the system will return a number code which is explained below.

Table 2: Return codes: Failure

Code	Return value	Meaning
ERROR_PROCESS_ABORTED	1067	The process terminated unexpectedly.
ERROR_INSTALL_USEREXIT	1602	The user cancelled the installation.
ERROR_INSTALL_FAILURE	1603	A fatal error occurred during installation.
ERROR_INSTALL_SUSPEND	1604	Installation suspended, incomplete.
ERROR_INSTALL_ALREADY_RUNNING	1618	Another installation is already in progress. Complete that installation before proceeding with this install.
ERROR_INSTALL_PACKAGE_INVALID	1620	This installation package could not be opened. Contact the application vendor to verify that this is a valid Windows Installer package.
ERROR_FUNCTION_NOT_CALLED	1626	The function could not be executed.
ERROR_PRODUCT_VERSION	1638	Another version of this product is already installed. Installation of this version cannot continue. To configure or remove the existing version of this product, use Modify or Uninstall in Apps & features in the Windows Settings.
ERROR_ACCESS_DENIED	5(0x5)	Access is denied.
ERROR_NOT_SUPPORTED	50(0x32)	The request is not supported

Table 3: Return codes: Reboot required

Code	Return value	Meaning
ERROR_SUCCESS_REBOOT_INITIATED	1641	The installer has initiated a restart. This message is an indication of success.
ERROR_SUCCESS_REBOOT_REQUIRED	3010	A restart is required to complete the install. This message is an indication of success. This does not include installs where the ForceReboot action is run.
ERROR_FAIL_NOACTION_REBOOT	350(0x15E)	No action was taken as a system reboot is required.

Table 4: Return code: Success

Code	Return value	Meaning
ERROR_SUCCESS	0	The action completed successfully.
ERROR_SKIP_CONFIGURATION	77	Skip step configuration. Execution stopped by user command.
ERROR_NON_VITAL_PACKAGE_FAILED	4010	Installer partially completed. Non vital packages failed.

Logging and tracing

All exceptions, errors and information messages are logged under Drive:\ProgramData\Agilent\InstallLogs\

Install or Upgrade Driver Software

The following driver software packages are automatically installed with OpenLab CDS. For details, see *OpenLab CDS Requirements and Supported Instruments (CDS_v2.8_Requirements_en.pdf, D0028027)*.

- Agilent GC & GC/MS
- Agilent LC & LC/MS
- Agilent 35900 A/D
- Agilent SS420x
- Agilent Data Player (Virtual Instruments)

Other instrument driver software, add-on software, or upgrades to existing driver software, must be installed and configured manually. Instrument driver software and add-on software packages can be found on the installation media under Setup\Packages\Add-Ons.

The latest Agilent drivers are available in SubscribeNet. To manage software entitlements and download software, log in to SubscribeNet by pasting this link in your browser: <http://agilent.subscribenet.com>. In the Product List, select OpenLab Software > OpenLab Agilent Instrument Drivers.

Install or upgrade add-on driver software

- 1 Run the driver installer package, and follow the installation wizard.
For details on the installation or upgrade procedures, refer to the respective driver documentation.
- 2 Register driver software with OpenLab CDS.
See [Register driver software with OpenLab CDS](#) on page 29.

The OpenLab Configuration tool will find all newly installed or updated instrument drivers and register them with the Shared Services. New instrument types will be available in the Control Panel.

Register driver software with OpenLab CDS

The following procedure must be carried out after installing drivers other than the ones listed above, and after upgrading any driver. With these steps you make the new drivers available in OpenLab CDS.

- 1 In Windows, select Start > (All apps >) Agilent Technologies > OpenLab Configuration .
- 2 In the OpenLab Configuration tool, enter *localhost* as a server hostname.

OpenLAB Configuration

Step 1 - Server

Hostname

Step 2 - Authentication

Username

Password

Domain

Step 3 - Additional Options

Register as Instrument Controller

Server
Enter the hostname of the OpenLAB Server that you would like to connect to and click the Connect button.
Changes will be applied to the server specified.

Authentication
Enter your login credentials for the server specified.

Additional Options
Choose any additional options and click the Register button.

- 3 Click Connect to enable the input boxes for the user credentials.
- 4 Under Step 2 - Authentication, enter your user credentials.
- 5 Make sure the Register as Instrument Controller check box is cleared.
- 6 Click Register.
A Registration Results dialog will be shown.
- 7 Reboot the PC.



3

Post Installation Tasks

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- Configure the Antivirus Program 32
- Prepare Centralized Printing 35
- Troubleshooting Print Folders 36
- Prepare Exports to Network Shares During Unattended Processing 37
- Set Up Domain User Account 37
- Enable Automatic Printing to Network Printers 39
- Local Windows Group for Secure Projects Root Folder 41

Run a Software Verification after Software Installation

The Software Verification Tool (SVT) provides documentary evidence that your system has been built and installed correctly, and that all design specifications have been met. You do not need to run the software verification again if it has run successfully at the end of the installation.

- 1 Using your Windows operating system, go to Start > (All apps >) Agilent Technologies > Software Verification Tool .

- 2 Select the components to qualify.

- 3 Select Qualify.

The system will run the application and generate a Software Verification Report. Reports are automatically saved to Drive:\SVReports.

- 4 If the report indicates failure, verify the computer requirements and reinstall the data system.

Do not use the system until the Software Verification Report gives a 'pass' result.

Configure the Antivirus Program

- 1 Be sure to open the firewall ports listed in the Firewall Settings. See *OpenLab CDS Requirements and Supported Instruments (CDS_v2.8_Requirements_en.pdf, D0028027)*.
- 2 The following folders should be excluded from Antivirus scan. If you want to have these folders scanned, you should do this while the system is not acquiring or doing data Analysis as scanning may cause slowness and runs to be aborted due to concurrent access to the same file by the anti-virus program and the CDS application.
 - Drive:\CDSProjects
 - Drive:\Program Files (x86)\Agilent Technologies
 - Drive:\ProgramData\Agilent
 - Drive:\ProgramData\Agilent IPB Files
 - Drive:\ProgramData\Agilent Technologies, Inc
 - Drive:\ProgramData\ChromatographySystem
 - Drive:\ProgramData\Firebird
 - Drive:\ProgramData\IsolatedStorage

Refer to your specific antivirus software documentation on how to configure folder exclusions.

NOTE

For antivirus software with network intrusion prevention, expect to see some degradation in general system performance. To disable network intrusion prevention, refer to your antivirus software instructions.

Optional configuration steps

Agilent recommends to whitelist certain applications to improve performance. Consider these settings especially if you recognize that your antivirus software consumes a high amount of CPU resources when OpenLab CDS is executed. The following settings are recommended with Trend Micro™. Other antivirus programs may require the same level of configuration; please refer to the respective instructions.

Post Installation Tasks

Configure the Antivirus Program

- 1 If your version of Trend Micro has Web Reputation: Turn off to maximize performance.

The risk of turning off Web Reputation is that web traffic through browsing from the machine will not be checked.

Ensure that there is another URL/web scanner on the gateway level to protect the endpoint, or ensure that the endpoints have limited access to Internet. These production machines should not have access to Internet websites where most of the infections are coming from.

- 2 Real time scan: Add exclusions, and modify scan direction from Created/Modified/Retrieved to Created/Modified.

Exclusions ensure that the working directory of Agilent Technologies will not be scanned, thus improving performance.

The risk is that only files that are created and changed on this machine are scanned. Files that are just accessed will be bypassed. Dormant Files that got infected without being noticed at the time they were created or written to the machine will not be scanned.

Increase scheduled scan to daily to ensure all files on the machine are being checked for infections that are dormant or not moving.

- 3 Behavior Monitoring: Agilent recommends to include certain folders to Approved programs. The following list may serve as a starting point.

NOTE

If any of the excluded files get infected, it will not be detected. Take measures to avoid the risk of non-detection. For examples, trigger a scheduled scan on a daily basis to cover these files.

- Program Files (x86)\Agilent Technologies\Certificate Service\
- Program Files (x86)\Agilent Technologies\Data Collection Agent\
- Program Files (x86)\Agilent Technologies\OpenLab\Services\
- Program Files (x86)\Agilent Technologies\OpenLab Services\
- Program Files (x86)\Agilent Technologies\OpenLab Acquisition\
- Program Files (x86)\Agilent Technologies\OpenLab Backup Utility\
- Program Files (x86)\Agilent Technologies\OpenLab Restore Utility\
- Program Files (x86)\Agilent Technologies\OpenLab Data Analysis\
- Program Files (x86)\Agilent Technologies\OpenLab Platform\Data Repository\Data Repository\
- Program Files (x86)\Agilent Technologies\OpenLab Platform\Reverse Proxy\

Post Installation Tasks

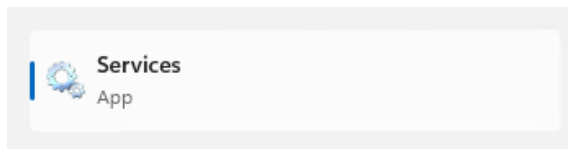
Configure the Antivirus Program

- Program Files (x86)\Agilent Technologies\OpenSearch\
 - Program Files (x86)\Agilent Technologies\Test Services\
- 4 Realtime monitoring: Add below folder to the exclusion list of Realtime Monitoring setting:
- Drive:\Program Files (x86)\Agilent Technologies\

Prepare Centralized Printing

OpenLab CDS allows you to automatically process your data during acquisition, without opening Data Analysis. During this processing, injection reports may need to be printed. With centralized printing, these reports are copied into shared print folders. A third party program such as FolderMill then accesses the shared folders and sends the contained files to a printer.

- 1 In the Windows Start menu, search for *Services*. Open the Services app.



- 2 Right-click Agilent OpenLab CopyTo Server and select Properties.
- 3 Click the Log On tab, select This account and enter the login credentials of a domain user. The user must be a member of the local Administrators group and must have the privileges to write to the print folders.
- 4 Confirm your settings, and restart the service.
- 5 Set up the shared print folders in the Control Panel for OpenLab under Administration > Print Folders .
 - a Click Add Print Folder.
 - b Provide a name, folder path (UNC format), and description (optional), and click Save.
- 6 Optional: Configure queue size.

Each Print Folder will have its own queue. The size of each queue is defined in the configuration file
Drive:\ProgramData\Agilent\CopyToServer\CacheSizeLimit.ini. The parameter CacheSizeLimit can be configured to change the size of the queue.

Post Installation Tasks

Prepare Centralized Printing

The default value is 500 MB, which means that each queue (print folder) will have a size limit of 500 MB by default. Files will enter the queue until the maximum size of the cache is reached. When this happens, the queue will stop accepting requests. The queue will automatically restart and begin accepting requests after it has been cleared.

Troubleshooting Print Folders

Issue	Resolution
The Agilent OpenLab CopyTo Client or Agilent OpenLab CopyTo Server service has crashed	The service should automatically restart.
Network issue between workstation and print folder	Centralized printing requests will be buffered on the workstation. The files will be automatically copied to the print folder as soon as the network is back.
Print folder cache full	Check print folder access. Consider increasing the cache size (see Prepare Centralized Printing on page 35).
Print folders are not accessible due to insufficient permissions	Check that the domain user logged into the Agilent OpenLab CopyTo Server service is a local administrator and has permissions to write into the print folders.
Reports are stuck in print folders	Check that the third party software being used to access print folders for printing is functioning correctly. Check that there are no printer errors.

Prepare Exports to Network Shares During Unattended Processing

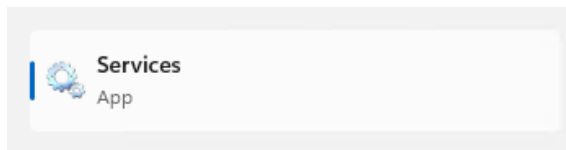
Carry out the following steps if you want to:

- Generate reports and save them as files during unattended processing. Exporting the reports to a network share is a typical way how they are sent to an external system (for example, LIMS)
- Export raw data or results during unattended processing, and save the files to a network share

For this approach, specific domain user privileges are required to access a network share and log on as a service.

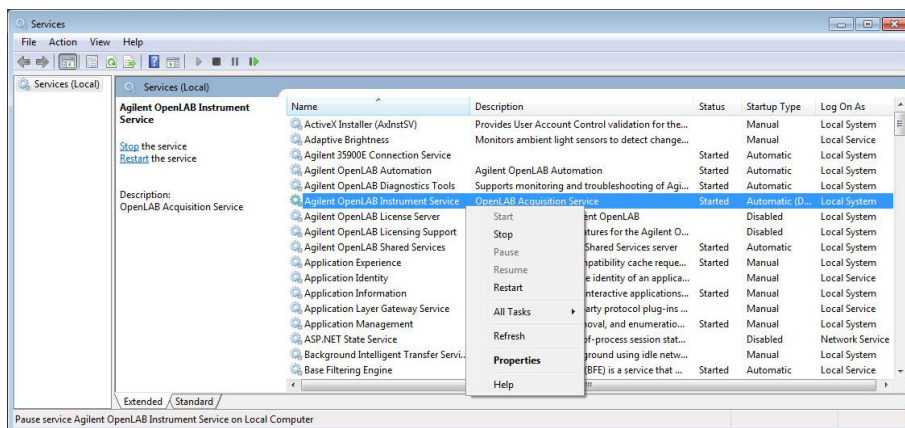
Set Up Domain User Account

- 1 Log in as Windows domain user who has local administrative privileges.
- 2 In the Windows Start menu, search for *Services*. Open the Services app.



- 3 Make sure the status of Agilent OpenLab Instrument Service is Started or Running. If it is not, right-click and select Start.

4 Right-click Agilent OpenLab Instrument Service and select Properties.

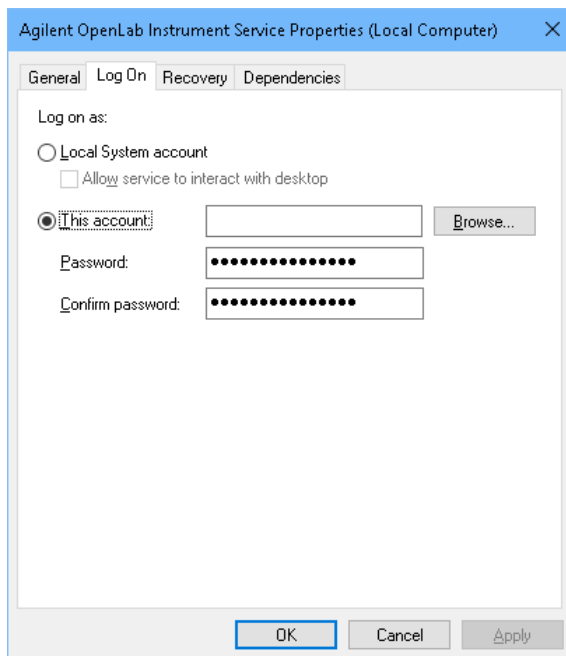


5 Click the Log On tab, select This account and enter the login credentials of a domain user who has network printing privileges.

NOTE

The user must be a member of the local Administrators group.

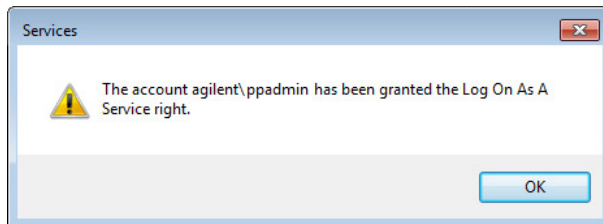
Click OK.



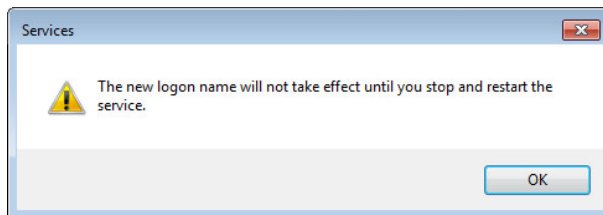
Post Installation Tasks

Prepare Exports to Network Shares During Unattended Processing

- The Services window confirms that the account has been granted the Log On As A Service right. Click OK.



- Click OK in the Services window to acknowledge that The new logon name will not take effect until you stop and restart the service.



- Restart the PC. This will enable the *Log On* user specified in Instrument Service to automatically export files to network shares in Data Acquisition.

Enable Automatic Printing to Network Printers

Follow this procedure if you do not want to use centralized printing and need to print to network printers during unattended processing.

Preparations

- You have set up a domain user account (see [Set Up Domain User Account](#) on page 37).
- Log in using the domain user account specified in the Log On tab of Agilent OpenLab Instrument Service Properties window.
 - In the Windows Settings, open Devices > Printers & scanners and click Add a printer or scanner.

Post Installation Tasks

Prepare Exports to Network Shares During Unattended Processing

- 3 Select the required printer from the list. If it is not listed, click The printer that I want isn't listed and browse or type a shared printer name that you want to add. Once the printer is added, print a test page.
- 4 In the Windows printer settings, set the shared printer as the local default printer.

Local Windows Group for Secure Projects Root Folder

If you installed OpenLab CDS using the Secure 'Projects Root Path' option, your projects folder (by default, C:\CDSPROJECTS) and anything within this folder is locked. Only the local Windows system user and the local Windows group AgtSfsGroup are able to browse this folders. The AgtSfsGroup group is created during installation.

To ensure that the system is working properly do not delete the AgtSfsGroup group.

CAUTION

The application may become unusable.

If you change file access privileges, Windows removes the default ownership. As a result, OpenLab CDS will be unable to access your data.

- Request Agilent's support if you need to change privileges on file system level.
-



4 Optional Procedures

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- Change the SecureFileStorage path 46

Install OpenLab Help and Learning Only

Use this option to install OpenLab Help & Learning content on machines without OpenLab CDS installed.

Do not use this option on a machine where OpenLab CDS is, or will be, installed.

- 1 Insert the USB media, right-click the setup.exe file, and run it as administrator.
- 2 On the start screen, select OpenLab CDS , and click OK.
- 3 In the OpenLab CDS Installer, click Installation.
- 4 Click OpenLab Help & Learning only.
- 5 Select your language, and click Next.
- 6 Accept the terms on the License agreement page, and click Next.
- 7 Review the installation directory. If desired, click Change... to specify a different directory.
- 8 Click Install.
- 9 When the installation is complete, click Finish.

You can uninstall or repair OpenLab Help and Learning from the same link in the installer (see [Uninstall OpenLab Help and Learning Only](#) on page 107).

Improve Performance on Offline Machines

Computers running OpenLab CDS may exhibit slow performance when they are not connected to the Internet.

The windows operating system has routines built into its operation that causes it to continuously search for an online connection in order to update to all the latest Windows security certificates when using secure software.

Use the following system settings on all workstations to remedy this problem.

- 1 In the Windows Settings, search for Internet Options. The Internet Properties dialog opens. In the Advanced tab, clear the following check boxes:
 - Security > Check for publisher's certificate revocation
 - Security > Check for server certificate revocation
- 2 Change or add the following registry keys:
 - [HKEY_LOCAL_MACHINE\SOFTWARE\Policies\Microsoft\SystemCertificates\AuthRoot]
"DisableRootAutoUpdate"=dword:00000001
 - [HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Policies\Microsoft\SystemCertificates\AuthRoot]
"DisableRootAutoUpdate"=dword:00000001
- 3 Document that you turned off the Root Certificates, as this will cause the OpenLab CDS installer to fail. The root certificates need to be turned on to prevent installation failures.

Set up NIST Library Search

In order to use MS library searching within OpenLab CDS, the NIST MS Search program must be installed locally on the workstation (or, in a Client/Server setup, on the client or AIC) which is to perform the library search.

For details on the installation and configuration of the NIST library framework within standalone, Client/Server, or Citrix/Terminal Server setups, please refer to *Setup and Configuration of MS Library Search (CDS_Configure_MS_Libraries.pdf)*. That document also discusses the use and management of other commercial and user-created libraries with OpenLab CDS MS library search.

Change the SecureFileStorage path

For buffering files for transfer, OpenLab CDS creates a folder at a default fixed location %ProgramData%\Agilent\SecureFileSystem.

The folder path can be modified if the default location is unsuitable. For more information on changing the location of the secure file storage, please contact your local Agilent Support representative.



5 Licensing

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About OpenLab CDS licensing

A startup license for the system allows you to run OpenLab CDS for 60 days after the installation. In order to run the data system software after the 60-day period, you must install your license file.

The most efficient way to manage and maintain your licensing is through the internet via <http://agilent.subscribenet.com/>.

License file

A license file contains your software license. It is a collection of product, instrument, and add-on licenses (or activation keys). Information in the license file defines the number of instruments and other options that may be used concurrently with your system.

The license file is installed to your OpenLab CDS Workstation. The license file is bound to this computer, and cannot be moved to another workstation without regenerating the license in SubscribeNet.

License types

The licenses or activation keys in the license file can either be shared or counted:

- Shared licenses System computers and other components can have shared, or add-on, licenses — because they share a core license.
- Counted licenses These licenses are part of the OpenLab CDS floating licensing strategy. They are not permanently assigned to any one component. Instead they are automatically assigned to components, such as AICs and instruments, while the components are starting up. The licenses are automatically returned when the component is closed. The license management program controls license issuance and retrieval.

In this case, the only requirement is that a component is licensed while running. You only need enough licenses for all components running concurrently, rather than for each installed component.

Get a license

NOTE

During this process you will have to enter the MAC address of your license server. For workstations, this is the local computer. For client/server systems, this is the server.

Generate, download, and install a license with SubscribeNet

In case you do not have internet access, skip to the section [Other ways to obtain a license](#) on page 53.

If you are a new user who has not registered with SubscribeNet, continue with the section *New Users*.

If you have registered with SubscribeNet, skip to the section *Users registered with SubscribeNet*.

Preparations You will need:

- The authorization code label provided in the lavender envelope containing your Software Entitlement Certificate. If you have not received a lavender envelope for your product, contact your vendor or internal support.
- The URL for SubscribeNet from the Software Entitlement Certificate.
- The MAC address, and host name of the computer where the Control Panel is running.

To retrieve your MAC address from a computer where OpenLab CDS is already installed, open the Control Panel and browse to the Administration > Licenses section. Use the Copy MAC Address or Save MAC Address function to obtain the MAC address for license generation.

NOTE

If any changes are made to the computer name or domain reference after the license is installed, remove the license, and create a new license in SubscribeNet, download and install it .

NOTE

If the network adapter that provides the MAC address used during license creation is removed from the machine, your license will no longer be valid. A new license will need to be generated with a currently available MAC on the license server.

New Users

- 1 Go to <https://agilent.subscribenet.com/control/agil/AgilRegisterToAccount> to register the product with SubscribeNet.
- 2 On the registration page, enter the authorization code from the label and complete the profile information (required fields are marked with *).
The email address you enter will become your login ID.
- 3 Click Submit. The system will generate and display an account name for you. SubscribeNet will send a welcome email with your login ID and password.
- 4 Log in to SubscribeNet using your login ID and password.
Once you log in, you can use the online user manual link for help with any questions you have.
- 5 Select Generate or View licenses from the left navigation bar.
- 6 Follow the prompts to generate your new license. You will be prompted for the HOST NAME of the computer.
Enter the server hostname. Do not include any DNS suffix (*domain.com*) references in the entered machine name.
- 7 When the system generates the license, view its details, then click Download License File. Save the license file to your computer and to a backup location (such as a portable storage device).
Use your login ID and password when you revisit the Agilent SubscribeNet site to regenerate a license file, add new authorization codes, or further configure the license for your system.

Users registered with SubscribeNet

- 1 If you already have a SubscribeNet account, use <https://agilent.subscribenet.com/>.
Lost your SubscribeNet password? Use <https://agilent.subscribenet.com/control/agil/password> to have it emailed to you.
- 2 Select the SubscribeNet account associated with this authorization code, if you have more than one account.
- 3 From the SubscribeNet navigation pane, select Register Authorization Code.
This will allow you to enter your new authorization code and make available the new license entitlements.
- 4 Select Generate or View licenses from the left navigation bar.
- 5 Follow the prompts to generate your new license. You will be prompted for the HOST NAME of the computer.
Enter the server hostname. Do not include any DNS suffix (*domain.com*) references in the entered machine name.
- 6 When the system generates the license, view its details, then click Download License File. Save the license file to your computer and to a backup location (such as a portable storage device).
Use your login ID and password when you revisit the Agilent SubscribeNet site to regenerate a license file, add new authorization codes, or further configure the license for your system.

Check for software updates

After registering your authorization codes in SubscribeNet, check for software updates released for your products. If updates are available, open the ReadMe files and follow the instructions.

Other ways to obtain a license

If you are unable to generate a license, contact your nearest Agilent technical support office. A representative will tell you how to submit an OpenLab License Generation Form in your location.

Offline licensing

If an internet connection is not available in your laboratory:

You or your local on-site service engineer will collect the necessary information from you to allow Agilent to create a license account on your behalf. For phone support in your region, call the sales and service number for your region. See the Appendix for contact information.

Required Customer Information for Agilent License Support:

The following information must be provided to Agilent in order to enable us to create a licensing account on your behalf.

1 Collect Account Information:

Your account name will be your company name and Lab name separated by a comma. Employee information provided here will be used to define the first administrator of your account for future access to the system as required. Please prepare the following pieces of information prior to contacting your local Agilent sales and service center in order to expedite service:

- Company Name
- Lab/Department Name
- First Name
- Last Name
- E-mail address
- Job Title
- Phone #
- Address, City, State/Province, Postal Code, Country

2 Collect Authorization Code(s):

The authorization code is an alpha-numeric code provided on a label which is enclosed in a lavender envelope. If you have received more than one code you must provide all codes to ensure that all ordered licenses are granted to your account.

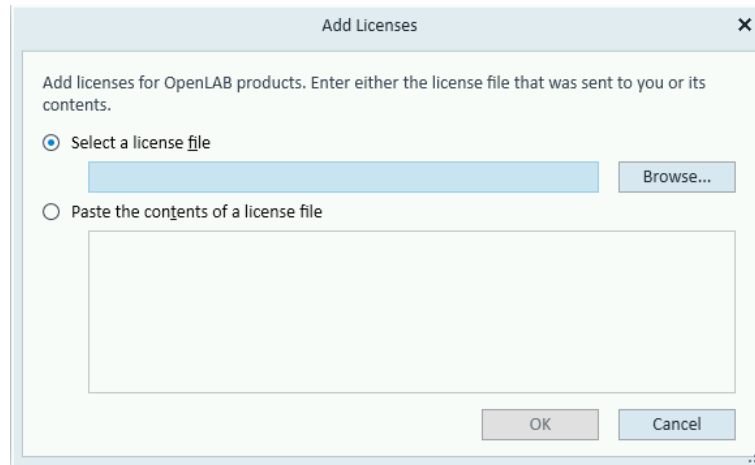
3 Receiving your license:

Once the above information is provided Agilent will then work on your behalf to generate a license file through SubscribeNet. The license file will either be sent to your shipping address (on a CD), or your local FSE will deliver it in person (usually on USB media). Once your license is received follow the below section on “Install your License” to finish installing your license on your system(s).

Install your license

The license must be added to your system using the Control Panel.

- 1 Start the Control Panel shortcut on the desktop or go to Start > (All apps >) Agilent Technologies > Control Panel .
- 2 Navigate to Administration > Licenses .
- 3 In the ribbon, click Add License + .



- 4 Choose to install the license by:
 - Using the license file option to browse to and open the license file (.lic) saved from the license generation process in SubscribeNet.
 - Selecting the License Text option and copying the license text from a text file received into the provided field.
- 5 Click OK.

The Administration interface in the Control Panel will now display the status of installed licenses.

NOTE

A full restart is required in order for any license to have an immediate effect.



6 Configure OpenLab CDS Workstation

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OpenLab Control Panel

All configuration tasks are performed in the Control Panel for OpenLab. For more details, refer to the Control Panel section in OpenLab Help & Learning.

Configure Authentication

OpenLab CDS supports the following authentication providers:

- None (default setting after installation)

In this mode, no login screen is shown when you access the Control Panel. The user is automatically logged in to the application with security disabled. All log entries record the user as "Anonymous". With the authentication provider None, the Security Policy and User Management nodes are unavailable in the Control Panel.


NOTE: With the authentication provider None, any activity logs will display a generic System operator with no additional identification. This is not recommended for compliant setups.

- Internal

In this mode, the user's credentials are stored in the OpenLab CDS system. You are asked to create an administrator account for OpenLab CDS before setting up other users. This is the only mode in which you can create new users within the system; in all other modes you can only map to users that exist in a different system.

- Windows Domain

You import existing Windows users into OpenLab CDS system. The authentication is done either by Windows Active Directory domain or NT 4.0 Domain within the Enterprise. OpenLab CDS only uses the identity and password of the mapped users; roles and privileges for OpenLab CDS are still configured in the Control Panel.

- 1 Launch the Control Panel.
- 2 Navigate to Administration.
- 3 In the navigation pane, select System Configuration.
- 4 In the ribbon, click Edit System Settings .
- 5 Select the required authentication provider from the drop-down list, then click Next.

NOTE

Do not change the storage type.

- 6 Provide user credentials:
 - a For Windows Domain: Select the check box to use a domain user, and provide user credentials with the rights to obtain user and group information. Then click Select Account to open the Search Users dialog and select an administrator account.
 - b For Internal: Click Create Account to create a new administrator account for OpenLab CDS.
- 7 Confirm your settings. When complete, the Control Panel will restart.

If you use Windows Domain authentication, you may need to specify or change the credentials that OpenLab CDS will use to access your windows domain server. Proceed as follows to change these credentials:

- 1 Select Start > (All apps >) Agilent Technologies > Shared Services Maintenance. A user must have Windows administrator rights to access this utility..
- 2 In the Windows Domain tab, specify or change the credentials

Configure Security Policy

If you need to comply with specific standards, adjust the security policy as required.

With the authentication provider Internal, you can set all parameters in the Control Panel. With an external authentication provider (Windows Domain), you can only set the inactivity time in the Control Panel; all other parameters are defined by the external system.

- 1 Launch the Control Panel and navigate to Administration.
- 2 In the navigation pane, select Security Policy.
- 3 In the ribbon, click Edit Security Policy.
- 4 Set the parameters as required, and confirm your changes.
Restart the Control Panel to apply your changes.

Configure users and roles

To define what users are allowed to view or do, OpenLab CDS offers predefined roles and allows you to define your own specific roles.

Roles are equipped with numerous specific privileges. When you set up a customized role, it is therefore recommended starting from a lower role (that is, with fewer privileges) and adding specific required privileges, rather than removing privileges from a higher role.

Each user can be member of multiple groups. You must assign one or more specific roles to each group. You can also assign roles to single users; however, for the sake of clarity, it is strongly recommended to assign roles only on the group level. Every member of a group automatically has all roles of this group.

- 1 Launch the Control Panel and navigate to Administration.
- 2 In the navigation pane, select Users, Groups, or Roles.
- 3 Create new items, or edit the existing ones.

Create or import users

With internal authentication, you create the required users in the Control Panel. With Windows domain as an external authentication system, you import the Windows domain users.

Add users (Internal Authentication only)

- 1 From the navigation pane, click Administration > Users .
- 2 In the ribbon, click Create User.
- 3 In the Create User dialog, provide the relevant parameters:

- Enter the name and password for the new user.
- By default, the new user will need to change the password at next logon. If this is not required, clear the User must change password at next logon check box.
- In the Role Membership tab, assign the user to an appropriate role. You can use the default roles, or prepare your own roles in the Control Panel under Administration > Roles .

4 Click OK.

Import users (Windows Domain Authentication only)

To add users to your system, you must have privileges to obtain user and group information from the domain.

- 1 From the navigation pane, click Administration > Users .
- 2 In the ribbon, click Import User.
- 3 In the Search Users dialog box, enter search string for the Windows domain username.
- 4 From the Search Results list, select the user you want to import, and click Add. The user is added to the Selected Users list.
- 5 Repeat steps 2 to 4 until you have added all the user names that you want to import to the Selected Users list, then click OK.

Groups

If you use an external authentication provider, you can either import the names of groups that exist in the external system, or create new internal groups. There is no limit on the number of groups that can be mapped or created.

Assign users to groups either in the external system or in the Control Panel. If you need additional user assignments that are relevant only for OpenLab CDS, create them in the Control Panel. Otherwise it is sufficient to only import the groups and assign the required roles to the groups.

If you delete or unmap a group, the users who were members in this group remain unchanged.

Roles and Privileges

Roles are used to assign privileges to a user or a user group globally or for a specific instrument, project, project group or location. The system contains a list of predefined roles which are installed as part of the system installation (for example, Instrument Administrator, Instrument User, or Everything). Each role has certain privileges assigned.

Privileges are grouped according to the three main role types (Project role, Instrument role, and Administrative role). When you assign privileges to a role, you first select the required role type and then select the privileges related to this role type. Each role can only have privileges of one specific role type; the only exception is the predefined role Everything, which has all privileges of all role types. Users or groups may require multiple roles to perform system functions. For example, a user with the role *Chemist* may need another role such as *Instrument User* with the privilege to run an instrument.

You can create a tree of different locations in the Control Panel, and add instruments to the relevant locations. For each instrument or instrument group, you can assign different instrument roles (see also [Specific Roles for Individual Instruments or Projects](#) on page 65). For example, a user can have the role Instrument Administrator for one instrument, and Instrument User for another instrument.

You can also create a tree of different projects or project groups in the Control Panel, and assign different Project roles for different projects (see also [Specific Roles for Individual Instruments or Projects](#) on page 65). For example, a user can have the role Project Administrator in one project, so that he can manage the settings in the Control Panel. In a second project, he may have a role that allows him to edit the content of a project, but not to change the project settings.

For more information on privileges, see the Appendix.

Table 5: Description of role types

Role Type	Description
Administrative privileges	These privileges are globally assigned to a user or group and cannot be changed on the instrument/location level. They are the typical administration privileges such as Backup and restore, Manage security, Manage printers, etc.
Instrument privileges	These privileges can be assigned globally or on the instrument/location level. Privileges for instruments are, for example, View instrument or location and Run instrument. Users need the View instrument or location privilege on the global level to see the locations and instruments tree in the Control Panel.
Project privileges	Privileges for accessing or modifying different levels of data. You can assign these privileges globally or on project or project group level.

Add users or groups to a role

- 1 From the navigation pane, click Administration > Roles .
- 2 In the Roles window, select the role you want to assign to users or groups.
- 3 In the ribbon, click Edit Role.
- 4 In the Edit Role dialog box, click the Members tab.
- 5 Click Add user or group.
- 6 In the Search Users and Groups dialog box, enter the name of a user or group, and click Search to view a list of all users and groups that meet the search criteria.
- 7 Under Search Results, select a user or group, and click Add.
- 8 Click OK.

Specific Roles for Individual Instruments or Projects

By default, the roles of users or groups are globally set for all locations, instruments, project groups, or projects. The role settings are inherited from the root node Instruments or Projects, respectively. In order to assign a different role to a user or group for one specific project:

1. Select the relevant project.
2. In the ribbon, click Edit Privileges.
3. In the Edit Privileges dialog, clear the Inherit privileges from parent check box.

Afterwards, you can assign a different role that will be valid only for the specific node.

You can assign Instrument roles to individual locations or instruments.

If you use projects, you can assign Project roles to individual project groups or projects.

Administrative roles are always set globally.

Configure the Storage Location


All project data is stored on the local file system. Each project has its own project folder, but all project folders are located in the Projects Root Path. The following procedure explains how to change Projects Root Path.

Preparations

- To be able to change the Projects Root Path, the directory must be empty. You have not yet created any projects.


NOTE

If you already created projects, move the data away temporarily, then delete the project. After you have set the correct path, create the projects again and move the data back.

- 1 Launch the Control Panel.
- 2 Navigate to Administration.
- 3 In the navigation pane, select System Configuration.
- 4 In the ribbon, click Edit System Settings .
- 5 Select the storage location File System from the drop-down list, then click Next.
- 6 Provide the new Projects Root Path.
- 7 Confirm your settings. When complete, the Control Panel will restart.

Enable File System Security

With File System Security, you prevent users from modifying OpenLab files outside OpenLab CDS. File System Security may have been enabled already during installation, but you can enable it at any time. File System Security is optional.

- 1 Launch the Control Panel.
- 2 Navigate to Administration.
- 3 In the navigation pane, select System Configuration.
- 4 In the ribbon, click Edit System Settings .
- 5 Select the storage location File System from the drop-down list, then click Next.
- 6 Select the Secure project folder check box, then click Next.
- 7 Confirm your settings.

Configure initial project

- 1 Launch the Control Panel and navigate to Projects.
- 2 Click Create in the ribbon to create a new project.

On the CDS Settings tab:

- Enter the locations for Methods, Sequences, Results, Sequence Templates and Report Templates.
- Consider the required audit trail settings for this project.

For more details, refer to the Control Panel section in OpenLab Help & Learning.

Configure initial instrument

- 1 Launch the Control Panel and navigate to Instruments.
- 2 Click Create in the ribbon to create a new instrument.
- 3 Select the new instrument, and click Configure Instrument in the ribbon.
- 4 It is recommended that you use Auto Configuration (if available) to configure your instruments: Click Auto Configuration, and provide the instrument's IP address or hostname.

For more details, refer to the Control Panel section in OpenLab Help & Learning.

Other settings in the Control Panel

Consider also other settings in the Control Panel, such as:

- Changing the instrument status reporting frequency
- Changing audit trail settings for a project
- Editing signature levels for a project

For more details, refer to the Control Panel section in OpenLab Help & Learning.



7 About the OpenLab CDS Software

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Software Architecture

The Agilent OpenLab CDS software

OpenLab CDS is a data system solution for analytical workflows that controls a wide variety of instruments including the industry-leading GC and GC/MS-SQ instruments, along with best-in-class LC and LC/MS-SQ. By combining chromatography and single-quad mass spectrometry into a single solution with centralized system administration, you can streamline your laboratory workflows and maximize productivity. A tailored and simplified user interface with a new state-of-the-art user experience, along with e-learning tools, helps you to get up to speed and productive as fast as possible.

The Agilent OpenLab CDS software is provided on read-only USB media that contains all required executable files and documents. This includes:

- Acquisition
- Data Analysis and Reporting
- Shared Services
- Custom Calculation Editor
- Help and Learning Platform
- User documentation
- Instrument driver software for Agilent LC, GC, LC/MS, GC/MS, or A/D
- Instrument driver software for virtual instruments (Data Player)
- Agilent Parts Finder
- Third party tools

On a standalone *Workstation*, all components are on a single PC. The results are stored in the local file system. A Workstation supports up to four instrument connections.



Figure 2: OpenLab CDS Workstation overview

Components on a Workstation

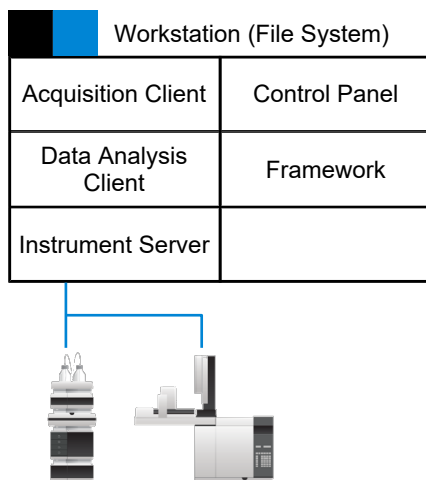


Figure 3: Components installed on a Workstation

Acquisition client	Acquire raw data with a configured instrument.
Data Analysis Client	Analyze acquired data.
Instrument Server	Control connections to all configured instruments.
Control Panel	User interface to access Shared Services control features.
Framework	Reusable OpenLab CDS services, components, and tools.

Installed components

The following Agilent components may be installed with your OpenLab CDS system. It depends on the type of installation (workstation, client, AIC, or server) which components are installed.

- OpenLab Backup and Restore Utility
Toolset for backup and restore operations in an OpenLab system.
- OpenLab CDS
The core application.

- OpenLab CDS instrument drivers
Agilent 35800 A/D, Data Player, GC, GC/MS, LC, LC/MS, and SS420x drivers.
- OpenLab CDS eMethod tool
Helps to import eMethods.
- OpenLab Certificate Service and Tool
Solution to secure network traffic in case commercial certificates are not available. Not used on a Workstation.
- OpenLab CopyTo Server, and CopyTo Client
Manage centralized printing.
- OpenLab Data Collection Service and Agent
Collects system and topology related information in distributed systems.
- OpenLab Data Repository
Storage infrastructure used by the system activity log and other software components and to store diagnostic and topology related information.
- OpenLab Reverse Proxy
Provides secure communication to OpenLab Components.
- Openlab SDMS and Secure Storage
Multiple individual components related to content management.
- OpenLab Storage Client Services
- OpenLab Shared Services
Set of services and tools that offer system configuration, security, application configuration, licensing, and notification capabilities.
- Software Verification Tool
Provides documentary evidence that your system has been built and installed correctly, and that all design specifications have been met.
- Test Services
Former QualA. Communicates with the Data Repository.

Secure Projects Folders

All project data such as methods, raw data, results, templates, or reports are stored in the local file system. Each project has its own folder. All project folders are located in one specific *Projects Root Folder* .

By default, the content of the Projects Root Folder is not protected against modification or deletion from outside of the OpenLab CDS application. Optionally, OpenLab CDS offers to activate this protection. To protect the Projects Root Folder, select Secure project folder during installation, or select Secure project folder in the system settings of a ready installed Workstation.

When the project folder is secured, normal windows file operations are restricted to only members of the AgtSfsGroup user group. For more information, see [Local Windows Group for Secure Projects Root Folder](#) on page 41.

Customization

OpenLab CDS can be customized to support various workflows and applications. Customizing capabilities are available via different approaches.

For more information on how to use the different tools, refer to OpenLab Help & Learning.

Customization via custom calculations

Data Analysis can be enriched by calculating additional values. The calculations are done with the Custom Calculation Editor and referenced by or embedded in a processing method.

These calculations can be quite complex. The calculation results are directly visible in Data Analysis, no report generation is needed.

Custom calculations are processed on result set level. They are only computed if all injections of the result set are processed together.

Customization via report templates

In a report template you can call calculation results from a method-specific custom calculation, or define additional, template-specific calculation expressions. The template-specific values are only visible in the report preview or the final report.

Reports are generated on either injection level, result set level, or across multiple result sets. Reports can be used for automated result evaluation on all the mentioned levels.

Example report templates for typical petrochemical or pharmaceutical applications are provided with the application and can be imported in Data Analysis (see *Import default templates* in OpenLab Help & Learning).

Customize application to start external programs

The customization capabilities allow to add ribbon groups and icons in the Data Selection and Data Processing views of OpenLab Data Analysis.

It is possible to start an external program via an icon and to hand over the project data path and the path of the current injection as parameters to the program.

The customization is based on a file CustomToolsConfiguration.xml at Drive:\ProgramData\AgilentTechnologies\OpenLab DataAnalysis\ that needs to be created by the user. An example CustomToolsConfiguration.xml file is included on the media at Setup\Tools\Support\UCL\Customization.

For more information, refer to OpenLab Help & Learning.

Export raw data and results

Data Analysis offers the possibility to execute post processing plug-ins as part of the processing method. These post processing plug-ins allow to export raw data or results as part of the processing routine of single runs as well as sequence runs, also in unattended mode. Scripts are available for the export in the following formats:

- OpenLab ChemStation Export (.D/.ch format)
- AIA Export (OpenLab CDS 2.x raw data and peak results as netCDF format (revision 3.4) according to AIA Chromatography Data Standard Specification V1.0)
- ASR Export (OpenLab CDS 2.x raw data as an ASR (Analytical Studio Reviewer) file format)
- OpenLab CDS 2.x raw data export (native .dx files for ACE)
- CSV export (OpenLab CDS 2.x raw data as comma separated values in .csv file format)

Other plug-ins such as the Allotrope Data Format (ADF) plug-in are available via SubscribeNet.



8 System Setup and Maintenance

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Control Panel

Using the Control Panel, you can access Shared Services control features such as security policy, central configuration, or lab status at a glance.

Accessing the functions may require specific privileges.

See OpenLab Help & Learning for more information on Control Panel functions.

Backup

A prerequisite to restore an OpenLab CDS Workstation is that you back up your OpenLab CDS Workstation regularly.

On an OpenLab CDS Workstation, all software and data items are located on one single PC. Agilent recommends using an imaging tool for backup and restore of this PC.

The following sections describe the backup and restore if you do *not* use an imaging tool. The procedures cover your project data and all Control Panel settings. They do not cover other products or databases, such as the GC Column Database.

NOTE

The backup only *reduces* the amount of data loss if a catastrophic system failure occurs. Performing backups guarantees that any data that was committed at the time of the backup can be restored. Data that was added or updated in the system after the backup was performed will not be recoverable by restoring a backup. It is imperative that you test the restore procedures to ensure that the backups are performed properly and can be used for a restore. To do an effective restore, you must create a disaster recovery plan. See [Create a disaster recovery plan](#) on page 82

NOTE

The Restore utility included in OpenLab CDS v2.8 (Agilent OpenLab Restore Utility v1.0) can only restore backups from OpenLab CDS v2.8. It does not support software upgrades from previous versions. To restore an OpenLab CDS 2.7 backup in a 2.7 environment, follow the procedures from the OpenLab CDS v2.7 manual. For information on upgrade, see [Upgrade to OpenLab CDS Version 2.8](#) on page 96.

Space required

The free space required for the backup procedure depends on different factors, including the system configuration, and amount of project data. Free space should be at least twice as much as is stored on-prem. This is needed to avoid overwriting a previous successful backup with a backup that finished in the middle for any reason.

Create a disaster recovery plan

Prepare a recovery plan for the unlikely case that OpenLab CDS becomes inoperable due to a hardware or software failure. This plan must include all information and procedures for completely restoring the operating system, and provide back-up locations for the software and data on a physically different machine. Ensure that the disaster recovery plan has been tested and confirmed to be working.

The disaster recovery plan must include the following:

- Hardware information: CPU, memory, and hard disk configuration information.
- Computer identity: Name, IP, domain, URI, etc.
- Computer administrator information: username and passwords

It is required that all usernames and passwords for the database on the target system (where you want to restore the backup) are the same as on the source system (where you have taken the backup).

- Software information: OS version, Patch level.
- Installation parameters:
 - Installation folder
 - Project data folder
 - Data Repository username and password
 - Installation log file
 - Installed licenses
- 3rd party software information: applications and their revisions and install paths.
- Backup procedures
- Backup media location and organization details.
- Restore procedures

Anti-virus scanning during backup

CAUTION

Anti-virus scanning during backup can prevent successful completion of the backup.

- 1 Make sure that the backup location is excluded for both regular/scheduled scans and real-time protection.
If the backup location cannot be excluded from real-time protection and real-time protection cannot be turned off, the final backup tasks might not finish successfully.
- 2 If you have an anti-virus scan running during backup, verify that the backup finished successfully:
 - After the backup completes, check that the backup location contains only "Current" (or "Current" and "Incremental") sub-folder(s).
 - Check that the log file corresponding to the backup time contains an entry stating "The backup has completed" at the end. Backup logs are placed in the
%ProgramData%\Agilent\LogFiles\Backup folder.
- 3 Modify the Retry policy:
By default, the Backup Utility tool tries 3 times to finalize the backup, with a time gap (delay) of 10 seconds in between.
To modify the backup finalization settings, change the `Delay` and `Retry` properties in the
<Backup> <BackupFinalizationSettings> section of the configuration.xml file located in the
%ProgramData%\Agilent\Installation folder. Only a user with System Administrator privileges can update this file. Acceptable values are more than 0 for Delay, and more than 1 for Retry.
A new value will be applied during a backup; for Backup now at the Processing page before the first step, for Backup by schedule when a backup is started.

Back up your data

- Preparations
- Before the backup, make sure that the Run Queue on all active instruments is in idle state (no active run items in the queue) and all Acquisition client application are closed. Use Close Connection in the Control Panel to close any acquisitions that may still be running.
 - If you installed OpenLab CDS using the Secure 'Projects Root Path' option, your Windows user needs to be a member of the AgtSfsGroup local group (see [Local Windows Group for Secure Projects Root Folder](#) on page 41).

- 1 Navigate to the projects root folder (on a default installation: C:\CDSProjects).
- 2 Copy the entire folder to your backup location.

Back up Control Panel settings

Use the Backup utility provided by OpenLab CDS to backup all Control Panel settings. These settings include:

- Instruments
- Projects
- If enabled: users, roles, and privileges
- All administrative settings

Preparations

- System administrator privileges are required to run and execute the Backup utility.
- If you enabled authentication: You need an OpenLab CDS account with the role Everything.

- 1 Start Backup utility from Start > (All apps >) Agilent Technologies > Backup Utility.

The Status page displays the date and time of the latest successful backup. Click the link to go to the backup location.

The Last successful backup shows the date/time when the latest successful backup (by scheduler or backup now type) was made, and its location. It will contain information right after the first successful backup.

- 2 On the Backup option page, select one of the following options:
 - Set backup schedule
Use this option as part of an automatic backup procedure.
 - Backup now
Backup will start immediately. There is no impact on a scheduled backup. This option can be helpful for checking the correctness of the backup settings, and for creating initial or interim backups for systems with only little configuration changes.
- 3 On the Configure page, configure your backup settings.

- If you selected the Set backup schedule option in the previous step: Select Enable backup schedule to configure the schedule. Clear Enable backup schedule to disable the schedule ².
 - If you selected the Backup now option in the previous step: Select if you want your system to be available during backup. Select Yes for hot backup, or No for cold backup.
 - Hot backup: System remains operational during backup.
 - Cold backup: The Backup utility will automatically stop all OpenLab CDS processes before the backup.
- 4 On the Backup location page, provide a path to the local file system. Network drives and UNC paths are not supported.

The backup can be configured to a folder without permission for the current Windows user. The backup is always executed by the built-in Windows user SYSTEM to allow a successful backup. In the case of scheduled backup, the backup will be executed, but the current Windows user will not be able to view the results without the appropriate privileges.
 - 5 If you enabled authentication: On the Shared Services Credentials page, provide an OpenLab CDS administrator's username and password. Click Validate to confirm that the credentials are valid.

Credentials used for a previous backup are preloaded. When no backup has been executed yet, the default administrator's credentials are preloaded.
 - 6 If you scheduled a backup: On the Notifications page, enable and set up backup notifications ². If you selected to backup now, this is skipped.
 - 7 On the Review page: Review your settings. Click Apply to start the backup or save the backup schedule.
 - 8 Progress is tracked on the Processing page.
 - 9 When backup is complete, click Done.

Result of the backup

Backup folders are created in the specified location when you run the Backup utility. A backup log is created in the same location.

² For details on backup schedules, incremental backups, and notifications, refer to the Backup section in *OpenLab CDS Workstation Plus Installation and Configuration (CDS_v2.8_WorkstationPlusGuide_en.pdf, D0028021)*.

Name	Date modified	Type	Size
CertificateService	10/17/2023 5:21 PM	File folder	
Installation	10/17/2023 5:21 PM	File folder	
PostgreSQLDataDir	10/17/2023 5:21 PM	File folder	
ReverseProxy	10/17/2023 5:21 PM	File folder	
Verification	10/17/2023 5:21 PM	File folder	
backup	10/17/2023 5:21 PM	XML Document	4 KB
Backup_log_10-17-2023(17_21_28.3150967)	10/17/2023 5:21 PM	Text Document	36 KB

If a backup failed during the execution of the final backup tasks, a partial backup may be saved in a Temp folder in your backup location.

Name	Date modified	Type	Size
Current	10/6/2023 7:22 AM	File folder	
Temp	10/6/2023 7:22 AM	File folder	

The backup can still be considered successful if the Temp folder contains backup.xml file. In this case, you may rename the Temp folder to Current.

Backup verification

The backup verification step verifies the backed-up Control Panel settings after the completion of the backup procedure. This step generates a report in both xml and html format. The reports are located in the Verification sub folder.

The verification step checks that main entities are backed up properly. Any entity modified after the backup start time will not be included in the report.

Backup logs

The Backup Utility collects logs in the %ProgramData%\Agilent\LogFiles\Backup folder. During the backup procedure, all steps are checked, and the procedure will stop on the first failed step. A link with the failed step opens the current backup log file to help identify the issue. In case of a failed backup, the partial backup is stored in a Temp folder in the backup location.

Restore

Restore your data

Preparations

- If you installed OpenLab CDS using the Secure 'Projects Root Path' option, your Windows user needs to be a member of the AgtSfsGroup local group (see [Local Windows Group for Secure Projects Root Folder](#) on page 41).
- 1 Copy the contents of previously preserved project folder to the location used at the moment of backup.
- 2 To restore a system with secured project folder:
 - a Open an Administrative command prompt (type cmd into the Windows Start Menu search, right click cmd.exe, then select Run as administrator).
 - b Execute the following commands:

```
cd C:\Program Files (x86)\Agilent Technologies\OpenLab Services\Server
SecureFolder.exe /group C:\CDSProjects
```

NOTE

In case of a non-default installation, replace *C:\Program Files (x86)\Agilent Technologies* and *C:\CDSProjects* with the OpenLab CDS installation path and project folder selected during installation.

NOTE

Incorrect usage of the SecureFolder.exe utility (specifying folder other than the Project Root) can harm other applications or even your operating system, and potentially prevent it from starting up.

Restore Control Panel Settings

Use the Restore utility to restore Control Panel settings to a system with OpenLab CDS Workstation installed.

Preparations

- You must have system administrator privileges to run and execute the Restore utility.
- To access the folder with the backup, the application must be launched by a user with reading rights in this folder.
- If you enabled authentication, you need an OpenLab CDS account with the role Everything.

- 1 Stop all OpenLab CDS Workstation operations before performing the restore process. Make sure that no instruments or other parts use the system during the restore process.
- 2 From the Windows Start menu, select (All apps >) Agilent Technologies > Restore Utility .
- 3 On the Restore configuration page, choose your backup location and restore mode.

Select File system as the backup location if the backup is located locally or on Windows share. Select the backup folder that was used by the Backup Utility.

Choose an appropriate restore mode.

- Select Restore only to skip verification
- Restore and partial verification is selected by default. This option requires a manual step afterwards to rebuild the Activity Log Index .
- Select Restore and full verification to automatically rebuild the Activity Log Index. Note that the time required to rebuild the Activity Log Index depends on the amount of Activity Log records. It may take up to a few hours.
- Select Verify only if you have already restored the system before.

Click Next.

- 4 If you selected a mode that includes verification, and enabled domain authentication on your system: Provide a OpenLab CDS administrator's username and password on the Shared Services Credentials page. The preloaded credentials are the ones used for the last backup.

Click Validate to confirm that the credentials are valid.

- 5 On the Review page, review the settings and click Apply.
The restore procedure progress is tracked on the Processing page.
- 6 If a verification step was included, click the verification status Done to open the verification report.
- 7 When the restore procedure is complete, click Done in the Restore utility.
- 8 Reboot the restored OpenLab CDS Workstation system.
Select Yes to reboot the system immediately. Select No if you want to postpone the reboot and perform it manually
- 9 If you selected Restore only or Restore and partial verification: Rebuild the Activity Log index (see [Rebuild the Activity Log index manually](#) on page 90).

Possible errors

The Agilent OpenLab Shared Services service is not started. More help is available by typing NET HELPMSG 3521.

Probable cause	Suggested actions
The Agilent OpenLab SharedServices service is already stopped.	<ul style="list-style-type: none"> • Use the following command instead: del /s /f /q %ProgramData%\Agilent\OLSS\Index\ActivityLog && net start SharedServicesHost

System error 5 has occurred. Access is denied.

Probable cause	Suggested actions
The Command Prompt has insufficient privileges.	<ul style="list-style-type: none"> • Make sure the Command Prompt has been started as an Administrator.

Restore verification

Verification is available only for systems on which the OpenLab software has already been installed.

Verification reports are saved at
%ProgramData%\Agilent\Restore\Verification.

The Restore Utility collects logs at
%ProgramData%\Agilent\LogFiles\Restore.

During the restore procedure, validations on each page prevent possible errors, such as access errors, or incorrect formats. The procedure will stop on the first failed step. A link with the failed step opens the current restore log file to help identify the issues.

The restore verification includes counting the following restored item:

- Projects
- Instruments
- If enabled: users
- Activity log entries

The verification process compares the numbers of backed up items with the numbers of restored items. A restore verification is shown as Failed if the numbers differ from the ones in the backup verification.

Restore logs

The Restore utility collects logs in the
%ProgramData%\Agilent\LogFiles\Restore folder. During the restore procedure, all steps are checked and the whole restore procedure stops on the first failed step. A link with the failed step opens the current restore log file to help identify the root cause of the problem. There are validations on each page during restore configuration to prevent possible errors with no access to backup data and incorrect format.

Rebuild the Activity Log index manually

After a restore, searching the Activity log requires a fully rebuilt index.

Use the manual rebuild procedure in case you restored your system without verification, or with partial verification. The Activity Log Index must be rebuilt before you verify restored Activity Log records.

The time required to rebuild the index depends on the amount of Activity Log records. It may take up to a few hours. During this time, you cannot search the Activity Log in the application.

To rebuild the Activity Log:

- 1 Start the command prompt as an administrator.
- 2 Navigate to Drive:\Program Files (x86)\Agilent Technologies\OpenLab\Services\Activity Log Service.
- 3 Execute the file Agilent.OpenLab.ActivityLog.Tools.Albit.exe with the following parameters:

<code>rebuild-index</code>	Ask for confirmation before deleting the old index. Then build a new one.
<code>--force</code>	Optional: Do not ask for confirmation.
<code>--continue</code>	Optional: Continue rebuilding from where the last execution left off, without deleting the old index first. This option prevents the need to start the whole process again after a timeout.

Restore on a clean machine without OpenLab CDS Workstation installed

Use this procedure to restore a backed up OpenLab CDS Workstation to a machine that does not have OpenLab CDS Workstation installed.

- 1 Restore your data. See [Restore your data](#) on page 87.
- 2 Restore your Control Panel settings. See [Restore Control Panel Settings](#) on page 88.

NOTE

When restoring to a machine where OpenLab CDS Workstation is not installed, verification is not available.

- 3 After a successful restore procedure, proceed with standard installation of OpenLab CDS. All values reviewed and configured during the restore procedure will be automatically used during the installation and should not be changed during the process.
- 4 After the OpenLab CDS Workstation software is installed, run Restore Utility with the option Verify only to get a verification report.

Activate a new computer name

Only carry out the following steps if your new machine has a computer name different from that of the backed up system.

- 1 Ensure that the old computer name temporarily responds until you finish this procedure.

This can be done, for example, by temporarily changing the hosts file:

- a Run Notepad as an administrator.
- b Open C:\Windows\System32\drivers\etc\hosts (Show file types: All files).
- c Enter a new line at the end: 127.0.0.1 <old PC name>
- d Save the file. You may keep the file open while you do carry out the next steps.

- 2 Update instruments.

- a In the Control Panel, open the Instruments tab.
- b Select your instrument, then click Edit instrument.
- c Under Instrument controller, select the new computer name. Click OK to save.
- d Repeat this for all instruments.

- 3 After you updated all instruments, remove old computer name from instrument controllers.

- a In the Control Panel, open the Administration tab.
- b Select Instrument Controllers.
- c Select the old computer name, then click Delete Instrument Controller.

- 4 If you changed the hosts file, undo your changes.

Shared Services Maintenance

The Shared Services Maintenance tool is automatically installed with your OpenLab software to help administrators manage the system.

To open the utility, select Start > (All apps >) Agilent Technologies > Shared Services Maintenance . A user must have Windows administrator rights to access this utility.

Server Settings tab Use the Server Settings tab to manage server connections. In a workstation configuration, there is typically only the connection to the local machine.

Windows Domain tab Access this tab if you use windows domain authentication to identify your OpenLab users.

In the Windows Domain tab, you specify or change the credentials that OpenLab CDS will use to access your windows domain server.

For client/server systems: This feature can only access credentials that are stored on the computer where you launched the Shared Services Maintenance tool. To specify or change the Domain, User name, or Password for the windows account that will be used to access your windows domain server, use the Shared Services Maintenance tool that is installed on the server.

IaaS Settings The settings on this tab do not apply to a Workstation.

Troubleshooting

OpenLab CDS PC is slow

It takes a long time to start a new Data Analysis or Acquisition client. Many CDS instances are running on the PC.

Probable cause	Suggested actions
The PC is running low on available memory, Microsoft Windows starts to swap out memory to the hard drive (memory paging).	<ul style="list-style-type: none">• Close unnecessary applications to free up memory. Close OpenLab clients that are no longer required, and consider closing other applications that run on the same machine.• Consider using SSD hard drive instead of HDD (spinning drives). Any memory swapping process will become significantly faster.• If the problem persists: Consider adding memory.

Opening the first instance of a software is slow

Opening the first instance of a software application appears slower than subsequent use. This delay may also appear for applications that are infrequently used (for example, when loading OpenLab CDS Data Analysis from Sample Scheduler, Data Analysis may seem slow(er))³.

³ After a certain period of inactivity, the cache is emptied, so infrequent use can be equivalent to first-time use.

Probable cause	Suggested actions
<p>Loading application DLL's the first time takes longer than subsequent loading of the same application due to memory caching for subsequent uses of the same application. The initial time is dependent on reading the DLL from media, whereas subsequent use of the DLL is from memory. This may cause an application to have a different startup time for first (or infrequent) use compared to subsequent use. ³</p>	<ul style="list-style-type: none">• Consider using SSD hard drive instead of HDD (spinning drives). Read times from SSD is significantly faster than HDD and in many cases this Initial Application launch time (DLL read) is eliminated.



9 Upgrade to OpenLab CDS Version 2.8

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License Upgrade

Get upgraded license file

You will need to upgrade your licenses in SubscribeNet prior to upgrading to the next version of OpenLab CDS. We strongly recommend upgrading your workstation licenses *before* upgrading the core software. Standalone workstations which are upgraded to the new core software version, without a new workstation license, will not work until the new workstation licenses are added to the Control Panel.

If you are under SMA subscription, proceed as follows to upgrade your licenses:

- 1 During the following process, you will be prompted in SubscribeNet for the host name or MAC address of the workstation where OpenLab CDS is already installed.

To retrieve this hostname and MAC address, open the Control Panel and browse to the Administration > Licenses section. Note down the host name and use the Copy MAC Address or Save MAC Address function to obtain the MAC address.
- 2 Log into the Agilent Electronic Software and License Delivery (<https://agilent.subscribenet.com/>).
- 3 Navigate to Manage Licenses by Host. In the Host ID field, enter the previously noted MAC address, and click Search.

Software	Electronic Software and License Delivery
Product List	Manage Licenses by Host
Product Search	Manage Licenses by Host provides a convenient way to upgrade or return all licenses for a license server. For nodelocked license Hosts, licenses can only be returned as upgrades do not apply.
Entitlements	Please select a host by entering the Host ID or Host Name in its search field, or select a host from the pull-down list. You can use * as a wildcard value.
Licenses	
Register Authorization Code	Host ID <input type="text" value=""/>
Generate or View Licenses	Host Name <input type="text" value=""/> What is my Host ID?
View Licenses by Host	<input type="button" value="Search"/>
Manage Licenses by Host	
Administration	
Account Members	
Change Password	

If the relevant host name does not appear, you may be managing your licenses in multiple SubscribeNet accounts. You will need to log into those accounts to upgrade those licenses.

- 4 If your license(s) are eligible for an upgrade, you will see the Upgrade All button. Otherwise you will need to contact your Agilent Sales Representative to renew your Software Maintenance Agreement (see [Sales and Support Assistance](#) on page 120). To proceed with generating your upgrade license, click the button.

- 5 On the Upgrade All Licenses for License Host page, review the data, and confirm by clicking Upgrade All.

This upgrades the license file to the most current version. SubscribeNet will send you an email with a new license file.



- 6 Put the new license file on your system (see [Add upgraded license file to the system](#) on page 99).

If you have multiple standalone Workstations, repeat this step for each individual workstation.

Note that each workstation's MAC address is the file name. This helps identify the correct license file to import into the workstation's Control Panel.

Add upgraded license file to the system

If you have purchased new options, such as additional instrument controls or client license and regenerated your license in SubscribeNet, the upgraded license file must be re-applied to the system.

- 1 Start the Control Panel from any machine connected to the system you want to install the license for.
- 2 Navigate to Administration > Licenses .
- 3 Select a license, then click Remove License  .
- 4 In the ribbon, click Add License  .
- 5 Browse to and open the license file saved from the license generation process in SubscribeNet.

NOTE

A full restart is required in order for any license to have an immediate effect.

Upgrade OpenLab CDS Workstation to Latest Version

NOTE

This chapter is not applicable if you are migrating from OpenLab ChemStation or OpenLab EZChrom.

Confirm that the current version can be directly upgraded to OpenLab CDS revision 2.8; direct upgrades are supported from revision 2.5 and higher

Versions older than OpenLab CDS v2.5 require an intermediate step to a version supporting a direct upgrade.

Obtain the latest version of all installed add-ons and instrument drivers.

Back up the complete system before starting the upgrade.

Verify there is enough disk space on the system drive to complete the upgrade, or the installer may fail during caching or later during the upgrade.

- 1 Uninstall add-on software such as ADFExport or 2D-LC. Do not manually uninstall Sample Scheduler for OpenLab.

NOTE

Older revisions of add-on software may not be supported with OpenLab CDS v2.8. Running incompatible add-ons, or uninstalling them after the upgrade, may cause the Data Analysis application to fail.

Please check the documentation of each add-on for information on compatibility.

- 2 Run the setup.exe file from the installation media as a user with administrative rights.
- 3 Select OpenLab CDS.
- 4 In the OpenLab CDS Installer, select the Installation screen.
- 5 Select Workstation with File System.
- 6 In the Upgrade Preparation screen, confirm that you have backed up your system. Click Next.
- 7 In the License Agreement screen, read and confirm Agilent terms and conditions. Click Next.

- 8 In the Server Information screen, click Connect. If your previous installation required user authentication, provide the Control Panel login credentials of an administrator. Click Next.
- 9 Database Credentials: Provide the superuser password for PostgreSQL which is used to host the Shared Services and Data Repository databases (user *postgres*).

NOTE

Make sure to document the password at a secure location.

Click Next to proceed.

- 10 Component Credentials: Provide a password to be used by software components. You may be asked to provide a new password if existing password does not meet the requirements.

Passwords must adhere to the following general guidelines:

- Minimum 8 characters
- At least one uppercase letter
- At least one lowercase letter
- At least one number
- Only contains allowed characters

Overall Allowed Characters:

- Uppercase letters A-Z
- Lowercase letters a-z
- Numbers 0-9
- Special characters: !@#\$\$%^&+ _=

NOTE

Make sure to document your password at a secure location.

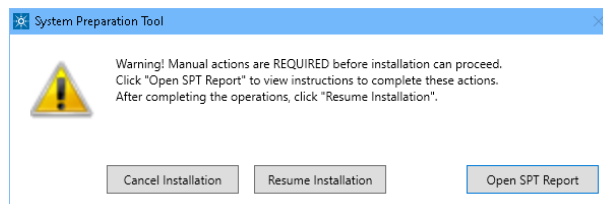
Click Next to proceed.

- 11 In the System Preparation screen, the upgrade wizard shows the list of recommended settings for the system. You may clear the check boxes for items that you do not want to apply on the system. Mandatory settings will be applied automatically during the upgrade. For an overview of both mandatory and recommended settings, refer to the chapter *System Preparation Tool* in *OpenLab CDS Requirements and Supported Instruments (CDS_v2.8_Requirements_en.pdf, D0028027)*.

Click Next to proceed to the Review page. The settings will be applied as part of the installation.

12 In the Review screen, click Upgrade to start the upgrade.

13 The following warning is displayed when user actions are required in the operating system:



Options to proceed

- *Recommended:* Click Open SPT Report, and review the Required Actions section for the instructions to verify if updates are needed. After completing the operations, click Resume Installation.
- **Cancel Installation:** Installation is aborted. Make necessary updates and restart installation.
- **Resume Installation:** The dialog is closed, and installation continues with the installation of the CDS components even if a setting was not applied. If needed, the settings can be updated after the installation has been completed.

14 On the Upgrade tab, click Next after all components are installed.

15 On the Finish page, click Run Software Verification.

16 On the Finish page:

- a Keep the Reboot check box selected
- b Confirm that, to complete the upgrade, you will run the OpenLab Database Import/Transfer Service tool after reboot.
- c Click Finish.

Manual steps required after the wizard finished

1 Transfer your v2.5, v2.6, or v2.7 data to v2.8.

To help you transfer your data, the OpenLab Database Import/Transfer Service tool is automatically installed when upgrading to OpenLab CDS v2.8.

The time required to transfer the data depends on the amount of records.

- a After reboot, navigate to the OpenLab Database Import/Transfer Service tool in the Start menu. Right-click the tool, and select Run as administrator. The tool automatically runs all required health checks.
 - b When they succeeded, click Start.
 - c When the data transfer is complete, click View Reports to view a confirmation report.
 - d Click Acknowledge to mark the transfer as complete. If you do not click Acknowledge, the OpenLab Database Import/Transfer Servicetool will continue to appear when Windows reboots.
- 2 Install compatible revisions of your add-ons.
 - 3 Upgrade instrument drivers to the latest revisions.
For more information on driver upgrades, see [Install or upgrade add-on driver software](#) on page 28.
 - 4 If you use a GC/MS instrument: Upgrade the GC/MS firmware to the latest revision. The upgrade is required for the GC/MS software to work properly with OpenLab CDS 2.8.

The supported GC/MS firmware is available after installation of OpenLab CDS in Program Files (x86)\Agilent Technologies\OpenLab Acquisition\GCMS\Firmware. Open the appropriate MS folder (5977 or 5975) and run msupdate.exe to upgrade the MS firmware.

For more information on driver upgrades, see [Install or upgrade add-on driver software](#) on page 28.

It is recommended that you reconfigure the instrument in the Control Panel.
 - 5 Check if you need to adjust privileges or signature levels (see [New or Upgraded Items](#) on page 104).
 - 6 Back up the complete system after finishing the upgrade. See [Backup](#) on page 81.

NOTE

The last backup before the upgrade is no longer usable, since it is not compatible with the upgraded system.

New or Upgraded Items

Privileges and roles

On upgrade from a previous version, new privileges and roles may be created (see Appendix for details on roles and permissions).

For example:

- Starting with Shared Services version 3.6 / OpenLab CDS 2.7, the privilege View activity log has been added. This privilege is now required to view activity logs and audit trails. This privilege is by default assigned to the new role Activity Log Access. During the upgrade, this new role is automatically assigned to all existing users and groups.

The View activity log privilege is also automatically added to the System Administrator default role.

- In previous revisions, importing raw data was included in the Import data privilege for the role Chemist. Starting with Shared Services version 3.7 / OpenLab CDS 2.8, the privilege Import raw data has been added. This privilege is now required to import raw ChemStation or EZChrom data. The new privilege is not added automatically to any role. If you still want the role Chemist to allow importing raw data, you must add the new privilege manually.

Signature levels

Starting with OpenLab CDS 2.8, signature levels for electronic signatures can include or exclude authors of a result set. For details on adding authors to a signature step, see OpenLab Help and Learning.



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Uninstall OpenLab CDS

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Uninstall OpenLab CDS

- 1 Log in as an administrator.
- 2 In the Windows Settings, open Apps > Apps and features .
- 3 Uninstall OpenLab CDS add-ons that you installed separately (for example, ADFExport for OpenLab).
- 4 Select Agilent OpenLab CDS, and confirm uninstallation.
The OpenLab CDS Uninstallation Wizard opens ⁴ . In the wizard, click Uninstall, and follow the wizard.
- 5 In the Windows Settings under Apps > Apps and features , select Agilent Software Verification Tool and confirm uninstallation.
- 6 Drivers installed by OpenLab CDS are uninstalled automatically. If you installed other drivers, they are still listed under Apps and features. Uninstall them manually.
- 7 Reboot.

NOTE

The OpenLab CDS uninstallation wizard does not remove user data. This allows you to reinstall OpenLab CDS and continue using the data.

⁴ The Uninstallation wizard can also be started from the Installation Wizard used to install the software.

Uninstall OpenLab Help and Learning Only

If you installed OpenLab Help and Learning only, follow this procedure to uninstall it.

- 1 From the installation media, right-click the setup.exe file, and run it as administrator.
- 2 On the start screen, select OpenLab CDS , and click OK.
- 3 On the Installation page, select OpenLab Help and Learning Only.
The Agilent OpenLab CDS Help and Learning wizard opens.
- 4 Click Remove.
The wizard removes OpenLab Help and Learning from your system.
- 5 After completion of the uninstallation, click Finish to close the wizard.

Troubleshooting Tips

Required disk space

For upgrading an OpenLab CDS application to revision 2.8, a minimum of 10 GB of free disk in the system drive is required, as all installed packages will be copied to Drive:\ProgramData\Package Cache. If you copy the content of the USB to your computer, you will need additional 10 GB of free disk space.

Failure due to low disk space

If there is insufficient free disk space, the installation fails midway, and the logs indicate failure due to low disk space.

How to recover

If there is not enough space for installation, proceed as follows:

1. Uninstall the OpenLab CDS application, and delete the content of %ProgramData%\Package Cache.
2. Run the installation of OpenLab CDS 2.8 again



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Appendix

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Privileges in the Control Panel

Privileges in OpenLab Shared Services

The privileges described in the following can be associated with different roles in the Control Panel. The following roles are available:

- Activity Log Access
- Chemist
- Everything
- Instrument Administrator
- Instrument User
- Project Administrator
- Project Content Deletion
- System Administrator
- Technician

In the Control Panel under Administration > Roles , you can view or change the associated privileges, or create your own roles.

Project Privileges

Table 6: Acquisition Method

Name	Description
Create and modify acquisition method	Create, edit and save an acquisition method file (*.amx)
Use generic acquisition methods	Use acquisition methods that have the status Generic.

Appendix

Privileges in the Control Panel

Table 7: Audit Trail

Name	Description
Change method audit trail settings	Edit and save method audit trail settings (project properties in the Control Panel).
Review audit trail	Confirm that you reviewed a changed audit trail.
Add manual audit trail entry	Add a manual entry to document your own actions in the audit trail.

Table 8: Control

Name	Description
Abort any running sample	Abort any running sequence or single run.
Manual control (in run)	Access manual control functions while the instrument is running.
Manual control (only when instrument idle)	Access manual control functions while the instrument is idle.
MS autotune and manual tuning	Access all MS tune and maintenance functionality, including manual tune, autotune, and check tune.
MS autotune	Perform MS autotune and check tune.
Cancel any pending run	Cancel pending runs in the run queue submitted by any user.
Cancel my pending run	Cancel own pending runs in the run queue.
Reorder pending runs	Reorder pending run queue items in the run queue. Moving items around in the run queue.
Run priority sample	Submit <i>Priority</i> single samples.
Run single sample	Submit regular single samples.
Modify Instrument configuration in CDS Client	Change instrument configuration directly from a running Acquisition client . Note: This privilege is not yet used by all instrument drivers.
Request access	Request access to a sequence, run queue, or instrument that is currently locked by another user.

Appendix

Privileges in the Control Panel

Name	Description
Enable Ad Hoc mode	Enable and disable Ad Hoc mode for an instrument
Override Ad Hoc mode	Disable Ad Hoc mode that was enabled by any other user

Table 9: Custom Tools

Name	Description
Access Custom Tools section	Start external programs that were added to the application via the customization tool

Table 10: Data

Name	Description
Export data	Export data into an OpenLab archive (*.olax).
Import data	Import data from OpenLab archives (*.olax) into the OpenLab system.
Import raw data	Import raw data from ChemStation or EZChrom, or from the AIA data format.
Save reports to disk	Save or export a report to a location on a disk or network share.
Edit sample information	Edit information in the Injection List window.

Table 11: Data Processing

Name	Description
Create new result set	Combine single samples or sequences from different sources in a new, self-assembled result set.
Disable/enable calibration points	Disable or enable individual points of a calibration curve.
Do manual compound identification	Manually assign a compound to a peak.
Do manual chromatogram extraction	Manually extract MS (TIC-SIM/TIC-SCAN) chromatograms from your data.

Appendix

Privileges in the Control Panel

Name	Description
Do manual integration	Activate manual integration in the Chromatograms window.
Do manual MS library search	Manually search for matches in an MS library.
Do manual MS Spectral Deconvolution	Manually run MS spectral deconvolution, remove MS spectral deconvolution results.
Do manual spectrum extraction	Manually extract UV or MS spectra from your data.
Integration Optimizer: Display peak results	Show the retention time, area, and area % for each integrated peak in the Integration Optimizer.
Launch Custom Calculation Editor	Start the Custom Calculation Editor from Data Analysis.
Update master processing method	Save changes from a result set method to the corresponding master processing method in the Methods folder.
Use Integration Optimizer	Edit parameters for the integration optimizer, step through the wizard, and use functions offered by the wizard.
Reprocess data	Reprocess injections or result sets.
Print results reports	Create reports for your methods or results.

Table 12: E-Signature

Name	Description
E-Signature Sign Data Files	Sign data files
Revoke E-Signature	Revoke the e-signature.
Change method status	Change the status (Generic, Approved, Obsoleted) of sample prep methods, acquisition methods and processing methods. This is only applicable to systems with content management.

Appendix

Privileges in the Control Panel

Table 13: File and Folder Operations

Name	Description
Delete report templates	Delete report templates (*.rdl) in the Data Selection view of Data Analysis (requires also the Project Management > Delete content of project privilege).
Delete sequence templates	Delete sequence templates (*.stx) files in the Data Selection view of Data Analysis (requires also the Project Management > Delete content of project privilege).
Delete methods	Delete processing methods (*.pmx) or acquisition methods (*.amx) in the Data Selection view of Data Analysis (requires also the Project Management > Delete content of project privilege).

Table 14: Lock

Name	Description
Lock Results	Lock a result set to protect it from being changed.
Unlock Results	Unlock a locked result set.

Table 15: Processing Method

Name	Description
Create processing method	Create a new processing method (*.pmx), or save a method under a new name.
Save master method	Save changes to a processing method in the Methods folder.
Save result set method	Save changes to a processing method in the result set folder.
Edit integration parameters	View and edit the parameters in the Integration Events section of a method.
Edit identification parameters	View and edit the parameters in the Compounds > Identification section of a method.
Edit chromatogram extraction parameters	View and edit the parameters in the Extraction > Chromatogram section of a method.

Appendix

Privileges in the Control Panel

Name	Description
Edit spectrum extraction parameters	View and edit the parameters in the Extraction > Spectrum section of a method.
Edit MS library search parameters	View and edit the parameters in the Spectral Analysis > MS Library Search section of a method.
Edit MS Spectral Deconvolution parameters	View and edit the parameters in the Spectral Analysis > MS Spectral Deconvolution section of a method.
Edit calibration parameters	View and edit the parameters in the Compounds > Calibration section of method.
Edit spectra parameters	View and edit the parameters in the Compounds > Spectra section of method.
Edit system suitability parameters	View and edit the parameters in the Compounds > System Suitability section of method.
Edit custom calculation parameters	View and edit the parameters in the Tools > Custom Calculation section of a method.
Edit signal parameters	View and edit the parameters in the General > Signals section of a method.
Edit sample purity parameters	View and edit the parameters in the MS Sample Purity section of a method.
Edit reporting parameters	View and edit the parameters in the Reports > Injection Report section of a method.
Edit general parameters	View and edit the parameters in the General > Properties section of a method.
Load older master method	Only with content management: Load an older version of a master method.
Edit Post Processing Plugins parameters	View and edit the parameters in the Post Processing Plugins section of a method.
Use generic processing methods	Use processing methods that have the status Generic.

Appendix

Privileges in the Control Panel

Table 16: Project Management

Name	Description
Manage project or project group	Create, move, edit, and delete projects and project groups; edit project properties; cannot edit privileges for projects or project groups.
Manage project or project group access	View and edit the project access settings.
View project or project group	View a project and project details but cannot edit. <i>Note:</i> This privilege is required for all users.
Edit content of project	Create new versions of documents (e.g. data, methods, or templates). Delete methods or templates.
Delete content of project	Required to delete templates and methods in the Data Selection view of Data Analysis. If using OpenLab CDS with content management: Required to move and delete project files or folders (e.g. data, methods, or templates) via the Content Browser web interface. <i>Note:</i> To move or delete files and folders in the Content Browser that are <i>outside</i> of a project, this privilege is not sufficient; the administrative privilege Manage security must be granted!

Table 17: Report Template

Privilege	Description
Unlock/lock report template items	Lock and unlock report template items (tables, chromatograms, groups of items, ...) to control who is allowed to modify those.
Validate report template	Confirm usage of report templates that have been modified outside OpenLab CDS.
Create report template	Create and edit report templates in the Reporting view.

Appendix

Privileges in the Control Panel

Table 18: Sample Prep

Name	Description
Create and modify sample prep	View, edit, and save an autosampler sample prep file
Use generic sample prep methods	Use sample prep methods that have the status Generic.

Table 19: Sequence

Name	Description
Edit any users running sequence	Edit any user's running sequence (with status Acquiring in the Run Queue).
Create and modify sequence	Create, edit and save sequences (*.sqx)
Edit users own running sequences	Edit your own running sequences (with status Acquiring in the Run Queue).
Edit method override parameters	Override parameters in a predefined acquisition method.

Table 20: Sequence Template

Name	Description
Create and modify sequence template	Create, edit and save sequence creation templates (*.stx).

Table 21: Snapshot

Name	Description
Review snapshot results	From Acquisition, open a currently running sample in Data Analysis.

Instrument privileges

Table 22: Instrument Management

Name	Description
View instrument or location	User can view and access a location in the tree, but not edit access security, can view properties.
Manage Instrument or location	User can create and move locations and edit properties (name, description, etc).
Manage instrument or location access	User can view and edit the location access settings.
Run instrument	User can start an instrument session.
Service instrument	User can lock or unlock an instrument (to service it).

Administrative privileges

Table 23: Activity Log Access

Name	Description
View activity log	Access to the System Activity Log (recording of log entries is not impacted)

Table 24: System Administration

Name	Description
Manage printers	Can add/remove printers and print server.
Edit activity log properties	Can change the activity log settings in the Control Panel (that is, can turn logging on for the System Activity log). With OpenLab CDS Workstation, the Activity Log is enabled by default during installation.
Create administrative reports	Can create any of the system admin reports.
Manage system components	Can install/remove components (applications).

Appendix

Privileges in the Control Panel

Name	Description
Manage security	<p>Can change security settings and assign security roles.</p> <p>Can add, change, or remove users, groups and roles.</p> <p>In the Content Browser web interface: Can move and delete files and folders outside of a project.</p> <p><i>Note:</i> A user with this privilege can grant himself access to all settings in Shared Services. Be careful who you grant the Manage Security privilege.</p>
Manage instrument controllers	<p>Can view instrument controllers in the Control Panel and administrate them.</p>
Unlock any locked UI	<p>Can log in to another user's locked session.</p>

Sales and Support Assistance

Local Contact

Please check the following web site for your local sales and support contact:

<https://www.agilent.com/en/support>

Agilent Community

To get answers to your questions, join over 10,000 users in the Agilent Community. Review curated support materials organized by platform technology. Ask questions to industry colleagues and collaborators. Get notifications on new videos, documents, tools, and webinars relevant to your work.

<https://community.agilent.com/>

In This Book

This document provides instructions for installation, configuration, administration, and maintenance of an OpenLab CDS Workstation. It includes information on the license generation with SubscribeNet and operating system configuration.

The manual describes the following:

- Install OpenLab CDS Workstation with Local File System
- Generating and Downloading Your Software License
- Configure OpenLab CDS Workstation
- Optional Procedures
- Customization
- About the OpenLab CDS software
- System Setup and Maintenance

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