



OpenLab ChemStation

Networked Workstation and Distributed System Installation

Notices

Document Information

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Software Revision

This guide is valid for revision LTS 01.11 of Agilent OpenLab ChemStation.

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A **WARNING** notice denotes a hazard. It calls attention to an operating procedure, practice, or the like that, if not correctly performed or adhered to, could result in personal injury or death. Do not proceed beyond a **WARNING** notice until the indicated conditions are fully understood and met.

In this Guide ...

This installation guide provides instructions to install Agilent OpenLab ChemStation LTS 01.11 Networked Workstations, or Distributed Systems.

Table 1 Terms and abbreviations used in this document

Term	Description
AIC	Agilent's Analytical Instrument Controller
CDS	Chromatography Data System
ChemStation	OpenLab ChemStation
Control Panel	OpenLab Control Panel
Microsoft Control Panel	Part of the Microsoft Windows operating system
LTS	Long-term Support

1 Installation Order Overview

This chapter provides an overview of the required and optional steps for the installation and configuration of Networked Workstations or Distributed Systems. For details on the upgrade procedure, see chapter 6 "Upgrade to a New Software Version".

2 Prepare your PC

This chapter describes how to configure your PC hardware, and prepare for installation of your OpenLab ChemStation software. Agilent-delivered PC Bundle systems are delivered with the supported pre-installed Windows operating system, so you may skip some of the steps.

3 Install the Software

This chapter describes the installation of an OpenLab Shared Services server, the OpenLab ChemStation Networked Workstation, ChemStation Clients, or Analytical Instrument Controllers (AIC). For installation of an OpenLab Server, OpenLab ECM XT, or OpenLab ECM please refer to the respective installation manual.

4 Optional Procedures

This chapter contains information on the Software Verification Tool, ChemStation folder protection, and other helpful procedures.

5 Licensing

This chapter describes how to obtain and install a license.

6 Upgrade to a New Software Version

This chapter describes the upgrade to OpenLab ChemStation LTS 01.11 in a Networked or Distributed System.

7 Uninstall the Software

This chapter contains information on the uninstallation by using the OpenLab Uninstallation Wizard.

8 Troubleshooting

The chapter gives some troubleshooting hints.

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Installation Order Overview

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This chapter provides an overview of the required and optional steps for the installation and configuration of Networked Workstations or Distributed Systems. For details on the upgrade procedure, see chapter 6 "Upgrade to a New Software Version".

Networked Workstation

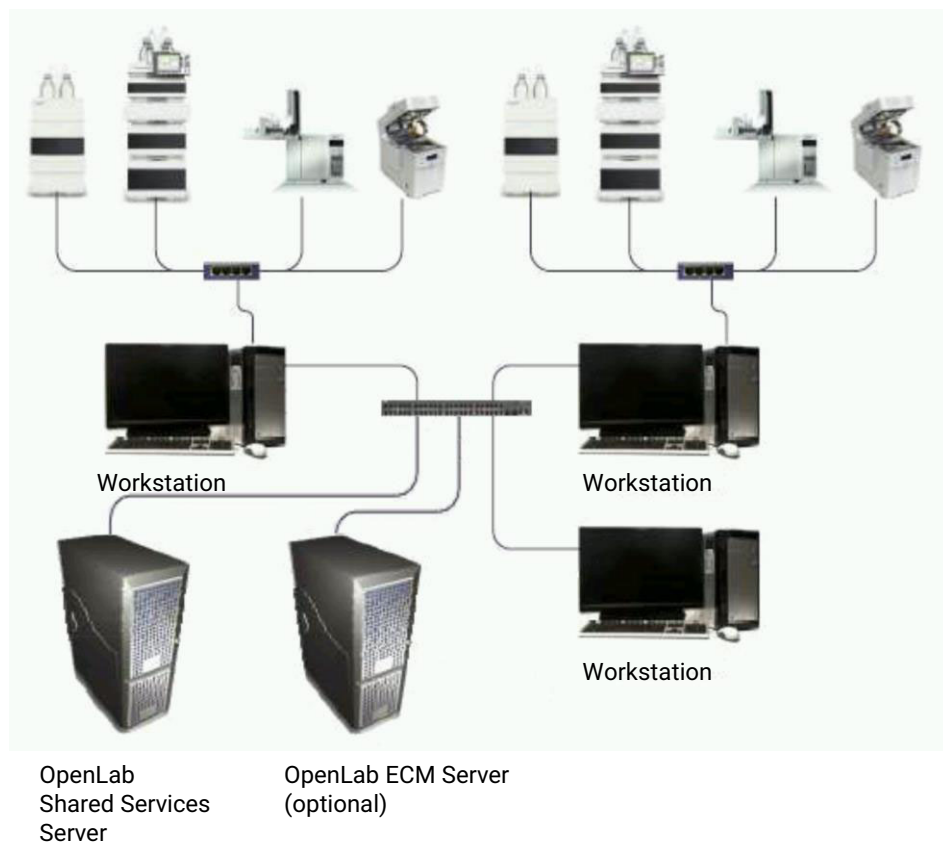


Figure 1 Networked Workstation configuration (example)

Follow these steps to install ChemStation on a networked system.

Prerequisites

- OpenLab ECM:
If you want to connect to an OpenLab ECM server, this server must already exist. An additional server running the OpenLab Shared Services Server software must be installed as described.
 - OpenLab Server or OpenLab ECM XT:
If you want to connect to a such a server, this server must already exist. OpenLab Server and OpenLab ECM XT include the Shared Services components. Therefore, an additional server running the OpenLab Shared Services Server software is not required.
 - Database for Shared Services:
The database used by Shared Services can be hosted on Oracle, Microsoft SQL Server, or PostgreSQL. Oracle and Microsoft SQL server must be installed prior to the installation of the Shared Services server software. PostgreSQL will be installed along with the OpenLab Shared Services Server software.
- 1 "Run the System Preparation Tool" on page 24.
 - 2 "Install and Configure Third Party Tools" on page 15.
 - 3 If you do not connect to an existing server: "Install the OpenLab Shared Services Server" on page 34.
 - 4 Set up an Authentication Provider and Storage Location. These procedures are described in the *OpenLab ChemStation Configuration Guide: User Management and Instrument Configuration* (CDS_CS_configure.pdf). Alternatively, this can also be done after the installation is complete.
 - 5 "Install a Networked Workstation" on page 38.
After installation: "Configure the Antivirus Program" on page 42.

Distributed System

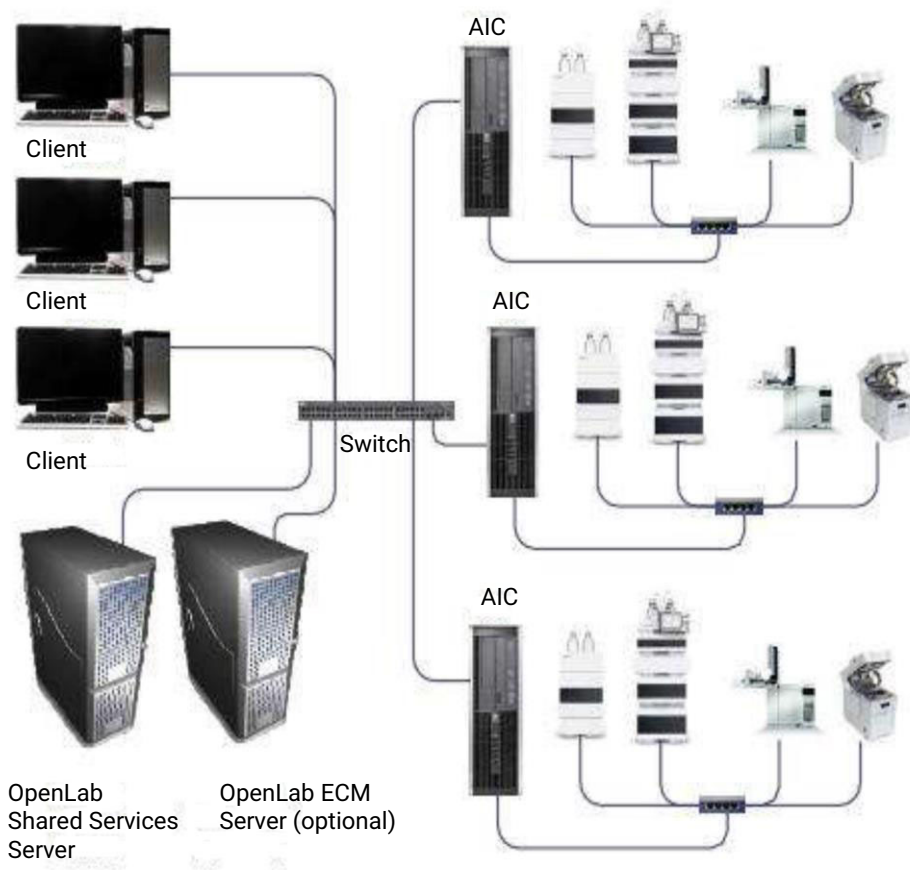


Figure 2 Distributed System Configuration (for example, with ECM)

Follow these steps to install ChemStation on a Distributed System.

Prerequisites

- OpenLab ECM:
If you want to connect to an OpenLab ECM server, this server must already exist. An additional server running the OpenLab Shared Services Server software must be installed as described.
 - OpenLab Server or OpenLab ECM XT:
If you want to connect to a such a server, this server must already exist. OpenLab Server and OpenLab ECM XT include the Shared Services components. Therefore, an additional server running the OpenLab Shared Services Server software is not required.
 - Database for Shared Services:
The database used by Shared Services can be hosted on Oracle, Microsoft SQL Server, or PostgreSQL. Oracle and Microsoft SQL server must be installed prior to the installation of the Shared Services server software. PostgreSQL will be installed along with the OpenLab Shared Services Server software.
- 1 "Run the System Preparation Tool" on page 24.
 - 2 "Install and Configure Third Party Tools" on page 15.
 - 3 If you use ECM: "Install the OpenLab Shared Services Server" on page 34.
 - 4 "Install an Analytical Instrument Controller (AIC)" on page 45.
After installation: "Configure the Antivirus Program" on page 42
 - 5 "Install a Client" on page 53.
 - 6 In a Distributed System, you can also install Networked Workstations in addition to the AIC and ChemStation Clients, thus creating a mixed topology. For more information on Networked Workstations in Distributed Systems, refer to the *System Topologies* section in the *OpenLab ChemStation Hardware and Software Requirements* guide (CDS_CS_HW-SW-Requirements.pdf).

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This chapter describes how to configure your PC hardware, and prepare for installation of your OpenLab ChemStation software. Agilent-delivered PC Bundle systems are delivered with the supported pre-installed Windows operating system, so you may skip some of the steps.

Install and Update Windows

NOTE

On the OpenLab Shared Services server, do not install or configure any server role or feature.

- 1 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.
- 2 Update to the latest Windows edition in accordance to the guidelines of your local IT department. For details on the recommended versions of Windows, see *OpenLab ChemStation Hardware and Software Requirements* guide (CDS_CS_HW-SW-Requirements.pdf).
- 3 To secure your system against viruses please install an antivirus program.

NOTE

Running antivirus programs might influence the behavior and performance of your computer. Some virus scanners might cause issues when used with OpenLab ChemStation. The application is tested with Symantec Endpoint Protection 14.0 MP2 and with Microsoft Security Essentials.

- 4 Be sure to open the firewall ports listed in the Firewall Settings in the *OpenLab ChemStation Hardware and Software Requirements* guide (CDS_CS_HW-SW-Requirements.pdf), including the ports listed for OpenLab Server.

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).

- 5 In the Microsoft Control Panel under **System >Windows activation**, click **Change product key**. Enter a valid value to activate Windows.
- 6 Check for Windows quality updates, and apply all critical security patches. Do not choose to install a newer version of Windows. Make sure the Windows quality updates have finished installing before proceeding to install OpenLab ChemStation.

Prepare your PC

Install and Update Windows

- 7 In the Microsoft Control Panel under **Date and Time**: Choose the time zone of your regional location.
- 8 In the Microsoft Control Panel under **Region**:
 - a Regional format options should be set to **English (United States)** from the drop-down list.
 - b If regional format other than **English (United States)** is used, the following settings are mandatory. The settings can be defined by clicking on the **Additional settings...** button:
 - Decimal symbol = . (point)
 - Digit grouping symbol = , (comma)
 - List separator = , (comma)

Install and Configure Third Party Tools

Certain third party tools must be installed and configured on your PC. Some of these tools can be installed directly from the **Installation** screen if you run the **OpenLab ChemStation Installer**.

Install and Configure Adobe Acrobat Reader

Check if an existing Acrobat Reader version must be uninstalled

- 1 If Acrobat Reader is already installed, check its version number.
 - a Open Acrobat Reader.
 - b Select **Help >About Adobe Acrobat Reader**.
- 2 The version number has several ranges. The *Continuous* or *Classic* track is indicated by the first two digits of the third range.

Version 2022.001.20142

20 = Continuous track

30 = Classic track

NOTE

If an older version of Acrobat Reader (lower than 2020) or a Reader version from the *Continuous* track is installed on your system, you must uninstall it first. Otherwise, the installation below would result in an Acrobat Reader version that pushes automatic updates.

Install Adobe Acrobat Reader 2020 (Classic Track):

- 1 Under **Third Party Tools**, select **Adobe PDF Reader**.
- 2 The Acrobat Reader setup screen appears. Click **Install** to continue.
- 3 If Acrobat Reader was successfully installed, click **Finish** to exist the setup screen.
- 4 An .msp file runs automatically to install Adobe updates. If you are asked for confirmation, click **Open** to confirm that you want to run it.
- 5 Click **Update** to get the latest patch for Acrobat Reader 2020.
- 6 If Acrobat Reader was successfully installed, click **Finish** to exist the setup screen.
- 7 Open the newly installed Adobe Acrobat Reader to confirm the Adobe Reader license agreement. You will be asked only this one time.

Configure Adobe Acrobat Reader in Windows:

- 1 Set Adobe Acrobat Reader as your default PDF viewer.
Navigate to **Settings > Apps > Default Apps**, select **Choose default apps by file type**. In the list, navigate to **.pdf** and select **Adobe Acrobat Reader** as default.

Ensure correct Adobe Acrobat Reader settings:

- 1 If you installed Acrobat Reader manually, without using the Chemstation installer:
From the ChemStation installation medium under Disk1/Tools/Adobe Reader, run AdobeReaderProtectedModeFeaturesSettings.bat in an Administrator command prompt.

Update Acrobat Reader regularly

- 1 Update Adobe Acrobat Reader on a regular basis to avoid push notifications from Adobe.
We recommend to include Acrobat Reader updates in a regular update schedule. Acrobat Reader updates usually come on a quarterly basis.
- 2 To update, open Acrobat Reader, and click **Help > Check for Updates....**
- 3 After an update, ensure that the **Adobe Acrobat Update Service** is still stopped.

Install the .NET 3.5 and 4.x Framework

If .NET 3.5 and .NET 4.x are not installed on your system, their installation will automatically be triggered by the installation wizard. However, this may require a system reboot. To avoid the system reboot during installation, install .NET in advance.

- 1 In the Windows Settings, search for **Turn Windows features on or off**, and click the search result to open the dialog.
- 2 Expand the **.NET Framework 3.5 (includes .NET 2.0 and 3.0)** node. select the **Windows Communication Foundation Non-HTTP Activation** check box.

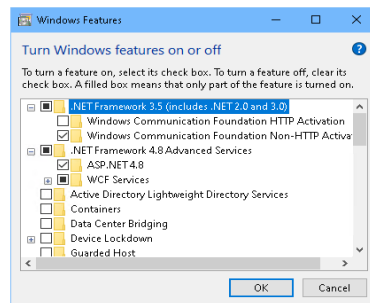


Figure 3 Enable .NET 3.5 (Win 10)

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>

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

Install Chinese or Japanese Language Packs

For Agilent's Analytical Instrument Controllers (AICs) with a Chinese or Japanese operating system: Install the required .NET Framework Language Pack.

- 1 Copy the folder Disk1\Tools\DotNet4.7 to a local disk.
- 2 Run LanguagePacks\<Language>\Setup.exe.
- 3 Follow the installation wizard.

Install Keysight IO Libraries Suite

IO Libraries are required only for LC/MS and CE/MS instruments.

To install IO Libraries:

- 1 From the installer, select **Installation**.
- 2 Under **Third Party Tools**, select **Keysight IO libraries**. The Keysight IO libraries setup screen opens.
- 3 Click **Install** to continue.
- 4 When Keysight IO libraries have been successfully installed, click **Finish** to exit the setup screen.

Configure a Printer

Physical Default Printer

Make sure that a default printer is configured in Windows. Every Windows user who runs ChemStation needs a default printer configured in the user profile. The printer driver must be for a physical printer, even if the printer is not connected. Configuring a to-file printer such as a PDF or XPS writer is not sufficient.

This is done via the Microsoft Control Panel. If no default printer is configured the following problems may occur:

- Printing of a report preview will fail
- the **Copy To Clipboard** menu will have an error
- the **Custom Report View** will have problems with new templates

PDF XChange printer

During the installation of ChemStation, a PDF XChange 6 printer driver is installed.

Print Limitations

The maximum number of pages for one print job is 1500; for example, a sequence summary report is one print job.

When printing Multi-Page chromatograms (specified in the **Specify Reports** dialog box), the maximum number of pages that can be printed properly depends on the resolution of the printer. 300 dpi allows ten pages per chromatogram, 600 dpi allows up to six pages per chromatogram.

Add a Network Printer as a Local Printer

Use *physical* printers to ensure correct function. Follow the steps below to add a network printer as a local printer. In OpenLab ChemStation, you will be able to choose this printer as a default printer when configuring instruments.

- 1 In the Microsoft Control Panel, navigate to **Devices and Printers**.
- 2 Click **Add a Printer**.
- 3 Click **The printer I want isn't listed**, then select **Add a local printer** and click **Next**.
- 4 Select **Create a new port**, then select **Local Port** for the port type and click **Next**.
- 5 For **Port Name**, enter the network path to the printer. The network path consists of two slashes, the computer name or local IP address of the PC sharing the printer, and the share name of the printer. For example, \\PTPRINT\PG5-B or \\192.168.1.100\hpprinter.
- 6 Select the appropriate printer driver and click **Next**. If the exact model is not listed, try the closest model number or a generic printer.
- 7 Follow the rest of the wizard.

NOTE

The print quality of graphics and pictures depends on the printer hardware, maintenance state, configuration, printing options, and paper quality. Resizing pictures and graphics during the print process may lead to a reduced print quality. Choose paper format and page margins that are suitable for your printer.

Before You Begin

Please read this section before you begin the actual software installation. Certain information and setup steps need to be done.

- 1 Decide on computer names for all required machines.

It is recommended to keep the computer names unchanged after installing ChemStation.

The computer name of an AIC, for example, will be reflected in the instrument configuration. Changing it afterwards leads to a considerable configuration effort.

To make sure that a DNS server can resolve the computer name, follow the internet standard for protocols (*RFC952*) and use only the following characters:

A-Z, a-z, 0-9, - (hyphen)

Do not use an underscore.

- 2 Make sure that you use only the following characters for user names:

A-Z, a-z, 0-9, _ (underscore), - (hyphen)

- 3 For installing OpenLab ChemStation, you need to have administrator privileges for all servers and clients. Power user privileges are not sufficient (the installation does not start).
- 4 If you plan to use a Shared Services server, OpenLab Server, or OpenLab ECM XT server with a higher revision number: Check the latest Service Notes for compatibility information. Update the server to the latest patch level. Updates are available for download from <https://agilent.subscribenet.com/>.
- 5 Decide on a Shared Services server and a directory location to store all files related to the data system software, including data, methods, sequences, and configurations.
 - ChemStation AICs and Clients must be connected via network to the Shared Services server.
 - If you plan to use a central data storage, ChemStation users must have read/write access to the repository location.

- If you plan to use an existing Oracle DB server, make sure to set up the Oracle database as described in *CDS_oracle12.pdf*. To access the document, search for *CDS_oracle12.pdf* on the *OpenLab ChemStation User Resources & Learning* platform¹.

If you plan to use an existing SQL Server in combination with a server running OpenLab Server or OpenLab XT: Change the SQL Server authentication to Mixed Mode (see “[Change SQL Server Authentication to Mixed Mode](#)” on page 113).

If you plan to use the default PostgreSQL database, no additional setup steps are required. PostgreSQL will be installed by the ChemStation Installer.

- 6 For the Shared Services database, obtain the:
 - Database name
 - Database administrator user name and password
 - Authentication mode
 - Administrator user credentials (domain, user name, password)
- 7 If you plan to use OpenLab Server/OpenLab ECM XT, refer to the *OpenLab ECM XT Installation Guide*.
- 8 If you plan to use OpenLab ECM with your system, obtain the ECM server name.
- 9 In order to install and configure OpenLab ECM (Shared Services configuration on the server), the installing user must be both ECM administrator as well as internal OpenLab administrator.
- 10 Decide on a directory location to store all files related to the data system software, including data, methods, sequences, and configurations. The directory must always be accessible to the PC running the software.
- 11 Before you install the software, check that your computer meets all requirements. You can access the *OpenLab ChemStation Hardware and Software Requirements* guide (*CDS_CS_HW-SW-Requirements.pdf*) via the *OpenLab ChemStation User Resources & Learning* platform¹ (navigate to **Site Preparation >Site Preparation and Requirements**).
Use this PDF to check that your settings comply with the network requirements, and to ensure your hardware and software supports the system.
- 12 Set up the necessary power, equipment and hardware connections to run your system. Connections could include any A/D boards, cables, GPIB boards,

¹ To launch the OpenLab ChemStation User Resources & Learning platform, open *welcome.htm* on the installation media, and select your language.

Prepare your PC Before You Begin

instrument detectors, and communication cables. For detailed requirements, refer to the *OpenLab ChemStation Hardware and Software Requirements* guide (CDS_CS_HW-SW-Requirements.pdf).

- 13** Ensure that the latest graphic card driver is installed. Install the latest vendor-specific driver. Do not use any generic driver.
- 14** On AICs, disable hardware acceleration. Ensure that the following registry key is present and correctly set:
[HKEY_CURRENT_USER\SOFTWARE\Microsoft\Avalon.Graphics]
"DisableHWAcceleration"=dword:00000001
- 15** Make sure .NET 3.5 and .NET 4.7 are activated as Windows features.
For installation instructions, see "Install the .NET 3.5 and 4.x Framework" on page 17.

Run the System Preparation Tool

The System Preparation Tool (SPT) checks and applies Windows settings on your machine. The settings are also applied automatically when you run the OpenLab ChemStation installer. Running the SPT in advance helps you to shorten the installation process. For an overview of both mandatory and recommended settings, refer to the chapter *System Preparation Tool* in the *OpenLab ChemStation Hardware and Software Requirements* guide (CDS_CS_HW-SW-Requirements.pdf).

- 1 To open the installer, navigate to \Disk1\ and run Setup.bat.
- 2 From the **Planning** tab, select **System Preparation Tool**.
The **System Preparation Tool** window opens.
- 3 Select the product configuration corresponding to your system:
 - For a Networked Workstation, select **Workgroup_Networked_Workstation_ChemStation_Windows~10** or **Workgroup_Networked_Workstation_ChemStation_Windows~11**.For AICs:
 - **Workgroup_Instrument_Controller_ChemStation_Windows~Server~2019**For clients:
 - **Workgroup_CDS_Client_ChemStation_Windows~10**
 - **Workgroup_CDS_Client_ChemStation_Windows~11**For an OpenLab Shared Services Server:
 - **Workgroup_OLSS_Server_Windows~Server~2019**
- 4 Click **Continue**. The installer checks the status of the operating system.
- 5 Select which recommended settings to apply to the system.
There are several recommended settings that 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.

Prepare your PC

Run the System Preparation Tool

- 6 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.
- 7 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.
- 8 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.
- 9 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.
- 10 Click **Finish**.
- 11 Reboot your system if requested to do so.

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This chapter describes the installation of an OpenLab Shared Services server, the OpenLab ChemStation Networked Workstation, ChemStation Clients, or Analytical Instrument Controllers (AIC). For installation of an OpenLab Server, OpenLab ECM XT, or OpenLab ECM please refer to the respective installation manual.

Prepare for Installation

- 1 Make sure that the antivirus software is disabled during the installation.
- 2 Do not run the Windows Update Service during installation. Make sure that no Windows updates are performed during the installation of ChemStation.
- 3 Make sure that no system reboot is pending.
Pending reboots are indicated both in the System Preparation Tool (see “Run the System Preparation Tool” on page 24).
- 4 Before adding a Networked WorkStation, AIC, or client to a system with an existing OpenLab Server or OpenLab Shared Services Server: First update these servers to their latest patch level. Updates are available for download from <https://agilent.subscribenet.com>.
- 5 To begin installation, navigate to \Disk1\ and run Setup.bat.

Required Windows Users for Networked Workstations and Distributed Systems

Agilent recommends that the following users are prepared for Networked Workstations or Distributed Systems:

- Installation user
This is the user who installs the software.
 - Domain user
 - Member of the local **Administrators** group on each computer where software components are installed
- ChemStation administrator
This user can change settings for all ChemStation instances running on the Networked Workstations or AICs.
 - Domain user
 - Member of the local **Users** group on the Networked Workstations or AICs
 - No need to be a member of any administrators group
 - Member of the local **CSAdministrators** group on each Networked Workstation or AIC (adding the user to the group is only possible after installing the software, as the group will be created automatically)
- If you plan to use Secure File I/O: File operations user
If you enable Secure File I/O, ChemStation will use this account exclusively for all file operations.
 - Domain user
 - Not member of any administrators or power users group
 - No administrative privileges
 - Not used for any other purpose
 - Ideally having a password that does not expire

Make sure that you use only the following characters for user names:

A-Z, a-z, 0-9, _ (underscore), - (hyphen)

Set up your Server

NOTE

Current Microsoft updates and Windows version must be installed before installation can begin.

- 1 Disconnect the server from the Internet until you have installed the latest security fixes and virus protection.
- 2 In your Windows system:
 - Set the time zone.
 - Set the authentication mode to **Windows domain and internal authentication**.
- 3 Install an anti-virus program. OpenLab Shared Services was tested to run with Symantec's Norton AntiVirus, McAfee, and Trend Micro™.
- 4 Configure your anti-virus software:

Exclude the following folders from Antivirus scan, by adding to **Approved programs**. 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 OpenLab application.

 - [C:\]Program Files (x86)\Agilent Technologies
 - [C:\]ProgramData\Agilent
 - [C:\]ProgramData\Agilent Technologies
 - [C:\]ProgramData\Firebird
 - [C:\]ProgramData\IsolatedStorage

If you use Trend Micro™ as your anti-virus software, the following tasks are recommended to optimize system performance.

Settings for Trend Micro™ Antivirus Software

- Pre-installation task

If your version of Trend Micro has **Web Reputation**, turn it 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.

- Post-installation tasks

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

Exclusions ensure that the working directory will not be scanned. The risk is that only files that are created and changed on this machine are scanned. Files that are only accessed will be bypassed. Dormant files that were infected without being noticed at the time they were created or written to the machine will not be scanned. Increase the scheduled scan to run daily to ensure all files on the machine are checked for infections that are dormant or not moving.

- Behavior Monitoring:** Add the following list of programs to **Approved programs**.

C:\Program Files (x86)\Agilent Technologies\...

- OpenLab Services\UI\Agilent.OpenLab.ControlPanel.exe
- OpenLab Services\Automation\AutomationServerHost.exe
- OpenLab Services\Diagnostics\DiagnosticsToolsServiceHost.exe
- OpenLab Services\Licensing\Flexera\ladmin.exe
- OpenLab Services\Licensing\Licensing.Service.Host.exe
- OpenLab Services\Server\SharedServicesHost.exe

The risk is that if any of the excluded files get infected, it will not be detected. Trigger a schedule on a daily basis to cover these files.

- Realtime monitoring:** Add the following folder to the exclusion list of Realtime Monitoring settings: C:\Program Files (x86)\Agilent Technologies
- d** Confirm that no server role or feature is installed.

- 5 Join an existing domain.
Changing the server domain after the installation requires direct consultation with Agilent Support.
- 6 If you decided for using a PostgreSQL database continue with running the System Preparation Tool.
If you decided to install a Oracle Server or Microsoft SQL database follow the respective instructions provided below, before continuing with the System Preparation.

Prepare Your Microsoft SQL Server

If you plan to use a Microsoft SQL server as your Shared Services Server, complete these procedures before installing the OpenLab software. See your Microsoft documentation for details on your SQL server software.

- 1 Install the Microsoft SQL server.
- 2 During installation, change the server authentication to mixed mode.
- 3 Enable the login for user sa.
- 4 Restart the SQL Server service, and log in with SQL Server Authentication.

Prepare Your Oracle Server

If you plan to use an Oracle server database, complete these procedures before installing the OpenLab software. The Database must be installed and configured before installing the OpenLab software.

- 1 Before the installation:
Ensure you have ECM 3.6 with the June 2020 compatibility release, if you want to use Oracle 19c.
- 2 During the installation (Note: Do *not* select **Create as Container Database!**):
 - a Configure Oracle with the *AL32UTF8* database character set.
 - b Set the password for the *SYS* & *SYSTEM* users.
- 3 Change the server configuration. Unlock the CTXSYS account used for text indexing, and provide a password

Configure your Oracle Server for hot backup

Use this procedure to prepare an Oracle server database for running a hot backup. This procedure is only required once. For more detail see the *OpenLab Server and OpenLab ECM XT Installation Guide* (ECM_XT_v2.7_InstallationGuide_en.pdf).

Execute this procedure only when no database activities are running.

- 1 Create a folder for the fast recovery area.
- 2 Configure the fast recovery area.
- 3 Set the database to ARCHIVELOG mode.
- 4 Set retention policy.

NOTE

All RMAN and SQL commands require a semicolon (;) at the end of the command.

NOTE

Establish a connection to the database before executing RMAN or SQL commands. If a prior command closes the connection (for example, SHUTDOWN IMMEDIATE), you may need to re-establish the database connection before executing a RMAN or SQL command.

Install the OpenLab Shared Services Server

NOTE

Agilent recommends that you record and store the selections that you use during this installation in a different physical location. The information will be needed to restore your system in the unlikely case of your system becoming inoperable due to a hardware or software failure.

License Agreement Screen

- 1 If you plan to use an existing Oracle DB server, make sure to set up the Oracle database as described in *CDS_oracle12.pdf*. To access the document, search for *CDS_oracle12.pdf* on the *OpenLab ChemStation User Resources & Learning* platform¹.
- 2 From the ChemStation Installer, select **Installation**.
- 3 Select **OpenLab ChemStation**.
- 4 Read the terms of the **License Agreement**.
- 5 Select **I agree with the terms and conditions**. You cannot proceed with installation unless you agree to these terms.
- 6 Select **Next** to proceed to the **Installation Folder** screen.

Installation Folder Screen

- 1 Type the folder name or browse to the directory where you want to store the application components (typically this is in the programs folder). Folders must have English names.

NOTE

Installations into the root of a drive may cause problems during operation and are not supported.

- 2 To run an installation verification as part of this Shared Services server installation, select **Run Software Verification**.
Because there can be several separate installation procedures for networked or distributed systems, you may prefer to run the Software Verification Tool during the last installation, or sometime after your system is completely installed (see the "Optional Procedures" on page 63).
 - 3 Select **Next** to proceed to the **Installation Type** screen.
- ¹ To launch the OpenLab ChemStation User Resources & Learning platform, open *welcome.htm* on the installation media, and select your language.

Installation Type Screens for Shared Services Server

- 1 Under the **Installation type** screen, select **Networked System**.
- 2 Select **Next** to proceed to the **Networked system** screen.
- 3 Select **Shared Services Server (w/o Content Management)**.
- 4 Select **Next**.
- 5 Complete the **Database Type Selection** screen by selecting the a database type and the installation type. Configure the database as described in the following steps.
- 6 If you selected **New database server** with **PostgreSQL**:
 - a Type the path or browse to the directory where you want to store the application components. Directory names must be entered *without spaces*.
 - b Select **Next** to proceed to the **OpenLab Shared Services Database** screen.
 - c Complete the **Database name** field.
 - d Provide the required user credentials.
 - e Select **Next** to proceed to the **Additional items** screen.
- 7 If you connect to an existing **PostgreSQL** or **Microsoft SQL Server** database server:
 - a Type the database server name in the field provided.

If the database resides on the same computer use **localhost** as database server name.
 - b For Microsoft SQL Server: Select **Use default instance** or **Use named instance**.

If you select **Use named instance**, complete the **Database instance name** field.
 - c Select **Next** to proceed to the **OpenLab Shared Services Database** screen.
 - d Select either **Create new database** or **Connect to existing database**.
 - e Provide the required database name and user credentials.
 - f Click **Test Connection...** to run a connectivity check.

The system will display a **Connection succeeded** message if the check is successful. Click **OK** to close the message.
 - g Select **Next** to proceed to the **Additional items** screen.

- 8 If you connect to an existing **Oracle** database server:
 - a Type the database server name in the field provided.
 - b Select **Next** to proceed with the server connection type.
 - c Select the **Initialize data** check box.
 - d Provide the required database name, user credentials, and the Listener port number. By default, the Listener port number is 1521.
 - e Click **Test Connection...** to run a connectivity check.

The system will display a **Connection succeeded** message if the check is successful. Click **OK** to close the message.
 - f Select **Next** to proceed to the **Additional items** screen.
- 9 In the **Additional Items** screen, select either **No Central Storage**, or **ECM 3.x Server**.
 - a If you select **ECM 3.x Server** the **Server name** field will be enabled. Enter the server name *without spaces*.
 - b Click **Test Connection...** to run a connectivity check. The system will verify that the connection from this machine to the ECM server is functioning.

The system will display a **Connection succeeded** message if the check is successful. Click **OK** to close the message.
- 10 Under **OpenLab Shared Services Language**, select the correct language from the drop-down list.
- 11 Select **Next** to proceed to the **Summary** screen.

Summary Screen: Server Software Installation

- 1 Review the installation settings that you have selected in the preceding steps. Select **Back** as necessary to change installation settings, or **Cancel** to cancel the installation.
- 2 Select **Start** to begin installation.
- 3 The system performs an automated system check before it proceeds with the listed activities.
The system preparation report opens automatically. Check the operating system status.
To continue installation, click **Yes**.
- 4 If an installation verification was completed as part of this installation, review the *Software Verification Report*. 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.
- 5 Click **Next** to proceed to the **Installed Features** screen.
- 6 Click **Finish** to close the installation wizard.
- 7 Reboot the server after the installation.

Post Installation Tasks on the Server

After installing OpenLab Shared Services on the server, you can already set up the authentication provider, storage location, and security policy. Alternatively, this can also be done after the installation of Networked Workstations or Clients is complete. The procedure is the same. See chapter *Configure Security Policy* in the *OpenLab ChemStation Configuration Guide: User Management and Instrument Configuration* (CDS_CS_configure.pdf).

Install a Networked Workstation

Use these procedures to install the software to any number of workstations linked to the Shared Services server.

NOTE

Configure a default printer in Windows before installing ChemStation. The printer driver must be for a physical printer, even if the printer is not connected.

License Agreement Screen

- 1 Read the terms of the **License Agreement**.
- 2 Select **I agree with the terms and conditions**. You cannot proceed with installation unless you agree to these terms.
- 3 Select **Next** to proceed to the **Installation Folder** screen.

Installation Folder Screen

- 1 Type the folder name or browse to the directory where you want to store the application components (typically this is in the programs folder). Folders must have English names.

NOTE

Installations into the root of a drive may cause problems during operation and are not supported.

- 2 To run an installation verification as part of this installation, select **Run Software Verification**. The Software Verification Tool provides documentary evidence that your system has been built and installed correctly, and that all design specifications have been met. You can run the Software Verification Tool at a later time if you prefer (see [“Run a Software Verification after Software Installation”](#) on page 64).
- 3 Select **Next** to proceed to the **Installation Type** screen.

Installation Type Screens

- 1 Under the **Installation type** screen, select **Networked System**.
- 2 Select **Next** to proceed to the **Networked system** screen.
- 3 Select **Networked Workstation** and hit **Next**.
- 4 In the **OpenLab Shared Services Settings for Registration** screen complete the **Server name** field.
 - a Choose the authentication service provider which you configured on the OpenLab Shared Services server.
 - b Provide the corresponding user credentials defined during the configuration of ChemStation in the Control Panel. For more information, see *OpenLab ChemStation Configuration Guide: User Management and Instrument Configuration* (CDS_CS_configure.pdf).
- 5 Select **Next**. The system will perform a connectivity check for the server.

If the connectivity test fails, verify that the server name was entered correctly, without spaces, and select **Next** to run the test again. If the test is still unsuccessful, call internal support for assistance.
- 6 Under **OpenLab ChemStation**, provide the following folder paths:
 - **Installation folder**: directory where you want to store the ChemStation application components. Typically this is in the programs folder. Folder names must be entered without spaces.
 - **Instrument data folder**: Instrument specific data such as methods, sequences, and results. The default data path is the public documents folder. If you plan to activate the Secure File I/O feature, this folder must not be shared at a later point in time. If your PC is equipped with a second disk drive, it is recommended to change the default data path to this alternative drive. Using a second disk drive increases the performance.
- 7 Select **Next** to proceed to the **Additional Items** screen.

- 8 In the **Additional Items** screen, select the required storage type.
 - a If you select **ECM 3.x Server** the **Server name** field will be enabled. Enter the server name in the correct syntax and *without spaces*.

NOTE


The correct syntax for the servername is http://servername.

- b Click **Test Connection...** to run a connectivity check. The system will verify that the connection from this machine to the ECM server is functioning.
The system will display a **Connection succeeded** message if the check is successful. Click **OK** to close the message.
- 9 Select **Next** to proceed to the **Summary** screen.

Summary Screen

- 1 Review the installation settings that you have selected in the preceding steps. Select **Back** as necessary to change installation settings, or **Cancel** to cancel the installation.
- 2 Before starting or canceling the installation, you can save an XML file with your installation settings. This XML can then be used for a scripted installation (see “[About Scripted Installation](#)” on page 56).



To save the XML file, click the file symbol  in the **Summary** screen.

- 3 Select **Start** to begin installation.
- 4 The system performs an automated system check before it proceeds with the listed activities.
The system preparation report opens automatically. Check the operating system status.
To continue installation, click **Yes**.
- 5 If an installation verification was completed as part of this installation, review the *Software Verification Report*. 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.
- 6 Click **Next** to proceed to the **Installed Features** screen.
- 7 Click **Finish** to close the installation wizard.
- 8 To complete the installation, reboot the computer.

Post Installation Tasks on the Networked Workstation

Allow ChemMain Through Firewall

Carry out the following procedure to allow ChemMain through your firewall. Consider using a second network card to isolate the instrument's data traffic, and carry out the following procedure for that second network card only. Alternatively, ensure that all required firewall ports are open. For details, refer to the *OpenLab ChemStation Hardware and Software Requirements* guide (CDS_CS_HW-SW-Requirements.pdf).

- 1 In the Microsoft Control Panel, click **Windows Defender Firewall**¹.
- 2 Click **Allow an app or feature through Windows Defender Firewall**.
- 3 Click **Change settings**.
The **Allow another app...** button becomes active.
- 4 Click **Allow another app...**
- 5 Click **Browse...** and navigate to C:\Program Files (x86)\Agilent Technologies\ChemStation\CORE.
- 6 Select ChemMain.exe and click **Open**.
- 7 Click **Add**.
- 8 In the list of allowed apps and features, find **ChemStation ChemMain**, and select the check boxes for all three network types.
- 9 Confirm your changes.
- 10 Repeat the procedure for ChemMainAcq.exe.

¹ View the items by icon to see a list of all items

Configure the Antivirus Program

Be sure to open the firewall ports listed in the Firewall Settings in the *OpenLab ChemStation Hardware and Software Requirements* guide (CDS_CS_HW-SW-Requirements.pdf).

NOTE

Running antivirus programs might influence the behavior and performance of your computer. Some virus scanners might cause issues when used with ChemStation. The application is tested with Symantec Endpoint Protection 14.0 MP2 and with Microsoft Security Essentials.

In order for the ChemStation software to function correctly, you should configure any antivirus real time protection software with the following folder exclusions. They should only be scanned while the instruments are idle and no data acquisition takes place. Refer to your specific antivirus software documentation on how to configure folder exclusions.

Process	Directory	File name
Data acquisition	%public%\Documents\ ChemStation (or the corresponding folder for instrument data that you provided during installation)	Data, methods, sequences, reports etc.
ECM upload/download (if applicable)	%temp% for Windows users (=Users' temp directory)	*.sszip
Standard reports	%temp% for Windows users (=Users' temp directory)	~p3d*.tmp ~job*.tmp Hpspl00.que
Intelligent Reports	%LOCALAPPDATA% %APPDATA% %PROGRAMDATA%	Files on: <ul style="list-style-type: none"> • Agilent • Agilent Technologies • Agilent_Technologies,_Inc • IsolatedStorage • Temp e.g.: C:\Users\xxxxx\AppData\Local\ Agilent Technologies\Intelligent Reporting\ RawDataFileCache

If your antivirus software includes program or executable deny execution settings, ensure that the following program files are not denied execution. You can use the windows search feature to find the specific folder each program file is located in.

- agilentlibrarieservice.exe
- chemmain.exe
- chemmainacq.exe
- apg_top.exe
- iprocsvr.exe
- iproc8491.exe
- msinsctl.exe
- httpdmsd.exe
- epcsetup.exe
- AcroRd32.exe
- Acrobat.exe

NOTE

Depending on your specific configuration, some of the listed folders or files may not exist on your system.

Add Shortcut to Public Folder

By default, user data such as master methods, sequence templates, report templates, raw data etc. is located in the public documents folder C:\Users\Public\Documents\ChemStation. You define this folder during the installation. The system creates a shortcut to the defined folder under **Instrument Data** in the Windows Start menu.

To provide easy access to that folder, we recommend that you pin the Instrument Data folder to the Start menu.

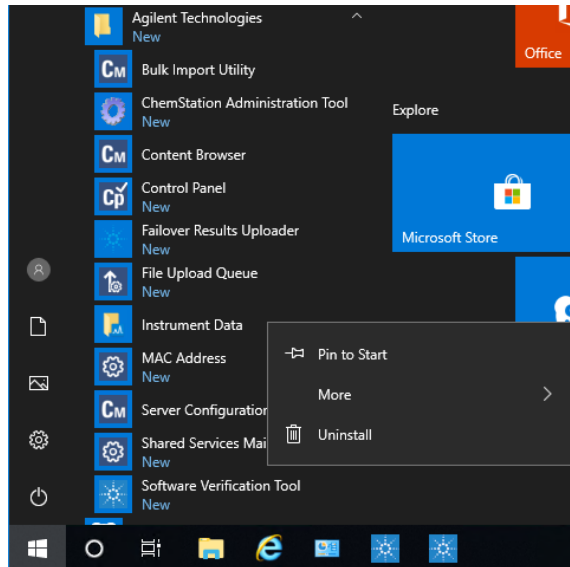


Figure 4 Windows Start menu in Windows 10

- 1 Navigate to the **Instrument Data** shortcut in the Start menu.
- 2 Right-click the icon, then select **Pin to Start**.

Install an Analytical Instrument Controller (AIC)

NOTE

Configure a default printer in Windows before installing the Analytical Instrument Controller. Use a printer driver for a physical printer, even if the printer is not connected.

License Agreement Screen

- 1 From the ChemStation Installer, select **Installation**.
- 2 At the **Installation** screen, select **OpenLab ChemStation**.
- 3 Read the terms of the **License Agreement**.
- 4 Select **I agree with the terms and conditions**. You cannot proceed with installation unless you agree to these terms.
- 5 Select **Next** to proceed to the **Installation Folder** screen.

Installation Folder Screen

- 1 Type the folder name or browse to the directory where you want to store the application components.
- 2 To run an installation verification as part of this *Instrument Controller* installation, select **Run Software Verification**.
Because there can be several separate installation procedures for a distributed system, you may prefer to run the Software Verification Tool during the last installation, or sometime after your system is completely installed (see ["Optional Procedures"](#) on page 63 in this manual).
- 3 Select **Next** to proceed to the **Installation Type** screen.

Installation Type Screens

- 1 Under the **Installation type** screen, select **Networked System**.
- 2 Select **Next**.
- 3 Select **Instrument Controller**.
- 4 Select **Next**.
- 5 In the **OpenLab Shared Services Settings for Registration** screen complete the **Server name** field.
 - a Choose the authentication service provider which you configured on the OpenLab Shared Services server.
 - b Provide the corresponding user credentials defined during the configuration of ChemStation in the Control Panel. For more information, see *OpenLab ChemStation Configuration Guide: User Management and Instrument Configuration* (CDS_CS_configure.pdf).
- 6 Select **Next**. The system will perform a connectivity check for the server.

If the connectivity test fails, verify that the server name was entered correctly, without spaces, and select **Next** to run the test again. If the test is still unsuccessful, call internal support for assistance.
- 7 Under **OpenLab ChemStation**, provide the following folder paths:
 - **Installation folder**: directory where you want to store the ChemStation application components. Typically this is in the programs folder. Folder names must be entered without spaces.
 - **Instrument data folder**: Instrument specific data such as methods, sequences, and results. The default data path is the public documents folder. If you plan to activate the Secure File I/O feature, this folder must not be shared at a later point in time. If your PC is equipped with a second disk drive, it is recommended to change the default data path to this alternative drive. Using a second disk drive increases the performance.

Install the Software

Install an Analytical Instrument Controller (AIC)

8 Under **Instrument accounts** you can choose how you want to create instrument accounts.

- To use auto-generated accounts, clear the **Use customized instrument accounts** check box.

The system will create local accounts with passwords consisting of 20 characters. The passwords will never expire. The created accounts are stored in a users.xml file under <BaseInstallDirectory>\Logs. Note that the passwords in this file appear encrypted and are only readable by the software. You can use this file to restore a system.

- To use your own accounts, select **Use customized instrument accounts**, and provide the path to a users.xml file in the input field **Accounts file**.

This xml file must contain your customized instrument accounts and passwords. Directory names must be entered *without spaces*.

You can take Disk1\Setup\CSAICFiles\users.xml as a template.

NOTE

To delete a customized XML file after use (recommended), select the **Delete customized accounts XML file after use** check box.

If you keep the XML file, passwords in the xml file will become encrypted.

9 Select **Next** to proceed to the **Additional Items** screen.

10 In the **Additional Items** screen, select the required storage type.

- a If you select **ECM 3.x Server** the **Server name** field will be enabled. Enter the server name in the correct syntax and *without spaces*.

NOTE

The correct syntax for the servername is http://servername.

- b Click **Test Connection...** to run a connectivity check. The system will verify that the connection from this machine to the ECM server is functioning.

The system will display a **Connection succeeded** message if the check is successful. Click **OK** to close the message.

11 Under **Installation folder**, type the path or browse to the directory where you want to store the application components. Directory names must be entered *without spaces*.

NOTE

For disk performance reasons, the installation folder of a ChemStation AIC should be different from the physical drive hosting the operating systems. Use *drive D:* for installing a ChemStation AIC.

12 Select **Next** to proceed to the **Summary** screen.

Summary Screen

- 1 Review the installation settings that you have selected in the preceding steps. Select **Back** as necessary to change installation settings, or **Cancel** to cancel the installation.
- 2 Select **Start** to begin installation.
- 3 The system performs an automated system check before it proceeds with the listed activities.
The system preparation report opens automatically. Check the operating system status.
To continue installation, click **Yes**.
- 4 If an Software Verification Tool was completed as part of this installation, review the *Software Verification Report*. 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.
- 5 Click **Next** to proceed to the **Installed Features** screen.
- 6 Click **Finish** to close the installation wizard.

NOTE

The installation of a ChemStation AIC requires two reboots. It is very important that the installing user logs on again to the AIC *after* each reboot to complete registration and configuration steps. A success message will be shown when finished. Otherwise the clients cannot configure or launch any ChemStation instrument on this machine.

Post Installation Tasks on the AIC

Allow ChemMain Through Firewall

Carry out the following procedure to allow ChemMain through your firewall. Consider using a second network card to isolate the instrument's data traffic, and carry out the following procedure for that second network card only. Alternatively, ensure that all required firewall ports are open. For details, refer to the *OpenLab ChemStation Hardware and Software Requirements* guide (CDS_CS_HW-SW-Requirements.pdf).

- 1 In the Microsoft Control Panel, click **Windows Defender Firewall**¹.
- 2 Click **Allow an app or feature through Windows Defender Firewall**.
- 3 Click **Change settings**.
The **Allow another app...** button becomes active.
- 4 Click **Allow another app...**
- 5 Click **Browse...** and navigate to C:\Program Files (x86)\Agilent Technologies\ChemStation\CORE.
- 6 Select ChemMain.exe and click **Open**.
- 7 Click **Add**.
- 8 In the list of allowed apps and features, find **ChemStation ChemMain**, and select the check boxes for all three network types.
- 9 Confirm your changes.
- 10 Repeat the procedure for ChemMainAcq.exe.

¹ View the items by icon to see a list of all items

Configure the Antivirus Program

Be sure to open the firewall ports listed in the Firewall Settings in the *OpenLab ChemStation Hardware and Software Requirements* guide (CDS_CS_HW-SW-Requirements.pdf).

NOTE

Running antivirus programs might influence the behavior and performance of your computer. Some virus scanners might cause issues when used with ChemStation. The application is tested with Symantec Endpoint Protection 14.0 MP2 and with Microsoft Security Essentials.

In order for the ChemStation software to function correctly, you should configure any antivirus real time protection software with the following folder exclusions. They should only be scanned while the instruments are idle and no data acquisition takes place. Refer to your specific antivirus software documentation on how to configure folder exclusions.

Process	Directory	File name
Data acquisition	%public%\Documents\ ChemStation (or the corresponding folder for instrument data that you provided during installation)	Data, methods, sequences, reports etc.
ECM upload/download (if applicable)	%temp% for Windows users (=Users' temp directory)	*.sszip
Standard reports	%temp% for Windows users (=Users' temp directory)	~p3d*.tmp ~job*.tmp Hpspl00.que
Intelligent Reports	%LOCALAPPDATA% %APPDATA% %PROGRAMDATA%	Files on: <ul style="list-style-type: none"> • Agilent • Agilent Technologies • Agilent_Technologies,_Inc • IsolatedStorage • Temp e.g.: C:\Users\xxxxx\AppData\Local\ Agilent Technologies\Intelligent Reporting\ RawDataFileCache

Install the Software

Install an Analytical Instrument Controller (AIC)

If your antivirus software includes program or executable deny execution settings, ensure that the following program files are not denied execution. You can use the windows search feature to find the specific folder each program file is located in.

- agilentlibrarieservice.exe
- chemmain.exe
- chemmainacq.exe
- apg_top.exe
- iprocsvr.exe
- iproc8491.exe
- msinsctl.exe
- httpdmsd.exe
- epcsetup.exe
- AcroRd32.exe
- Acrobat.exe

NOTE

Depending on your specific configuration, some of the listed folders or files may not exist on your system.

Retain File with Instrument Users and Passwords

During installation of OpenLab ChemStation, the instrument users names and passwords are configured via an XML file. This XML file is stored under *<BaseInstallDirectory>\Logs\users.xml*.

By default, the installer creates the users.xml file automatically to generate local instrument users with passwords that never expire. The file has the following structure:

```
<?xml version="1.0" encoding="utf-8" ?>
<users>
<user UserName="AICHostName\CSIUser0" Password="xxxxxxxxxxxxx" />
<user UserName="AICHostName\CSIUser1" Password="xxxxxxxxxxxxx" />
<user UserName="AICHostName\CSIUser2" Password="xxxxxxxxxxxxx" />
<user UserName="AICHostName\CSIUser3" Password="xxxxxxxxxxxxx" />
[... ]
<user UserName="AICHostName\CSIUser37" Password="xxxxxxxxxxxxx" />
<user UserName="AICHostName\CSIUser38" Password="xxxxxxxxxxxxx" />
<user UserName="AICHostName\CSIUser39" Password="xxxxxxxxxxxxx" />
<user UserName="AICHostName\CSIUser40" Password="xxxxxxxxxxxxx" />
</users>
```

The installer fills the structure with the auto-generated passwords and the machine-prefixed user names. After creating the accounts the passwords become encrypted and are only readable by the software.

Alternatively, you can specify instrument users names and passwords as required, and define domain users instead of local users. In this case, a security policy may require changing the passwords on a regular basis.

Install a Client

Use these procedures to install the software to any number of ChemStation clients connected to the Shared Services server.

ChemStation itself is installed directly on the AIC. You can access the ChemStation instance from any ChemStation client via a Remote Desktop Services connection.

Here again you will be running your installation(s) either using the USB medium directly, or from a centralized folder.

License Agreement Screen

- 1 From the ChemStation Installer, select **Installation**.
- 2 Select **OpenLab ChemStation**.
- 3 Read the terms of the **License Agreement**.
- 4 Select **I agree with the terms and conditions**. You cannot proceed with installation unless you agree to these terms.
- 5 Select **Next** to proceed to the **Installation Folder** screen.

Installation Folder Screen

- 1 Type the folder name or browse to the directory where you want to store the application components (typically this is in the programs folder). Folders must have English names.

NOTE

Installations into the root of a drive may cause problems during operation and are not supported.

- 2 To run an installation verification as part of this installation, select **Run Software Verification**.

Because there can be several separate installation procedures for a distributed system, you may prefer to run the Software Verification Tool during the last installation, or sometime after your system is completely installed (see "Optional Procedures" on page 63 in this manual).

- 3 Select **Next** to proceed to the **Installation Type** screen.

Installation Type Screens

- 1 Under the **Installation type** screen, select **Networked System**.
- 2 Select **Next** to proceed to the **Networked system** screen.
- 3 Select **ChemStation client**.
- 4 Select **Next**.
- 5 In the **OpenLab Shared Services Settings for Registration** screen complete the **Server name** field.
 - a Choose the authentication service provider which you configured on the OpenLab Shared Services server.
 - b Provide the corresponding user credentials defined during the configuration of ChemStation in the Control Panel. For more information, see *OpenLab ChemStation Configuration Guide: User Management and Instrument Configuration* (CDS_CS_configure.pdf).
- 6 Select **Next**. The system will perform a connectivity check for the server.

If the connectivity test fails, verify that the server name was entered correctly, without spaces, and select **Next** to run the test again. If the test is still unsuccessful, call internal support for assistance.
- 7 Choose **OpenLab ChemStation**:
 - a In the **Additional Items** screen, select the required storage type.
 - If you select **ECM 3.x Server** the **Server name** field will be enabled. Enter the server name in the correct syntax and *without spaces*.

NOTE

The correct syntax for the servername is http://servername.

- Click **Test Connection...** to run a connectivity check. The system will verify that the connection from this machine to the ECM server is functioning.

The system will display a **Connection succeeded** message if the check is successful. Click **OK** to close the message.

- b Select **Next** to proceed to the **Summary** screen.

Summary Screen

- 1 Review the installation settings that you have selected in the preceding steps. Select **Back** as necessary to change installation settings, or **Cancel** to cancel the installation.
- 2 Select **Start** to begin installation.
- 3 The system performs an automated system check before it proceeds with the listed activities.
The system preparation report opens automatically. Check the operating system status.
To continue installation, click **Yes**.
- 4 If an installation verification was completed as part of this installation, review the *Software Verification Report*. 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.
- 5 Click **Next** to proceed to the **Installed Features** screen.
- 6 Click **Finish** to close the installation wizard.

Install a Networked Workstation (Mixed Topology)

In a Distributed System, you can also install Networked Workstations in addition to the AIC and ChemStation Clients, thus creating a mixed topology. For more information on the mixed topology, refer to *Software Compatibility* in the *OpenLab ChemStation Hardware and Software Requirements* guide (CDS_CS_HW-SW-Requirements.pdf).

Scripted Installation

This chapter describes the syntax and parameters for an installation or uninstallation in command line mode.


About Scripted Installation

The ChemStation Installer supports a command line mode for installation, the *scripted installation*. This mode supports installation, upgrade, repair, and uninstallation. You can execute scripted installations either manually or as part of software management systems such as LANDesk or HP CM. With the corresponding parameter (-q), the scripted installation completes unattended.

Export as XML

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

This feature is also supported for upgrade and repair. However, for these cases the exported installation XML file is not appropriate. For scripted repair and upgrade, you must prepare specific XML files using the respective installer wizards.

- 1 Launch the ChemStation Installation Wizard.
- 2 Follow the installation instructions.
- 3 When you have reached the **Summary** screen, click the icon  on the top right corner to export the installation parameters to XML. Save the file on a physical drive.

NOTE

Installation file and XML file must not be in the same file path.

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

Parameters and Return Codes

Parameters

You can call Agilent.OpenLab.CDSInstaller.exe in command line mode with the following parameters:

- *-i*
Install or upgrade
- *-r*
Repair
- *-u*
Uninstallation
- *-q*
Silent mode – no installation or uninstallation wizard will be shown.

Install the Software

Scripted Installation

- *-reboot*
Reboot automatically after successful installation, repair, upgrade, or uninstallation. The system will reboot if the return code is either 0 or 17.
A warning message will be shown in the command prompt 10 min before the system is rebooted. In addition, a Windows dialog opens 2 min before reboot.
- *KeepComponents*
Optional parameter for the uninstallation process, which can contain one or more shared components that should stay on your system. Without this parameter, all OpenLab components will be removed from your system. To keep certain shared components, list the corresponding IDs from the table below in double quotes and separated by comma.

Component Name	Id
Software Verification Tool	IQT
Microsoft SQL Server	SQLServer
IO Library	IOLibraries

- *ConfigurationXML=<ConfigurationXMLFilePath>*
The XML file contains all required inputs of the installer to install, upgrade, or repair a certain topology (see “Export as XML” on page 57). Replace <ConfigurationXMLFilePath> with the correct file path and XML file name.

NOTE

Do not enter a blank before or after the equals (=) sign. The scripted installation and uninstallation mode will not work as expected.

Return Codes

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

Table 2 Return codes

Error/Return Code	Return value
Unknown (default)	-1
Success	0
CoreComponentFailure	1
NonCoreComponentFailure	2
TestConnectivityFailure	3
ExpectedWindowsInstallerNotInstalled (WI 4.5 missing)	4
ParameterMismatchError	5
CannotProceedWithFreshInstallation	6
CannotProceedWithUpgrade	7
CannotProceedWithUninstallation	8
CannotProceedWithRepair	9
CannotProceedWithReRegistration	10
ReRegistrationNotSupported	11
IncompleteTopologyFound	12
InvalidUNCPath	13
MissingInstallable	14
NotAStrongPassword	15
DowngradeNotSupported	16
RestartRequired	17
RegistryCleanupError	18
InvalidInputXML	19
InvalidMode	20
SitePrepFailure	21
DatabaseConnectionFailed	22
DotNetFramework4NotInstalled	23

Table 2 Return codes

Error/Return Code	Return value
OLSSConnectionFailed	24
PDFReaderNotInstalled	25
AllComponentsInstallationFailed	26
SomeComponentsInstallationFailed	27
Failed	28
AddOnListEmpty	29
EULANotAccepted	30
ScriptedNotSupported	31

Installation, Upgrade, or Repair

In installation mode, the installer checks if .Net Framework is present on your system. If not, it will automatically be installed. Select **Accept** to agree with the license agreement.

The installer evaluates the products already installed on your system. Depending on the installed components, the installer will offer one of the following options:

- Start a fresh installation
- Upgrade
- Repair

If a required installable is missing, the installer will create an entry in a log file, and, depending on the component type, will continue or rollback the installation. A corresponding error code will be returned in such scenarios.

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

You will get a return code for the scripted installation only if you start it as administrator.

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

For example: C:\CS

- 3 To start the installation, call `Agilent.OpenLab.CDSInstaller.exe` with the following syntax:

```
Agilent.OpenLab.CDSInstaller.exe -i ConfigurationXML="<path to xml file>" -q -reboot
```

For example:

```
Agilent.OpenLab.CDSInstaller.exe -i ConfigurationXML="c:\settings\  
ConfigurationXML.xml" -q -reboot
```

With this command, you start the installation wizard without a user interface, and automatically reboot the system.

Uninstallation

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

You will get a return code for the scripted uninstallation only if you start it as administrator.

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

For example: `C:\CS`

- 3 To start the uninstallation, call `Agilent.OpenLab.CDSInstaller.exe` with the following syntax:

```
Agilent.OpenLab.CDSInstaller.exe -u KeepComponents="<list of components>" -q -reboot
```

For Example:

```
Agilent.OpenLab.CDSInstaller.exe -u KeepComponents="IQT,IOLibraries" -q -reboot
```

With the `KeepComponents` parameter, you can specify a list of shared components that you want to keep on the system (see ["Parameters"](#) on page 57). With the command given in the example, the OpenLab components Software Verification Tool (IQT) and IO Library (IOLibraries) will be kept.

Logging and Tracing

All exceptions, errors and information messages are logged in the following locations:

- During installation, upgrade, or repair: under `<BaseInstallDirectory>\Logs`
- During uninstallation: under `<User's Temp>\<Company Name>\Logs\<Log folder>\<Wizard Name>.txt`

Update Client Components

The client components of any Networked Workstation, AIC, or client must be compatible with the server product hosting the OpenLab Shared Services. When being operated for some time, the server software may contain additional updates or patches. Therefore, if you added a Networked Workstation, AIC, or client to such an existing server, make sure that you update all client components to the corresponding patch level.

The installation files are provided in the folder \Disk1\OpenLab Platform Updates on the installation media. In addition, the most recent updates are available on SubscribeNet.

Please follow the instructions in \Disk1\OpenLab Platform Updates.

What to do Next

The basic installation of the data system software is complete.

There is a *60-day Startup License* for this system, and the expiration period starts with the installation.

To request and download your *final software license* and add the *license file* to your system, see the *Licensing* chapter in this guide.

After you have acquired and installed your *final software license*, you will continue to prepare your data system for operation by end users by configuring users and instruments. This is accomplished through the *OpenLab Control Panel*, see the *OpenLab ChemStation Configuration Guide: User Management and Instrument Configuration* (CDS_CS_configure.pdf).



4

Optional Procedures

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Install Additional Software and Drivers 66

This chapter contains information on the Software Verification Tool, ChemStation folder protection, and other helpful procedures.

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 Programs >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 C:\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.

Improve Performance on Offline Machines

Computers running ChemStation 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, clients, AICs, and servers 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 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 ChemStation installer to fail. The root certificates need to be turned on to prevent installation failures.

NOTE

If you connect the computer to the internet again, you must remove the registry keys.

Protect ChemStation Folders with Secure File I/O

ChemStation files such as data, methods, or sequences are stored in various local folders. To ensure data integrity, ChemStation offers the *Secure File I/O* function. If you enable this function, all folders will be protected against modifications from outside ChemStation or in **Open** or **Save As** dialogs.

For more information, refer to the *Folder Protection with Secure File I/O* chapter in the *OpenLab ChemStation Configuration Guide* (CDS_CS_configure.pdf).

Install Additional Software and Drivers

ChemStation offers a wizard to help you installing additional software, such as the ADFExport Plug-in, or drivers for third-party instruments. To open the wizard, go to **Start >All programs >Agilent Technologies >OpenLab Additional Software and Drivers**. Follow the wizard to install the required software.

Prepare Network Drives

If the additional software is located on a network drive, you must prepare the network drive to make it accessible by the wizard. Without this preparation, Windows security prevents the wizard from accessing those drives.

- 1 Map the drive to a letter.

For example, map the drive as **Z:** using the shared path "\\<machine-name>\OpenLabCDS".

This maps the drive for the logged-in user.

- 2 Open the command prompt in elevated mode (run as administrator), and map the drive using the **net use** command.

For example,

```
net use Z: "\\<machine-name>\OpenLabCDS"
```

This maps the drive for the local administrator account. The mapped drive is now visible to both logged-in user and administrator, and can be selected in the wizard.

5

Licensing

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This chapter describes how to obtain and install a license.

About OpenLab Licensing

License Types

The license file is a collection of Product, Instruments and Add-on licenses (or activation keys), and is installed to your OpenLab System.

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 ChemStation 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.

A startup license for the system allows you to run OpenLab ChemStation 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.

License File

A license file will contain your software license. This file is installed on the workstation. The license file is bound to this computer, and cannot be moved to another workstation without regenerating the license in SubscribeNet.

Information in the license file defines the number of instruments and other options that may be used concurrently with your system.

The most efficient way to manage and maintain your licensing is through the Internet.

Get a License

Obtain a License with SubscribeNet

Use the following procedure to generate and download your license. In case you do not have internet access, skip to the section [“Other Ways to Obtain a License”](#) on page 71.

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*.

Prerequisites

To generate, download, and install a final license for your product, 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 host name of the computer where the Control Panel is running.
- The MAC address.

To retrieve your MAC address from a computer where OpenLab ChemStation 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.

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.

NOTE

If any changes are made to the computer name or domain reference after the license is installed, remove the license. A new license will need to be created in SubscribeNet, downloaded, and installed.

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 an asterisk *).
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 Follow steps 5 through 7 in the previous procedure, *New Users*, to *generate or view* your new licenses.

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

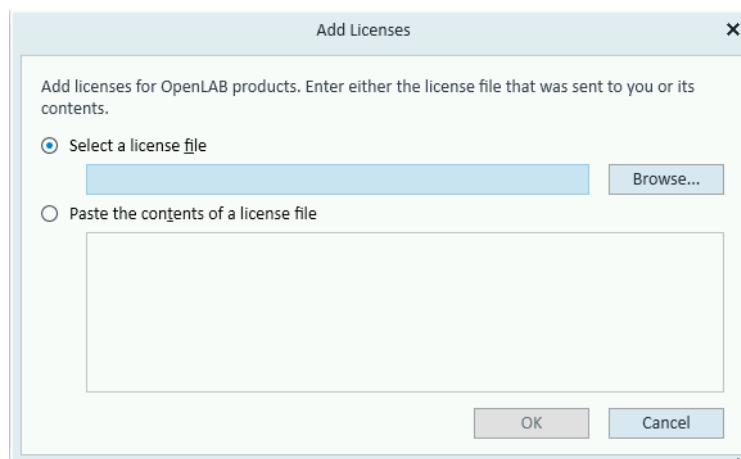
Configure License Server

- 1 Select **Licenses** in the navigation window. Add a valid license file or server to activate the OpenLab Software.

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 Programs >Agilent Technologies >OpenLab Shared Services >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.

Windows Server Licensing

ChemStation Distributed Systems are taking advantage of Microsoft Remote Desktop Services. In addition to the Client Access Licenses, this technology requires additional licenses called Remote Desktop Services Client Access License (RDS CAL).

Client Access License (CAL)

A Client Access License permits client computers to connect to Microsoft server hosting shared resources.

Remote Desktop Services CAL (RDS CAL)

The ChemStation Instrument Controller (AIC) software uses the Remote Desktop Services (RDS) role in Windows Server. Using this role requires a Windows Server Remote Desktop Services CAL (RDS CAL), in addition to the Windows Server Client Access License (CAL), to access any application or graphical user interface remotely hosted by Windows Server.

You need at least one Remote Desktop Services Licensing Server deployed and activated in your environment. During a grace period of 120 days no license server is required. At the end of the grace period, remote connections will be refused.

Both the Client Access License (CAL) and Remote Desktop Services CAL (RDS CAL) can apply to a device or to a user.

For more information about CAL and RDS CAL requirements, see:

- Client Access Licenses and Management Licenses
(<https://www.microsoft.com/en-us/licensing/product-licensing/client-access-license.aspx>)
- Understanding Remote Desktop Licensing
(<http://technet.microsoft.com/en-us/library/cc772298.aspx>)
- Licensing Windows Server 2012 R2 Remote Desktop Services
(<http://download.microsoft.com/download/3/D/4/3D42BDC2-6725-4B29-B75A-A5B04179958B/Licensing-Windows-Server-2012-R2-RDS-and-Desktop-Apps-for-RDS.pdf>)

Client Access Licenses and Management Licenses
(<http://download.microsoft.com/download/3/D/4/3D42BDC2-6725-4B29-B75A-A5B04179958B/Licensing-Windows-Server-2012-R2-RDS-and-Desktop-Apps-for-RDS.pdf>)

6

Upgrade to a New Software Version

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This chapter describes the upgrade to OpenLab ChemStation LTS 01.11 in a Networked or Distributed System.

Planning your Upgrade

For Networked Workstations, ChemStation Clients and AICs, a direct upgrade using the Upgrade Wizard is supported from ChemStation C.01.09 or higher. Older ChemStation revisions must be upgraded to C.01.09 or higher in a first step.

For the OpenLab Shared Services Server software, a direct upgrade is supported from version 2.3.

For details on the upgrade to C.01.09 or Shared Services Server 2.3, please refer to the *Networked and Distributed System Installation and Configuration* guide from version C.01.09.

Before upgrading a system, make sure that the Windows configuration meets all requirements. See *OpenLab ChemStation Hardware and Software Requirements* (CDS_CS_HW-SW-Requirements.pdf).

- 1 The upgrade process for a Networked or Distributed system starts with the server upgrade:
 - a Ensure that your server or servers run on Windows Server 2019. If required, generate a full server backup, then upgrade Windows server 2016 systems in-place to Windows Server 2019¹.
 - b Upgrade your server or servers to the Shared Services Server version 3.6 using the ChemStation installer. If you need to upgrade an OpenLab ECM server, it must be upgraded first before the OpenLab Shared Services Server.
- 2 After the server is upgraded, continue as follows:
 - Upgrade the Networked Workstations, or
 - In a Distributed System: Upgrade AICs first, then upgrade the clients.

Classic instrument drivers, with exception of MSD instrument drivers, are no longer supported. It is recommended that you convert the corresponding instrument methods to RC.Net driver methods prior to the upgrade. See ["Update Classic Instrument Drivers to RC.NET"](#) on page 79.

¹ If you want to upgrade an OpenLab Shared Services server that is connected to OpenLab ECM, and you want to keep a Windows Server 2016 R2 system: Use the OpenLab CDS rev. 2.7 installation media to upgrade the OpenLab Shared Services server

NOTE

The *M8370AA OpenLab CDS Data Analysis Add-On* is no longer supported in combination with ChemStation C.01.08 or higher.

If you need the M8370 Data Analysis functions, consider a mixed environment including an OpenLab CDS client. The server version must be compatible to both ChemStation and OpenLab CDS clients. You do not need to install an OpenLab CDS AIC as long as you do not acquire OpenLab CDS data.

For more information, refer to *Software Compatibility* in the *OpenLab ChemStation Hardware and Software Requirements* guide (CDS_CS_HW-SW-Requirements.pdf).

Backward Compatibility During Upgrade

During an upgrade project there might be different versions of ChemStation in your environment. Please note that the analysis and reprocessing of data is supported only on versions same as or higher than the one used for the acquisition or last reprocessing.

Agilent recommends that an environment with different versions should be used only during the upgrade phase. For more information, please refer to the *Software Compatibility* chapter in the *OpenLab ChemStation Hardware and Software Requirements* guide (CDS_CS_HW-SW-Requirements.pdf).

Backward Compatibility During Upgrade

NOTE

Different ChemStation Software revisions can be used within one network during the upgrade phase only. Acquisition and data analysis are supported on the version of software used for reprocessing, or on a newer version of the software.

Agilent recommends that all ChemStation installations in a network are on the same software version. As long as this is not the case, ensure procedures are in place to prevent older clients or workstations to access and reprocess data created by newer clients or workstations.

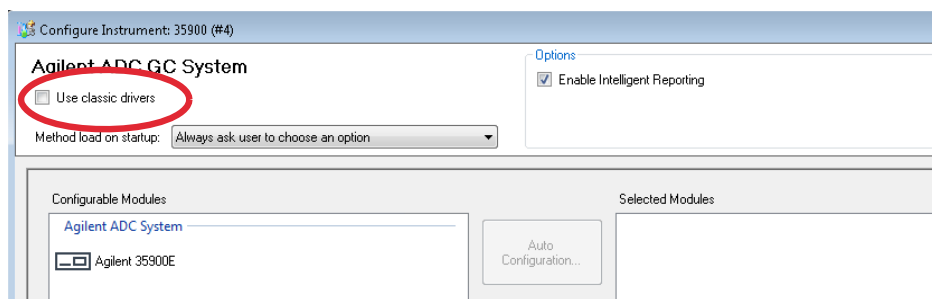
During the upgrade phase ChemStation may be used to start/run instruments that were previously configured and working prior to the upgrade. During the upgrade phase, the **Instruments** and **Projects** tabs will be fully functional in the existing revision of the Control Panel. You can start and operate an instrument that was configured and running prior to the upgrade. Administrative tasks such as adding users or changing passwords must be done on the newer revision of the software. No other functionality is supported until the system upgrade is completed.

Update Classic Instrument Drivers to RC.NET

With LTS 01.11, only RC.NET drivers are available (with exception of MSD instrument drivers). Instruments using the classic driver must be reconfigured to use the RC.net driver. Agilent recommends to do this before upgrading to LTS 01.11.

To determine which instruments are using the classic driver, go to the OpenLab Control Panel and select the instrument. Select **Configure Instrument** in the ribbon. The instrument is using the classic driver if the **Use classic drivers** check box is selected. Perform the following steps to reconfigure the instrument to use RC.NET.

- 1 Record the IP address for each classic driver instrument.
- 2 Verify there is a backup of the methods and data to another location.
- 3 For your reference: Print the classic driver method settings or save the method listing to disk.
- 4 To reconfigure the instrument, select the instrument in the **OpenLab Control Panel**.
- 5 In the ribbon, click **Configure Instrument**.
- 6 In the configuration dialog, clear the **Use classic drivers** check box.



The instrument is moved from the **Selected Modules** panel to the **Configurable Modules** panel.

- 7 Select the instrument in the **Configurable Modules** panel, then click the arrow to add the instrument to the **Selected Modules** panel again.

NOTE

- If a current RC.NET driver is not yet available, you must install it manually before upgrading ChemStation.
 - For example, follow these steps to install the 35900E ADC RC.NET driver:
 - a Run the installer.
 - b Go to Installation and open OpenLab Additional Software and Drivers.
 - c When asked for the Add-on software, browse to Disk3 of the installation media, and to the Agilent 35900E RCNet folder to find the Agilent OpenLab CDS ChemStation 35900 AtoD Drivers.msi file. The corresponding software will then be listed in the installer.
 - d Select the software in the list, and continue to install. The installation verification will automatically follow and should complete without errors.
- 8 Double-click the instrument under **Selected Modules**, and configure the previously recorded IP address. Click **Get Serial Number and Firmware** to get the corresponding entries.

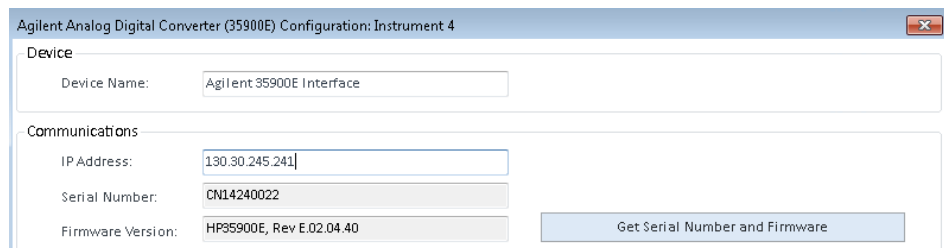


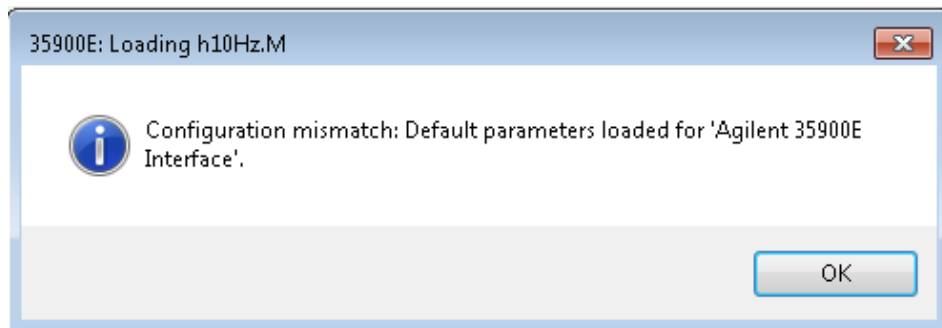
Figure 5 Example for 35900 configuration

- 9 Launch the newly configured instrument.

Upgrade to a New Software Version

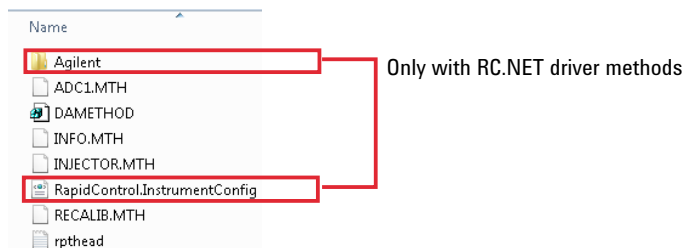
Update Classic Instrument Drivers to RC.NET

- 10 To convert a method to RC.NET driver, load the method. If a dialog like the following opens, click **OK**.



Review the method, and if no updates are needed, add a comment such as "Updated to RC.NET" to the method when saving it.

Methods are converted to RC.NET when loaded. After saving to disk, converted methods have an additional Agilent folder and RapidControl.InstrumentConfig file.



License Upgrade

You will need to get a new license to upgrade to the new version of the software.

Do not perform a license upgrade on a Networked Workstation, an AIC, or Distributed System, without the assistance of an engineer!

See “Sales and Support Assistance” on page 114 to find a sales representative in your region.

Upgrade a Server With OpenLab Server or OpenLab ECM XT

For details on upgrading the server software, please refer to the *OpenLab Server and OpenLab ECM XT Installation Guide* (ECM_XT_InstallationGuide.pdf).

Upgrade a Server With OpenLab Shared Services Server Software

To upgrade to LTS 01.11, perform the following steps:

Prerequisites

You are using ChemStation rev. C.01.09 or higher. Older revisions must first be upgraded in a separate step.

NOTE

If your OpenLab system connects to an SQL Server that uses Windows authentication: Make sure that the SYSTEM user is the owner of the *OLSharedServices* database, and run the upgrade as the same user who initially installed ChemStation.

- 1 Create a full server backup.
- 2 If you still use the Windows Server 2016 operating system, perform an in-place upgrade to Windows Server 2019.
- 3 Run the OpenLab ChemStation installer from the same media type (for example, USB or network share) as you used to install the current version.
- 4 From the installer **Planning** screen, switch to the **Installation** screen.
- 5 Click **OpenLab ChemStation**. If ChemStation is already installed, this automatically opens the upgrade wizard.
- 6 In the **Upgrade Type** screen, enter the credentials for OpenLab Shared Services.
- 7 Select **Next** to proceed to the **Summary** screen.
- 8 In the **Summary** screen of the Upgrade Wizard, the components for the upgrade are listed. Select **Start** to start the upgrade.
If an error occurs during the upgrade, an error message appears. When a component is upgraded correctly, the status shown in the **Status** field changes from **Installed** to **Successfully Upgraded**.
- 9 After the upgrade is completed, a warning message appears, stating that you must restart Windows for some changes to take effect.
Select **Yes** to restart Windows.
Select **No** if you want to restart Windows at a later time.

After the upgrade, check the settings in the OpenLab Shared Services Maintenance tool. For more information on server administration, refer to the *OpenLab ChemStation Workstation Administrator's Guide* (CDS_CS_maintenance.pdf).

Run the Upgrade Wizard on an AIC, Client, or Networked Workstation

Prerequisites

You are using ChemStation rev. C.01.09 or higher.

For AICs and Networked Workstations: To preserve the instrument's column table during the upgrade, go into each of the existing instrument folders (C:\ProgramData\Agilent Technologies\ChemStation\1\, C:\ProgramData\Agilent Technologies\ChemStation\2\, ...) and rename the file **Config.reg** into **Config.bak**. This step is *not* required if you use LC column tags to store the LC column information, or if GC column injection counts are irrelevant.

- 1 Run the installer from the same media type (for example, USB or network share) as you used to install the current version.
- 2 From the installer **Planning** screen, switch to the **Installation** screen.
- 3 Select **OpenLab ChemStation**.
If ChemStation is already installed, this automatically opens the upgrade wizard.
- 4 Acknowledge that the license has been upgraded and click **Next** to continue.
For details on upgrading the license, see "[License Upgrade](#)" on page 82.
- 5 Select **I agree with the terms and conditions**. You cannot proceed with the upgrade unless you agree to these terms. Click **Next**.
- 6 If an Authentication Provider has been configured: Enter the username and password of a user with system administration privileges in the **OpenLab Shared Services Settings for Registration** screen. Click **Next**.
- 7 In the **Summary** screen of the Upgrade Wizard, the components for the upgrade are listed. Click **Start** to proceed with the upgrade.
If an error occurs during the upgrade, an error message appears.
- 8 Select **Finish** to close the upgrade wizard.
- 9 For AICs and Networked Workstations: After the upgrade, check if the settings in the **ChemStation Administration Tool** still match your original system settings before the upgrade.

Upgrade OpenLab Control Panel

Follow this procedure if you are using a mixed environment where the server has been upgraded *after* upgrading the Networked Workstation, AICs or clients to LTS 01.11. If you have upgraded your server first, this step is not required.

This procedure will upgrade the OpenLab Control Panel to the corresponding version on your Networked Workstation, AIC or client. This is important to avoid a mix of different OpenLab Control Panel versions in the same system.

Prerequisites

Your server has been upgraded to OpenLab Shared Services Server or OpenLab Server .

- 1 Run the installer from the same media type (for example, USB or network share) as you used to install the current version.
- 2 From the installer **Planning** screen, switch to the **Maintenance** screen.
- 3 Click **Upgrade OpenLab Control Panel**.
- 4 Follow the wizard.



7

Uninstall the Software

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This chapter contains information on the uninstallation by using the OpenLab Uninstallation Wizard.

About Uninstallation

Like the installation, the uninstallation of ChemStation is automated by the ChemStation Installer.

NOTE

If the installer was not used for installation, any manually installed additional software such as Headspace, PAL, or third party drivers must be uninstalled using the Windows Control Panel before ChemStation can be uninstalled.

For your convenience, the installer uses the same user interfaces for the software uninstallation of all ChemStation configurations (standalone or networked workstation). Launch the **OpenLab Uninstallation** wizard under the **Maintenance** section of the installer, and follow the uninstallation steps.

For uninstalling ChemStation, you need to have administrator privileges for all servers and clients. Power user privileges are not sufficient (the uninstallation does not start).

NOTE

Do not use the Windows uninstallation tool.

Run the Uninstallation Wizard on a Client

- 1 Select **Start >Agilent Technologies >Uninstall OpenLab CDS**.

The **OpenLab Uninstallation Wizard** opens.

- 2 In the **Shared Components** screen, select the **Uninstall Software Verification** check box.

Note: Software Verification Tool needs to be uninstalled if you wish to re-install ChemStation at a later time.

- 3 In the **Summary** screen under **Uninstallation of OpenLab ChemStation Components**, there is a list of the components you want to uninstall.

- 4 Select **Start** to start the uninstallation.

If you want to abort the uninstallation, select **Cancel**. If you want to change any settings, select **Back**.

All listed components are automatically uninstalled, one after another.

- 5 When the uninstallation has finished, click **Finish** to close the uninstallation wizard.

Run the Uninstallation Wizard on an Instrument Controller

- 1 Select **Start >Agilent Technologies >Uninstall OpenLab CDS**.
The **OpenLab Uninstallation Wizard** opens.
- 2 In the **Shared Components** screen, select the **Uninstall Software Verification** check box.
Note: Software Verification Tool needs to be uninstalled if you wish to re-install ChemStation at a later time.
- 3 In the **Summary** screen under **Uninstallation of OpenLab ChemStation Components**, there is a list of the components you want to uninstall.
- 4 Select **Start** to start the uninstallation.
If you want to abort the uninstallation, select **Cancel**. If you want to change any settings, select **Back**.
All listed components are automatically uninstalled, one after another.
- 5 When the uninstallation has finished, click **Finish** to close the uninstallation wizard.

Run the Uninstallation Wizard on the OpenLab Shared Services Server

- 1 Select **Start >Agilent Technologies >Uninstall OpenLab CDS**.
The **OpenLab Uninstallation Wizard** opens.
- 2 In the **Shared Components** screen, check **Uninstall Software Verification**.
Under **SQL Instance**, select the instance that you want to uninstall from the drop-down list.

NOTE

The Software Verification Tool needs to be uninstalled if you want to reinstall OpenLab ChemStation at a later time.

- 3 Select **Next** to proceed to the **Summary** screen.
- 4 In the **Summary** screen under **Uninstallation of OpenLab Components**, there is a list of the components you want to uninstall.
- 5 Select **Start** to start the uninstallation.
- 6 If you want to abort the uninstallation, select **Cancel**. If you want to change any settings, select **Back**.

All listed components are automatically uninstalled, one after another.

When a component is uninstalled correctly, the status shown in the **Status** field of the **Maintenance** screen changes from **Installed** to **Uninstalled successfully**.

When the uninstallation has finished, click **Finish** to close the **Uninstallation Wizard**.

Run the Uninstallation Wizard on a Networked Workstation

- 1 Select **Start >Agilent Technologies >Uninstall OpenLab CDS**.
The **OpenLab Uninstallation Wizard** opens.
- 2 In the **Shared Components** screen, select the **Uninstall Software Verification** check box.
Note: Software Verification Tool needs to be uninstalled if you wish to re-install ChemStation at a later time.
- 3 In the **Summary** screen under **Uninstallation of OpenLab ChemStation Components**, there is a list of the components you want to uninstall.
- 4 Select **Start** to start the uninstallation.
If you want to abort the uninstallation, select **Cancel**. If you want to change any settings, select **Back**.
All listed components are automatically uninstalled, one after another.
- 5 When the uninstallation has finished, click **Finish** to close the uninstallation wizard.

8 Troubleshooting

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The chapter gives some troubleshooting hints.

About Troubleshooting

The ChemStation Installer configures a Windows Server machine with the minimum footprint and effort, so its Remote Desktop Services functionality can be used to remotely control ChemStation instruments.

This comprises the creation of a number of local users required for launching the ChemStation instruments from a remote client. It also comprises configuring the machine as a Remote Desktop Services host and performing the registration tasks necessary to access and run ChemStation from a remote client.

Experience shows that there are numerous ways to restrict access to a server machine and local network so that the default installation will no longer work. This chapter is intended to list the known restrictions and provide means to get the AIC working even if there are several restrictions.

Consider Before Installation

Password Policy not Satisfied by Default Passwords

The local users created during installation by default have a password consisting of a random mixture of 3 uppercase letters, 3 lowercase letters, 3 digits and 3 special characters. This should satisfy almost any password restriction rules.

To check if the user password matches the password restriction rules:

- Create a test user on the AIC.
- Set the test user's password to "uK0%wJ8+kA6+" for example.

If the password does not conform to the password rules:

- Create 9 compliant passwords and enter them during installation of the AIC (see section "Change Passwords for ChemStation Instrument Users" on page 99 under Remedial Procedures).

Configure a Network Printer

- 1 Click **Start >Devices and Printers**.
- 2 Click tool button **Add a Printer**.
- 3 Click **Add a local or network printer as administrator**.
- 4 Click **Add a local printer** or **Add a network, wireless** or **Bluetooth printer**.
- 5 For network printers: Select **Configure a new port**, and in the drop-down box select **Standard TCP/IP Port**.
- 6 Click **Next**. Verify that the box **Query the printer and automatically select the driver to use** is checked.
- 7 Enter the hostname or IP address (use fully qualified name: e.g. <printer name>.germany.agilent.com). The port name is displayed identically.
- 8 Click **Next**. Windows will communicate with the printer and install the driver if required. Then select **Use this driver that is currently installed (recommended)** (default). Optionally it can be replaced.
- 9 Click **Next**. Use the default displayed printer name or change it to a suitable expression if required.
- 10 Click **Next**. The printer will be installed.

- 11 After installation, verify that the radio button **Do not share this printer** is selected.
- 12 Click **Next**. Check the box **Set as the default printer** if required. Print a test page.
- 13 Click **Finish** when test page is successfully printed.

Consider After Installation

Login Delay

If you are experiencing high response times during logon to the system or reconnecting after a session lock, the following causes might apply:

- DNS not set up correctly.
Check that the name resolution is working properly for all affected computers.
- Ports blocked by firewall.
Check that the ports listed in the requirements are not blocked by your firewall.

Network Level Authentication Required

Remote Desktop Services provides a higher level of security if the client's access is checked by the domain controller before actually accessing the AIC. Your IT department may require the use of this security level.

To switch an AIC to Network Level Authentication, perform the following steps:

- 1 Start **Server Manager**.
- 2 Select **Roles >Remote Desktop Services >RD Session Host Configuration >RDPTCP Properties**.
- 3 Under **General**, mark the check box **Allow connections only from computers running Remote Desktop with Network Level Authentication**.
- 4 Click **OK**.

Performance Monitoring and Optimization on ChemStation AICs

Whenever attempting to increase ChemStation AIC performance it is important to monitor and classify potential performance issues carefully.

A simple method for monitoring disk performance is by reprocessing a large example sequence data for benchmarking purposes. The run time of the reprocessing cycle can be graphically displayed by importing the sequence logfile to Microsoft® Excel® and plotting the start time versus the sequence line number.

By repeating these benchmark tests on a regular base – ideally after performing a maintenance procedure – slow digression of performance can be identified earliest.

Software operations typically start a whole chain of processes where the slowest step determines the overall performance. If the slowness of this step is exceeding the other processes by magnitudes this single bottleneck might be corrected by a single action.

In cases where the individual processes along the chain show equivalent performance the bottleneck may become hard to identify as it jumps along the chain as soon as a single parameter gets optimized. A multi-step optimization becomes necessary then.

The following parameters do have potential impact on AIC performance and can be tuned for performance optimization:

- Network configuration
- Memory configuration
- Disk configuration

Network Configuration

Please refer to the *OpenLab ChemStation Hardware and Software Requirements* guide (CDS_CS_HW-SW-Requirements.pdf) on the installation medium.

Memory Configuration

Troubleshooting: Monitor the overall memory usage and the private Bytes used by each ChemMain.exe process. If memory usage exceeds 95% of the available memory Windows starts to swap memory content into virtual memory – which is a slow process as the pagefile (virtual memory) is typically hosted by a spinning disk.

Possible Causes for insufficient free memory: The memory usage increases with the server load or the application in use may also suffer from memory leaks.

As the server load is typically constant on larger time scales the memory consumption due to memory leaks increases over time. If performance and free memory can be re-gained by rebooting the AIC the system might suffer from memory leaks. Please ensure that Microsoft hot fix 2636613 is installed (<http://support.microsoft.com/kb/2636613/en-us>).

If 95% of the memory is already consumed after a reboot of the AIC and all instruments connected more physical memory should be added.

If a ChemStation instance is operated for several weeks in a row with no shut-down the chemmain.exe process associated with this instrument may allocate 500 MB private memory or even more. Hence it is recommended that you restart every instrument instance after 2-3 weeks of operation. This does also trigger the clean-up of temporarily stored files with positive impact on disc performance.

Disc Configuration

Troubleshooting: In order to identify disc-related performance problems it is recommended that you monitor the average disk queue for logical and physical disks (<http://technet.microsoft.com/en-us/library/cc938625.aspx>). With a volume set a queue that is never shorter than the number of active physical disks indicates that you are developing a bottleneck.

Another method for monitoring disk performance is by reprocessing a large sequence of example data. The reprocessing time on an idle system may increase over time, indicating a disk-related problem.

Possible causes for disc-related performance problems:

- If ChemStation gets installed on a single disc drive, this disc has to handle the following I/O intensive processes:
 - Windows pagefile (virtual memory)
 - Windows user's temp directories (unzipping of data downloaded from OpenLab ECM 3.x)
 - ChemStation raw data writing
- The load on this disk gets additionally increased if the ChemStation data storage location is not excluded from real-time protection of virus scanners as recommended.
- The main goal is to keep the AIC disks as empty as possible and to distribute I/O intensive processes across multiple disk drives. This can be achieved by various means:
 - Delete locally stored data after transfer to the data repository.
 - Install or configure ChemStation on a drive that does not host the Windows page file or the Windows user's temp directories (default: c:\users\\AppData\Local\Temp).
 - Install ChemStation on the C: drive. In the ChemStation Preferences settings, change the default paths for sequences, methods and data files to a different disk drive. This can be done during the installation or after configuring a new instrument.
 - In the ChemStation Preferences settings, avoid sharing paths across multiple instruments.

Remedial Procedures

Change Passwords for ChemStation Instrument Users

During installation of OpenLab ChemStation, the instrument users names and passwords are configured via an XML file. This XML file is stored under `<BaseInstallDirectory>\Logs\users.xml`.

By default, the installer creates the users.xml file automatically to generate local instrument users with passwords that never expire. The file has the following structure:

```
<?xml version="1.0" encoding="utf-8" ?>

<users>

<user UserName="AICHostName\CSIUser0" Password="xxxxxxxxxxxxx" />

<user UserName="AICHostName\CSIUser1" Password="xxxxxxxxxxxxx" />

<user UserName="AICHostName\CSIUser2" Password="xxxxxxxxxxxxx" />

<user UserName="AICHostName\CSIUser3" Password="xxxxxxxxxxxxx" />

[...]

<user UserName="AICHostName\CSIUser37" Password="xxxxxxxxxxxxx" />

<user UserName="AICHostName\CSIUser38" Password="xxxxxxxxxxxxx" />

<user UserName="AICHostName\CSIUser39" Password="xxxxxxxxxxxxx" />

<user UserName="AICHostName\CSIUser40" Password="xxxxxxxxxxxxx" />

</users>
```

The installer fills the structure with the auto-generated passwords and the machine-prefixed user names. After creating the accounts the passwords become encrypted and are only readable by the software.

Alternatively, you can specify instrument users names and passwords as required, and define domain users instead of local users. In this case, a security policy may require changing the passwords on a regular basis.

Change Passwords for ChemStation Instrument Users

If you specified your own user names or passwords during the installation of an AIC, and you used *domain* users, it may become necessary to change their passwords on a regular basis.

- 1 Specify different user names or passwords in a *users.xml* file:
 - a Provide local users in the form: *UserName="<AIC host name>\<user name>"*.
 - OR
 - Provide domain users in the form: *UserName="<domain name>\<user name>"*.

NOTE

Specify the same type of users (local or domain users) as during the AIC installation

Make sure that at least 41 different user names are provided. If you provide the same username twice, instrument access conflicts will arise.

- b Provide special passwords in the form: *Password="<user defined password>"*. At this stage, write the passwords in clear text. Encryption will take place when registering the accounts with Shared Services.

Make sure that the password complies with the domain policy for passwords. Special characters must be escaped as follows:

Character	Escaped Character
<	<
>	>
"	"
'	'
&	&

- c Enforce addition of users to the Local Administrators group by setting the users attribute:


```
<users unsafe="true" >
```
- 2 In order to meet any requirement for an initial password change, change domain user passwords in Windows for each user in the *users.xml*.

- 3 Register the new passwords with Shared Services:
 - a On the AIC, select **Start >Command Prompt**.
 - b Type `cd <ChemStation installation directory>\Core` and press **Enter**.
 - c Type `registerCSData.exe /remote /InstrumentUsers="<Path to users.xml file>" /URL="net.tcp://<OpenLab Shared Services server>:6577/Agilent/OpenLAB/" /User="<name of OpenLab Shared Services admin user>" /password="<password of OpenLab Shared Services admin user>"` and press **Enter**.

After registration, the passwords in the users.xml file will appear encrypted and will be only readable by the software.
- 4 Restart OpenLab Control Panel before launching the reconfigured instruments.

Privilege “Allow Log-on Through Remote Desktop Services” not Granted for Remote Desktop Users Group by Group Policy

Some IT departments revoke the privilege Allow log-on through Remote Desktop Services from the Remote Desktop Users group (to which it is granted by default) by domain policy.

To check if the logon privilege is granted:

- 1 Select **Start >Run...**
- 2 Type `secpol.msc`.
- 3 Check the security setting for **Local Policy >User Rights Assignment >Allow log-on through Remote Desktop Services**. If the security setting does not include the Remote Desktop Users group:
 - a Negotiate with the local IT department to get an exception for this policy (preferred solution).
OR
Check if the logon privilege is granted to the Local Administrators group (workaround solution).
 - b If the privilege is granted: Set the **unsafe="true"** switch during installation of the AIC (see “[Change Passwords for ChemStation Instrument Users](#)” on page 99).

NOTE

It is not possible to configure or launch ChemStation instruments remotely on this AIC if the instrument user does not have the described privilege.

Not Possible to Launch the Instrument from the ChemStation Client

Make sure that the ChemStation installation folder is not shared. Doing so will disable launching the instrument from ChemStation clients.

Remote Desktop Users Group is Emptied by Group Policy

Some IT departments empty the **Remote Desktop Users** group periodically by Group Policy.

To check if the Remote Desktop Users group is emptied:

- 1 Create a local test user.
- 2 Add the test user to the **Remote Desktop Users**.
- 3 Wait until the Group Policy application period has elapsed (in most cases within 24 hours).
- 4 Check in the **Computer Management** tool under **Local Users and Groups >Groups >Remote Desktop Users** if the test user is still present in this group. If the user is not present:
 - a Negotiate with the local IT department to get an exception for this policy (preferred solution).
OR
Check whether the security setting for **Local Policy >User Rights Assignment >Allow log-on through Remote Desktop Services** includes the Local Administrators group (workaround solution).
 - b If the security setting includes the Local Administrators group: Set the **unsafe="true"** switch during installation of the AIC (see ["Change Passwords for ChemStation Instrument Users"](#) on page 99).

NOTE

It is not possible to configure or launch ChemStation instruments remotely on this AIC if the instrument users do not have the described privilege.

No Access to Domain Printers

Some IT departments allow the use of network printers only for domain users but not for local users.

1 Select **Start >Devices and Printers**.

2 Check the security properties of the printers set up on the AIC.

If the **Local Users** group or **Remote Desktop Users** group does not have **Print** privilege on the selected printer, do one of the following:

- Install and use a local printer (preferred solution, see below for instructions).
- Negotiate with the local IT department to get an exception for this security setting.
- Use domain users as instrument users:
 - Create 11 domain users.
This requires domain administrator privileges.
 - Register the users and passwords during installation of the AIC (see [“Change Passwords for ChemStation Instrument Users”](#) on page 100)
- Check whether the security setting includes the **Local Administrators** group (workaround solution).

If this is the case: Set the **unsafe="true"** switch during installation of the AIC (see [“Change Passwords for ChemStation Instrument Users”](#) on page 99

NOTE

It is not possible to use the redirected printers that are installed on the client. These printers might become inaccessible when the instrument control is switched to a different client PC.

Error Message “Your Credentials did not Work” when Configuring or Launching an Instrument

After selecting the **Configure Instrument** or **Launch** button in the **OpenLab Configuration Panel** an error message appears, stating that the logon to the AIC failed.

- 1 Log on by selecting **Use another account**.
- 2 Type in the user name and password from the retained users.xml file (see “Change Passwords for ChemStation Instrument Users” on page 99).
If this logon attempt succeeds, the logon information registered on the OpenLab Shared Services server for this AIC is corrupt.
- 3 Re-register the users.xml file as described in “Change Passwords for ChemStation Instrument Users” on page 100.
- 4 Check if the ChemStation instrument user still has the necessary access rights (see “Privilege “Allow Log-on Through Remote Desktop Services” not Granted for Remote Desktop Users Group by Group Policy” on page 102 and “Remote Desktop Users Group is Emptied by Group Policy” on page 103):
 - a Apply the remedy or workaround as described in the sections mentioned above.
 - b On the AIC check if this account is locked out, using the **Computer Management** tool under **Local Users and Groups >Users**.
 - c Uncheck the box **Account is disabled**.

Error Message “Program Execution Failed” when Configuring or Launching an Instrument

After selecting the **Configure Instrument** or **Launch** button in the **OpenLab Configuration Panel** an error message appears, stating that program execution failed.

- 1 On the AIC, start **Server Manager**. Select **Roles >Remote Desktop Services >RemoteApp Manager Properties**.
- 2 Check that the **RemoteApp** Programs list **SetupWizardLauncher** with the attribute **Unrestricted** in column **Arguments**.
- 3 On the AIC, start **Windows Explorer** and check that the **instrument users** or **Local Users group** or **Remote Desktop Users group** have read/write and execute access to the ChemStation installation directory.

Fail Over Procedures

If there is no connection to the Shared Services server, you can use a fail over procedure. For details, refer to the *OpenLab ChemStation Configuration Guide: User Management and Instrument Configuration* (CDS_CS_configure.pdf).

Change the PC Name of an AIC or Networked Workstation

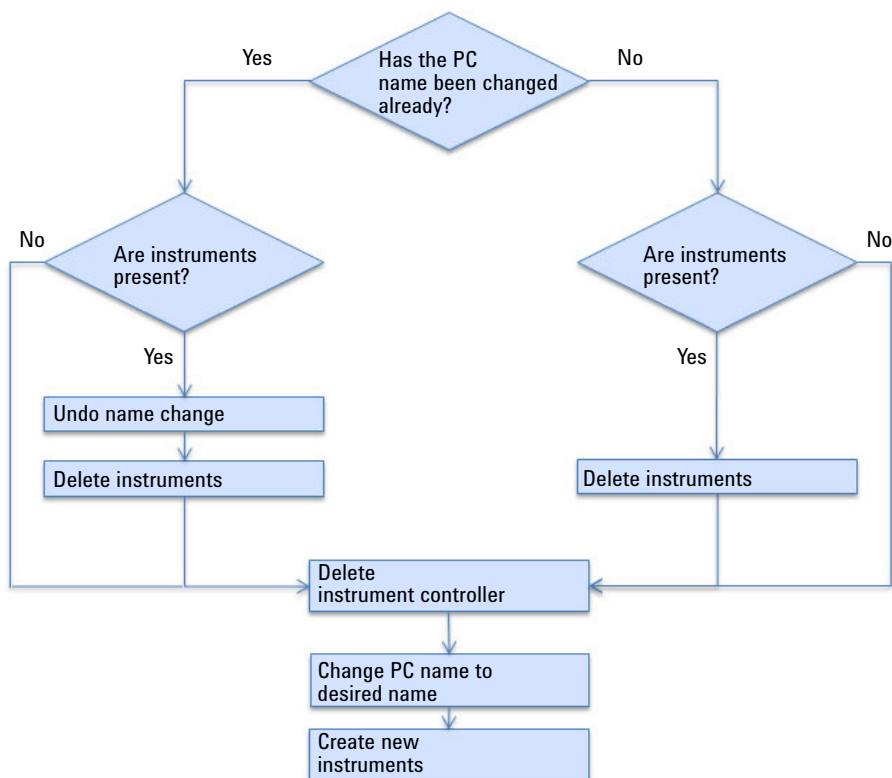


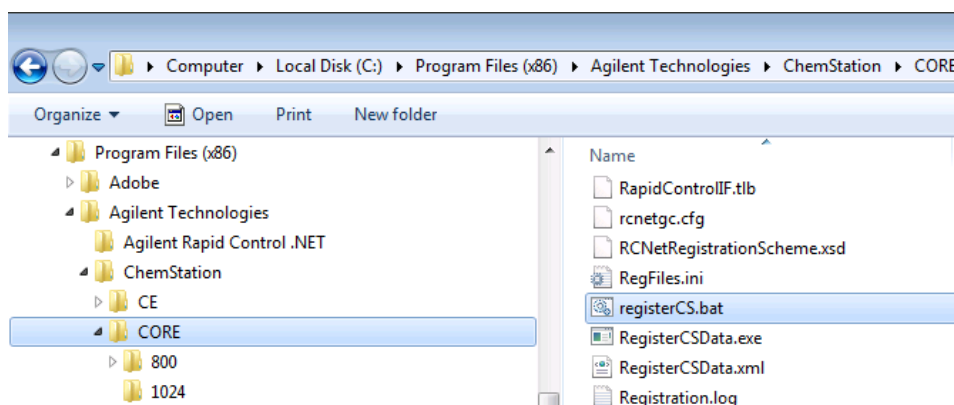
Figure 6 PC name change - flow chart

- 1 In the OpenLab Control Panel, navigate to the **Instruments** section and delete all instruments that are connected to the relevant AIC or Networked Workstation.
- 2 In the OpenLab Control Panel, navigate to **Administration > Instrument Controllers**. In the list of instrument controllers, select the entry with the old pc name, then click **Delete Instrument Controller** in the ribbon to remove it.
- 3 Rename the AIC or Networked Workstation and restart the machine.
- 4 If you renamed an AIC, and you use local instrument accounts: Adjust the users.xml file.

By default, the installer creates the users.xml file automatically to generate local instrument users. You find this file under `<BaseInstallDirectory>\Logs\users.xml` (see step about *Instrument accounts* under “*Installation Type Screens*” on page 46). If you used your own users.xml file, open the file from the location where you stored it.

Change the old pc name (for example, AICHostname) to the new pc name. Do not touch the encrypted passwords. Note down the path to the adjusted file, as you will need it in the next step.

- 5 Copy, update, and run adapted copy of **RegisterCS.bat**.
 - a Find the file **RegisterCS.bat** in the ChemStation Core folder:



- b Copy the file, and edit the new file.
If you change the original file, the Software Verification Tool will show an error when you run it the next time.
 - c In the remarks at the top, find the section **#1 for AIC** or **#2 for NetworkedCS** respectively.
This section lists all parameters that you must adjust.

- d Activate the entries by removing the **rem *** prefix, and adjust the values as required.
 - e Run the updated copy of the registerCS.bat file.
- 6 Log in again to the OpenLab Control Panel. Navigate to **Administration >Local Configuration** and ensure that the correct name is used in the address.
- 7 Go to **Start >All Programs >Agilent Technologies >Shared Services Maintenance**.
 - a Select the **Server Settings** tab and check if the correct PC name was registered. It is contained in the **Connection** string.
- 8 If the correct PC name was *not* registered, click **Add Server**, and provide the correct PC name.
- 9 If you renamed an AIC: Ensure that the RDS and its license service and the **ChemStation** RDS remote collection are available on the AIC again.

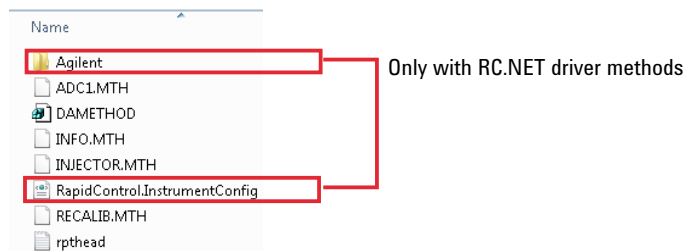
Otherwise neither remote access to the ChemStation instrument configuration nor to the ChemStation application will be possible.

If the RDS and its license service are working correctly, but the **ChemStation** RDS remote collection is missing: Create a backup copy of your adjusted users.xml; uninstall ChemStation from the AIC; reinstall ChemStation on the AIC using your adjusted users.xml file to use the correct instrument accounts.
- 10 Create new instruments.

Reconfigure Instruments Using Classic Drivers After Upgrade

Classic drivers are no longer supported (except for MSD instruments). If you still use an instrument with classic drivers, you will receive a notice when ChemStation starts. The classic driver instruments and methods are not updated to RC.NET automatically. Perform the following steps to reconfigure your instrument.

To check if a classic method is used, go to Windows Explorer and view the contents of the corresponding method folder. The classic method will not have the Agilent folder listed.



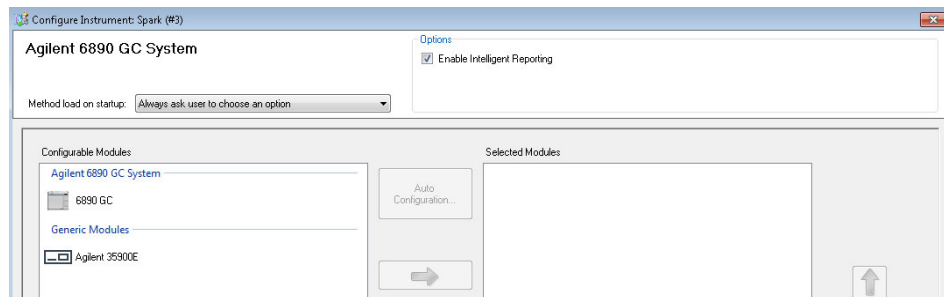
- 1 Record the IP address for each classic driver instrument.
- 2 Verify there is a backup of the methods and data to another location.
- 3 To reconfigure the instrument, select the instrument in the **OpenLab Control Panel**.

- 4 In the ribbon, click **Configure Instrument**.

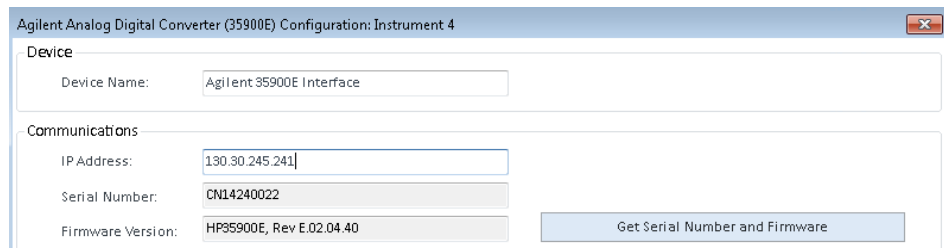
A message is displayed, requesting you to reconfigure your instrument.

- 5 Click **OK**.

The **Configure Instrument** panel opens. The **Use classic drivers** check box is no longer shown.



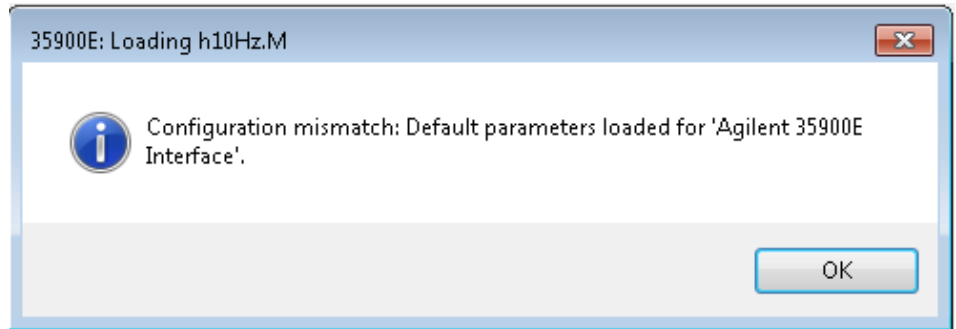
- 6 To update the instrument to use the RC.net driver, select the instrument in the **Configurable Modules** panel, then click the arrow to add it to the **Selected Modules** panel.
- 7 Enter the IP Address. *Only for 35900E A/D instrument:* Click **Get Serial Number and Firmware** to get the corresponding entries. For the example below the serial number and firmware version are updated upon successful connection to the 35900E A/D instrument.



This completes the setup of the instrument.

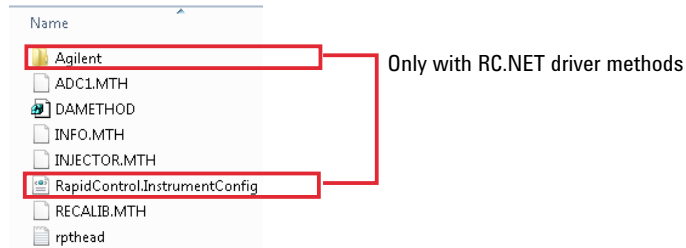
- 8 Click **OK** to load the instrument configuration.
- 9 Specify the **Method Load on Startup** option and select one of the following options:
 - a **Always ask the user to choose an option**
 - b **Download method to instrument on start up** (select this option to match the behavior of the classic driver)
 - c **Upload method from instrument**
 - d **New method from instrument**
- 10 Click **OK** to complete.
- 11 Launch the newly configured instrument.

- 12 To convert a method to RC.NET driver, load the method. If a dialog like the following opens, click **OK**.



Review the method, and if no updates are needed, add a comment such as "Updated to RC.NET" to the method when saving it.

Methods are converted to RC.NET when loaded. After saving to disk, converted methods have an additional Agilent folder and RapidControl.InstrumentConfig file.





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Appendix

Change SQL Server Authentication to Mixed Mode 113

Sales and Support Assistance 114

Change SQL Server Authentication to Mixed Mode

This procedure describes how you can switch to Mixed Mode in an existing Microsoft SQL Server installation.

- 1 Start SQL Server Management Studio.
- 2 In the Object Explorer, right-click the server name, and select **Properties** from the context menu.
- 3 In the **Server Properties** dialog, select the **Security** page.
- 4 Under **Server authentication**, select **SQL Server and Windows Authentication mode**.
- 5 Click **OK**.
- 6 Enable login for user sa.
 - a In the Object Explorer, navigate to **Security >Logins**.
 - b Right-click the user sa, and select **Properties** from the context menu.
 - c In the **Login Properties** dialog, select the **General** page.
 - d Provide a strong password.
 - e Select the **Status** page.
 - f Under **Login**, select Enabled.
Click **OK**.
- 7 Restart the SQL Server service, and log in with SQL Server Authentication.

Sales and Support Assistance

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

<http://www.chem.agilent.com/en-US/Contact-US/Pages/ContactUs.aspx>

If you have purchased a networked configuration and have purchased a Software Maintenance Agreement (SMA) from Agilent, you are also entitled to priority support at:

<https://www.agilent-labinformatics.com/support>

Register your SMA and receive a number of benefits including:

- Online Ticket Submission, Prioritization and Status Tracking
- Online Feature Request Submission and Tracking
- Readily available self-help tools and useful links

In This Book

This installation guide provides instructions to install Agilent OpenLab ChemStation LTS 01.11 Networked Workstations, or Distributed Systems.

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