Agilent

Agilent InfinityLab LC Series

InfinityLab Assist

Administration Manual



Notices

Document Information

The information in this document also applies to 1260 Infinity II and 1290 Infinity II modules.

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Agilent Technologies
Hewlett-Packard-Strasse 8
76337 Waldbronn, Germany

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CAUTION

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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.

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In This Book

This manual contains configuration instructions for the Agilent InfinityLab Assist Control Software (M8780AA).

InfinityLab Assist Hardware and Software Requirements

The following PC and software requirements are needed for viewing the browser user interface and running the chromatography data system (CDS).

Table 1: Software Requirements

Specification Description	Details
Operating system name, version	Windows 10 or 11, Enterprise of Professional, 64-bit
Web browser	Chromium-based browser (Chrome, Edge, etc.) with a version higher than 147 Safari-based browser with a version higher than 26.5

Table 2: Network Requirements

Specification Description	Supported
Network type, bandwidth, speed, protocol, etc.	Internet Protocol Version 4 (TCP/IPv4)
IP Address	Static or DHCP Reservation

The InfinityLab Assist is compatible with the following CDS software versions:

Table 3: Compatible Software Version

Supported CDS Software	Minimum Software Versions
OpenLab CDS 2.x	OpenLab CDS 2.6 OpenLab CDS 2.7 OpenLab CDS 2.8 OpenLab CDS 2.8 Update 3 for Client/Server (provides browser access)
MassHunter	LC-(Q)TOF MH 12.1 LC-TQ MH 12.2

Supported CDS Software	Minimum Software Versions
ChemStation	OpenLab ChemStation C.01.10 OpenLab ChemStation LTS C.01.11
Empower	Empower 3 Feature Release 4, or higher Agilent Driver for Waters Empower 4.1
Chromeleon	Chromeleon 7.2.10 MUf, or higher Chromeleon 7.3.1 Agilent Driver for Thermo Fisher Chromeleon 3.2 (LC Driver 3.9)

Table 4: InfinityLab Assist Supported Modules

Product Number	Description
G1170A	1290 Valve Drive
G1390B	Universal Interface Box
G4756A	Sample ID Reader
G5654A	1260 Bio-inert Pump
G5668A	1260 Bio-inert Multisampler
G6160B	Pro iQ MS
G6170A	Pro iQ Plus MS
G6465B	Ultivo Triple Quadrupole LC/MS System
G6475A	Triple Quadrupole LC/MS System
G6495D	Triple Quadrupole LC/MS
G7104A	1290 Flexible Pump
G7104C	1260 Flexible Pump
G7110B	1260 Isocratic Pump
G7111A	1260 Quaternary Pump VL
G7111B	1260 Quaternary Pump
G7112B	1260 Binary Pump
G7114A	1260 VWD
G7114B	1290 VWD
G7115A	1260 DAD WR
G7116A	1260 Multicolumn Thermostat
G7116B	1290 Multicolumn Thermostat
G7117A	1290 DAD FS

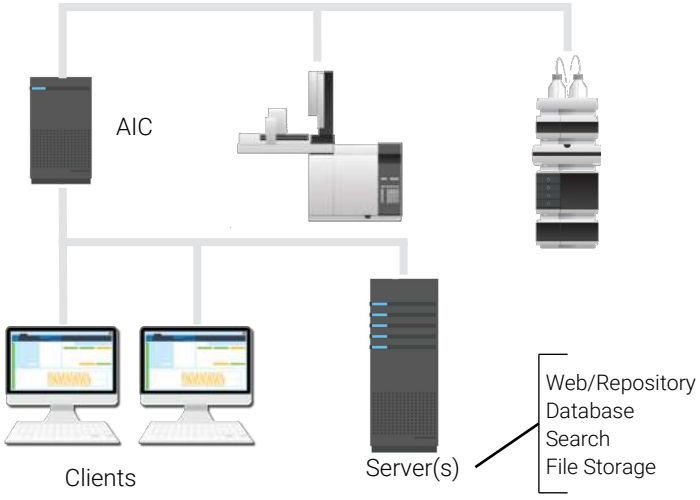
Product Number	Description
G7117B	1290 DAD
G7117C	1260 DAD HS
G7120A	1290 High-Speed Pump
G7121A	1260 Fluorescence Detector
G7121B	1260 FLD Spectra
G7123B	1290 Fluorescence Detector
G7129A	1260 Vialsampler
G7129B	1290 Vialsampler
G7129C	1260 Vialsampler
G7130A	Integrated Column Compartment
G7131A	1290 Bio Flexible Pump
G7131C	1260 Bio Flexible Pump
G7132A	1290 Bio High-Speed Pump
G7137A	1290 Bio Multisampler
G7137B	1290 Hybrid Multisampler
G7162A	1260 RID
G7162B	1290 RID
G7165A	1260 MWD
G7167A	1260 Multisampler
G7167B	1290 Multisampler
G7167C	1260 Hybrid Multisampler
G7175A	InfinityLab Level Sensing
Clusters	2D-LC Cluster, HDR-DAD Cluster, Pump Valve Cluster, Valve Thermostat Cluster

InfinityLab Assist Software Environments

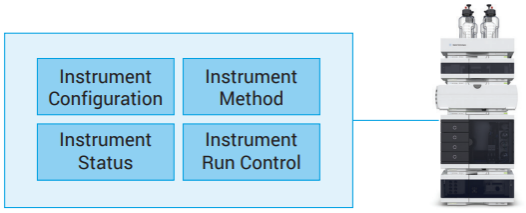
Standalone Workstation



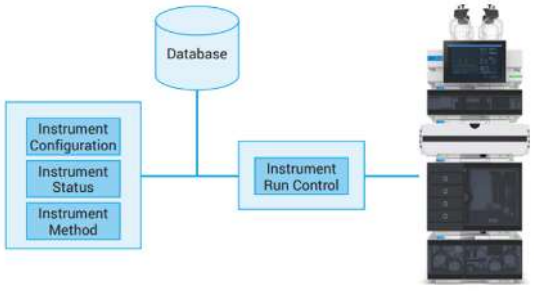
OpenLab Server and OpenLab ECM XT



3rd Party Workstation



3rd Party Client/Server



NOTE Typically, the browser user interface of the Assist Control Software cannot be accessed from clients in this environment.

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Using the Assist Control Software Browser User Interface

InfinityLab Assist Control Software provides a user interface that runs on the Assist Interface. InfinityLab Assist Control Software can also be accessed remotely in Web browsers.

NOTE On displays wider than 1280 pixels, the appearance of the browser's user interface differs from that of the Assist Interface.

Accessing the InfinityLab Control Software with a Web Browser

Access the browser user interface using the CDS (via the dashboard tile) or manually by entering the address in the web browser.

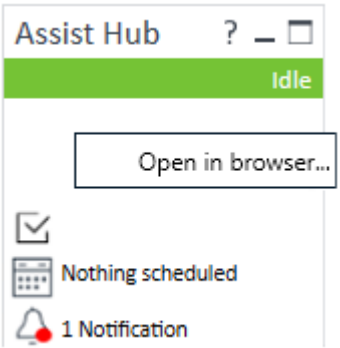
Prerequisites

- The PC or mobile device is in the same subnet as the Assist Hub.
- You are using a Chromium-based browser (Chrome, Edge, etc.) with a version higher 147.
- You are using a Safari-based browser with a version higher 26.5.
- LC & CE Drivers with version 3.8 or above are installed.

Accessing the Browser User Interface via the CDS

1 In the CDS, navigate to the Instrument Status Dashboard.

2 Open the context menu of the Assist Hub tile (via right-click) and select Open in browser...



✓ The browser user interface of the Assist Control Software is launched.

Accessing the Browser User Interface via the Address Bar of the Web Browser

1 On the PC or mobile device, open your browser.

2 In the address bar, enter the IP Address of the Assist Hub (http://<IP address>) or the MAC address with domain (http://<macaddress>.<fully qualified domain>). The device information, such as the MAC address, can be found on the Assist Hub label.

✓ The browser user interface of the Assist Control Software is launched.

Login and Logout

Log In

Prerequisites

- The **Ambient** screen is displayed.

Log In If Role-Based Authentication Is Active

1 Select **Unlock** on the **Ambient** screen.

The login screen is displayed.

2 Select a role.

3 If the role is PIN-protected, enter the role-specific PIN.

✓ You are logged in with the permissions of the role.

Log In If OpenLab Authentication Is Active

1 Select **Unlock** on the **Ambient** screen.

The login screen is displayed.

2 Enter your OpenLab user name and password. If required, select the domain.

✓ You are logged in with the privileges of the OpenLab user account.

NOTE

Even if the OpenLab server is offline after OpenLab authentication has been established, InfinityLab Assist will still grant access to any OpenLab user accounts it recognizes from previous logins.

Log In If Active Directory Authentication Is Active

1 Select Unlock on the Ambient screen.

The login screen is displayed.

2 Enter your user name and password or any user credentials that are part of the Active Directory Group. If required, select the domain.

✓ You are logged in with the privileges of the Active Directory Group user account.

NOTE

Even if the Active Directory domain server is offline after Active Directory authentication has been established, InfinityLab Assist will still grant access to any user accounts it recognizes from previous logins.

Log In If Authentication Is Off

1 Select Unlock on the Ambient screen.

✓ You have full access to InfinityLab Assist and all its permissions.

For more details, see Controlling System Access via User Roles and Authentication Settings on page 82.

Log Out

1 Select from the main toolbar.

2 Select Log Out.

✓ The Ambient screen is displayed.

Logout After Inactivity

Users are automatically logged out after they have been inactive for the time period specified in the **Security** settings. For details setting up a time until logout, see Logout after Inactivity on page 62.

If a user logs in again with the same role on the same client, the previous session is continued. However, this will not work if another role has logged in to the same client in the meantime.

Dark Screen After Inactivity (Assist Interface only)

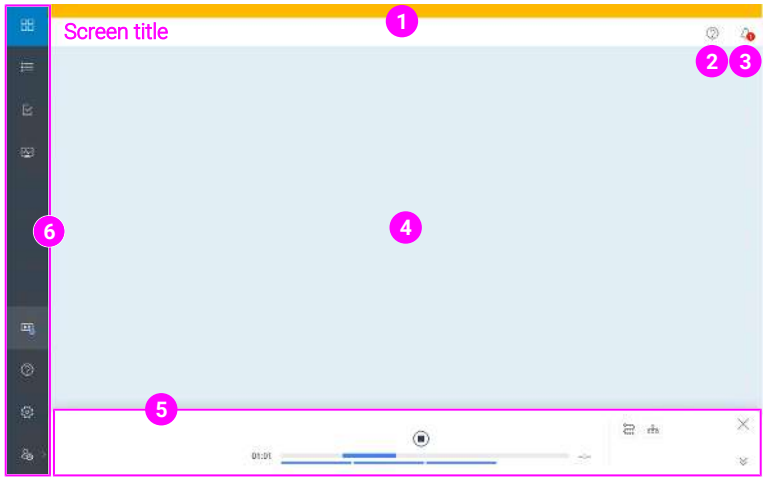
The Assist Interface dims the screen after users have been inactive for the time period specified in the **Assist Interface** settings.

1 To use the Assist Interface, touch the dark screen.

User Interface Overview

Screen Elements

When you are logged in, InfinityLab Assist always displays the following screen elements:



	Screen Element	Description
1	Overall status	The status bar is color-coded to indicate the overall status of the instrument. On displays wider than 1280 pixels, the status bar is located on the left side of InfinityLab Assist.
2	Screen help	To display information about the current screen, select ⓘ in the top toolbar.
3	Notifications	To display error messages, warnings, and information, select 🔔 in the top toolbar. If there are new or unconfirmed notifications, a red dot shows the amount. Module-specific status information is indicated on the **Status** screen. In addition, when a notification is received, a pop-up appears in the top right of InfinityLab Assist for five seconds (but not on the Ambient screen). If multiple notifications are received, the popup will only show the most recent notification.
4	Primary area	The primary area displays the content of the selected screen.

	Screen Element	Description
5	Run Control panel	The Run Control panel shows the progress of running tasks, procedures, or sequences. If applicable, you can pause or stop the execution. To open or close the Run Control panel, select ⏯ from the main toolbar.
6	Main toolbar	The main toolbar gives you access to the different screens. On displays wider than 1280 pixels, the main toolbar is located at the top of InfinityLab Assist.

Main Toolbar

The main toolbar of InfinityLab Assist gives you access to the main screens.

On displays smaller than or equal to 1280 pixels, the main toolbar is located on the left side of InfinityLab Assist. On displays wider than 1280 pixels, the main toolbar is located at the top of InfinityLab Assist.

Tool	Description
	Displays the **Home screen**, which shows a status overview. Each user role can create an individual **Home screen**. You can add, remove, or rearrange the tiles.
	Displays the **Status screen**, which shows the status of each module on individual status cards and gives you access to quick actions. To display all the details of a module, select → in the title bar of the status card. The **Status details screen** gives you access to all available actions.
	Displays the **Tasks screen**, which lists the existing tasks and allows you to create, copy, or delete tasks. To display all the details of a task, select the task. The **Task details screen** allows you to execute, edit, or schedule the task.
	Displays the **Health screen**, which gives you access to: • Maintenance: Guided maintenance and tools for common tasks • Diagnostics: Diagnostics tests and wizards • Insights: EMF counters and statistics about the instrument • Block for Service: Block the instrument or schedule a block • Troubleshooting: Guided troubleshooting and information about pending problems • Log: Log of all activities being executed, sent, or received by the Assist Control Software (not available to **Viewer** role)
	Opens or closes the **Run Control panel**, which shows the progress of running tasks, procedures, or sequences. If applicable, you can pause or stop the execution. A blue dot indicates that a task, procedure, or sequence is running. A yellow dot indicates that manual interaction is required, such as opening or closing the purge valve.

Tool	Description
	Displays the online help.
	Displays the **Settings screen**, which shows the configuration and allows you to set up and configure the system.
	Allows you to log out. The tooltip shows the role that is logged in.

Assist Control Software Status Color Coding

The status bar at the top of InfinityLab Assist is color-coded according to the overall status of the instrument. On displays wider than 1280 pixels, the status bar is located on the left side of InfinityLab Assist.

Status	Description
Offline	The connection to the instrument is lost (all modules switched off or LAN connection disconnected, for example), or an unsupported module or firmware is present in the LC system.
Idle	The instrument is on and ready to process samples.
Not Ready	The instrument is connected but is not ready to run (due to not reaching the correct temperature or pressure required by the method, for example).
Error	The instrument has an error and cannot process samples.
Standby	The instrument is in a standby/sleep state.
Pre-Run	The instrument is on and is preparing to start acquisition.
Injecting	Data acquisition is ongoing.
Run or Post-Run	The instrument is collecting data.

Run Control Panel

Path: Run Control

The Run Control panel shows the progress of running tasks, procedures, acquisition sequences, or single runs/injections.

To open or close the Run Control panel, select from the main toolbar. A blue dot indicates that a task, procedure, or application is running.

If an application is running, the Run Control panel shows the name of the application, the progress bar, and lets you access the queue.

If the instrument is not being used, the Run Control panel indicates that nothing is running.

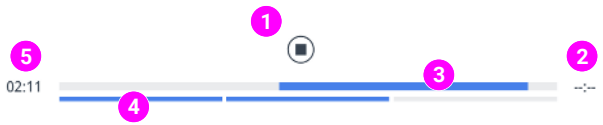
NOTE

A yellow dot to the left of the application name indicates that manual interaction is required, such as opening or closing the purge valve. If there is enough space to the right of the application name, the note **Interaction Required** appears instead of the yellow dot.

The yellow dot is also displayed on the menu item .

Progress Bar

The layout of the progress bar depends on the application.



1	The following tools can be available.
	Aborts the application after you confirm. Methods and sequences cannot be aborted via the Assist Control Software.
2	The remaining duration, if applicable
3	The indeterminate progress bar shows that the application is running.

4	The second progress bar is only displayed for tasks or procedures with multiple steps, or sequences with multiple runs. The progress bar is divided into steps or runs, the executed steps or runs are colored blue. The following information is displayed to the left of the progress bar: • The name of the step (if available), the number of steps, and the number of steps executed • The number of runs and the number of runs executed
5	The elapsed time, in minutes and seconds, since the start of the application

Minimized View

The minimized view of the Run Control panel only shows the name of the application and a simple progress bar or that nothing is running.

To minimize the Run Control panel, select ⌄⌄. To expand it again, select ⌃⌃.

Tools

The Run Control panel contains the following tools:

Tool	Description
	Displays the **Queue** panel. It shows the tasks and procedures that have been completed or are currently being carried out and their status. It also shows the tasks and procedures that are waiting to be executed or are planned for today and the near future. To show details and results, select the item. For example, if you select a planned task, the **Schedule** tab of the task is displayed, which allows you to change or delete the schedule.
	Displays the **CDS Required** settings. A green dot indicates that a CDS is connected. A gray dot indicates that no CDS is required and no CDS is connected. A red dot indicates that a CDS is required but not connected.

How to Work with the Software

Designing the Ambient Screen

The **Ambient** screen is displayed when InfinityLab Assist is locked. It displays live data without the need of unlocking InfinityLab Assist.

The **Ambient** screen displays the overall status of the instrument, the instrument name and location, and a variety of widgets. The widgets show, for example, online plots or status indicators.

For details on the instrument status, see Assist Control Software Status Color Coding on page 18.

Changing the Layout of the Ambient Screen

Prerequisites

- To change the layout, you need the permission **Edit ambient screen layout**. The roles **Agilent Service Technician** or **Administrator** have the permission by default.

1 On the **Ambient** screen, select **Edit Screen**.

2 Login with your user credentials.

3 To add, remove, or rearrange the widgets, select the desired option:

Tool	Description
	Allows you to rearrange the widgets. Drag the grabber and drop the widget at the new position.
	Opens the widget catalog, which allows you to change the widget's size or replace it.
	Deletes the widget.

Tool	Description
Default Layout	Resets the layout of the **Ambient** screen to the default layout. • Online Plot (large) with detector signals A and B • Flow • Pressure • Solvent Composition • Column Thermostat • Run Control (medium)
Cancel	Discards the changes and exits the edit mode.
Save	Saves the changes and exits the edit mode.
Add Widget	Opens the widget catalog, which allows you to add a tile.

For details on the available widgets, see Widget Catalog on page 24.

NOTE

After updating the Assist Control Software, some of the widgets may have been modified/updated. The administrator must confirm that the Ambient screen is still displaying the desired information.

Designing the Home Screen

Path: Home

The **Home** screen displays a role-specific status overview. You can add, remove, or rearrange the tiles (widgets). If OpenLab authentication is active, the **Home** screen is user-specific.

Changing the Layout of the Home Screen

1 On the **Home** screen, select **Edit Screen**.

2 To add, remove, or rearrange the widgets, select the desired option from the toolbar:

Tool	Description	
	Opens the **Home** screen in edit mode.	
		Allows you to rearrange the widgets. Drag the grabber and drop the tile at the new position.
		Opens the widget catalog, which allows you to change the widget's size or replace it.
		Deletes the widget.
	Default Layout	Resets the layout of the **Home** screen to the default layout. • Online Plot (large) with detector signals A and B • Flow • Pressure • Solvent Composition • Column Thermostat • Run Control (medium)
	Cancel	Discards the changes and exits the edit mode.
	Save	Saves the changes and exits the edit mode.
	Add Widget	Opens the widget catalog, which allows you to add a widget.
	Displays the screen help.	
	Displays errors, warnings, and other information.	

Widget Catalog

The following widgets are available on the **Ambient** and **Home** screens:

Widget	Description
Online Plot	The **Online Plot** widget displays the last 15 minutes of up to four signals. The size of the widget can be small, medium, or large. Only the large widget displays more than one signal at the same time. To toggle the signals in the small and medium widgets, drag the widget to the right or left.
Pressure	The **Pressure** widget displays the current pressure in text and visual form. And it shows the module name. The visual display also shows the pressure limit.
Flow	The **Flow** widget displays the current flow in text and visual form. It also displays the module name. If the flow is limited by pressure, the flow fill on the visual display is yellow with a warning triangle below.
Solvent Composition	The **Solvent Composition** widget displays the current solvent composition in text and visual form. It also shows the module name.
Sample Thermostat	The **Sample Thermostat** widget displays the current temperature of the sampler's thermostat in text and visual form. And it displays the module name. The visual display also shows the temperature setpoint. If the target temperature has been reached, the thermometer fill is green, otherwise it is blue. If the target temperature has not yet been reached, the widget indicates that the thermostat is heating or cooling.
Column Thermostat	The **Column Thermostat** widget displays the current temperature of the column thermostat in text and visual form. And it displays the module name. The visual display also shows the temperature setpoint. If the target temperature has been reached or the temperature mode is **Not Controlled**, the thermometer fill is green, otherwise it is blue. If the target temperature has not yet been reached, the widget indicates that the thermostat is heating or cooling.
Module Status	The **Module Status** widget shows the color-coded status of the instrument's functional groups: • **Solvent Delivery** (including Level Sensing, if configured) • **Injection** • **Separation** • **Detection**
Run Control	The **Run Control** widget shows the progress of running tasks, procedures, acquisition sequences, or single runs/injections. The size of the widget can be small or medium. If the instrument is not being used, the **Run Control** widget indicates that nothing is running.

Displaying the State of the Modules

Path: ☰ Status

The **Status** screen shows the status of each module on individual status cards and gives you access to quick actions.

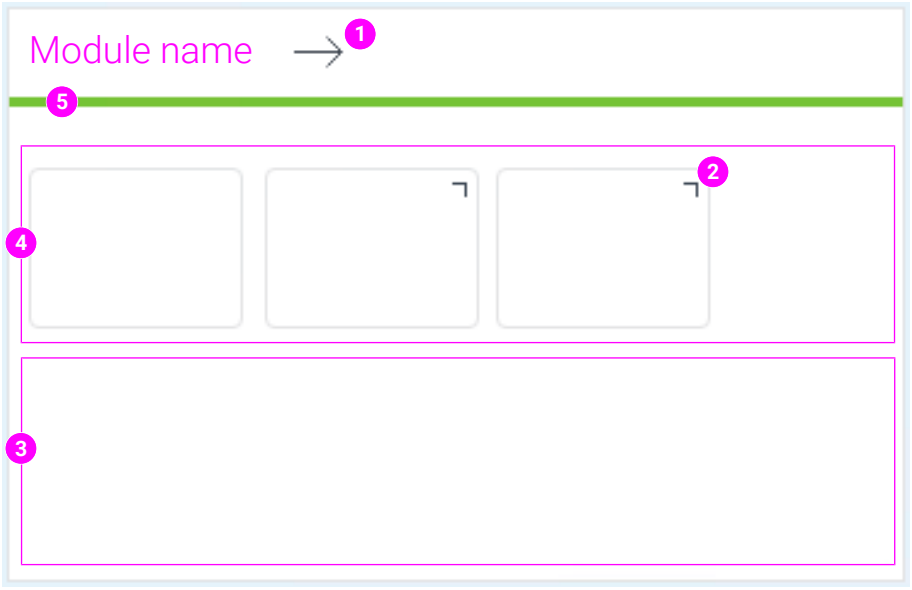
NOTE

If your instrument does not meet the minimum requirements, you cannot use InfinityLab Assist to control the instrument. Then the **Status** screen does not display the status cards, and instead suggests how to control the module.

For more details, refer to the InfinityLab Assist online help.

Structure of the Module Status Cards

The screen shows a status card for each module of the instrument. The cards are structured as follows:



1	Module name →	Displays the module-specific **Status** details screen with all details and status messages.
2	Caret indicator	Indicates that a dialog box is displayed when you select the quick action.
3	Actuals	Shows visual displays and selected actuals.
4	Quick actions	Gives access to selected quick actions that you can use to control the instrument. For details, see Using Quick Actions on page 28. The order of the quick actions can be customized on the **Status** details screen of each module. If no quick actions are available, then the module card will show additional instrument actuals.
5	Module status	Displays the color-coded status of the module. For details, see Assist Control Software Status Color Coding on page 18.

Arranging Module Status Cards

The order of the module status cards shown on the **Status** screen can be customized as follows:

1 From the toolbar of the **Status** details screen, select ✎.

2 Drag the grabber ⣿ and drop the module status card at the new position.

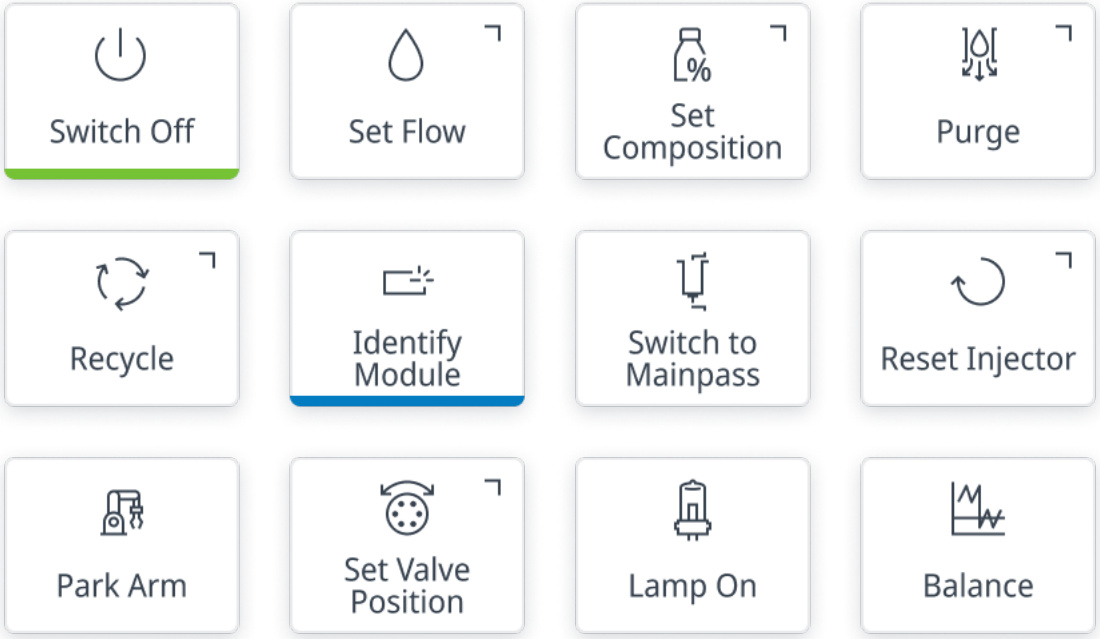
3 Save your changes.

Using Quick Actions

Path: ☰ Status

Use the quick actions on the **Status** screen to control the instrument and review its status.

Depending on the existing modules, the following quick actions are available:



Setting up the Position of Quick Actions

Each module has its own predefined quick actions. The order of the quick actions shown in the Module Status Card can be customized as follows.

1 From the **Status** screen, select **Module name** →.

2 Select ✎ to rearrange the quick actions.

3 Drag the grabber ⣿ and drop the quick action at the new position.

✓ The first four quick actions on the left-hand side are displayed on the Module Status Card on the **Status** screen.

Creating Tasks

Path: ☑ Tasks

The **Tasks** screen lists the existing tasks in alphanumeric order and allows you to create, edit, or execute tasks.

You use tasks to automate recurring processes, such as preparing the instrument or putting it to sleep.

You create tasks using predefined task templates:

Template	Description
Make Ready	The task prepares the instrument for use. You can use it to switch on the modules, purge, and equilibrate the configured flow path. See Creating a Make Ready Task on page 32.
Standby	The task puts the instrument into sleep or into standby mode. You can use it to flush the column, fill the column, and switch off the column thermostat, the sample thermostat, and the lamp. See Creating a Standby Task on page 36.

Steps of the Make Ready Task

A Make Ready task may consist of the following four steps:

Step	Importance	Description
Purge System	Optional	The step will be executed first. It uses a high flow rate and purges the chosen channels sequentially through the sampler needle tip into waste.
Pre-Flush System	Optional	The step prepares the flow path with the specified composition.
Prepare Needle and Seal Wash	Optional	The step ensures that no leftovers remain in the sampler paths and the needle.
Gradient Flush System	Optional	The step prepares the flow path with the specified composition according to the gradient timetable.
Equilibrate	Mandatory	The step is the final step of the **Make Ready** task. It ensures that the column and the system will be in an equilibrated state.

Steps of the Standby Task

A Standby task may consist of the following three steps:

Step	Importance	Description
System Flush	Optional	The step will be executed first. It flushes the column and the system with the specified composition.
Store Column	Optional	The step will be executed before the **Standby** step. It fills the column and the system with the specified storage composition.
Standby	Mandatory	The step is the final step of the **Standby** task. It puts the system into sleep or into standby with reduced or no pump flow. It switches off the column thermostat, the sample thermostat, and the detector as specified.

Required Permissions

- To configure tasks, you need the **Edit tasks** permission. The roles **Maintenance Technician**, **Agilent Service Technician**, or **Administrator** have this permission by default.
- To schedule tasks, you need the **Schedule tasks** permission. The roles **Maintenance Technician**, **Agilent Service Technician**, or **Administrator** have this permission by default.
- To run tasks interactively, you need the **Start tasks** permission. The roles **Lab Analyst**, **Maintenance Technician**, **Agilent Service Technician**, or **Administrator** have this permission by default.
- To abort tasks, you need the **Abort tasks** permission. The roles **Lab Analyst**, **Maintenance Technician**, **Agilent Service Technician**, or **Administrator** have this permission by default.

Searching for Specific Tasks

1 From the task list toolbar, select ▽ to filter the list by **Make Ready** or **Standby** tasks.

If you apply the filter criteria, the icon shows the number of chosen filter criteria.

✓ Only tasks that meet at least one of the chosen filter criteria are displayed and other tasks are hidden.

OR

Select the search field 🔍 and enter a string to search through all entries in the list. If you apply filter criteria at the same time, the search only takes place in the filter results.

✓ The search looks in all entries within the task list and displays the matches.

Creating a Make Ready Task

Prerequisites

- To be able to carry out the procedure as described you need the permission **Edit tasks**. The roles **Maintenance Technician**, **Agilent Service Technician**, or **Administrator** have the permission by default.

NOTE

Modules that are part of a cluster must not be configured in a **Make Ready** task. Otherwise, the task is invalid and cannot be started.

Starting with LC/CE Drivers version 3.11, the HDR-DAD Cluster and Valve Thermostat Cluster (VTC) are available for **Make Ready** tasks.

Create Task

1 Select ☑ from the main toolbar.

The **Tasks** screen is displayed.

2 Select **Create Task**.

The predefined task templates are displayed.

3 Select the **Make Ready** task template and confirm with **Select**.

The default task name and description are displayed.

4 Change the task name.

You can also change the description.

5 Select Create Task.

The system creates the task and adds it to the task list.

The Overview tab of the Make Ready task is displayed.

Adjust Equilibration Settings

1 On the **Overview** tab of the **Make Ready** task, select **Equilibrate**.

The **Equilibrate** screen is displayed.

2 Adjust the settings. Select ⓘ to access the online help for more details.

3 Select in the top toolbar.

The **Make Ready** task is saved.

4 Select ← in the title bar.

The **Overview** tab of the **Make Ready** task is displayed.

5 You can add optional steps if necessary, run, or schedule the **Make Ready** task.

Add Purge System Step (Optional)

1 On the **Overview** tab of the **Make Ready** task, select **Purge System**.

2 The **Purge System** step is added to the **Make Ready** task.

3 Select **Purge System** again.

The **Purge System** screen is displayed.

4 Adjust the settings. Select ⓘ to access the online help for more details.

5 Select in the top toolbar.

The **Make Ready** task is saved.

6 Select ← in the title bar.

The **Overview** tab of the **Make Ready** task is displayed.

Add Pre-Flush System Step (Optional)

1 On the **Overview** tab of the **Make Ready** task, select **Pre-Flush System**.

2 The **Pre-Flush System** step is added to the **Make Ready** task.

3 Select **Pre-Flush System** again.

The **Pre-Flush System** screen is displayed.

4 Adjust the settings. Select ⓘ to access the online help for more details.

5 Select in the top toolbar.

The **Make Ready** task is saved.

6 Select ← in the title bar.

The **Overview** tab of the **Make Ready** task is displayed.

Add Prepare Needle and Seal Wash Step (Optional)

1 On the **Overview** tab of the **Make Ready** task, select **Prepare Needle and Seal Wash**.

2 The **Prepare Needle and Seal Wash** step is added to the **Make Ready** task.

3 Select **Prepare Needle and Seal Wash** again.

The **Prepare Needle and Seal Wash** screen is displayed.

4 Adjust the settings. Select ⓘ to access the online help for more details.

5 Select in the top toolbar.

The **Make Ready** task is saved.

6 Select ← in the title bar.

The **Overview** tab of the **Make Ready** task is displayed.

Add Gradient Flush System Step (Optional)

1 On the **Overview** tab of the **Make Ready** task, select **Gradient Flush System**.

2 The **Gradient Flush System** step is added to the **Make Ready** task.

3 Select **Gradient Flush System** again.

The **Gradient Flush System** screen is displayed.

4 Adjust the settings. Select ⓘ to access the online help for more details.

5 Select in the top toolbar.

The **Make Ready** task is saved.

6 Select ← in the title bar.

The **Overview** tab of the **Make Ready** task is displayed.

Creating a Standby Task

Prerequisites

- To be able to carry out the procedure as described you need the permission **Edit tasks**. The roles **Maintenance Technician**, **Agilent Service Technician**, or **Administrator** have the permission by default.

NOTE

Modules that are part of a cluster must not be configured in a **Standby** task. Otherwise, the task is invalid and cannot be started.

Starting with LC/CE Drivers version 3.11, the HDR-DAD Cluster and Valve Thermostat Cluster (VTC) are available for **Standby** tasks.

Create Task

1 Select from the main toolbar.

The **Tasks** screen is displayed.

2 Select **Create Task**.

The predefined task templates are displayed.

3 Select the **Standby** task template and confirm with **Select**.

The default task name and description are displayed.

4 Change the task name.

You can also change the description.

5 Select **Create Task**.

The system creates the task and adds it to the task list.

The **Overview** tab of the **Standby** task is displayed.

Adjust Standby Settings

1 On the **Overview** tab of the **Standby** task, select **Standby**.

The **Standby** screen is displayed.

2 Adjust the Standby settings. Select ⓘ to access the online help for more details.

3 Select in the top toolbar.

The **Standby** task is saved.

4 Select ← in the title bar.

The **Overview** tab of the **Standby** task is displayed.

5 You can add optional steps if necessary, run, or schedule the **Standby** task.

Add System Flush Step (Optional)

1 On the **Overview** tab of the **Standby** task, select **System Flush**.

2 The **System Flush** step is added to the **Standby** task.

3 Select **System Flush** again.

The **System Flush** screen is displayed.

4 Adjust the System Flush settings. Select ⓘ to access the online help for more details.

5 Select 💾 in the top toolbar.

The **Standby** task is saved.

6 Select ← in the title bar.

The **Overview** tab of the **Standby** task is displayed.

Add Store Column Step (Optional)

1 On the **Overview** tab of the **Standby** task, select **Store Column**.

2 The **Store Column** step is added to the **Standby** task.

3 Select **Store Column** again.

The **Store Column** screen is displayed.

4 Adjust the Store Column settings. Select ⓘ to access the online help for more details.

5 Select 💾 in the top toolbar.

The **Standby** task is saved.

6 Select ← in the title bar.

The **Overview** tab of the **Standby** task is displayed.

Editing a Task

Prerequisites

- To be able to carry out the procedure as described you need the permission **Edit tasks**. The roles **Maintenance Technician**, **Agilent Service Technician**, or **Administrator** have the permission by default.

1 Select the task on the **Task** screen.

2 In the top toolbar of the Task Details Screen, you have the following editing options:

Tool		Description
		Saves the changes. The tool is disabled when no changes were made since the last save.
	 Run Task	Executes the task. If the instrument is busy, the task is queued.
	 Edit	Displays a dialog box where you can change the name and description of the task.
	 Duplicate	Displays a dialog box where you must enter a unique name for the duplicate.
	 Delete	Deletes the task after you confirm.
		Displays the screen help.
		Displays errors, warnings, and other information.

3 To edit a step of the task, select the desired step on the **Overview** tab of the Task Details Screen. Select ⓘ to access the online help for more details.

For information on the available steps, see Steps of the Make Ready Task on page 30 or Steps of the Standby Task on page 31.

Resolving a Task

A task that needs to be resolved is indicated with a yellow triangle and exclamation mark ⚠ in the tasks list. Invalid tasks cannot be executed.

A task may become invalid if it has been imported, or if the system configuration has changed.

Prerequisites

- To be able to carry out the procedure as described you need the permission Edit tasks. The roles Maintenance Technician, Agilent Service Technician, or Administrator have the permission by default.

1 In the Tasks screen, select the task that needs to be resolved.

2 In the Overview, the reason why the task requires resolution is displayed in yellow. The step of the task that requires resolution (for example, Equilibration) is displayed in red.

3 Correct all red steps of the task and edit the correct configuration and information.

4 Save the task.

Executing a Task

1 Select the task on the Task screen.

2 To execute the task, select Run Task on the Overview tab.

✓ Before executing a task, task management checks if there are any facts that will lead to invalid results. If so, task management generates an error message and does not execute the task. Error messages and warnings are displayed as notification 🔔 in the top toolbar.

Scheduling a Task

The Schedule tab of the Task Details Screen shows the existing schedules of the task and allows you to create, edit, or delete schedules.

Use the task scheduler to run tasks automatically on specified times or intervals. Use intervals to trigger periodic maintenance, for example.

1 Select the task on the Task screen.

2 Select the Schedule tab.

3 Select Create Schedule to schedule the task.

The Create Schedule dialog box opens.

4 Enter the data for the schedule. Select ⓘ to access the online help for more details.

5 Select **Create Schedule** to save your settings.

✓ The scheduled task is displayed on the **Schedule** tab of the Task Details Screen and in the **Schedule** section of the **Task** screen.

Editing a Schedule

The **Schedule** section on the **Task** screen shows the tasks that have already been completed and those planned for today and the near future.

To Change the Schedule Settings:

1 In the **Schedule** section, select ⋮ for the schedule whose settings you want to change.

2 Select **Configure Schedule**.

The **Schedule** tab of the Task Details Screen opens.

3 Select ⧉ for the schedule whose settings you want to change.

The **Edit Schedule** dialog box opens.

4 Enter the data for the schedule. Select ⓘ to access the online help for more details.

5 Save your settings.

✓ The scheduled task is displayed on the **Schedule** tab of the Task Details Screen and in the **Schedule** section of the **Task** screen.

To Skip the Schedule:

1 In the **Schedule** section, select ⋮ for the schedule whose settings you want to change.

2 Select **Skip this Occurrence**.

✓ The schedule has now the status **Will be Skipped**.

To Delete a Schedule:

1 In the **Schedule** section, select ⋮ for the schedule whose settings you want to change.

2 Select **Configure Schedule**.

The **Schedule** tab of the Task Details Screen opens.

3 Select ⧉ for the schedule you want to delete.

The **Edit Schedule** dialog box opens.

4 Select **Delete** and confirm with **OK**.

✓ The schedule will be removed from the list.

Viewing the Task Execution History

1 Select the task on the **Task** screen.

2 Select the **Results** tab on the Task Details Screen.

The **Execution History** is displayed.

3 To view details of the individual entries, select → in the **Details** column.

Setting Up a Service Block

Block and unblock actions are documented in the Log.

Blocking the Instrument for Service

The **Block Instrument for Service** dialog box allows you to block the instrument.

Prerequisites

- To block the instrument for service, you need the permission **Activate/ deactivate service mode**. The roles **Maintenance Technician**, **Agilent Service Technician**, or **Administrator** have the permission by default.

1 Navigate to **Health** > **Block for Service**

2 Select **Block Now**.

3 In the **Block Instrument for Service** dialog, enter a title (mandatory). It will be displayed in the block banner and in related notifications.

4 Select **Block Instrument**.

✓ The instrument is blocked. The button will change to **Unblock**.

✓ If the instrument is busy, the block is pending until the instrument is idle.

Effects of Blocking the Instrument

The block has the following effect:

- Chromatography Data Systems (CDS) with LC/CE Drivers version 3.10 or above are disconnected. If a CDS with LC/CE Drivers version 3.10 or above tries to connect or reconnect, a connection error is generated.
- The **Instrument Blocked for Service** banner is displayed below the status bar on all screens in all sessions while the block is in place. It contains a link to view the **Block for Service** screen.
- Users without the permission **Activate/deactivate service mode** cannot do the following:
  - Execute quick actions.
  - Start tasks.
  - Execute maintenance, diagnostic, or troubleshooting procedures.
  - Upload and install new versions of the Assist Control Software and module-specific firmware.
  - Modify security settings.
  - Export or import settings.
  - Create or restore backups.
- Scheduled tasks that become active are immediately skipped.

To Remove a Block

1 Select **Unblock** on the **Block for Service** screen.

OR

Select **Unblock** in the **Instrument Blocked For Service** notification.

✓ The block is removed.

Scheduling a Block for Service

The **Schedule Block for Service** dialog box allows you to create a schedule for the block.

Prerequisites

- To schedule a block for service, you need the permission **Activate/deactivate service mode**. The roles **Maintenance Technician**, **Agilent Service Technician**, or **Administrator** have the permission by default.

1 Navigate to **Health** > **Block for Service**

2 Select **Create Schedule**.

3 In the **Schedule Block for Service** dialog, enter a title (mandatory). It will be displayed on the **Schedule Block for Service** screen, in the block banner and in related notifications.

4 Enter a **Date** and **Time** (system time) of the day when the block will be executed.

5 Save your settings.

✓ The schedule is shown in the list of schedules on the **Block for Service** screen.

✓ As the scheduled block approaches, the **Approaching Scheduled Service** notification is generated (1 month, 2 weeks, 1 week, 3 days, 1 day, and 5 minutes in advance).

To Delete a Schedule

1 Select the schedule from the **Block for Service** screen.

2 In the **Schedule Block for Service** dialog, select **Delete**.

✓ The schedule is removed from the list of schedules on the **Block for Service** screen.

Viewing Notifications

The Notifications panel displays error messages, warnings, and other information. The panel supports troubleshooting with various quick actions. Notifications are documented in the Log.

Error messages	The error messages are created when a failure occurs that requires attention before the analysis can be continued. When an error has been fixed, the notification disappears.
Warnings	The warnings are created in the following cases, for example: • An EMF counter exceeds 80% of the limit • An EMF counter exceeds the limit • The power button of a module has been switched off • The seal wash sensor of the pump has an error
Information	Information is created when, for example, a software or firmware update is available or has been installed.

When a notification is received, a pop-up appears in the top right of InfinityLab Assist for five seconds (but not on the Ambient screen). If multiple notifications are received, the popup will only show the most recent notification.

To open the Notifications panel, select 🔔 in the top toolbar. If there are new or unconfirmed notifications, a red dot shows the amount.

To access quick actions for a notification, select the notification.

To delete all notifications, select Clear All at the bottom of the Notifications panel. If a notification cannot be deleted because the cause is still present, you will be notified.

Using Configuration Settings

Configuring General Settings

Path: ⚙ Settings > General

The **General** tab on the **Settings** screen allows you to do the following:

- Set up language and date & time settings.
- Update software and firmware.
- Export trace data.

Date, Time & Region

Path: ⚙ Settings > General tab > Date, Time & Region

The **Date, Time & Region** screen shows the date, time, and region settings and allows the Administrator to change them.

To ensure proper system functioning, the setting needs to be accurate.

The following settings are available:

Parameter	Description
Date & Time Source	You can choose between different time sources. The default is Network Time Protocol (**NTP**). If you manually adjust the date, time, or region settings using the Onboarding Guide, **CDS** will be selected.
	CDS CDS NTP Manual The Assist Control Software automatically gets the current date and time from a chromatography data system (CDS). This setting only works if a CDS with LC/CE Drivers version 3.8 or above is connected. If multiple drivers connect, the one that connects last wins. The **Set Date & Time** control is disabled. CDS (second most recommended) should be chosen if the Client/PC controlling the Assist Hub does not have internet access AND LC Driver 3.8 or higher is installed. If using any LC Driver lower than 3.8, the Date & Time Source **CDS** will not function properly.

Parameter	Description	
	NTP 	The Assist Control Software automatically gets the current date and time from a public time server in the Internet if available. The **Set Date & Time** control is disabled. NTP (most recommended) should be chosen if the Assist Hub is directly connected to a network with access to the NTP server.
	Manual 	Set the current date and time manually in the **Set Date & Time** control. Manual (least recommended) should be chosen if the Client/PC controlling the Assist Hub does not have internet access AND the LC Driver version is lower than 3.8. The option must be set manually. The setting can lead to incorrect Date & Time, especially if the Assist Hub is turned OFF every week. To mitigate the incorrect Date & Time, it must be reconfigured manually.
Assist Hub Time Zone	Displays the current time zone set for the Assist Hub. The drop-down list shows the available time zones and allows you to choose one. If you started InfinityLab Assist remotely in a Web browser, the date and time are displayed according to the browser settings.	
Date & Time	Displays the Assist Hub date and time in your local time with the selected **Date Format** and **Time Format**.	
Set Date & Time	If you select **Manual** for **Date & Time Source**, you can set the current date and time manually. • When setting via Web browser, use the local time displayed in your operating system. • When setting via Assist Interface, make sure that the Assist Hub time zone is set correctly before you set the time.	
Date Format	You can choose between different date formats.	
Time Format	You can choose between the 12-hour and 24-hour format.	

Update Software and Firmware

Path: Settings > General tab > Update

The **Update** wizard guides you through the steps required for uploading and installing new versions of the Assist Control Software, which contains module-specific firmware.

To update the software and firmware, you need the permission **Install software/firmware updates**. The roles **Agilent Service Technician** or **Administrator** have this permission by default.

Sources

The Assist Control Software checks the following sources for software or firmware updates:

- Internet (only applies to Assist Control Software version 2.0 or higher)
- USB drives of the Assist Interface
- USB drives of the Assist Hub

If you use a USB for the update, ensure that the USB ports are enabled. If the port is disabled, a message will be displayed when you connect the USB. For more information, see Enable or Disable USB Ports on page 71.

If you start InfinityLab Assist remotely in a Web browser, you can also search the file system yourself and select software or firmware updates manually.

Check for Updates

If the Assist Hub has an outbound connection to the Internet and has a version greater than 2.0, then the Assist Control Software generates a notification when an update is available.

Alternatively, you can download the updates from the Internet at https://update.pl29.agilent.com/infinitylabassist. Check regularly for new updates.

Notifications

If the Assist Hub has an outbound connection to the Internet, has a version greater than 2.0 and **Automatically Check for Updates** is set (default setting), the system generates a notification when an update is available.

- To find out if new versions are available, select 🔔 in the top toolbar of the screen. If you select an **Update Available** notification, a **Details** button appears. To start the update wizard, select **Details**.
- Or select **Settings** from the main toolbar. A red dot on the **General** tab indicates that updates are available.

The system generates notifications when the restart of the Assist Hub is postponed or the restart has been completed.

Compatibility with Firmware

The dependencies between the Assist Control Software and module-specific firmware require that the installed versions are compatible. After you have selected an update file, the **Update** wizard checks if a firmware update of the modules is required.

Export Support File

Path: ⚙ **Settings** > **General tab** > **Export Support File**

If you need to contact Agilent for support, you can use the **Export Support File** tool to generate and download the relevant diagnostic information as a ZIP file.

If Agilent Support asks for additional tracing data, see Activate Additional Tracing on page 72.

To export support files, you need the permission **Export trace packages**. The roles **Maintenance Technician**, **Agilent Service Technician**, or **Administrator** have this permission by default.

Preparations

- If you are using the Assist Interface for the file export, you need to insert a USB storage media (type exFAT, FAT32, EXT4) into the Assist Hub. Ensure that the USB port of the Assist Hub is enabled. For more information, see Enable or Disable USB Ports on page 71.

1 Select ⚙ **Settings** > **General tab** > **Export Support File**.

2 In the Export Settings step, make the following settings:

   a Select the number of days that have passed (including today) for which you want to export the data.

   b Select whether you want to include High Frequency Signal Data. The data of all LC events and raw data signals will be included.
   NOTE: Including high-frequency signal data significantly increases the size of the trace file. Agilent recommends that you include high-frequency signal data only when advised by Agilent Support or when the issue might be seen in monitoring signals, for example, in case of pressure-related issues.

   c As Destination for the export file, select USB Drive or Download. When you use the Assist Interface, only the option USB Drive is displayed.

3 Select Next to continue.

4 In the Comment step, describe the issue, when it happened and whether or not you restarted the Assist Hub. Also provide any other relevant details that could help with diagnosis.

5 Select Next to start the export.

   When you use the Assist Interface, the ZIP file will be saved on the USB drive of the Assist Hub. If you have selected the Download option, the ZIP file will be downloaded to your Downloads folder.

   When the export is complete, the Export Summary will show you the file properties: Date, Time, File Name, File Size, and Destination.

6 Select Finish to exit the wizard.

Configuring Instrument Settings

Path: ⚙ Settings > Instrument

The Instrument tab on the Settings screen shows the configuration of the instrument and information about the modules. You can change the instrument name and location.

NOTE

Select the connection settings carefully. The default IP configuration may cause network problems in your local area network. For more information on how to set up the IP address, refer to the *InfinityLab Assist User Manual*.

Instrument Configuration

The following settings are available:

Parameter	Description
Name	Shows the name of the instrument.
	Displays the **Set Instrument Name** dialog box, which allows you to change the name. It may contain icons. The name is displayed on the **Ambient** screen and in the Run Control panel.
Location	Shows the location of the instrument.
	Displays the **Set Instrument Location** dialog box, which allows you to change the location. It may contain icons. The location is displayed on the **Ambient** screen and in the Run Control panel.
Connection Settings	Shows the IP address of the Assist Hub and its source. • **(Default)**: The default IP configuration is used. • **(Stored)**: The user-defined IP configuration is used. This IP configuration may include two different IP addresses. • **(DHCP):** The automatically assigned IP configuration is used. Or **Unknown (DHCP)**: DHCP is selected, but the DHCP server has not yet assigned the IP configuration. Or **No network link** ⚠ **<source>** if the TCP/IP connection to the intranet network is lost.
	Displays the **Connection Settings** dialog box, which allows you to change the IP configuration of the Assist Hub. For more information on how to set up the IP address, refer to the *Agilent InfinityLab Assist User Manual (InfinityLab-Assist-UseMa-en-D0113047.pdf, D0113047)*.
InfinityLab Assist Information	Displays the **Instrument Information** dialog box that shows the following information: • Assist Hub Type ID • Assist Hub Serial Number • Assist Hub MAC Address • Assist Control Software Version

Displaying Module-Specific Information

1 To display the information about the modules, select ⧉ next to the corresponding module.

The following information about each module are displayed:

- Module Name
- Module Type
- MAC Address
- Serial Number
- Firmware Revision
- Connection Settings

For hosted modules, the following host information is also displayed:

- Hosted By
- Host Firmware Version

Enabling Periodic Seal Wash

The **Seal Wash** dialog box shows the current seal wash settings. You can set up the seal wash to be run periodically.

Preparations

- You are using a 1260 Infinity II/III pump with seal wash option available.

1 To adjust the settings for the **Periodic Seal Wash**, select ↗.

2 In the dialog box, enable **Periodic Seal Wash**.

Enter a value for the duration [min] the seal is purged. The value must be between 0.1 min and 7 min.

Enter a repeat interval [min]. The value must be between 0.2 min and 99 min.

To run the seal wash only once, select the quick action **Seal Wash Prime** on the **Status** screen or **Status** details screen.

NOTE

The Seal Wash is available only when a Seal Wash Pump is installed.
The settings apply to the following pumps:
G5654A, G7110B, G7111A, G7111B, G7112B

Storage and Backup

The **Storage & Backup** tab allows you to backup and restore instrument data and to export and import settings and tasks.

It also provides the Module Mapping Guide, which allows you to fix configuration issues. This may be necessary if tasks and settings have been imported from another instrument, or if a module has been replaced.

NOTE

It is recommended to back up the Assist Hub weekly.

It is strongly recommended that you back up the Assist Hub before upgrading the Assist Control Software.

If you use a USB on the Assist Hub or Assist Interface, the USB storage media must be of type exFAT, FAT32, or EXT4. Ensure that the USB ports are enabled. For more information, see Enable or Disable USB Ports on page 71.

If you are using a device other than the Assist Interface, you need a Chromium-based browser to open the Assist Control Software. You can download the file directly to the PC or to a USB that is connected to the Assist Hub.

Make sure that there is enough free space for the backup.

Creating a Backup

The **Create Backup** tool allows you to export tasks, trends, settings, and the log. You can restore the data with the **Restore Backup** tool.

Metadata

The backup file includes the following metadata:

- Backup creation date
- Role of the user who created the backup
- Instrument name, Assist Hub Type ID, Assist Hub Serial Number
- Comment entered by the user in the **Create Backup** dialog box
- Assist Control Software Version

NOTE

When you start the backup, the instrument will immediately go into a special state and does not allow user interaction. Do not shutdown the instrument until the backup creation is finished.

Prerequisites

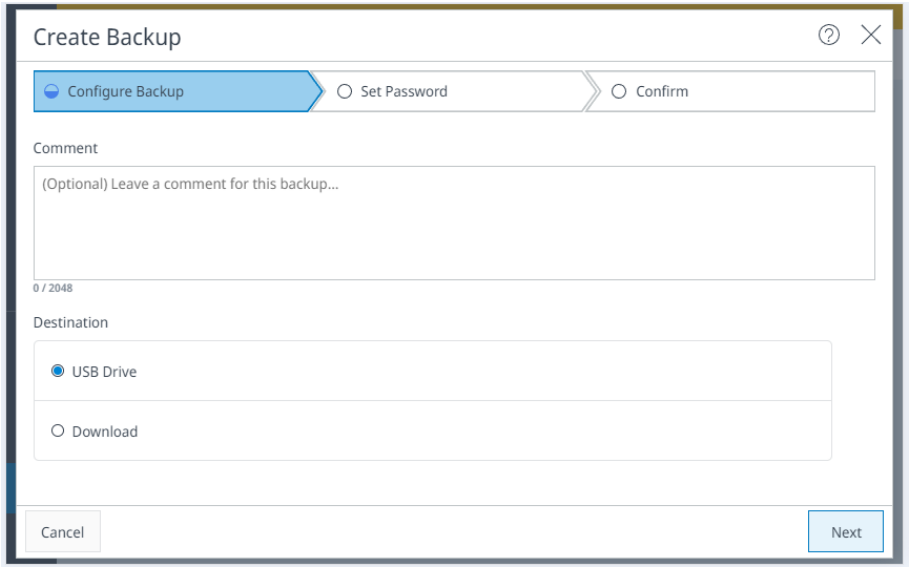
- To create or restore backups, you need the permission **Import/Export backups**. The roles **Maintenance Technician**, **Agilent Service Technician**, or **Administrator** have this permission by default.
- If you use a USB on the Assist Hub or Assist Interface, you need to insert a USB drive and make sure that there is enough free space for the backup. Ensure that the USB ports are enabled. For more information, see Enable or Disable USB Ports on page 71.

1 In the Control Software, navigate to **Settings** > **Storage & Backup**.

2 Select **Create Backup**.

3 As **Destination** for the backup, select **USB Drive** or **Download** and enter a comment (optional). Select **Next** to continue.

When you use the Assist Interface, only the option **USB Drive** is displayed.

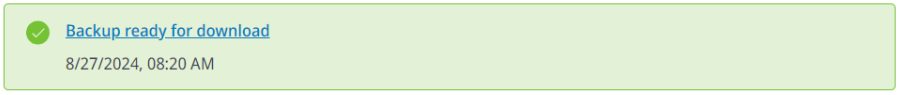


4 Set a password for the file. Select **Next** to continue.
NOTE: Keep the password in a safe place as you will need it for the restore backup.

5 Select **Start** to confirm the backup procedure.

Once the backup is completed, the data file is stored on a USB (if **USB Drive** was selected as destination).

If you have selected the **Download** option, a hyperlink to the backup is created once the backup is completed. Select the link to download the data.



The backup file will be downloaded to your Downloads folder.

CAUTION You must download the backup data, otherwise a restore backup cannot be performed.

Restoring Backups from USB or from the Download

Prerequisites

- To create or restore backups, you need the permission **Import/Export backups**. The roles **Maintenance Technician**, **Agilent Service Technician**, or **Administrator** have this permission by default.
- If you use a USB on the Assist Hub or Assist Interface, you need to insert a USB drive and make sure that there is enough free space for the backup. Ensure that the USB ports are enabled. For more information, see Enable or Disable USB Ports on page 71.

1 If you have saved the backup file on the USB, insert the USB into the Assist Hub to restore the backup.

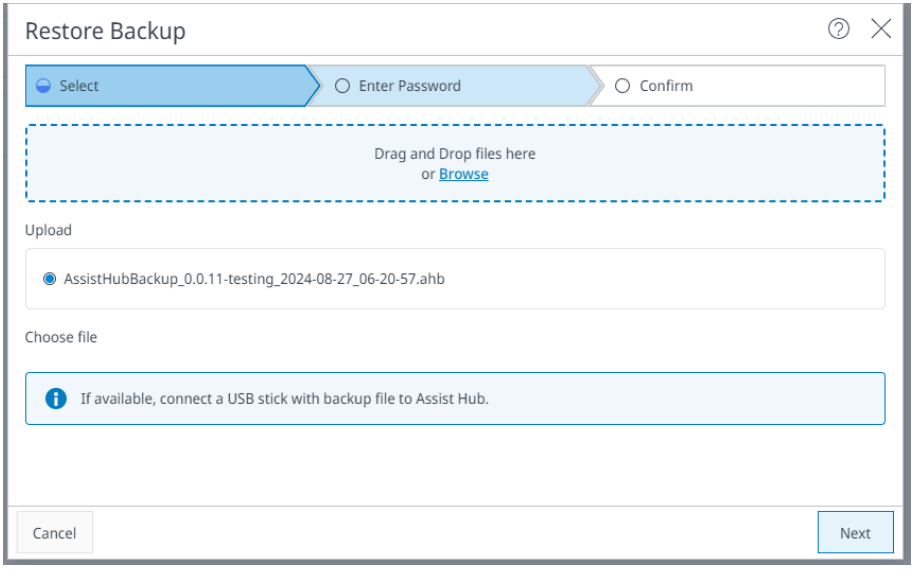
OR

If you are working remotely in a Web browser, navigate to the storage location of your PC.

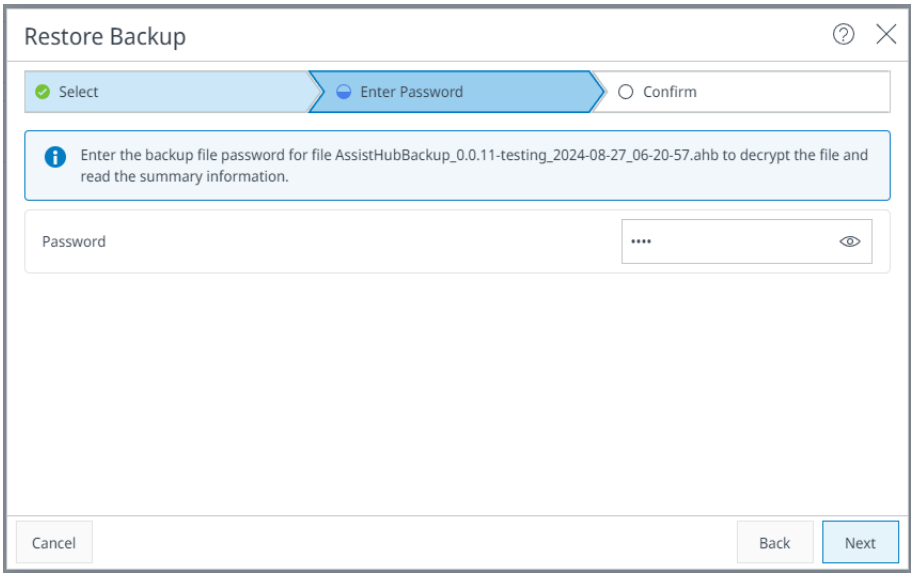
2 In the Control Software, navigate to **Settings** > **Storage & Backup**.

3 Select **Restore Backup**.

4 Either select the backup file on the USB or drag and drop the backup file into the field provided. Select **Next** to continue.



5 Enter the password that you set during the backup. Select **Next** to continue.



6 Display the details of the backup to be restored. Select **Restore** to start.

If the backup file is valid and the password is correct, the following metadata from the backup file is displayed:

- Backup creation date
- Instrument name
- Version of the Assist Control Software
- Comment entered by the user in the **Create Backup** dialog box

Sharing Data

The **Export Settings & Tasks** tool allows you to download selected data to an AHE file (encrypted ZIP archive). You can import the exported data of your choice using the **Import Settings & Tasks** tool.

To export or import settings and tasks, you need the permission **Import/Export settings, tasks, etc.**. The roles **Agilent Service Technician** or **Administrator** have this permission by default.

The following data will be exported:

- All tasks without schedules
- General settings (Date & Time Source, Assist Hub Time Zone)
- Security settings (Logout After Inactivity, CDS Required, USB Ports)
- Advanced settings (Instrument Trends toggle state)
- Assist Interface Settings (Display Timeout, Brightness)

  To import these settings, you must be logged in to the Assist Interface.
- Ambient screen layout

Imported data is stored as follows:

- Imported settings will overwrite the existing settings. This also applies to the **Ambient** screen layout.
- If a task name already exists, the name of the imported task will have a suffix to make it unique.
- When data is imported from another instrument the configuration may no longer match the actual setup. If a module of the same type has been replaced and its configuration is clear, the tasks and widgets will adapt automatically. The **Module Mapping Guide** helps to solve ambiguous issues.

Exporting Settings and Tasks

Preparations

- If you use a USB as storage medium, ensure that the USB ports on the Assist Hub or Assist Interface are enabled. For more information, see Enable or Disable USB Ports on page 71.

1 In the Control Software, navigate to **Settings** > **Storage & Backup**.

2 Select **Export Settings and Tasks**.

3 As Destination for the data, select **USB Drive** or **Download**.

When you use the Assist Interface, only the option **USB Drive** is displayed.

4 Set a password for the file. Select **Next** to continue.
NOTE: Keep the password in a safe place. The same password will be needed to decrypt and import the data.

The export file is created and downloaded. When the download is shown as **Completed**, the results (date, time, file name etc.) are displayed in the dialog.

Importing Settings and Tasks

Preparations

- If you use a USB as storage medium, ensure that the USB ports are enabled. For more information, see Enable or Disable USB Ports on page 71.

1 In the Control Software, navigate to **Settings** > **Storage & Backup**.

2 Select **Import Settings and Tasks**.

3 Either select the backup file on the USB or drag and drop the backup file into the field provided. Select **Next** to continue.

4 Enter the password that was assigned for the export file. Select **Next** to continue.

The Assist Control Software checks that the export file is compatible and displays an error message if it is not.

5 The **Configure** step provides an overview of the data contained in the export file.

a Select ⌄ to view details.

b Clear the check boxes for the data you do not want to import.

6 Select **Next** to continue.

✓ The Assist Control Software loads the items you selected in the **Configure** step.

✓ Imported settings overwrite the existing settings. This also applies to the Ambient screen layout.

✓ If a task name already exists, the name of the imported task has a suffix to make it unique.

✓ If a module of the same type has been replaced and its configuration is clear, the tasks and widgets will adapt automatically.

When the import is complete, the results will be displayed. The summary shows both the successful replacements and the tasks or widgets that require review or manual changes. A review may be needed if parameters have been reset to default due to a module type change. Manual resolution is required when multiple modules are available for mapping or when valve configurations have changed.

The **Module Mapping Guide** helps solve ambiguous issues. Selecting the **Resolve Instrument Configuration Issues** check box will start the guide when you select **Finish**.

Module Mapping Guide

Path: ⚙ **Settings** > **Storage & Backup tab** > **Module Mapping Guide**

The **Module Mapping Guide** allows you to fix configuration issues. This may be necessary if tasks and settings have been imported from another instrument, or if a module has been replaced.

To execute the **Module Mapping Guide**, you need the permission **Resolve configuration issues via module mapping**. The roles **Agilent Service Technician** or **Administrator** have this permission by default.

Why Module Mapping Is Needed

When tasks and settings are imported from another instrument (or when a module is replaced) the configuration may no longer match the actual setup. This mismatch can occur even if only a serial number has changed. As a result, task configurations become invalid. Widgets on the **Ambient** and **Home** screens may not display any values. To ensure everything works as expected, module mapping helps reconnect your configuration with the available hardware.

Map Modules Step

The **Module Mapping Guide** compares the stored configuration with the actual configuration. Available module mappings will be displayed:

- If a module of the same type has been replaced and its configuration is clear, the mapping is preselected.
- Otherwise, you can select the correct replacement module from a drop-down list.

To let the Module Mapping Guide replace the modules in the tasks and widgets, select Next. To discard the changes and close the dialog box, select Cancel.

Summary Step

The summary shows both the successful replacements and the tasks or widgets that require review or manual changes on the Tasks, Ambient, or Home screens.

A review may be needed if parameters have been reset to default due to a module type change. Manual resolution is required when valve configurations have changed, for example.

To close the dialog box, select Finish.

Configuring Security and Compliance Functions

Logout after Inactivity

Users are automatically logged out from InfinityLab Assist after they have been inactive for the time period specified in Time Until Logout.

1 Enable the option Logout After Inactivity.

2 Enter a value in the field Time Until Logout. The value must be between 02:00 and 59:59 min.

✓ If no activity has taken place within the specified time, you will be logged out from the InfinityLab Assist.

Authentication

The **Authentication** screen shows the authentication settings for InfinityLab Assist. Authentication can be set up under ⚙ **Settings** > **Authentication**.

For more information, see Controlling System Access via User Roles and Authentication Settings on page 83.

Disable CDS Required during Installation

The **CDS required** setting is activated by default.

Deactivate this setting during installation, because if no CDS connection is available, you will not be able to use quick actions or edit instrument settings (flow rate etc.) later with the Assist Interface as they are in read-only mode.

Access Tokens

Path: ⚙ **Settings** > **Security tab** > **Access Tokens**

The **Access Tokens** screen lists the LC Drivers hosts and Smart Alerts hosts that are allowed to connect to the Assist Hub, if the option **Access Tokens Required** is active (default setting). You can enable or disable the option and allow or revoke access for individual hosts.

To configure access tokens, you need the permission **Configure authentication**. The **Administrator** role has this permission by default.

Function of Access Tokens

Access tokens control access of the application programming interface (API) to the Assist Hub. Access tokens authenticate the connection to the Assist Hub, allowing you to choose which applications access the Assist Hub.

LC Drivers hosts with version 3.8 or above will request access to the Assist Hub. The access request will show up as a notification on the Assist Hub. Once you accept the access request from an LC Drivers host, the LC Drivers host can access the API of the Assist Hub.

LC Drivers hosts with version 3.7 or lower do not support the access tokens or other InfinityLab Assist features, such as the Assist Hub dashboard panel.

With Smart Alerts version A.02.02 or above, a Smart Alerts host will request access to the Assist Hub. The access request will show up as a notification on the Assist Hub. Once you accept the access request from a Smart Alerts host, the Smart Alerts host can access the API of the Assist Hub.

Settings

Access tokens are enabled or disabled.

NOTE It is recommended that you keep the **Access Tokens Required** option active.

Parameter	Description	
Access Tokens Required		LC Drivers hosts and Smart Alerts hosts require an access token to connect to the Assist Hub. If an unknown host tries to connect to the Assist Hub, the Assist Hub adds the host to the list. The host's status is **Pending** (see below). The Assist Hub also creates a notification. If you allow access, the LC Drivers host is allowed to connect to the Assist Hub.
		LC Drivers hosts and Smart Alerts hosts are allowed to connect to the Assist Hub. **NOTE:** If you enable the **Access Tokens Required** option again, the Assist Hub terminates all existing host connections after you have confirmed. Make sure that no analysis is currently running. The connections can be re-established but will require new access tokens.

If the **Access Tokens Required** option is active, the hosts with pending and active access tokens are listed.

Allowing an Unknown Host to Access the Assist Hub

If an unknown LC Drivers host or Smart Alert host tries to connect to the Assist Hub, the **Allow Connection Request** message appears in the Notification panel. On the **Access Tokens** screen, the host will be displayed with the status **Pending**.

You can allow access or reject the request. If you do not allow access within 48 hours, the host is removed from the **Access Tokens** screen.

Prerequisites

- The **Access Tokens Required** option is active (default setting).
- To configure access tokens, you need the permission **Configure authentication**. The **Administrator** role has the permission by default.
- For the hosts, the following software version is required:
  LC Driver host with LC/CE Drivers version 3.8 or above
  Smart Alerts host with version A.02.02 or above

1 Navigate to the **Access Tokens** screen.

2 For the pending host, select ⌄ to display the token identifier and the time the request was received.

3 Select + Allow Token for the pending host.

A dialog opens, which allows you to enter a unique name for the access token.

4 Select Save to create the access token and allow access.

You can also allow access directly from the Notifications panel:

1 Navigate to the Notifications panel, in the Allow Connection Request message, select Allows access.

The host can access the Assist Hub and is displayed on the Access Tokens screen with the status Active.

The access token remains valid until you explicitly revoke it on the Access Tokens screen.

Revoking the Access of the Host

The access token for the LC Driver host or the Smart Alert host remains valid until you explicitly revoke it on the Access Tokens screen.

Prerequisites

- To configure access tokens, you need the permission Configure authentication. The Administrator role has the permission by default.

1 Navigate to the Access Tokens screen, select the active host, and select 🗑 Revoke.

2 Confirm the setting.

✓ The host is removed from the list. Connections from the LC Drivers host or Smart Alert host will be disconnected immediately.

CDS Required

Enabling CDS Required

When the feature **CDS Required** is activated, every action that change instrument parameters is logged in the Chromatography Data System (CDS).

Preparations

- To use the function **CDS Required**, an LC/CE Driver version 3.8 or higher is required. If you are using a lower version, please keep this feature disabled.
- To configure the CDS requirements, you need the permission **Configure CDS requirement**. The roles **Agilent Service Technician** or **Administrator** have the permission by default.

1 Under ⚙ **Settings** > **Security**, enable CDS Required.

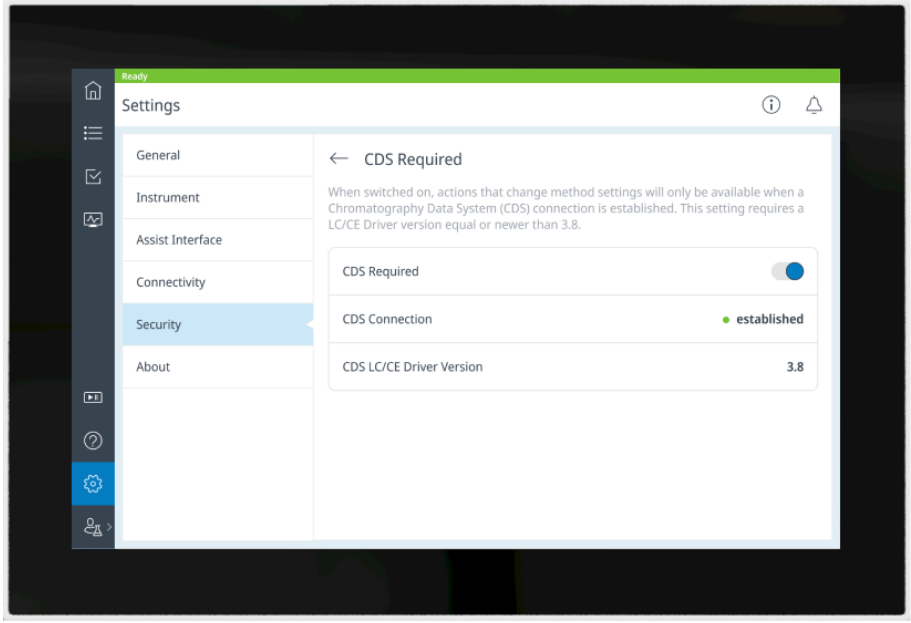


Figure 1: Enabling CDS Required

In the dialog, confirm that a CDS connection is required for actions that change method settings.

✓ All actions that change instrument settings are available when the CDS connection is established.

When **CDS Required** is enabled and the CDS connection is not present, the Assist Control Software switches to a mode in which most functions are read-only.

Run Control Color Coding

In the Run Control, the status of the CDS Required setting is displayed.

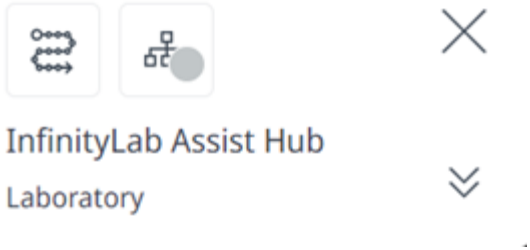


Figure 2: Run Control color coding

The following colors can be displayed depending on your settings:

LC/CE Driver version 3.8	CDS Required is enabled	CDS Required is disabled
connected	green	green
not connected	red	gray

HTTPS/TLS

Path: ⚙ **Settings** > **Security** > **HTTPS/TLS**

The HTTPS/TLS settings are used to configure secure browser-based access to the InfinityLab Assist Control Software. If enabled, HTTPS/TLS uses digital certificates to authenticate the system and establish encrypted connections for users accessing the Assist Hub from external devices or web browsers.

Depending on the laboratory's security architecture, certificates may be provided through the OpenLab CDS certificate hierarchy, a corporate Certificate Authority (CA), or a customer-managed certificate process. Because certificate management often involves site-specific security policies and network infrastructure, involve your IT department when configuring HTTPS/TLS settings.

NOTE

For details on the OpenLab CDS certificate hierarchy, see the chapter **Securing the System** in the *Agilent OpenLab Server and OpenLab ECM XT Administration Guide (openlab-server-ecmxt-v2.8-administration-guide-en.pdf, D0035354)*.

Settings

Parameter	Description	
HTTPS/TLS		**HTTPS/TLS** is active. Remote access to InfinityLab Assist requires **https://**. **http://** is redirected to **https://**. To enable **HTTPS/TLS**, you have to install at least one valid certificate.
		**HTTPS/TLS** is disabled. Remote access to InfinityLab Assist requires **http://**.
Certificate Information	The following information is displayed for each uploaded certificate:	
	Common Name	The host name for which the SSL certificate is issued or **Not Part Of Certificate**
	Subject Alternative Names	Alternative host names
	Valid Until	The expiration date of the certificate

Install Certificate

Path: ⚙ Settings > Security > HTTPS/TLS > Install Certificate

The Install Certificate wizard guides you through the steps required for uploading and installing a new certificate.

Prerequisites

- The Assist Control Software supports certificate files of type PEM or PKCS#12 (PFX) and private keys of type RSA or ECDSA.
- The certificate file is valid and not expired.
- To be able to carry out the procedure as described, you need the permission Configure HTTPS/TLS. The roles Agilent Service Technician or Administrator have this permission by default.

Certificate with Bundled Private Key

1 Start InfinityLab Assist remotely in a Web browser.

2 Select ⚙ Settings > Security > HTTPS/TLS > Install Certificate.

The Certificate File step is displayed.

3 Select Browse to search the file system and select the certificate file. Or use drag and drop.

4 If the private key requires a password, enter the password.

If the password is valid, the wizard continues with the Certificate Information step.

5 Select Install.

✓ The wizard installs the certificate. After successful installation, the wizard is closed.

✓ The HTTPS/TLS screen shows the certificate.

Certificate with Separate Private Key

1 Start InfinityLab Assist remotely in a Web browser.

2 Select ⚙ Settings > Security > HTTPS/TLS > Install Certificate.

The Certificate File step is displayed.

3 Select **Browse** to search the file system and select the certificate file. Or use drag and drop.

The wizard continues with the **Private Key** step.

4 Select **Browse** to search the file system and select the private key. Or use drag and drop.

5 If the private key requires a password, enter the password.

If the password is valid, the wizard continues with the **Certificate Information** step.

6 Select **Install**.

✓ The wizard installs the certificate. After successful installation, the wizard is closed.

✓ The **HTTPS/TLS** screen shows the certificate.

Enable or Disable USB Ports

The option allows you to enable or disable the USB ports on the Assist Hub and the Assist Interface.

Prerequisites

- To enable or disable USB ports, you need the permission **Enable/disable USB ports**. The **Administrator** role has this permission by default.

1 Under ⚙ **Settings** > **Security**, enable or disable **USB Ports**.

If the option is disabled, it is no longer possible to use the USB ports for uploads or downloads.

The **USB Ports** setting is overwritten in the following cases:

- When importing the setting from an export file
- When restoring a backup file

When a new Assist Interface is connected, it takes over the **USB Ports** setting of the Assist Hub.

Configuring Advanced Settings

The **Advanced** tab on the **Settings** screen allows you to enable or disable features.

Activate Additional Tracing

Enable additional tracing if advised to do so by Agilent Support Personal. When you generate a support file, the tracing data is included in the support file.

Prerequisites

- To enable or disable additional tracing, you need the permission **Configure advanced settings**. The **Administrator** role has this permission by default.

1 Under ⚙ **Settings** > **Advanced**, enable **Additional Tracing**.

The notification **Additional Tracing active** is generated. The notification provides the quick action **Deactivate** to turn off additional tracing.

The parameter **Remain Active After Reboot** is displayed.

2 Enable **Remain Active After Reboot**, if you want that additional tracing remains active after the Assist Hub reboots.

Assign Multiple IP Addresses to the Assist Hub

If you use multiple instrument configurations, you can assign the corresponding IP addresses to the Lab LAN port of the Assist Hub. The prerequisite is that you activate the option **Allow Multiple IP Addresses** in the advanced configuration settings. In **Stored** mode of the connection settings, you then specify the IP addresses.

Prerequisites

- To enable or disable the configuration of multiple IP addresses, you need the permission **Configure advanced settings**. The **Administrator** role has this permission by default.
- To edit the network connection, you need the permission **Configure network connection**. The roles **Administrator**, **Agilent Service Technician**, **Maintenance Technician** have this permission by default.

1 Under ⚙ **Settings** > **Advanced**, enable **Allow Multiple IP Addresses**.

2 Under Settings > Instrument > Connection Settings, select Stored mode.

3 Enter the IP addresses of both instrument configurations.

Display Instrument Trends

You can disable the following instrument trends:

- Ambient Temperature
- Autosampler Temperature (For samplers with a thermostat only.)

Setting	Description
	The trend is enabled (default setting). The Instrument Trend screen shows the trend.
	The trend is disabled. The Instrument Trend screen hides the trend. No notifications or log entries are generated when limits are exceeded. Once you re-enable the trend, its previous settings will be active again. If limit notifications are enabled and a limit is exceeded, a notification and log entry will be generated.

Customize Role Names

If the Customize Role Names option is enabled, you can change the names of the following roles as they appear on the user interface of InfinityLab Assist:

- Maintenance Technician
- Lab Analyst
- Viewer

The role permissions remain unchanged.

Prerequisites

- Role-based authentication is active.
- To enable or disable the customizing of role names, you need the permission Configure advanced settings. The Administrator role has this permission by default.
- To edit the role names, you need the permission Configure authentication. The Administrator role has this permission by default.

1 Under ⚙ Settings > Advanced, enable Customize Role Names.

2 Under ⚙ Settings > Security tab > Authentication, select ✎ next to the role name to edit the role name.

About InfinityLab Assist Control Software

Path: Settings > About

The About tab on the Settings screen provides the following information:

- End-user license agreement (EULA)
- Open-source components
- Assist Control Software version: The screens shows what's new in the Assist Control Software and module-specific firmware. Use the toggle function to filter only for HW configurations that apply to the modules in your instrument. For more information on versioning, see Versioning & Updates on page 76.
- Agilent Improvement Program: Administrator can optionally select to participate or not to participate in the Agilent Improvement Program.
- The Onboarding Guide presents the most important features of InfinityLab Assist.

Versioning & Updates

The Assist Hub uses only a single software package, the Assist Control Software.

No separate software or firmware is needed.

Due to technical limitations, the software version number is displayed in a firmware-style format in the LC Driver module information and in the Lab Advisor System Overview. When they show E.01.00 [0004], it is simply another way of showing version 1.0.4.

The following table summarizes the released Assist Control Software versions:

Table 5: Assist Control Software Versions

Marketing Version	Software Version	Firmware-Style Format
2.1	2.1.9	E.02.01 [0009]
2.0	2.0.14	E.02.00 [0014]
1.1	1.1.0	E.01.01 [0000]
1.0	1.0.4	E.01.00 [0004]

Software Update

If the Assist Hub is connected to the Internet, the Assist Control Software generates a notification when an update is available.

Optional: Manually Check and Download Software Updates

You can manually check for software updates. Updates are available under: https://update.pl29.agilent.com/infinitylab. Check regularly for new updates.

You can use a USB storage media to store the update files. It must be of type FAT, FAT32, EXT4, vFAT. Both, the Assist Interface and the Assist Hub consist of a USB ports.

If you start InfinityLab Assist remotely in a Web browser, you can also store the update files to a known location on the PC and select software or firmware updates manually. A Chromium-based browser is required to open the Assist Control Software.

Updating the Software

Preparations

- Your update file is saved on USB or on the PC.
- If you use a USB on the Assist Hub or Assist Interface for the update, ensure that the USB ports are enabled. For more information, see Enable or Disable USB Ports on page 71.

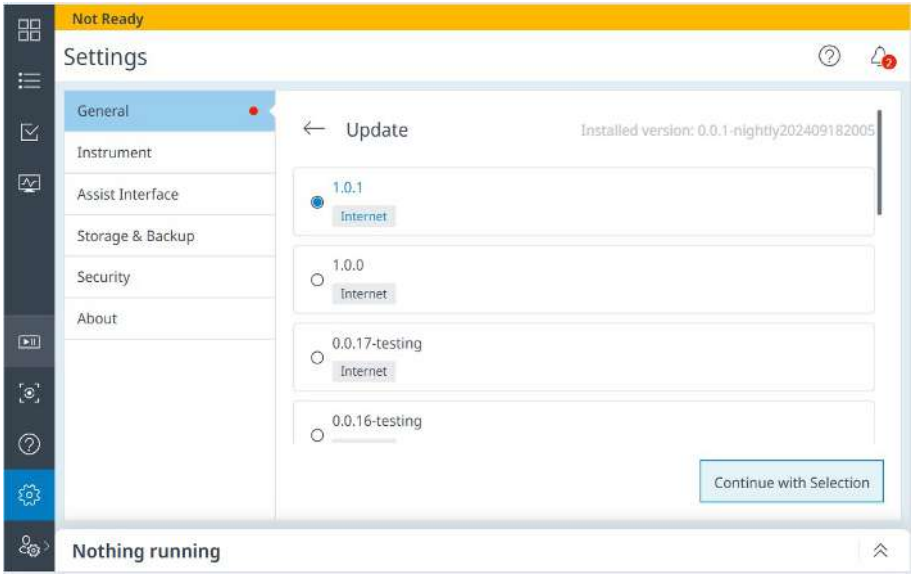
1 If you have saved the update file on the USB, insert the USB into the Assist Hub or Assist Interface to perform the update.

OR

If you are working remotely in a Web browser, navigate to the storage location of your PC.

2 In the Control Software, navigate to **Settings** > **General** > **Update**.

The section is assigned a red dot as soon as an update file is available. The update will be displayed in the list.



3 Select the update file and select **Continue with Selection**

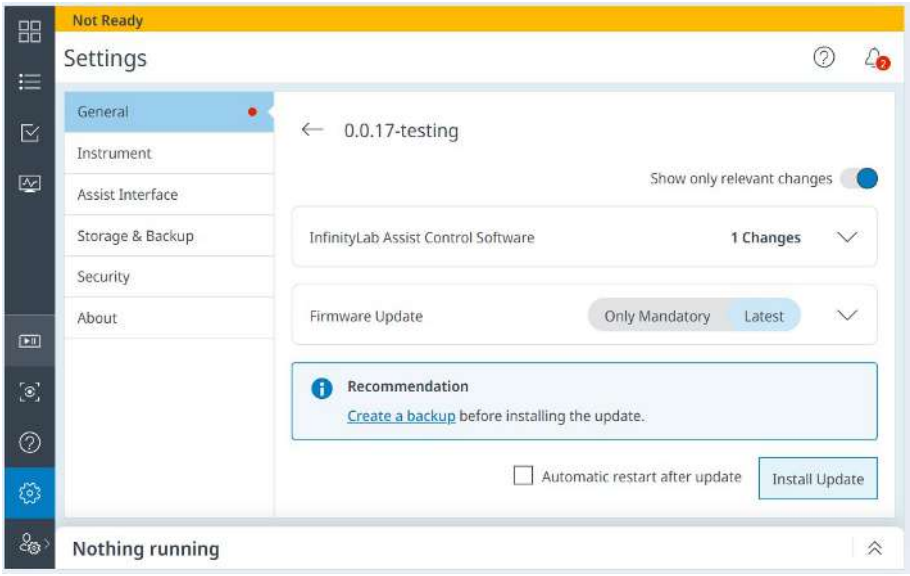
4 Expand ⌄⌄ section **InfinityLab Assist Control Software** to view the changes for the new version.

5 Update the firmware:

a Toggle to **Latest** to update the firmware to the version that comes with the new version of the Assist Control Software.

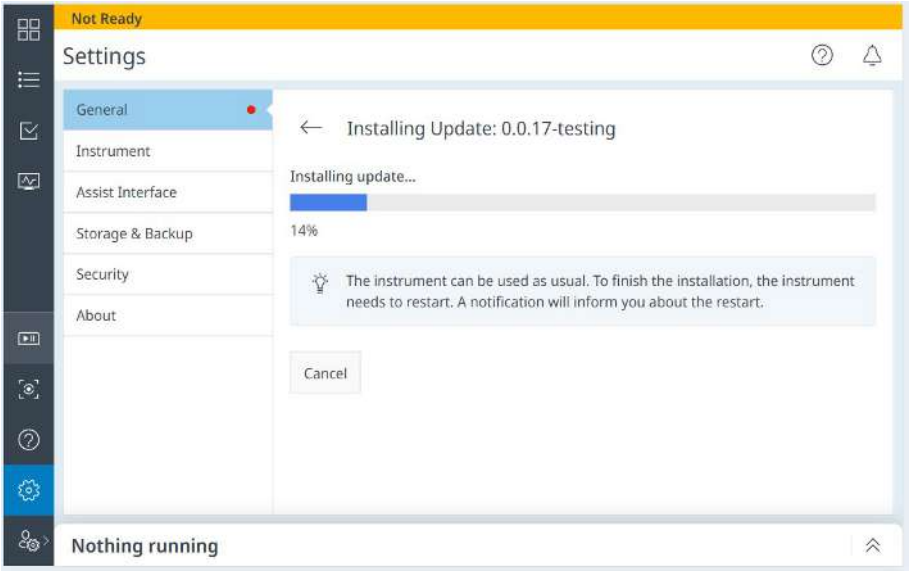
OR

b Toggle to **Only Mandatory** to update the modules that are not yet at the minimum level to work with the Assist Control Software version.



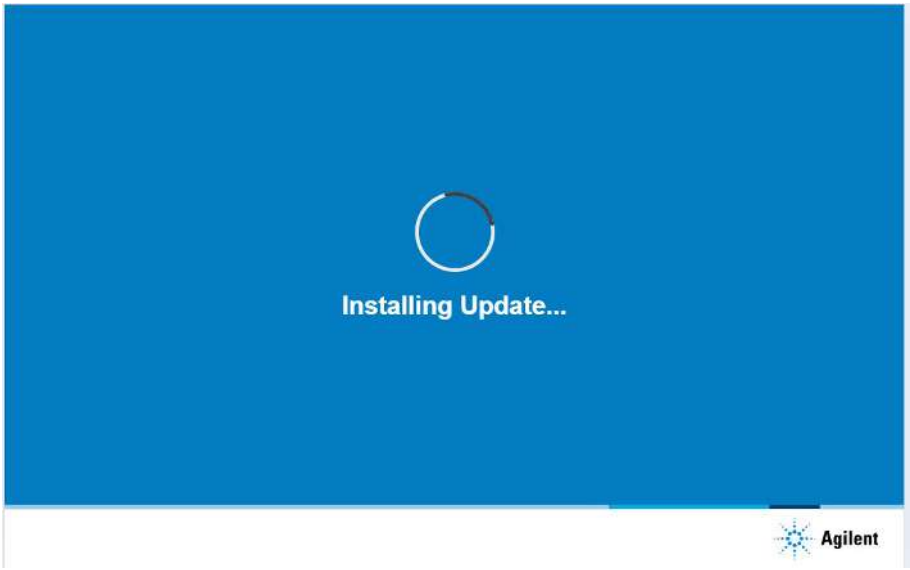
6 Select **Automatic restart after update**.

After downloading the update, the installation starts automatically after one minute.



7 If automatic restart is not selected, you must start the installation manually after the download.

After restart, the Assist Control Software and Firmware, and the Assist Interface Firmware will be updated.



Controlling System Access via User Roles and Authentication Settings

Path: Settings > Security > Authentication

The **Authentication** screen shows the authentication settings for InfinityLab Assist.

To change the authentication settings, you need the permission **Configure authentication**. The Administrator role has this permission by default.

The following authentication methods are available:

- With **Role-based** authentication, users select a role for logging on to the InfinityLab Assist, and usually have to enter a role-specific PIN. The role defines the permissions of the user. This is the default setting. For more information, see How to Configure Role-Based Authentication on page 83.
- Authentication via **OpenLab** requires setup on both InfinityLab Assist and OpenLab CDS itself. Once activated, users log in to InfinityLab Assist with their OpenLab CDS accounts. For more information, see How to Configure OpenLab Authentication on page 84.
- The **Active Directory** authentication allows you to set up Active Directory-based authentication for InfinityLab Assist. Once activated, users log in to InfinityLab Assist based on their Active Directory group membership. For more information, see How to Configure Active Directory Authentication on page 89.
- With the option Authentication **Off**, users do not need to log in and have all permissions.

NOTE It is recommended that you keep authentication active.

For details on user roles and permissions, see Assist Roles and Permissions with Authentication on page 97.

How to Configure Role-Based Authentication

Prerequisites

- To be able to carry out the procedure as described, you need the permission **Configure authentication**. The **Administrator** role has this permission by default.

1. Log in to the InfinityLab Assist with your user credentials.
2. Navigate to ⚙ **Settings** > **Security** > **Authentication** and enable **Role-based** Authentication.
3. To change the PIN for the administrator:
   a. In section **Administrator**, select **Change Role Pin**.
   b. In the dialog, first enter the current PIN, then the new PIN and confirm.
4. For the predefined user roles that you want to use for the login, select **Enable Role**.
5. If you want the user role to use a PIN for authentication:
   a. Select **Enable Authentication with PIN**.
   b. Select **Change Role PIN** and assign a PIN in the dialog box.

If a user role is disabled, it is not displayed on the login screen.

How to Configure OpenLab Authentication

Prerequisites

- OpenLab CDS Environment is installed and has an OpenLab CDS 2.8 Update 3 or greater.
- The OpenLab CDS Server is up and running.
- The Assist Hub can connect to the OpenLab CDS Server.
- The instrument is configured in the OpenLab CDS Server.
- The OpenLab forward proxy is installed on the Instrument Controller (AIC or Workstation). For more information, see Install OpenLab Forward Proxy on page 84.
- In InfinityLab Assist, you need the permission **Configure authentication**. The Administrator role has this permissions by default.
- In OpenLab, you need a user account with the privileges **Manage system components**, **Manage instrument controllers**, and **Manage security**. OpenLab system administrators have these privileges by default.

Install OpenLab Forward Proxy

The OpenLab Forward Proxy provides connectivity between the Assist Control Software and external authentication services.

Depending on the deployment configuration, it enables communication with OpenLab Shared Services and Microsoft Active Directory (AD) services for user authentication. It also provides access to software update services and also facilitate communication with Agilent telemetry services when participation in the Agilent Improvement Program is enabled.

For more information on how Agilent treats your information, see

https://www.agilent.com/en/privacyprogram

NOTE For the Forward Proxy to function properly, ensure that the instruments are connected to the Instrument LAN ports of the Workstation or Instrument Controller.

Where to Install the OpenLab Forward Proxy

- Standalone Workstation Setup

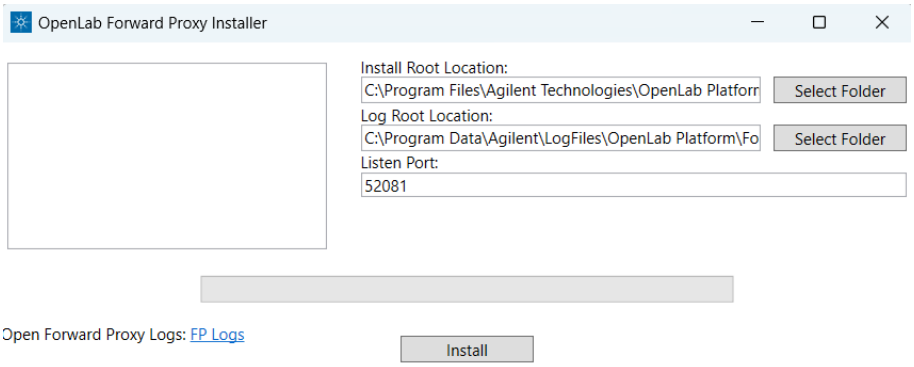
  Install the Forward Proxy directly on the Standalone Workstation PC.
- OpenLab Server and OpenLab ECM XT Setup

  Install the Forward Proxy on each Analytical Instrument Controller (AIC) in the software environment.
- Third-Party Software Client-Server Setup

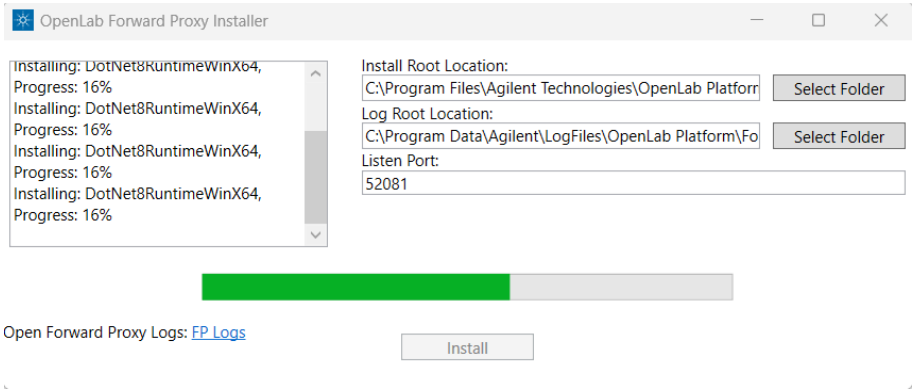
  Install the Forward Proxy on the Instrument Controller that manages communication between the instrument network and the enterprise network.

How to Install the OpenLab Forward Proxy

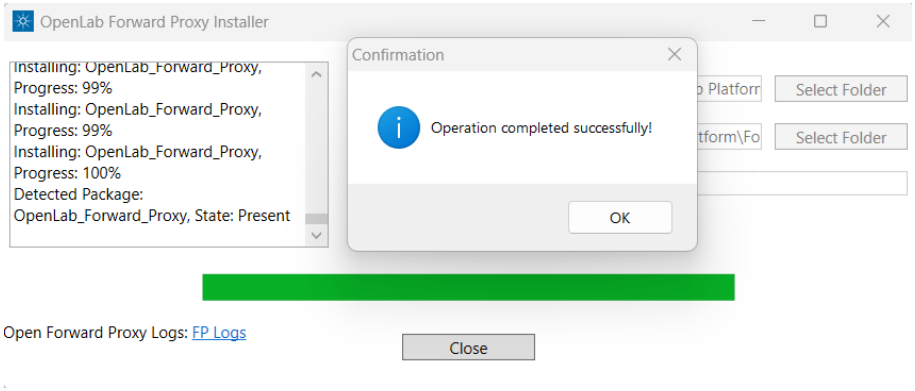
1 Run the application **OpenLabForwardProxy**.



2 Allow the application to be installed.



3 The application will display a successful message upon completion.



Configure OpenLab Authentication

Path: ⚙ Settings > Security tab > Authentication > OpenLab

The **Configure OpenLab Authentication** wizard allows you to make OpenLab the authentication provider for InfinityLab Assist. Once activated, users log in to InfinityLab Assist with their OpenLab user accounts.

How to Start the Wizard

1 Start InfinityLab Assist remotely using a Web browser.

2 Select ⚙ Settings > Security tab > Authentication.

3 Select OpenLab.

✓ The Configure OpenLab Authentication dialog box is displayed. The wizard attempts to automatically detect the server.

OpenLab Connection Step

The Assist Control Software attempts to automatically detect the OpenLab Server.

- If your OpenLab Server is found, its hostname appears in the OpenLab Server Hostname/IP text box. On a Standalone Workstation PC, localhost is displayed.
- If your OpenLab Server is **not** found, enter its hostname or IP address in the OpenLab Server Hostname/IP text box. For a Standalone Workstation PC, make sure the forward proxy is installed. Then, restart the Configure OpenLab Authentication wizard.

To continue, select Next. The Assist Control Software tries to connect. Once the connection is established, the next step will be displayed.

To discard the changes and close the dialog box, select Cancel.

Admin Login Step

Enter your login data for the OpenLab Server. Select the domain if required.

To continue, select Next. If the OpenLab user account is valid and has sufficient permissions, the next step will be displayed.

To discard the changes and close the dialog box, select Cancel.

Instrument Selection Step

The instruments configured in the OpenLab Server are listed. Select your instrument.

You can use ⟳ to refresh the list.

To continue, select **Next**. If the instrument is assigned, the next step will be displayed.

To discard the changes and close the dialog box, select **Cancel**.

Activation

During activation, the InfinityLab Assist roles are created on the OpenLab Server. Your OpenLab user account will have full access to InfinityLab Assist and all its features.

To discard the changes and close the dialog box, select **Cancel**.

To activate **OpenLab** authentication, select **Activate**.

If activation succeeds:

- All user sessions are terminated and the **Ambient** screen is displayed.
- To log in to InfinityLab Assist again, use your OpenLab user account.
- On the OpenLab Server, assign InfinityLab Assist roles to enable users to log in to InfinityLab Assist.

NOTE

Even if the OpenLab server is offline after OpenLab authentication has been established, InfinityLab Assist will still grant access to any OpenLab user accounts it recognizes from previous logins.

How to Configure Active Directory Authentication

Active Directory Minimum Requirements

Supported environments:

- Microsoft Active Directory (minimum: Windows Server 2003 SP2) is required. Other LDAP directories are not supported.
- Domain controllers must accept secure connections (LDAPS) on the Global Catalog port 3269. Unencrypted connections are not supported.
- Domain controllers must be discoverable through standard DNS service records (_gc._tcp.<domain>).
- Each domain controller must present a TLS certificate. Certificates from an internal company CA are accepted if issued to the domain controller's host name.

User accounts:

- User accounts must be located in the standard CN=Users container of the domain.
- Users sign in with their account name (CN). Sign-in with email-style names (UPN) or Windows logon names (sAMAccountName) is not supported if they differ from the account name.
- Sign-in uses username and password only. Kerberos, NTLM, and smartcard sign-in are not supported.
- User accounts must have a displayName attribute set.
- Account and group names must not contain special characters such as commas, backslashes, or parentheses.

Groups and domains:

- Groups can be located anywhere in the domain.
- Nested group membership is supported.
- Users and groups must belong to the configured domain. Multi-domain forests and trusted domains are not supported.

Prerequisites

- The Assist Hub can reach the Active Directory domain controllers directly or communication is enabled by the OpenLab Forward Proxy (see Install OpenLab Forward Proxy on page 90).
- In InfinityLab Assist, you need the permission **Configure authentication**. The Administrator role has this permission by default.
- In the Active Directory domain, you need a user account with administrator privileges.

Install OpenLab Forward Proxy

The OpenLab Forward Proxy provides connectivity between the Assist Control Software and external authentication services.

Depending on the deployment configuration, it enables communication with OpenLab Shared Services and Microsoft Active Directory (AD) services for user authentication. It also provides access to software update services and also facilitate communication with Agilent telemetry services when participation in the Agilent Improvement Program is enabled.

For more information on how Agilent treats your information, see

https://www.agilent.com/en/privacyprogram

NOTE For the Forward Proxy to function properly, ensure that the instruments are connected to the Instrument LAN ports of the Workstation or Instrument Controller.

Where to Install the OpenLab Forward Proxy

- Standalone Workstation Setup

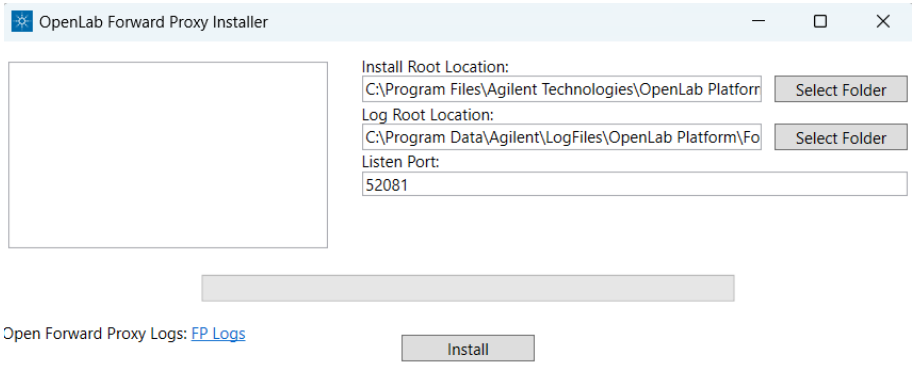
  Install the Forward Proxy directly on the Standalone Workstation PC.
- OpenLab Server and OpenLab ECM XT Setup

  Install the Forward Proxy on each Analytical Instrument Controller (AIC) in the software environment.
- Third-Party Software Client-Server Setup

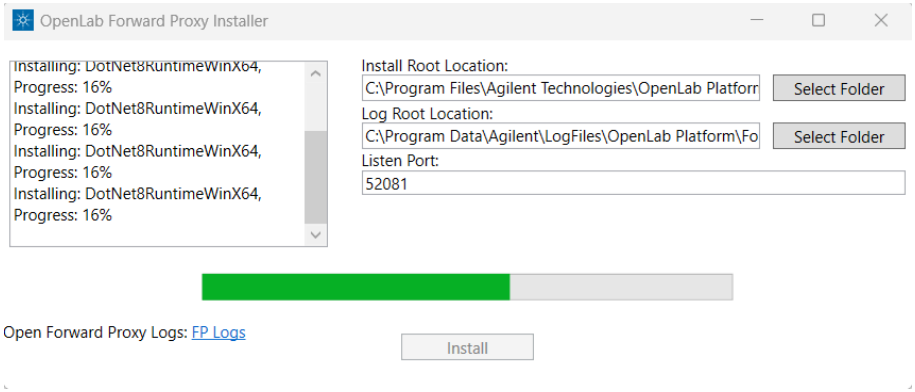
Install the Forward Proxy on the Instrument Controller that manages communication between the instrument network and the enterprise network.

How to Install the OpenLab Forward Proxy

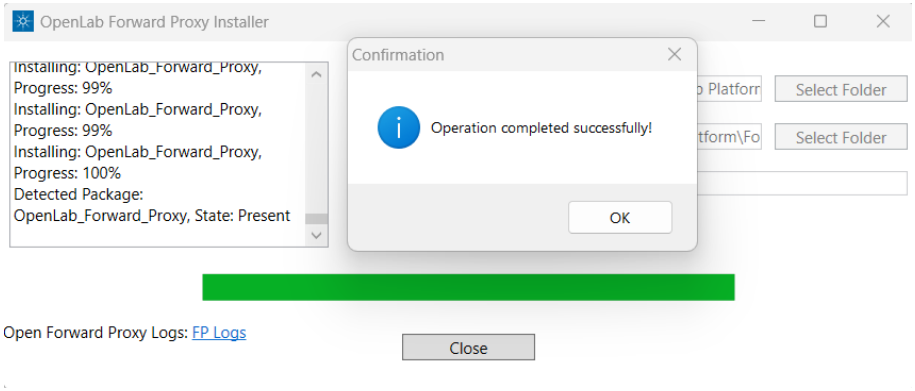
1 Run the application OpenLabForwardProxy.



2 Allow the application to be installed.



3 The application will display a successful message upon completion.



Configure Active Directory Authentication

Path: ⚙ Settings > Security tab > Authentication > Active Directory

The Configure Active Directory Authentication wizard allows you to setup Active Directory-based authentication for InfinityLab Assist. Once activated, users log in to InfinityLab Assist based on their Active Directory group membership.

How to Start the Wizard

1 Start InfinityLab Assist remotely using a Web browser.

2 Select ⚙ Settings > Security tab > Authentication.

3 Select Active Directory.

✓ The Configure Active Directory Authentication dialog box is displayed. The wizard attempts to automatically detect the server.

Active Directory Connection Step

The Assist Control Software attempts to automatically detect the Active Directory domain.

- If your Active Directory domain is found, its domain name appears in the Domain text box.
- If the Assist Hub can reach the Active Directory domain controllers directly and your Active Directory domain is **not** found, enter its domain name in the Domain field.

Enter your credentials in the Username and Password fields.

To continue, select Next. The Assist Control Software tries to connect. Once the connection is established, the next step will be displayed.

To discard the changes and close the dialog box, select Cancel.

Administrative Group Step

Select an Active Directory Group that receives administrator permissions.

You can assign additional permissions in the Permissions list. The permissions General read access to actuals, signals, etc. and Configure authentication are default and cannot be removed.

To continue, select Next. If the user account is valid and has sufficient permissions, the next step will be displayed.

To discard the changes and close the dialog box, select Cancel.

Activation

To discard the changes and close the dialog box, select Cancel.

To activate **Active Directory** authentication, select **Activate**.

If activation succeeds:

- All user sessions are terminated (including you) and the **Ambient** screen is displayed.
- To log in to InfinityLab Assist again, use your user credentials or any user credentials that are part of an Active Directory group with Administration rights.
- To configure permissions for other Active Directory groups, navigate to **Settings** > **Security** tab > **Authentication** and select **Add Group**.

NOTE Even if the Active Directory domain server is offline after Active Directory authentication has been established, InfinityLab Assist will still grant access to any user accounts it recognizes from previous logins.

Create Active Directory Group

Prerequisites

- The Assist Hub can reach the Active Directory domain controllers.
- In InfinityLab Assist, you need the permission **Configure authentication**. The Administrator role has this permission by default.

Add Active Directory Group

1 Navigate to ⚙ **Settings** > **Security** tab > **Authentication**.

When Active Directory-based authentication is established, all active groups are listed on the **Authentication** tab.

2 Select **Add Group**.

If required, log in to your Active Directory administrative account.

The **Add Group** dialog box is displayed.

3 Enter the group name in the **Active Directory Group** field.

4 You can assign an InfinityLab Assist permission template in the **Permission Template** field.

This includes the permissions of the corresponding role in InfinityLab Assist.

5 Select ⌄ in the **Permissions** field.

The permissions are displayed.

6 Select or deselect the check boxes to add or remove permissions.

You cannot remove the default permission **General read access to actuals, signals, etc.** The same applies to the **Configure authentication** permission for Administrator groups.

7 Select **Add Group**.

The assignment is saved and the dialog box closed. Members of the group can log in to InfinityLab Assist with their Active Directory accounts.

Edit Active Directory Group

1 Navigate to ⚙ **Settings** > **Security** tab > **Authentication**.

When Active Directory-based authentication is established, all active groups are listed on the **Authentication** tab.

2 Select ⧉ in the **Groups** list.

If required, log in to your Active Directory administrative account.

The **Edit Group** dialog box is displayed. The Active Directory group that you selected on the **Authentication** screen is displayed in the **Active Directory Group** field.

The template that has been assigned so far is displayed in the **Permission Template** field.

3 Select ⌄ in the **Permissions** field.

The permissions are displayed.

4 Select or deselect the check boxes to add or remove permissions.

You cannot remove the default permission **General read access to actuals, signals, etc.** The same applies to the **Configure authentication** permission for Administrator groups.

5 If you select **Delete**, the group will be deleted after you select **Save**. Members of the group can no longer log in to InfinityLab Assist with their Active Directory accounts.

6 Select **Save**.

The assignment is saved and the dialog box closed.

Assist Roles and Permissions with Authentication

InfinityLab Assist Permissions

The following permissions are available:

Permissions	Description
Abort diagnostic procedures	Allows to abort diagnostic procedures.
Abort tasks	Allows to abort tasks.
Activate/deactivate service mode	Allows to enable or disable the service mode.
Configure advanced settings	Allows to configure advanced settings, such as additional tracing.
Configure authentication	Allows to edit authentication settings, including the configuration of access tokens, the authentication mode and mode-specific settings.
Configure CDS requirement	Allows to edit CDS required settings, e.g., to determine whether functions are disabled when the CDS is connected or not to the instrument.
Configure HTTPS/TLS	Allows to edit TLS settings, including the upload of HTTPS/TLS certificates and the activation/deactivation of the TLS enforcement for the Assist Hub.
Configure network connection	Allows to change the connection settings configuration of the Assist Hub.
Configure participation in Improvement Program	Allows to manage participation in the Agilent Improvement Program.
Edit ambient screen layout	Allows to edit the layout of the **Ambient** screen and grant read access to the respective data sources to all users.
Edit Assist Interface settings	Allows to edit the settings of the Assist Interface, e.g., brightness.

Permissions	Description
Edit auto logout time	Allows to edit auto-logout functionality settings.
Edit instrument settings	Allows to configure instrument name and location.
Edit layout of status screen	Allows to edit the **Status** screen layout.
Edit LC Configuration	Allows to change the Valve Thermostat Cluster (VTC) configuration.
Edit tasks	Allows to edit tasks (e.g. Make Ready), including creating tasks, editing their names and descriptions, and changing their configurations.
Enable/disable USB ports	Allows to enable or disable the USB ports on the Assist Hub and the Assist Interface.
Execute quick actions and non-critical operations	Allows to execute quick actions and non-critical module operations, like changing pump seal-wash configuration.
Export trace packages	Allows to export trace packages.
General read access to actuals, signals, etc.	Allows general access to the application. Without this permission, the user cannot interact with application.
Import/Export backups	Allows to create and restore backups.
Import/Export settings, tasks, etc.	Allows to use the export and import workflow for settings and tasks. Requires additional permissions for the specific import elements, e.g., **Edit tasks** permission to import tasks.
Install software/firmware updates	Allows to install updates.
Manage trends	Allows to edit trend limit and notification settings.
Resolve configuration issues via module mapping	Allows to resolve configuration issues using the Module Mapping Guide.
Schedule tasks	Allows to schedule tasks, which are then started at the scheduled occurrence(s).
Set date and time	Allows to edit date and time settings.
Start diagnostic procedures	Allows to start diagnostic procedures.
Start maintenance procedures	Allows to start maintenance procedures.
Start tasks interactively	Allows to start tasks interactively from the application UI.
Start troubleshooting procedures	Allows to start troubleshooting procedures.
View activity log	Allows to view the activity log.

See *OpenLab Help & Learning* for more information on creating custom roles, groups, and users.

OpenLab Authentication Pre-Defined Roles from Assist Control Software

In the OpenLab CDS Control Panel, you can create custom roles, groups, and users with InfinityLab Assist permissions. The following roles are pre-defined:

Role	Privileges
Assist Administrator	Abort diagnostic procedures (InfinityLab Assist)
	Abort tasks (InfinityLab Assist)
	Activate/deactivate service mode (InfinityLab Assist)
	Configure advanced settings (InfinityLab Assist)
	Configure authentication (InfinityLab Assist)
	Configure CDS requirement (InfinityLab Assist)
	Configure HTTPS/TLS (InfinityLab Assist)
	Configure network connection (InfinityLab Assist)
	Configure participation in Improvement Program (InfinityLab Assist)
	Edit ambient screen layout (InfinityLab Assist)
	Edit Assist Interface settings (InfinityLab Assist)
	Edit auto logout time (InfinityLab Assist)
	Edit instrument settings (InfinityLab Assist)
	Edit layout of status screen (InfinityLab Assist)
	Edit LC Configuration
	Edit tasks (InfinityLab Assist)
	Enable/disable USB ports (InfinityLab Assist)
	Execute quick actions and non-critical operations (InfinityLab Assist)
	Export trace packages (InfinityLab Assist)
	General read access to actuals, signals, etc. (InfinityLab Assist)
	Import/Export backups (InfinityLab Assist)
	Import/Export settings, tasks, etc. (InfinityLab Assist)
	Install software/firmware updates (InfinityLab Assist)

Role	Privileges
	Manage trends (InfinityLab Assist)
	Resolve configuration issues via module mapping
	Schedule tasks (InfinityLab Assist)
	Set date and time (InfinityLab Assist)
	Start diagnostic procedures (InfinityLab Assist)
	Start maintenance procedures (InfinityLab Assist)
	Start tasks interactively (InfinityLab Assist)
	Start troubleshooting procedures (InfinityLab Assist)
	View activity log (InfinityLab Assist)
	View instrument or location (Shared Services)
Assist Agilent Service Technician	Abort diagnostic procedures (InfinityLab Assist)
	Abort tasks (InfinityLab Assist)
	Activate/deactivate service mode (InfinityLab Assist)
	Configure CDS requirement (InfinityLab Assist)
	Configure HTTPS/TLS (InfinityLab Assist)
	Configure network connection (InfinityLab Assist)
	Edit Assist Interface settings (InfinityLab Assist)
	Edit auto logout time (InfinityLab Assist)
	Edit instrument settings (InfinityLab Assist)
	Edit layout of status screen (InfinityLab Assist)
	Edit LC Configuration
	Edit tasks (InfinityLab Assist)
	Execute quick actions and non-critical operations (InfinityLab Assist)
	Export trace packages (InfinityLab Assist)
	General read access to actuals, signals, etc. (InfinityLab Assist)
	Import/Export backups (InfinityLab Assist)
	Import/Export settings, tasks, etc. (InfinityLab Assist)
	Install software/firmware updates (InfinityLab Assist)
	Manage trends (InfinityLab Assist)
	Resolve configuration issues via module mapping

Role	Privileges
	Schedule tasks (InfinityLab Assist)
	Set date and time (InfinityLab Assist)
	Start diagnostic procedures (InfinityLab Assist)
	Start maintenance procedures (InfinityLab Assist)
	Start tasks interactively (InfinityLab Assist)
	Start troubleshooting procedures (InfinityLab Assist)
	View activity log (InfinityLab Assist)
	View instrument or location (Shared Services)
Assist Maintenance Technician	Abort diagnostic procedures (InfinityLab Assist)
	Abort tasks (InfinityLab Assist)
	Activate/deactivate service mode (InfinityLab Assist)
	Configure network connection (InfinityLab Assist)
	Edit Assist Interface settings (InfinityLab Assist)
	Edit instrument settings (InfinityLab Assist)
	Edit layout of status screen (InfinityLab Assist)
	Edit LC Configuration
	Edit tasks (InfinityLab Assist)
	Execute quick actions and non-critical operations (InfinityLab Assist)
	Export trace packages (InfinityLab Assist)
	General read access to actuals, signals, etc. (InfinityLab Assist)
	Import/Export backups (InfinityLab Assist)
	Manage trends (InfinityLab Assist)
	Schedule tasks (InfinityLab Assist)
	Start diagnostic procedures (InfinityLab Assist)
	Start maintenance procedures (InfinityLab Assist)
	Start tasks interactively (InfinityLab Assist)
	Start troubleshooting procedures (InfinityLab Assist)
	View activity log (InfinityLab Assist)
	View instrument or location (Shared Services)
Assist Lab Analyst	Abort tasks (InfinityLab Assist)

Role	Privileges
	Execute quick actions and non-critical operations (InfinityLab Assist)
	Edit LC Configuration
	General read access to actuals, signals, etc. (InfinityLab Assist)
	Start tasks interactively (InfinityLab Assist)
	View activity log (InfinityLab Assist)
	View instrument or location (Shared Services)
Assist Viewer	General read access to actuals, signals, etc. (InfinityLab Assist)
	View instrument or location (Shared Services)

Role-based Authentication Roles and Permissions

If the **Customize Role Names** option is enabled, you can change the names of the following roles as they appear on the user interface of InfinityLab Assist:

- Maintenance Technician
- Lab Analyst
- Viewer

The role permissions remain unchanged.

For more details, see Customize Role Names on page 74.

Role	Privileges
Administrator	Abort diagnostic procedures (InfinityLab Assist)
	Abort tasks (InfinityLab Assist)
	Activate/deactivate service mode (InfinityLab Assist)
	Configure advanced settings (InfinityLab Assist)
	Configure authentication (InfinityLab Assist)
	Configure CDS requirement (InfinityLab Assist)
	Configure HTTPS/TLS (InfinityLab Assist)
	Configure network connection (InfinityLab Assist)
	Configure participation in Improvement Program (InfinityLab Assist)
	Edit ambient screen layout (InfinityLab Assist)
	Edit Assist Interface settings (InfinityLab Assist)
	Edit auto logout time (InfinityLab Assist)
	Edit instrument settings (InfinityLab Assist)
	Edit layout of status screen (InfinityLab Assist)
	Edit LC Configuration
	Edit tasks (InfinityLab Assist)
	Enable/disable USB ports (InfinityLab Assist)
	Execute quick actions and non-critical operations (InfinityLab Assist)

Role	Privileges
	Export trace packages (InfinityLab Assist)
	General read access to actuals, signals, etc. (InfinityLab Assist)
	Import/Export backups (InfinityLab Assist)
	Import/Export settings, tasks, etc. (InfinityLab Assist)
	Install software/firmware updates (InfinityLab Assist)
	Manage trends (InfinityLab Assist)
	Resolve configuration issues via module mapping
	Schedule tasks (InfinityLab Assist)
	Set date and time (InfinityLab Assist)
	Start diagnostic procedures (InfinityLab Assist)
	Start maintenance procedures (InfinityLab Assist)
	Start tasks interactively (InfinityLab Assist)
	Start troubleshooting procedures (InfinityLab Assist)
	View activity log (InfinityLab Assist)
Agilent Service Technician	Abort diagnostic procedures (InfinityLab Assist)
	Abort tasks (InfinityLab Assist)
	Activate/deactivate service mode (InfinityLab Assist)
	Configure CDS requirement (InfinityLab Assist)
	Configure HTTPS/TLS (InfinityLab Assist)
	Configure network connection (InfinityLab Assist)
	Edit Assist Interface settings (InfinityLab Assist)
	Edit auto logout time (InfinityLab Assist)
	Edit instrument settings (InfinityLab Assist)
	Edit layout of status screen (InfinityLab Assist)
	Edit LC Configuration
	Edit tasks (InfinityLab Assist)
	Execute quick actions and non-critical operations (InfinityLab Assist)
	Export trace packages (InfinityLab Assist)
	General read access to actuals, signals, etc. (InfinityLab Assist)
	Import/Export backups (InfinityLab Assist)

Role	Privileges
	Import/Export settings, tasks, etc. (InfinityLab Assist)
	Install software/firmware updates (InfinityLab Assist)
	Manage trends (InfinityLab Assist)
	Resolve configuration issues via module mapping
	Schedule tasks (InfinityLab Assist)
	Set date and time (InfinityLab Assist)
	Start diagnostic procedures (InfinityLab Assist)
	Start maintenance procedures (InfinityLab Assist)
	Start tasks interactively (InfinityLab Assist)
	Start troubleshooting procedures (InfinityLab Assist)
	View activity log (InfinityLab Assist)
Maintenance Technician	Abort diagnostic procedures (InfinityLab Assist)
	Abort tasks (InfinityLab Assist)
	Activate/deactivate service mode (InfinityLab Assist)
	Configure network connection (InfinityLab Assist)
	Edit Assist Interface settings (InfinityLab Assist)
	Edit instrument settings (InfinityLab Assist)
	Edit LC Configuration
	Edit layout of status screen (InfinityLab Assist)
	Edit tasks (InfinityLab Assist)
	Execute quick actions and non-critical operations (InfinityLab Assist)
	Export trace packages (InfinityLab Assist)
	General read access to actuals, signals, etc. (InfinityLab Assist)
	Import/Export backups (InfinityLab Assist)
	Manage trends (InfinityLab Assist)
	Schedule tasks (InfinityLab Assist)
	Start diagnostic procedures (InfinityLab Assist)
	Start maintenance procedures (InfinityLab Assist)
	Start tasks interactively (InfinityLab Assist)
	Start troubleshooting procedures (InfinityLab Assist)

Role	Privileges
	View activity log (InfinityLab Assist)
Lab Analyst	Abort tasks (InfinityLab Assist)
	Edit LC Configuration
	Execute quick actions and non-critical operations (InfinityLab Assist)
	General read access to actuals, signals, etc. (InfinityLab Assist)
	Start tasks interactively (InfinityLab Assist)
	View activity log (InfinityLab Assist)
Viewer	General read access to actuals, signals, etc. (InfinityLab Assist)

In This Book

This manual contains configuration instructions for the Agilent InfinityLab Assist Control Software (M8780AA). The manual describes the following:

- software environments,
- using the software,
- updating the software,
- configuring authentication,
- roles and permissions.

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