

Agilent Sample Scheduler for OpenLab revision 2.4

Site Preparation Checklist

Thank you for purchasing Agilent software. To get you started and to assure a successful and timely installation, please refer to this specification or set of requirements.

Correct site preparation is the key first step in ensuring that your instruments and software systems operate reliably over an extended lifetime. This document is an information guide and checklist prepared for you that outlines the supplies, consumables, space, and utility requirements for your equipment.

Introduction

Customer Responsibilities

Ensure that your site meets the following specifications before the installation date. For details, see specific sections within this checklist, including

- The computing environment and the necessary space is made available.
- The number and location of electrical outlets for your computer systems and peripherals are planned.
- That your site meets the following software, hardware, and networking specifications.
- Locate your sales order information, software authorization codes, and/or software licenses/certificates.
- The necessary software media, disks etc. are available including upgrade/update disks.
- That a suitable backup solution is identified for your software.
- If Agilent is delivering Installation and Familiarization services, users of the instrument should be present throughout these services. Otherwise, they will miss important operational, maintenance, and safety information.
- The base client server CDS system is installed and configured properly which can be
 - o OpenLab CDS 2.1 SR1 or higher
 - o OpenLab CDS EZChrom revision A.04.08 or higher with file system storage
 - o OpenLab CDS EZChrom revision A.04.08 Update 2 or higher with OpenLab Server, ECM-XT, ECM 3.6 or ECM 3.5 Update 6
- The base client server CDS is at least OpenLab CDS revision 2.4 if the Sample Scheduler compliance features are required

- If feasible, your LIMS expert can start working on the LIMS connection to the Sample Scheduler before the installation date. Agilent will provide necessary information and consultancy upfront
- Provide information to Agilent about the intended system topology. This will allow Agilent to develop a deployment plan for the Sample Scheduler which describes the distribution of the components that will be installed by Agilent
- Provide a list of the exact instrument configurations (including injectors) that should be controlled by the Sample Scheduler
- All instruments that should be controlled by Sample Scheduler are configured with the corresponding CDS at the OpenLab Control Panel
- Every instrument that should be controlled by Sample Scheduler has a tested method assigned which did successfully run on the corresponding CDS system, either OpenLab CDS 2.1 SR1 or higher version, or OpenLab CDS EZChrom A.04.08 or higher version
- The Microsoft SQL 2012, 2014, 2016 or 2017 Express or Standard database instance which the Sample Scheduler should use, has to be installed and configured so the Sample Scheduler can use it:
 - Access over TCP/IP has to be enabled
 - The used ports (default 1433 for TCP and 1434 for UDP) has to be open to every PC that is used by the Sample Scheduler
 - In case of Windows domain authentication of the SQL database, every user that will use the Sample Scheduler must have access to the database instance, and the silent installation is recommended to pass over a domain account and password for the Sample Scheduler Service user to the Sample Scheduler installer.
 - A user having the needed privileges must be available during installation (e.g. create / drop table within the instance for LIMS agent installation)
- The server where the Sample Scheduler LIMS Agent will be installed needs to have access to the LIMS
 - In case of connection via XML, the user account that is used for the LIMS Agent needs to have full access to the folder where the LIMS will drop its commands
 - In case of connection via SQL, the needed connection string to connect to the LIMS database has to be available
- TCP + UDP port 6572 needs to be accessible from all machines where Sample Scheduler components are installed for the Agilent.Scheduler.Services.Controller service, to remotely start/stop/restart services via the Sample Scheduler configuration
- TCP Port 7245 port with https protocol, will be used for CDS 2.3 and above AIC to remotely reconfigure the Sample Scheduler agent installed on the specific AIC to connect to the Sample Scheduler database if the agent has the matching version
- For the Sample Scheduler Web Interface a TCP port needs to be accessible where the Sample Scheduler web interface is installed. At Installation the default ports 7244 (http protocol) and

TCP port 7243 (https protocol) get assigned. Different ports can be configured after installation

- A trusted SSL certificate is required to allow https connections on the Sample Scheduler web server to avoid browser warning messages
- Availability of a system/network administrator as needed to connect to your intranet.
- Required persons to be present at the installation date:
 - Your LIMS administrator/expert
 - Depending on the base CDS version:
 - an OpenLab CDS 2.x expert user
 - an OpenLab CDS EZChrom Edition expert user
 - all the above (for connecting a mixed environment)
- Required user credentials at the installation date:
 - A PC admin user is required on each machine where Sample Scheduler components will be installed
 - Credentials for an OpenLab CDS admin user that has access to all the instruments and projects that will be used with the Sample Scheduler needs to be available during installation
 - Credentials to access the Microsoft SQL database (either windows or internal authentication is possible with mixed mode setup)
 - Agilent SubscribeNet account administrator to issue the Sample Scheduler license based on the activation key, to generate and download the license and to download the Sample Scheduler software
- Please consult the Special Requirements section for other product-specific information.

Customer Information

- 1 If you have questions or problems in providing anything described as a Customer Responsibility, please contact your local Agilent or partner support service organization for assistance before delivery. In addition, Agilent and/or its partners reserve the right to reschedule the installation dependent upon the readiness of your site.
- 2 Should your site not be ready for whatever reasons, please contact Agilent as soon as possible to re-arrange any services that have been purchased.
- 3 Other optional services such as extra training, operational qualification (OQ), and consultation for user-specific applications may also be provided at the time of installation. Please discuss with your Agilent Sales representative before the installation is scheduled.

Important Customer Web Links

- Videos about specific preparation requirements for your software can be found by searching the *Agilent YouTube* channel at <https://www.youtube.com/user/agilent>
- To access *Agilent University*, visit <http://www.agilent.com/crosslab/university/> to learn about training options, which include online, classroom and onsite delivery. A training specialist can work directly with you to help determine your best options.
- A useful *Agilent Resource Center* web page is available, which includes short videos on maintenance, quick lists of consumables for new instruments, and other valuable information. Check out the Resource Page here: <https://www.agilent.com/en-us/agilentresources>
- Need technical support, FAQs, supplies? – visit our *Support Home page* at <http://www.agilent.com/search/support>
- Microsoft Hardware Compatibility List: <https://sysdev.microsoft.com/en-us/Hardware/lpl/>
- Links to specific O/S fixes, updates needed: <http://support.microsoft.com/>
- Get answers. Share insights. Build connections:
Join the Agilent Community at <https://community.agilent.com/welcome>

Site Preparation

Software Specifications for Workstations, Clients and Servers

Special notes

- 1 Sample Scheduler for OpenLab is working with OpenLab CDS or OpenLab CDS EZChrom Edition. Thus, systems with Sample Scheduler installed must satisfy the corresponding CDS requirements plus the specific operating system requirements for Sample Scheduler LIMS agent and Sample Scheduler web interface.
- 2 The Sample Scheduler LIMS agent or the Sample Scheduler web interface can be installed on the OpenLab CDS 2.x Server, the OpenLab Shared Services Server, as well as on CDS 2.X Clients and AIC's or on the OpenLab CDS EZChrom Clients, AIC's and Networked Workstations as long those run on a compatible Windows Server Operating System.
- 3 The Sample Scheduler agent or Sample Scheduler client installation (including configuration interface) requires an OpenLab CDS 2.x or OpenLab CDS EZChrom AIC, Client or Networked Workstation installation. A maximum of 20 instruments can be managed by one Scheduler agent.
- 4 In addition, the Sample Scheduler system requires a Microsoft SQL 2012, 2014, 2016 or 2017 database instance.

Specification Description	Minimum	Comments
Operating system for Sample Scheduler client, Sample Scheduler configuration, and Sample Scheduler agent: name, version	Win 10 64 bit Pro or Enterprise Win 7 64 bit Pro or Enterprise Windows Server 2012 R2 Windows Server 2016 Windows Server 2019	
Operating system for Sample Scheduler LIMS agent and Sample Scheduler web interface: name, version	Windows Server 2012 R2 Windows Server 2016 Windows Server 2019	
O/S .NET and other add-ons	. NET framework 4.7 as required by underlying CDS	Get .NET framework language pack for localized versions
Language settings/compatibility Localized language using default system fonts	English Chinese: Simsun Japanese: MS UI Gothic	Sample Scheduler for OpenLab can run on other language versions of Windows as well, but the user interface will be English.
Microsoft SQL database	SQL Server 2012 Express or Standard SQL Server 2014 Express or Standard SQL Server 2016 Express or Standard SQL Server 2017 Express or Standard	

Computer Date/Time

All Sample Scheduler computers must be synchronous: same date/time.

Computer Hardware Specifications for Workstations, Clients and Servers

Special Notes

Sample Scheduler for OpenLab is working with OpenLab CDS or OpenLab CDS EZChrom Edition. Thus, systems with Sample Scheduler installed must satisfy the corresponding CDS requirements. Add physical memory (RAM) to support Sample Scheduler.

RAM requirements of Sample Scheduler depend on:

- 1 The role of the computer (Scheduler agent, LIMS agent, Sample Scheduler client)
- 2 The number of instruments
- 3 The number of analyses to store in Sample Scheduler database

Role	Physical memory (RAM)
LIMS agent	120 MB
Scheduler agent + Scheduler Acquisition agent (multiply with number of instruments managed by the Scheduler Agent)	150 MB 150 MB multiplied with number of instruments
Scheduler client	Depends on the number of analyses stored in Sample Scheduler database. 5000 analyses: 500 MB 20 000 analyses: 900 MB
SQL Server	Depends on the number of analyses stored in Sample Scheduler database. SQL Server manages the memory usage in a nonlinear manner (not proportional to the number of entries in the database). Refer to SQL Server specifications to properly set the SQL Server sizing.

The RAM of the computer must be equal to the OpenLab CDS required RAM plus the required minimum or more for the Sample Scheduler roles, see table above.

Regarding the Microsoft SQL server please refer to the hardware requirements for the installed Microsoft SQL server. Sample Scheduler does not add any specific requirements.

Additional computer hardware specifications for Sample Scheduler Clients

Special Notes:

Sample Scheduler Client may not work correctly with a lower vertical resolution than 800 pixels

Specification Description	Minimum	Recommended	Comments
Video devices	1600 x 900 pixels for OpenLab CDS 1280 x 1024 pixels for OpenLab EZChrom Edition	1920 x 1080 pixels for OpenLab CDS 1440 x 900 pixels for OpenLab EZChrom Edition	

Networking Specifications

No specific requirements for the Sample Scheduler other than the ones from OpenLab CDS 2.x or OpenLab CDS EZChrom Edition

Special Requirements

For the LIMS connection additional tools might be useful depending on the desired way to connect.

- 1 For LIMS connection with xml files a xml editor can be useful which provides a syntax check based on the provided *.xsd files. A tool for xml file creation is provided in the support folder.
- 2 For LIMS connection via SQL queries a database management software can be useful to identify the necessary information and identify how to manage the notification back to LIMS.