



February 2025

QIAcuity[®] Installation Guide



REF

911000, 911020, 911040, 911050



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Introduction

The purpose of this document is to support with installation and troubleshooting connectivity issues observed on the QIAcuity system. It is complementary to other documents, such as the *QIAcuity User Manual*.

About this guide

This installation guide provides information about QIAcuity in the following sections:

- Introduction
- Laptop Technical Specifications
- Installation/Update Procedure
- Network Configuration
- QIAcuity-Approved Configuration for Installation/Update
- Checking services.msc in Windows
- Directories to be Whitelisted
- Checking Time Zone
- Change of IP Address
- Warning: New Software Suite Detected
- Configuring Network Drive as Archive
- PostgreSQL Not Upgraded to 15 on Software Suite 2.5 or Newer
- Software Suite IP Address “Cannot set own URL as master”
- Linked Documents

General information

Technical assistance

At QIAGEN[®], we pride ourselves on the quality and availability of our technical support. Our Technical Services Departments are staffed by experienced scientists with extensive practical and theoretical expertise in molecular biology and the use of QIAGEN products. If you have any questions or experience any difficulties regarding the QIAcuity or QIAGEN products in general, do not hesitate to contact us.

QIAGEN customers are a major source of information regarding advanced or specialized uses of our products. This information is helpful to other scientists as well as to the researchers at QIAGEN. We therefore encourage you to contact us if you have any suggestions about product performance or new applications and techniques.

For technical assistance and more information, see our Technical Support Center at www.qiagen.com/support/technical-support or call one of the QIAGEN Technical Service Departments or local distributors (see back cover or visit www.qiagen.com).

Policy statement

It is QIAGEN's policy to improve products as new techniques and components become available. QIAGEN reserves the right to change specifications at any time.

To produce useful and appropriate documentation, we appreciate your comments about this installation guide. Contact QIAGEN Technical Services.

Laptop Technical Specifications

Hardware

ID	Feature	Value
HW01	System model	HP ZBook Fury 15 G8
HW02	CPU	Intel® Core™ i7-11800H @ 2.3 GHz
HW03	Chipset	In processor integrated.
HW04	Memory	16 GB DDR4-3200 SDRAM
HW05	L3 Cache	24 MB
HW06	Graphics	Intel UHD Graphics, NVIDIA RTX A2000 4GB GFX
HW07	Communications	Ethernet: Intel I219-V GbE, non-vPro WLAN: Intel Wi-Fi® 6 AX201 (2x2) Bluetooth: Bluetooth® 5 Combo
HW08	Audio	HD audio, dual speakers, dual array microphone
HW09	Hard disk	512 GB – (available 476 GB) PCIe (NVMe) TLC SSD
HW10	Media device	None
HW11	USB interface	1 USB 3.1 Gen 1 (1 charging) 1 USB 3.1 Gen 1
HW12	Serial interface	None
HW13	Parallel interface	None
HW14	Additional serial interface	None
HW15	Card slots	1 micro SD
HW16	Display	15.6" LED backlight FHD (1920 x 1080)
HW17	Keyboard	Integrated Keyboard, US International

ID	Feature	Value
HW18	Mouse	None
HW19	Battery	HP Long Life 8-cell, 94 Wh Li-ion polymer
HW20	Power	External 200W Smart AC Adapter
HW21	Laptop dimensions (W x D x H)	36.1 x 24.25 x 2.60 cm
HW22	Weight	2.35 kg
HW23	Warranty	3 years maintenance offsite support
HW24	RMN (Regulatory model number)	HSN-C13C-5

BIOS setting and Image properties

ID	Feature	Value
BS01	BIOS > Advanced > System Options > Virtualization Technology (VTx)	Enabled
BS02	BIOS > Security > Secure Boot Configuration	Disabled
BS03	BIOS > Advanced > Boot Options > Fast Boot	Disabled
BS04	BIOS > Advanced > Boot Options > UEFI Boot Order	Enabled M.2 SSD: Windows Boot Manager USB
BS05	BIOS > Advanced > Built-In Device Options > Wireless Network Device (WLAN)	Disabled
BS06	BIOS > Advanced > Built-In Device Options > Bluetooth	Disabled
BS07	BIOS > Advanced > Boot Options > Network (PXE) Boot	Disabled
BS08	Partition layout	All available space allocated to one C-partition (GUID partition table) Remark: Partition structure and size is not part of the image and needs to be set during staging

Software

ID	Feature	Value
OS01	Operating system	Windows 10 Enterprise LTSC 64-bit Build 21H2 English Release Date: October 12, 2021 OS Build: 19044.1288 including all security patches up to October 2021
OS02	Installed software	Acrobat® Reader® DC: 2022.001.20169 .NET 3.5: 3.5.30729.4926 Chrome™ browser: 104.0.5112.81 Microsoft Edge®: 105.0.1343.27 Microsoft Visual C++: 2012 (x64) 11.0.51106 Microsoft Visual C++: 2012 (x86) 11.0.51106 Microsoft Visual C++: 2013 (x64) 12.0.21005 Microsoft Visual C++: 2015-2019 Redistributable (x86) 14.22.27821.0 Microsoft Visual C++: 2015-2022 Redistributable (x64) 14.32.31332 Windows features: <ul style="list-style-type: none">• Deselect Media Features
OS03	User name	None
OS04	Computer name	None
OS05	Settings > System > Display > Advanced Settings > System > Display	Resolution: 1920 x 1080 Orientation: Landscape

ID	Feature	Value
OS06	Settings > Power & sleep	<p>Plan: "Balanced (recommended)"</p> <p>Settings: On battery Plugged in</p> <p>Turn off the display: 5 minutes Never</p> <p>Put computer to sleep: 30 minutes Never</p> <p>Advanced setting: On battery Plugged in</p> <p>Sleep after: 30 minutes Never</p> <p>Hibernate after: 60 minutes Never</p>
	<p>For Advanced settings Settings > Power & sleep > Additional power settings</p>	
OS07	Settings > Time & Language	Time zone "(UTC) Coordinated Universal Time"
OS08	Settings > Time & Language > Region ... > Additional date, time & regional settings > Change date, time or number formats > Additional settings...	<p>Region / language: user input during Windows setup</p> <p>Keyboard layout: user input during Windows setup</p> <p>Recommended [English (United States)]</p> <p>Leave / reset all settings regarding Numbers, Currency, Time and Date as / to default values</p>
OS09	Settings > Accounts	None
OS10	Settings > Personalization > Background	None
OS11	Settings > Personalization > Themes > Advanced sound settings	None
OS12	Settings > Personalization > Themes > Lock Screen	None
OS13	Settings > Personalization > Themes > Desktop Icon Settings	None
OS14	Settings > Accounts Computer Management > Local Users and Groups > Users	None

ID	Feature	Value
OS15	Settings > Devices > AutoPlay	None
OS16	Settings > Update & Security > Backup	No backup
OS17	Settings > Update & Security > Windows Security > Firewall & network protection	On for all locations Incoming connections: Blocks all incoming connections, including those in the list of allowed apps. For further details, please refer to “Firewall – Advanced settings”.
OS18	Control Panel > All Control Panel Items > Security and Maintenance > Change Security and Maintenance settings	None
OS19	Edit Group Policy (gpedit.msc) > Computer Configuration > Administrative Templates > Windows Components > Windows Update	Configure Automatic Updates: Disabled
OS20	Start > Windows Administrative Tools > Defragment and Optimize drives	Scheduled optimization enabled (“Scheduled optimization is turned ON”)
OS21	Indexing Options	No “local disk” indexing locations (only Favorites, Internet Explorer History, and Start Menu)
OS22	Edit Group Policy (gpedit.msc) > Computer Configuration > Administrative Templates > Windows Components > Windows Error Reporting > Consent > Configure Default consent	If it is set to “Not Configured” (default), the behavior is like “Always ask before sending data”. Set to enable; below the Options , set the Consent level (combo box) to “Always ask before sending data”.
OS23	Edit Group Policy (gpedit.msc) > User Configuration > Administrative Templates > Windows Components > Store	Turn off the Store application: Enable

ID	Feature	Value
OS24	Disable Auto Updates on Acrobat reader Search box: Task scheduler Task Scheduler Library Additionally change registry value: HKEY_LOCAL_MACHINE\SOFTWARE\WOW6432Node\Adobe\Adobe ARM\Legacy\Reader\{AC76BA86-7AD7-1033-7B44-AC0F074E4100}	Adobe Acrobat Update Task: Disable (using right mouse click) Change value Mode from 3 to 0
OS25	Disable Windows Bitdefender Antivirus: Edit Group Policy (gpedit.msc) > Computer Configuration > Administrative Templates > Windows Components > Windows Defender Antivirus	Turn off Microsoft Defender Antivirus: Enabled
OS26	Disable a memory compression: Windows PowerShell (Admin)	Disable-MMAgent -mc
OS27	File Explorer Options: File Explorer > View / Options	None
OS28	No drive indexing: File Explorer > Show properties of Local Disk (C:) > General tab	Compress this drive to save disk space: unchecked Allow files on this drive to have contents indexed in addition to file properties: unchecked
OS29	Control Panel > All Control Panel Items > Power Options > System Settings	Set When I close the lid to: <ul style="list-style-type: none"> • On battery: Do nothing • Plugged in: Do nothing
OS30	Ensure FIPS compliance is disabled: Start secpol.msc (Local Security Policy App) Local Policies > Security Options > System cryptography	Check that option: Use FIPS compliant algorithms for encryption, hashing, and signing is disabled. This setting is disabled by default.

Firewall – Advanced settings

Inbound connections

Disable by default with following exceptions:

Group	Rule	Protocol	Local Port	Program
Core Networking	Destination Unreachable (ICMPv6-In)	ICMPv6	Any	System
	Destination Unreachable Fragmentation Needed (ICMPv4-In)	ICMPv4	Any	System
	Dynamic Host Configuration Protocol (DHCP-In)	UDP	68	svchost.exe
	Dynamic Host Configuration Protocol for IPv6(DHCPV6-In)	UDP	546	svchost.exe
	Internet Group Management Protocol (IGMP-In)	IGMP	Any	System
	IPHTTPS (TCP-In)	TCP	IPHTTPS	System
	IPv6 (IPv6-In)	IPv6	Any	System
	Multicast Listener Done (ICMPv6-In)	ICMPv6	Any	System
	Multicast Listener Query (ICMPv6-In)	ICMPv6	Any	System
	Multicast Listener Report (ICMPv6-In)	ICMPv6	Any	System
	Multicast Listener Report v2 (ICMPv6-In)	ICMPv6	Any	System
	Neighbor Discovery Advertisement (ICMPv6-In)	ICMPv6	Any	System
	Neighbor Discovery Solicitation (ICMPv6-In)	ICMPv6	Any	System
	Packet Too Big (ICMPv6-In)	ICMPv6	Any	System
	Parameter Problem (ICMPv6-In)	ICMPv6	Any	System
	Router Advertisement (ICMPv6-In)	ICMPv6	Any	System
Router Solicitation (ICMPv6-In)	ICMPv6	Any	System	

Group	Rule	Protocol	Local Port	Program
	Teredo (UDP-In)	UDP	Edge Traversal	svchost.exe
	Time Exceeded (ICMPv6-In)	ICMPv6	Any	System
Network Discovery (all Private)	(LLMNR-UDP-In)	UDP	5355	svchost.exe
	(NB-Datagram-In)	UDP	138	System
	NB-Name-In)	UDP	137	System
	(Pub-WSD-In)	UDP	3702	svchost.exe
	(SSDP-In)	UDP	1900	svchost.exe
	(UPnP-In)	TCP	2869	System
	(WSD Events-In)	TCP	5357	System
	(WSD EventsSecure-In)	TCP	5358	System
	(WSD-In)	UDP	3702	svchost.exe
Remote Assistance	(DCOM-In)	TCP	135	svchost.exe
	(PNRP-In)	UDP	3540	svchost.exe
	(RA Server TCP-In)	TCP	Any	raserver.exe
	(SSDP TCP-In)	TCP	2869	System
	(SSDP UDP-In)	UDP	1900	svchost.exe
	(TCP-In)	TCP	Any	msra.exe

Outbound connections

Allow by default.

Installation/Update Procedure

Follow the detailed step-by-step instructions provided in the *QIAcuity User Manual*.

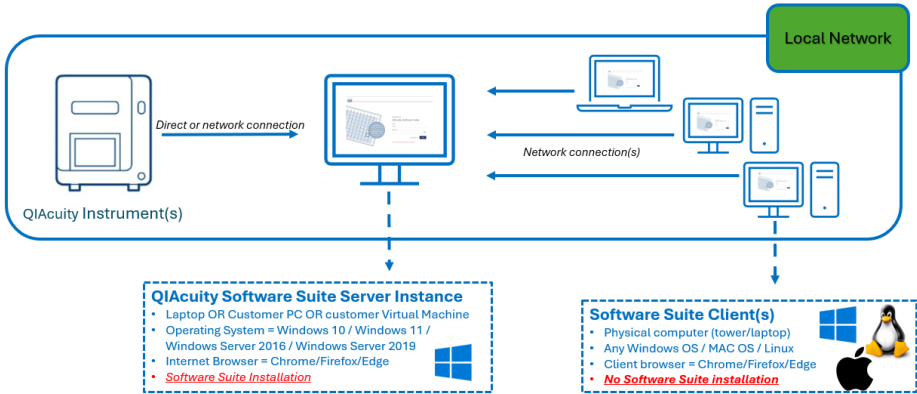
Prior to the installation/update, check the following:

- Ensure that the QIAcuity Software Suite is set up according to one of the approved configurations (see “Network Configuration”).
- Ensure that the Software Suite PC has no other active networks connected when QIAcuity Software Suite is installed or upgraded.
- Ensure that there is enough space on the hard drive for the backup to be created.
- Ensure that the web browser is updated to the latest version available.
- Turn off the standby/hibernation settings in the Windows configuration screen.
- Ensure that you are logged into Windows on the Software Suite PC as any user with full administrator rights.
- Do not run the QIAcuity Software Suite installer from USB stick or from within the zipped file prior to unzipping it.
- Always unzip and copy to desktop of Software Suite PC, then run the installer as administrator from that location

Note: Windows 10 and Windows 11 are supported since QIAcuity Software Suite version 3.0. Earlier QIAcuity Software Suite versions might also be working correctly, but they have been verified with Windows 10.

Network Configuration

The network configuration is presented in the scheme below:



Direct connection	IP address	Subnet mask	Gateway
QIAcuity instrument	192.168.1.2	255.255.255.0	192.168.1.1
QIAcuity Software Suite Server Host	192.168.1.1	255.255.255.0	192.168.1.254
Local network			
QIAcuity instrument	DHCP	DHCP	DHCP
QIAcuity Software Suite Server Host	DHCP	DHCP	DHCP

Network Connections

Function	Source (host/IP)	Destination (host/IP)	Protocol	Port
instrument access to Service software	QIAcuity	Server Host	HTTPS/TLS	8687
QIAidentity initiation	QIAcuity	Server Host	HTTP	8080
QIAidentity authentication	QIAcuity	Server Host	HTTPS/TLS	44321
	Server Host	QIAcuity	UDP	123
User access to Service web interface	local web browser	Server Host	HTTPS/TLS	8687
Optional: QIAGEN Remote Support Solution	Server Host	https://qsupport.qiagen.com	HTTPS/TLS	443

Note: All ports except for the QIAGEN Remote Support Solution are mandatory.

Potential issue: Port opened but routed in opposite direction

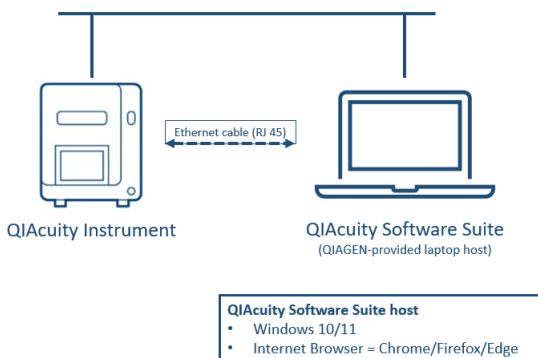
Connectivity issues reported on QIAcuity Software Suite version 2.5.0.1

Root cause: Local IT set up the mandatory ports required for communication; however, one of them (port 44321) was routed in the opposite direction. This resulted in a partially working network communication instead of network communication failure (probably due to smart firewall-interrupting communication of not matching rules traffic after establishing associated traffic initiation). When fixed and routing has been allowed in the correct direction, the QIAcuity instrument must be restarted to trigger a new certificate synchronization.

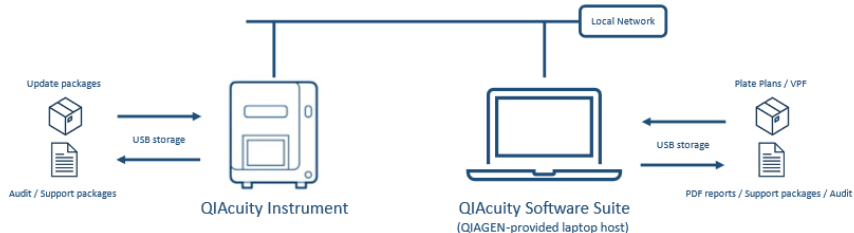
Note: For QIAcuity software version 3.0, the test connection function improves significantly, for example, the error message will state which port cannot be reached.

QIacuity-Approved Configuration for Installation/Update

Direct connection



Local network



QRSS solution



Checking services.msc in Windows

Service feature in Windows shows status on all running applications. Search "QIAcuitySuite", "QIAcuity-postgresql-15", and "QIAidentity" to confirm status of these applications.

Find "QIAcuitySuite", "QIAidentity", and "QIAcuity-postgresql-15" on the list. Right click on them, and if the Status column is empty, press **Start**, but if the Status column says "Running", press **Restart**.

Name	Description	Status	Startup Type	Log On As
 QIAcuity-postgresql-15		Running	Automatic	Local System
 QIAcuitySuite		Running	Automatic	Local Service
 QIAidentity		Running	Automatic	Local System

Note: Services names might slightly differ in earlier software versions.

Directories to be Whitelisted

The Windows user account that is used to install the QIAcuity Software Suite should have full access to the following directories. Moreover, these directories should not be blocked by any firewall nor third-party software:

- **C:\Program Files (x86)\QIAcuity Software Suite**
- **C:\ProgramData\QIAcuity\SuiteDbData**
- **C:\Program Files\QIAcuityPostgreSQL**
- **C:\Program Files\Qiagen.CommonInterfaces.QIAidentity**

Checking Time Zone

Time Zone settings should be set first following by the clock time.

Always change Time zone first, not the time on the clock in the Software Suite PC.

1. In Windows Settings, go to **Date & time**.
2. Go to **Time zone**:
 - Set the proper time zone.
3. Go to **Set time**:
 - Ensure that the time is correct; set the time manually if needed.

Important: If the customer uses a different language and region, make sure that the one they selected uses ":" as the time separator (e.g., 9:36); others will result in Software Suite being unable to start or lacking connection to the instrument.

Change of IP Address

Every change in IP setting on the QIAcuity Software Suite PC by the customer requires them to renew the certificate required for the secured communication of the QIAcuity Software Suite and the QIAcuity instrument software.

Every IP setting should be double-checked. Login as SetupUser to try refill IP settings and establish connection between instrument and Suite again.

Warning: New Software Suite Detected

The following error has been reported on the customer network configuration:

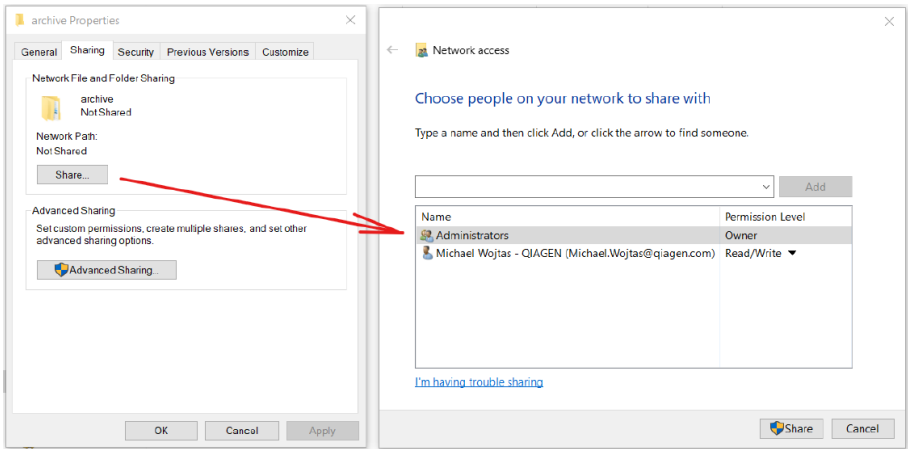
- **Warning message:** New Suite has been detected. Reboot an instrument.

Establish a direct connection to confirm that the Software Suite and instrument can communicate.

Configuring Network Drive as Archive

A network drive can be set as the archive location. To do that, user needs to log on to QIAcuitySuite service as a **Windows user with full permissions to the network drive**, followed by configuring the network drive/folder in UNC format in Software Suite. The steps below are an example of how to achieve that, but user can also contact the local IT department for support.

1. On the PC where the archive folder will be stored, right-click on the shared folder and go to **Properties**, then go to the **Sharing** tab and update in the following way:

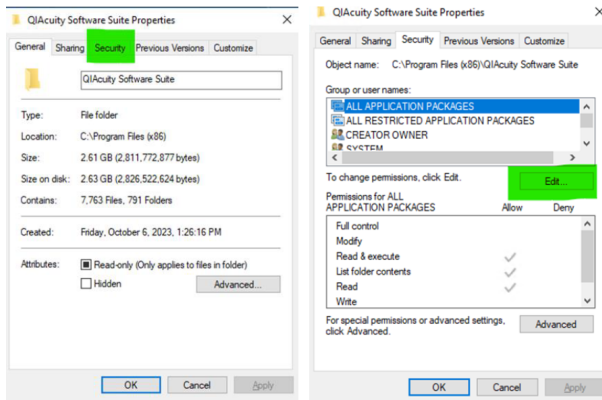


It is required to create a new user and add it to permissions. User can be created through standard Windows user management or by using drop-down from picture above and choosing **Add**.

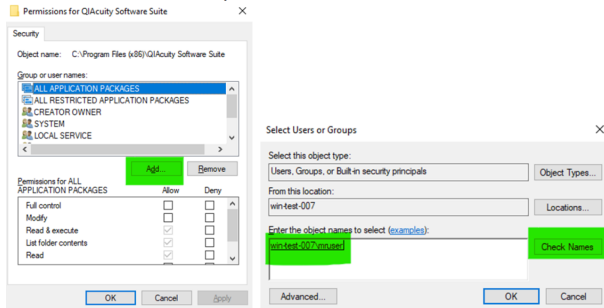
Created user can have basic permissions and does not need to have administrator rights, but it is required to set the permission level while sharing to "Read/Write" (as in the

picture above). The credentials should be remembered, as those will be used to access the network drive from the QlAcuitySuite server.

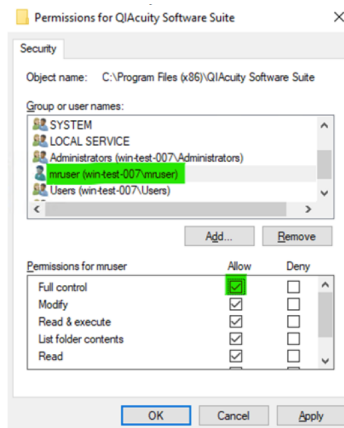
2. On the QlAcuitySuite server machine (where Software Suite is installed), Suite Software must be set up to run as a user who has access to the network drive. To do so:
 - a. Open the “Properties” window for the **C:\Program Files (x86)\QlAcuity Software Suite directory**. Go to the **Security** tab, then select **Edit**.



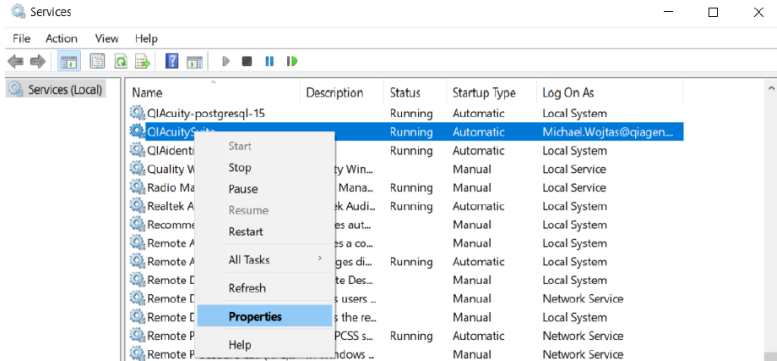
- b. Choose **Add**. In the new popup window, enter the Windows User that will be used to run the Software Suite and click **Check names** to make sure the name is correct and then click **OK**.



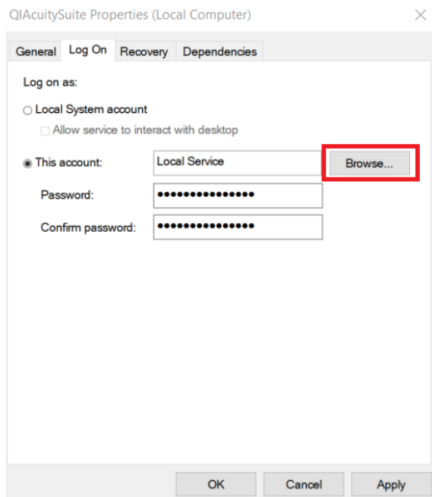
- c. Back in the "Security" window, check "Full control" permissions for the added user, and click **OK**.



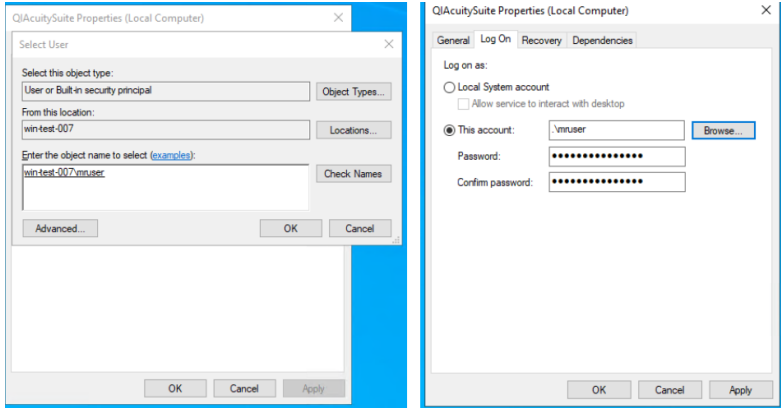
- d. Open the **Services** application: press the windows key, type “Services” and press the Enter key. Locate “QIAcuitySuite Service”, right click, and choose **Properties**:



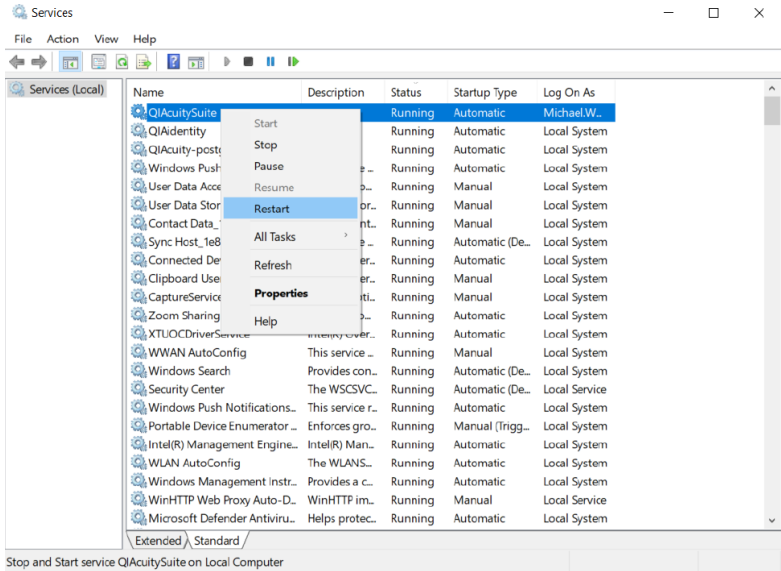
- e. In the new window, go to the **Log On** tab and click on the **Browse** button:



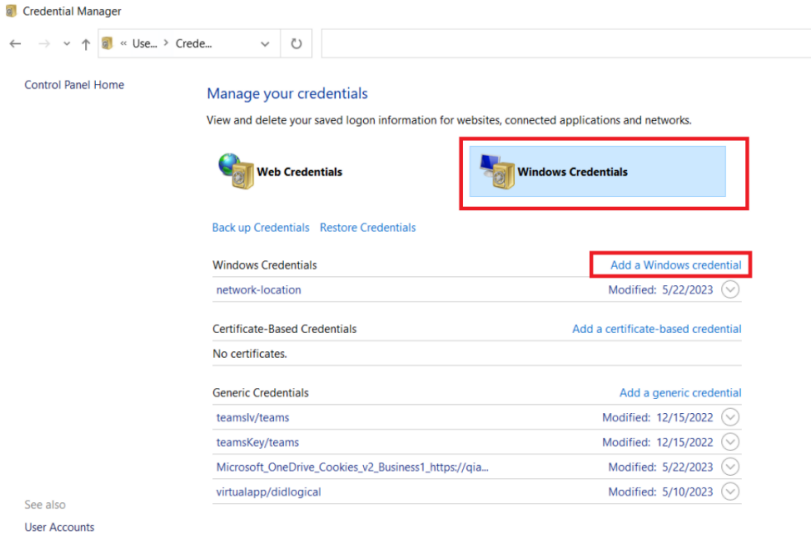
- f. In the new popup window, select the same user as in step on page 26, click **Check names**, and click **OK**. Provide password and confirm password in the inputs, and click **OK**.



- g. Restart the service by right clicking on the **QIAcuitySuite** service in the Services window and click **Restart** (if the services window is not present, press CTRL + SHIFT + ESC on the keyboard). Wait a while (approx. 5 min), for the service to boot up.



3. On the QIAcuitySuite server machine (where Software Suite is installed), press the Windows button on the keyboard, type credential manager, and press Enter. In the newly opened window, choose **Windows Credentials** and click **Add a Windows Credential**.



- In the newly opened window, provide server UNC (Universal Naming Convention) address and reuse the credentials (user name and password given above). It is important to specify only the server's name, without the detailed path to the archive folder.

For example, the path to archive is `\\DESKTOP-ABD324\\someFolder\\anotherFolder`, then in the Internet or network address only `\\DESKTOP-ABD324` should be typed:

Add a Windows Credential

Search Control Panel

← → ↓ ↑ “ Cre... > Add a... ↻

Type the address of the website or network location and your credentials

Make sure that the user name and password that you type can be used to access the location.

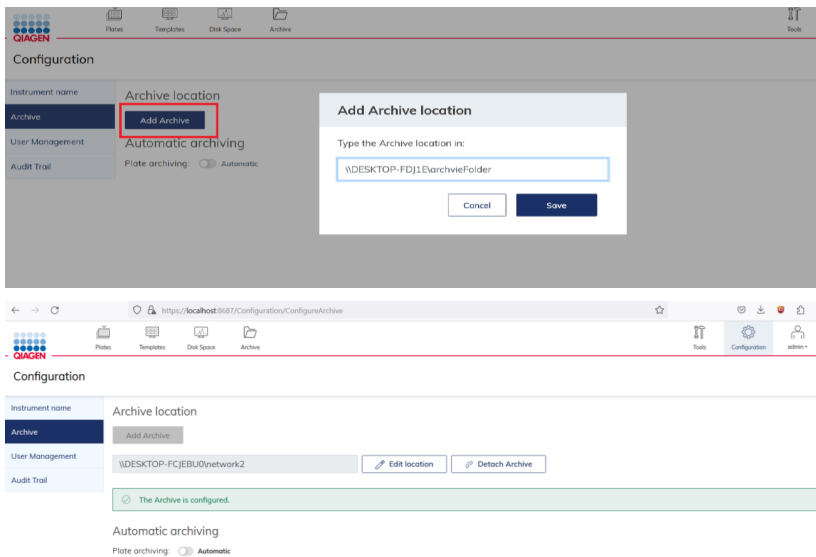
Internet or network address (e.g. myserver, server.company.com):

User name:

Password:

OK Cancel

5. Finally, in the Software Suite, in Configuration screen's **Archive** tab, user needs to specify network drive/folder using UNC format: `\\<server name>\<share point>\<path to resource>`



PostgreSQL Not Upgraded to 15 on Software Suite 2.5 or Newer

One way to prove that Software Suite has been upgraded to version 2.5 or newer is to check if PostgreSQL 15 is installed and its service is running. For more information, see “Checking services.msc in Windows

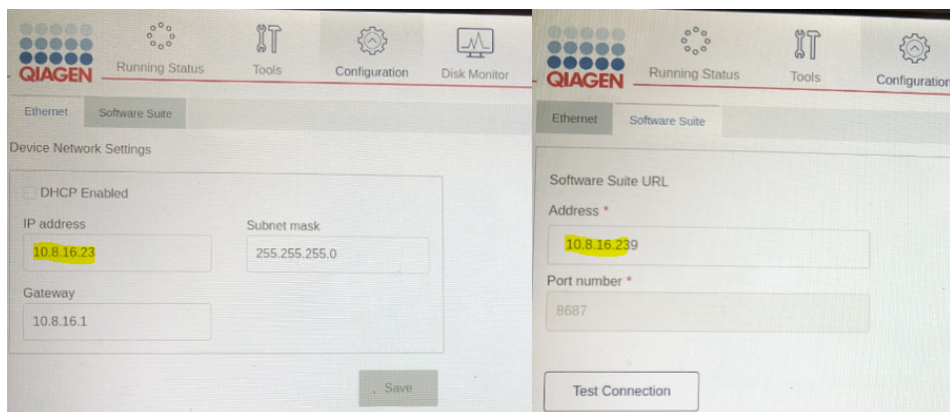
The most plausible root cause why PostgreSQL is not upgraded to version 15 could be:

- Installer was not run by clicking on **Run as administrator**.
- The user does not have full access to the installation directory (**C:\ProgramData**).
- The Windows Defender firewall settings blocks the installer.

Software Suite IP Address “Cannot set own URL as master”

The IP address validation in QIAcuity checks if the values provided for the instrument and QIAcuity Software Suite are different. Due to technical limitations, if the Software Suite IP address contains full IP address of the instrument, it will result in connectivity issues.

Example:



In that case, use the hostname or set a different IP address for the Software Suite and/or the instrument.

Linked Documents

- *QIAcuity User Manual* for software version 3.1 (www.qiagen.com/HB-2717-010)
- *QIAcuity User Manual* for software version 3.0 (www.qiagen.com/HB-2717-009)
- *QIAcuity User Manual* for software version 2.5 (www.qiagen.com/HB-2717-007)
- **QIAcuity Backup and Restore Scripts instructions for Suite 3.1**
- **QIAcuity Backup and Restore Scripts instructions for Suite 3.0**
- **QIAcuity Backup and Restore Scripts instructions for Suite 2.5**

Document Revision History

Revision	Description
February 2025	Initial release.

Trademarks: QIAGEN®, Sample to Insight®, QIAcuity® (QIAGEN Group) Acrobat®, Reader® (Adobe); Bluetooth® (Bluetooth SIG, Inc.); Chrome™ (Google LLC); Intel® (Intel Corporation); Microsoft Edge®, Microsoft®, Visual C++®, Windows® (Microsoft Corporation); Wi-Fi® (Wi-Fi Alliance);. Registered names, trademarks, etc. used in this document, even when not specifically marked as such, are not to be considered unprotected by law.

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