Sage 200c Professional

Installation Guide

Copyright statement

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Introduction

This guide is designed to provide Sage 200 Business Partners and customers with all the information required to install and upgrade Sage 200c Professional.

If you're also using Sage 200 CRM, you'll also need to read the relevant Sage 200 CRM guides.

- Sage 200 CRM Installation and Upgrade Guide.
- CRM Connector Installation Guide.

Note: If you are installing Sage 200 Extra Online, please see the Sage 200 Extra Online Deployment and Installation Guide.

Guides are available from:
http://desktophelp.sage.co.uk/sage200/installation/Default.htm#cshid=guides

Required Knowledge

To install or upgrade to Sage 200c Professional you must have experience in:

- Configuring Microsoft SQL Server.
- Configuring Microsoft Internet Information Services (IIS).
- Configuring Microsoft Active Directory.

Please make sure that you read the relevant sections in this guide before you install or upgrade.

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Before you start

Before you install Sage 200c Professional on any site, you must check the system requirements and check that the system is set up correctly.

This section tells you:

- What's new about installing this version.
- Supported software.
- How to check prerequisites.
- Security and firewall settings.
- Specifications for client and server machines.
- The application pools and website bindings.

New for Sage 200c Professional

Winter 2018

Removal of Graphical Planner

Graphical Planner is no longer included with Sage 200c (from Winter 2018).

For more information, see this article: Graphical Planner - End of Support Policy (Ask Sage article 43549).

Summer 2018

Changes to supported operating systems and browsers

Support added	Support removed for this version
Microsoft SQL Server 2017	

Changes to log files

Log files for Sage 200c Professional are now stored in a different folder from the Summer 2018 release.

Log files will be stored in **\users\<user>\appdata\local\sage\sage200**, instead of **\programdata\sage\sage200**.

Spring 2018

No changes.

Winter 2017

Changes to the prerequisites

New prerequisite	No longer required:
✔ TLS 1.2 support required for Microsoft SQL Server by default.	✖ TLS 1.0 and 1.1 not supported by default.

Installation process

If you're upgrading from 2017 Winter Edition onwards, you don't need to uninstall any Sage 200c desktop apps from the server or client machines when upgrading to a new version. The new version can be installed on top of the old version.

Summer 2017

Changes to supported operating systems and browsers

Support added	Support removed for this version
✔ Windows Server 2016	✖ Server 2008 R2
✔ iOS v10	✖ Terminal services virtual machine based desktop deployment - this was previously supported with Server 2008 R2.
	✖ iOS 9 - apart from Sage 200 CRM
	✖ IE 10 - apart from Server 2012 only. Note: IE 10 is not supported for CRM on any operating systems.

Changes to the prerequisites

New prerequisite	No longer required:
✔ Microsoft .NET Framework version 4.5.2 (or later). **Note:** This may already be included if you have installed a later version of .NET Framework.	✖ Microsoft .NET Framework version 3.5 - now only required for BI.
	✖ .NET Extensibility 3.5

New prerequisite	No longer required:
	✖ ASP.NET
	✖ ASP.NET 3.5

New installation process

There is a new installation process for Sage 200c Professional. Instead of using a single installer to install the server and client elements, these are now installed separately.

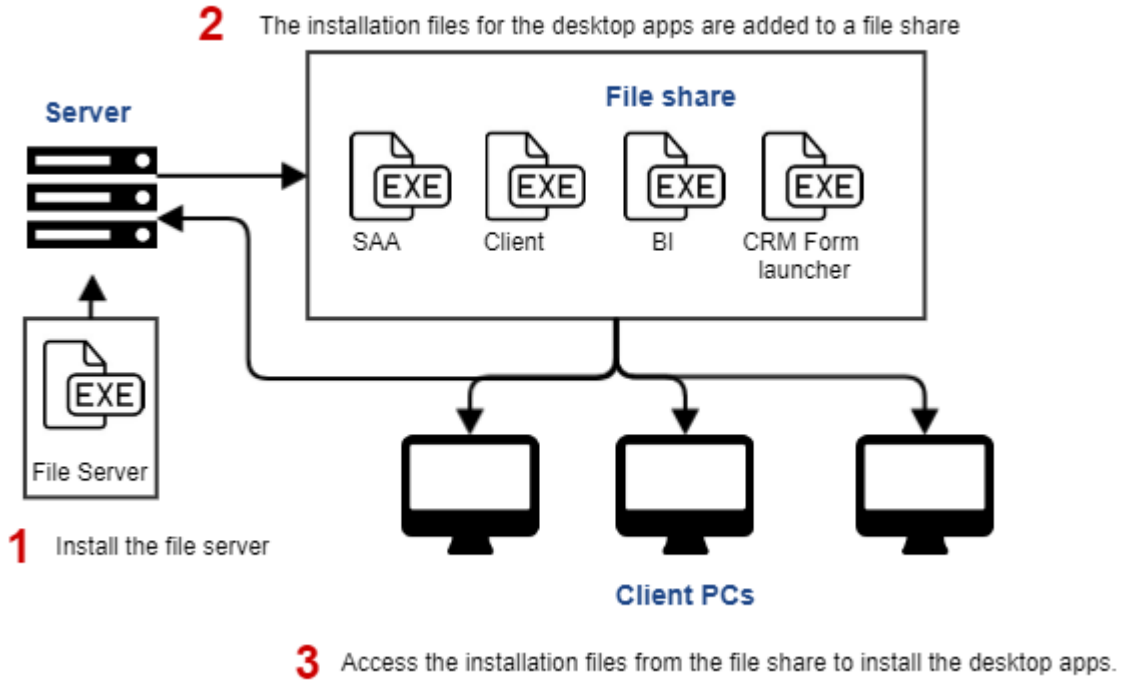
First you install Sage 200c Professional on the server. As part of the server installation, the client installers are added to a file share: **C:\Sage\Installers**. At the end of the server installation links to the file share are added to a web page. You can then send the link to this web page to the users so that they can install required client elements.

The user installing or upgrading Sage 200c must have permission to write to the root of the C:\ drive.

If you're upgrading from 2017 Winter Edition onwards, you don't need to uninstall any Sage 200c desktop apps from the server or client machines when upgrading to a new version. The new version can be installed on top of the old version.

There's no longer a requirement to install any client elements on the server, unless you're using BI.

The components for e-banking and the nominal link to payroll will need to be installed separately when required. This can be done from the desktop app.



Why have we made this change?

We've made this change to improve the upgrade process for Sage 200c.

The desktop apps are now installed using 'Click Once' technology. After you've installed Sage 200c Professional, you'll no longer need to uninstall any desktop apps from the client machines when upgrading to a new version. Once a new version is installed on the server, the desktop apps are automatically updated the next time a user opens them.

Installing e-Banking components

The changes to the installers mean that you must now install the e-Banking components for Sage 200c separately on each client PC that will use the service. Previously this was included as part of the installation process.

This has now has two parts:

1. Install the Sage e-Banking component.

   You do this from the desktop app (**Tools > Installers > Install eBanking components**).
2. Install the e-Banking service for the required bank. This must be downloaded and installed from the Sage website Sage e-Banking services for compatible banks.

Installing the nominal link

The changes to the installers mean that you must now install the additional component for the nominal link for Sage 200c separately on each client PC that will use the service. Previously this was included as part of the installation process.

You can do this from the desktop app (**Tools > Installers > Install nominal link components**).

Installing BI

The changes to the installers mean that there is a change to how BI should be installed. For sites using BI, the Sage 200 desktop app (client) must also be installed on the server. You must make sure that you're logged onto the server as the windows user set to run the scheduled task for BI. This is to make sure the DLL files for the scheduled task are installed correctly.

Other changes

Excel Integrated reporting

This has been removed from Sage 200c Professional, as this has been replaced by new Excel reporting functionality. This was removed by default from the desktop app in Sage 200 2015, but

could be reinstated via System Administration. This is no longer possible in Sage 200c Professional.

Supported software

Operating systems

	Server	Client
Windows 7 SP1 (32-bit and 64-bit) (Professional, Enterprise & Ultimate Editions) [3]	✖[1]	✔
Windows 8.1 (32-bit and 64-bit) (Pro and Enterprise Editions)	✖[1]	✔
Windows 10 (32-bit and 64-bit) (Pro and Enterprise Editions)	✖[1]	✔
Windows Server 2012 (Standard, Essentials & Datacenter Editions) [3]	✔	✔
Windows Server 2012 R2 (Standard, Essentials & Datacenter Editions) [2]	✔	✔
Windows Server 2016 (Standard, Essentials & Datacenter Editions)	✔	✔

[1] Not supported for production environments but may be used for demonstration and training purposes only.

[2] Windows Server 2012 R2 with Updates version (released Nov 2014). If you use virtualised platforms, there is a known performance issue with the Core Components when installed on this version of 2012 R2, when you use a minimum hardware specification. This can be resolved by increasing the hardware specification.

[3] If you are using the Sage Contact app or Pegg chatbot, the Azure Application Proxy Installer requires Windows 8.1, Windows Server 2012 R2, or later versions of Windows.

Sage 200 migration tools

	Classic Migration tool	50 - 200 Migration tool
Windows 7 SP1 (32-bit and 64-bit) (Professional, Enterprise & Ultimate Editions)	✔(32 bit only)	✔
Windows 8.1 (32-bit and 64-bit) (Pro and Enterprise Editions)	✖	✔
Windows 10 (32-bit and 64-bit) (Pro and Enterprise Editions)	✖	✔
Windows Server 2012 (Standard, Essentials & Datacenter Editions)	✖	✖
Windows Server 2012 R2 (Standard, Essentials & Datacenter Editions)	✖	✖
Windows Server 2016 (Standard, Essentials & Datacenter Editions)	✖	✖

Sage connected apps - Sage Contact app and Pegg chatbot

Sage connected apps refers to Sage Contact app and the Pegg chatbot, which connect to your Office 365 account.

- The Microsoft Azure Active Directory Proxy Connector (used for the Sage connected apps), requires Microsoft Windows 8.1, Windows Server 2012 R2, or later versions of Windows.
- The Sage connected apps can only be used with an Office 365 Business Premium or Enterprise (E1, E3 or E5) subscription.

Remote Desktop Services (formerly Terminal Services)

	Server	Client
Windows Server 2012 *	✔	✔
Windows Server 2012 R2 *	✔	✔
Windows Server 2016 *	✔	✔

* The application must be deployed using 'Session based Desktop Deployment' with a published remote desktop. 'Virtual machine based desktop deployment' is not supported.

Requirements for deploying Remote Desktop Services:

- The Remote Desktop Services installation must be deployed using **Session-based desktop deployment**.

  Deployment using **Virtual-machine based desktop deployment** is **not** supported.
- Sage 200c is only supported when publishing the whole desktop environment through Remote Desktop Services.

  Delivering Sage 200c as a **RemoteApp** solution is **not** supported.

For Remote Desktop Services servers hosting Sage 200c client sessions, we recommend:

- At least 600MB memory per user on the server, for each client session running occasional or one-off tasks, such as an account enquiry or price check.
- At least 1GB memory for each client session processing for any prolonged period of time, for tasks such as checking in stock, or creating purchase orders.
- You should run large batch processes and updates on the local area network, or out of hours.

SQL server

	Server
Microsoft SQL Server 2017 - Standard, Business Intelligence, Enterprise & Datacenter Editions (64-bit)	✔
Microsoft SQL Server 2016 SP1- Standard, Business Intelligence, Enterprise & Datacenter Editions (32 & 64-bit)	✔
Microsoft SQL Server 2014 SP2 - Standard, Business Intelligence, Enterprise & Datacenter Editions (32 & 64-bit).	✔
Microsoft SQL Server 2012 SP3 - Standard, Enterprise & Datacenter Editions (32 & 64-bit).	✔

By default, Sage 200c now requires that your version of Microsoft SQL Server supports TLS 1.2.

To determine whether your current version of SQL Server already has support for TLS 1.2, or whether you have to download an update to enable TLS 1.2 support, please see this Microsoft support article: support.microsoft.com/en-us/help/3135244/tls-1-2-support-for-microsoft-sql-server

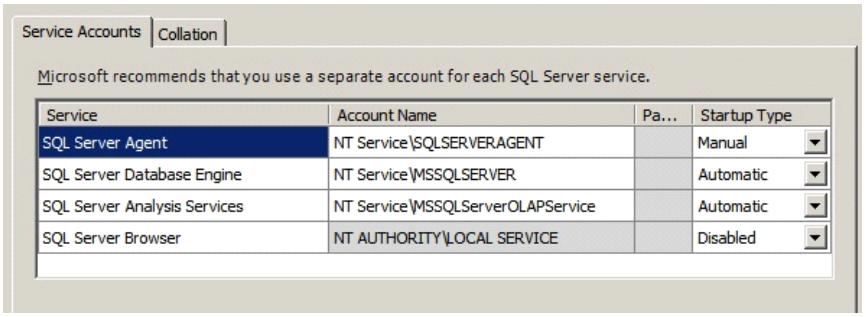
If your version of Microsoft SQL Server does not support TLS 1.2, and you are unable to upgrade at this time, you can manually configure Sage 200c to use TLS 1.0 or 1.1 instead. See How do I configure Sage 200 to use TLS 1.0 or 1.1? on page 73.

Prerequisites for SQL server

Sage 200c Professional is **not** supported when SQL server is installed on a Domain controller.

- SQL server must support TLS 1.2.
- SQL server must be running in Mixed Mode (SQL Server and Windows Authentication mode).
- The **Server Collation** for SQL server must be set to **Latin1_General_CI_AS**.

- We recommend that you use the default accounts set up by the SQL server installation wizard. (In previous editions of Microsoft SQL Server, we recommended running SQL Server as Local System Accounts.)



For Sage 200 BI

- Sage 200 BI is not supported on Workgroup editions of SQL server. This is because Business Intelligence requires Analysis Services.
- Microsoft SQL Server and Analysis Services must be installed on the same machine with the same instance name.

Web browser support

Web browsers

	Desktop App	Web App
Microsoft Internet Explorer v10 or Edge on x86 and x64 based PCs - supported on Server 2012 only	✔	✔
Microsoft Internet Explorer v11 or Edge on x86 and x64 based PCs	✔	✔
Microsoft Internet Explorer v11 or Edge on Microsoft Windows 8.1 tablets running Windows 8 Professional and Enterprise Editions		✔
Safari on Apple iPad running iOS v10		✔
Google Chrome on x86 and x64 based PCs and 10", 7" and 6" Android devices		✔

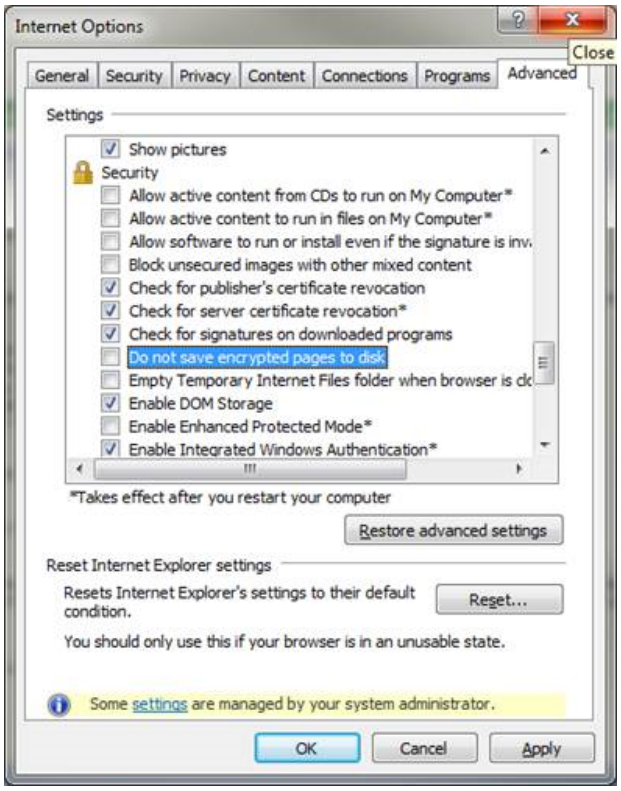
Note: Other devices and browsers may be compatible but have not been tested.

Browser settings

When accessing workspaces in the desktop app or from the web app, you may be asked to login. If you don't wish to be prompted each time, you can set your browser to always use your login credentials:

Browser	Settings
Internet Explorer	We recommend that you set this for your local intranet zone, however you may choose to set Trusted Sites instead depending on your domain or local security policies. ■ Local Intranet zone a. Open: **Internet Options > Security> Custom Level** b. Set user **User Authentication > Logon** to **Automatic Logon with current user name and password**. ■ Trusted Sites a. Open **Internet Options > Security > Trusted Sites > Sites**. b. Add the SelfService server URL e.g. **https://<server_name>**. c. Open **Internet Options > Security > Trusted Sites > Custom Level**. d. Set **User Authentication > Logon** to **Automatic Logon with current user name and password**.
Chrome - Self Service website only	Set **User Authentication > Logon** to **Automatic Logon with current user name and password**. Enter the following from the Command prompt: ■ For 32-bit operating systems: **"C:\Program Files\Google\Chrome\Application\chrome.exe" -auth-server-whitelist="localhost, *<machine fully qualified domain name>*"**. For example: **"C:\Program Files\Google\Chrome\Application\chrome.exe" -auth-server-whitelist=localhost, sagesvr01.mydomain.com"** ■ For 64-bit operating systems: **"C:\Program Files (x86)\Google\Chrome\Application\chrome.exe" -auth-server-whitelist="localhost, *<machine fully qualified domain name>*"**. For example: **"C:\Program Files (x86)\Google\Chrome\Application\chrome.exe" -auth-server-whitelist=localhost, sagesvr01.mydomain.com"**

When viewing excel reports in Internet Explorer, you may see this error '**Unable to download viewreport from [server name]**. To resolve this make sure that you have **not** set the option **Do not save encrypted pages to disk** in the Internet Explorer settings.



Microsoft Office

	2013 SP1 [1]		2016 [1]		Office 365 [2]	
Functions	**32-bit**	**64-bit**	**32-bit**	**64-bit**	**Desktop Apps**	**Online App**
Excel Reporting (new)	✔	✔	✔	✔	✔	✖
Send to Excel (from workspaces and lists)	✔	✔	✔	✔	✔	✔
Opening Attachments	✔	✔	✔	✔	✔	✖
Send Email (not from Report Designer)	✔	✖	✔	✖	✔	✖
Report Designer - output to email	✔	✖	✔	✖	✔	✖
Sage Contact	✖	✖	✖	✖	✔ [3]	✔ [3]
Sage 200 BI	✔	✖	✔	✖	✖	✖

[1] 2013 and 2016 - Standard, Home and Business, Small Business Premium, Professional Plus, and Enterprise Editions.

[2] Office 365 - Small Business Premium, Professional Plus and Enterprise Editions. Home and Personal editions are not supported.

[3] Sage Contact can only be used with an Office 365 Business Premium or Enterprise (E1, E3 or E5) subscription.

Note: Office 365 has only been tested with Office 2016 Apps.

Checking the prerequisites

Before you install Sage 200c, you must make sure the required prerequisites are installed on your system. You must also make sure that your installations of Microsoft SQL Server and Microsoft Internet Information Services (IIS) have the required settings.

Using the prerequisite tool

We have provided a tool which to help you check that the required prerequisites are installed on your server. Use this tool to check the following:

- ☑ The server machine name starts with a letter, end with a letter or digit, and have as interior characters only letters, digits, and hyphens.

  For more information about Domain name rules, see section 2.3.1 of the following article:www.faqs.org/rfcs/rfc1035.htm
- ☑ Windows Identity Foundation is installed. This can be added as feature.
- ☑ Microsoft .NET Framework version 4.5.2 (or later) is installed.

  Note: This may already be included if you have installed a later version of .NET Framework.

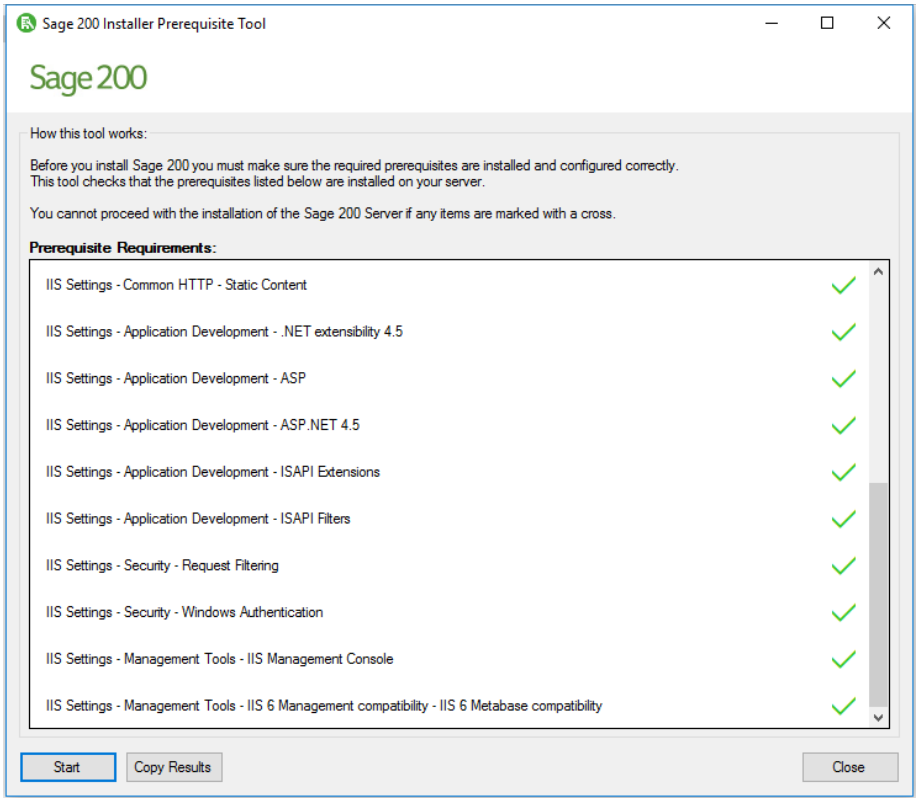
- ☑ .NET Framework 4.5 (or later) Features with HTTP Activation.
- ☑ IIS v8 or higher installed, with the following settings.

Common HTTP Features	Default Document Directory Browsing HTTP Errors HTTP Redirection Static Content
Application Development	.NET Extensibility 4.5 (or later) ASP ASP .NET 4.5 (or later) ISAPI Extensions ISAPI Filters
Security	Request Filtering Windows Authentication
Management Tools	IIS Management Console
Management Tools > IIS 6 Management Compatibility	IIS 6 WMI Compatibility IIS 6 Metabase compatibility

Run the prerequisite tool

1. Open the **Prerequisite check tool** folder on the ISO.
2. Double - click the **PreRequisiteCheckTool.exe**.
3. Click **Start**.

4. The results will show which prerequisites are installed.



Additional requirements (not checked by the tool)

- All machines must have regional and language settings set to either **English (UK)** or **English (Ireland)** only.
- Your domain controller must **not** be set to **Read Only**.
- All machines must have a **c:** drive although Sage 200c can be installed and run from a drive other than **c:**.
- Microsoft SQL Server:
  - SQL server must support TLS 1.2.
  - Must be running in Mixed Mode (SQL Server and Windows Authentication mode).
  - The **Server Collation** for SQL server must be set to **Latin1_General_CI_AS**.
  - If you're using Business Intelligence, SQL Server and Analysis Services must be installed on the same machine with the same instance name.

Prerequisites for the client

- All machine names must start with a letter, end with a letter or digit, and have as interior characters only letters, digits, and hyphens.
- All machines must have regional and language settings set to either **English (UK)** or **English (Ireland)** only.
- All machines must have a **c:** drive although Sage 200c can be installed and run from a drive other than **c:**.
- Microsoft .NET Framework version 4.5.2 **must** be installed.

  > **Note:** Even if you have later versions of .NET Framework installed, you will still need to ensure that your version of .NET includes version 4.5.2. For example, .NET Framework 4.6 and 4.7 should include .NET 4.5.2. For details on how to check this, we suggest that you consult the Microsoft support site or your Microsoft professional.

- Microsoft .NET Framework version 3.5 is also installed, if you are using Sage 200 BI.

Security and firewall settings

Sage 200c Professional uses a combination of Windows security and SSL certificates to secure communications between the Sage 200c server and client machines.

Windows File Permissions

The Sage 200c client can be installed to any location on a client machine. To find the Sage 200c server, the client looks for a file called **\\server name\Sage**.

In the final step of installation process, the permissions of this folder share are changed as follows:

Domain

When deployed in an Active Directory Domain environment, access to the central Sage file share (e.g. c:\Sage) and associated files and subdirectories is restricted to the Sage 200 user and admin groups.

> **Note:** All domain controllers on the same domain as Sage 200c need to be accessible and writeable.

Workgroup

When deployed in a Windows workgroup environment, the central Sage file share (e.g. c:\Sage) and associated files and subdirectories have their permissions set to **Everyone | FullControl**. We recommend that you set the Share and Security permissions as follows:

- Set the Share permissions to **FullControl/Change/Read** for these users:
  - Sage 200 Administrators group
  - Sage 200 Users group
  - Sage 200 Services user
  - Sage 200 Secured Services user
- Set the Folder Security to **Modify/Read&Execute/ListFolderContents/Read/Write** for these users:
  - Sage 200 Administrators group
  - Sage 200 Users group
  - Sage 200 Secured Services user

Note: Once you have installed Sage 200c, restart the machine before you access System Administration. This is so the security permissions are set correctly.

Already have a shared Sage folder on your server?

If you already have a folder share called Sage on your server, then the permissions for this folder will be changed as part of the Sage 200c client installation. You can:

1. Change the name of the share for the existing folder.
2. Install Sage 200c to the existing folder if you're happy with permissions.

Firewall Settings

Sage 200c runs a variety of programs and services that can be affected by security firewall settings. The following table details the ports that need to be opened in order for Sage 200c to function correctly.

Server	Port	Details
Database Server (Default SQL Instance)	TCP Port 1433	Default SQL Instance
Database Server (Named SQL instance)	UDP Port 1434	Named SQL Instance
File Server	TCP Port 139	File & Print Sharing
	TCP Port 445	File & Print Sharing
	TCP Port 137	File & Print Sharing
	TCP Port 138	File & Print Sharing
	TCP Port 10443	HTTPS
Sage 200 Self Service	TCP Port 10444	HTTPS
Sage 200 CRM Server	TCP Port 80	HTTP
	TCP Port 443*	HTTPS

*You will need to open port 443 on your server machine, and grant permission for **https://licensing.services.sage.com** and **www.google.com**. Google needs to be allowed as when it checks the licence, it pings Google to ensure there is an internet connection prior to going to the licensing server.

The following ports are required for Sage 200 BI:

Server	Port	Details
Database Server (Default SQL Instance)	TCP Port 2383	SQL Analysis Services

Server	Port	Details
Database Server (Named SQL Instance)*	TCP Port 2382	SQL Analysis Services
	UDP Port 1434	SQL Browser Service

* For more information see, msdn.microsoft.com/en-us/library/ms174937.aspx#bkmk_named.

Additional firewall settings if you have a named SQL instance or dynamic ports

Follow the steps below if you have named SQL instance or are using dynamic ports:

1. Find the port number:
   a. Open **Start > All Programs > Microsoft SQL Server *version* > Configuration Tools > SQL Server Configuration Manager**.
   b. Select **SQL Server Network Configuration > Protocols for <*your instance Name*>**.
   c. Right-click **TCP/IP** and select **Properties**.
   d. Select the **IP Addresses** tab and scroll down to the **IPAll** group.
   e. The current port is the **TCP Dynamic Ports** number.
2. Set your Firewall to exclude this port number.

Minimum specifications for client and server machines

These are the **minimum** specifications for each client and server machine in a Sage 200c Professional deployment. Users with large databases or high numbers of concurrent users will require higher specifications.

Due to the wide variation of companies that use Sage 200c, it is not possible to give exact specifications for each system. Factors such as the concurrent number of users, size of the database and estimated growth should all be taken into consideration when sizing a server.

When tasks are processed, CPU and memory resources are used on both the client and the server. Therefore, the specification of both machines will affect the overall performance of the system.

To make sure Sage 200c displays correctly:

- Check that your screen **Resolution** is set to the **recommended** setting for your display.

  To check this, open **Control Panel > Appearance and Personalization > Display > Screen Resolution**.
- Check that your text size is set to 100%.

  To check this, open **Control Panel > Appearance and Personalization > Display**, and ensure that the size is set to **Smaller - 100%**.

	Processor	Disk	Memory	Network
Sage 200c Server Sage 200c Server with Microsoft SQL Server	Dual-core 2.6GHz or equivalent	7,200 rpm SATA with 4GB disk space after SQL Server is installed.	4GB	Gigabit Ethernet
Sage 200c Client Client	Dual Core 1.6GHz or equivalent	7,200 rpm SATA with 500MB disk space required.	2GB	Gigabit Ethernet

Application pools and website bindings

Sage 200c automatically creates the following application pools, websites and bindings. We recommend that you do not change these settings:

Website	Application Pool	Binding	Path
Sage200AppServices	Sage 200 Services	:10080 (http) :10443 (https)	C:\inetpub\Sage 200 App Services
Sage200Services (Virtual directory under Sage 200 Application services)	Sage 200 Services	n/a	C:\inetpub\Sage 200 App Services\Sage200Services
Sage200SecuredServices (Virtual directory under Sage 200 Application services)	Sage 200 Secured Services	n/a	C:\inetpub\Sage 200 App Services\Sage200SeuredServices
Sage 200 Self Service	Sage 200 Self Service	:10082 (http) :10444 (https)	C:\inetpub\Sage 200 Self Service

If you have an application that already uses the ports listed above you must manually install the Sage 200c pre-requisites first. Then you must install Sage 200c from a command line using the following parameters:

For example if **d:** is your DVD drive and ports **11443**,and **11444** are you desired ports:

Msiexec.exe /i "d:\sage200.msi" SAGE200ADMINWEBSITEPORT=11443

SAGE200SELFSERVICEWEBSITEPORT=11444

Take care when assigning port numbers as many port numbers are already assigned to other Windows services or applications. The following table shows the names of the SSL Certificates bound to these ports:

Binding	Certificate
:10443 (https)	**Sage 200 Application Services SSL Certificate_wixCert_1**

Binding	Certificate
:10444 (https)	Sage 200 Self Service SSL Certificate_wixCert_1

By default, the **Sage 200 Self Service** web site is only accessible from your internal network. This is because the SSL certificates used to secure these sites are based on the machine name and are not accessible externally. Additional configuration is required to make the site accessible externally.

For more information, see Install the web app (self service) on an external facing web server on page 55.

3

Install Sage 200c Professional

This sections tells you:

- How to install Sage 200c Professional on the server.
- How to set up System Administration.
- How to install the desktop app (client).
- How to install the web app (Self Service).
- How to install an update for Sage 200c Professional.

Before you start installing

There is a new installation process for Sage 200c Professional. Instead of using a single installer to install the server and client elements, these are now installed separately.

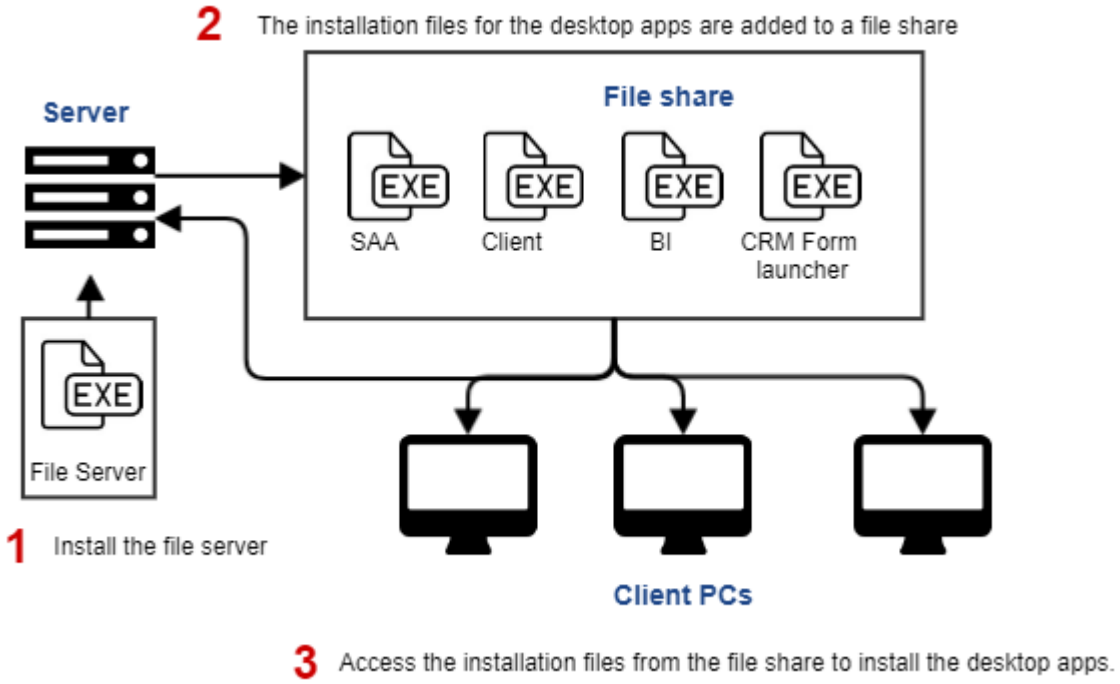
First you install Sage 200c Professional on the server. As part of the server installation, the client installers are added to a file share: **C:\Sage\Installers**. At the end of the server installation links to the file share are added to a web page. You can then send the link to this web page to the users so that they can install required client elements.

The user installing or upgrading Sage 200c must have permission to write to the root of the C:\ drive.

If you're upgrading from 2017 Winter Edition onwards, you don't need to uninstall any Sage 200c desktop apps from the server or client machines when upgrading to a new version. The new version can be installed on top of the old version.

There's no longer a requirement to install any client elements on the server, unless you're using BI.

The components for e-banking and the nominal link to payroll will need to be installed separately when required. This can be done from the desktop app.



Order of installation

1. Sage 200 server.
2. System Administration.
3. Desktop app (client).
4. Additional installers:
   - BI client and admin tool - required if you're also installing BI.
   - CRM form Launcher - only required if you're also integrating with CRM.
   - Self service - required if you want to access the web app from outside your network.
   - Ebanking component.
   - Nominal link.
   - API - required if you want to use 3rd party applications that access your data via the Sage 200 API.

What access rights are required to install the client?

'Click Once' installers deploy the application into a user's individual profile. No specific administrator rights are required to install the client, and the setup should be run within the user context. The first time a non-admin user runs the installer, and opens Sage 200c, they may be prompted to enter Administrator credentials. This is required to install client pre-requisites (C++ Redistributables), certificates and fonts.

You can no longer use 'Run as Administrator' when installing the client. Using this option to run in the Administrator context will install the client in the administrator user profile, and the non-admin user running the installer won't be able to access it.

Installing on Windows 7 without local admin rights

If you're installing the client on a Windows 7 PC where the user does not have local administrator access, we recommend that the UAC is set to the default level. Turning UAC on in Windows 7 allows our installer to elevate privileges, to admin level, for components that require it (pre-requisites, certificates and fonts).

If you don't do this, you may experience problems installing pre-requisites and see the following error when the user tries to access Sage 200c: "Communication error: Could not establish trust relationship".

To resolve this, just change the UAC to default level and restart the PC.

What if I'm upgrading from an earlier version?

Install a new update for Sage 200c Professional

- If you're already using Sage 200c Professional and want to install a new update, you only need to install Sage 200c on your server. The desktop apps are now installed using 'Click Once' technology. Once a new version is installed on the server, the desktop apps are automatically updated the next time a user opens them. :
- If you're upgrading from 2017 Winter Edition onwards, you don't need to uninstall any Sage 200c desktop apps from the server or client machines when upgrading to a new version. The new version can be installed on top of the old version.

  If you're upgrading from 2017 Summer Edition, we recommend that you uninstall Sage 200c before you install an update.

See Install an update for Sage 200c Professional on page 59.

Upgrading from Sage 200 Extra 2016 or earlier

- You'll still need to uninstall your existing version from all server and client machines.

Create Windows user accounts and groups

In Sage 200c Professional, users access the desktop app and System Administration using their Windows User account log on details. Sage 200c Professional also uses additional Windows User accounts to access the Sage 200 services.

Before you install Sage 200c Professional, set up the following groups and users in Active Directory or, if you're using Workgroups, set them up as local groups and users.

Windows user groups

Before installing Sage 200c, you must either choose an existing windows group or create new groups for the following:

Note: Any pre- windows 2000 domain names need to be the same as Active Directory names.

Note: If you are creating new groups, Active Directory requires that certain characters used in the distinguished name must be escaped with a backslash "\" character, such as: `\ # + < > ; " =`

Sage 200 Administrators Group

Must include all users who also need to access System Administration. These users will also be able to access the desktop app and web app (self service).

You cannot use the Domain Administrators group as the Sage 200 Administrator group, as this sets up the file share permissions incorrectly.

Sage 200 Users Group

Must include all users who will be accessing the desktop app or web app.

Windows users

Before installing make sure you create the following additional Windows user accounts in Active Directory. These are used to access the services used by Sage 200c.

Sage 200 Services user

1. Enter a password for the user account and set it to **Password never expires**. It does not require any other special permissions.
2. Add this user to the Sage 200 Administrators group.
3. Make a note of the account's name and password as you need to enter these as part of the installation process.

Sage 200 Secured Services user

1. Enter a password for the user account and set it to **Password never expires**. It does not require any other special permissions.
2. Add this account to any of your domain user groups.

   If you will be using Sage Bank Feeds, make sure you also add this account to the Sage 200 Administrators group.
3. Make a note of the account's name and password as you need to enter these as part of the installation process.

FAQs

What if the password has changed?

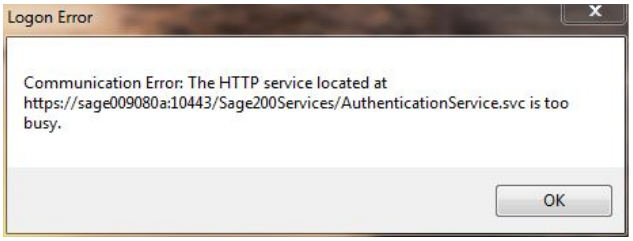
If the password is changed for either of the Sage 200 Service accounts, you must update the passwords in these application pools:

Application Pool	User
Sage 200 Secured Services	S200SecuredServices
Sage 200 Self Service	S200Services
Sage 200 Services	S200Services

I get the following communication error: The HTTP service located at xxx is too busy

This indicates that the password has been changed for the Sage 200 Services or Secured Services users. Update the password in all the application pools listed above.

Communication Error: The HTTP service located at https://yourservername:10443/Sage200Services/AuthenticationService.svc is too busy.



What if need additional users?

You can add the required windows user accounts to the user groups after Sage 200c has been installed. Access to specific modules and features is controlled in System Administration.

For more information on where to set up users using Windows Active Directory, or using Windows user groups, refer to your operating system help, as the process may involve different steps in different operating systems.

I get an error when I try to download bank feeds

If you are using Sage Bank Feeds, make sure that the Sage 200 Secured Services user is included in the Sage 200 Administrators group.

If you change the Sage 200 Secured Services user's group, remember to update the users list in System Administration.

Install Sage 200c Professional on the server

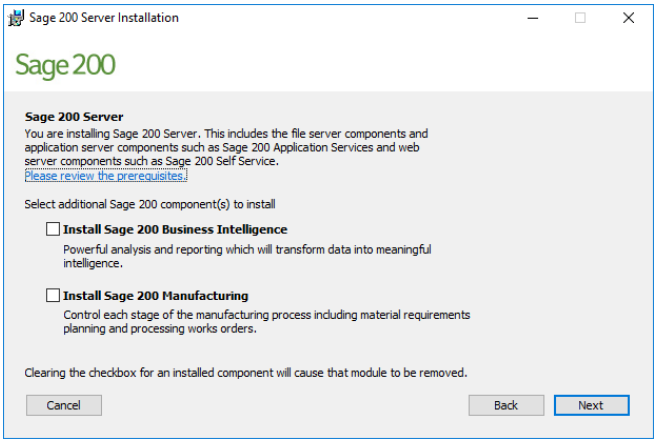
1. Run the **Setup.exe** file.

   Tip: Don't forget to **Run as Administrator**, if you've enabled Microsoft **User Account Control**.

2. Read and accept the terms and conditions of the licence agreement.

   Sage 200 terms and conditions

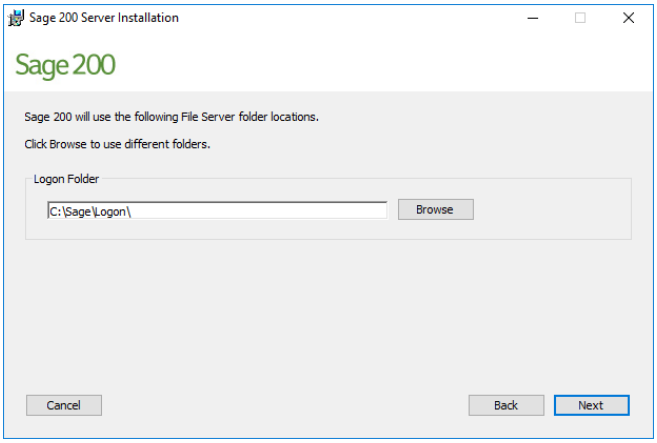
3. If this site is also using BI and / or Manufacturing, make you select these here.



4. Enter the location on your server for the **Logon Folder**.

   This where shared files and reports are stored.

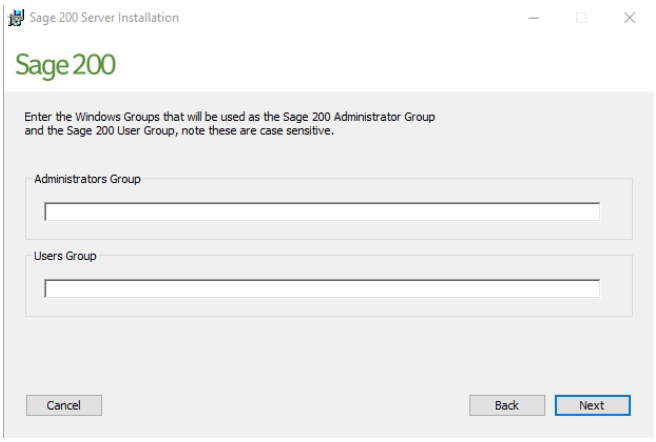
   Tip: Make sure there are no spaces in the location as this will cause the installation to fail.



5. Enter the names of the Windows User groups that the users belong to. Members of the **Sage 200 Administrators** group can also access System Administration.

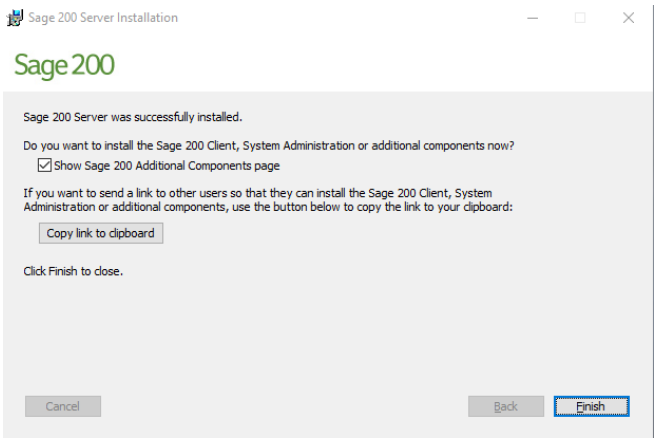
   > **Note:** You cannot use the Windows Domain Administrators group as the **Sage 200 Administrator** group, as this sets up the file share permissions incorrectly.

   If you want to check the Active Directory groups available on this network, you can use the **InstallationHelper** tool. This can be found on the ISO.



6. Enter the user names and passwords for the windows user accounts that you've set up to run Sage 200 Services and Sage 200 Secured Services.
7. Click **Install**.

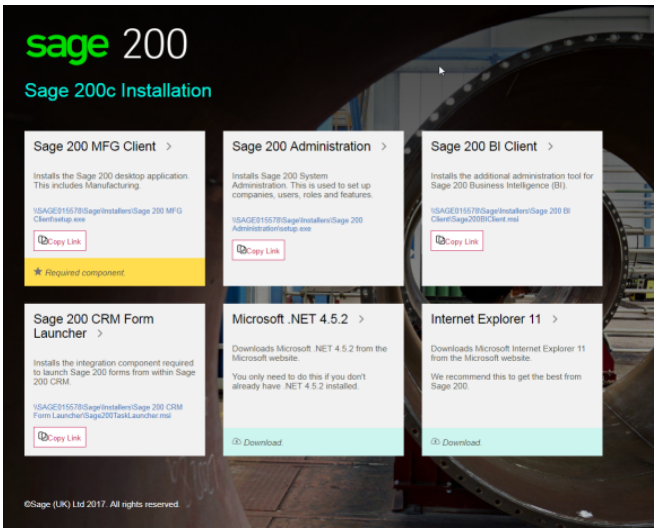
8. Once the installation is complete, you'll see a final page with a link to a web page that contains links to all the client installers.



Simply click **Copy link to clipboard** and send to it to anyone who needs to install the client on their PC. They just need to open the web page to install the required components.

If you're installing BI or want to install any of the client components on the server, select **Show Additional Sage 200 Components page**.

> **Tip:** If you lose the link to this page, you can find the .exe files for the installers in **C:\Sage\Installers**. The web page address is **http://<*servername*>:10080/Sage200Content/sage200installers.html**



9. Click **Finish** when the installation is complete.

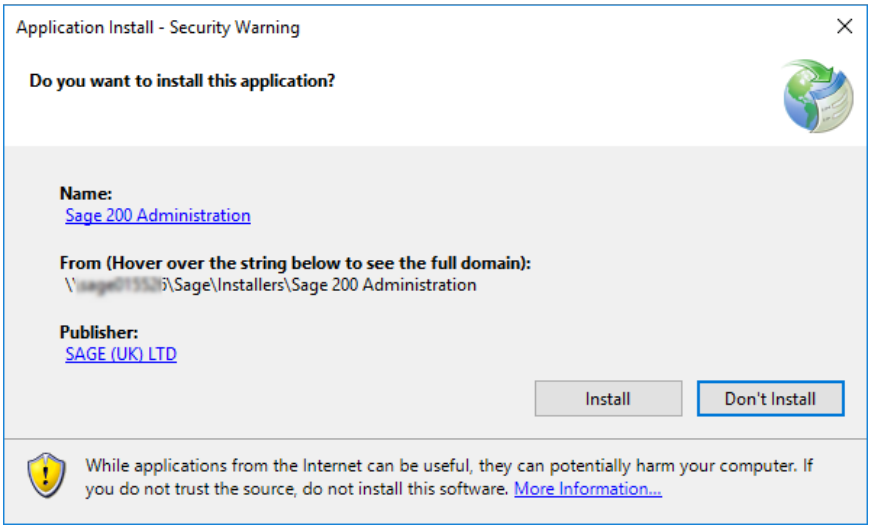
Install and set up System Administration

Before you can access Sage 200c, you must use the System Administration tool to set up a configuration database, company databases, users and roles.

System Administration must be installed on at least one PC. This can be a client PC or the server. Make sure that the user is a member of the Sage 200 Administrators group.

Install

1. Click the **Sage 200 Administration** section. This opens the Sage Installers folder on your PC.
2. To download the installation package, click on the **Setup.exe** file shown.
3. When the download has completed, click **Install**.



4. The first time that you open System Administration, you may need to enter credentials for a Windows administrator account. This will only be required once.

Note: You can only access System Administration if you have been added to the **Sage 200 Administrators** group in Windows.

For detailed information on the options available in the System Administration tool, please see the System Administration help: Sage 200 help

Create / update the configuration database

1. Click **OK** to the message "A Sage 200 SQL configuration database could not be found."
2. Enter or browse for the correct SQL server and enter user details to connect to it.
3. For new installs, enter a name for the configuration database such as **Sage200Configuration**. If you're upgrading, enter or browse for your existing configuration database.
4. Click **Create** or **Update**.

   Note: A number of processes run during this process, so it can take some time.

   If another Sage 200 Administration user is also attempting to create the configuration database at the same time, you will see the message:

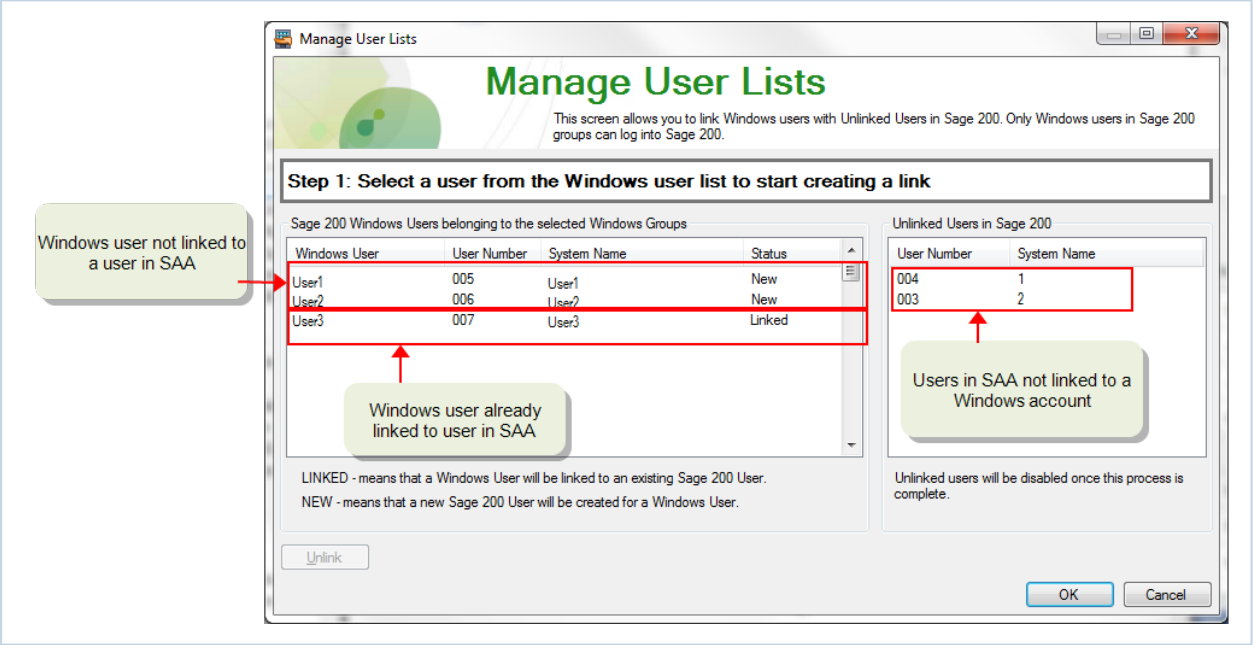
   Check with any other Administration users of Sage 200 and try again.

Manage users

When you have created the configuration database, the **Manage User Lists** window appears. This displays all the Windows User accounts that are members of the **Sage 200 Users** and **Sage 200 Administrators** groups that were specified during the installation.

This creates a user account in System Administration for each Windows user shown in the left hand list. The first time you install Sage 200c, all the Windows User accounts will have a status of **New**. If you're upgrading, only users who've been added to the Administrators and Users groups are shown as **New**.

- Click **OK** to create new user accounts in System Administration and link them to all **New** windows accounts listed.



- Now you can link these users to roles and companies.

FAQs

Upgrading from v2011?

You can link your existing users with the windows users accounts. This way you don't lose any of the information that's already set up.

1. To link a Windows User account to an existing Sage 200 user account, select the Windows User in the left hand list and then select the required Sage 200 user account from the right

hand list. The status will show as **Linked**.

> **Note:** To change the user links, select the user and then select **Unlink**.

2. To create a new Sage 200 user account, do not link the Windows User account. A new Sage 200 user account is created for any Windows User accounts with a status of **New**.
3. Click **OK**.

What if my Windows user accounts change?

You can also use this screen, at any time, to update your Sage 200c user list.

For example, if you add or delete windows users in future, this screen is displayed when you open System Administration.

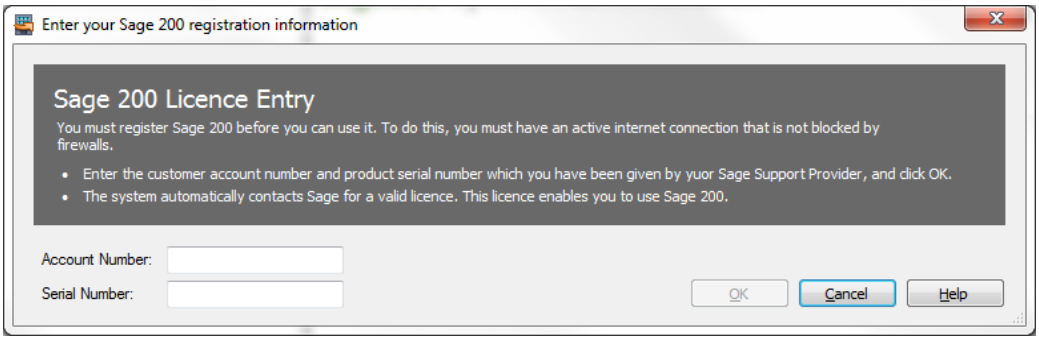
> **Tip:** Don't forget, when you remove a user from the **Sage 200 Administrators** or **Sage 200 Users** groups, that user will still be able to access Sage 200 until you refresh this list.

Activate your licence

You must register Sage 200c and obtain a licence before you can use it. Once registered, you activate your licence using the Sage Licensing service. You can access this via the internet. If you're not currently connected to the internet, you can obtain a 30 day offline licence via email.

You activate your licence using your account number and serial number.

Register via the Internet



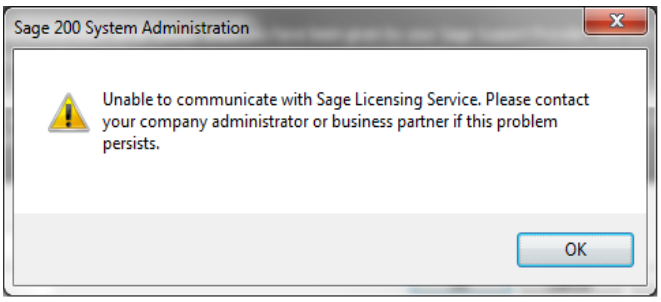
1. Enter your customer **Account Number**.
2. Enter your product **Serial Number**.
3. Click **OK**.

   The system automatically contacts Sage for a valid licence. This licence enables you to use Sage 200.

   Once the licence has been activated, the core components are automatically installed.

   If you see the following message, you may need to register offline:

   Unable to communicate with the Sage Licensing Service. Please contact your company administrator or business partner if this problem persists.



You can now access System Administration and set up your companies, users and roles.

Using a proxy server on a client machine

If you're using a proxy server on your client machine, System Administration may not be able to connect to the licence server.

To resolve this, add the following to the web.config file.

1. Open the web.config file: **C:\inetpub\Sage 200 App Services\Sage200SecuredServices\web.config**
2. Add the following after the `</system.web>` section and enter your IP address for the `proxyaddress`.

```
<!-- Proxy settings -->

<system.net>

<defaultProxy enabled="true"useDefaultCredentials="true">

<proxy
autoDetect
="false"
bypassonlocal
="false"
proxyaddress
="http://10.0.1.254:8080"usesystemdefault="false" />

<!--<add your IP address and port number in the following
way: proxy autoDetect="false" bypassonlocal="false"
proxyaddress="<MyProxyIP>:<Port>" usesystemdefault="false"
/>-->

</defaultProxy>

</system.net>
```

To register offline

This generates a licence request file which you send to Business Partner Services via email. Business Partner Services will email you a licence entitlement file which you import into System Administration to register Sage 200c.

Your offline licence is valid for 30 days. This is to give you a window in which to access to the licence server online. If you can't access the licence server via the internet within this 30 days, you will need to generate a new offline activation. In this case , you 'll see the following message: *The Sage Licence will expire in 7 days because the entitlement server has been unavailable for 28 days.*

Request an offline licence

1. When the Licence window appears, click **Cancel**. The Core Components are installed.
2. Right-click **Licence** and select **Generate Licence Request**.

3. Enter your **Account Number** and **Serial Number** and click **Generate Request**.

   This creates a licence file in XML format which you send to Business Partner Services.
4. Browse to where you want to save the XML file.
5. Enter a **File name** and click **Save**.
6. Email this XML file to Business Partner Services at BPServices@sage.com

Activate your offline licence

You will receive an email from Business Partner Services with your refreshed licence attached. This has the extension .ent (Entitlement files). Save this file to your PC.

1. Open **Licence** in System Administration.
2. Right-click and select **Import Licence File**.
3. Click **Import Licence File** and browse to where you saved the entitlement (.ent) file.
4. Select the file and click **Open**.

   Your licence is activated.

When you implement offline licensing, the Sage 200c application will still intermittently attempt to access the Sage licensing server. This process will eventually timeout and the application will continue to work provided that the licence you have on your server is valid.

If you are experiencing intermittent delays starting the application, then reducing the timeout period could help. To reduce the timeout period:

IMPORTANT: We recommend that you take a backup copy of any config file before making any changes.

1. Ensure all users are logged out. Then:
   - **c:\inetpub\Sage 200 App Services\Sage200SecuredServices\web.config**.
3. Edit the `SlsServiceTimeOut` key:

   Old value: `<add key="SlsServiceTimeOut" value="30000"/>`

   New value: `<add key="SlsServiceTimeOut" value="1000"/>`
4. Save the file.
5. Reset IIS.

Create or update your company database

You can use System Administration to create new SQL databases for your Sage 200c companies. If you're upgrading to a new version, don't forget to update all company databases as well.

If you have an existing company database, you can add the company in the System Administration tool. The database must be attached to your SQL server.

Enter the following:

- **Company Name** - This must be at least one character in length and unique. Do not use the word *Configuration* in the company name.
- **Parent company** - This is only required if you're using consolidation.
- **Attachments** - This must be a UNC path. We recommend that you use a different Attachments folder for different companies.
- **SQL server settings** - You must have the appropriate permissions to access the server.
- **Banner settings** - Make it easier to see which company you are working with by using a company colour.

Set up user accounts, roles and features

Before your users can access the desktop app, you must set up each user account. You must choose which companies each user can access and assign at least one role.

The role controls which menu options and workspaces a user can access in Sage 200c. Each menu option in the desktop app or web app is listed as a **Feature** in System Administration. To make a menu option available to your users, you must authorise the relevant features for each role.

Tip: Don't forget, if you're upgrading, you'll need to authorise any new features included in the upgrade for the relevant roles, before users can access them.

For Sage 200 v2011 and below, you would access spooled reports through an option on the Role. This is now controlled in Features. The Print Spooling features need to be authorised for each relevant role.

Set up roles

1. Right click **Roles** and choose **Add new Role**.
2. Authorise features for each role. Right-click the role and select **Features**.

   Don't forget, if you've upgrade, you'll need to add any new features included in the upgrade to your roles.

   Note: You must authorise the *System Administration Services* feature for all roles that need to log on to the desktop app.

Set the user properties

Users

1. Right click the **User Name** and click **Properties**.
2. **General** tab.

User Enabled	Makes the user account active.
Can Edit Menus For Roles	Allows the user to edit menus in Sage 200.
Can Edit Workspaces	Sage 200c Professional only - Allows the user to access the **Workspace Designer** to edit workspaces.
Receive Notifications by Email	Allows the user to receive email messages when purchase orders require authorisation.
In Product Survey Enabled.	Allows the user to receive the in product survey. This is selected by default. **Note:** The **In Product Survey** must be **Enabled**. For more information see the System Administration help.
Is Web user	Allows user to access the web app (self service)

3. **User details** tab.

   Enter the user's email address and other personal information. You need to add the email address if the user will access 3rd party add-ons via the API.
4. **Member of** tab.

   Choose the role(s) the user is a member of. This determines the screens they can access in the desktop app.
5. **Company Access** tab.

   Use this to assign the relevant companies to the user.
6. **API** tab.

   Use this to enable additional authentication for a user, using Sage ID or Azure Active Directory (AD). Set up authentication for a user when they will:
   - Use third party apps which access your data via the Sage 200 API.
   - Use Sage connected apps such as the Sage Contact app and Pegg chatbot.
7. Click **OK**.

For more information about user accounts, role, and features, see the System Administration help: desktophelp.sage.co.uk/sage200/professional/help.htm#SAA/Overview.htm.

Install the desktop app (client)

Once you've installed Sage 200c on the server, each user can install the required client components on their own machines.

What access rights are required to install the client?

'Click Once' installers deploy the application into a user's individual profile. No specific administrator rights are required to install the client, and the setup should be run within the user context. The first time a non-admin user runs the installer, and opens Sage 200c, they may be prompted to enter Administrator credentials. This is required to install client pre-requisites (C++ Redistributables), certificates and fonts.

You can no longer use 'Run as Administrator' when installing the client. Using this option to run in the Administrator context will install the client in the administrator user profile, and the non-admin user running the installer won't be able to access it.

Installing on Windows 7 without local admin rights

If you're installing the client on a Windows 7 PC where the user does not have local administrator access, we recommend that the UAC is set to the default level. Turning UAC on in Windows 7 allows our installer to elevate privileges, to admin level, for components that require it (pre-requisites, certificates and fonts).

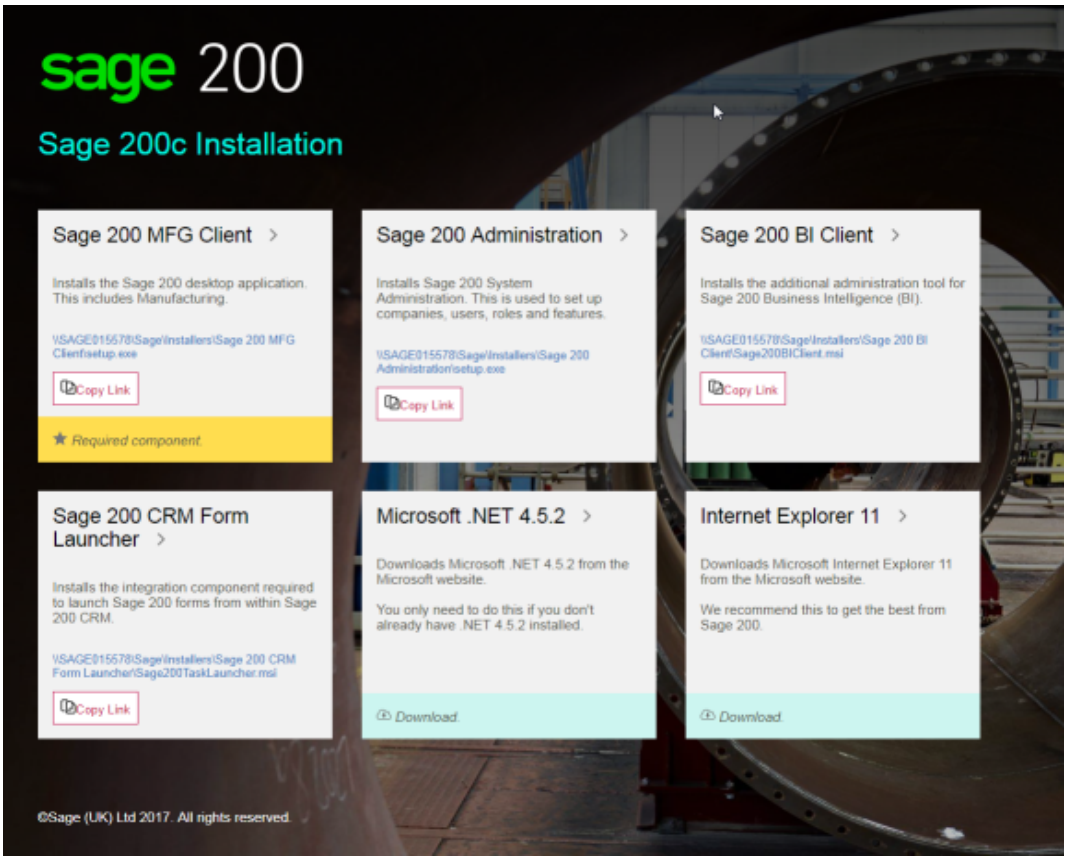
If you don't do this, you may experience problems installing pre-requisites and see the following error when the user tries to access Sage 200c: "Communication error: Could not establish trust relationship".

To resolve this, just change the UAC to default level and restart the PC.

How to install the desktop app

Note: If Microsoft .NET version 4.5.2 isn't already present on any client machines, it's installed as part of the client installation process.

1. Click on the link that has been sent to you to open the **Sage 200 Installation** page.

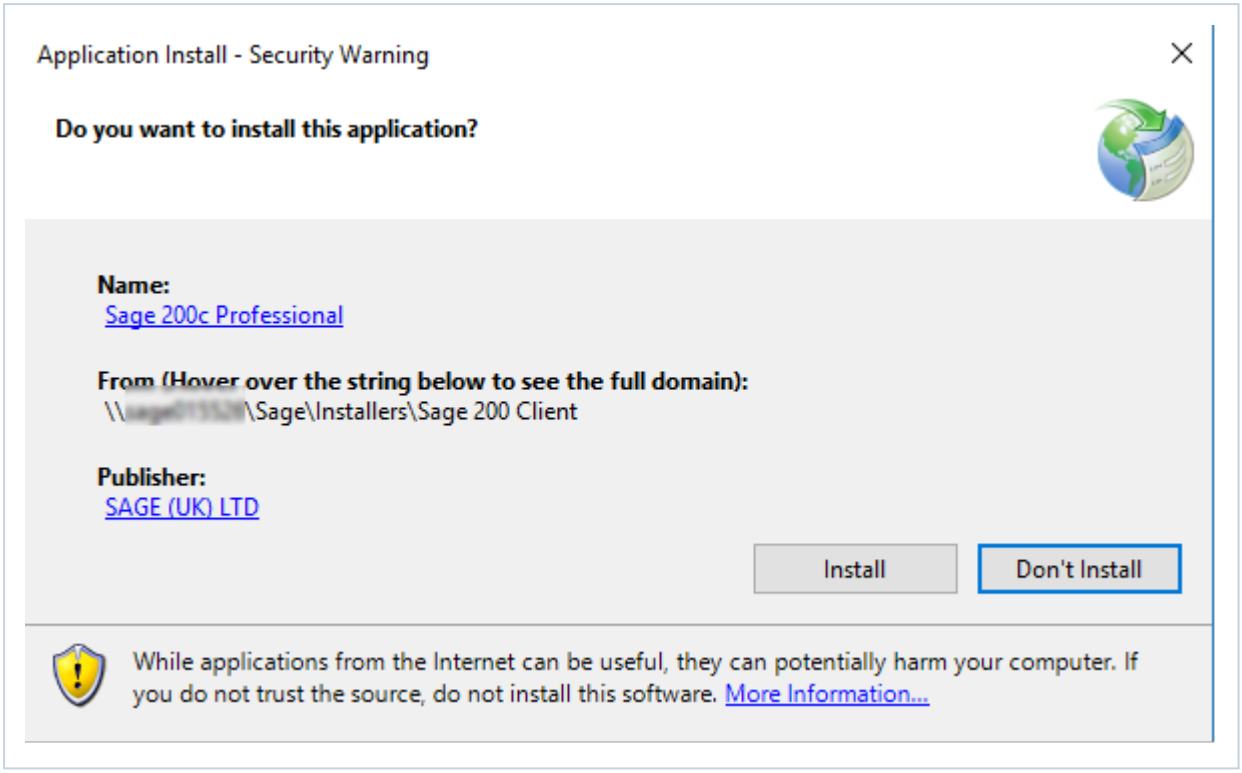


2. Click the **Sage 200 Client** section. This opens the Sage Installers folder on your PC.

   Note: If you're using Manufacturing, this is called **Sage 200 MFG client**.

3. To download the installation package, click on the **Setup.exe** file.

4. When the download has completed, click **Install**.



Set up the web app (self service)

The web app allows to you access Sage 200c data, run reports and carry out certain tasks from a web browser; such as enter and authorise purchase requisitions, authorise purchase orders, enter and authorise timesheets and expenses (WTE).

Only users who are set as **Web users** in System Administration can access the web app. User can be desktop and web app users or just have access to the web app. You can have up to 100 concurrent web users.

Once you have installed Sage 200c, the web app (self service website) can be accessed on your internal network from any machine with a compatible internet browser.

Before user can access the web app (self service website), the correct SSL certificates need to be installed an any machines that will connect to web app.

- For machines that have the desktop app installed, the SSL certificates are installed automatically.
- For other machines, then you must install the required SSL certificates

What if I want to access the web app outside of my network?

If you want to access the Self Service website externally over the internet, additional configuration is required. This is because the SSL certificates that are installed with Sage 200c are for internal use only and are based on the machine name. They are not externally addressable. To use the web app externally over the internet, see Install the web app (self service) on an external facing web server on page 55.

Install the SSL certificates for the web app (self service website)

You must install the SSL certificate on each client machine that will access the web app and doesn't have the desktop app installed. You can do this on individual machines or via a group policy.

Install on an individual client machine

Complete the following steps . You must be logged on to the machine as an administrator.

1. Choose **Start > Run**. Enter the UNC path to the **Sage** folder on your server. For example **\\<Machine_Name>\Sage**.
2. Select **Logon > SSLCertificate**.
3. Right-click the **S200SSServerRootCA.cer** file and choose **Install Certificate**.

   The **Certificate Import Wizard** appears. Click **Next**.
4. Select **Place all certificates in the following store**.
5. Click **Browse**. The **Select Certificate Store** window appears.
6. Select **Show physical stores**.
7. Select **Trusted Root Certification Authorities> Local Computer**. Click **OK**.
8. Click **Next** and **Finish**.

You can now browse to the Self Service web site over a secure connection.

Add certificates via a Group Policy

If you have several client machines that will use the web app, you can deploy the Sage 200 SSL certificates via Microsoft Active Directory Group Policy. This means you do not have to install the certificate individually on each client machine.

1. Copy the contents of the following folder from your Sage 200 file server to a new folder on your domain controller.

   C:\Sage\Logon\SSL Certificate.
2. On the domain controller, choose **Start > Administrative Tools > Group Policy Management**.

3. Select **Group Policy Management** > **Forest** > **Domains** for the domain containing the Default Domain Policy GPO that you want to edit.
4. Select **Group Policy Objects**.
5. Right-click **Default Domain Policy GPO**, and click **Edit**.
6. In the Group Policy Management Console, select **Computer Configuration** > **Windows Settings** > **Security Settings**. Click **Public Key Policies**.
7. Right-click **Trusted Root Certification Authorities**.
8. To import the certificates, click **Import** .Click **Next**.
9. Browse to the location of the certificates you copied in step 1. Click Next.
10. Make sure the **Certificate Store** path is set to **Trusted Root Certificates Authorities**. Click **Next**.
11. Click **Finish** and **OK** to complete the import.

For further information on deploying certificates, see technet.microsoft.com/en-us/library/cc754841.aspx.

Set up users to access the web app (Self Service website)

A user can only access the web app if they are designated as a **Web user** in their user properties in System Administration. You can have up to 100 concurrent web users.

1. For each user, open **Users** > **Properties**.
2. Select **Is Web User**.

Reset IIS

You must reset IIS before you can access timesheets and expenses from a web browser.

If IIS is not reset you'll see and internal server error when accessing these pages.

Access the website

Once set up, each user can access the website by entering the address in a web browser. This should include the server name and port number of the website. By default, the port number is **10444**.

For example: **https://*<Server_Name>*:10444/Sage200SelfService**.

> **Note:** There is a 20MB limit on the size of an attachment that you can view via a workspace viewed in a web browser. This affects the following workspaces: Bank Account Enquiry, Customer Account Enquiry, Nominal Account Enquiry, Stock Status Enquiry and Supplier Account Enquiry. There is no limit for viewing attachments via a workspace in the desktop app.

Install the web app (self service) on an external facing web server

Sage 200c can be set up so that the web app (Self Service website) can be accessed externally from mobile devices and machines that are not joined to your domain. It is good practice to separate this service out onto it's own server so that if your network is compromised your data is protected behind a separate firewall for your SQL server.

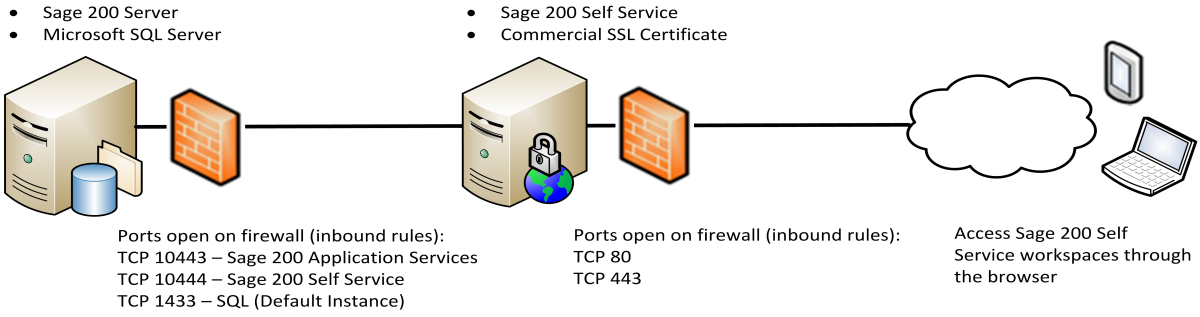
In order to do this you will need:

- An external facing web server with internet access to host the Self Service web site.
- A commercially available SSL Certificate to verify your domain and secure the web site.
- A registered domain name to direct traffic to the web site.

We recommend that you purchase any required domain names and SSL certificates and configure them to point to your external facing web server. Speak to your service provider for advice on how to do this.

Before you install the Self Service application on an external facing server, you must have installed and fully configured Sage 200c on the Sage 200 server and you must be able to log into Sage 200c.

Once configured, your Sage 200c deployment will look like this:



Prerequisites

The machine hosting the external facing Self Service web site must be joined to the same domain as the server hosting Sage 200c and have the following installed:

- Microsoft .NET Framework version 4.5.2 (or later) is installed.

  Note: This may already be included if you have installed a later version of .NET Framework.

- Windows Identity Foundation. This can be added as a feature.
- .NET Framework 4.5 (or later) Features with HTTP activation.
- Microsoft Internet Information Services (IIS) v8 or higher with the following settings.

Common HTTP Features	Default Document Directory Browsing HTTP Errors HTTP Redirection Static Content
Application Development	.NET Extensibility 4.5 (or later) ASP ASP .NET 4.5 (or later) ISAPI Extensions ISAPI Filters
Security	Request Filtering Windows Authentication
Management Tools	IIS Management Console
Management Tools > IIS 6 Management Compatibility	IIS 6 WMI Compatibility IIS 6 Metabase compatibility

- If using Windows Server 2016 Standard, you may also need to install additional roles and features for .NET 3.5.

  See Install .NET 3.5 roles and features for Sage 200 Self Service on page 75.

Install the Self Service web site

Follow these instructions to install the Self Service web site on your external server.

1. Open the shared **Sage** folder on the server.
2. Select **Installers > Sage 200 Self Service**.
3. Run the **Sage200SelfService.exe** file. This opens the installation wizard.

   Note: If you're installing Self Service on Windows Server 2016 Standard and the installer displays an error message that "ASP.NET 4.5 must be enabled on the application server to continue", see Install .NET 3.5 roles and features for Sage 200 Self Service on page 75.

4. Accept the Licence Agreement and click **Next**.

5. The path to the **Logon** directory on your Sage 200 Server machine is displayed. Make sure that the path is correct and click **Next**.
6. Check the name of the windows account that you set up to run the Sage 200 Services. Enter the password for this account. Click **Next**.
7. Click **Install** to start the installation.

Secure the Self Service web site with your SSL certificate

Once you have installed the Self Service web site on your external server machine, you need to amend the web site bindings in IIS to use the external SSL certificate and set up firewall rules on both your Sage servers.

1. Open Internet Information Services (IIS) Manager.
2. Expand the list of websites and choose **Sage 200 Self Service**.
3. Right-click and choose **Edit Bindings**.
4. Choose **Add** and change the type to **https**.
5. From the **SSL certificate** drop-down menu, choose your external SSL certificate.

   Note: This is **not** the Sage 200 Self Service SSL Certificate.

6. Click **OK**.

   Note: You may see a message informing you that another site is using the same HTTPS binding. Click **Yes** to apply the binding to this site.

7. Click **OK** to close the **'Add Bindings'** window.
8. Click **Close** to close the **Site Bindings** window.

The Sage 200 Self Service web site is now using your external SSL certificate.

Set up your firewall rules

To increase the security of your deployment you must configure the Windows firewall on both of your Sage servers.

The following table details the ports that need to be opened in order for Sage 200 to function correctly.

Sage 200 Server (Inbound Rules)	TCP Port Sage 200 App Services (Default 10443)
	TCP Port Sage 200 Self Service | Internal (Default 10444)
SQL Server (Inbound Rules)	TCP Port SQL Server (Default: 1433)
Sage 200 Self Service Server (Inbound Rules)	TCP Port 443

Reset IIS

You must reset IIS before you can access timesheets and expenses from a web browser.

If IIS is not reset you'll see and internal server error when accessing these pages.

Test the access to the Self Service web site

1. To access the website, open a browser and enter the following address:

   https://<your domain name>/Sage200SelfService

2. Log onto the site using Windows credentials associated with a user with **Is Web user** selected.

   Note: You may not be able to access this address directly on the external facing web server but it will be accessible on all other supported machines / devices.

Install an update for Sage 200c Professional

Follow these steps if you are already using Sage 200c Professional and want to install a new update.

Before you install

- See Before you start on page 6 for information on what's new, and any changes to supported software and prerequisites.
- If you're upgrading from 2017 Winter Edition onwards, you don't need to uninstall any Sage 200c desktop apps from the server or client machines when upgrading to a new version. The new version can be installed on top of the old version.

  If you're upgrading from 2017 Summer Edition, we recommend that you uninstall Sage 200c before you install an update.
- You only need to install the Sage 200c update on your server. Once a new version is installed on the server, the Sage 200c desktop apps are automatically updated the next time a user opens them.
- The user installing or upgrading Sage 200c must have permission to write to the root of the C:\ drive.

Install an update for Sage 200c Professional

1. On your **server**, run the **Setup.exe** file.

   Tip: Don't forget to **Run as Administrator**, if you've enabled Microsoft **User Account Control**.

2. Follow the steps in the installation.
   - Sage 200c will be installed with the same options that you chose in your previous installation.
   - If you want to change any settings, or need more detailed steps on installing, see Install Sage 200c Professional on the server on page 36.
   - The only information you will need to enter are the passwords for the windows user accounts that you've set up to run Sage 200 Services and Sage 200 Secured Services.
3. Once the installation is complete, click **Finish**.

Once a new version is installed on the server, the Sage 200c app and System Administration will automatically be updated the next time a user opens them.

Update company and configuration databases

After you install the update, you will need to update your company and configuration databases in System Administration.

System Administration.

1. Update your configuration database.
   a. Right-click the **Sage 200 SA** server (at the top of the navigation area) and select **Properties**.
   b. In the server properties, click **Update**.
2. Update your companies.
   a. Select **Companies**, to display your companies.
   b. Right-click **Companies** and select **Update all companies**.

   Note: If you want to update individual companies, right-click the company and select **Properties**, then select **Update**.

Add new features to roles

When you upgrade to a new version, some new functionality will have a corresponding new feature. As these new features won't be selected for any of your existing roles, users will not yet have access to the new feature. For any new features, you will need to enable the feature for the appropriate roles.

System Administration.

1. Select **Roles**.
2. Right-click on each role and choose **Features**.

   Select any new features to include in that role.

Upgrading from Sage 200 v2011

Link Windows user accounts with existing users

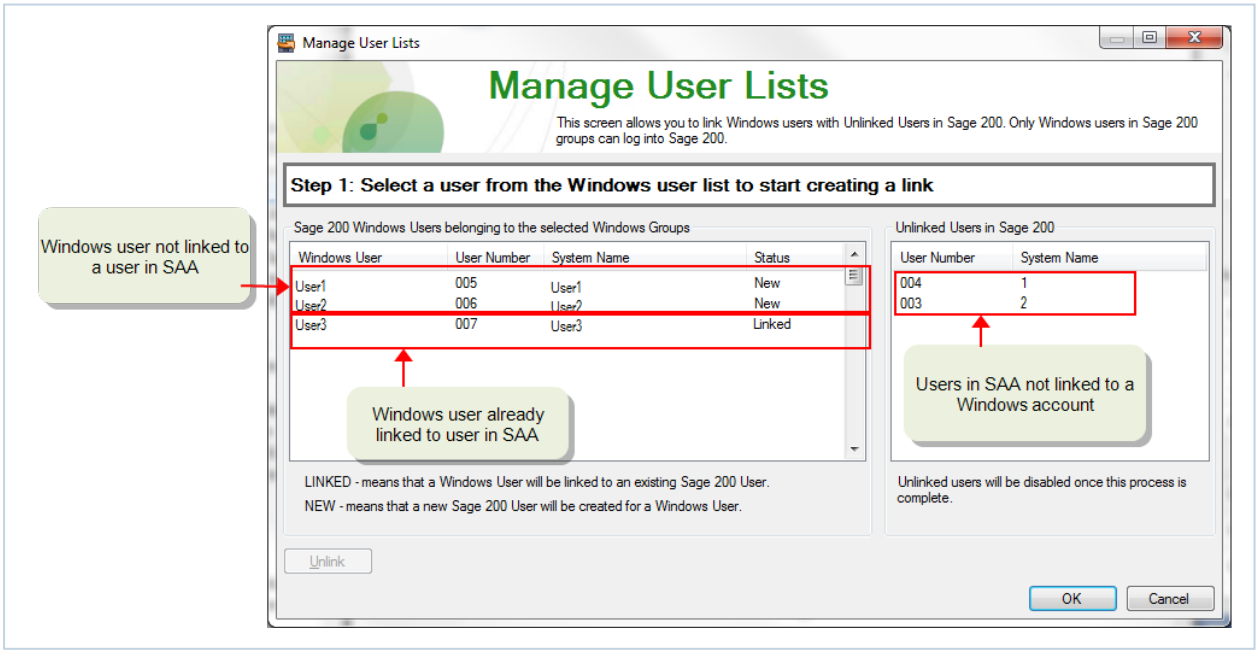
Sage 200c Professional uses Windows User accounts to control access rights in Sage 200c. Users are still set up in System Administration using roles and features as previously, but are now linked to Windows user accounts.

When you first open System Administration after upgrading, you can link each existing user in System Administration with their relevant Windows users account. This way you don't lose any of the information that's already set up.

1. To link a Windows User account to an existing Sage 200 user account, select the Windows User in the left hand list and then select the required Sage 200 user account from the right hand list. The status will show as **Linked**.

   Note: To change the user links, select the user and then select **Unlink**.

2. To create a new Sage 200 user account, do not link the Windows User account. A new Sage 200 user account is created for any Windows User accounts with a status of **New**.
3. Click **OK**.



Report Designer

Sage 200c Professional uses the latest version of Report Designer. The legacy Report Designer that was available with Sage 200 2011 is no longer supported.

If you have customised reports that were created using the old version of Report Designer (using file types of .slt, .sly, .srt, etc.), these must be converted to the new file types (.report, .letter, .layout , etc.) **before** you upgrade to Sage 200c Professional.

You can convert your reports and documents to the new file types in two ways:

- If you still have Sage 200 v2011 SP7 installed, open Report Designer from Sage 200 v2011 and use the **File > Import** option to update your reports.
- Alternatively, you can use the *Legacy Report Conversion Tool*, which is included with the *Business Partner Tools* (for 2010 and 2011).

  Download Business Partner Tools (Sage 200 Extra 2010 and 2011)

How are reports stored?

Reports and documents are also stored in a new location on your server; **Sage\Reporting**. Within this folder, reports and documents are also stored in three location levels:

- **Sage\reporting\default** for the default reports and documents supplied with Sage 200.
- **Sage\reporting\custom** for reports and documents you have customised.
- **Sage\reporting\company\<company name>** for reports and documents that you have customised for a specific company.

  Note: For company reports and documents you must create the required folders first.

When a report is run from Sage 200c, the company specific reports and documents are checked first, then the custom reports and documents and finally the default reports and documents. The first report located is then used.

Once you have edited or created a report or document, you must save it to a custom or company folder using the same folder structure and the same name as the default report or document.

What about my custom reports?

As part of the upgrade process, all the default reports, documents, letters etc are added to the **Sage\reporting\default** folder and sub folders.

If you have reports and documents that you have previously customised, you must move these reports and documents to the required folder using the new folder structure.

For more information, see Designing your own reports and documents.

Upgrading from Sage 200 v2013

Part-reconciled bank transactions

It is not possible to part-reconcile bank transactions in Sage 200 2016 and later versions.

As you can part-reconcile bank transactions in Sage 200 2013 and prior versions, we recommend that you fully reconcile (or unreconcile) these transactions before you upgrade from Sage 200 2013.

Otherwise, if you upgrade with part-reconciled bank transactions, then you will manually have to correct these. You can do this by entering a nominal non-vatable payment or receipt to the bank account, and then reconciling these transactions.

Install the desktop client app manually

If you don't want to install the Sage 200c Professional client using the 'Click Once' installer, you can install the Sage 200c client manually. When you install the Sage 200c client manually, you can choose the installation folder, as opposed to Sage 200c being installed in the user's profile (using 'Click Once').

For example, you may want to install the Sage 200c client manually if:

- You use a custom installation process for Sage 200c.
- You use a thin client environment (RDS), and want to install the Sage 200c client in a folder which can be used by more than one user profile.

To install Sage 200c Professional manually

1. Install Sage 200c Professional on the server.

   See Install Sage 200c Professional on the server on page 36.
2. Create a folder on your client PC that you will run Sage 200c from, for example **Program Files (x86)\Sage\Sage200**.
3. On the server, browse to the **Installers** folder, for example **YourServer\Sage\Installers**.
4. Locate the Sage 200 Client installation zip file on the server and unzip it to the folder on your client PC.
   - If you don't use Manufacturing, this file is **Sage 200 Client / Sage200Client.zip**.
   - If you use Manufacturing, this file is **Sage 200 MFG Client / Sage200MfgClient.zip**.
5. Locate the **Sage200CommonAppSettings.config** file on your server **Installers** folder, and copy this to the same folder on your client PC.
6. To create a shortcut to the Sage 200c application on the client PC, right-click **Sage200Desktop.exe** and select **Create shortcut**.

FAQs

I see a "Logon failed due to unexpected error" message when I run the client

If you see the error "Logon failed due to unexpected error", then this means the

Sage200CommonAppSetting.config could not be found.

Make sure that the **Sage200CommonAppSetting.config** on the server has been copied to the same folder on the client PC that contains the Sage 200c application files.

Troubleshooting

MMS user error when updating configuration database

If you see this error when updating the configuration database, click **Test** first, then update again.

I get the following error: 'Could not establish trust relationship for SSL/TLS'

This message occurs when a non-admin user installs the client on a Windows 7 PC and User Account Control is turned on.

To resolve this:

- Change the **User Account Control** on the PC to the **Default level**.
- Restart the PC.

'You are not a Sage 200 user' error

This message can be caused by the following:

- System Administration has not been installed on any PC.
- The user has not been assigned to any companies in System Administration.
- IIS has not been reset after installing System Administration.

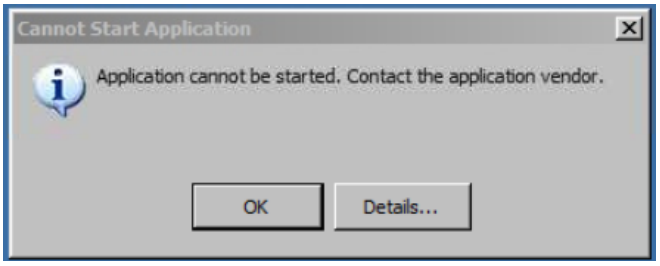
The desktop icon is missing

This will occur if the desktop app (client) is installed as the Administrator rather than the user on the PC.

To resolve this, re-install the desktop app and don't choose **Run as Administrator**.

I get the error 'The application cannot be started'

When trying to update to the new version of Sage 200, the following message is displayed: **Application cannot be started. Contact the application vendor**.



This message will appear if you are trying to install Sage 200, but you do not have Microsoft .NET Framework version 4.5.2 (or later) installed.

To resolve this, install Microsoft .NET Framework version 4.5.2 (or later), which is a prerequisite for the client machine.

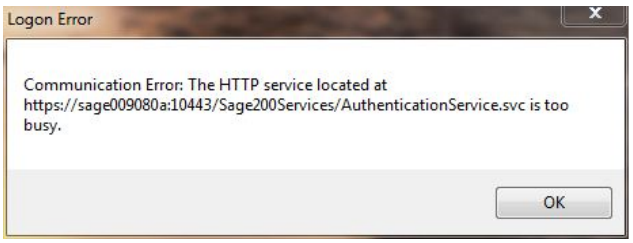
I get the following error: 'The HTTP service located at xxx is too busy'

This indicates that the password has been changed for the Sage 200 Services or Secured Services users.

To resolve this, update the password in the following application pools:

Application Pool	User
Sage 200 Secured Services	S200SecuredServices
Sage 200 Self Service	S200Services
Sage 200 Services	S200Services

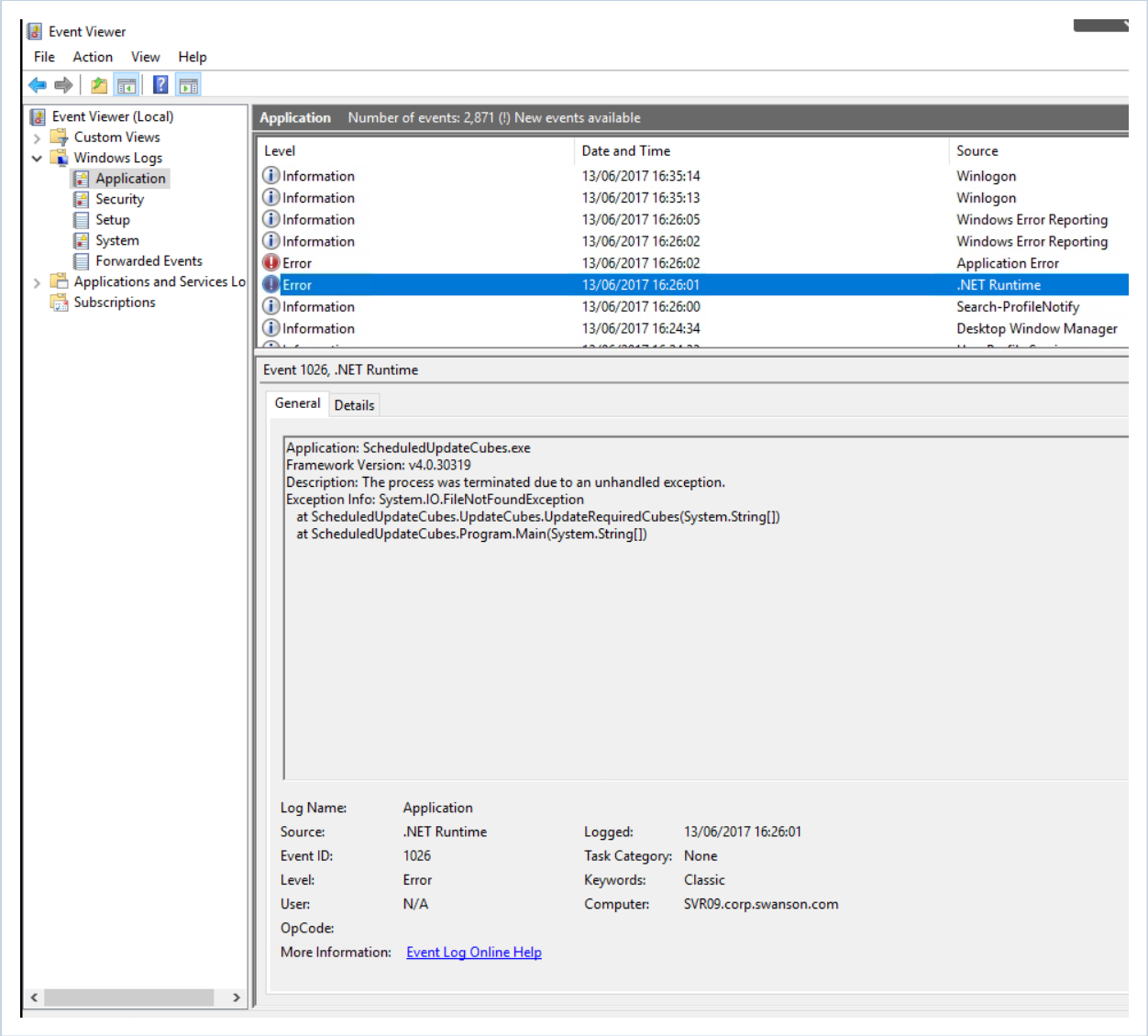
Communication Error: The HTTP service located at https://yourservername:10443/Sage200Services/AuthenticationService.svc is too busy.



BI - Error updating the cubes

You'll see this error if you weren't logged in as the scheduled task user when installing the desktop app on the server machine.

To resolve this, log onto the server as the windows user for the scheduled task and re-install the desktop app.



Sage 50 Payroll crashes when running a report

If you are using Sage 50 Payroll and Sage 200c on the same PC, Sage 50 Payroll can crash when running a report. See Troubleshooting Sage 50 Payroll with Sage 200c on page 69.

Security warnings when viewing workspaces with Chrome

If you try to view workspaces with Google Chrome browser v58 or later, you may see a security warning such as "*Your connection is not private*".

This occurs when viewing workspaces using the web app, or from the desktop app if you have chosen to **Show Workspaces in Browser**.

See Security warning when viewing workspaces with Chrome on page 71.

Troubleshooting Sage 50 Payroll with Sage 200c

Sage 50 Payroll crashes when running a report

If you are using Sage 50 Payroll and Sage 200c on the same PC, Sage 50 Payroll can crash when running a report.

In some circumstances, Sage 50 Payroll stops responding when launching a report on a PC that also has Sage 200c installed. This occurs when you install Sage 200c **before** installing Sage 50 Payroll (version 22), and are logged in to the PC as a user in the **Sage 200 Users** group.

Note: If Sage 50 Payroll version 22 is installed first, or you're logged into the PC as user in the **Sage 200 Admins** group, the Payroll reports should will work fine and reports can be produced as normal.

Cause

This issue is a result of incorrect permissions on the **C:\ProgramData\Sage\Central** folder. This folder is created by whichever application is installed first.

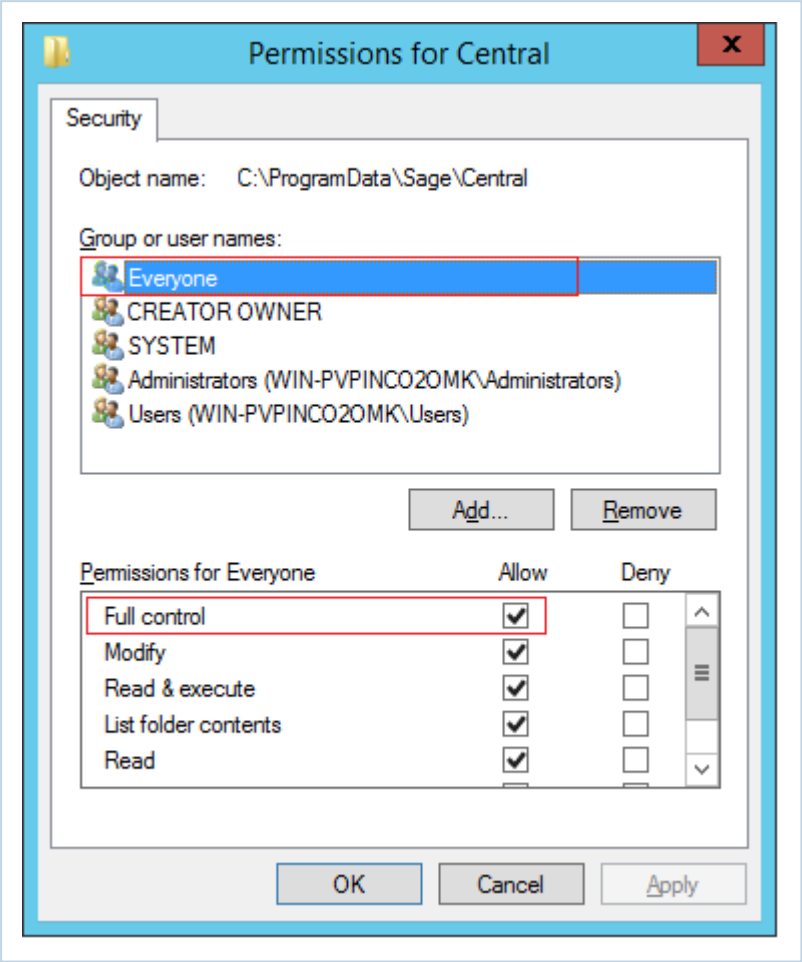
- When Sage 50 Payroll is installed first, the **Everyone** group has **Full control** over the folder. With these permissions, everyone can produce reports from Payroll without a problem
- When Sage 200c is installed first, the **Sage 200 Admins** and **Sage 200 Users** groups are created. The **Sage 200 Admins** have **Full Control** over the folder, but **Sage 200 Users** only have access to **Read + Execute**, **List folder contents**, and **Read**.

  Therefore, those users in the **Sage 200 Users** group **can't** run reports from Payroll.

Solution

This should only be required when Sage 50 Payroll is installed after Sage 200c.

1. Set the permissions on the **C:\ProgramData\Sage\Central** folder.
   a. Select the **Everyone** group.
   b. Give full control permissions by ticking **Allow** for **Full Control**.



2. Install Sage Report Designer.

   If you have Sage 200c installed on the same PC as other Sage software (such as Sage Payroll or Sage 50), then you must install Report Designer separately.

   This is to make sure that you are using the most recent version of Report Designer.

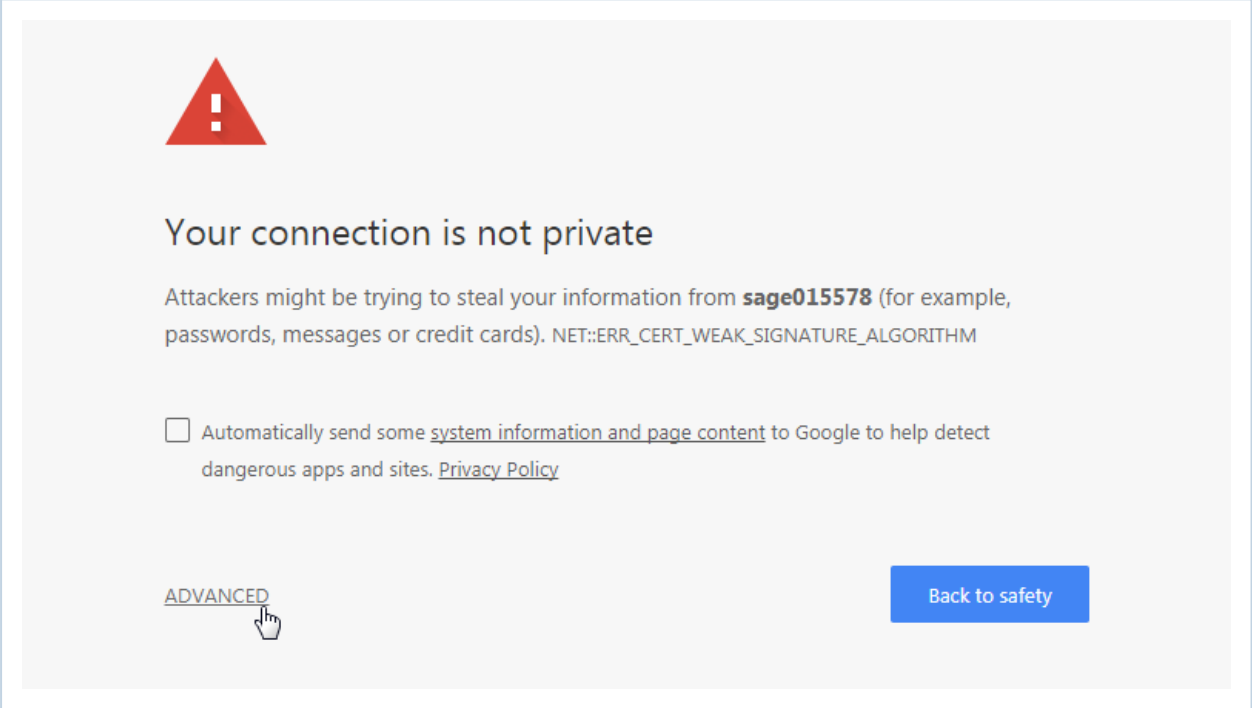
   a. Download the installation file from the Sage support website.
   b. Open the file **Sage.Central.ReportDesigner.Installer.msi** install Report Designer.

Security warning when viewing workspaces with Chrome

Issue

If you try to view workspaces with Google Chrome browser v58 or later, you may see a security warning such as "*Your connection is not private*".

This occurs with Sage 200c Professional when viewing workspaces using the web app, or from the desktop app if you have chosen to **Show Workspaces in Browser**.



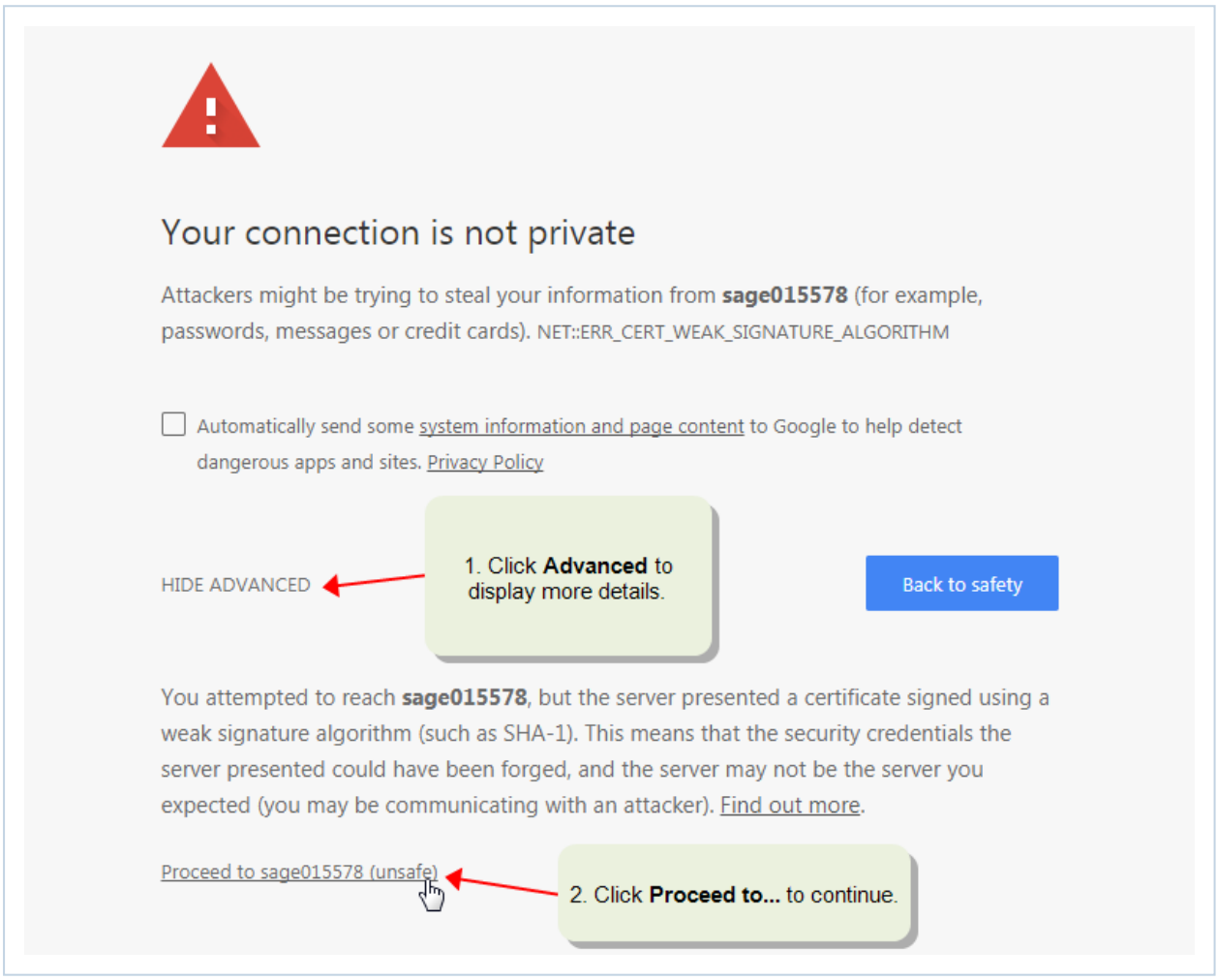
Cause

Google Chrome (v58) has introduced more stringent security checks for SSL certificates on secured websites.

Solution

If you see this warning when trying to access Sage 200c workspaces from your server, it is safe to ignore the warning and proceed.

1. Click **Advanced**.
2. Click **Proceed to ....**



TLS requirements for Microsoft SQL Server

- By default, Sage 200c now requires that your version of Microsoft SQL Server supports **TLS 1.2**.

  Vulnerabilities have been reported against SSL and TLS 1.0 and 1.1, so we recommend that you use Microsoft SQL Server versions with support for TLS 1.2.
- The security protocols TLS 1.0 and SSL3 will be disabled by default and not used with Sage 200c.

How do I know if SQL Server supports TLS 1.2?

To determine whether your current version of SQL Server already has support for TLS 1.2, or whether you have to download an update to enable TLS 1.2 support, please see this Microsoft support article: support.microsoft.com/en-us/help/3135244/tls-1-2-support-for-microsoft-sql-server

If your version of Microsoft SQL Server does not support TLS 1.2, and you are unable to upgrade at this time, you can manually configure Sage 200c to use TLS 1.0 or 1.1 instead. See How do I configure Sage 200 to use TLS 1.0 or 1.1? on page 73.

How do I configure Sage 200 to use TLS 1.0 or 1.1?

We recommend that you upgrade Microsoft SQL Server to support TLS 1.2. But if you cannot upgrade SQL Server at this time, you can manually configure Sage 200c to use TLS 1.0 or 1.1 instead.

Update Sage 200c client configuration

You will need to update the configuration file on **each** Sage 200c client PC.

1. In Windows Explorer, locate the Sage 200c ProgramData folder.

   For example, this will usually be something like **C:\ProgramData\Sage\Sage200\20.0.7.0**.

   The folder name may vary depending on the version number.
2. Open the file **Sage200CommonAppSettings.config** in a text editor.
3. Locate the `<appSettings>` section in the file, and insert the following inside `<appSettings>`.
   a. To use TLS 1.0:

   ```
   <add key="AllowTLSVersion" value="TLS10"/>
   ```

   b. To use TLS 1.1:

   ```
   <add key="AllowTLSVersion" value="TLS11"/>
   ```

Note: If you later update your SQL server to support TLS 1.2, then remove the line that you inserted.

Update Sage 200c server configuration

You will need to update these configuration files on the Sage 200c server PC.

1. Open **Internet Information Services (IIS)** Manager on the server PC.
2. Locate the **Sage 200 App Services** site, and open it to view its applications.
3. Update the file **web.config** for each of these sites and applications.

   To locate the **web.config** file for an application, right-click the application and select **Explore**.

   - **Sage 200 App Services > ContractAPI**.
   - **Sage 200 App Services > NativeAPI**.
   - **Sage 200 App Services > Sage200Services**.
   - **Sage 200 Self Service > Sage200SelfService**.
4. Open the file **web.config** in a text editor.
5. Locate the `<appSettings>` section in the file, and insert the following inside `<appSettings>`.
   a. To use TLS 1.0:

   ```
   <add key="AllowTLSVersion" value="TLS10"/>
   ```

   b. To use TLS 1.1:

   ```
   <add key="AllowTLSVersion" value="TLS11"/>
   ```

Note: If you later update your SQL server to support TLS 1.2, then remove the line that you inserted.

Install .NET 3.5 roles and features for Sage 200 Self Service

Problem

When you run the installer for **Sage 200 Self Service** on Windows Server 2016 Standard, the installer fails with the message: **ASP.NET 4.5 must be enabled on the application server to continue**.

Why does this happen?

Although Windows Server 2016 Standard has .NET 4.6 installed, this error is actually caused by missing roles and features for .NET 3.5.

How do I fix this?

To resolve this, you must enable some options for .NET 3.5 in Server Manager.

1. Open **Server Manager** (in Windows Server 2016).
2. Select **Manage > Add Roles And Features**.
3. In the roles and features wizard:
   - On the **Server Roles** page, enable these roles:
     - **Web Server (IIS) > Web Server > Application Development > .NET Extensibility 3.5**
     - **Web Server (IIS) > Web Server > Application Development > .ASP.NET 3.5**
   - On the **Features** page, enable these features:
     - **.NET Framework 3.5 Features > HTTP Activation**
     - **.NET Framework 3.5 Features > Non-HTTP Activation**
     - **.NET Framework 4.6 Features > WCF Services > TCP Activation**

4

Sage 200 BI

Note: Microsoft SQL Server and Analysis Services must be installed on the same machine with the same instance name.

This section tells you how to install and set up Sage 200 BI.

Install Business Intelligence

Set up SQL server

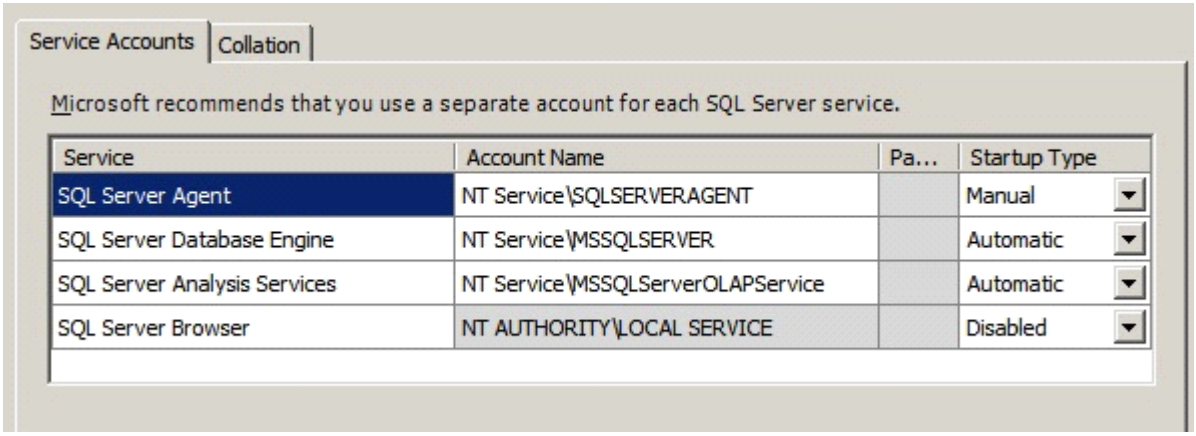
Use multidimensional mode for analysis services

When you install SQL Server Analysis Services, you **must** choose to set the server to use **Multidimensional** mode, and **not** **Tabular** mode or **PoverPivot** mode.

This option is available in SQL Server version 2012 onwards, and is set during installation for the Analysis Services **Server Configuration**. By default, the **Tabular Mode** is selected, but this must be changed to **Multidimensional and Data Mining Mode**.

Default accounts

We recommend that you use the default accounts set up by the SQL server installation wizard.



Set up the user account for Analysis Services

The start up account for SQL Server Analysis Services is not set up with a SQL login on the database instance.

Note: This will be the **NT Service\MSSQLServerOLAPService** user if you used the default accounts when installing SQL server.

Before you can access the BI cubes, you must add this user as a SQL login and set the server role to **public** and **sysadmin**.

To do this:

1. Make a note of the **Account Name** for your **SQL Server Analysis Services** (**SQL Server Configuration Manager > SQL Server Services > SQL Server Analysis Services | Properties**).

   For example: this will be **NT Service\MSSQLServerOLAPService** if you used the default accounts when installing SQL server.
2. Add this account as a new login in **SQL Server Management Studio > Security Logins)**.
3. Add the **Server Roles**. Select the **sysadmin** and **Public** roles.

Change the permission level after completing the installation

Once you have set up Sage 200 BI and all of your data warehouses have been created, we recommend that you reduce the permission level this account by removing the **sysadmin** role and mapping to the **db_datareader** role.

> **Note:** This will be the **NT Service\MSSQLServerOLAPService** user if you used the default accounts when installing SQL server.

To do this:

1. Remove the **sysadmin** server role. Only the **public** role should remain selected.
2. Map your data warehouses databases to the to the **db_datareader**.
   a. Select **User Mapping**.
   b. For each of your data warehouses, select **Map** and select **db_datareader** role. Make sure only the **public** and **db_datareader** roles are selected.

Install BI

> **Note:** Microsoft .NET Framework version 3.5 must be installed on both server and client machines

1. When you first install the Sage 200 Server, make sure you choose to **Install Sage 200 Business Intelligence**.

   After installing the Sage 200 server, the server PC will include installers in **C:\Sage\Installers** for:

   - **Sage 200 BI Client**: Includes the **BI Admin Tool** and the **BI Excel Addin**.
   - **Sage 200 Client**: Sage 200 desktop app.

2. On the **server PC**, install the BI Client and Sage 200 Client.
   - Install the BI Client.

     Browse to **C:\Sage\Installers\Sage 200 BI Client** and run **Sage200BIClient.msi**.
   - Log in as the *scheduled task user*, and install the Sage 200 Client.

     Browse to **C:\Sage\Installers\Sage 200 Client** and run **Setup.exe**.

     > Make sure you're logged in as the Windows user that's set to run the scheduled task, when you install the Sage 200 Client. For more information on the scheduled task, see Configure the scheduled task on page 88.
   - If any other user will run the BI Admin tool on this server, log in and install the Sage 200 Client for that user.

     > **Note:** If the PC has User Access Control enabled, and the user is not an administrator, log in as the administrator before you install the Sage 200 Client. You must log in as the administrator (not the user), so that the administrator credentials will be used to run the BI Admin Tool.
3. For **any other PCs** where you will install and run the BI Admin Tool, you will also need to also install the Sage 200 Client.
   - To install the Sage 200 Client, use the **Sage 200 Client** link on the Sage 200 Installers web page and run **Setup.exe**.

     > **Note:** If the PC has User Access Control enabled, and the user is not an administrator, log in as the administrator before you install the Sage 200 Client. You must log in as the administrator (not the user), so that the administrator credentials will be used to run the BI Admin Tool.
4. For **any other PCs** where you will run the BI Excel Addin.
   - To install the BI Excel Addin, use the **BI Client** link on the Sage 200 Installers web page and run **Sage200BIClient.msi**.

     Choose to install the **Sage 200 Business Intelligence Excel Addin**.

Set up windows users for the BI Admin tool

You must install and use the BI Administration tool on the server hosting Sage 200c Professional to create and maintain your BI cubes. The BI cubes data is refreshed regularly. This data refresh is performed by Windows Scheduled Tasks.

Note: You must be a member of the Sage 200 Administrators group to access the BI Administration tool.

If the domain controller for the scheduled tasks is on Server 2012 or 2012 R2 and the BI Admin tool is installed on Windows 7, you must install the following: Microsoft KB 2830145.

Required permissions to access the BI Admin Tool

BI uses your Windows user account details to access the BI Administration tool. To access the BI Administration tool, your windows user account must be:

- A domain user as long as they are an administrator in Analysis Services (see Microsoft SQL Server security settings),
- A member of the Sage 200 Administrators group.
- Have access to the relevant company in System Administration.
- A domain user that has 'dbcreator' level permissions in SQL Server.

Note: To refresh cubes manually in the BI Admin Tool, you will need the same SQL permissions as the scheduled task user.

Create a Windows user account for the scheduled task

You must specify a windows user account that will run the scheduled task for BI to update the cubes. Note that you cannot now use the Local System account, which was possible in earlier versions of Sage 200.

We recommend that you create a windows user account specifically for this task. The user specified to run the Windows Scheduled Task must:

- Have a secure password that never expires.

  We recommend that you keep a note of the password for this account until you have set up the BI Administration tool and the scheduled task is running successfully.
- Have the following privileges:
  - Be a member of the Sage 200 Administrators group.
  - Have access to the relevant Sage 200 company.
  - Be a local administrator on the Sage 200 server.
  - Be an administrator in Analysis Services.
  - Be a user in SQL Server with sysadmin access.

> **Note:** If this user does not appear in the user list in the BI Admin tool, we recommend that you create a new user in Active Directory. This is due to the Windows user not having a **User Principle Name**. A User Principle Name is a part of the Active Directory user information. This information is sometimes missing on older user accounts, especially if they have been migrated from an older version of Active Directory and the domain administrator account.

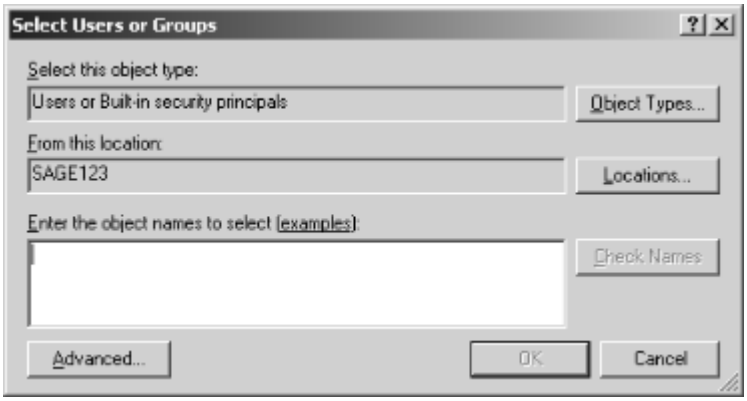
As the BI data is generally refreshed overnight, it is important the that the server is powered on overnight so the Windows Scheduled Tasks can run.

Set up security for Business Intelligence

You must make sure that the appropriate users have access to the BI SQL database, and that the SQL database and Microsoft Analysis Services are included in your firewall exceptions list.

This allows non administrator users to have access to the BI database.

1. Choose **Start > Programs > Microsoft SQL Server > SQL Server Management Studio**.
2. From the **Server** type, select **Analysis Services**.
3. From the **Server** name list, select the required instance and click **Connect**.
4. Right-click on the server instance and choose **Properties**.
5. From the **Select a page** list, choose **Security**.
6. Click **Add**.



7. Enter the name of each BI user in the format, **DomainName\Username** and click **OK**.

   The names you have added are listed
8. Enter the name of the domain user you will use to run the BI Admin tool in the format **DomainName\Username** and click **OK**.
9. When you have added all the required users, click **OK** in the **Analysis Server Properties** window.

Set up Windows Firewall

If you are using Windows Firewall, you need to ensure that the Microsoft SQL database and Analysis Services programs are included in the firewall exceptions list:

- SQL Server (sqlservr.exe).
- SQL Analysis Services (msmdsrv.exe).

- If you are using named instances of SQL and Analysis Services, also include SQL Browser Service (sqlbrowser.exe).

1. Choose **Start > Settings > Control Panel**.
2. Open **Windows Firewall**.
   - If you are using Windows Vista, click **Allow a program through Windows Firewall**.
3. Select the **Exceptions** tab.
4. Add the SQL Server application to the exception list of allowed programs:
   a. Click **Add Program**, then click **Browse**.
   b. Browse to the program file for SQL Server - **sqlservr.exe**.
      Typically, this file will be located in **Program Files\Microsoft SQL Server\MSSQL\Binn**.
   c. Click **Open** then click **OK**.
      The program is added to the exceptions list.
5. Add the **SQL Analysis Services** application to the list of allowed programs:
   a. Click **Add Program**, then click **Browse**.
   b. Browse to the program file for SQL Analysis Services - **msmdsrv.exe**.
   c. Click **Open** then click **OK**.
      The program is added to the exceptions list.
6. Users running named instances of SQL and Analysis Services also need to add the **SQL Browser Service** program to the exception list of allowed programs:
   a. Click **Add Program**, then click **Browse**.
   b. Browse to the program file for the SQL Browser Service - **sqlbrowser.exe**.
   c. Choose **Open** then **OK**.
      The program is added to the exceptions list.

Set up Business Intelligence in System Administration

Before you can access Sage 200 BI, you must authorise the BI features for the appropriate roles in the System Administration.

1. Open **System Administration**.

   The Core Components for Business Intelligence are installed the first time you log on to Sage 200 System Administration after installing BI.
2. From the Navigation Bar, select **Roles**.
3. Select the **Role** that you want to use BI. Right-click and select **Features**.
4. Make sure **BI Reports** is selected.
5. Click **OK**.

For more information about user accounts, role, and features, see the Sage 200 help: desktophelp.sage.co.uk/sage200/professional/help.htm#SAA/FeaturesNode.htm.

Configure Microsoft Excel to use the BI add-in

You must enable the Sage BI Excel Add-in to use it with Microsoft Excel.

The BI reports use macros. If your Microsoft Excel security settings are set too high, some of these macros will not run and you will see a warning on the report. To make sure the macros run without a warning, we recommend that you set up a trusted location for your BI reports in Excel.

If you do change your Microsoft Excel security settings, potentially unsafe macros may run when you open other workbooks created outside BI. Therefore we recommend that when you use Microsoft Excel without BI, you disable the Sage BI add-in. This resets the Microsoft Excel security settings and Excel will start more quickly.

Enable the Sage BI Excel add-in for Sage 200c

1. Choose **Start > Sage Tools > Sage 200 > Enable or Disable Sage BI**.
   - To use Microsoft Excel with Sage BI, select **Enable the BI Excel Add-in**.
   - To use Microsoft Excel without Sage BI, select **Disable the BI Excel Add-in**.
2. Click **OK**.

Set up a trusted location for BI in Microsoft Excel

To do this you must add the shared Sage folder on your server to the list of trusted locations on each client PC that uses BI.

1. In Microsoft Excel, select the **File** tab and then click **Options**.
2. Select **Trust Center** and then choose **Trust Center > Trust Center Settings > Trusted Locations**.
3. Make sure that the **Allow trusted locations on my network** is selected.
4. Click **Add New Location**.
5. Enter or browse for the location of the shared **Sage** folder on your server.

6. Select **Subfolders of this location are also trusted**.
7. Click **OK**.

Configure the BI admin tool and set up the scheduled task

Use the BI Admin tool (**Start > Programs > Sage Tools > Sage 200 > Sage 200 Business Intelligence Administration**) to:

- Apply various report settings such as discount bands, analysis codes, report layouts and the financial period.
- Create a new data warehouse for a company.
- Change the details of the scheduled task, for example, the time and frequency of the cube update.
- Upgrade the data warehouse for the selected company. Use this when you have installed a new version of Sage 200.
- Refresh the cubes for the selected company. Use this if you have changed your report settings.

Create a new data warehouse and create the cubes

> **Important**
> This task must be carried out on the server hosting Sage 200c Professional. You must be logged on to the server with a user that has administrator privileges.

To build the cubes for a company, you must add a new data warehouse for each company.

1. On the **Data Warehouse Configuration** window, click **New warehouse**.
2. From the **Company** drop-down list, select the first company you want to configure.
3. Enter a unique name for your **Data Warehouse** and **Analysis Services cube** in the respective boxes. Click **OK**. A **Scheduler Security** window appears.

4. Enter or browse for the details of the windows user to run the Windows Scheduled Task. Select the user you have set up for the scheduled task. See Set up windows users for the BI Admin tool on page 80.

   A progress bar appears indicating that the warehouse and cubes are being updated. This process may take some time to complete. Once completed:

   a. A data warehouse is created.
   b. The cubes are built.
   c. A scheduled task is created which rebuilds the cubes nightly at 3 am.

      If required, you can change the settings for this scheduled task.

Upgrade a warehouse

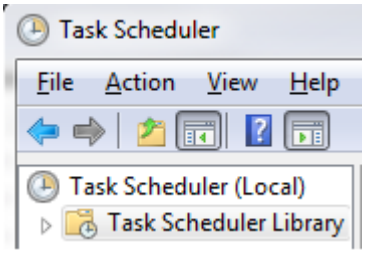
If you're upgrading an existing version of BI, you will also need to update the corresponding warehouse database so that the version numbers of both databases match.

- Click **Upgrade Warehouse** to update the database version of the selected warehouse. This will also refresh the cubes.

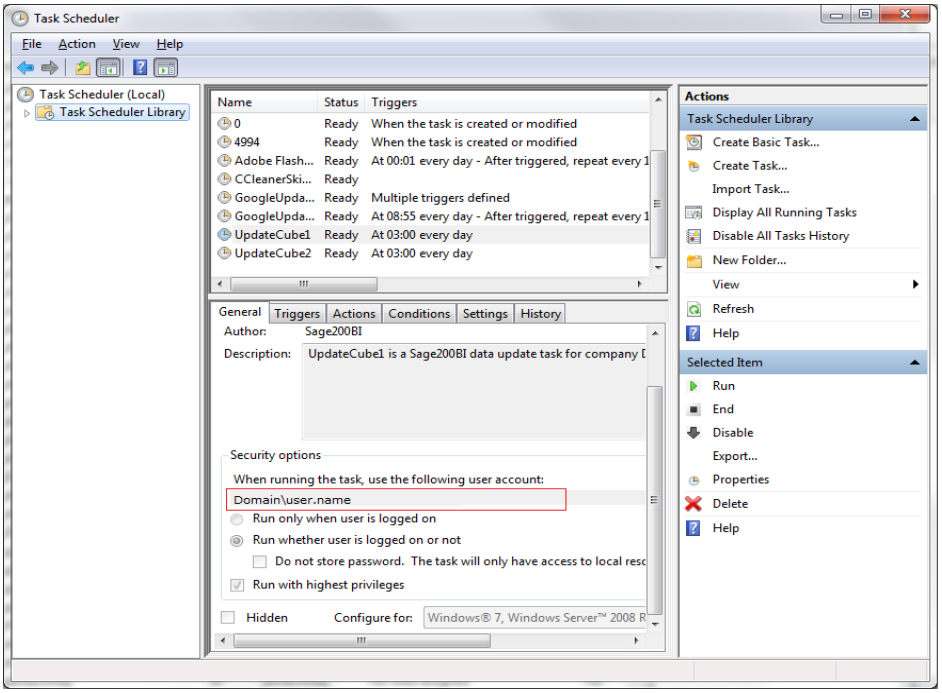
Configure the scheduled task

Note: Scheduled Tasks is a Microsoft product. For help on Scheduled Tasks, please refer to the Microsoft Windows help file.

1. Click **Schedule tasks**. The **Task Scheduler** appears.
2. From the left-hand pane, select **Task Scheduler Library**.



3. Right-click the **UpdateCube** task for the required company and select **Properties**.



4. Select the Windows user account that you have created for the scheduled task.
5. Make any other required changes to the task and click **OK**.

Refresh the cubes

Use refresh cubes to rebuild the cubes for a company. If you have changed your report settings, you must refresh the cubes for the changes to take effect.

- Click **Refresh cubes** to update the cubes for the selected company. A message appears showing the progress of the update.

  This may take some time to complete, depending on the size of the database.

Apply BI report settings

1. On the **Data Warehouse Configuration** window, highlight the required company.
2. Click **Report settings**.
3. On the **General** tab, use the **Period** and **Year** drop-down lists to select the default accounting period and year that you want to use for your reports.

   Note: If you leave the **Period** and **Year** boxes blank, the current date is used to determine the default accounting period and year.

4. Use the **Month** and **Year** drop-down lists to select the default calendar month and year that you want to use for your reports.

   Note: If you leave the **Month** and **Year** boxes blank, the current date is used to determine the default calendar month and year.

5. On the **Nominal** tab, use the drop-down lists to select the default financial statement layouts for your Balance Sheet and Profit and Loss reports.
6. On the **Customers** tab, in the **Discount Bands** boxes, type the lower percentage rate for each band. These must be in ascending order.

   The discount bands are used to group settlement discounts on invoices. If you do not enter any discount bands, you will only see the **Zero** and **>0%** discount bands in your reports.

   For example:

   If you enter **2** for Band 1, **4** for Band 2 and **6** for Band 3, you will be able to select the following discount bands in the reports:

   - **Zero**, **0-2%**, **2-4%**, **4-6%** and **>6%**.

   A discount of 2% will fall in the **0%-2%** band and not the **2%-4%** band
7. If you only want to bring through the Analysis Codes you have named, select **Show Named Customer Analysis Codes Only** and **Show Named SOP Analysis Codes Only**. Otherwise all Analysis Codes will be brought through to the cubes.

   Note: If you have set up the Sales Ledger to use separate trading periods, you can select the default trading period you want to use for your reports. Select this from the **Current Sales Trading Period** drop-down list.

8. On the **Suppliers** tab, complete all the **Discount Bands** boxes as appropriate.

9. If you only want to bring through the Analysis Codes you have named, select **Show Named Supplier Analysis Codes Only** and **Show Named POP Analysis Codes Only**. Otherwise all Analysis Codes will be brought through to the cubes.

   Note: If you have set up the Purchase Ledger to use separate trading periods, you can select the default trading period you want to use for your reports. Select this from the **Current Sales Trading Period** drop-down list

10. On the **Stock** tab, select all the **Search Categories** as appropriate. You can use these for analysis on your reports.
11. If you only want to bring through the Analysis Codes you have named, select **Show Named Stock Analysis Codes Only**. Otherwise all Analysis Codes will be brought through to the cubes.
12. On the **Project** tab, select the **Additional Information** fields as appropriate.

    You must specify which of the project **Additional Information** fields in are **Text**, **Numeric**, date and time (**Time**), a yes or no answer (**Boolean**) or a selection from your lists of products, customers, suppliers or resources (**ID**).
13. When you have entered all the required information, click **Save**.

    You can now create a data warehouse and build the cubes.

    Note: If you later change your report settings, you will only see the changes take effect after the cubes have been updated. The cubes will usually be updated by running a scheduled task, but if you want to update the cubes manually see Refresh the cubes on page 89.

Upgrading an existing installation of BI

Follow the instructions in this section to upgrade an existing installation of Sage 200 Business Intelligence.

1. Make sure that the Windows user accounts for users that will access the BI Administration tool are:
   - A domain user as long as they are an administrator in Analysis Services (see Microsoft SQL Server security settings),
   - A member of the Sage 200 Administrator group.
   - Have access to the relevant company in System Administration.
   - A domain user that has 'dbcreator' level permissions in SQL Server.
2. If you haven't already done so, create a windows user account for the scheduled task that updates the BI cubes. See Set up windows users for the BI Admin tool on page 80
3. Back up all databases (including data warehouses and analysis services databases).
4. Uninstall Sage 200.
5. Choose to install the following components on the server:
   - The Sage 200 server.

     Don't forget to select BI in the installation wizard.
   - The BI Client
   - The Sage 200 Client.

     > You must make sure you're logged in as the Windows user set to run the scheduled task when you install the Sage 200 client. This is to make sure the DLL files for the scheduled task are installed correctly.

   See Install Business Intelligence on page 77.
6. Install the following components on all client machines that will be running BI.
   a. The desktop app. Click the **Sage 200 Client** link on the Sage 200 Installers web page and run the **Setup.exe** file.
   b. The BI client app. Click the **BI Client** link on the Sage 200 Installers web page and run the **Sage 200 Client.msi** file.

7. Make sure the scheduled task is set up on the server with Sage 200c installed. In previous versions, the scheduled task could be installed on a separate machine with SQL Server.
   a. Check that the user account used to run the scheduled task is the windows user account that you have created for this purpose.
   b. Each company that uses BI must have a separate scheduled task.

   See Configure the scheduled task on page 88.
8. Upgrade your Sage 200 databases for all companies that also use BI, in System Administration.

   Note: You **must** upgrade your Sage 200 databases to Sage 200c Professional before you upgrade your BI data warehouse.
9. Upgrade each data warehouse in the BI Admin Tool.

Troubleshooting BI

Use this section for a an explanation of some common errors that may occur in Sage 200 BI. This covers the following errors:

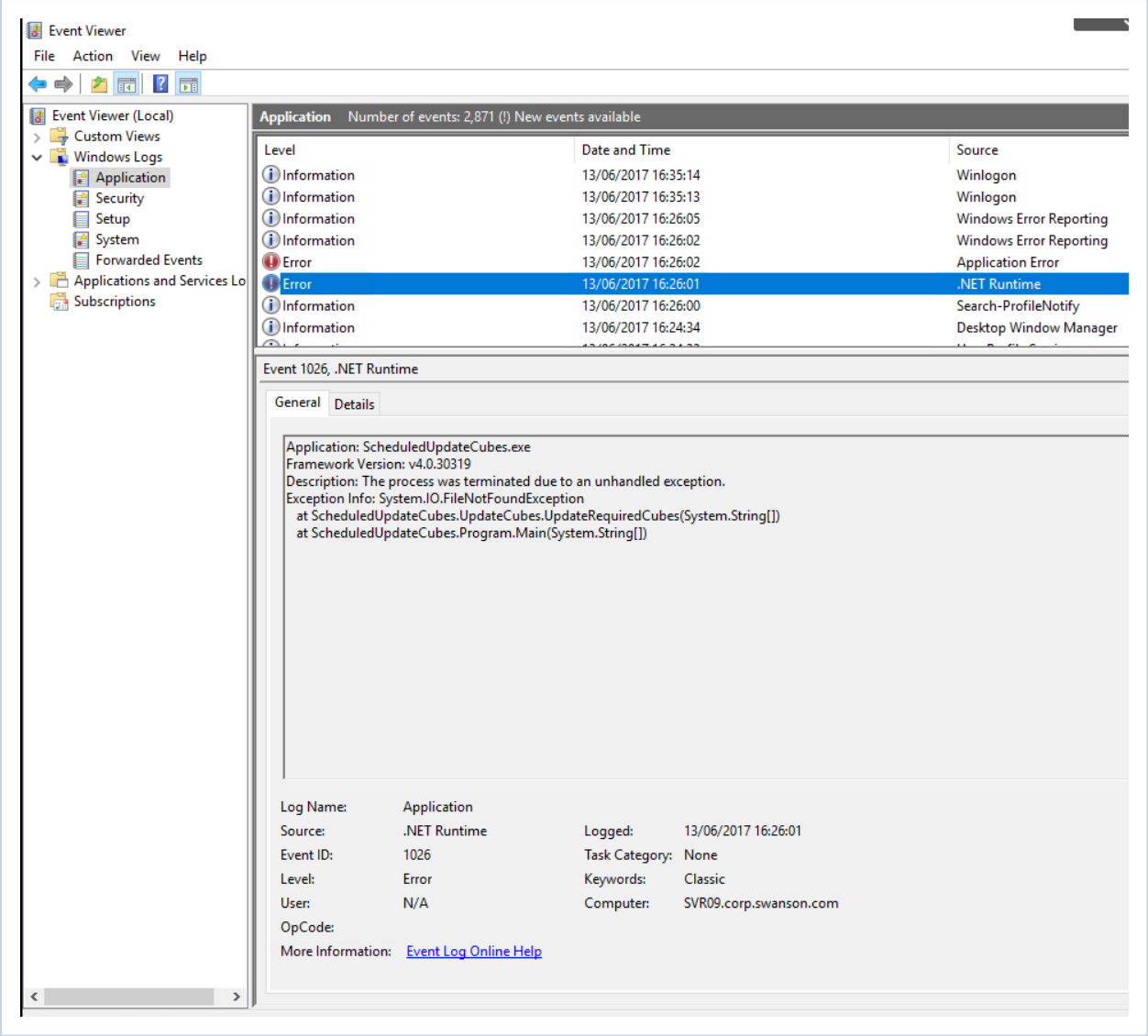
BI Administration tool

Excel Add-in for BI

Error updating the cubes

You'll see this error if you weren't logged in as the scheduled task user when installing the Sage 200 client on the server machine.

To resolve this, log onto the server as the windows user for the scheduled task and re-install the Sage 200 desktop app.



BI Administration tool

Cubes not updating or get a missing DLLs message when opening the admin tool?

Your cubes will not be updated and your BI reports will not show up to date information if your scheduled task is not running.

The scheduled task won't run if you weren't logged in as the user set to run the scheduled task when you installed the Sage 200 desktop app (client) on the server.

To resolve this you just need to log onto the server as this user and re-install the desktop app.

Changing your Sage 200c database?

If you want to use a different Sage 200c database for your company, you must delete your

existing warehouse and cubes and rebuild them.

Backing up and restoring BI databases

To backup or restoreyour BI warehouse database use Microsoft SQL Server Management Studio.

The Sage 200c company database must remain in sync with the BI warehouse database and Analysis Services database. Therefore, if you backup or restore your company database you should restore the BI warehouse database and Analysis Services database at the same time.

Losing cube changes after an upgrade?

If you customise your cubes (e.g. add new fields), those changes will be lost when you upgrade to a new version of BI or use the **Upgrade warehouse** option.

Manually creating a scheduled task to update the cubes

Important: Scheduled tasks must be created on the server hosts Sage 200c Professional. This will avoid problems related to connection issues when the user is not present.

> **Note:** The procedure below describes how to manually set up a task using Windows 7. There will be differences in this procedure when using other versions of Windows. Scheduled Tasks is a Microsoft product. For help on Scheduled Tasks, please refer to the Microsoft Windows help file.

1. Choose **Start > Control Panel**.
2. Open **System and Security > Administrative Tasks > Schedule Tasks**.
3. Select the **Task Scheduler Library**.
4. Select **Create Task** from the **Actions** pane.
5. Enter a name for the task.
6. Select the user you have specified to run the scheduled task.

   See Before using the BI Admin tool.
7. Select **Triggers** and click **New**.
8. Select the required options for performing the task and click OK.

   > **Note:** It is advisable to rebuild the cubes on a daily basis outside of working hours so they do not conflict with any backup operations.
9. Select **Actions** and click **New**.
10. Select **Start a program** from the Actions drop-down list.
11. Click **Browse**.
12. Select the file **Program Files\Sage\Sage200\ScheduledUpdateCubes.exe** and click **Open**.
13. Amend the path as follows (changes in bold), where the number after /**n** corresponds to the company number in the Sage 200 BI Administration tool.

    C:\Program Files\Sage\Sage200\ScheduledUpdateCubes.exe /n:1

14. Click **OK**.
15. Click **OK**. The new task is added to the Scheduled Tasks.
16. To ensure your new task has been set up correctly, right-click the task and select **Run**.

Sage BI Admin tool takes a long time to open on a PC with no internet access

If you are running the Sage 200 BI Administration Tool on a machine that does not have internet access, it can take up to two minutes to open.

This occurs because the BI Admin tool needs to run with administrative credentials. In order to ensure a secure connection, the tool attempts to checks for revoked certificates online.

To speed up opening the Admin tool, it is possible to turn off this check.

Important: This setting should only be changed on a PC that does not connect to the internet. If the PC is later connected to the internet, the original setting must be restored.

1. Open Internet Explorer.
2. Select **Tools > Internet Options > Advanced**.
3. Scroll down the **Settings** list to the **Security** section.
4. Clear the checkbox for **Check for publisher's certificate revocation**.
5. Click **OK** and close Internet Explorer.

Data not populating 'As At' date when creating a Data Warehouse

When the data warehouse is populated (either via a data warehouse update or a refresh), a 'snapshot' of that data is recorded and stored for the Sales Order and the Stock Level cubes.

If the date of the data extract is not in the financial year defined for the company, the data warehouse will not be populated with any data.

A message will be written to the data warehouse audit trail (in the AuditHeader and AuditDetail tables) to inform you that the update has failed.

BI Excel Add-in

Failed to link to database error

If you try to run a BI report and the message **Failed to link to Database** is displayed, this means BI cannot connect to the Analysis Services database.

This will appear if you do not have permission to access Analysis Services. For information on setting permissions, see Microsoft SQL Server security settings.

Re-enabling the Sage 200 BI Add-in in Excel

If Sage 200 Business Intelligence has problems connecting to the database and fails, it can become disabled as an add-in in Excel. The most common symptom of this is seeing the text **#NAME** in the report cells. To re-enable the add-in:

1. From the **Start** menu, select **Program Files > Sage Tools > Sage BI > Enable or Disable Sage 200 Business Intelligence**.
2. Select **Enable**.
3. Click **OK**.

Sage BI tab missing when launching Excel

When you open Microsoft Excel, the Sage BI tab is not displayed.

To resolve this, you must check your Trust Center settings for Add-Ins.

1. Open **File > Options > Trust Center > Trust Center Settings > Add-Ins**.
2. Make sure that none of the options are selected.

Excel security warning when opening a report

When you open a BI report in Excel, you may see a security message warning you that the document contains macros.

If you see this message, you must enable the macros for the BI reports to work correctly. To do this:

1. Select **Always trust macros from this publisher**.
2. Click **Enable Macros**.

   This action should only be required once for any user on any particular PC.

Excel 2013

Office 2013 must be fully activated to use the BI Add -In. If Office 2013 is not activated you may experience issues with Excel.

5

Extending your system

This section tells you:

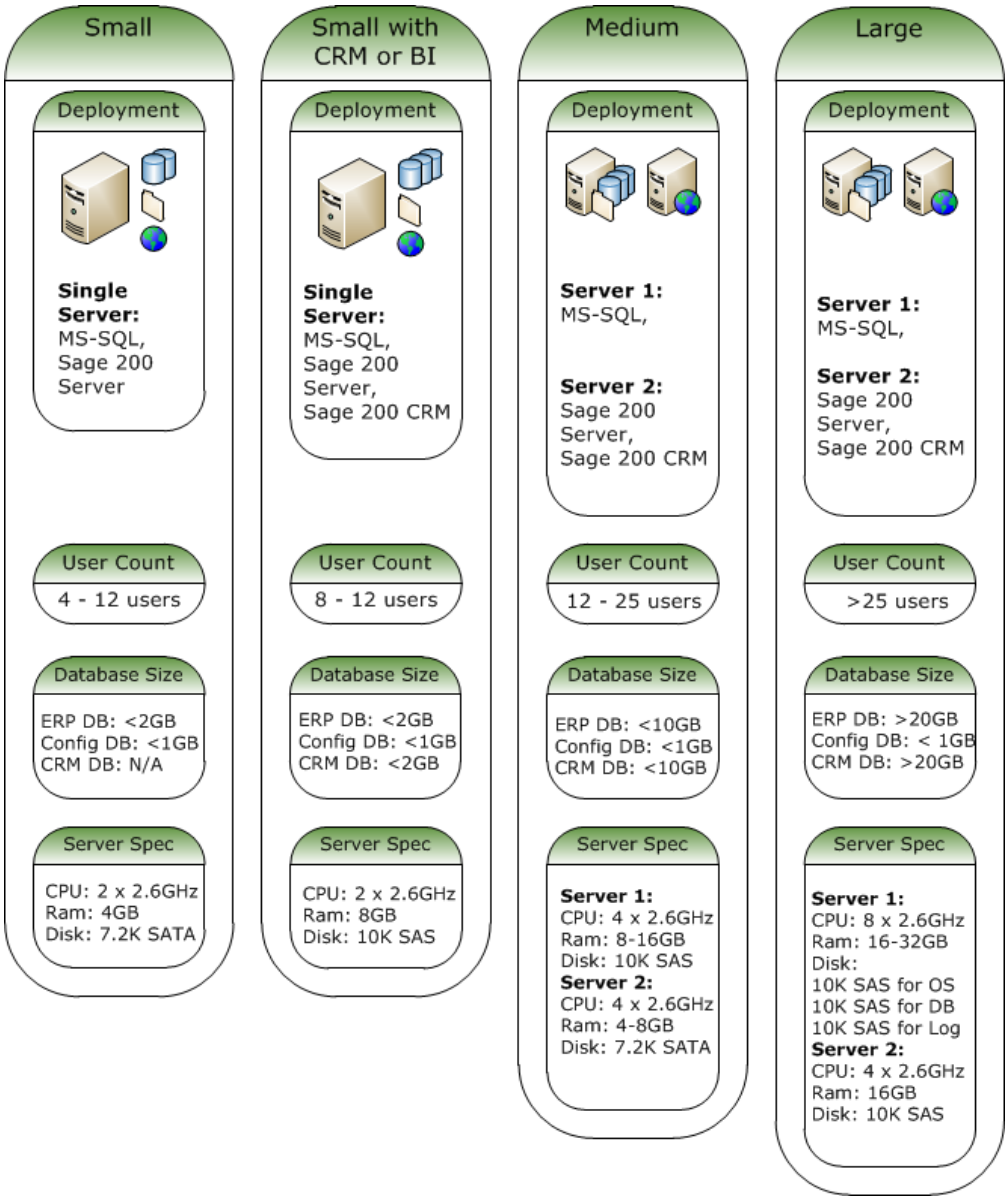
- How to make sure your SQL database is large enough.
- How to optimise your database to ensure maximum performance.
- How to allow 3rd party applications to access your Sage 200c data via the Sage 200 API.
- Recommendations for installing on virtual platforms.

Sizing your system

A typical deployment of Sage 200c consists of all elements residing on the same server, which also hosts the SQL server instance.

For larger sites with higher user counts and larger transaction volumes this deployment model is not always suitable and may not offer the best performance.

The following diagram shows four different sized deployments of Sage 200c and gives some suggested 'ball park' figures for sites that may fit into these scenarios. Due to the diverse nature of businesses that use Sage 200c, it is impossible to give exact recommended specifications for each scenario but these figures are based on data gathered from sites already successfully running Sage 200c.



Small deployments

Recommended for sites:

- 4 to 12 concurrent users.
- Database sizes less than 2GB.
- Not running Sage 200 CRM or Business Intelligence.

Recommended Specifications

	Notes
Dual core processor	The operating system will use one core with Sage 200 and Microsoft SQL Server sharing the other core. No configuration around setting processor affinity is required and in practice the operating system, SQL and Sage 200 will share the cores, along with other running applications, but a dual core system should give users acceptable performance.
4GB RAM	■ 2GB for the operating system. ■ 1GB for SQL. ■ 1GB for Sage 200. No configuration around setting memory allocation is required and the operating system, SQL and Sage 200 will share the available memory, along with other running applications. A minimum of 4GB server memory should give users acceptable performance in this scenario.
7.2K rpm SATA Disk	Should be sufficient for databases less than 2GB.

Small deployments with CRM or Business Intelligence

Recommended for sites:

- 8 to 12 concurrent users.
- Database sizes less than 2GB.

Recommended Specifications

	Notes
Dual core processor	The operating system to use one core, and Sage 200 and Microsoft SQL

	Notes
	Server to share the other core. As Sage 200 CRM is a browser based module that can require high levels of server CPU when synchronising data or processing multiple user requests at the same time. The server should have a minimum of a dual core processor but as user count and data size increases towards the top end of this bracket, a quad core processor may be preferable.
8GB	■ 2GB for the operating system. ■ 1GB for SQL. ■ 1GB for Sage 200. ■ For BI: 1GB for each data warehouse / analysis services cube. Sage 200 Business Intelligence uses Microsoft SQL Server Analysis Services which can be a very memory intensive process. For each data warehouse and analysis services cube created, we recommend allocating at least 1GB RAM.
10K rpm SAS or SCSI	In a RAID configuration to allow for failover. Sage 200 CRM and Sage 200 BI will benefit from additional memory and faster access disks.

Medium Deployments

Recommended for sites:

- 12 to 25 concurrent users.
- Database sizes less than 10GB.

Where sites have more than 20 concurrent users accessing Sage 200 CRM with similar levels of users accessing Sage 200 Accounts at the same time, it is recommended to split out Sage 200 CRM onto a second server to improve performance.

Recommended Specifications

Server Specifications		Notes
Server 1	Quad core processor	■ Microsoft SQL Server. ■ Sage 200c database. ■ Sage 200 CRM database. ■ BI. This server is effectively dedicated to handling the SQL requests of Sage 200c.

Server Specifications		Notes
	8 - 16 GB RAM	■ For BI, allow at least 1GB for each data warehouse and analysis services cube. Business Intelligence uses Microsoft SQL Server Analysis Services which can be a very memory intensive process. For each data warehouse and analysis services cube created, we recommend allocating at least 1GB additional Ram but this requirement will increase with database size. ■ With Remote Desktop Services, add 1 GB for each remote user session, up to a maximum of 8 remote users. For more than 8 remote users, use a separate Remote Desktop Services server running the Sage 200c client. See Supported software on page 12
	10K rpm SAS or SCSI Disk	■ In a RAID configuration to allow for failover. ■ The SQL data and log files ideally being hosted on different disks to the operating system.
Server 2	Quad core processor	■ Sage 200 server. ■ Sage 200 CRM installation (not the database). ■ Additional services such as Sage 200 Self Service.
	4 - 8 GB RAM	
	7.2K SATA Disk	

Large deployments

Recommended for sites:

- 25 to 50 concurrent users
- Database sizes over than 20GB.

Recommended Specifications

Server Specifications		Notes
Server 1	2 x Quad core processor	■ Microsoft SQL Server. ■ Sage 200 database. ■ Sage 200 CRM database. ■ BI

Server Specifications		Notes
		This server is effectively dedicated to handling the SQL requests of Sage 200c
	16 - 32 GB RAM	■ For BI, allow at least 1GB for each data warehouse and analysis services cube. Business Intelligence uses Microsoft SQL Server Analysis Services which can be a very memory intensive process. For each data warehouse and analysis services cube created, we recommend allocating at least 1GB additional Ram but this requirement will increase with database size. ■ With Remote Desktop Services, add 1 GB for each remote user session, up to a maximum of 8 remote users. For more than 8 remote users, use a separate Remote Desktop Services server running the Sage 200c client.
	10K or 15K rpm SAS or SCSI Disk	■ In a RAID configuration to allow for failover. ■ The SQL data and log files ideally being hosted on different disks to the operating system.
Server 2	Quad core processor	■ Sage 200 Server. ■ Sage 200 CRM installation (not the database). ■ Additional services such as Sage 200 Self Service.
	16 GB RAM	
	7.2K SATA Disk	
Remote Desktop Services Server	Quad Core Processor RAM 10K rpm SAS or SCSI disk	With Remote Desktop Services, use a separate server for more than 8 remote users. Allow sufficient memory to allow for 2GB for the operating system and an additional 1GB per remote session running the Sage 200c client, up to a maximum of 12 users per server.

Recommended specifications for client machines

In addition to calculating the system requirements for the servers running Sage 200c, you must also consider the client machines that will be running Sage 200c. The application footprint on each of the client machines can be large.

Processing of tasks is carried out using CPU and memory resources on both the client and the server, and the specification of both machines will affect the overall performance of the system. The following table gives an example of this.

Profile	Running Year End with 1 million Nominal Transactions
Server A / Client A	3 hrs 24
Server A / Client B	5 hrs 07
Server B / Client B	8 hrs 11

The server and client specifications were as follows:

Server A = 2 x Quad Core 2.4GHz Xeon, 8GB Ram, 15K SAS Disks, Gigabit Network

Server B = 1 x Dual Core 2.6GHz, 4GB Ram, 7.5K SATA Disk, Gigabit Network

Client A = 1 x Dual Core 2.6GHz, 4GB Ram, 7.5K SATA Disk, Gigabit Network

Client B = 1 x Single Core 2.8GHz, 2GB Ram, 7.5K SATA Disk, Gigabit Network

Client machines used to run long batch processes, such as Update Waiting Postings and Month and Year End processing, should be dual core processor machines with 4GB RAM.

Sizing your database

The size of the database will depend on a number of factors, not just the number of transactions included within the database. The following examples can be used to estimate a rough minimum expected database size given a specific number of records but be aware that with SQL database padding this size can increase 10 fold. Use these examples to calculate minimum disk requirements only.

The following record sizes are calculated using Sage 200 demonstration data for 8 financial years.

Record Type	Record Size (in KB)
Sales Ledger Record	24K
Purchase Ledger Record	15K
Nominal Ledger Record	14K
Stock Record	4K
SOP Order (based on 4 item lines)	44K
POP Order (based on 4 item lines)	47K
Sales Ledger Invoice	3K
Purchase Ledger Invoice	4K
Nominal Ledger Journal	2K

To calculate the minimum disk space required, you can take these record sizes and multiply them against the estimated number of records. For example:

Record Type	Record Size (in KB)	Number of Records	Size
Sales Ledger Record	24K	10,000	240,000K
Purchase Ledger Record	15K	10,000	150,000K
Nominal Ledger Record	14K	800	11,200K
Stock Record	4K	16,000	64,000K
SOP Order	44K	12,000	528,000K
POP Order	47K	2,600	122,200K
Sales Ledger Invoice	3K	12,000	36,000K
Purchase Ledger Invoice	4K	14,000	56,000K
Nominal Ledger Journal	2K	140,000	280,000K
			1,487,400K

This gives an estimated database size of 1.4GB. The actual size of the database used in this example was 1.2GB. The difference was made up of a variety of factors, such as not all records were fully populated, not all orders had 4 item lines etc.

For further guidance, the following table gives record numbers and associated database sizes for real Sage 200 databases. As you will see, some fit the calculation but some, such as the 6GB and 10GB database examples, are considerably larger than would be expected. This is largely due to database padding and you should allow at least 2 or 3 times more disk space than the minimum calculated to allow for padding and future growth.

Real Sage 200 database sizes

	No records / transactions						
Sales Ledger Records	10,000	1,000	3,500	45,000	300	25,000	28,000
Purchase Ledger Records	10,000	100	600	800	2,000	500	1,000
Nominal Ledger Records	800	100	300	150	600	600	3,000
Stock Records	16,000	400	1,500	16,000	50,000	800	12,000
SOP Orders	12,000	3,500	85,000	125,000	6,000	115,000	350,000
POP Orders	2,600	0	20,000	4,000	14,000	1,700	56,000
Sales Ledger Transactions	12,000	45,000	68,000	220,000	10,000	175,000	950,000
Purchase Ledger Transactions	14,000	0	15,000	17,000	56,000	10,000	80,000
Nominal Ledger Transactions	140,000	100	420,000	610,000	116,000	295,000	5,000,000
Database Size in Gigabytes	**1.2**	**3.0**	**4.0**	**5.5**	**6.0**	**10.0**	**25.0**

As you will also see from the table above, the database can scale up to very large numbers of transactions. The 25GB example has over 5 million nominal transactions.

Database configuration and maintenance

Once you have sized your system, you can start looking at optimising access to the database to ensure maximum performance. For smaller databases this is not so essential but as the database increases in size, especially once it starts getting over 4GB, real performance improvements can be obtained by having appropriate database configuration and maintenance plans in place.

Setting up a Database Maintenance Plan

We strongly recommended that you set up a database maintenance plan as part of your Sage 200c deployment. You should include both the Sage 200c and CRM databases in the maintenance plan.

For detailed information on setting up the tasks and plan for SQL Server please refer to the manufacturer's web site but we recommend the following:

To set up a new database maintenance plan for Microsoft SQL Server

1. Open Microsoft SQL Server Management Studio and connect to the instance of SQL that hosts your Sage 200c and CRM databases.
2. Right click **Management > Maintenance Plans** and select **Maintenance Plan Wizard**.
3. Follow the steps in the wizard until all the tasks have been defined. We recommend that you include the following:
   - **Check Database Integrity** – We recommend that you run this nightly for both the Sage 200c and CRM databases.
   - **Shrink Database** – Avoid this option for large or rapidly growing databases. see the following section on Disk Management on page 109 for further advice on database size.
   - **Reorganize Index** – We recommend that you run this nightly for both Sage 200c and CRM databases.
   - **Rebuild Index** – We recommend that you run this weekly for both Sage 200c and CRM databases.
   - **Update Statistics** – We recommend that you run this nightly for both Sage 200c and CRM databases.

You should only run maintenance plans 'out of hours' when no users are on the system. We recommend that you run the plan once initially to ensure the plan completes successfully and then schedule the tasks to run automatically overnight.

Before any maintenance tasks can be run, check that the SQL Server Agent is running.

Disk Management

If you have a large deployment, the databases for Sage 200c and Sage 200 CRM can grow rapidly as large numbers of transactions are recorded. Rather than letting SQL Server adjust the size of your database as it grows, we recommend that you pre-empt this growth manually by disabling the **Auto Shrink** and **Auto Grow** options within SQL Management Studio and manually padding the database to accommodate future growth.

To Disable Auto Shrink

1. Open Microsoft SQL Server Management Studio and connect to the instance of SQL that hosts your Sage 200 and CRM databases.
2. Right click **Databases > *<Sage 200 database name>***, and select **Properties**.
3. Choose the **Options** page.
4. Set **Auto Shrink** to **False**.
5. Repeat for your Sage 200 CRM database.

To manually grow your database

1. Open Microsoft SQL Server Management Studio and connect to the instance of SQL that hosts your Sage 200 ERP and CRM databases.
2. Right click **Databases > *<Sage 200 database name>***, and select **Properties**.
3. Choose the **Files** page.
4. For both the MDF and LDF files, click the browse button in the **Autogrowth** column.
5. Set the **File Growth > In Megabytes** value to an amount of disk space that will allow for plenty of growth.

   For example, if your current database is 2GB, you could set this value to 6GB. Increasing this value does not increase the size of your SQL backups.
6. Repeat for your Sage 200 CRM database.

Other Disk Management Tips

- Separating the operating system and database onto their own separate drives is best practice for large databases to make sure that Windows and system disk don't compete with SQL IO requests.
- Make sure that the space you're allocating to the MDF/LDF files is largely contiguous and kept defragmented.

- The Sage 200c database must remain synchronised with the Sage 200 CRM and BI warehouse and analysis services databases.

  Make sure you backup or restore Sage 200 CRM and the BI warehouse and analysis services databases at the same time as your main Sage 200c database.

Database management for Sage 200 Business Intelligence

For BI, if you need to recover to a specific point in time (i.e. just before the disaster happened) and wish to avoid hard disk space issues, we recommend that you:

1. Set up a disaster recovery model.
2. Reduce the size of the log file.

This is because the data warehouse's database log file grows when the data warehouse is upgraded and cubes refreshed using the BI Admin tool. This growth is usually proportional to the number of record updates performed on the data warehouse.

If you have a relatively large database, the data warehouse's log file will grow significantly every time the data warehouse is updated. This can lead to disk space problems on the database server fairly quickly for large datasets, and over a longer period of time for smaller datasets.

However the log file contains information about all the changes made to the data warehouse required for the database administrator to perform any required disaster recovery procedures.

Set up a disaster recovery mode

The disaster recovery mode that you choose for the data warehouse database depends on how you use BI.

When 'As At' cubes are updated, data is pulled down from Sage 200c to provide a typical snap shot of your data for a specific point in time. The recovery mode that you choose depends on whether you need to recover your data this specific point in time or whether the accuracy of the as 'as at' data is not crucial, i.e. the snap shot is out by one day.

You can choose one of the following modes:

- Full - choose this to recover data to a specific point in time.

  This uses full, differential and transaction log backups to provide the best protection against failure. It allows the database to be restored to the point of failure or to a specific point in time.
- Simple - choose this if the accuracy of the "as at" status of the BI reports is of low importance.

  This recovers data to the most recent successful full database or differential backup. The underlying transaction logs are truncated each time a checkpoint is issued for the database. This mode restricts the database log file growth.

To set the data recovery mode

1. Open Microsoft SQL Server Management Studio and connect to the instance of SQL that hosts the BI databases.
2. Right click **Databases > (data warehouse database name)**, and select **Properties**.
3. Choose the **Options** page.
4. Select the required **Recovery model**.

Reduce the database size

1. Set the data warehouse database to "restricted user" mode.

   This prevents new connections being made to the database for users who do not have appropriate roles assigned.

   This will be blocked until users are already connected to the database have close their connection. This ensures that no transactions are rolled back unexpectedly (i.e. a user in the middle of updating the warehouse).

   Follow the steps below or run the following SQL script: `[ALTER DATABASE database-name SET RESTRICTED_USER]`.

   a. Open Microsoft SQL Server Management Studio and connect to the instance of SQL that hosts the Sage 200 BI databases.
   b. Right click **Databases > *<data warehouse database name>*)**, and select **Properties**.
   c. Choose the **Options** page.
   d. In the **Other options > State** section, set **Restrict Access** to **RESTRICTED_USER**.

2. Backup the transaction log and database.
   a. Right -click the data warehouse database and select **Tasks > Backup**
   b. Make a **Full** backup if you don't already have one, otherwise skip to the next step.
   c. Run the SQL command [checkpoint] against the data warehouse database. This flushes the contents of the transaction log into the main database files.
   d. Make a **Transaction Log** backup. Make sure that **Truncate the transaction log** is selected on the **Options** page. This is only be available if your database is in **Full Recovery** or **Bulk Logged** mode.
   e. Make a **Full** backup of the database.

3. Shrink the database.
   a. Right -click the data warehouse and select **Tasks > Shrink > Database**.
   b. Verify that the database log file is now reduced in size.

4. Remove the **Restricted user** set in step 1 by either reversing the steps or by running the following SQL script: `[ALTER DATABASE DATABASE-NAME SET MULTI_USER]`.

Install Sage 200 API on an external facing web server

If you want to use any 3rd party applications that access your Sage 200c data via the Sage 200 API, you'll need to install the Sage 200 API service on a machine that can be accessed externally from the Internet, either from mobile devices or machines that are not joined to your domain. It is good practice to separate this service out onto it's own server so that if your network is compromised your data is protected behind a separate firewall for your SQL server.

In order to do this you will need:

- An external facing web server with internet access to host the API web site.
- A commercially available SSL Certificate to verify your domain and secure the web site.
- A registered domain name to direct traffic to the web site.

We recommend that you purchase any required domain names and SSL certificates and configure them to point to your external facing web server. Speak to your service provider for advice on how to do this.

Before you install the API service on an external facing server, you must have installed and fully configured Sage 200c on your server and you must be able to log into Sage 200c.

Prerequisites

The machine hosting the API Service must be joined to the same domain as the server hosting Sage 200c and have the following installed:

- Microsoft .NET Framework 4.5.2 (or later).

  Note: This may already be included if you have installed a later version of .NET Framework.

- .NET Framework 4.5 (or later) Features with HTTP Activation.

- Windows Identity Foundation. This can be added as a feature.
- Microsoft Internet Information Services (IIS) v8 or greater, with the following settings.

Common HTTP Features	Default Document Directory Browsing HTTP Errors HTTP Redirection Static Content
Application Development	.NET Extensibility 4.5 (or later) ASP ASP .NET 4.5 (or later) ISAPI Extensions ISAPI Filters
Security	Request Filtering
Management Tools	IIS Management Console
Management Tools > IIS 6 Management Compatibility	IIS 6 WMI Compatibility IIS 6 Metabase compatibility

To install the API Service

Follow these instructions to install the API Service on your external server.

1. Download the API installer from the Sage support website.
2. Right-click the **Sage200API.exe** file and choose **Run as Administrator**.
3. Follow the instructions on the installer. Make sure that you:
   a. Change the path to the **Logon** directory to the location of your server : **\\<servername>\Sage\Logon**.
   b. Enter the name and password of the windows account that you set up to run the Sage 200 Services.

To secure the API web site with your SSL certificate

Once you have installed the API web site on your external server machine, you need to amend the web site bindings in IIS to use the external SSL certificate and set up firewall rules on both your Sage servers.

1. Open Internet Information Services (IIS) Manager.
2. Expand the list of websites and choose **Sage 200 API**.
3. Right-click and choose **Edit Bindings**.
4. Choose **Add** and change the type to **https**.
5. Set this to a port number that's not currently in use.
6. From the **SSL certificate** drop-down menu, choose your external SSL certificate.

   Note: This is **not** the Sage 200 API SSL Certificate.

7. Click **OK**.

   Note: You may see a message informing you that another site is using the same HTTPS binding. Click **Yes** to apply the binding to this site.

8. Click **OK** to close the **Add Bindings** window.
9. Click **Close** to close the **Site Bindings** window.

The Sage 200 API web site is now using your external SSL certificate.

To set up your firewall rules

To increase the security of your deployment you must configure the Windows firewall on both of your Sage servers. The following table details the ports that need to be opened in order for Sage 200c to function correctly.

Sage 200 Server (Inbound Rules)	TCP Port Sage 200 App Services(Default 10443)
SQL Server (Inbound Rules)	TCP Port SQL Server (Default: 1433)
Sage 200 API Service Server (Inbound Rules)	TCP Port set up for the API.

Check you can access the API service from another machine

1. Enter the following location in your browser: **https://<HostName>/sage200api/internal/api_status**. The **<host name>** is the name specified when you created a binding for the API site.
2. If the page returned has a value of **1**, then the API can be accessed externally.

   If this is not returned, then please contact your own IT support for further assistance.

Activate the API in System Administration

Once you've installed the API Service, you must:

1. Register your Sage ID for the Sage 200 API. A Sage ID is used to give your company access to the Sage 200 API and to log on to your apps. If you don't have a Sage ID already, you'll be asked to create one.
   a. Open **System Administration > API**.
   b. Click **Edit**.
   c. Click **Register your Sage ID**.
   d. Follow the instructions to complete the registration.
2. Activate the API in System Administration:

   You need to enter the URL for the public endpoint of the API. This will be your domain name and end in **/Sage200API**, such as **https://*your domain name*/Sage200API**.
   a. Open **System Administration > API**.
   b. Click **Edit**.
   c. Select **API Enabled**.
   d. Enter a name for your site, This can be your choice.
   e. Enter your **Site URL**.
   f. Click **OK**. You'll be prompted to log in with your Sage ID. The site status will show as **Pending** until your licence has been updated.

   You must enable the API before contacting Sage Partner Services to update your licence.
3. Add the API module to your licence and download an updated version.

   Your Business Partner will need to call Sage Partner Services to request to add the API module to your licence. You'll need to download the updated licence in System Administration and check that the Sage 200 API has been enabled.
4. Create a Sage ID for every user who will access an app via the API, and specify which users have access to the API on their **User Properties**.
   a. Open **System Administration > Users**.
   b. Double click the user's **System name** name, or right-click the user and choose **Properties**.
   c. Select the **API** tab.
   d. Enable **Sage ID** to allow this user to log onto third party apps which access your data via the Sage 200 API.
   e. Enter an email address for this user. This is the email address they'll use to sign in to Sage ID to access the app.

      The user will receive an email asking them to complete the registration process to create a Sage ID.
   f. On the **Company Access** tab, check the companies the user can access. Users will only be able to access companies via the app that they have access to here.
   g. Click **OK**.

For more details on how to do this, see the Sage 200c help.

Installation options for virtualised platforms

Due to the large number of virtualisation platforms it is not practical or feasible for Sage to test them all. If you encounter issues while running client software in a client hosted virtualised environment, you may be required to reproduce the issues in a standard (non-virtualised) environment. Refer to the Products and Services Terms and Conditions here: www.sage.com/en-gb/legal/terms-and-conditions/product-and-service-terms-and-conditions/.

Server hosted virtualisation

All elements of Sage 200c Professional are supported in a virtualised environment if the following conditions are met:

- The underlying virtualisation platform has been accredited by the Microsoft Windows Server Virtualisation Program. See www.windowsservercatalog.com/svvp.aspx for further details.
- The host operating system is one of the supported operating systems outlined in the system requirements. See Supported software on page 12.

Sage 200c is also supported when running in a Microsoft Hyper-V virtualised environment which is running one of the supported operating systems outlined in the System Requirements.

You must ensure that the server hosting the virtual machines is of sufficient specification to run both the underlying operating system, and the virtual machine that Sage 200c is running on.

Client hosted virtualisation

The desktop app is supported when running in a client hosted virtualised environment, provided that the virtualised environment is running a supported version of Windows. For example:

- The desktop app running in a Windows 7 VM hosted on Mac OS.
- The desktop app running in a Windows 8.1 VM hosted on Linux.

Support for thin client environments

- We support the use of Sage 200c using Remote Desktop Services (RDS).
- We do not support the use of Sage 200c using other thin client environments, such as Citrix.

Due to the variety ways that a thin client environment may be configured, it is not practical or feasible for Sage to test them all. If you encounter issues while running Sage software in a thin client environment, you may be required to reproduce the issues in a standard environment. Refer to the Products and Services Terms and Conditions here: www.sage.com/en-gb/legal/terms-and-conditions/product-and-service-terms-and-conditions/.

Remote Desktop Services (RDS)

Requirements for deploying Remote Desktop Services:

- The Remote Desktop Services installation must be deployed using **Session-based desktop deployment**.

  Deployment using **Virtual-machine based desktop deployment** is **not** supported.
- Sage 200c is only supported when publishing the whole desktop environment through Remote Desktop Services.

  Delivering Sage 200c as a **RemoteApp** solution is **not** supported.

For Remote Desktop Services servers hosting Sage 200c client sessions, we recommend:

- At least 600MB memory per user on the server, for each client session running occasional or one-off tasks, such as an account enquiry or price check.
- At least 1GB memory for each client session processing for any prolonged period of time, for tasks such as checking in stock, or creating purchase orders.
- You should run large batch processes and updates on the local area network, or out of hours.

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