

Sage 300 Construction and Real Estate

Sage SQL Replicator Setup Guide (Version 18.1)

Certified course curriculum



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Sage SQL Replicator

Sage SQL Replicator is a tool that copies your Sage 300 Construction and Real Estate data from the Pervasive data management system into a SQL Server database. The replicated data includes your Purchasing, Inventory, and Service Management data if you use those products.

Why is copying your data into SQL Server useful to you?

- In many cases, using the SQL Server data for reporting results in improved processing performance. When you
 generate Crystal reports in your on-premises Sage 300 Construction and Real Estate applications, you can use
 the Use SQL check box to switch the data source from the Pervasive data to the SQL Server data.
- Sage SQL Replicator lays the foundation for accessing your data through Sage Mobile solutions. It is required whether you use Sage Construction Central for Mobile Reports or Mobile Dashboards.

The replication process works in the background and it can continuously synchronize the Pervasive and SQL Server databases. This means you can work in the Sage on-premises and mobile solutions without interruption and always get up-to-the-minute information.

If there are databases for which continuous synchronization is not needed, you can specify when and how often to run the replication.

This reference guide provides the setup and configuration needed to implement Sage SQL Replicator in System Administration (Sage 300 Construction and Real Estate version 18.1). The material applies to system administrators or information technology specialists who will complete the server configuration tasks.

In this chapter, you learn about preparing for the Sage SQL Replicator implementation. Information the next chapters, include:

- How to install SQL Server.
- How to configure Sage SQL Replicator and begin the replication process.
- What happens during the replication process.

NOTE: If you are implementing the 17.1 version of Sage SQL Replicator, download the setup guide for that version from the Product Documents web page.

Prepare to implement Sage SQL Replicator

Before implementing Sage SQL Replicator:

- Verify that your server configuration meets the recommended technical specifications.
- Evaluate whether you will use SQL Server Express or full SQL Server.
- Upgrade to Sage 300 Construction and Real Estate version 18.1.

If you use the Canadian or Australian edition of Sage 300 Construction and Real Estate, you must also:

- Specify the regional settings on the machine where your Sage software is installed.
- Create a domain Windows account for use with Sage SQL Replicator.

System requirements for version 18.1

Installing SQL Replicator to use with Sage 300 Construction and Real Estate adds to the demands on your server resources. Review the **18.1 technical specifications** documented in the Sage Support Knowledgebase to ensure that your server meets the recommended configuration in terms of the operating system and hardware.

NOTE: Solid State Drive (SSD) is required for the server if it hosts both Sage 300 Construction and Real Estate and SQL Server.

Microsoft SQL Server edition

SQL Replicator requires a dedicated instance of SQL Server which can be installed on the accounting server or on a different server. Later, in "Install SQL Server" on page 11, you will learn how to use the Sage SQL Installer to install and configure the instance.

SQL Server comes in different editions.

- SQL Server Express Edition is available at no additional cost—you can download it from Microsoft or let the Sage SQL Installer download it for you.
- SQL Server Standard Edition and SQL Server Enterprise Edition, both full SQL Server, are purchased separately.

Check with your IT vendor to determine which edition best suits your organization based on the features, the size of your database, and processing needs.

Please be aware that SQL Server Express Edition has limitations in terms of CPU and RAM usage—each database can be no larger than 10 GB. See this **Microsoft article** for more information. Even if the size of your Pervasive company folder is under 10 GB, it does not mean that you can use SQL Server Express. This is because the replication process adds views and indexes to the SQL Server database, increasing its size.

To check whether the size of your Pervasive data is suitable for using SQL Server Express, follow these steps:

- 1. On the accounting server, browse to the location of your Sage 300 Construction and Real Estate company folders.
- 2. Open the first company folder you want to replicate, and select the **POIVData**, **PVData**, and **SMData** folders and make a note of the size of these three folders.

NOTE: You might not have all of these folders. The **POIVData** folder will only be present if you use Purchasing and Inventory. The **SMData** will only be present if you use Service Management.

3. Right-click the selected folders and select Properties.

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File Home	Share View					1	POIVData Proper	ties X
€ ⊚ - ↑	퉬 « Sage 🕨 TIMBERLINE (OFFICE 🕨 Data 🕨 Co	onstruction Sample Data	1	v Ċ S			
Name	•	Date modified	Туре	Size		General Cust	omize	
퉬 Config		8/5/2017 6:36 AM	File folder			Ĩ	1,106 Files, 62 Folders	
POIVData PVData SMData SMData O1001 Founda O1001 Founda O1001 Founda O1001 items O101 items O101 items	Open Open in new window Share with Pin to Start Send to Cut Copy Create shortcut Delete Deneme	8/4/2017 1:56 PM 17 1:56 PM 17 1:56 PM 17 1:56 PM 17 1:56 PM 17 1:56 PM 17 1:56 PM	File folder File folder File folder Microsoft Word 9 Bitmap image FSA File	14 KB 98 KB 1 KB		Type: Location: Size: Size on disk: Attributes	All of type File folder All in C: \ProgramData\Sage\ 144 MB (151,071,418 bytes 144 MB (151,420,928 bytes Read-only Hidden	Advanced
	Properties							
							ОК Са	ncel Apply

4. Next, browse to the location of the **MASTER_QXM** folder. This is in your installation directory, which is in the following location by default:

C:\ProgramData\Sage\TIMBERLINE OFFICE\9.5\Accounting\Global\PVData

5. Right-click the MASTER_QXM folder and select Properties.

lame		Date modified	Туре		master.gxm Proper	ties
PVData MASTER.OLM		4/17/2018 2:49 PM 4/23/2018 1:27 PM	File folder OLM File	General Secu	rity Details Previous Version	ns
master.qxm		4/18/2018 11:40 AM	QXM File	4	master ovm	
MASTER.QYM	Open with Restore pre	vious versions	QYM File	Type of file:	QXM File (.qxm)	
	Send to Cut	•	-	Opens with:	Pick an app	Change
	Сору		_	Location:	\\lssvr25-mp\Timberline Offic	e\9.5\ACCOUNTING
	Create shor Delete	tcut		Size: Size on disk:	26.0 KB (26,624 bytes) 28.0 KB (28,672 bytes)	
	Rename		1	Created:	Monday, April 16, 2018, 8:27:	:40 AM
	Properties			Modified:	Wednesday, April 18, 2018, 1	11:40:12 AM
				Accessed:	Tuesday, April 17, 2018, 2:27	7:20 PM
				Attributes:	Read-only Hidden	Advanced
						Apply

6. Make a note of the size of the folder, and add it to the others.

(POIVData) + (PVData) + (SMData) + (MASTER_QXM)

- If the total sum is under 6 GB, you can use SQL Server Express.
- If the total sum is greater than 6 GB, you must use full SQL Server (Standard Edition or Enterprise Edition).

Additional requirements for Canadian and Australian editions

If you have the Canadian or Australian edition of Sage 300 Construction and Real Estate installed, Sage SQL Replicator requires a Windows user with the **Region** set to Canada or Australia. This enables the country-specific fields in Accounts Payable and Payroll to be replicated. This account must have local administrative privileges on the accounting server, and must also be added to the **sysadmin** SQL Server role when you install SQL Server.

Set the regional settings

- 1. In the Windows Control Panel, go to Regions.
- 2. On the Location tab, verify that the appropriate county is selected. Change it and click **Apply** if needed.



3. On the Administrative tab, select the New user accounts check box if not already selected, and then click OK.

Region	×	Welcome	screen and new user accounts settings
Fomats Location Administrative Welcome screen and new user accounts View and copy your international settings to the welcome screen, system accounts and new user accounts. Image: State of the setting state of the setting state of the setting regrams This setting (system locale) controls the language used when displaying text in programs that do not support Unicode. Current language for non-Unicode programs: English (United States) Image system locale		The settings for the cur iser accounts are displ Current user Display language: Input language: Format: Location: New user accounts Display language: Format: Location: New user accounts Display language: Input language: Format: Location: Setting: Se	rent user, welcome screen (system accounts) and new ayed below. English (United States) - US English (United States) Canada English (United States) English (United States) English (United States) - US English (United States) Canada English (United States) - US English (United States) - US
OK Cancel Apply		Copy your current setti Welcome screen New user accour	ings to: and system accounts tts OK Cancel

4. Click OK again to close the Region window.

If you changed the country setting in step 2, you'll need to create a new Windows user so it will have the correct regional settings. You'll use this Windows ID when you configure replication.

Next, you create a domain Windows account to use with the replication process.

Create a domain Windows account to use with replication

Create a Windows domain account to be used for running replication and add this account to the following roles and groups:

- The local Administrators group on the accounting server.
- The local Administrators group on the computer where the SQL Server instance is installed.
- The **sysadmin** server role on the SQL Server instance—see step 17 of the topic "Install SQL Server using the Microsoft Installer" on page 19.

Upgrade your Sage software

Follow the steps in the **Installation Checklist** and **User's Guide** to prepare for and upgrade to version 18.1. These documents are posted on the Product Documents web page.

Next, you install SQL Server. The instructions are in the next chapter.

Install SQL Server

SQL Replicator requires a dedicated instance of SQL Server which you can install using the Sage SQL Installer, a tool that comes with your Sage software.

In this chapter, you learn:

- How to use the Sage SQL Installer to perform a Basic and an Advanced installation.
- The required configuration settings for the instance when you use the SQL Server Installation Center.
- How to use SQL Server Management Studio to create a backup system administrator for your SQL Server instance.

Before you proceed with the installation, make decisions on the following:

- Whether to install the SQL Server instance on your Sage 300 Construction and Real Estate accounting server or on a different server.
- If you will use SQL Server Express or full SQL Server. (See "Microsoft SQL Server edition" on page 6.)
- The file locations for the instance and the data.

Sage SQL Installer

The Sage SQL Installer is automatically installed with Sage 300 Construction and Real Estate. If you are installing the SQL Server instance on another server (not the accounting server), install the Sage SQL Installer tool on that server.

WARNING: The Sage SQL Installer installs the SQL Server instance to work correctly with Sage SQL Replicator. We strongly recommend you use it to install SQL Server.

To install the Sage SQL Installer on a remote server

1. In the extracted installation files for Sage 300 Construction and Real Estate 18.1, browse to this location: AccountingServer\Install\Prerequisites\SUSI.

-			SUSI			_	D X
€ ⊚ - ↑ 🌗	Accounting	Server 🕨 Install 🕨 Prereq	quisites 🕨 SUSI		v ♂ Search	SUSI	م
☆ Favorites	^	Name	•	Date modified	Туре	Size	
Desktop	=	🔩 SUSI.exe		10/16/2017 9:50 PM	Application	1,806 KB	
🐌 Downloads							
Re places	-				~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		~~

- 2. Copy the file SUSI.exe to the server on which you will install the SQL Server instance for SQL Replicator.
- 3. On the computer on which you will install SQL Server, double-click SUSI.exe to install the Sage SQL Installer.

Install the SQL Server instance for SQL Replicator

- 1. Go to the computer on which the SQL Server Instance will be installed and log on as a user with local administrative permissions. During the installation, this Windows user will be added to the SQL Server **sysadmin** server role.
- 2. In the Windows Start menu, go to the Sage Administration group and click Sage SQL Installer.

Sage Adm	inistration						
🔅 Ce	rtified Report Service Setup	•	Sage Universa	al SQL Installer		- 1	x
S Lice	ense Administration	sage					
0	BC Help						
C Ref	resh Sample Data		D. I. I. Saga 200 (P	c			
Sag	ge SQL Installer		Product: Jage 300 Ch	L T			
🗸 Sag	ge System Verifier						
😌 Sys	tem Administrator						
🐠 Up	grade Crystal Reports			Back	1	Vext	

- Leave Sage 300 CRE selected and click Next. You might see a warning indicating that your server doesn't meet the minimum hardware requirements. We don't recommend continuing unless your server meets all requirements.
- 4. Click Next if you are ready.
- Select the Automatically download check box if you want the installer to download the latest version of SQL Express 2016 SP1 with Advanced Tools. If you already have the installation file, browse to its location. Alternately, if you have installation media for the Standard or Enterprise edition of SQL Server 2016 SP1, select Microsoft SQL Server 2016 from the dropdown and browse to the installation file.

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saye			Saye		
Installation Source:			Installation	n Source:	
Microsoft® SQL Server® 2016 Expr	ess 64-bit with Advanced To	pols 🔻	Microsoft	SQL Server® 2016 Express 64-bit with Advanced Tool	•
Automatically download			Microsoft	SQL Server® 2016 Express 64-bit with Advanced Tool	
			Microsoft	SQL Server® 2016	
				М	
Install location:			Install loca	ation:	
C:\Users\ANIT900104\Downloads\S0	LEXPRADV_x64_ENU.e	Browse		Bro	vse
	Back	Next		Back	
				<u> </u>	

- 6. Click Next. In the next window, select the type of installation.
 - Selecting **Basic** installs SQL Server on the server's system drive (usually the C: drive).
 - Selecting Advanced takes you to Microsoft SQL Servers installation interface so that you can customize
 options as you move through the wizard, such as the location of the instance root directory.

	Sage Universal SQL Installer	_ 🗆 X	E		Sage Universal SQL I	nstaller	_ [□ ×
sage				sage				
 Basic 	Install			O Basic Ins	stall			
This c optio	option installs the SQL instance with the Sage-required SQL ns. There is limited customization.			This opt options.	tion installs the SQL instance with . There is limited customization.	the Sage-required SQL		
🔿 Advar	nced Install			Advance	ed Install			
This c Micro Note: settin	option enables you to customize the installation by using the soft SQL installer. 'Use mixed mode authentication. Do not change the collation g (SQL_Latin1_General_CP1_CS_AS).			This opt Microso Note: U: setting (tion enables you to customize the oft SQL installer. se mixed mode authentication. Dc (SQL_Latin1_General_CP1_CS_AS).	installation by using the	I	
	Back	Next				Back	Next	

- 7. Click **Next**, and wait for the file to be downloaded (if you selected that option). The remaining steps depend on whether you selected the **Basic** or **Advanced** installation option.
- 8. When the installation is complete, you can install Microsoft SQL Server Management Studio as an option—see "Install SQL Server Management Studio" on page 21.

Basic installation

1. The next window shows the name for the new instance. By default, this is SAGE300CRE, but you can change it.

	Sage Universal SQL Installer	_ 🗆 X		Sage Universal SQL Installer	_ 🗆 X
sage			sage		
	Instance Name: SAGE300CRE			Instance Name: SAGE300CRE	
	sa Password: Gene	rate		sa Password: f+_n2GC#p2H7 Gen	erate
	Show password			Show password	£
	Back	Next		Back	Next

 Enter or generate a password for SQL Server's sa (administrative) user. In addition to sa, the Windows user name for the person currently logged in will be added to the sysadmin server role.



3. Click Next, and wait while the installer creates and configures the SQL Server instance.

Advanced installation

You are taken to Microsoft's SQL Server's installation wizard where you can change the prefilled settings in each of the configuration windows.

5	SQL Server 2016 Setup	- 0 >	×
Installation Type			
Perform a new installat	tion or add features to an existing instance of SQL Server 2016.		
Global Rules	Perform a new installation of SQL Server 2016		
Product Updates	Select this option if you want to install a new instance of SQL Server or want to install share	ed	
Install Setup Files	components.		
Install Rules	O Add features to an existing instance of SQL Server 2016		
Installation Type	SAGE300CRE		
License Terms	Select this option if you want to add features to an existing instance of SOI Server For eva	mala you	
Feature Selection	want to add the Analysis Services features to the instance that contains the Database Engir	npie, you ie. Features	
Feature Rules	within an instance must be the same edition.		
lostone Commetion	man and and and and and and and and and a	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	

The options that are entered are the default settings for a Sage SQL Replicator instance. See "Install SQL Server using the Microsoft Installer," on page 14 for detailed information about using the SQL Server Setup wizard.

WARNING: Using the Sage SQL Installer's **Advanced** installation option, the server's default collation is set at **SQL_Latin1_General_CP1_CS_AS**. Do not change this setting!

Install SQL Server using the Microsoft Installer

In some cases, you may want to install SQL Server yourself rather than allowing the Sage SQL Installer to install for you. To install an instance compatible with Sage SQL Replicator, follow these instructions.

NOTE: If you are installing SQL Server using the Advanced option of the Sage SQL Installer, skip to step 4.

- 1. Log on to the computer on which you will install the SQL Server.
- 2. In the Windows Start menu, go to the Microsoft SQL Server 2016 group and open SQL Server 2016 Installation Center.



NOTE: If you used the Sage SQL Installer to download SQL Server Express (see step 5 of the topic "Install the SQL Server instance for SQL Replicator" on page 12), locate the file called SQLEXPRADV_64_ENU.exe and double-click the file to extract the contents. When the files are extracted, open the folder location, and double-click **Setup.exe** to open the SQL Server Installation Center.

 In the SQL Server Installation Center window, click Installation on the left, and then click the first option, New SQL Server stand-alone ... in the list. When prompted, provide the location for the installation media.



4. We strongly recommend that you select the option to Use Microsoft Update to check for updates. Click Next.

1	SQL Server 2016 Setup	– – X
Microsoft Update		
Use Microsoft Update to chee	k for important updates	
Global Rules Microsoft Update Product Updates Install Setup Files Install Rules License Terms Feature Selection Feature Rules Feature Configuration Rules Installation Progress Complete	Microsoft Update offers security and other important updates for Windows software, including SQL Server 2016. Updates are delivered using Automat the Microsoft Update website. Use <u>Microsoft Update</u> to check for updates (recommended) <u>Microsoft Update FAQ</u> <u>Microsoft Update Privacy Statement</u>	s and other Microsoft ic Updates, or you can visit
	< Back	Next > Cancel

5. The next window shows the results of the setup rules check. You can ignore warnings about the firewall. If any elements of the check failed, you'll need to fix those issues before you can continue. Click **Next**.

1	SQL Server 2016 Setup	_ 🗆 X
Install Rules Setup rules identify potential p can continue.	roblems that might occur while running Setup. Failures must be corr	ected before Setup
Global Rules Microsoft Update Product Updates Install Setup Files Install Rules	Operation completed. Passed: 4. Failed 0. Warning 1. Skipped 0 Hide details << <u>View detailed report</u>	Re-run
Feature Selection Feature Selection Feature Rules Instance Configuration Server Configuration Database Engine Configuration Reporting Services Configuration Consent to install Microsoft R Feature Configuration Rules Installation Progress Complete	Rule Ission Active Template Library (ATL) Consistency validation for SQL Server registry keys Computer domain controller Increased Microsoft .NET Application Security Mindows Firewall	Status Passed Passed Passed Passed Warning
	< Ba	ck Next > Cancel

6. In the Installation Type window, select to perform a new installation of SQL Server. Click Next.

7. In the License Terms window, select I accept the license terms, and then click Next.

1	SQL Server 2016 Setup	
License Terms To install SQL Server 2016, you	r must accept the Microsoft Software License Terms.	
Global Rules Microsoft Update Product Updates Install Stup Files Install Rules License Terms Feature Selection Feature Rules Instance Configuration Server Configuration Database Engine Configuration Reporting Services Configuration Consent to install Microsoft R Feature Configuration Rules Installation Progress Complete	MICROSOFT SOFTWARE LICENSE TERMS MICROSOFT SQL SERVER 2016 EXPRESS These license terms are an agreement between Microsoft Corporation (or based on wh live, one of its affiliates) and you. Please read them. They apply to the software named which includes the media on which you received it, if any. The terms also apply to any Microsoft • updates, • supplements, • Internet-based services, and • sunnot services © I accept the license terms. SQL Server 2016 transmits information about your installation experience, as well as other usag performance data, to Microsoft to help improve the product. To learn more about SQL Server 20 processing and privacy controls, please see the <u>Privacy Statement</u> .	A tere you above, >py Print e and 016 data
	< Back Next >	Cancel

- 8. In the **Feature Selection** window, at a minimum you must select these check boxes. You can select others if you wish.
 - Database Engine Services
 - SQL Server Replication
 - Full-Text and Semantic Extractions for Search.
- **9.** You can change the **Instance root directory** to another local drive or location on your server if you wish. For example, if an SSD is available, using that drive for your root directory can improve performance considerably.

Feature Selection Select the Express features to install. Global Rules Microsoft Update In Product Updates In Install Setup Files In Install Setup Files 8 License Terms 8 Feature Rules 51 Instante Configuration 54	astures: ■ Database Engine Services ■ Database Engine Services ■ SQL Services (In-Database ■ PolyBase Query Service ■ PolyBase Query Services - Nativ Bared Features ■ Client Tools Connectivity	n e) c Extractions for Sea e for External Data e	Feature d The comi instance isolated Server in Prerequis Already - Wind	Jescription: figuration and operati feature of a SQL Server stances can operate si sites for selected featur installed: dows PowerShell 3.0 o	on of each er instance is instances. SQL de-by-side on res:
Global Rules Fee Microsoft Update In Product Updates Install Setup Files 8 Install Rules 8 License Terms 7 Feature Selection 7 Feature Rules SP Instance Configuration Server Configuration	eatures: SQL Server Replication SQL Server Replication P Services (In-Database P Full-Text and Semanti PolyBase Query Service Reporting Services - Nativ shared Features Client Tools Connectivity	e e) c Extractions for Sea e for External Data re	Feature d The cont instance isolated Server in Prerequis Already Wind	description: figuration and operati feature of a SQL Server from other SQL Server stances can operate si sistes for selected featur installed: dows PowerShell 3.0 o	on of each er instance is instances. SQL ide-by-side on res:
Database Engine Configuration Feature Configuration Rules Installation Progress Complete	Client Tools Backwards Co Client Tools SDK Documentation Compone SQL Client Connectivity SI Client Connectivity SI Select All Unselect All stance root directory: ared feature directory: ared feature directory (x86):	Et\SQL_Server C:\Program Files\ C:\Program Files	Micr Spac Drive C: Drive E:	nooff Visual Studio 20 III ce Requirements 156 MB required, 1055 1323 MB required, 654 	10 Redistributable

10. Click Next.

11. In the **Instance Configuration** window, we recommend that you install a **Named instance** using the name **SAGE300CRE** but you can use a different name.

WARNING: Avoid using **Default instance**. Because your Sage software does not support sharing its instance with other SQL Server based software solutions, if you use the default instance, you will need to install other SQL based solutions to different instances.

1	5	SQL Server 2016 Se	etup		- 🗆 X	
Instance Configuration	n					
Specify the name and instance	e ID for the instance of SC	QL Server. Instance ID I	pecomes part of the	installation path.		
Global Rules Microsoft Update Product Updates Install Setup Files Install Rules License Terms Feature Selection Feature Rules Instance Configuration	 Default instance Named instance: 	SAGE300CRE				
	Instance ID:	SAGE300CRE				
	SQL Server directory:	C:\Program Files\Mic	rosoft SQL Server\M	SSQL13.SAGE300CRE		
Server Configuration	Instance Name	Instance ID	Features	Edition	Version	
Database Engine Configuration	SAGE_ESTIMATING	MSSQL12.SAGE_ES	SQLEngine	Express	12.2.5000.0	
Feature Configuration Rules	<shared compone<="" td=""><td></td><td>Conn, BC, SDK</td><td></td><td>13.0.14500.10</td></shared>		Conn, BC, SDK		13.0.14500.10	
Installation Progress	<shared compone<="" td=""><td></td><td>SSMS</td><td></td><td>12.2.5000.0</td></shared>		SSMS		12.2.5000.0	
< Back Next > Ne						

12. Click Next.



WARNING: The settings in the next window are critical to installing a SQL Server instance that will work with SQL Replicator. Configure this window exactly as instructed.

13. In the Server Configuration window:

- On the **Service Accounts** tab, leave the default options as they are.
- Click the Collation tab. The collation under Database Engine must be set to
 - SQL_Latin1_General_CP1_CS_AS.

• If you are not using the **Advanced** option of the Sage SQL Installer, you must click **Customize** and select the correct SQL collation.

 If you are using the Advanced option of the Sage SQL Installer, the correct SQL collation is already selected by default.

WARNING: SQL_Latin1_General_CP1_CS_AS is the required collation setting for Sage SQL Replicator. Note that the last characters are "CS_AS" which stands for "case-sensitive, accent-sensitive."

1	SQL Server 201	6 Setup		_ 🗆 X]	
Server Configuration Specify the service accounts and	collation configuration.					
Global Rules Microsoft Update	Service Accounts Collation					
Product Updates Install Setup Files	Microsoft recommends that you use a Service SQL Server Database Engine	a separate account for each SQL Account Name Pa NT Service\MSSQL\$SAG	L Server service. assword St	tartup Type utomatic V		
License Terms Feature Selection	SQL Full-text Filter Daemon Launc SQL Server Browser	NT Service\MSSQLFDLa NT AUTHORITY\LOCAL	M	lanual utomatic 🗸		
Feature Rules Instance Configuration Server Configuration Database Engine Configuration	Grant Perform Volume Maintenan This privilege enables instant file i to information disclosure by allow	ce Task privilege to SQL Server I nitialization by avoiding zeroing ing deleted content to be access	Database Service g of data g sed. Datab	Accounts Collation]	
Feature Configuration Rules Installation Progress Complete	<u>Click here for details</u>		SQL_ Latin Unico	Latin1_General_CP1_ 1-General, case-inser sitive for Unicode Da ode Data	CLAS isitive, accent-sensitive, kanatype-insensitive, width- ta, SQL Server Sort Order 52 on Code Page 1252 for non-	Customize
				~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		~~~~
			(	Customize the SC	L Server 2016 Database Engine Collation	
		Select the	collation you wou	ld like to use:		
		O Windov	ws collation design	ator and sort order		
		Collatio	on designator:	Albanian	ode point	
		Case	e-sensitive	Kana-se	nsitive	
		Acce	ent-sensitive	Width-s	ensitive	
		Supp	plementary charact	ters		
		SQL co	ollation, used for ba	ackwards compatibili	ty	
		SQL_Hung SQL_Icelar SQL_Latin SQL_Latin SQL_Latin	garian_CP1250_CS_ ndic_Pref_CP1_CI_ 11_General_CP1_CI_ 11_General_CP1_CI_ 11_General_CP1_CS	AS AS AI AS _AS		^ ~
		Collation c	description:			
		Latin1-Ge Order 51 d	eneral, case-sensiti on Code Page 1252	ve, accent-sensitive, 2 for non-Unicode Da	kanatype-insensitive, width-insensitive for Unicode Data, SQL ta	Server Sort
					OK	Cancel

- 14. When you are finished with the Server Configuration window, click Next.
- 15. In the **Database Engine Configuration** window, you must select **Mixed Mode**. This mode is required for SQL Replicator.

- 16. Enter and confirm a password for the administrator (sa) account.
- 17. The windows user logged in to the computer will be added automatically as an administrator. Click **Add** to add additional administrators. If you use the Canadian or Australian edition of Sage 300 Construction and Real Estate, add the Windows domain account (as described on page 9) to this list as well.

Database Engine Confi	guration	
Specify Database Engine authe Slobal Rules Vicrosoft Update	ntication security mode, administrators, data directories and TempDB settings Server Configuration Data Directories TempDB User Instances FILEST	REAM
Product Updates Install Setup Files Install Setup Files License Terms Feature Selection Feature Rules Instance Configuration Server Configuration Database Engine Configuration	Specify the authentication mode and administrators for the Database Eng Authentication Mode  Windows authentication mode  Nixed Mode (SQL Server authentication and Windows authentication) Specify the password for the SQL Server system administrator (sa) accour Enter password: Enter password: Confirm password: Specify SQL Server administrator	ine.
nstallation Progress	Add Current User Add Remove	SQL Server administrator have unrestricted access to the Database Engine.

**18.** On the **Data Directories** tab, the default location reflects the **Instance root location** you selected in step 9. You can change this to an SSD drive if one is available. This does not have to be a local drive.

1	SQL Serv	er 2016 Setup			-		x
Database Engine Config	guration						
Specify Database Engine authen	tication security mode, administr	ators, data directories an	d TempDB setting	s.			
Global Rules	Server Configuration Data Dir	rectories TempDB Use	r Instances FILES	TREAM			
Microsoft Update Product Updates Install Setup Files	Data root directory: System database directory:	E:\SQL_Server	3.SAGE300CRE\M	SSOI \ Data		]	
Install Rules License Terms	User database directory:	El/SQL_Server/MSSQL13.SAGE300CRE/MSSQL/Data				]	
Feature Selection Feature Rules Instance Configuration	User database log directory: Backup directory:	E:\SQL_Server\MSSQL1	3.SAGE300CRE\MS 3.SAGE300CRE\MS	SSQL\Data		]	
Server Configuration Database Engine Configuration							
Feature Configuration Rules Installation Progress							
Complete							
			< Back	Next >	0	ancel	

**19.** On the **TempDB** tab, you can add and remove files to store the **tempdb** database on an SSD drive if available.

<b>1</b>	S	QL Server 2016 Setup
Database Engine Config	guration	
Specify Database Engine authen	tication security mode,	administrators, data directories and TempDB settings.
Global Rules	Server Configuration	Data Directories TempDB User Instances FILESTREAM
Microsoft Update Product Updates	TempDB data files:	tempdb.mdf, tempdb_mssql_#.ndf
Install Setup Files	Number of files:	8 ^
Install Rules License Terms	Initial size (MB):	8 Total initial size (MB): 64
Feature Selection	Autogrowth (MB):	64 A Total autogrowth (MB): 512
Feature Rules	Data directories:	E:\SQL_Server\MSSQL13.SAGE300CRE\MSSQL\Data Add
Instance Configuration		Remove
Server Configuration		Kentove
Database Engine Configuration		
Installation Progress		
Complete	TempDB log file:	templog.ldf
	Initial size (MB):	8
	Autogrowth (MB):	64
	Log directory:	E:\SQL_Server\MSSQL13.SAGE300CRE\MSSQL\Data
		< Back Next > Cancel

20. Click Next. The next window shows installation progress. When it is finished, click Close.

1	SQL Server 2016 Setup	Ŀ	• 🗆 X	
Installation Progress				
Global Rules Microsoft Update Product Updates Install Setup Files Install Rules	Running rules for feature installation.	Complete Your SQL Server 2016 installa	SQL Server 2016 Setup	
hand and a second second		Global Rules Microsoft Updates Install Setup Files Install Rules License Terms Feature Selection Feature Rules Instance Configuration Server Configuration Setver Configuration Rules Instalase Engine Configuration Reature Configuration Rules Installation Progress Complete	Information about the Setup operation or possible Feature Teature Teature Teature Teature Teature Teature Teature Fuller Forduct Update: Product Update Product Update has successfully applied KB 31825452. These updates have set the patch level of t Summary log file has been saved to the following le CAProgram Files/Microsoft SQL Server/130/Setup 1 MP 20170929-101832.bxt	next steps: Status Succeeded Succeeded Succeeded 3182545 <u><http: ?id="&lt;/u" support.microsoft.com=""> he Setup operation to 13.1.4001.0. Socation: Bootstrap\Log\20170929_101832\Summary_LSS\R18-</http:></u>
				d

## Important information about SQL Server

SQL Server is installed as a Windows service. If services related to SQL Server are stopped, SQL Replicator cannot replicate data.

9		Services			_ □	x
File Action View	Help					
(+ +) 🖬 🖬 🖸	) 🔂 🚺 🖬 🕨 💷 🕪					
Services (Local)	Services (Local)					
	Sage Certified Report Generator	Name	Status	Startup Type	Log On As	^
		SQL Full-text Filter Daemon Launcher (SAGE300CRE)	Running	Manual	NT Service\MSSQLFDLauncher\$SAGE300CR	(E
	Stop the service	SQL Server (SAGE300CRE)	Running	Automatic	NT Service\MSSQL\$SAGE300CRE	
	Restart the service	SQL Server Agent (SAGE300CRE)		Disabled	Network Service	
		🖓 SQL Server Browser	Running	Automatic	Local Service	
		SQL Server CEIP service (SAGE300CRE)	Running	Automatic	NT Service\SQLTELEMETRY\$SAGE300CRE	
		🔍 SQL Server VSS Writer	Running	Automatic	Local System	
		强 SSDP Discovery		Disabled	Local Service	
		🍓 Storage Tiers Management		Manual	Local System	
		🔍 Superfetch		Manual	Local System	~
		<	ш			>
	Extended Standard					

### **Install SQL Server Management Studio**

SQL Server Management Studio is useful tool for configuring, managing, and administering all components within SQL Server. It is not installed as part of the database engine installation. We recommend that you download and install SQL Server Management Studio if it is not already installed on your server.

WARNING: This procedure will require you to restart your accounting server.

1. In your web browser search for "Download SQL Server Management Studio."



- 2. Click the link to the Microsoft page and download the program.
- 3. When the download is finished, double-click the file and follow the steps in the wizard to install SQL Server Management Studio. When the installation is finished, you'll be required to restart your server.

### Create a backup system administrator

We recommend that you add a backup system administrator to your SQL Server instance. Your backup administrator should be set up as a user in Sage 300 Construction and Real Estate and linked to a Windows ID. This user should also have local administrative permissions on the accounting server.

- 1. When the server has re-started, open SQL Server Management Studio and log in to the Sage 300 Construction and Real Estate instance.
- 2. Under Security, right-click Logins and select New Login.

- 3. Next to Login name, enter the domain and Windows ID of your backup system administrator.
- 4. On the Server Roles page, select the sysadmin server role.

Microsoft SQL Server Management Stud	io					
File Edit View Debug Tools Window H	e 📕	Lo	igin - New	_ 🗆 X		
📗 😋 - 🗢   🎦 - 🖆 - 🏩 🔐   🚇 New Query	Select a page	🖵 Script 🔻 😯 Help				
Object Explorer     ▼ ♀ ×       Connect ▼ ♀ ×     ▼ ♥ ×	<ul> <li>Server Roles</li> <li>User Mapping</li> </ul>	Login <u>n</u> ame:	Domain\User	Search		
E SSVR21-MP\SAGE300CRE (SQL Server 13.0.400	Status	<u>W</u> indows authentica <u>SOL</u> Service authentica	tion			
Security     Security     Security		Password:		Login - New		- • ×
E Server Re New Login     Filter		Confirm password:	Select a page General	🖵 Script 🔻 😮 Help		
		Old password:	Server Roles     User Mapping     Serverblag	Server role is used to grant server-wide sec	curity privileges to a user.	
		ocepasor	<ul> <li>Status</li> </ul>	Server roles:		
PolyBase Refresh				bulkadmin		
· · · · · · · · · · · · · · · · · · ·				diskadmin processadmin		
4				✓ public securityadmin		
Ready				serveradmin setupadmin		
				l sysadmin k		
					man and and	

- 5. Click OK to save your changes and close the Login New window.
- 6. Repeat these steps if this instance is on a different machine than the accounting server and you created a new Windows domain account as described on page 9.

# **Replicate data into SQL Server**

After upgrading your Sage software to the latest version and installing a dedicated SQL Server instance, you are ready to copy your data to SQL Server. Sage SQL Replicator creates a separate SQL Server database for each Pervasive database that you replicate.



**NOTE:** While the replication is in process, users can continue to work in Sage 300 Construction and Real Estate without interruption.

In this chapter, you learn:

- How to set up the replicator configuration and start the replication process.
- What happens during the replication process.
- How Sage 300 Construction and Real Estate security is passed to the replicated SQL Server data.

### Sage SQL Replicator configuration settings and replication

The controls for Sage SQL Replicator are located in **System Administrator** (in the **Sage Administration** group). You must first define the configuration settings for each company before beginning the replication.

1. Log on to the Sage 300 Construction and Real Estate accounting server as a user with local administrative permissions. The Windows user name must also have the **sysadmin** role in SQL Server.



**NOTE:** The user who used Sage SQL Installer to install the SQL Server instance is automatically assigned the **sysadmin** role.

- 2. On the Windows Home page, go to the Sage Administration group and click System Administrator.
- **3.** In the **Log On** window, you must enter the credentials for a Sage 300 Construction and Real Estate user that has the **Application Administrator** role.
- 4. If the connection window does not open, click Connect.
  - In the box next to **Server name**, select the name of the instance that you created—see page 13.
  - For Authentication, select Windows Authentication. Your Windows domain and user name are automatically entered for the User name.
  - Click Connect.

•	Syst	em Administrator - Sage 3	00 Construction and Real Estate		_ <b>_</b> ×
	200 Construction	and Deal E	ototo		Version: 18.1.4.
	Saye 500 Construction	i anu reai c	State		?
	Replicator Configuration Backup Connect Not Con	nected		Link to Mobile	Sync Security Repair Services
	Company	On-Demand Description	Pervasive Data Folder		Replicating
		Conr	ect to Microsoft SQL Server	×	
		Server name:	LSSVR25-MP\SAGE300CRE	-	
		Authentication:	Windows Authentication	• -~	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
		User name:	BEST\UNAT		
		Password:			
		?	Connect	Cancel	

**5.** Because you have never replicated your data before, you are prompted to create the configuration database. Click **Yes**, and wait while the database is created.

Create C	onfiguration Database Confirmation				
Sage 300 Construction and Real Estate configuration database does not exist on server LSSVR25-MP. Click "Yes" to create it now or "No" to pick another database server.					
	Yes No				
	Creating Replicator Configuration Database				

6. When finished, the Replicator Configuration tab shows the list of companies in your Open Company list.

•		System	Administra	tor - Sage 300 Constru	ction and Real Estate		_ 🗆 X
	sage 300 Co	Instruction	and F	Real Estate	ć		Version: 18.1.4.
	Replicator Configuration		Link to Mohile				
	Backup	Connected: LSSVR25-MP\S SQL Server 2016 SP1 Expre	AGE300CRE ss Edition (64	(BEST\UNAT) 4-bit)			Pagaia Capitan
	Restore				1		Repair Services
	_	Company	On-Demand	Description	Pervasive Data Folder		Replicating
		Timberline Construction			\\LSSVR25-MP\Timberline Of	fice\Data\Construction	Sample No
		Gold Coast Group			\\LSSVR25-MP\Timberline Of	fice\Data\PM Sample D	ata\ No
				Open Co	ompany	?	×
		Name	Description	Location			
		Gold Coast Group     Timberline Construction		\\LSSVR25-M \\LSSVR25-M	P\Timberline Office\Data\PM Sample D P\Timberline Office\Data\Construction !	ata\ Sample Data\	
		<		ш			>
					OK Cancel Specify Folder:	s Remove From List H	
		Run-As Account : Default	t	•			
		View Status				Start	Stop

7. If you will access the data through Sage Construction Central for Sage Mobile services, click Link to Mobile.



8. Locate the first company that you want to replicate and click the row to select it.

- **9.** Use the **On-Demand** check box to indicate how often the Pervasive and SQL Server databases are synchronized.
  - Clear the **On-Demand** check box for continuous synchronization between the Pervasive and SQL Server databases. This ensures up-to-the-minute information in both your on-premises applications and Sage Mobile solutions. Clear the **On-Demand** check box for company data folders that you will access through Sage Mobile solutions.
  - Select the On-Demand check box if you want control over the replication frequency. After the first replication is completed, click Start to replicate again. Or, use the Windows Task Scheduler to specify when the replication will run again.

10. In the box next to Run-As Account:

- For U.S. editions of Sage 300 Construction and Real Estate, select Default.
- For Canadian and Australian editions of Sage 300 Construction and Real Estate, select **Other**. Next, enter the Windows credentials for the user whose region is set to the appropriate country— see "Additional requirements for Canadian and Australian editions" on page 8.



NOTE: The Run-As Account is company-specific. It does not automatically apply to all the companies in the list.

- 11. Click Save Configuration if you changed the configuration setting for any company.
- **12.** To begin replication, select the company from the list and click **Start**. You can click **View Status** to open the log see the progress.
- **13.** Repeat these steps for each company you want to replicate. You do not need to wait for the replication for one company to finish before starting another.
- 14. If you will access the data through Sage Construction Central for Sage Mobile services, you must follow the instructions in the Sage Construction Central Setup Guide to grant security permissions and licenses to users, and deploy your mobile website through Microsoft Azure Cloud Services.

WARNING: If you use the replicated data with Mobile Reports or Mobile Dashboards, when you back up your Pervasive data, you must also back up the corresponding SQL Server database. You can use the Backup feature in the System Administrator—see "Backing Up and Restoring" on page 34

## About the replication process

The first time that you configure the settings for Sage SQL Replicator, the following databases are added to your SQL Server instance:

- SageCREGlobalConfiguration
- SageApplicationTelemetry
- Izenda

For each Pervasive company that you replicate, a database named after the company is added to the instance. In the example below, GoldCoastGroup and TimberlineConstruction are companies replicated into SQL Server.

Image: Microsoft SQL Server Management Studio         File       Edit       View       Debug       Tools       Window       Help         Image:
Object Explorer 💌 🕂 🗄
Connect 🕈 🛱 🗏 🝸 🖒 🚸
<ul> <li>SSVR25-MP\SAGE300CRE (SQL Server 13.0.4001 - BEST\UNAT</li> <li>Databases</li> <li>System Databases</li> <li>Database Snapshots</li> <li>GoldCoastGroup</li> <li>Izenda</li> <li>SageApplicationTelemetry</li> <li>SageCREGlobalConfiguration</li> <li>TimberlineConstruction</li> <li>Security</li> <li>Server Objects</li> <li>Replication</li> <li>PolyBase</li> <li>Management</li> </ul>

For each company database, the replication process creates a series of database tables, views, and settings for security. While the process is in progress, users can continue to work in Sage 300 Construction and Real Estate applications without interruption. When you replicate the data for the very first time, you cannot access the SQL Server database until the replication is finished.

The length of time it takes to complete the initial replication depends on the size of your database and your server hardware. In **System Administrator** > **Replicator Configuration** tab, you can click **View Status** to open the log see the progress.

C	1	System	n Administ	rator - Sage 300 Constructio	n and Real Estate		_ <b>D</b> X	
	sage 300 Construction and Real Estate							
	Backup         Connected: LSSVR25-MP\SAGE300CRE         (BEST\UNAT)         Link to Mobile           SqL Server 2016 SP1 Express Edition (64-bit)         SQL Server 2016 SP1 Express Edition (64-bit)         SQL Server 2016 SP1 Express Edition (64-bit)						air Services	
1		Company	On-Demand	Description	Pervasive Data Folder		Replicating	
		Gold Coast Group			\\LSSVR25-MP\Timberline Office\Data\PM Sa	mple Data\	Yes	
L		Timberline Construction			\\LSSVR25-MP\Timberline Office\Data\Constr	ruction Sample	Yes	
L		Timberline Electrical			\\LSSVR25-MP\Timberline Office\Data\Electri	cal Contractor	Yes	
L		Company: Timberline Con	struction		SQL Database: TimberlineConstruction			
L		Description:						
L		Data Folder: \\LSSVR25-MP	Timberline O	ffice\Data\Construction Sample Da	ta\			
L		Run-As Account : Default		Ŧ				
		View Status				Start	Stop	

When the replication begins, schema information is read from the Pervasive data.

🛿 Replication of "\\LSSVR25-MP\Timberline Office\Data\Construction Sample Data\" to [LSSVR25-MP\SAGE300CRE].[TimberlineConstruction]. Version 18.1.1.552 built 💻 🗖 🗶								
File Options Find								
Id	Time	Thread	Туре	Data	^			
143	2018-04-02 10:55:42.047931 AM	001 - Pervasive tsSimba Schema reader	Information	n Reading tsSimba ODBC schema information for "ABM_MASTERCOMPANY_CUSTOM_FIELDS".				
144	2018-04-02 10:55:42.063535 AM	001 - Pervasive tsSimba Schema reader	Information	n Reading tsSimba ODBC schema information for "ABM_MASTER_COMPANY_PERSON_ADDRESS".				
145	2018-04-02 10:55:42.079158 AM	001 - Pervasive tsSimba Schema reader	Information	n Reading tsSimba ODBC schema information for "ABM_MASTERCOMPANY_TRADE".				
146	2018-04-02 10:55:42.094780 AM	001 - Pervasive tsSimba Schema reader	Information	n Reading tsSimba ODBC schema information for "ABM_MASTER_CONTACT".				
147	2018-04-02 10:55:42.110412 AM	001 - Pervasive tsSimba Schema reader	Information	n Reading tsSimba ODBC schema information for "ABM_MASTERGROUP".				
148	2018-04-02 10:55:42.126032 AM	001 - Pervasive tsSimba Schema reader	Information	n Reading tsSimba ODBC schema information for "ABM_MASTER_GROUP_MEMBER".				
149	2018-04-02 10:55:42.141659 AM	001 - Pervasive tsSimba Schema reader	Information	n Reading tsSimba ODBC schema information for "ABM_MASTERPERSON".				
150	2018-04-02 10:55:42.157285 AM	001 - Pervasive tsSimba Schema reader	Information	n Reading tsSimba ODBC schema information for "ABM_MASTER_PERSON_CUSTOM_FIELDS".				
151	2018-04-02 10:55:42.172921 AM	001 - Pervasive tsSimba Schema reader	Information	n Reading tsSimba ODBC schema information for "API_NEW_BATCH".	$\square$			
	Entry Id: 143				^			
Creator	Created: 2018-04-02 17:55:42	.047931 (UTC) 047931 (u10-55-43 047 MM Pagifig Davidget	Time					
Observer	Local Time: 2018-04-02 10:55:42	.047931 (~10:55:42.047 AM Pacific Daylight	Time)					
					≡			
	Thread Id: 1 - Pervasive tsSim	ba Schema reader						
	Data:							
Reading t	sSimba ODBC schema information f	or "ABM_MASTERCOMPANY_CUSTOM_FIELDS".			$\mathbf{r}$			
<				>				
Showing 6,40	17 entries. Auto Refresh		Process	ess: Sage Replicator (ver 18.1.1.552) User: BEST\SYSTEM_Machine: LSSVR25-MP_OS: Microsoft Windows NT 6.2.9200.	):			

Once all the data from the Pervasive schema is read, the information is saved and a new database is created in SQL Server.

🛿 Replication of "\\LSSVR25-MP\Timberline Office\Data\Construction Sample Data\" to [LSSVR25-MP\SAGE300CRE ].[TimberlineConstruction]. Version 18.1.1.552 built 🗕 🗖 🗙							
File Opt	ions Find						
Id	Time	Thread	Туре	Data	~		
831	2018-04-02 10:55:57.397458 AM	001 - Pervasive POIV Schema reader	Information	on Reading Pervasive ODBC schema information for "X\$Occurs".			
832	2018-04-02 10:55:57.403461 AM	001 - Pervasive POIV Schema reader	Information	on Reading Pervasive ODBC schema information for "X\$Proc".			
833	2018-04-02 10:55:57.409463 AM	001 - Pervasive POIV Schema reader	Information	on Reading Pervasive ODBC schema information for "X\$Relate".			
834	2018-04-02 10:55:57.415473 AM	001 - Pervasive POIV Schema reader	Information	on Reading Pervasive ODBC schema information for "X\$Trigger".			
835	2018-04-02 10:55:57.422459 AM	001 - Pervasive POIV Schema reader	Information	on Reading Pervasive ODBC schema information for "X\$Variant".			
836	2018-04-02 10:55:57.427454 AM	001 - Pervasive POIV Schema reader	Information	on Reading Pervasive ODBC schema information for "X\$View".			
837	2018-04-02 10:55:57.441463 AM	001 - Main	Information	on Saving schema information.			
838	2018-04-02 10:56:00.529184 AM	001 - Company Database Builder	Information	on Creating company database "TimberlineConstruction".	_		
839	2018-04-02 10:56:05.410772 AM	001 - Company Database Builder	Information	on Upgrading company database "TimberlineConstruction" to version 0.0.0.0001.	~		
	Entry Id: 143			,	~		
Creator Observer	Created: 2018-04-02 17:55:42 Local Time: 2018-04-02 10:55:42 Local Time: 2018-04-02 10:55:42	1.047931 (UTC) 1.047931 (~10:55:42.047 AM Pacific Daylight 1.047931 (~10:55:42.047 AM Pacific Daylight	Time) Time)				
	Thread Id: 1 - Pervasive tsSim	ba Schema reader			-		
	Entry Type: Information						
	Data:						
Reading t	sSimba ODBC schema information f	or "ABM MASTER COMPANY CUSTOM FIELDS"			7		
<				>			
Showing 6,41	Showing 6,411 entries. Auto Refresh Process: Sage Replicator (ver 18.1.1.552) User: BEST\SYSTEM Machine: LSSVR25-MP OS: Microsoft Windows NT 6.2.3200.0						

Next, the replication enters **BC** (Bulk Copy) mode and copies all the information from the Pervasive schema into the SQL Server database, beginning with the company's customizations and security setup, and then continuing with all the database tables. **DC** (Dynamic Bulk Copy) validates the schema to see if it has changed before it completes the bulk copy operation.

File Options Find								
Id	Time	Thread		Туре	Data			^
1,744	2018-04-02 11:03:07.844610 AM	001 - Main		Information	Replicating bootstrap tables.			
1,745	2018-04-02 11:03:18.860471 AM	001 - Main		Information	BC => TS_MODE_COLUMN_NAME	14,313 row(s) i	n	
1,746	2018-04-02 11:03:19.657359 AM	001 - Main		Information	BC => TS_MODE_TABLE_NAME	524 row(s) i	n	
1,747	2018-04-02 11:03:23.094938 AM	001 - Main		Information	BC => TABLENAME_FILEFULLPATH	464 row(s) i	n	
1,748	2018-04-02 11:03:25.063722 AM	001 - Main		Information	BC => FILEINFO	59 row(s) i	n	
1,749	2018-04-02 11:03:26.282496 AM	001 - Main		Information	BC => TS_CUSTDESC	539 row(s) i	n	
1,750	2018-04-02 11:03:28.485668 AM	001 - Main		Information	BC => TS_FIELD_MAPPING	4,603 row(s) i	n	
1,751	2018-04-02 11:03:30.063866 AM	001 - Main		Information	BC => TS_FIELD_MAPPING_SET	3,135 row(s) i	n	
1,752	2018-04-02 11:03:30.641962 AM	001 - Main		Information	BC => TS_FILENAME	85 row(s) i	n	$\sim$
	Entry Id: 1,745							^
Creator Observer	Replication of "\\LSSVR25-M	MP\Timberlin	e Office\Data\Construction Samp	le Data∖″to	[LSSVR25-MP\SAGE300CRE].[TimberlineConstruction].	Version 18.1.1.552	- 5	ı x
	File Options Find							
:	File Options Find		Thread	Type	Data			
:	File         Options         Find           Id         Time         1,763         2018-04-02         11:03:4'	7.142310 AM	Thread 001 - Main	Type Information	Data BC => QKM_MASTER_SECURITYACTIVITY	2,696 row(s)	in	4
1	File         Options         Find           Id         Time           1,763         2018-04-02         11:03:47           1,764         2018-04-02         11:03:56	7.142310 AM 0.767389 AM	Thread 001 - Main 001 - Main	Type Information Information	Data BC => QXM_MASTER_SECURITYACTIVITY BC => QXM_MASTER_SECURITYACTIVITYCATEGORY	2,696 row(s) 2,211 row(s)	in in	4
BC => 1	File         Options         Find           Id         Time         1,763         2018-04-02         11:03:41           1,764         2018-04-02         11:03:51         1,764         2018-04-02         11:03:51	7.142310 AM 0.767389 AM 2.751808 AM	Thread 001 - Main 001 - Main 001 - Main	Type Information Information Information	Data BC → QXM_MASTER_SECURITYACTIVITY BC → QXM_MASTER_SECURITYACTIVITYCATEGORY BC → QXM_MASTER_ACTIVITYTOCATEGORY	2,696 row(s) 2,211 row(s) 2,700 row(s)	in in in	4 3 1
BC => 1	File         Options         Find           I.d         Time         1,763         2018-04-02         11:03:44           1,764         2018-04-02         11:03:54         1,765         2018-04-02         11:03:54           1,765         2018-04-02         11:03:54         1,766         2018-04-02         11:03:54	7.142310 AM 0.767389 AM 2.751808 AM 5.689378 AM	Thread 001 - Main 001 - Main 001 - Main 001 - Main	Type Information Information Information Information	Data BC => QXM_MASTER_SECURITYACTIVITY BC => QXM_MASTER_SECURITYACTIVITYCATEGORY BC => QXM_MASTER_SECURITYROLEACTIVITY BC => QXM_MASTER_SECURITYROLEACTIVITY	2,696 row(s) 2,211 row(s) 2,700 row(s) 2,829 row(s)	in in in in	4 3 1 2
BC => < Showing 6.41	File         Options         Find           Id         Time           1,763         2018-04-02         11:03:61           1,764         2018-04-02         11:03:51           1,765         2018-04-02         11:03:51           1,766         2018-04-02         11:03:51           1,767         2018-04-02         11:03:51	7.142310 AM 0.767389 AM 2.751808 AM 5.689378 AM 5.689378 AM	Thread 001 - Main 001 - Main 001 - Main 001 - Main 001 - Main	Type Information Information Information Information	Data BC => QKM_MASTER_SECURITYACTIVITY BC => QKM_MASTER_SECURITYACTIVITYCATEGORY BC => QKM_MASTER_ACTIVITYTOCATEGORY BC => QKM_MASTER_SECURITYROCATEGORY Temporarily preventing users from accessing the database	2,696 row(s) 2,211 row(s) 2,700 row(s) 2,829 row(s) se "TimberlineConstr	in in in in uction	4 3 1 2
BC => 1 < Showing 6,41	File         Options         Find           Id         Time           1,763         2018-04-02         11:03:4'           1,764         2018-04-02         11:03:5'           1,765         2018-04-02         11:03:5'           1,765         2018-04-02         11:03:5'           1,766         2018-04-02         11:03:5'           1,767         2018-04-02         11:03:5'           1,767         2018-04-02         11:03:5'	7.142310 AM 0.767389 AM 2.751808 AM 5.689378 AM 5.689378 AM 5.876875 AM	Thread 001 - Main 001 - Main 001 - Main 001 - Main 001 - Main	Type Information Information Information Information Information	Data BC => QMM_MASTER_SECURITYACTIVITY BC => QMM_MASTER_SECURITYACTIVITYCATEGORY BC => QMM_MASTER_ACTIVITYOCATEGORY BC => QMM_MASTER_SECURITYROLEACTIVITY Temporarily preventing users from accessing the databas Starting initial bulk-copy replication of all tables.	2,696 row(s) 2,211 row(s) 2,700 row(s) 2,829 row(s) se "TimberlineConstr	in in in uction	4 3 1 2
BC => < Showing 6,41	File         Options         Find           I.d         Time           1.763         2018-04-02         11:03:4           1.765         2018-04-02         11:03:5           1.765         2018-04-02         11:03:5           1.765         2018-04-02         11:03:5           1.766         2018-04-02         11:03:5           1.767         2018-04-02         11:03:5           1.768         2018-04-02         11:03:5	7.142310 AM 0.767389 AM 2.751808 AM 5.689378 AM 5.689378 AM 5.876875 AM 9.720703 AM	Thread 001 - Main 001 - Main 001 - Main 001 - Main 001 - Main 001 - Bulk Copier	Type Information Information Information Information Information	Data BC => QXM_MASTER_SECURITYACTIVITY BC => QXM_MASTER_SECURITYACTIVITYCATEGORY BC => QXM_MASTER_SECURITYROLEACTIVITY BC => QXM_MASTER_SECURITYROLEACTIVITY Temporarily preventing users from accessing the database Starting initial bulk-copy replication of all tables. BC => AM_MASTER_COMPANY	2,696 row(s) 2,211 row(s) 2,700 row(s) 2,829 row(s) se "TimberlineConstr 98 row(s)	in in in uction in	4 3 1 2 1
BC => < Showing 6,41	File         Options         Find           Id         Time           1,763         2018-04-02         11:03:61           1,764         2018-04-02         11:03:51           1,765         2018-04-02         11:03:51           1,766         2018-04-02         11:03:51           1,766         2018-04-02         11:03:51           1,766         2018-04-02         11:03:51           1,768         2018-04-02         11:03:51           1,769         2018-04-02         11:03:55           1,776         2018-04-02         11:03:55	7.142310 AM 0.767389 AM 2.751808 AM 5.689378 AM 5.876875 AM 9.720703 AM 9.876974 AM	Thread 001 - Main 001 - Main 001 - Main 001 - Main 001 - Main 001 - Bulk Copier 004 - Bulk Copier	Type Information Information Information Information Information Information	Data BC ⇒> QXM_MASTER_SECURITYACTIVITY BC ⇒> QXM_MASTER_SECURITYACTIVITYCATEGORY BC ⇒> QXM_MASTER_ACTIVITYTCATEGORY BC ⇒> QXM_MASTER_BECURITYROLEACTIVITY Temporarily preventing users from accessing the databas Starting initial bulk-copy replication of all tables. BC ⇒> ABM_MASTER_COMPANY BC ⇒> ABM_MASTER_COMPANY_CUSTOM_FIELDS	2,696 row(s) 2,211 row(s) 2,700 row(s) 2,829 row(s) se "TimberlineConstr 98 row(s) 0 row(s)	in in in uction in in	4 3 2 ". 1
BC => 1 < Showing 6,41	File         Options         Find           Id         Time           1,763         2018-04-02         11:03:61           1,764         2018-04-02         11:03:51           1,765         2018-04-02         11:03:51           1,766         2018-04-02         11:03:51           1,766         2018-04-02         11:03:51           1,766         2018-04-02         11:03:51           1,768         2018-04-02         11:03:51           1,769         2018-04-02         11:03:51           1,771         2018-04-02         11:03:51	7.142310 AM 0.767389 AM 2.751808 AM 5.689378 AM 5.689378 AM 5.876875 AM 9.720703 AM 9.876974 AM 1.158242 AM	Thread 001 - Main 001 - Main 001 - Main 001 - Main 001 - Main 001 - Bulk Copier 004 - Bulk Copier 001 - Bulk Copier	Type Information Information Information Information Information Information Information	Data BC => QMM_MASTER_SECURITYACTIVITY BC => QMM_MASTER_SECURITYACTIVITYCATEGORY BC => QMM_MASTER_ACTIVITYTOCATEGORY BC => QMM_MASTER_SECURITYROLEACTIVITY Temporarily preventing users from accessing the databas Starting initial bulk-copy replication of all tables. BC => ABM_MASTER_COMPANY BC => ABM_MASTER_COMPANY BC => ABM_MASTER_COMPANY_PERSON_ADDRESS	2,696 row(s) 2,211 row(s) 2,229 row(s) 2,229 row(s) 2,229 row(s) 7 mberlineCome 98 row(s) 0 row(s) 274 row(s)	in in in uction in in in	4 3 2 "- 1 1

Once the bulk copy cycle is finished, row-level security (**RLS**) is applied. Next, various views are created for reporting purposes. The views are categorized into four groups:

- Std views (based on the Pervasive DSN table naming option of Standard descriptions).
- Custom views (based on the Pervasive DSN table naming option of Custom descriptions).
- Dict views (based on the Pervasive DSN table naming option of Dictionary names).
- Reports views.

The process creates a Windows scheduled task for nightly database maintenance to optimize performance, such as recalculating statistics and clearing out temp files. If needed, you can edit the time when it occurs by accessing the task in the Windows Task Scheduler.

NOTE: Users can access the SQL Server data without interruption during database maintenance.

The initial replication is finished when you see an entry with the text "Database <your database name" is ready" in the **Data** column.

🔄 Replic	ation of "\\LSSVR25-MP\Timberlir	e Office\Data\Construction Sample Data\" to [LS	SVR25-MP\SAC	GE300CRE ].[TimberlineConstruction]. Version 18.1.1.552 💻 🗖	x
File Opt	ons Find				
Id	Time	Thread	Туре	Data	^
2,445	2018-04-02 11:07:55.241316 AM	027 - Bulk Copier	Information	BC => TS_LISTITEM 3,7	
2,446	2018-04-02 11:08:35.617174 AM	001 - Bulk Copier	Information	Completed initial bulk-copy replication of all tables. At: 04	
2,447	2018-04-02 11:08:35.617174 AM	001 - Bulk Copier	Information	Creating combined table views.	
2,448	2018-04-02 11:08:37.945344 AM	001 - Bulk Copier	Information	Dropping dynamic reporting views.	
2,449	2018-04-02 11:09:21.102516 AM	001 - Bulk Copier	Information	Configuring RLS	
2,450	2018-04-02 11:09:23.946322 AM	001 - Bulk Copier	Information	Creating dynamic reporting views.	
2,451	2018-04-02 11:09:23.961944 AM	001 - Standard-Mode Reporting View Generator	Information	Creating Standard-mode views	
2,452	2018-04-02 11:09:24.008819 AM	050 - Dictionary-Mode Reporting View Generator	Information	Creating Dictionary-mode views	
2,453	2018-04-02 11:09:25.008839 AM	056 - Custom-Mode Reporting View Generator	Information	Creating Custom-mode views	
2,454	2018-04-02 11:10:13.962999 AM	001 - Standard-Mode Reporting View Generator	Information	Granting permissions to virtual tables.	
2,455	2018-04-02 11:10:14.150953 AM	001 - Standard-Mode Reporting View Generator	Information	Apply new security permissions	
2,456	2018-04-02 11:10:14.150953 AM	050 - Maintenance scheduler	Information	Scheduling nightly database maintenance.	
2,457	2018-04-02 11:12:11.449859 AM	001 - Standard-Mode Reporting View Generator	Information	Completed applying new security permissions. At: 00:01:57.2989051	
2,458	2018-04-02 11:12:11.449859 AM	001 - Standard-Mode Reporting View Generator	Information	Starting change scanning.	~
	Entry Id: 2,446				~
	Created: 2018-04-02 18:08:35	.617174 (UTC)			
Observer	Local Time: 2018-04-02 11:08:35 Local Time: 2018-04-02 11:08:35	5.617174 (~11:08:35.617 AM Pacific Daylight Time) 5.617174 (~11:08:35.617 AM Pacific Daylight Time)			
		······			=
	Thread Id: 1 - Bulk Copier				
	Entry Type: Information				_
1	Data.				-
					>
Showing 8 0	5 entries	Proces	e: Saga Replicator (ve	ar 18.1.1.552)   Jean: BEST\SYSTEM_Machina: JSSVR25,MP_OS: Microsoft Windows NT 6.2.9200	10
Showing 0,0	o onaica.	110065	a. augo neplicator (ve	a 10.1.1.3327 3301 BEST 613121 Middline. E33 V123-Mill 03. Microsoft Wildows 111 0.2.320	SM 100

If you chose not to use On-Demand replication (see page 25), replication enters **SJ** (SQL Journal) mode where it looks for changes by continuously scanning the database.

**NOTE:** Beginning in version 17.1, each Pervasive database table has two additional fields, **Row_ID** and **Row_Version**. The replication process uses these fields to identify changes to the data.

File Options Find							
Id Time Thread Type Data	^						
2,484 2018-04-02 11:12:21.778205 AM 001 - Scanning Thread Information SJ => EQH_HISTORY_MISC_ENTRY_HISTORY_TOTALS							
2,485 2018-04-02 11:12:23.012609 AM 001 - Scanning Thread Information SJ => PRX_TAX_LOCAL_TAX_GROUP							
2,486 2018-04-02 11:12:23.872003 AM 001 - Scanning Thread Information SJ => AFM_MASTER_AUTHORIZATION							
2,487 2018-04-02 11:12:24.590775 AM 001 - Scanning Thread Information SJ => APM_MASTER_ELECTRONIC_PAYMENT							
2,488 2018-04-02 11:12:25.262654 AM 001 - Scanning Thread Information SJ => CNC_ACTIVE_CONTRACT_ITEM_TEXT							
2,489 2018-04-02 11:12:25.918922 AM 001 - Scanning Thread Information SJ => EQZ_ISSUE_EQUIPMENT_TYPE_ISSUE							
2,490 2018-04-02 11:12:26.559555 AM 001 - Scanning Thread Information SJ => PRT_CURRENT_BATCH							
2,491 2018-04-02 11:12:27.356474 AM 001 - Scanning Thread Information SJ => CNC_STANDARD_CONTRACT_ITEM							
2,492 2018-04-02 11:12:28.465848 AM 001 - Scanning Thread Information SJ => PRM_MASTER_EMPLOYEE_FRINGE	2						
2,493 2018-04-02 11:12:29.403374 AM 001 - Scanning Thread Information SJ => PRT_NEW_CHECK_PAY							
2,494 2018-04-02 11:12:30.044005 AM 001 - Scanning Thread Information SJ => GLM_MASTER_ACCOUNT_ACTIVITY_HISTORY							
2,495 2018-04-02 11:12:31.044026 AM 001 - Scanning Thread Information SJ => RIM_MASTER_EMPLOYEE							
2,496 2018-04-02 11:12:31.700291 AM 001 - Scanning Thread Information SJ => ARS_STANDARD_CONTACT							
2,497 2018-04-02 11:12:32.559688 AM 001 - Scanning Thread Information SJ => EQM_MASTER_FISCAL_DATE	···· v						
Entry Id: 2,484 Created: 2018-04-02 18:12:21.778205 (UTC) Creator Local Time: 2018-04-02 11:12:21.778205 (~11:12:21.778 AM Pacific Daylight Time) bbserver Local Time: 2018-04-02 11:12:21.778205 (~11:12:21.778 AM Pacific Daylight Time) Thread Id: 1 - Scanning Thread Entry Type: Information							
Data:	~						
<	>						
Showing 8,045 entries. Δt: 00:00:01.2344035 Process: Sage Replicator (ver 18.1.1.552) User: BEST\SYSTEM Machine: LSSVR25-MP OS: Micr	osoft Windows NT 6.2.9200.0						

When replication finds differences in the **Row_ID** and **Row_Version** fields since the last scan, it copies the changes to the SQL Server database. They are reflected in the status log by insertions (**I**), updates (**U**), and deletions (**D**).

	Replication of "	\\LSSVR25-MP\Timberline	e Office\Data\C	onstruction Sample Data\"	to [LSSVR25-MP\SAGE3	00CRE_1].[TimberlineConstr	uction]. Version 18	3.1.1.552 built on 3	3/27/2018 6:	39:22 AM		• ×
File Opt	ions Find											
Id	Time	Thread	Туре	Data								
8,476	2018-04-03 09:41:28.161197 AM	001 - Scanning Thread	Information	GLT_NEWBATCH scheduled	for replication because	an entry in the change qu	eue was found.					
8,477	2018-04-03 09:41:28.712255 AM	001 - Scanning Thread	Information	SJ => GLT_NEWBATCH		1 row(s)	in 540 ms	1 rows/sec.	I: 1	U: 0	D: 0	
8,478	2018-04-03 09:41:28.784181 AM	001 - Scanning Thread	Information	GLT_NEWGLT_GENERAL sch	eduled for replication be	cause an entry in the cha	nge queue was found.					
8,479	2018-04-03 09:41:29.126203 AM	001 - Scanning Thread	Information	BC => GLT_NEWGLT_GENERJ	AL	1 row(s)	in 338 ms	2 rows/sec.				
8,480	2018-04-03 09:41:29.218225 AM	001 - Scanning Thread	Information	BC => GLT_NEWGLT_GENERJ	AL	1 row(s)	in 338 ms	2 rows/sec.				
8,481	2018-04-03 09:41:30.195388 AM	001 - Scanning Thread	Information	JCT_NEWTRANSACTION sche	eduled for replication be	cause an entry in the cha	nge queue was found.					
8,482	2018-04-03 09:41:31.123407 AM	001 - Scanning Thread	Information	SJ => JCT_NEWTRANSACTIO	ON	23 row(s)	in 864 ms	26 rows/sec.	I: 1	U: 0	D: 0	
8,483	2018-04-03 09:41:31.662402 AM	001 - Scanning Thread	Information	GLT_NEWTRANSACTION sch	eduled for replication be	cause an entry in the cha	nge queue was found.					
8,484	2018-04-03 09:41:32.368445 AM	001 - Scanning Thread	Information	SJ => GLT_NEWTRANSACTIO	ON	2 row(s)	in 639 ms	3 rows/sec.	I: 2	U: 0	D: 0	
8,485	2018-04-03 09:41:32.534550 AM	001 - Scanning Thread	Information	BLT_NEWTRANSACTION sch	eduled for replication be	cause an entry in the cha	nge queue was found.					
8,486	2018-04-03 09:41:33.158565 AM	001 - Scanning Thread	Information	SJ => BLT_NEWTRANSACTIO	ON	26 row(s)	in 612 ms	42 rows/sec.	I: 1	U: 0	D: 0	
8,487	2018-04-03 09:41:33.285607 AM	001 - Scanning Thread	Information	APT_CURRENTTRANSACTION	scheduled for replication	n because an entry in the	change queue was fou	ind.				
8,488	2018-04-03 09:41:34.089595 AM	001 - Scanning Thread	Information	SJ => APT_CURRENTTRANSJ	ACTION	411 row(s)	in 740 ms	555 rows sec.	I: 1	U: 0	D: 0	
8,489	2018-04-03 09:41:34.839681 AM	001 - Scanning Thread	Information	EQT_NEWBATCH scheduled	for replication because	an entry in the change qu	eue was found.					
8,490	2018-04-03 09:41:35.390746 AM	001 - Scanning Thread	Information	SJ => EQT_NEWBATCH		1 row(s)	in 488 ms	rows/sec.	I: 0	U: 0	D: 0	
8,491	2018-04-03 09:41:35.760829 AM	001 - Scanning Thread	Information	EQT_NEWGENERAL schedule	ed for replication becaus	e an entry in the change	queue was found.					
8,492	2018-04-03 09:41:36.170797 AM	001 - Scanning Thread	Information	BC => EQT_NEWGENERAL				2 rows/sec.				
8,493	2018-04-03 09:41:36.171781 AM	001 - Scanning Thread	Information	BC => EQT_NEWGENERAL				2 rows/sec.				
8,494	2018-04-03 09:41:36.215810 AM	001 - Scanning Thread	Information	API_NEWBATCH scheduled	I: 1	U: 0	D: 0	-				
8,495	2018-04-03 09:41:36.749806 AM	001 - Scanning Thread	Information	SJ => API_NEWBATCH				0 rows/sec.	I: 0	U: 0	D: 1	
8,496	2018-04-03 09:41:37.208821 AM	001 - Scanning Thread	Information	API_NEWINVOICE schedul								~
					I: 2	U: 0	D: 0					
<												>
Showing 8,50	12 entries. At: 00:00:08.4916459							User: BEST\SYSTEM	Machine: LSSVR	25-MP OS: Microsof	t Windows NT 6	.2.9200.0
					T - 1	TT- 0	D: 0		_		_	
					1. 1	0.0	D. 0	-				
					I: 1	0:0	D: 0	-				
					I: 0	U: 0	D: 0	-				
					•							

Â

**WARNING:** For data integrity, when you back up your Pervasive data, you must also back up the corresponding SQL Server database. You can use the Backup feature in the System Administrator—see "Backing Up and Restoring" on page 34

To see the background replication processing, open Windows Task Scheduler and click the **Sage 300 CRE** folder. Each company folder is represented by its own task in this window. If you stop replication for a company, it changes the status to disabled.

•	Task Scheduler	
File Action View Help		
🗢 🔿 🙍 🖬 🚺 🖬		
<ul> <li>Task Scheduler (Local)</li> <li>Sage 300 CRE</li> </ul>	▼ Name       S       Triggers         Sage Hosting Task       Ready       At 12:00 AM on 1/1/2018 - After triggered, repeat every 12:00:00 indefinitely.         © Sage, RepL GoldCoastGroup, LSSVR25-MP_SAGE300CRE_1       Running       At 11:01 AM on 4/2/2018 - After triggered, repeat every 15 minutes indefinitely.         © Sage, RepL TimberlineElectrical_LSSVR25-MP_SAGE300CRE_1       Running       At 4:43 PM on 3/28/2018 - After triggered, repeat every 15 minutes indefinitely.         © Sage, RepL TimberlineElectrical_LSSVR25-MP_SAGE300CRE_1       Running       At 11:01 PM on 3/28/2018 - After triggered, repeat every 15 minutes indefinitely.         © Sage, RepL DibMaintenance_LSSVR25-MP_SAGE300CRE_1       Running       At 11:00 PM on 3/28/2018 - After triggered, repeat every 10.00:000 indefinitely.         © Sage RepL_DibMaintenance_LSSVR25-MP_SAGE300CRE_1       Running       At 11:00 PM on 3/28/2018 - After triggered, repeat every 10.00:000 indefinitely.         © General       Triggers       Actions       Conditions       Settings         Name:       Sage Hosting Task	Actions       Sage 300 CRE       © Create Basic Task       Import Task       Import Task       Display All Running Tasks       Refresh       Properties       Poperties       Disple       End       Disple       Export       Properties       Pelete       Importies
	7	

### **Restarting replication**

The following actions require you to stop and start replication on all company folders. (In **System Administrator**, click **Stop** and then **Start** for each company folder.)

- Changes to custom descriptions.
- Changes or additions of custom fields.
- Creating a new file, such as an archive file.
- Changes to file or record security.

When replication starts, it reads and stores the database schema. Changes to the schema after replication has started are not picked up until the next time replicator is re-started. This could result in some columns or tables being skipped by replication.



NOTE: You need to stop and restart the replication when you upgrade your Sage software.

## Security

In order to allow users access to the SQL Server data through reports or Mobile solutions, you must grant the appropriate task permissions in Sage 300 Construction and Real Estate **Security Administration**.

	Task Security Setup	x
Tasks	Task Security Details	
Accounts Receivable     Address Book     Address Book     Billing     Cash Management     Contracts     Document Management     Contracts     Document Management     Document Management     Document Management     Document Management     Docots     Contracts     Docots     Docot     Payrol     Property Management     Payrol     Secure Management     Payrol     Secure Management     Payrol     Secure Management     Payrol     Payrol	Save Changes Data Access  SqL Data Access  Description: SQL Data Access  Turn off all sub-tasks	

The replication process enforces Sage 300 Construction and Real Estate security settings in the SQL Server data. Any user, role, task, company, and record permissions established in Sage 300 Construction and Real Estate are respected when users access the SQL Server data through Sage Construction Central, reports, or in any other manner.

The initial replication process copies the security settings into the SQL Server instance. When you make changes to the security setup afterwards, such as adding new users, you must manually synchronize the changes with the SQL Server data. In System Administrator, on the **Replicator Configuration** tab, click **Sync Security**.

	Syste	em Administrator - Sage 300 Construction and Real Estate	_ <b>D</b> X
<b>sage</b> 300 Co	onstruction a	nd Real Estate	Version: 18.1.4.
Replicator Configuration Backup	Connected: LSSVR25-MP\SA SQL Server 2016 SP1 Express	SE300CRE (BEST\UNAT) Edition (64-bit)	Link to Mobile Sync Security Repair Services
Restore	Company	Synchronize Security Items	Replicating
	Gold Coast Group Timberline Construction Timberline Electrical	Security settings, users, and roles will now be synchronized with your replicated databases. Please allow a few moments for this process to complete.	Data\M Sample Data\ Yes Pata\Construction Sample Yes Data\Electrical Contractor Yes
		OK	

Sage 300 Construction and Real Estate user names and roles, along with their task and company permissions are copied to each SQL Server database.



For each Sage 300 Construction and Real Estate user name, a SQL Server login is created with SQL Server Authentication. The passwords (in Sage and in SQL Server) are automatically synchronized when the user logs into Sage 300 Construction and Real Estate for the first time after replication. This lets you use your Sage 300 Construction and Real Estate credentials whenever you access the SQL Server data in on-premises Sage and third party applications such as Microsoft Excel or Access.

NOTE: User names and password	ls are case-sens	itive.
Microsoft SQL Server Management Studio         File       Edit       View       Debug       Tools       Window       Help         Image: Construction       Image: Construction       Image: Construction       Image: Construction       Image: Construction         Image: Construction       Image: Construction       Image: Construction       Image: Construction       Image: Construction         Image: Construction       Image: Construction       Image: Construction       Image: Construction         Image: Construction       Image: Construction       Image: Construction         Image: Construction       Image: Construction         Image: Construction       Image: Construction         Image: Construction       Image: Construction         Image: Construction       Image: Construction         Image: Construction       Image: Construction         Image: Construction       Image: Construction         Image: Construction       Image: Construction         Image: Construction       Image: Construction         Image: Construction       Image: Construction         Image: Construction       Image: Construction         Image: Construction       Image: Construction         Image: Construction       Image: Construction         Image: Construction       Imag		
Logins Logins Logins Logins Logins Logins Logins Logins Logins Logins Logins		User Setup
##MS_PolicyTsqlExecutionLogin##	Users	User Details
APUSer BILTIN.USers UUSer KimO NT AUTHORITY.SYSTEM NT Service/ReportServer/SSAGE300CRE_1 NT SERVICE/SQL/TELEMETRYSSAGE300CRE_1	Add Ra Copy X Delete     User Name Full Name     APUser APUser     JCUser     Kon0     Kon     ReportUser     ReportUser     ReportUser     SQL     SQL	Seve Changes Changes User name:  Son D Logon for Sage Timberline Office (for example, JDoe) Full name:  Son (For example, John Doe) Windows user:  SetWm Domainuser name Domainuser name The last successful log on was 4/2/2018 2:47 PM. Settings Rales Companies User Account Settings

Anyone who accesses the SQL Server data through Sage Construction Central must have a Windows user name associated with their Sage 300 Construction and Real Estate user setup. This is because Sage Construction Central requires Windows authentication—you log on using your Windows credentials.

User Details						
🛃 Save Changes 🖕 Cancel Changes						
User name:	TomS Logon for Sage Timberline Office (for example, JDoe)					
Full name:	Thomas Sage (For example, John Doe)					
Windows user:	Domain\ThomasS Browse Domain\user name	:				

### **Repair Sage-managed SQL system accounts**

Sage creates several different SQL system accounts to manage the functions used by SQL Replicator and Mobile Intelligence solutions. In some cases, these Sage-managed SQL accounts may become out of sync with SQL Replicator and the Mobile features, causing the processes to stop.

If the Sage Worker Engine stops and you are unable to start it or you are directed by Sage Support, click the **Repair Services** button in the **System Administrator** to repair the Sage-managed SQL system accounts used by SQL Replicator, Mobile Reports, and Mobile Dashboards.

•		Syster	m Administra	ator - Sage 300 Constructio	n and Real Estate		_ 🗆 X
	sage 300 Construction and Real Estate						
	Backup         Connected: LSSVR25-MP\SAGE300CRE         (BEST\UNAT)         Link to Mobile           SQL Server 2016 SP1 Express Edition (64-bit)         SQL Server 2016 SP1 Express Edition (64-bit)         SQL Server 2016 SP1 Express Edition (64-bit)						Sync Security Repair Services
		Company	On-Demand	Description	Pervasive Data Folder		Replicating
		Gold Coast Group			\\LSSVR25-MP\Timberline Office\	Data\PM Sample Dat	a\ Yes
		Timberline Construction			\\LSSVR25-MP\Timberline Office	Data\Construction Sa	mple Yes
		Timberline Electrical			\\LSSVR25-MP\Timberline Office	Data\Electrical Contra	actor: Yes
	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~						

Backing Up and Restoring

If you implement SQL Replicator, you'll need to use the new **System Administrator** utility to configure and run your regular backups. Even if you don't implement SQL Replicator at this time, we recommend that you use **System Administrator**'s backup and restore tools after upgrading to version 17.1 or later. When you use **System Administrator** to back up your data, the following areas are included in a single, zipped backup file:

- Files in the **Program Files (x86)\Sage\Timberline Office\9.5** folder, such as custom reports, inquiries, formula files, and application settings. The **WinInst** folder is not included.
- SQL Server databases generated by SQL Replicator, including the SageCREGlobalConfiguration database.
- Certain registry keys from numerous locations on your server that store system preferences are included.
- You can include files from other network locations with your backups; for example, a shared folder for attachment files.

These items are essential to successfully restoring to a new installation of Sage 300 Construction and Real Estate.

WARNING: If you use Sage SQL Replicator to replicate your data and you need to back up your data, you must use the System Administrator backup utility. Do not use SQL Server Management Studio to back up and restore your databases.

Backing up

SQL Replicator does more than simply copy your data into SQL Server. Your databases contain production data related to Sage Construction Central and attachment files in addition to the Pervasive data, and this information is required to remain synchronized in order to restore successfully from a backup.

To back up your data

- 1. In System Administrator, click Backup.
- 2. Select the check box next to the folders you want to back up.

3. By default, the **Files** selection is set to **All**. This includes files such as print files or attachments. You can change the selection to **Data only** to exclude these files for a smaller backup file.

	System Administrator - Sage 300 Construction and Real Estate						
sage 300 Co	onstruction and Real Estate (?)						
Replicator Configuration Backup	Use the Backup tab to back up your company data on a regular basis. You can click [Backup Now] to back up your data immediately or schedule a time every day for an automatic backup.						
Restore	Select the company files to include in the backup:						
	Backup Files Company Description Data Folder						
	All Timberline Constr \\lssvr23-mp\Timberline Office\Data\Construction Sam						
	All Timberline Construction Sam \\Issvr18-mp\Timberline Office\Data\Construction Sam						
	All Data only						
	If needed, add other folders or files to include in the backup: Add Folder Add File						
	Folder or File						
	Select the folder to store the backed-up data:						
	Browse						
	Automatically back up every day at 12:00 AM 🔹 Last Backup: Never						
	Back Up Now View Log Save Configuration Cancel						

NOTE: If you choose **Data only**, system files in the **Program Files (x86)\Sage\Timberline Office\9.5** folder are still included with the backup.

4. To add additional folders to include in the backup, click Add Folder and select the folder.

2	System Administrator - Sage 300 Construction and Real Estate	x t
sage 300 C	Version: 17.1 Construction and Real Estate	.5.62
Replicator Configuration Backup	Use the Backup tab to back up your company data on a regular basis. You can click [Backup Now] to back up your data immediately or schedule a time every day for an automatic back	up.
Restore	Select the company files to include in the backup:	
	Backup Files Company Description Data Folder	
	All Timberline Constr \\lssvr23-mp\Timberline Office\Data\Construction	Sam
	All Timberline Constr Construction Sam \\lssvr18-mp\Timberline Office\Data\Construction	Sam
	If needed, add other folders or files to include in the backup: Add Folder Add File Folder or File C:\Users\ANIT900104\Documents\Sage Timberline Office	×
	Select the folder to store the backed-up data: Brow	vse
	Automatically back up every day at 12:00 AM 🔹 Last Backup: Ne	ever
	Back Up Now View Log Save Configuration Canc	:el

5. Click Browse to select backup location.

•		System Administrator - Sage 300 Construction and Real Estate						
	sage 300 Co	onstru	uction	and Rea	al Estate		Ve	rsion: 17.1.5.62
	Replicator Configuration Backup	Use the Backup tab to back up your company data on a regular basis. You can click [Backup Now] to back up your data immediately or schedule a time every day for an automatic backup.						
	Restore Select the company files to include in the backup:							
		Backup	Files	Company	Description	Data Folder		
			All	Timberline Constr		\\lssvr23-mp\Timber	line Office\Data\Cor	struction Sam
		•	All •	Timberline Constr	Construction Sam	\\lssvr18-mp\Timber	line Office\Data\Cor	nstruction Sam
		If needed, a	add other folde	rs or files to includ	e in the backup:	Add Folder	Add File	×
		Select the f	folder to store t VIT900104\Des cally back up even	he backed-up data ktop\Backups / day at 12:00 AM	:		Last E	Browse Rever
		Back Up No	w View Log	9			Save Configuration	Cancel

6. For the time of day to run regular backups, select a time when the data will not be in use.

NOTE: When the backup starts, the replication tasks are paused. They resume when the backup is complete.

- 7. Click Save Configuration to preserve your changes.
- 8. Click Back Up Now to create an immediate backup.

To view the backup results

After a backup is complete, the backup folder contains the following folders and files.

- The info.txt and log.txt files to check for messages related to the backup. These files indicate the time the backup was created and the contents.
- The **CompanyData** folder contains the Pervasive data, including Purchasing, Inventory, and Service Management.
- The ProgramData folder contains your Sage 300 Construction and Real Estate program files.
- The SQL Databases folder contains the .mdb and .ldb files associated with your replicated data, as well as the SageCREGlobalConfiguration database. The configuration database contains setup information that applies to your installation.





NOTE: As with any backup, we recommend that you validate and test the backup to ensure that the process is working properly and that you have usable backups. Environmental issues and files in use can affect the integrity of a backup.

Restoring from a backup

WARNINGS:

- Only persons familiar with the Pervasive and SQL Server file systems should restore Sage 300 Construction and Real Estate data from backup. Incorrectly restoring data can cause data integrity issues.
- If you share Pervasive files between folders—for example, a single General Ledger file specified in File Locations for multiple company folders—you must restore all folders that share the data files.

Depend on the scenario, the steps for restoring your data will differ. Are you restoring the data:

- To replace the current live data?
- To a different location for testing or archiving?
- For data and server migration?

The steps for each scenario are documented in article 86066 of the Sage Support Knowledgebase.