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Contents

About SQL Replicator and Sage Construction Central 4	ł
About this guide	
Activate Licenses and set up Sage Construction Central users)
Test Sage Construction Central from your intranet 22)
Set up security for Sage Construction Central	•
Set up Azure Active Directory for Sage Construction Central	į
What happens during replication?)
Databases in the SQL Server instance29New Row_ID and Row_Version fields29The replication status log30Security and replication32Re-synchronizing and re-starting replication35About Crystal Reports and your replicated data35	
System Administrator setup checklist 37	,
Appendix A: Install SQL Server using the Microsoft Installer	
To Install SQL Server Express	;

About SQL Replicator and Sage Construction Central

Welcome to SQL Replicator and Sage Construction Central—the new Sage 300 Construction and Real Estate tools that take your business to the Cloud. SQL Replicator lays the foundation for secure, convenient access to your project data from anywhere, using a mobile device. Over time we'll add more mobile functionality, giving you access to the reporting and business-intelligence capabilities of Microsoft SQL Server, all from the Cloud.

Once you configure replication, SQL Replicator copies your Sage 300 Construction and Real Estate data from the Pervasive database management system into a SQL Server database. The replicated data includes your Purchasing, Inventory, and Service Management data if you use those products. With daily processing in Sage 300 Construction and Real Estate (either in your accounting office or the Cloud) data is synchronized nearly instantaneously, for up-to-the-minute information wherever you are.

Now, when you run Crystal Reports report designs from Sage 300 Construction and Real Estate, you can select the **Use SQL** check box to run the report from the SQL Server data rather than the Pervasive data. In many cases this results in better report performance.



About this guide

This reference guide provides the setup and configuration you need to configure replication in System Administrator and use Sage Construction Central. The material applies to system administrators or information technology specialists who will complete the server configuration tasks.

Task					
Review system requirements	5				
Review Warning: Upgrading to versions using SQL Replicator	6				
Prepare your accounting server for replication	7				
Install SQL Server	11				
Configure System Administrator and start replication	15				
Test Sage Construction Central from your intranet	22				
Set up security for Sage Construction Central	23				

Review system requirements

Installing SQL Replicator to use with Sage 300 Construction and Real Estate adds to the demands on your server resources. You can find the technical recommendations for the accounting server in the Sage Support Knowledgebase article System Requirements: Sage 300 Construction and Real Estate 17.1. You should also read the white paper System Recommendations for 17.1 for a more detailed discussion about hardware resources. Review this information carefully and plan for necessary upgrades before installing version 17.1.

Server hardware

Starting with the 2017 release, your accounting server should have at least 16 GB RAM and a suitable processor. Your data should be stored on SSD hard drives with ample free space. Before you install Sage 300 Construction and Real Estate 17.1 with SQL Replicator, make sure your accounting server fully meets these requirements.

Microsoft SQL Server

SQL Replicator requires a dedicated instance of SQL Server 2016 SP1. This instance can be installed on the accounting server or on a different server. Sage SQL Installer can install and configure the instance for you, either on your accounting server or on a different server, using the **Advanced** option. We recommend that you take advantage of this utility for quick and easy SQL Server setup. Instructions are provided on page 11.

WARNING: You may use the Express edition of SQL Server, but this no-cost option brings limitations on CPU and RAM usage. Individual databases can be no larger than 10 GB, although you can have as many databases as needed. See this **Microsoft article** for more information.

Server environment

In order to use SQL Replicator and Sage Construction Central, your server must run on Windows Server 2012 R2 or Windows Server 2016. (Earlier versions are supported only if you will not use SQL Replicator.) As of version 17.1, 32-bit operating systems are not supported.

If you use a standalone environment, you can use Windows 8.1 or Windows 10.

The server must also have .NET 3.5 and .NET 4.6.2 (or greater) installed. The installation process will attempt to install these for you, but a separate installation might be required for some servers.

Network environment

Internet access is required for licensing and entitlement of your accounting server. (If you need to activate your license without connecting your server to the internet, call Sage Support to request off-line validation.) Once your product is registered, your server does not need continual access to the internet unless you will access Sage Construction Central or custom reports from the Cloud. Your accounting server must run in a Windows Active Directory domain. In order to access data from the Cloud, Sage 300 Construction and Real Estate users will need to be mapped to Windows domain users. (This guide explains how to do that.)

NOTE: The AzureAD domain, which is provided on some computers for access to Azure Active Directory, is not supported. Your computer needs to be on a non-Azure, Windows Active Directory domain in order for SQL Replicator to function properly.

Azure Active Directory account

In order to access your Sage Construction Central site from the field, you'll need a single license of a Basic Azure Active Directory account. Sage provisions this account for you as part of your subscription to Sage Construction Central. Once your account is set up, configure it for Sage Construction Central by following the instructions in "Set up Azure Active Directory for Sage Construction Central" on page 25.

Warning: Upgrading to versions using SQL Replicator

Until version 16.1 of Sage 300 Construction and Real Estate, you used File Tools or another utility to back up and restore your data folders. Once you install Sage 300 Construction and Real Estate 17.1 with SQL Replicator and Sage Construction Central, you will no longer be able to restore backups made using File Tools or other third party utilities.

Starting with 17.1, you'll need to use the new System Administrator utility to configure and run your regular backups. This is because restoring a Sage 300 Construction and Real Estate backup requires not only the files in your data folders, but also files and registry keys from numerous areas in your server environment. With the addition of the SQL Server database and Sage Construction Central website, these additional components are critical to your ability to successfully restore from a backup. Without them, your data cannot be restored.

Before you upgrade to version 17.1, be sure to inform any member of your organization who is involved with backing up and restoring Sage 300 Construction and Real Estate data that a new process is required. Work with the team to update your backup and restore procedures to use System Administrator as soon as you upgrade.

This diagram shows the high-level steps required to upgrade to version 17.1 and obtain a backup that can successfully be restored. Each of these are explained in detail in the remainder of this guide.



WARNING: Starting with version 17.1 of Sage 300 Construction and Real Estate, you must create and restore backups using System Administrator. You will not be able to restore data backups of version 17.1 or later created by File Tools, SQL Server Management Studio, or other commercial utilities. As soon as you upgrade to 17.1, create a backup of your 17.1 go-live data in Sage 300 Construction and Real Estate System Administrator.

Prepare your accounting server for replication

Once you have verified that your accounting server meets the technical requirements, follow these steps.

- 1. Run File Doctor on your data folders.
- 2. Make a backup of your production company folders in your current Sage 300 Construction and Real Estate version, using File Tools or another utility.
- 3. Upgrade your Sage 300 Construction and Real Estate server, company folders, and clients to version 17.1.

NOTES:

- Sage 300 Construction and Real Estate 17.1 requires .NET versions 4.6.2 and 3.5. If these versions are not installed on your accounting server, the installation wizard will attempt to install them. Your server will need to be re-started before you can continue.
- Two Windows services are installed with Sage 300 Construction and Real Estate: the Sage File Expiration Service and the Sage Worker Engine Service. You might see a window related to these services at the end of the upgrade process. If the window does not close on its own, close it to continue setting up your system.
- 4. In Desktop, select **Options > Security Administration**, and enable security for Sage 300 Construction and Real Estate if it is not already enabled.

FOR MORE INFORMATION: See Sage 300 Construction and Real Estate's Help topics on Security Administration for details about setting up users and roles.

5. Each user who will access replicated data through Sage Construction Central or reports must be set up as a user, with a corresponding Windows domain user name. Complete this setup if needed.

User Setup ? X								
Users		User Details						
🐒 Add 🗈 Copy 🗙 Delete 🚽 Save Changes 🖕 Cancel Changes								
User Name	Full Name	User name:	toms					
admin kareni	Anita Gutierrez Karen Jones		Logon for Sage Timberline Office	(for example, JDoe)				
toms	Tom Smith	Full name:	Tom Smith (For example, John Doe)					
		Windows user:	DOMAIN\TomS Domain\user name		Browse			
L_m_		m		. A man ma m	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~			

- 6. Create an additional security user to be used with SQL Replicator.
 - a. Clear the User must change password check box.
 - b. Select the Password never expires check box.
 - c. Do not associate this account with a Windows user.
 - d. Add the user to each company folder you will replicate (or, create a separate user for each company).
 - e. On the Roles tab, assign this user to the Application Administrator role.

f. Save and close the User Setup window.

er Details Save Changes Gancel Changes Iser name: Replicator Logon for Sage Timberline Office (for ex ull name: Sage SQ. Replicator (For example, John Doe) Windows user:	ample, JDoe)
Save Changes 💮 Sancel Changes Iser name: Repixator Logon for Sage Timberline Office (for ex ull name: Sage SQL Repikator (For example, John Doe) Vindows user:	ample, JDoe)
Domain/user name Settings Componies User Account is available Componies CAccount is available Beginning: S / 3 / 2017 Ending: Password Settings Never C By: Password Settings User must change password at next log on.	Browse
	Settings Roles Companies User Account Settings C C Account is available @ Account is available during the specified period Beginning: 5/ 3/ 2017 Ending: © Never C By: Password Settings Image password at next log on. User cannot change password. Password never expires.

7. If you use record or file security, we recommend that you enable access to all files and records for this user to avoid incomplete data replication.

Create a domain Windows account to use with replication

NOTE: This step is necessary only if you will install the SQL Server instance on a computer other than the accounting server. You might need an IT specialist to assist with creating this account.

Create a Windows domain account to be used for running replication when SQL Server is installed on a remote computer. 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.

About Canadian and Australian installations

If you are running SQL Replicator on a Canadian or Australian version of Sage 300 Construction and Real Estate, you'll need to provide credentials for a Windows user with **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. These steps are explained in the sections that follow.

- 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.

8			Regio	n			x
Formats	Location	Administrative					
Some s for a pa and we Home	oftware, ir articular lo ather. location:	ncluding Winde cation. Some s	ows, may pro ervices provid	vide you w de local inf	ith addition ormation su	al content ch as news	
Canad	la					~	
		<i>*U</i>					
				ОК	Cancel	Αρρ	oły

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

🔗 Region	x	🦻 Welcome	screen and new user accounts settings
Formats Location Administrative		The settings for the cur user accounts are displ	rrent user, welcome screen (system accounts) and new ayed below.
Welcome screen and new user accounts		Current user	
View and copy your international settings to the welcome screen, system		Display language:	English (United States)
accounts and new user accounts.		Input language:	English (United States) - US
		Format:	English (United States)
🚱 Copy settings		Location:	Canada
2		Welcome screen	
		Display language:	English (United States)
Language for non-Unicode programs		Input language:	English (United States) - US
This setting (system locale) controls the language used when displaying text in programs that do not support Unicode		Format:	English (United States)
text in programs that do not support oncode.		Location:	Canada
Current language for non-Unicode programs:		New user accounts	
English (United States)		Display language:	English (United States)
Change system locale		Input language:	English (United States) - US
() change system locale		Format:	English (United States)
		Location:	Canada
		Copy your current setti	ings to:
		Welcome screen	and system accounts
		New user accourt	nts
OK Cancel Ap	ply		
			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.

Important information about IIS

When you first install Sage 300 Construction and Real Estate 17.1 and configure SQL Replicator, you'll be able to access your data through Sage Construction Central from within your company's intranet—for example, from a computer in the accounting office—but not from outside of it, such as from a mobile device in the field. Additional steps are required to establish Cloud access.

In order to enable the connection within your intranet, the installation process configures IIS on your accounting server to expose SQL Server data within the same Active Directory domain. Enabling IIS on a server to expose data *outside* the domain is not recommended as it presents security risks. Instead, data is synchronized to an Azure Active Directory site, which provides a reliable and secure repository from which information can be accessed in the field.

Continue following the instructions in this guide. Establishing access to the Cloud is covered in the section "Set up Azure Active Directory for Sage Construction Central" on page 25.

SQL Server Express and Standard Editions

Before you install SQL Server, determine whether you can use the Express edition (at no additional cost) or you need the Standard edition. SQL Server Express limits the size of its databases to 10 gigabytes each. Each company folder that you replicate will be a separate database, and you can have as many databases as needed.

To determine the approximate size of your replicated data, 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.

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.

🌡 💽 🚺 =		Con	struction Sample Da	ata			_ D X	
File Home	Share View		onstruction Sample Data		м <i>ф</i> .] с	0	POIVData, Properti	es 🛛 🗙
Name	A Sage F HMBEREINE	Date modified	Туре	Size	<u> </u>	General Custr	omize	
\mu Config		8/5/2017 6:36 AM	File folder			Ĩ	1,106 Files, 62 Folders	
POIVData	Open	8/4/2017 1:56 PM 17 1:56 PM	File folder File folder			Type:	All of type File folder	
SMData	Share with	17 1:56 PM	File folder Microsoft Word 9	14 KB		Location: Size:	All in C:\ProgramData\Sage\TI 144 MB (151,071,418 bytes)	MBERLINE OFFICE\C
ACCUM.FSA	Pin to Start Send to	17 1:56 PM	Bitmap image FSA File	98 KB 1 KB		Size on disk:	144 MB (151,420,928 bytes)	
101 items 3 ite	Cut					Attributes	Read-only	Advanced
	Create shortcut							
	Delete Rename							
	Properties							
							OK Can	el Apply

- 4. Make a note of the size of these three folders.
- 5. Next, browse to the location of the **MASTER_QLM** 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

6. Right-click the MASTER_QLM folder and select Properties.

👪 l 💽 🚯 🗢 l		PVData		
File Home Share	View			MASTER_QLM Properties
(€) ⊕ ▼ ↑ <u>₩</u> « Sa	age TIMBERLINE OFFICE 9.5	Accounting Global	PVData V	General Sharing Security Previous Versions Customize
Name MASTER_QLM imaster_qxm imaster_qym	Open Open in new window Share with Restore previous versions Include in library Pin to Start	AM File folder PM File folder PM File folder PM File folder	Size	Imaster_QLM Type: File folder Location: C:\ProgramData\Sage\TIMPERLINE OFFICE\9.5\4 Stee 658 KB (674.581 bytee) Stee on disk: 660 KB (675.840 bytee)
s items i item seie	Sena to Cut Cut Copy Create shortcut Delete Rename Properties			Created: Yesterday, August 5, 2017, 6:06:14 AM Attributes: Bead-only (Only applies to files in folder) Bidden Adjvanced

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

(POIVData) + (PVData) + (SMData) + (MASTER_QLM) = Pervasive database size

8. Add fifty percent (50%) to the total to estimate the size of the SQL Server database.

1.5*((POIVData) + (PVData) + (SMData) + (MASTER_QLM)) = SQL Server database size



WARNING: The sum of these folder sizes should be well below 10 GB to allow for growth. If your SQL Server database is likely to be more than 9 GB, you should obtain the Standard edition of SQL Server. Contact your business partner for assistance.

Install SQL Server

You can install the SQL Server instance for SQL Replicator on your accounting server or on a different server. You can use the Sage SQL Installer to install the SQL Server instance, configured as needed to work with SQL Replicator. We strongly recommend you use this tool to install SQL Server.

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NOTE: Sage SQL Installer does not install SQL Server Management Studio for you. If you want this console available on your server, enter "Download SQL Server Management Studio" into a search engine to download and install it.

> To install the Sage SQL Installer on a remote server

1. In the extracted installation files for Sage 300 Construction and Real Estate 17.1, browse to this location: AccountingServer\Install\Prerequisites\SUSI.

3	SUSI				x
🔄 🔄 🔹 🕆 📕 🕨 Acco	untingServer + Install + Prerequisites + SU	JSI	✓ 🖒 Search	SUSI	ρ
🔆 Favorites	^ Name	Date modified	Туре	Size	
Desktop	SUSI.exe	10/16/2017 9:50 PM	Application	1,806 KB	
Downloads	a mana mana mana mana mana mana mana ma	- Andrew Mark			\sim

- 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.

> To install the SQL Server instance for SQL Replicator

- 1. Log on to the computer on which you will install the SQL Server instance.
- 2. In the Windows Start menu, go to the Sage Administration group and click Sage SQL Installer.

Sage Administration			
Certified Report Service Setup		Sage Universal SQL Installer	_ D X
License Administration	sage		
ODBC Help			
Refresh Sample Data		5 200 CDF	
Sage SQL Installer		Product: Sage 300 CRE	
Sage System Verifier			
System Administrator			
Upgrade Crystal Reports		Back	Next

- 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.

Sage Universal SQL Installer	Sage Universal SQL Installer
sade	sage
	hat the form
Microsoft® SQL Server® 2016 Express 64-bit with Advanced Tools	Microsoft® SQL Server® 2016 Express 64-bit with Advanced Tools
Automatically download	Microsoft® SQL Server® 2016 Express 64-bit with Advanced Tools
Install location:	Install location:
C:\Users\ANIT900104\Downloads\SQLEXPRADV_x64_ENU.e: Browse	Browse
Back Next	Back Next

- 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 Server's installation interface so that you can customize
 options as you move through the wizard.

	Sage Universal SQL Installer	- 🗆 X		Sage Universal SQL Installer	-	D X
sage	9		sag	ge		
۰	Basic Install This option installs the SQL instance with the Sage-required SQL options. There is limited customization.			 Basic Install This option installs the SQL instance with the Sage-required SQL options. There is limited customization. 		
0	Advanced Install This option enables you to customize the installation by using the Microsoft SQL installer. Note: Use mixed mode authentication. Do not change the collation setting (SQL_Latin1_General_CP1_CS_AS).			 Advanced Install This option enables you to customize the installation by using the Microsoft SQL installer. Note: Use mixed mode authentication. Do not change the collatio setting (SQL_Latin1_General_CP1_CS_AS). 	n	
	Back	Next		Back	Nex	t

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.

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		Sage Universal SQL Installer	_ 🗆 X
sage		sage		
	Instance Name: SAGE300CRE		Instance Name: SAGE300CRE	
	sa Password: Generate Show password		sa Password: f+_n2GC≢p2H7 Ge ☑ Show password	merate
	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.



WARNING: Be sure to record the sa password and save it for your records.

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. You can make changes in each of the configuration windows if needed. The options that are entered by default are the correct settings for a SQL Replicator instance.

FOR MORE INFORMATION: See "Appendix A: Install SQL Server using the Microsoft Installer" on page 38 for detailed information about required settings.

1	SQL Server 2016 Setup
Installation Type	
Perform a new installation or a	add features to an existing instance of SQL Server 2016.
Global Rules	Perform a new installation of SQL Server 2016
Product Updates Install Setup Files	Select this option if you want to install a new instance of SQL Server or want to install shared 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 SQL Server. For example, you
Feature Selection	want to add the Analysis Services features to the instance that contains the Database Engine. Features
Feature Rules	within an instance must be the same edition.
doctance Commission	and the second s

Install SQL Server Management Studio

SQL Server Management Studio 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 a search engine, type "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.



- 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 8.

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\$SAGE300CRE
	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
		🔍 SSDP Discovery		Disabled	Local Service
		鵒 Storage Tiers Management		Manual	Local System
		🔍 Superfetch		Manual	Local System 🗸
		< l	Ш		>
-	Extended Standard				
1					

Configure System Administrator and start replication



- SQL Replicator runs as a background process in your Windows server operating system.
- Once you start using SQL Replicator and Sage Construction Central, each time you upgrade your data from an earlier version, you'll need to re-start the SQL Replicator process, as shown in step 6 on page 17.
- If you use Sage Construction Central, you will also need to click Link to Mobile as shown in step 1 on page 22.
- 1. In the Windows Start menu, go to the Sage Administration group and click System Administrator.
- 2. If the connection window does not open, click **Connect**, and select the instance.

	System Administrator - Sage 300	Co	onstruction and Rea	l Estate		_ 🗆 X
	sage 300 Construction and Real Est	ta	ate		v	ersion: 17.1.5.62
	Replicator Configuration		Conne Conne	ect to Microsoft SQL Server	x	
	Backup		Server name:	LSSVR18-MP\SAGE300CRE	-	Link to Mobile
	Restore Company Description Pervas	51	Authentication:	Windows Authentication	•	Replicating
			User name:	BEST\ANIT900104		
L	and a second and a second and and a second and		Password:			mont
			?	Connect Cance		

- 3. For Authentication, select Windows Authentication. Your Windows domain and user name are automatically entered for the User name.
- Click Connect. The first time you open System Administrator, a message asks if you want to create the configuration database.

5. Click Yes, and wait while the database is created.

Sage	Administration						
٠	Certified Report Service	Conne	ect to Microsoft SQL Server				
		Server name:	LSSVR18-MP\SAGE300CRE			Creating Replicator Configuration Database	
(%)	License Administration	Authentication:	Windows Authentication 💌			5300 300	
0	ODBC Help	User name:	BEST\ANIT900104			Construction and Real Estate	
		Password:					
С	Refresh Sample Data	?	Connect Cancel		Pr	reparing to create the Configuration database. This will take a few minutes. DDLTriggerDone.	
	Sage SQL Installer		Create Configuration Dat	abase Confirmation		Atter Uatabase Done. Documentation Done. Properties	
~	Sage System Verifier		Sage 300 Construction and Real Estat exist on server LSSVR18-MP. Click "V another database server	e configuration database does not 'es" to create it now or "No" to pick		NewGuid Done. Encryption Mutex	
۲	System Administrator						
4	Upgrade Crystal Reports			Yes No			Cancel

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

	System Administrat	or - Sage 300 Construction and Real Estate	_ 🗆 X	
sage 300 Co	onstruction and R	eal Estate	Version: 17.1.3.30	
Replicator Configuration Backup	Connected: LSSVR21-MP\SAGE300CRE	(BEST\ANIT900104) SQL Server 2016 SP1 Express Edition (64-bit)	Link to Mobile	
Postoro	Company Description	Pervasive Data Folder	Replicating	
Restore	Timberline Constructior	\\LSSVR21-MP\Timberline Office\Data\Construction Sam	ple Data\ No	
	Timberline Electrical	\\LSSVR21-MP\Timberline Office\Data\Electrical Contract	or Sample Data\ No	
	Timberline Homes, Inc.	\\LSSVR21-MP\Timberline Office\Data\Home Builder Sam	nple Data\ No	
		Name Desciption	Open Company Location VLSSVR18AMP\Timberline Office\Data	Construction Sample Data
		Timberline Electrical	\\LSSVR18-MP\Timberline Office\Data' \\LSSVR18-MP\Timberline Office\Data'	\Electrical Contractor Sample Data\ \Home Builder Sample Data\
	Company: Timberline Construction		I	>
	Description:			
	Data Folder: \\LSSVR21-MP\Timberline	Office\Data\Co	OK Cancel Specify	Folders Remove From List Help
	Sage 300 CRE Administrator Username: a	nita Password: •		
	Run-As Account : Default	•		
	View Status	Start	Stop Resync	
	·			

6. Click the first company that you want to replicate, and enter the user name and password for the user you created on page 7, step 6.

•	Syste	em Administrator - Sa	ge 300 Construction and Real	Estate	_ 🗆 X
sage 300 C	Construction	and Real	Estate	Ver	sion: 17.1.3.30
Replicator Configuration	Connected: LSSVR21-N	1P\SAGE300CRE (BEST\	ANIT900104) SQL Server 2016	SP1 Express Edition (64-bit)	nk to Mobile
Pestere	Company	Description	Pervasive Data Folder		Replicating
Restore	Timberline Construction		\\LSSVR21-MP\Timberline Of	fice\Data\Construction Sample Data\	No
	Timberline Electrical		\\LSSVR21-MP\Timberline Of	fice\Data\Electrical Contractor Sample Data	No No
	Timberline Homes, Inc.		\\LSSVR21-MP\Timberline Of	fice\Data\Home Builder Sample Data\	No
	Company: Timber Description: Data Folder: \\LSSVf Sage 300 CRE Administra Run-As Account : Defa View Status	ine Construction R21-MP\Timberline Office\L stor Username: anita ult	SQL Data Data\Construction Sample Data\	base: TimberlineConstruction Password: • Start Stop	Resync

- 7. For the **Run-As** account, you can leave it as **Default** if the SQL Server instance is local, and your server's regional setting is for the United States. Otherwise:
 - If the SQL Server instance is remote, set the Run-As Account to Other and enter a Windows domain user ID with administrative privileges on the remote server and the accounting server.
 - For Canadian and Australian installations, set the Run-As Account to Other and enter the Windows credentials for a user whose region is set to the appropriate country. See "About Canadian and Australian installations" on page 8.
- 8. Click Start, and wait for replication to start.

	System Administrator -	Sage 300 Construction and Real Estate	_ 🗆 X
sage 300 Co	onstruction and Rea	al Estate	Version: 17.1.3.30
			?
Replicator Configuration	Connected: LSSVR21-MP\SAGE300CRE (BE	ST\ANIT900104) SQL Server 2016 SP1 Express Edition (64-bit)	Link to Mobile
васкир	Company Description	Pervasive Data Folder	Replicating
Restore	Timberline Constructior	\\LSSVR21-MP\Timberline Office\Data\Construction Sample Data	\ Yes
	Timberline Electrical	\\LSSVR21-MP\Timberline Office\Data\Electrical Contractor Samp	e Data\ No
	Timberline Homes, Inc.	\\LSSVR21-MP\Timberline Office\Data\Home Builder Sample Dat	a\ No
	<u>Company:</u> Timberline Construction Description: Data Folder: \\LSSVR21-MP\Timberline Offi Sage 300 CRE Administrator <u>U</u> sername: anita Run-As Account : Default View Status	SQL Database: TimberlineConstruction	op Resync
	Restore	System Administrator - Sage 300 Construction and Real Replicator Configuration Backup Restore Connected: LSSVR21-MP\SAGE300CRE (BE Company Description Timberline Constructior Timberline Electrical Timberline Homes, Inc. Company: Timberline Construction Description: Data Folder: \LSSVR21-MP\Timberline Officer Sage 300 CRE Administrator Username: anta Run-As Account: Default View Status View Status	System Administrator - Sage 300 Construction and Real Estate Sage 300 Construction and Real Estate Replicator Configuration Backup Restore Connected: LSSVR21-MP\SAGE300CRE (BEST\ANIT900104) SQL Server 2016 SP1 Express Edition (64-bit) Description Pervasive Data Folder Imberline Construction Imberline Electrical \LLSSVR21-MP\Timberline Office\Data\Construction Sample Data Timberline Electrical \LLSSVR21-MP\Timberline Office\Data\Home Builder Sample Data Company: Timberline Construction SqL Database: TimberlineConstruction Description: Data Folder: Data Folder: \LLSSVR21-MP\Timberline Office\Data\Construction Sage 300 CRE Administrator Username: anita Run-As Account: Default View Status Start

You can click View Status to see the replication log.

9. Repeat these steps for each company you plan to replicate.



- Each company folder that you replicate is copied to a new database in SQL Server. The replication runs continually as long as the SQL Server instance is running and the credentials you supplied to System Administrator are valid.
- For more information about the status log, see "What happens during replication?" on page 29
- 10. 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 disappears from this list.

•		Task So	cheduler	_ D ×
File Action View Help				
Task Scheduler (Local) Task Scheduler Library Sage 300 CRE Sage 300 CRE	Name Sage_RepLGoldCoastGroup Sage_RepLTimberlineConstruction Sage_RepLTimberlineElectrical	Status Running Running Running	Triggers At 11:50 AM on 6/15/2017 - After trig At 7:55 AM on 6/23/2017 - After trigg At 2:27 PM on 6/28/2017 - After trigg	Actions Sage 300 CRE Import Task The Create Task Import Task Display All Running Tasks Refresh Import Help

11. Click Link to Mobile to link your replicated company folders to Sage Construction Central.

Backing up and restoring with System Administrator

Now that you've upgraded to Sage 300 Construction and Real Estate version 17.1, you'll need to use System Administrator to configure and run your regular backups. Restoring a Sage 300 Construction and Real Estate backup requires not only the files in your data folders, but also files and registry keys from numerous areas in your server environment. With the addition of the SQL Server database and Sage Construction Central website, these additional components are critical to your ability to successfully restore from a backup. Without them, your data cannot be restored.

FOR MORE INFORMATION: See the Knowledgebase article How do I use the System Administrator to back up and restore data in version 17.1 and beyond?

Activate Licenses and set up Sage Construction Central users

NOTES:

- In order to activate licenses, your server must have access to the Internet. If your organization's policy requires servers to be blocked from the Internet, and you won't connect to Sage Construction Central from devices outside your network, you can disconnect it immediately after you activate your license.
- License Administration connects to the Sage licensing system at least once a year to verify that licenses are still active. If your server is generally not connected to the Internet, your licenses could expire after one year. To reactivate licenses, contact Support through one of the means described in the Knowledgebase article **17540**.

Activate licenses

- 1. On the Home page, in the Sage Administration group, click License manager.
- 2. Enter your information in the Sage Client ID and Registration Name boxes.

Sage	Administration	٩	License Administration	_ 🗆 X
٥	Certified Report Service Setup		sage 300 Construction and Real Estate	?
٩)	License Administration	Registration information	on	
?	ODBC Help	Sage Client ID Registration Name		Save and Update
С	Refresh Sample Data	Country Version	United States	
	Sage SQL Installer	Service Plan Expiration System ID	n 12/29/3000 BXPUVUBK	Deauthorize Server Advanced Options
		Licenses T Mobile Licenses T	he table on this tab shows information about the uses for each application. ou can manually change the number of allocated uses by typing in that column and clicking [Update]. o automatically allocate all uses for all applications, click [Allocate All Uses]. o automatically allocate one use for all applications, click [Allocate One Use]. Allocate All Uses Allocate One Use Application Allocated Uses Total Uses Type	Update Expiration

3. Click Save and Update. Allocate uses based on your organization's needs.



- Click Allocate All Uses if you will not install Sage 300 Construction and Real Estate on any other server (including a test server).
- Click Allocate One Use if you need to install Sage 300 Construction and Real Estate on more than one server, such as a test server or regional production server. Once you allocate a single use, you can edit the number of uses available to this server.



NOTE: For the accounting system, the uses assigned to a server are available to users logging in to the system on a first-come, first-served basis. If two uses are available, the first two users to log in will be able to use the system. The third user will not be able to use the system until one of the uses is freed up.

4. The licenses are applied based on your selection. If you selected **Allocate All Uses**, the total number of uses appears in the blue column, with **Unallocated Uses** set to zero.

Licenses	The table on this tab shows informa	tion about the uses	for each application.			
Mobile Licenses	You can manually change the numb To automatically allocate all uses fo To automatically allocate one use fo	er of allocated uses r all applications, cli or all applications, cl	by typing in that colu ck [Allocate All Uses]. ick [Allocate One Use]	imn and clicking	[Update].	
	Allocate All Uses Allocate (Ises Allocate One Use				
	Application	Allocated Uses	Unallocated Uses	Total Uses	Туре	Expiration
	Accounts Payable	3	0	3	Non-subscription	
	General Ledger	3	0	3	Non-subscription	
	Property Management	3	0	3	Non-subscription	

If you selected **Allocate One Use**, you'll see one use listed in the blue column, with the remaining number of uses in the **Unallocated Uses** column. To adjust the number of uses applied to this server, adjust a number in the blue column, and click **Update**. The remaining unallocated uses are available to use on a different server.

Licenses Mobile Licenses	The table on this tab shows inform You can manually change the num To automatically allocate all uses for To automatically allocate one use f Allocate All Uses Allocate	ation about the uses ber of allocated uses or all applications, cli or all applications, cli One Use	for each application. by typing in that colu ck [Allocate All Uses]. ck [Allocate One Use]	umn and clicking [Update].].	Update					
	Application	Allocated Uses	Unallocated Uses	Total Uses Type	Expiration					
	Accounts Payable	1	2	3 Non-subscription						
	General Ledger	1	2	3 Non-subscription						
	Property Management	1	2	3 Non-subscription						
				~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~~~~			$\sim \sim \sim$		
	hand have and	M. Montin Press	License: Mobile Lice	s The table on this tab show: You can manually change t To automatically allocate a Automatically allocate a Allocate All Uses	s information about the number of alloc all uses for all applic one use for all applic Allocate One Use	t the uses for eacl ated uses by typi ations, click [Alloc rations, click [Allo	h application. ng in that colur :ate All Uses]. cate One Use].	mn and clickin	ung [Update].	Update
a and a second	had and have going	Manana	License: Mobile Lice	s The table on this tab show: You can manually change t To automatically allocate a Allocate All Uses // Application	s information about the number of alloc all uses for all applic cone use for all applic Allocate One Use	the uses for each ated uses by typi ations, click [Alloc ations, click [Alloc d Uses Unallo	h application. ng in that colur rate All Uses]. cate One Use].	mn and clickin	ng [Update].	Update L
n dan serend	had and have going	No. Jose Antonio	License: Mobile Lice	s The table on this tab show: You can manually change t To automatically allocate a To automatically allocate o Allocate All Uses Application Accounts Payable	s information about the number of alloc all uses for all applic one use for all applic Allocate One Use	t the uses for each ated uses by typi ations, click [Alloc rations, click [Alloc d Uses Unallo 2	n application. ng in that colur cate All Uses]. cate One Use].	mn and clickin Total Uses	ng [Update].	Update Expiration
	hat and has good	No. Jose Antonio	License: Mobile Lice	s The table on this tab show You can manually change t To automatically allocate a To automatically allocate o Allocate All Uses Application Accounts Payable General Ledger	s information about the number of alloc all uses for all applic one use for all applic Allocate One Use	t the uses for each ated uses by typi ations, click (Allo d Uses Unallo 2	h application. ng in that colur cate All Uses]. cate One Use]. cated Uses 1 2	mn and clickin	Type 3 Non-subscription 3 Non-subscription	Update Expiration

### Assign Mobile licenses

**NOTE:** Mobile licenses are assigned differently than for the accounting system. Mobile licenses must be assigned to specific Windows IDs corresponding to users who are set up in Sage 300 Construction and Real Estate security and mapped to that ID. This means that only assigned users can access Sage Construction Central; uses are not available on a first-come, first-served basis as they are in the accounting system.

1. To assign Sage Construction Central users, click the **Mobile Licenses** tab. Expand **Mobile Project**, and click **Add User**.

WIODITE LICENSES	If yo	u add or remove users, clic	k [Update] to save	your changes.				Indate
		Application	Assigned Uses	Allocated Uses	Unallocated Uses	Total Uses	Туре	Expiration
	۰	Mobile Designer	0	3	0	3	Non-subscription	
	٠	Mobile Insights	0	3	0	3	Non-subscription	
	-	Mobile Project	1	3	0	3	Non-subscription	
		Users	_					
		admin			>	<		
		Add User	Remove Se	elected Users				

- 2. Add the users who will access Mobile Projects data.
- 3. Click Update to save your changes.

## **Test Sage Construction Central from your intranet**

Once your data has been replicated, you can browse to the Sage Construction Central site from inside your network to verify your data. The URL for this site requires you to know the fully qualified domain name for your server. The URL follows this pattern: http://FullServerName:8080. For example, if your server is sageserver.example.com, the URL is http://sageserver.example.com:8080.



**WARNING:** Use this internal URL only for testing that your Sage Construction Central is working properly. To use the site securely, you must set up the Azure Active Directory site as explained starting on page 25.

1		
	77	
	U	
	-	

### NOTES:

- · Before you can log on to Sage Construction Central, your company's data must have finished replicating.
- The Sage Construction Central site uses port number 8080 by default. If this port is already in use on your accounting server, you can change the port used by Sage Construction Central.
- By default, Windows servers have Enhanced Security enabled for Internet Explorer. If you want to use Internet
  Explorer to verify the Sage Construction Central website from the accounting server, you'll need to disable it. See
  the following link for more information:
  https://www.useduce.com/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/disable.ic.org/di

https://prajwaldesai.com/disable-ie-enhanced-security-in-windows-server-2012-r2/

1. In System Administrator, click Link to Mobile if you have not already done so. This links Sage Construction Central to your SQL Server instance.

	System Administrator - Sage 300 Construction and Real Estate							
_	200 Construction and Deal Estate							
Se	sage 300 Construction and Real Estate							
	Replicator Configuration Connected: LSSVR21-MP\SAGE300CRE (BEST\ANIT900104)   SQL Server 2016 SP1 Express Edition (64-bit)							
Repl	licator Configuration	Connected: LSSVR21-M	IP\SAGE300CRE (E	BEST\ANIT900104)   SQL Server 2016 SP1 Express Edition (64-bit)	nk to Mobile			
Repl	licator Configuration Backup	Connected: LSSVR21-M Company	IP\SAGE300CRE (E	BEST\ANIT900104)   SQL Server 2016 SP1 Express Edition (64-bit)	nk to Mobile Replicating			
Repl	licator Configuration Backup Restore	Connected: LSSVR21-M Company Timberline Constructior	IP\SAGE300CRE (E	BEST\ANIT900104)   SQL Server 2016 SP1 Express Edition (64-bit) Li Pervasive Data Folder \LLSSVR21-MP\Timberline Office\Data\Construction Sample Data\	nk to Mobile Replicating Yes			
Repl	licator Configuration Backup Restore	Connected: LSSVR21-M Company Timberline Constructior Timberline Electrical	IP\SAGE300CRE (f	BEST\ANIT900104)   SQL Server 2016 SP1 Express Edition (64-bit)       Li         Pervasive Data Folder	Replicating Yes No			

- 2. If your SQL Server instance is installed on a server other than your accounting server, follow these steps. (Otherwise, skip to step 3.)
  - a. In Windows Explorer, browse to the **Shared** folder in the installation director for Sage 300 Construction and Real Estate. By default, this is C:\Program Files (x86)\Timberline Office\Shared.
  - b. Double-click the file RemoteSQLServiceAccountConfigurationTool.exe.

🤗 Remote SQL Service Account Configuration Tool 🗕 🗖 🗙
Remote SQL Credentials
SQL Instance:
✓ Integrated Security
Login:
Password:
Service Account Credentials
Service Account:
Password:
Cancel

- c. Enter the location of your **SQL Instance**, as well as domain credentials for a Windows user with administrative access to the remote location of your SQL Server instance and your accounting server.
- d. Click **OK** when you are finished. This utility changes the login account for the Sage Remote Print service and the Sage Worker Engine service to the login used for the SQL Replicator process.
- **3.** Open a browser and go to your Sage Construction Central site. You'll be required to enter the Windows credentials for one of the users you added on page 21, step 1.

	CRE300 ×							
←	$\rightarrow$ C (i) Issvr18-mp.best.adinternal.com	n:8080/dashboard						☆ :
≡	sage Construction Centr	al	F# T	imberline Construction <del>-</del>	ANIT900104	Q Search	Support	? Help
#	Home							
	Projects -	Projects						
		<b>7</b> Open FRs	12 Unanswered RFIs	Search Job + ATTACHMENTS	<u>م</u>			
				+ FIELD REPORT + OBSERVATION				
				+ RFI				
	s	age		Copyright 2017 © Sa	ge   Version 17.1.0.0			

## Set up security for Sage Construction Central

In Security Administration, task permissions are available for use with Sage Construction Central. These permissions are independent of the corresponding permissions in Project Management or Address Book.

- You can grant access to areas under **Mobile Projects** without granting access to the corresponding Project Management permissions.
- Likewise, the Mobile Address Book > Quick Add Contact and Mobile Address Book > Set Up Contact permissions are not linked to the Address Book > Set Up permissions.



## Set up security for SQL-based reports

If your users will need to view reports generated from the SQL Server data, you need to add permission to the appropriate tables in SQL Server to their role. Under **SQL Data Access > Read Access**, select the relevant tables for each role.



## About record-level security with mobile applications

If your company uses record- or file-level security, you can activate these options for the mobile applications independently from the accounting applications. For example, you might want to implement record-level security for jobs in Sage Construction Central, but not for Job Cost in the back office.

If a file is not in the g	rid, click [Find	File] to locate th	e file and add it to the grid.		
<u>C</u> ompany: Timberli	ne Constructi	on		• Eind Fil	ie
Application	File Type	File Name	Role		[-
Job Cost	Master	master.JCM	(None)		1
Job Cost	Transaction	current.JCT	(None)	•	1
Job Cost	Transaction	new.JCT	(None)	•	1
Job Cost	Issue	issue.JCZ	(None)		1
Project Management	Correspond	corresponden	(None)	-	1
Project Management	Document	document.PJ	(None)	-	1
Project Management	FieldReport	FieldReports.	(None)	*	1
Project Management	Log	log.PJL	(None)		1
Project Management	Master	master.PJM	Accounts Payable		
Project Management	View	view.PJV	(None)		
Payroll	Master	master.PRM	(None)	-	1
Payroll	System	system.PRS	(None)	-	1
Payroll	Transaction	current.PRT	(None)	-	
Payroll	Transaction	new.PRT	(None)	-	
Payroll	Tax	tax.PRX	(None)	-	] =
Remote Time Entry	Master	master.RTM	(None)	-	
Remote Time Entry	Time	current.RTT	(None)	-	
Tax	Master	master.TXM	(None)	-	1

If you use file-level security, Sage Construction Central users need permission to the Address Book files plus the files related to other mobile modules you've implemented (for example, Job Cost or Project Management).

# Set up Azure Active Directory for Sage Construction Central

To access Sage Construction Central from outside your network, you'll configure a Microsoft Azure application to connect to your accounting server. To do this, you need an Azure Active Directory Basic account, which is provisioned for you automatically when you purchase a subscription to Sage Construction Central.

**NOTE:** Azure Active Directory Basic accounts are provisioned based on your country: the United States, Canada, or Australia.

### Publish your Sage Construction Central site to Azure

- 1. From your accounting server, open an Internet browser and go to https://portal.azure.com. Sign in if needed.
- 2. If you are asked to change a temporary password, supply the Microsoft account credentials that you received in your welcome email. Be sure to record this information once you enter the new password.



- 3. On the left, click Azure Active Directory.
- 4. In the next window, click Application proxy.

#### 5. Click Download connector.

Microsoft Azure						
≡	Micros	oft Azure azure - Application proxy			ources	×
+ New	$\equiv$	azure (default directory) - App Azure Active Directory	lication proxy			
Function Apps	+	9 Search (Ctrl+/)	+ New connecto 5 Down	load connector 🗸 Enab	le application proxy	
SQL databases	<b>1</b> 21	Overview	Application proxy provides single sign- premises. Learn more about Application	on (SSO) and secure remote Proxy	access for web applic	ations hosted on-
😻 Azure Cosmos DB		💅 Quick start	On-premises applications			
Virtual machines		MANAGE	Looking to create or manage an	on-premises app? Head to E	nterprise Apps	
🚸 Load balancers	0	g ^R Users and groups				
Storage accounts	<b>\$</b>	Enterprise applications	Connector groups and connectors	5		
🐡 Virtual networks	<b>.</b>	App registrations	Connectors establish a secure commun	ication channel between you	ir on-premises netwo	rk and Azure.
Azure Active Directo	<b>— 4</b>	B Application proxy	CONNECTOR		IP	STATUS
3 Monitor		Licenses	No results.			
		Azure AD Connect				

6. Review the information on the connector download page. Your accounting server should already be on a supported operating system.



#### **Azure AD Application Proxy Connector Download**

Download and install the Application Proxy connector to enable a secure connection between applications inside your network and the Application Proxy. Only one installation is necessary to service all your published applications; a second connector can be installed for high availability purposes.



**FOR MORE INFORMATION:** The outbound ports required for the application proxy are described in the Microsoft article **Get started with Application Proxy and install the connector**.

7. Accept the license agreement, click **Download**, and follow the instructions to install the connector.

8. When the installation is finished, return to the Azure portal page (https://portal.azure.com) and refresh it. You'll see your connector associated with your accounting server. This means the connection was successful. Now you'll publish your Sage Construction Central website to Azure.

Micr	osoft Azure sage software, inc Applic	ation proxy	♀ Search resources	
≡	sage software, inc Application Azure Active Directory	л ргоху		
+	✓ Search (Ctrl+/)	➡ New connector group	d connector 🛛 🛇 Disable application proxy	
	Overview	Application proxy provides single sign-on I premises. Learn more about Application Pr	(SSO) and secure remote access for web applicat oxy	ions hosted on-
٢	MANAGE	Looking to create or manage an on-	premises app? Head to Enterprise Apps	
8	x ^R Users and groups			
<i>\$</i>	K Enterprise applications	Connector groups and connectors		
2	App registrations	Connectors establish a secure communicat	ion channel between your on-premises network	and Azure.
<b>10</b>	Application proxy	CONNECTOR	IP	STATUS
<b>Q</b>	🔓 Licenses	▼ Default		
-	Azure AD Connect	SERVER.orbdev.local	205.234.17.32	Active
	📰 Domain names			
	Mobility (MDM and MAM)			

- 9. On the left, click Enterprise Applications.
- 10. Click New application.

Micro	OSOft Azure sage software, inc. > Er	terprise applications	✓ Search resources	×
	Enterprise applications sage software, inc Azure Active Directory			
+	Search (Ctrl+/)	➡ New application		
	() Overview	Total apps	AC MA MA MI MI SI MI PR MP	
	MANAGE	30		
	All applications			$\sim$

- 11. Select a category; you can choose any category you want. In this example, we chose **Project Management**.
- 12. Click On-premises application.

Micro	DSOft Azure sage software, inc. > Enterprise ap	plications > Categories > A	dd an appli 🔎 Search resourd	
	Categories 🗖 🗙	Add an application		* = ×
+	Education (109)	Add your own app		*
	ERP (59)	Application		Non college
	Finance (250)	you're developing	application	application
	Health (53)	Register an app you're	Configure Azure AD	Integrate any other application that you don't
	Human resources (233)	working on to integrate it with Azure AD	enable secure remote	find in the gallery
<b>S</b>	IT infrastructure (148)		access	
<i>4</i> >	Mail (31)	Add from the gallery		
2	Marketing (200)	, laa nonn die ganery		
<b>10</b>	Media (67)	Enter a name		
<b>Q</b>	Productivity (170)			
<b></b>	Project management (61)	10K″	15 3	
	project-management (1)			
<b>~~&gt;</b>	Security (98)	10,000ft Plans 15Fi	ive 5pm	AccessLine
	Social (91)			

**13.** Enter a display name for your application. This can be your company name or some other name that makes sense to your employees. This example shows a company called **Sage Construction**:



14. For the **Internal Url**, enter the URL you established for your site on page 22. This entry must include the port, :8080, as part of the address.

Notice that the public URL for your site will be a combination of the entries in the window above: https://applicationname-accountname.msappproxy.net

- 15. For Pre Authentication, select Passthrough. You can leave the remaining options as they are.
- Click Add. After the application is created, you're taken to the Enterprise Application page. You don't need to modify anything else in this window.



17. Open the URL in a browser to make sure it's connected.

← → C ☆ a Secure   https://anitasconcrete-chadlivengoodsage.msappproxy.net/dashboard									
≡ sage Construction Cer	ntral								
Home Projects	Projects								
Field Reports RFIs	Open FRs Unanswered	All Jobs Q + ATTACHMENTS •							
	KH1S	+ FIELD REPORT							
		+ OBSERVATION + RFI							

## What happens during replication?

This section describes what happens during replication, how security roles and users are replicated, and attributes of the new databases.

## **Databases in the SQL Server instance**

When you install Sage 300 Construction and Real Estate 17.1 on your accounting server, you must be logged in as a local administrator, and the server must be on a Windows Active Directory domain.

The Windows domain user who installs the SQL Server instance (page 11) is added as a server login and assigned to the **sysadmin** server role. That user, plus the built-in SQL Server **sa** user, are the only two logins with full administrative permissions to the SQL Server instance or to System Administrator.

FOR MORE INFORMATION: To learn more about SQL Server security, see the Microsoft article on Server and Database Roles in SQL Server. To add backup system administrators, see "Create a backup system administrator" on page 14.

When you connect Sage 300 Construction and Real Estate to the SQL Server instance through System Administrator (page 15), the SageCREGlobalConfiguration database is added to the instance. This is the configuration database for SQL Replicator, and—as with all databases—it should never be modified directly in SQL Server Management Studio. Make all changes in System Administrator or Sage 300 Construction and Real Estate.

Once you configure and start replication, each company folder that you replicate is represented by a separate database on the SQL Server instance.



## New Row_ID and Row_Version fields

Each Pervasive table now has two additional fields, **Row_ID** and **Row_Version**, which are used during replication to identify changes to the data. Modifications to the data resulting from Sage 300 Construction and Real Estate processing cause these fields to be updated. When the replication process scans tables, it compares the values in these fields to the values stored in the SQL Server data.

## The replication status log

Once you start replication, you can click **View Status** in System Administrator to see the log. Replication proceeds in the sequence described below.

	Syste	m Administ	ator - Sage 300 Construction and Rea	l Estate	_ 0	x
sage 300 Co	onstruction	and	Real Estate	Vers	on: 17.1.	3.30
Replicator Configuration	Connected: LSSVR21-M	IP\SAGE300C	RE (BEST\ANIT900104)   SQL Server 2010	6 SP1 Express Edition (64-bit)	k to Mobile	e
Restore	Company	Description	Pervasive Data Folder		Replicatio	g
Restore	Timberline Constructior		\\LSSVR21-MP\Timberline C	Office\Data\Construction Sample Data\	Yes	
	Timberline Electrical		\\LSSVR21-MP\Timberline C	Office\Data\Electrical Contractor Sample Data\	No	
	Timberline Homes, Inc.		\\LSSVR21-MP\Timberline C	Office\Data\Home Builder Sample Data\	No	
[	Company: Timberli Description: Data Folder: \\LSSVR Sage 300 CRE Administra Run-As Account : Defau View Status	ine Constructio 21-MP\Timberi tor <u>U</u> sername: <b>ult</b>	n SQL <u>D</u> a ine Office\Data\Construction Sample Data\ anita	tabase: TimberlineConstruction Password: Start Stop	Resync	

- 1. Each time replication starts, schema information is read from the Pervasive data. Any changes to custom fields, custom descriptions, or record and file security are incorporated at this time.
- Once schema information is saved, replication enters BC, or Bulk Copy mode. All data from all tables is copied into the SQL Server database, starting with the QXM security information, and then proceeding alphabetically through all tables.

Connecting to SQL Server "LSSVR21-MP\SAGE300CRE".										
Starting replication for Timberline Construction.										
From "\\LSSVR21-MP\Timberline Office\Data\Construction Sample Data\"										
To SQL Database "TimberlineConstruction".										
Loading schema information from tsSimba										
Loading schema information from SM										
Loading schema information from POIV										
Saving schema information.										
BC => TS MODE COLUMN NAME 14.	239	row(s)	in	3.385 ms	4.207	rows/sec.				
BC => TABLENAME FILEFULLPATH	457	row(s)	in	2.203 ms	207	rows/sec.				
BC => FILEINFO 2	59	row(s)	in	2.851 ms	20	rows/sec.				
BC => CTL TS COMPANY INFORMATION	1	row(s)	in	1.542 ms	0	rows/sec.				
BC => OXM MASTER AUTHENTICATION POLICY	1	row(s)	in	1,157 ms	ō	rows/sec.				
BC => OXM MASTER SECURITYUSER	1	row(s)	in	2,914 ms	0	rows/sec.				
BC => OXM_MASTER_SECURITYROLE	7	row(s)	in	3.745 ms	1	rows/sec.				
BC => OXM_MASTER_SECURITYROLESECURITYUSER	7	row(s)	in	2.506 ms	2	rows/sec.				
BC => OXM_MASTER_SECURITYACTIVITY 2.	. 687	row(s)	in	3,411 ms	787	rows/sec.				
BC => OXM_MASTER_SECURITYACTIVITYCATEGORY 2.	200	row(s)	in	3,567 ms	616	rows/sec.				
BC => OXM_MASTER_ACTIVITYTOCATEGORY 2.	691	row(s)	in	3.879 ms	693	rows/sec.				
BC => OXM_MASTER_SECURITYROLEACTIVITY 2.	684	row(s)	in	2.382 ms	1,127	rows/sec.				
· · · · · · · · · · · · · · · · · · ·		,		-,						
Starting initial bulk-copy replication.										
BC => ABM MASTER COMPANY	98	row(s)	in	1.013 ms	96	rows/sec.				
BC => ABM MASTER COMPANY CUSTOM FIELDS	0	row(s)	in	1.068 ms	0	rows/sec.				
BC => ABM MASTER COMPANY PERSON ADDRESS	274	row(s)	in	1,243 ms	220	rows/sec.				
BC => ABM MASTER COMPANY TRADE	59	row(s)	in	1.505 ms	39	rows/sec.				
BC => ABM MASTER CONTACT	244	row(s)	in	1,474 ms	165	rows/sec.				
BC => ABM_MASTER_GROUP	36	row(s)	in	1.541 ms	23	rows/sec.				
BC => ABM_MASTER_GROUP_MEMBER	119	row(s)	in	1.714 mg	69	rows/sec.				
BC => ABM MASTER PERSON	110	row(s)	in	1.591 ms	69	rows/sec.				
BC => ABM MASTER PERSON CUSTOM FIELDS	0	row(s)	in	704 ms	0	rows/sec.				
BC => addchg	3	row(s)	in	322 ms	ğ	rows/sec.				
BC => AGREEMENT	3	row(s)	in	183 ms	16	rows/sec.				
BC => AGREOUTP	2	row(3)	in	297 ms		rows/sec.				
BCm2 Contraction and Contraction	~~~~	where a	1/2		min	and the second				

- 3. Once the bulk copy cycle is completed, row-level security (RLS) is applied.
- Replication enters RC, or RAM Journal mode. All tables and rows are scanned for differences in the Row_ID and Row_Version fields.

BC-= OhnerASitin Socoherita	man and	Anor	~ <u>~</u> ~~	~~~~3;2V4 ms	mon	100037300.		~~~~~	m
BC => QXM MASTER SECURITYACTIVITYCATEGORY	2,200	row(s)	in	2,875 ms	765	rows/sec.		0	
BC => OXM MASTER ACTIVITYTOCATEGORY	2,691	row(s)	in	2.213 ms	1.215	rows/sec.			
BC => OXM MASTER SECURITYROLEACTIVITY	2,691	row(s)	in	2,673 ms	1,007	rows/sec.			
Configuring RLS									
Optimizing database for maximum performance!	3								
Apply new security permissions									
Starting change scanning.									
RJ => ABM MASTER COMPANY	99	row(s)	in	323 ms	307	rows/sec.	I: 0	U: 0	D: 0
RJ => ABM MASTER COMPANY PERSON ADDRESS	274	row(s)	in	293 ms	938	rows/sec.	I: 0	U: 0	D: 0
RJ => ABM MASTER COMPANY TRADE	4 59	row(s)	in	374 ms	158	rows/sec.	I: 0	U: 0	D: 0
RJ => ABM MASTER CONTACT	245	row(s)	in	278 ms	881	rows/sec.	I: 0	U: 0	D: 0
RJ => ABM MASTER GROUP	36	row(s)	in	321 ma	112	rows/sec.	I: 0	U: 0	D: 0
RJ => ABM MASTER GROUP MEMBER	119	row(s)	in	274 ms	435	rows/sec.	I: 0	U: 0	D: 0
RJ => ABM MASTER PERSON	110	row(s)	in	286 ms	385	rows/sec.	I: 0	U: 0	D: 0
RJ => API NEW BATCH	0	row(s)	in	308 ms	0	rows/sec.	I: 0	U: 0	D: 0
RJ => API NEW CHECK	0	row(s)	in	264 ms	0	rows/sec.	I: 0	U: 0	D: 0
RJ => API NEW CREDIT CARD PAYMENT	0	row(s)	in	355 ma	0	rows/sec.	I: 0	U: 0	D: 0
RJ => API NEW DIST PAYMENT	0	row(s)	in	288 ms	. 0	rows/sec.	I: 0	U: 0	D: 0
RJ => API NEW DISTRIBUTION	16	row(s)	in	253 ms	63	rows/sec.	I: 0	U: 0	D: 0
RJ => API NEW ELECTRONIC PAYMENT	0	row(s)	in	351 ms	0	rows/sec.	I: 0	U: 0	D: 0
RJ => API NEW INVOICE	. 8	row(s)	in	330 ms	24	rows/sec.	I: 0	U: 0	D: 0
and the second and the second se	man m	mein	nin.	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~			- when		mon

 Once a full cycle through the tables is completed in RC mode, the log simply reflects the number of scans with date and time of completion until new data is found.

BC => IS PERFERENCE BC => IS RELATIONSHIP		in in	1,037 ms		rows/sec.	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		many
RJ => TXM_MASTER_TAX_GROUP	3 row(s)	in	360 ms	8	rows/sec.	I: 0	U: 0	D: 0
RJ => TIM MASIER_IAA RAIE RJ => CTL_TS_CUSTOMLISTS	229 row(s)	in	289 ms	792	rows/sec.	I: 0 I: 0	U: 0	D: 0
Scan complete: Last completed Sun, 06 Aug 2017 12:34:00 GMT	5							
Scan complete: Last completed Sun, 06 Aug 2017 12:34:10 GMT								
Scan complete: Last completed Sun, 06 Aug 2017 12:34:20 GMT								
Scan complete: Last completed Sun, 06 Aug 2017 12:35:00 GMT								
Scs _ completer Last_ complete Sup_06_Au-2012-22:35:0 GMT			man	~~~~	m			man

6. When replication finds differences in the Row_ID and Row_Version fields since the last scan, the status log reflects the number of insertions (I), updates (U), and deletions (D). The changes are then replicated to SQL Server. For example, entering an Accounts Payable invoice results in the following log entries:

	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	have	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	man have	m	many many many	mm
Apply new security permissions							0000
RJ => API NEW BATCH	1 row(s)	in	19,102 ms	0 rows/sec.	I: 0	U: 1	D: 0
RJ => API_NEW_DISTRIBUTION	17 row(s)	in	19,989 ms	0 rows/sec.	I: 1	U: 0	D: 0
RJ => API NEW INVOICE	8 row(s)	in	1,440 ms	5 rows/sec.	I: 0	U: 0	D: 0
RJ => API NEW TAX DIST PAYMENT	0 row(s)	in	1,586 ms	0 rows/sec.	I: 0	U: 0	D: 0
RJ => APM MASTER BATCH	47 row(s)	in	17,648 ms	2 rows/sec.	I: 1	C U: 0	D: 0
RJ => APM MASTER DISTRIBUTION	251 row(s)	in	16,921 ms	14 rows/sec.	I: 2	U : 0	D: 0
RJ => APM MASTER INVOICE	217 row(s)	in	16,801 ms	12 rows/sec.	I: 1	U: 0	D: 0
RJ => APM MASTER VENDOR	66 row(s)	in	16,722 ms	3 rows/sec.	I: 0	U: 1	D: 0
RJ => APT CURRENT TRANSACTION	412 row(s)	in	17,434 ms	23 rows/sec.	I: 2	U: 0	D: 0
RJ => BLT NEW BATCH	9 row(s)	in	723 ms	12 rows/sec.	I: 0	U: 0	D: 0
RJ => BLW HISTORY WORKINPROGRESS	0 row(s)	in	804 ms	0 rows/sec.	I: 0	U: 0	D: 0
RJ => CTL TS INTERFACES	33 row(s)	in	1,129 ms	29 rows/sec.	I: 0	U: 0	D: 0
RJ => EQT NEW BATCH	1 row(s)	in	1,544 ms	0 rows/sec.	I: 0	U: 0	D: 0
BC => EQT NEW GENERAL	1 row(s)	in	2,450 ms	0 rows/sec.			
RJ => GLT NEW BATCH	1 row(s)	in	15,632 ms	0 rows/sec.	I: 1	U: 0	D: 0
BC => GLT_NEW_GLT_GENERAL	1 row(s)	in	2,176 ms	0 rows/sec.			
and the second have a		~~	man	- And And			· ····································

7. Service Management, Purchasing, and Inventory data is replicated using bulk copy only. New data entered in these modules results in a new copy of the entire table, rather than only the row that was changed. For example, adding a new item to the Parts table in Service Management results in a bulk copy of the PARTS table. Notice that all 92 rows were re-copied.

	- And some many many and	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~ mon	1 man - m	$\sim\sim\sim\sim\sim$	www.ww	$\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{$
BC =>	EQT_NEW_GENERAL	1 row(s) in	2,450 ms	0 rows/sec.			-
RJ =>	GLT NEW BATCH	1 row(s) in	15,632 ms	0 rows/sec.	I: 1	U: 0	D: 0
BC =>	GLT_NEW_GLT_GENERAL	1 row(s) in	2,176 ms	0 rows/sec.			
RJ =>	GLT NEW TRANSACTION	3 row(s) in	15,874 ms	0 rows/sec.	I: 3	U: 0	D: 0
RJ =>	JCM MASTER LIEN WAIVER	76 row(s) in	15,745 ms	4 rows/sec.	I: 1	U: 0	D: 0
RJ =>	JCT_NEW_BATCH	7 row(s) in	14,886 ms	0 rows/sec.	I: 1	U: 0	D: 0
RJ =>	JCT NEW TRANSACTION	24 row(s) in	14,713 ms	1 rows/sec.	I: 2	U: 0	D: 0
BC =>	PARTS	92 row(s) in	743 ms	123 rows/sec.			I
RJ =>	QXM_MASTER_SECURITYROLE	8 row(s) in	1,886 ms	4 rows/sec.	I: 0	U: 0	D: 0
RJ =>	QXM MASTER SECURITYROLESECURITYUSER	7 row(s) in	925 ms	7 rows/sec.	I: 0	U: 0	D: 0
RJ =>	QXM MASTER SECURITYUSER	1 row(s) in	15,631 ms	0 rows/sec.	I: 0	U: 1	D: 0
TO THE	CONTRACTOR AND A CONTRACTORY CONTRACTORY	and a definition of the	1 7KC - menths -		0 0 0	" mana m	

8. Adding an item to the Inventory Parts table results in a bulk copy of the itmmastr tabl.

Stan complete: Last completed with, or Aug Volv 14:29:00 GM	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	man man man man	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
Scan complete: Last completed Sun, 06 Aug 2017 14:29:10 GMT			
<pre>Scan complete: Last completed Sun, 06 Aug 2017 14:29:20 GMT BC => itmmastr</pre>	604 row(s) in 1,494 ms	404 rows/sec. 7	
Scan complete: Last completed Sun, 06 Aug 2017 14:30:40 GMT			
Scan complete: Last completed Sun, 06 Aug 2017 14:30:50 GMT		and the second s	manner

Security and replication

Your security settings in Sage 300 Construction and Real Estate **Security Administration** are enforced by SQL Replicator 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. Security settings in the SQL Server database mimick the settings in **Security Administration**, based on the Windows ID associated with the user.

During replication, database roles are added to each company database corresponding to each role you have set up in Sage 300 Construction and Real Estate. For example, if you have a security role called **Accounts Payable** in Sage 300 Construction and Real Estate, a corresponding database role is created in each replicated database in SQL Server.

Each Sage 300 Construction and Real Estate user who will access SQL Server company data (including through Sage Construction Central) must be mapped to a Windows domain user. Each Windows user assigned to a security role, and who has permission to the database, is created as a database user and assigned to the corresponding roles.



NOTE: In Sage 300 Construction and Real Estate security, users and roles are set up once per server. Each user can be granted or denied access to a data folder. SQL Replicator creates corresponding database users in each company database to which the user has access. The database roles are created in each database, even if users are not assigned to the role in a specific company.

Sage 300 Construction and Real Estate users assigned to the **Application Administrator** or **Security Administrator** roles have administrative privileges to all companies. SQL Replicator creates

corresponding database roles and assigns these users to their corresponding administrator roles in each SQL Server database.

User Details	Cancel Changes		Administrator roles created in each company database. Administrative users assigned to correct database roles in all c	ompanies.
Log Full name: Anii (Fo	gon for Sage Timberline Office (fo ita Gutierrez or example, John Doe)	or example, JDoe)	User Details	Company database 1
Windows user: bes Dor Settings Roles c Select one or more the selected roles.	st\anit900104 main\user name The last suc Companies re roles. The user has permission t s.	Browse Scessful log on was 5/19/2017 7:51 AM. o access the tasks associated with	User name: admin Logon for Sage Timberline Office (for example, JDoe) Full name: Anta Guberrez (For example, John Doe) Windows user: bestjantS00104 Domain/user name	Company database 2
Filter: All roles Accounts Paya Application Ad Security Admin	rable dministrator	Details <u>Security Administrator</u> Administrates security settings and policies Tasks assigned to this role: ⊡ Tasks	The last successful log on was 5/19/2017 7:51 AM. Settings Roles Companies This user is an administrator and can access all companies.	Company database 3

If you make changes to record security in Sage 300 Construction and Real Estate **Security Administration**, you must re-start replication for each affected company folder. To do this, in **System Administrator**, simply click **Stop** and then **Start**.

		System	Administrator - Sage	e 300 Construction and Real Estate	_ 🗆 X					
	sage 300 Construction and Real Estate									
	Replicator Configuration Connected: LSSVR21-MP\SAGE300CRE (BEST\ANIT900104) SQL Server 2016 SP1 Express Edition (64-bit)									
-	Backup	Company De	escription	Pervasive Data Folder	Replicating					
	Restore	Timberline Constructior		\\LSSVR21-MP\Timberline Office\Data\Construction Sample Data\	Yes					
		Timberline Electrical		\\LSSVR21-MP\Timberline Office\Data\Electrical Contractor Sample Data	No No					
		Timberline Homes, Inc.		\\LSSVR21-MP\Timberline Office\Data\Home Builder Sample Data\	No					
	Company: Timberline Construction SQL Database: TimberlineConstruction Description: Data Folder: \LLSSVR21-MP\Timberline Office\Data\Construction Sample Data\ Sage 300 CRE Administrator Username: anita Password: • Run-As Account: Default • • View Status Start •									

In Sage 300 Construction and Real Estate **Security Administration**, new task permissions are available for read-access to the SQL Server tables. These permissions enable the user to access the corresponding views in the SQL Server data, for reporting and other features.

	Role Setup
Roles	Role Details
Roles Add Copy X Delete Application Administr New Role Security Administrato	Role Details Image: Save Changes Image: Accounts Payable Description: Accounts Payable Tasks Users Select the tasks associated with this role. Image: Begort Designer Image: Select the tasks associated with this role. Image: Begort Designer Image: Select the tasks associated with this role. Image: Begort Designer Image: Select the tasks associated with this role. Image: Begort Designer Image:
	Image: Constraint of the second s

Any changes to roles or users in Sage 300 Construction and Real Estate **Security Administration** are immediately replicated to SQL Server—unless the changes have row-level security implications (such as **Record** or **File** security).

NOTE: Social security numbers replicated to SQL Server are encrypted by default. Information about decrypting social security numbers will be added soon.

Re-synchronizing and re-starting 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.

In System Administrator, you can click **Resync** if replication has not picked up schema or security changes and restarting has not solved the issue.

		System Administrator	- Sage 300 Construction and Real I	Estate	_ 🗆 X					
	sage 300 C	onstruction and Re	al Estate	Vers	sion: 17.1.3.30					
ŀ	Replicator Configuration	Connected: LSSVR21-MP\SAGE300CRE (E	SEST\ANIT900104) SQL Server 2016	SP1 Express Edition (64-bit)	1k to Mobile					
	Restore	Company Description	Pervasive Data Folder		Replicating					
	Restore	Timberline Constructior	\\LSSVR21-MP\Timberline Off	fice\Data\Construction Sample Data\	No					
		Timberline Electrical	\\LSSVR21-MP\Timberline Off	fice\Data\Electrical Contractor Sample Data	No					
		Timberline Homes, Inc.	\\LSSVR21-MP\Timberline Off	fice\Data\Home Builder Sample Data\	No					
		Company: Timberline Construction Description:	SQL Data	.base: TimberlineConstruction						
		Data Folder: \\LSSVR21-MP\Timberline O	ffice\Data\Construction Sample Data\							
	Sage 300 CRE Administrator Username: anita Password: •									
		Run-As Account : Default	-	-						
		View Status		Start Stop	Resync					
		Sage 300 CRE Administrator Username: anit Run-As Account : Default View Status	a v	Password: Start Stop	Resync					

Re-synchronizing your data results in the following:

- 1. Any attachments added in SQL Server are backed up.
- 2. The replicated database is deleted from SQL Server.
- 3. The data folder is re-replicated.
- 4. The attachments and attachment links are restored to the new database.

About Crystal Reports and your replicated data

When working with report designs, you might encounter an issue with the number of objects you can view in Crystal Reports' **Database Expert** window. By default, Crystal Reports displays a maximum of 8,000 objects. You can increase this number by following the instructions in SAP's knowledgebase article **1215994**: **Unable to see all databse objects in Crystal Reports**. If you modify your installation to show a longer list of tables, it will apply only to the current Windows user's settings. Different users on the same computer would not see the same change unless they also change their configuration.

System Administrator setup checklist

Site setup checklist: Complete these steps for your organization	
1. Review system requirements (page 5).	
2. Acquire user licenses for the mobile modules in Sage Construction Central.	
3. Upgrade software and data to 17.1.3.	
4. Set up security in Sage 300 Construction and Real Estate. (page 7)	
5. Use License Administration to allocate mobile licenses to users.	
6. Install SQL Server using Sage SQL Installer (page 11).	
7. Install SQL Server Management Studio (optional).	
8. Run File Doctor on data to replicate (with Fix and Compact).	
9. Configure System Administrator and start replication. (page 15)	
10. Publish the Sage Construction Central website through Azure Cloud Services. (page 25)	

Appendix A: Install SQL Server using the Microsoft Installer

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

WARNING: SQL Replicator requires a specific setting for the server's default collation, which is not the default setting. Instances must have the default collation set at the time of installation—it cannot be changed later. If you try to use a SQL Server instance with the incorrect collation for SQL Replicator, you will not be able to replicate your data. You'll need to re-install SQL Server.

To Install SQL Server Express



NOTE: If you are installing SQL Server using the **Advanced** option of the Sage SQL Installer shown on page 13, skip to step 5.

- 1. Double-click the *.exe file to extract the contents.
- 2. When prompted, select a location for the extracted files, and click OK.



3. When the files are extracted, open the folder location, and double-click Setup.exe.



4. 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.



 We recommend that you select the option to Use Microsoft Update to check for updates, but this is not required.

1	SQL Server 2016 Setup
Microsoft Update	
Use Microsoft Update to che	ck for important updates
Global Rules Microsoft Update Product Updates Install Setup Files License Terms Feature Selection Feature Rules Feature Configuration Rules Installation Progress Complete	Microsoft Update offers security and other important updates for Windows and other Microsoft software, including SQL Server 2016. Updates are delivered using Automatic Updates, or you can visit the Microsoft Update website.
	< Back Next > N

6. Click **Next**. 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.

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 correc	ted 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 << View detailed report	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 Fusion Active Template Library (ATL) Consistency validation for SQL Server registry keys Computer domain controller Microsoft. NET Application Security Windows Firewall	Status Passed Passed Passed Passed Warning
	< Back	: Next > Cancel

- 7. Click Next.
- 8. 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	must accept the Microsoft Software License Terms.
Global Rules Microsoft Update Product Updates Install Setup Files Install Rules License Terms Feature Selection Feature Rules Instance Configuration Server Configuration Server Configuration Atabase 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 where you live, one of its affiliates) and you. Please read them. They apply to the software named above, which includes the media on which you received it, if any. The terms also apply to any Microsoft • updates, • supplements, • Intermet-based services, and • sunnort services © J laccept the license terms.
	SQL Server 2016 transmits information about your installation experience, as well as other usage and performance data, to Microsoft to help improve the product. To learn more about SQL Server 2016 data processing and privacy controls, please see the <u>Privacy Statement</u> .
	< Back Next > Cancel

- **9.** 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.

10. 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.

1	SQL Server 2016 Setup				
Feature Selection Select the Express features to i	nstall.				
Global Nules Microsoft Updates Product Updates Install Setup Files License Terms Feature Selection Feature Rules Instance Configuration Server Configuration Database Engine Configuration Feature Configuration Rules Installation Progress Complete	Features: Instance Features Ø Database Engine Services Ø QL Server Replication Ø PolyBase (In-Database) Ø PolyBase Query Service for External Database Reporting Services - Native Shared Features ✓ Client Tools Dackwards Compatibility ✓ Client Tools Backwards Compatibility ✓ Documentation Components ✓ SQL Client Connectivity SDK		Testure description: The configuration and operation of each instance feature of a SQL Server instance. SQL Server instances: an operate side-by-side on Prerequisites for selected features: Already installed: – Windows PowerSHB 13.0 or higher – Microsoft Visual Studio 2010 Redistributable Vindows PowerShe 105565 MB available Drive C: 156 MB required, 105565 MB available Drive C: 1323 MB required, 65432 MB available		
	Instance root directory: 10 Shared feature directory:	E:\SQL_Server C:\Program Files\Mid	crosoft SQL Server\		
	Shared feature directory (x86):	C:\Program Files (x86	6)\Microsoft SQL Server\		
	,		< Back Next > Cancel		

- 11. Click Next.
- 12. In the Instance Configuration window, we recommend that you install a Named instance using the name SAGE300CRE. However, you can use a different name, and you can opt to install a default instance instead of a named one.

1	2	SQL Server 2016 Se	etup		-		x
Instance Configuration Specify the name and instance	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	 Default instance Named instance: 	SAGE300CRE					
	Instance ID:	SAGE300CRE					
Feature Selection Feature Rules Instance Configuration Server Configuration	SQL Server directory: Installed instances:	C:\Program Files\Mic	rosoft SQL Server\M	SSQL13.SAGE300CRE			
Database Engine Configuration	Instance Name SAGE_ESTIMATING	Instance ID MSSQL12.SAGE_ES	Features SQLEngine	Edition Express	Version 12.2.50	0.00	
Feature Configuration Rules Installation Progress	<shared compone<br=""><shared compone<="" td=""><td></td><td>Conn, BC, SDK SSMS</td><td></td><td>13.0.14 12.2.50</td><td>500.10 00.0</td><td></td></shared></shared>		Conn, BC, SDK SSMS		13.0.14 12.2.50	500.10 00.0	
			<	Back Next >	3	ancel	

13. 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.

14. On the Service Accounts tab, leave the default options as they are, and click the Collation tab.

NOTE: If you are installing SQL Server using the **Advanced** option of the Sage SQL Installer shown on page 13, skip to step 17. The **Collation** setting is set correctly by default.

1	SQL Server 201	6 Setup		>	×		
Server Configuration							
Specify the service accounts an	d collation configuration.						
Global Rules Microsoft Update Product Updates	Service Accounts Collation Microsoft recommends that you use	a separate account for each	SQL Server serv	vice.			
Install Setup Files Install Rules License Terms Feature Selection Feature Rules Instance Configuration Server Configuration Database Section Configuration	Service SQL Server Database Engine SQL Full-text Filter Daemon Launc SQL Server Browser Grant Perform Volume Maintenan This privilege enables instant file to information disclosure by allow	Account Name NT Service\MSSQLSSAG NT Service\MSSQLFDLa NT AUTHORITY\LOCAL ce Task privilege to SQL Ser initialization by avoiding zer initialization by avoiding zer	Password	Startup Type Automatic V Manual Automatic V Service Accounts Colla Database Engine:	ition		
Peature Configuration Rules Installation Progress Complete	Click here for details		4	SQL_Latin1_General_C1 Latin1-General, case-ir insensitive for Unicode Unicode Data	P1_CI_J nsensiti e Data,	AS ive, accent-sensitive, kanatype-insensitive, width- SQL Server Sort Order 52 on Code Page 1252 for non-	Customize
		< Bac	k Nex	t > Cancel			

15. On the Collation tab, click Customize. In the box, select SQL_Latin1_General_CP1_CS_AS. The last characters should be "CS_AS" which stands for "case-sensitive, accent-sensitive." This is the required setting for SQL Replicator.

Colletion designation	Albanian
Binany	
	Width-sensitive
SQL collation, used for bac QL_Hungarian_CP1250_CS_A	kwards compatibility S
SQL collation, used for bac QL_Hungarian_CP1250_CS_A QL_icelandic_Pref_CP1_CI_AS QL_latin1_General_CP1_CI_A QL_Latin1_General_CP1_CI_A	kwards compatibility S S S S S

- 16. Click OK, and then click Next.
- 17. In the **Database Engine Configuration** window, you must select **Mixed Mode**. This mode is required for SQL Replicator.

- 18. Enter and confirm a password for the administrator (sa) account.
- **19.** The windows user logged in to the computer will be added automatically as an administrator. Click **Add** to add additional administrators. If you created a Windows domain account as described on page 8, add that account to this list as well.

Courte Database Facility with		
Specify Database Engine autre	ntication security mode, administrators, data directories and TempUb settings.	
Global Rules	Server Configuration Data Directories TempDB User Instances FILESTREAM	
/icrosoft Update Iroduct Updates	Specify the authentication mode and administrators for the Database Engine.	
nstall Setup Files	Authentication Mode	
nstall Rules	O Windows authentication mode	
icense Terms	Mixed Mode (SOL Server authentication and Windows authentication)	
eature Selection		
eature Rules	Specify the password for the SQL Server system administrator (sa) account.	
astance Configuration	Enter password:	_
atabase Engine Configuration	Confirm password:	
eature Configuration Rules	Specify SQL Server administrators	
stallation Progress	SOI Serve administra	
omplete	have unrestricted acce	ss
	to the Database Engin	£.
		-
	Add Current User Add Remove	

20. On the **Data Directories** tab, the default location reflects the **Instance root location** you selected in step 10. 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 Specify Database Engine auther	guration	ators, data directories and TempDB settings.	
Global Rules	Server Configuration Data Di	rectories TempDB User Instances FILESTREAM	
Microsoft Update Product Updates Install Setup Files Install Rules License Terms Feature Selection Feature Rules Instance Configuration Server Configuration Database Engine Configuration Feature Configuration Rules Installation Progress Complete	Data root directory: System database directory: User database directory: User database log directory: Backup directory:	E:\SQL_Server E:\SQL_Server\MSSQL13.SAGE300CRE\MSSQL\Data E:\SQL_Server\MSSQL13.SAGE300CRE\MSSQL\Data E:\SQL_Server\MSSQL13.SAGE300CRE\MSSQL\Data E:\SQL_Server\MSSQL13.SAGE300CRE\MSSQL\Backup	
		< Back Next >	Cancel

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

8	S	QL Server 2016 Setup	_ 🗆 X
Database Engine Config Specify Database Engine auther	guration	administrators, data directories and TempD8 settings.	
Global Rules Microsoft Update Product Updates Install Setup Files Install Rules License Terms Feature Selection Feature Rules Instance Configuration Server Configuration Database Engine Configuration Feature Configuration Rules Installation Progress Complete	Server Configuration TempDB data files: Number of files: Initial size (MB): Autogrowth (MB): Data directories: TempDB log file: Initial size (MB): Autogrowth (MB): Log directory:	Data Directories TempDB User Instances FILESTREAM tempdb.mdf, tempdb_mssql_#.ndf	Add Remove
		< Back Next >	Cancel

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

1	SQL Server 2016 Setup	Ŀ	. D 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	_ _ X
hanner Transform	Install Setup Files Install Rules	Global Rules Microsoft Updates Install Setup Files Install Rules License Terms Feature Selection Feature Rules Instance Configuration Server Configuration Database Engine Configuration Database Engine Configuration Retaute Configuration Rules Installation Progress Complete	Information about the Setup operation or possible n Feature Future Futur	Istatus Succeeded Succeede
				Close