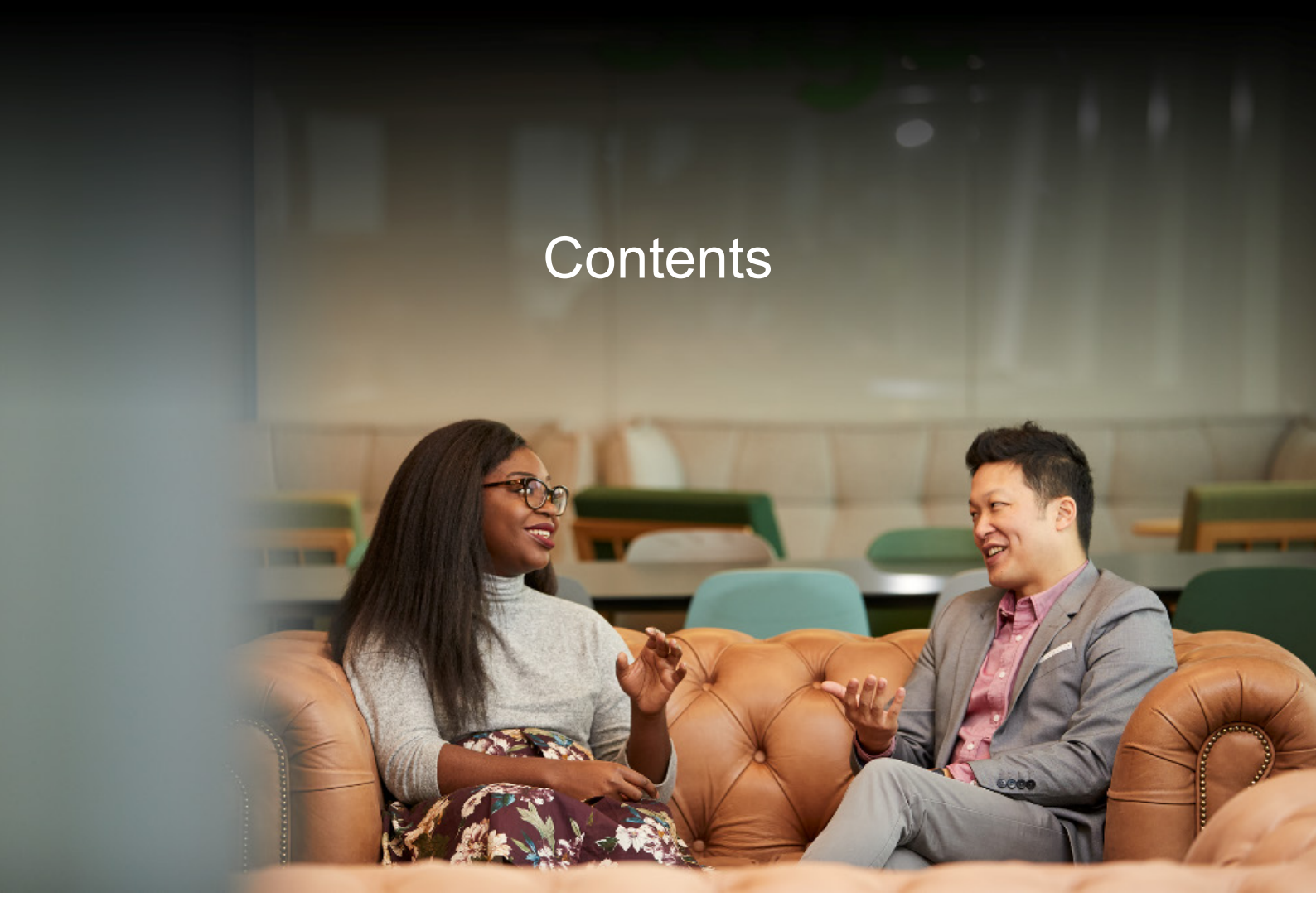
Sage XRT Business Exchange

Version 12.4.300

Technical Guidelines

Contents



Environments

Compatibility Chart

Environment	Prerequisite Type	Prerequisite
Sage Software	These prerequisites are designed for	**Sage XRT Business Exchange** 12.4.300 **Sage XRT Common Services** 5.3 **Sage XRT Bank Format Library** 4.8 **Sage View & Sign** 3.1 **Sage EIDSign** 3.2
	Build No.	12.4.300.2162
	Available Languages	French - English - Spanish
Client Station	Operating System	Windows 10 64 bits
	Minimum Sizing	Processor: 2Ghz Bi-pro/Dual Core RAM: 8GB - Dsik space: 2GB
	Other required products	Microsoft .NET Framework 4.8 minimum DBMS Client (see *DB Connectivity*) Microsoft.IIS.PowerShell
	Optional products	JRE 8. 202 (64 bits) See *Oracle Java license* or Azul Zulu 17.28.13 and later Required for processing XML files on the station (edit, convert, generate).
	Microsoft OS validated browsers	Microsoft Windows 10 and 11: • Edge 89 and later • Chrome 89 and later • Firefox 86 and later
	MAC OS validated browsers (see the note on Mac OS)	mac OS Big Sur, Monterey: • Safari • Chrome 89 and later • Firefox 86 and later

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Environments

Environment	Prerequisite Type	Prerequisite
Application and Publication Server	Operating Systems	Windows Server 2016 Windows Server 2019 Windows 10 64 bits
	Other Required Components	Microsoft .NET Framework 4.8 minimum Internet Information Service: IIS 10. <ServerSideInclude> element must be installed (see IIS Appendices). JRE 8. 202 (64 bits) See Oracle Java license or Azul Zulu 17.28.13 and later
	Other optional components	ElasticSearch/Kibana 7.12 at least
	Minimum Sizing	Processor: 4 vCPU 2Ghz or equivalent RAM: 8 GB Disk Space: 3 GB (Programs)
Server and Database	Operating Systems	Windows Server 2016 Windows Server 2019
	Minimum Sizing	Processor: 4 vCPU 2Ghz or equivalent RAM: 8 GB
	Compatible Microsoft Databases	SQL Server 2016 SQL Server 2017 SQL Server 2019
	64-bit Microsoft DB Connectivity	MS-SQL components: minimum SQL Server 2016: • Client Connectivity Tools • Complete Management Tools
	Compatible Oracle Databases	Oracle 18c Oracle 19c
	64-bit Oracle Connectivity	Oracle client (x64) 18.3 for 18c Oracle client (x64) 19.3 for 19c Oracle Components to install: • SQL*Plus • Oracle Net • Oracle Connection Manager • Oracle ODBC drivers • Oracle Provider for OLE DB

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Environments

Environment	Prerequisite Type	Prerequisite
Virtualization and Publication Tool (See chapter: *Appendices*)	Remote Desktop Services	Windows Server 2016 and 2019
	XenApp	V6 and later
	vSphere	V5 and later
	Hyper-V	Windows Server 2016 and 2019
Sage View & Sign (smartphones & tablets) (See chapter: *Appendices*)	Operating Systems	Apple: iOS 12.2 minimum Android: Android 5.1 minimum
	Validated Terminals	Apple: • iPhone 10 • iPhone 11 • iPhone 12

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Flow Opening

Source to Target	Port No.	Modifiable	Flow Details
Rich Client to Database	1434 (Oracle)	Yes	The setup can be adapted so that only one port is open, with another value than the default one.
	1521 (SQL)		
Rich Client to Files Server (SXBE Files)	SMB	No	Data exports/imports, bank format files to edit, application logs May include the following ports: 137, 138, 139 and 445 May be used for remote files access
Rich Client to Files Server (SXBE Files)	DFS	No	Data Exports/imports, bank format files to edit, accounting files, remote sharing Ports for domain controller: 135, 137, 138, 139, 389 and 445 Ports for other server: 135, 137, 138, 139 and 445
Rich Client to Files Server (other Files)	SMB	No	Only if files are to be exchanged with remote sharing Data Exports/Imports, bank format files to edit, application logs
Rich Client to Active Directory	MS	No	User Authentication (using class libraries from namespace System.DirectoryServices for .NET framework)
Rich Client to LDAP Server	389	Yes	Only for LDAP authentication Default ports, with editable absolute values
	636	Yes	
Rich client towards SXBE servers (Registry)	139	No	Access to parameters for System Administration module
Rich client to SXBE servers (Windows Services)	135	No	Access to Windows Services (RPC)
Rich Client towards SCS Server	80/443	Yes	API rest http/https requests
SXBE servers towards ElasticSearch instances	9243	Yes	API rest http/https requests

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Appendices

View & Sign

To use HTTPS (TLS), the web server must use a certificate issued by a trusted authority accepted by the device.

Auto-signed certificates are not accepted by Android or iOS operating systems.

Virtualization

Important! Virtualization may have negative impacts on the applications processing times.

Some functions linked to Bank Communication Management can only be executed on an application server.

Before any deployment, the architecture and the size of your configuration may be validated by Sage consultants.

EBICS TS tokens drivers must be available for bank files transfer by Electronic Signature.

Installation with Office

In case of **Office** installation, check the version for the ACE ODBC drivers.

During the installation, **DSN CERG_TXT** 64 bits is positioned with ACE ODBC *Driver v16*.

Once the installation of **Office x64** is completed, check that the driver version is correct.

Registry key:

HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Office\16.0\Access Connectivity Engine\Engines\Text

Format -> Delimited(;)

Starting SCDTS resets this key with the correct value.

SAML V2

Validated ID providers are: Microsoft ADFS, SSO Circle, Azure Active Directory.

Supported SAML schema is IdP-Initiated SSO. The user access URL (supplied by IdP) must be available.

E.g. for ADFS, URL is: https://your_ip/adfs/ls/IDpInitiatedSignOn.aspx

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Web Application Firewall

Measures have been set up to protect you from vulnerabilities like SQL injection attacks, cross-site scripting, and cross-site forgery requests.

However, we highly recommend web application firewalls (WAF) to minimize those attacks.

On this page you can find a list of WAFs:

https://www.iis.net/downloads/category/secure

CloudFlare does not require any deployment:

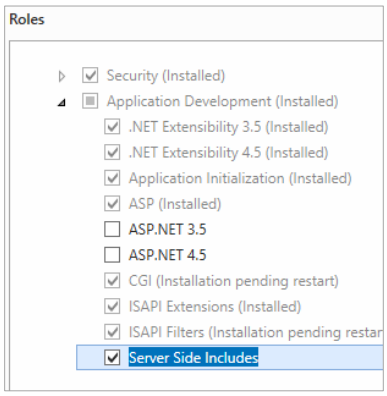
https://www.cloudflare.com/waf/

IIS

The **<serverSideInclude>** element is not installed by default. To install this component, follow the *Microsoft* procedure below.

WINDOWS SERVER 2016

1. On the taskbar, click Server Manager.
2. In Server Manager, click the Manage menu, and then click Add Roles and Features.
3. In the Add Roles and Features wizard, click Next. Select the installation type and click Next. Select the destination server and click Next.
4. On the Server Roles page, expand Web Server (IIS), expand Web Server, expand Application Development, and then select Server Side Includes. Click Next.



Source: https://docs.microsoft.com/en-us/iis/configuration/system.webserver/serversideinclude

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Database Unicode Management

SXBE version 12.0 was tested and validated with **AL32UTF8** and **UTF8** code pages under **Oracle, Latin1_CI_AS, Modern_Spanish_CI_AS, French CI_AS**, under **SQL Server**.

Important! Any modification of character set must be performed by an Oracle DBA or a Sage consultant, this modification has an impact on all the database schemas.

Note: For migrations from SXBE V11 to SXBE V12, the size of the database is at most doubled because of the Unicode management.

Windows Unicode Management

The reporting application processes using Unicode characters (Chinese, etc.) require the ARIAL UNICODE MS font.

But this font is not part of the default ones for every **Windows** versions and its use depends on the license.

Its installation can be done through the installation of **Microsoft Office** 2010 or 2013 (32 or 64 bits) or through the specific download of the font.

This font can also be manually installed (with the dedicated license).

Important! **Office** 2016 and **Windows** 10 do not natively include this font.

Managing Double Authentication

Initiating double authentication requires using an app compatible with **TOTP** (smartphone or tablet).

Here are the tested apps:

- **FreeOTP** (*Android*)
- **Microsoft Authenticator** (*Windows Phone*)
- **Google Authenticator** (*Android*, *iOS*)

Since version **5.3** of **Sage XRT Common Services**, an Internet connection is no longer required to generate the QR code.

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Java

OpenJDK – Azul Zulu

Azul Zulu solution is supported for using MV Java open source.

OpenJDK support is no longer guaranteed. Java MV provided with OpenJDK is actually unstable. The processes may randomly stop at any time.

Oracle Java license

As a reminder, the Oracle Java license has been changed for versions released from April 16, 2019. The new Oracle Technology Network license agreement for Oracle Java SE has significantly differed from previous Oracle Java licenses. The new license allows some free uses, such as personal use or development, but other uses may no longer be available, although they were permitted by previous Oracle Java licenses. Please pay attention to the terms and conditions before downloading and using this product. An FAQ is available at: https://www.oracle.com/technetwork/java/javase/overview/oracle-jdk-faqs.html. Support and commercial license are available with a Java SE subscription.

This means that all JRE versions after version 8 update 202 are no longer free and must be purchased from Oracle.

Version 8 update 202 is available at the following link:
https://www.oracle.com/es/java/technologies/javase/javase8-archive-downloads.html

Activation of Database Encryption

Transparent Data Encryption (TDE) encrypts the sensitive data in the database and protect the keys that are used to encrypt the data with a certificate. This prevents anyone without the keys from using the data, but this kind of protection must be planned in advance.

It actually involves changes in performances and backups management (backups are encrypted). The encryption key must be stored in the database to perform the relevant actions. You will not be able to open the database without this key.

Note: Tests were run on **Microsoft SQL Server 2016 TDE** and **Oracle 12c TDE**.

Note that only Enterprise versions for SQL Server use TDE.

It is also possible to encrypt the communication channel between the client and the database server. This works transparently for the applications.

https://docs.microsoft.com/fr-fr/sql/database-engine/configure-windows/enable-encrypted-connections-to-the-database-engine

https://docs.oracle.com/en/database/oracle/oracle-database/19/dbseg/configuring-network-data-encryption-and-integrity.html

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Microsoft SQL Server

Example of **TDE** setup on **Microsoft SQL Server**:

```
// go onto MASTER

USE master;

GO


// create a passphrase

CREATE MASTER KEY ENCRYPTION BY PASSWORD = ‘MyPassword defined in SCS';

GO


// create the certificate to encrypt the symmetric key

CREATE CERTIFICATE MyTDECert WITH SUBJECT = 'MyTDECert Certificate';

GO


// go onto SXBE database

USE SBE;

GO


// create the key for database encryption (for example in AES 128) and encrypt this key with the certificate created in MASTER

CREATE DATABASE ENCRYPTION KEY WITH ALGORITHM = AES_128  ENCRYPTION BY SERVER CERTIFICATE MyTDECert;

GO


// activate encryption

ALTER DATABASE TDE SET ENCRYPTION ON;

GO
```

For more information:
https://docs.microsoft.com/en-us/sql/relational-databases/security/encryption/transparent-data-encryption

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Oracle

Example of **TDE** setup on **Oracle**:

```
orapki wallet create -wallet "C:\app\your_user\admin\your_service\wallet" -auto_login -pwd "P@ssword"


ALTER SYSTEM SET ENCRYPTION KEY IDENTIFIED BY “MyPassword defined in SCS";

/


CREATE TABLESPACE ENC_XRT_DATA DATAFILE
'C:\app\your_user\oradata\your_service\ENC_XRT_DATA.dbf' SIZE 150 M AUTOEXTEND ON NEXT 100

ENCRYPTION using 'AES192'

DEFAULT STORAGE(ENCRYPT);

/


CREATE TABLESPACE ENC_XRT_INDEX DATAFILE
'C:\app\your_user\oradata\your_service\ENC_XRT_INDEX.dbf' SIZE 150 M AUTOEXTEND ON NEXT 100 M

ENCRYPTION using 'AES192'

DEFAULT STORAGE(ENCRYPT);

/


ALTER USER SCS QUOTA UNLIMITED ON ENC_XRT_DATA;

/


ALTER USER SCS QUOTA UNLIMITED ON ENC_XRT_INDEX;

/


DECLARE

   strStatement varchar2(512);

   recCount INTEGER:=-1;

   CURSOR code_objects IS select object_name,object_type from all_objects where owner='your_schema' and
object_type = 'TABLE' and temporary='N';

   code_object_rec code_objects%rowtype;

BEGIN

  FOR code_object_rec IN code_objects

  LOOP
```

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```
    strStatement :=  'ALTER TABLE your_schema.' || code_object_rec.object_name || ' MOVE TABLESPACE
ENC_XRT_DATA';

    DBMS_OUTPUT.PUT_LINE (strStatement);

    EXECUTE IMMEDIATE strStatement;

  END LOOP;

END;

/



DECLARE

   strStatement varchar2(512);

   recCount INTEGER:=-1;

   CURSOR code_objects IS select object_name,object_type from all_objects where owner='your_schema' and
object_type = 'INDEX' and temporary='N';

   code_object_rec code_objects%rowtype;

BEGIN

  FOR code_object_rec IN code_objects

  LOOP

    strStatement :=  'ALTER INDEX your_schema.' || code_object_rec.object_name || ' REBUILD TABLESPACE
ENC_XRT_INDEX';

    DBMS_OUTPUT.PUT_LINE (strStatement);

    EXECUTE IMMEDIATE strStatement;

  END LOOP;

END;

/
```

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