



Sage XRT Business Exchange

Version 12.4.200

Technical Guidelines



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Environments

Compatibility Chart

Environment	Prerequisite Type	Prerequisite
Sage Software	These prerequisites are designed for	Sage XRT Business Exchange 12.4.200 Sage XRT Common Services 5.2 Sage XRT Bank Format Library 4.7 Sage View & Sign 3.1 Sage EIDSign 3.0
	Build No.	12.4.200.2007
	Available Languages	French - English - Spanish
Client Station	Operating System	Windows 10 64 bits
	Minimum Sizing	Processor: 2Ghz Bi-pro/Dual Core RAM: 8GB - Disk space: 2GB
	Other required products	Microsoft .NET Framework 4.8 minimum DBMS Client (see <i>DB Connectivity</i>) Microsoft.IIS.PowerShell
	Optional products	JRE 8 Update 202 (64 bits). See <i>Oracle Java License</i> Required for processing XML files on the station (edit, convert, generate).
	Microsoft OS validated browsers	Microsoft Windows 10: <ul style="list-style-type: none"> • Edge 89 and later • Chrome 89 and later • Firefox 86 and later
	MAC OS validated browsers (see the note on Mac OS)	MAC OS X Mojave, Catalina: <ul style="list-style-type: none"> • Safari • Chrome 89 and later • Firefox 86 and later
	Operating Systems	Windows Server 2016 Windows Server 2019

Environments

Environment	Prerequisite Type	Prerequisite
Application and Publication Server		Windows 10 64 bits
	Other Required Components	Microsoft .NET Framework 4.8 minimum Internet Information Service: IIS 10. <ServerSideInclude> element must be installed (see Appendices IIS) Java Execution Environment: JRE 8 Update 202 (64 bits). See <i>Oracle Java License</i>
	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: <ul style="list-style-type: none"> Client Connectivity Tools Complete Management Tools
	Compatible Oracle Databases	Oracle 12c Oracle 18c Oracle 19c
		Important! version 12.1.0.2 contains regressions impeding the proper operation of certain options in SXBE 12.0, particularly the signature station optimization.
Important! When migrating from SXBE 11 to SXBE 12, due to Unicode management, the size of the database increases significantly (up to double at most).		
	64-bit Oracle Connectivity	Oracle client (x64) 12.2.0.1.0 minimum for 12c Oracle client (x64) 18.3 for 18c Oracle client (x64) 19.3 for 19c Oracle Components to install: <ul style="list-style-type: none"> SQL*Plus Oracle Net Oracle Connection Manager Oracle ODBC drivers Oracle Provider for OLE DB

Environments

Environment	Prerequisite Type	Prerequisite
Virtualization and Publication Tool (See chapter: <i>Appendices</i>)	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: <i>Appendices</i>)	Operating Systems	Apple: iOS 12.2 minimum Android: Android 5.1 minimum
	Validated Terminals	Apple: <ul style="list-style-type: none"> • iPhone 6 • iPhone 7 • iPhone 10

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 to 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)

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**.

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 transfers by Electronic Signature.

Installation with Office

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

During the installation process, **DSN CERG_TXT** 64-bit is set with driver *v°14 ACE ODBC*.

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

Registry Key:

HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Office\14.0\Access Connectivity Engine\Engines\Text

Format -> Delimited(,)

Starting SCDTS rectifies this key's value.

SAML V2

The validated ID providers are: **Microsoft ADFS**, **SSO Circle**, **Azure Active Directory**.

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 WAFs list:

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

CloudFlare does not require any deployment:

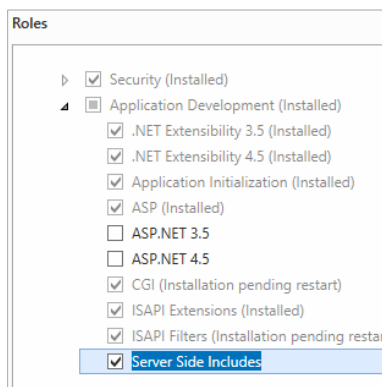
<https://www.cloudflare.com/waf/>

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>

Database Unicode Management

SXBE version 12.0 has been 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** 11 to **SXBE** 12, 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.

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)**

OpenJDK

OpenJDK is no longer supported. **Java MV** provided with **OpenJDK** is not stable. Processing may stop working at any time.

Oracle Java License

Oracle Java License has been modified since April 16, 2019. The new *Oracle Technology Network* license for **Oracle Java SE** is significantly different from other **Oracle Java** licenses. Specific uses such as personal use or use for development remain free as they were in the previous license, but some other uses may be not although they were before. Please, pay special attention to these new conditions before uploading and using this product. An FAQ is available on:

<https://www.oracle.com/technetwork/java/javase/overview/oracle-jdk-fags.html>. **Java SE** includes support and commercial license.

This means that all **JRE** versions before update 202 version 8 are no longer free and must therefore be bought to *Oracle*.

<https://www.oracle.com/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**.

Appendices

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>

Appendices

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
```

Appendices

```
    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;

/
```