



Sage XRT Business Exchange

Version 12.4

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 Sage XRT Common Services 5.1 Sage XRT Bank Format Library 4.6 Sage View & Sign 3.1 Sage EIDSign 3.0
	Build No.	12.3.4.1881
	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 DB Connectivity) Microsoft.IIS.PowerShell
	Optional products	JRE 8.0.1410 (64-bit) or OpenJDK 13 (See the deployment document) Required if the station processes XML files (edition, conversion, generation)
	Validated browsers for Microsoft O.S.	Microsoft Windows 8 & 10: <ul style="list-style-type: none"> • Edge • Chrome 70 and later • Firefox 63 and later
	Validated Browsers for MAC OS	MAC OS X Mojave, Catalina: <ul style="list-style-type: none"> • Safari • Chrome 70 and later • Firefox 63 and later

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). Java Execution Environment: JRE 8.0.1410 (64-bit) or OpenJDK 13 (See the deployment document)
	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
		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! For migrations from SXBE V11 to SXBE V12, the size of the database is at most doubled because of Unicode management.	64-bit Oracle Connectivity	Oracle client (x64) 12.2.0.1.0 minimum for 12c Oracle client (x64) 18.0 for 18c 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 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 Appendices	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.	Editable	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 servers: 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 Base Class Libraries for namespace System.DirectoryServices of Framework .NET)
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* OS 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 transfer by Electronic Signature.

Office Installation

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 v°14*.

After the installation of **Office x64**, make sure you use the relevant driver version.

SAML V2

Validated ID providers are: *Microsoft ADFS*, *SSO Circle*.

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>

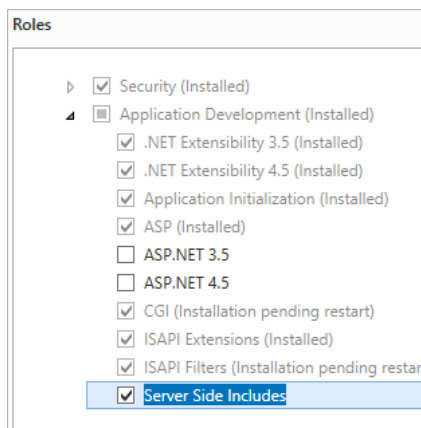
CloudFlare does not require any deployment (<https://www.cloudflare.com/waf/>)

IIS

<ServerSideInclude> element is not installed by default. To install this component, follow this *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

Sage XRT Business Exchange version 12.0 was tested and validated with **AL32UTF8** and **UTF8** code pages under **Oracle**, **Latin1_CI_AS**, **Modern_Spanish_CI_AS** and **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 **Sage XRT Business Exchange 11** to **Sage XRT Business Exchange 12**, the size of the database is at most doubled because of Unicode management.

Windows Unicode Management

The reporting application process using Unicode characters (Chinese, etc.) requires ARIAL UNICODE MS.

This font is not installed by default on all **Windows** versions and must be used under license.

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

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

Managing Double Authentication

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

Tested applications are:

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

Activation of Database Encryption

Transparent Data Encryption (**TDE**) encrypts sensitive data in the database, and protects the keys used for encryption with a certificate. This prevents anyone without the keys from using the data, but this kind of protection must be planned.

It actually impacts backup performance and 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**. Only **Enterprise** versions of **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 saisi dans 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 saisi dans 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';
```

Appendices

```
        code_object_rec code_objects%rowtype;

BEGIN

    FOR code_object_rec IN code_objects

    LOOP

        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;

/
```