

Test system Build Diary

Apply 2021 R4 (V12 patch 28) to an existing Single-server 2019 R4 Installation

Disclaimer

This document is provided "as is" and is for your guidance and educational purposes only. It does not replace the Online documentation, nor is any warranty expressed nor implied for the steps described herein.

Document Information

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Introduction

What is a "Build Diary"

A Build Diary simply describes the steps taken by Sage Support to perform a task or tasks on our internal test systems. Build diaries could be created for major multi-node installations, but may also just be describing the steps taken when installing a small hotfix, or anything in-between.

Why is this being shared

It may be useful for you to see the steps we have taken to create or implement some feature or installation, as this may highlight "gotcha's", issues encountered or just give you some guidance if you are planning something similar yourself.

You could potentially use these documents as the base for your own "Workplan document" (Described in "Overview of patching X3 and supporting technologies" <https://www.sagecity.com/gb/sage-x3-uk/b/sage-x3-uk-support-insights/posts/sage-x3-technical-support-tips-and-tricks---march-2021-index>) when you are planning your own activities

Target Audience

This document is aimed at Sage X3 Certified Technical consultants. Sage prescribe that X3 system installation, maintenance, migrations, etc. should be performed by suitably qualified Sage X3 consultants. The prerequisite consideration would be for them to have the latest "Sage X3 Certified Technical Consultant" certification. You can read more about the Sage X3 qualifications and requirements in Sage University (<https://sageu.csod.com/catalog/CustomPage.aspx?id=20000242#tc>)

Additional things to note

- This document does NOT purport to illustrate "best practice" for the task being described
- The steps described will not necessarily be for a "perfect" task, as there may have been issues that needed to be overcome, worked around, or ignored
- The Sage internal test system has network and hardware configuration specific to Sage
- The Sage internal test system does not necessarily include a Windows Domain and has Sage sandbox specific Windows security setup, so operating system permissions are generally not discussed
- If you intend to use these notes as a guide for your own activities, use with caution and perform your own testing to ensure the described steps are suitable and identify any additional considerations that apply to your own situation
- Ensure you only install and use software you are licensed for

What does this Build Diary describe?

This build diary primarily describes how to upgrade a single-server installation of 2019 R4 (V12 Patch 19) to 2021 R4 (V12 Patch 28)

Apply 2021 R4 (V12 Patch 28) to an existing single-server 2019 R4 installation

Objective

Having already installed 2019 R4 (V12 Patch 19) in a Single-server system, I now want to apply 2021 R4 (V12 Patch 28) to keep the system up-to-date in accordance with the Sage X3 Lifecycle Policy (see article links below).

Starting architecture and notes

One Windows Server 2016 server (Server names EMV12)

Software already loaded:

- Windows Server 2016
- Zulu8.38.0.13
- Edge, Firefox and Chrome browsers
- 7-Zip 19.00

Windows users setup (Local users)

- “x3admin” for installation and management
- “X3run” for service runtime

Sage X3 2019 R4 (Patch 19)

- Adxadmin_91.5.74
- Console_2.43.0
- Runtime_91.5.74
- SyracuseServer_12.4.0
- X3 Patch 2019 R4
- Mongo_3.4.16.zip
- Elastic Search 6.4

Target architecture (Sage X3 2021 R4)

One Windows Server 2016 server (Server names EMV12)

Software already loaded:

- Windows Server 2016
- Zulu8.38.0.13
- Edge, Firefox and Chrome browsers
- 7-Zip 19.00

Windows users setup (Local users)

- “x3admin” for installation and management
- “X3run” for service runtime

Sage X3 2021 R4 (Patch 28)

- Adxadmin_94.1.9
- Console_2.52.0
- Runtime_94.1.9
- SyracuseServer_12.13.0

X3 Application Patch 2021 R4
Mongodb_4.2.12.zip
Elastic Search 7.13

Summary of steps to apply 2021 R4

- Gather required Sage X3 Component Archives.
- Check Pre-requisites and ensure you have the supported versions of external/third-party software (Elastic Search and MongoDB).
- Ensure that you are familiar with the Upgrade process for external/third-party software.
- Apply all Software Components required to upgrade to 2021 R4.
- Run any existing set of checks after applying 2021 R4 – e.g. Printing, Batch Server, LDAP Syncs, Web Services.

Documentation to use for planning and execution of this task

[Sage Online documentation](#)

Overall V12 documentation

<http://online-help.sageerp3.com/erp/12/public/index.html>

Pre-requisites

[http://online-help.sageerp3.com/erp/12/public/Prerequisites-\(Last-version\).html](http://online-help.sageerp3.com/erp/12/public/Prerequisites-(Last-version).html)

http://online-help.sageerp3.com/erp/12/public/prerequisites_overview.html

Installation documentation

http://online-help.sageerp3.com/erp/12/public/getting-started_sage-erp-x3-installation-procedure.html

Application Server : <https://online-help.sageerp3.com/erp/12/staticpost/installing-the-application-server/>

Console: https://online-help.sageerp3.com/erp/12/public/configuration-console_console.html

[Sage Knowledgebase articles or Blogs](#)

Additional notes when regarding Sage X3 Lifecycle Policy:

[IMPORTANT REMINDER: Sage X3 Lifecycle Policy - Sage X3 UK Announcements, News, and Alerts - Sage X3 UK - Sage City Community](#)

Sage X3 2019 R4 enhancement : [Cumulative patching \(sageerp3.com\)](#)

Sage X3 Lifecycle Policy: <https://support.na.sage.com/selfservice/viewdocument.do?externalId=105518>

Additional notes when upgrading ElasticSearch

<https://support.na.sage.com/selfservice/viewdocument.do?externalId=99424>

Sage X3 Pre-requisites : [Installing Sage X3 | \(sageerp3.com\)](#)

MongoDB Administration & Upgrade : Part of the Autumn 2021 Business Partner day Blog:

[\(+ \) Index page: Sage X3 Technical Support Tips and Tricks \(September 2021\) - Sage X3 UK Support & Insights - Sage X3 UK - Sage City Community](#)

Upgrading from 3.4 to 3.6 Follow KB article 103072

<https://support.na.sage.com/selfservice/viewdocument.do?noCount=true&externalId=103072>

Upgrading from 4.0 to 4.2 Follow KB article 107620

<https://support.na.sage.com/selfservice/viewdocument.do?noCount=true&externalId=107620>

Initial steps

Ensure that the Sage X3 Pre-requisites are adhered-to – see article-link above.

Update Firefox, Chrome and Edge to make sure I'm on the latest browser versions — please note that the supported Firefox Browser version has changed from V78+ to V79+ for 2021 R4.

Copy over latest Sage Support “Investigation Scripts” to assist with any troubleshooting during the upgrade.

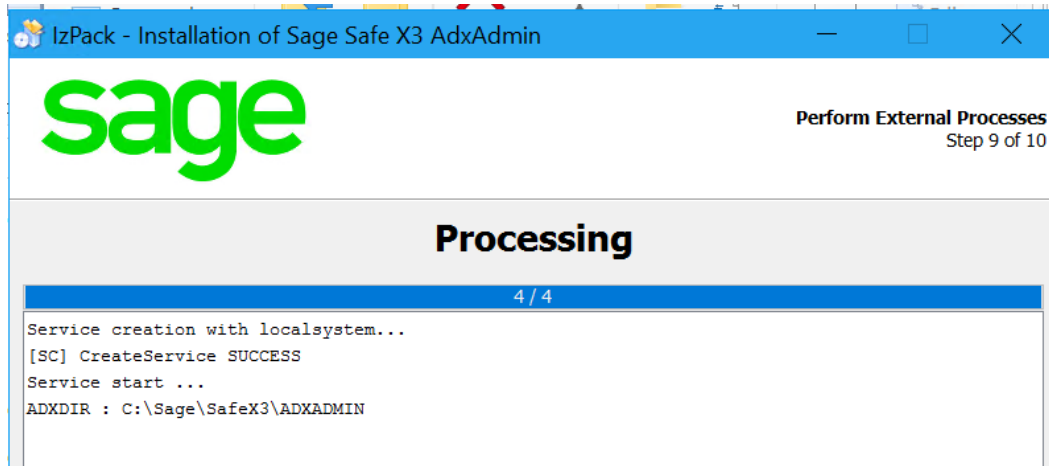
Perform a “Stop all” in Administration > Administration > Endpoints > Batch server.

Stop all Web Services Pools in Administration > Administration > Web Services > Classic SOAP Pools configuration.

Stop the Elastic Search Service.

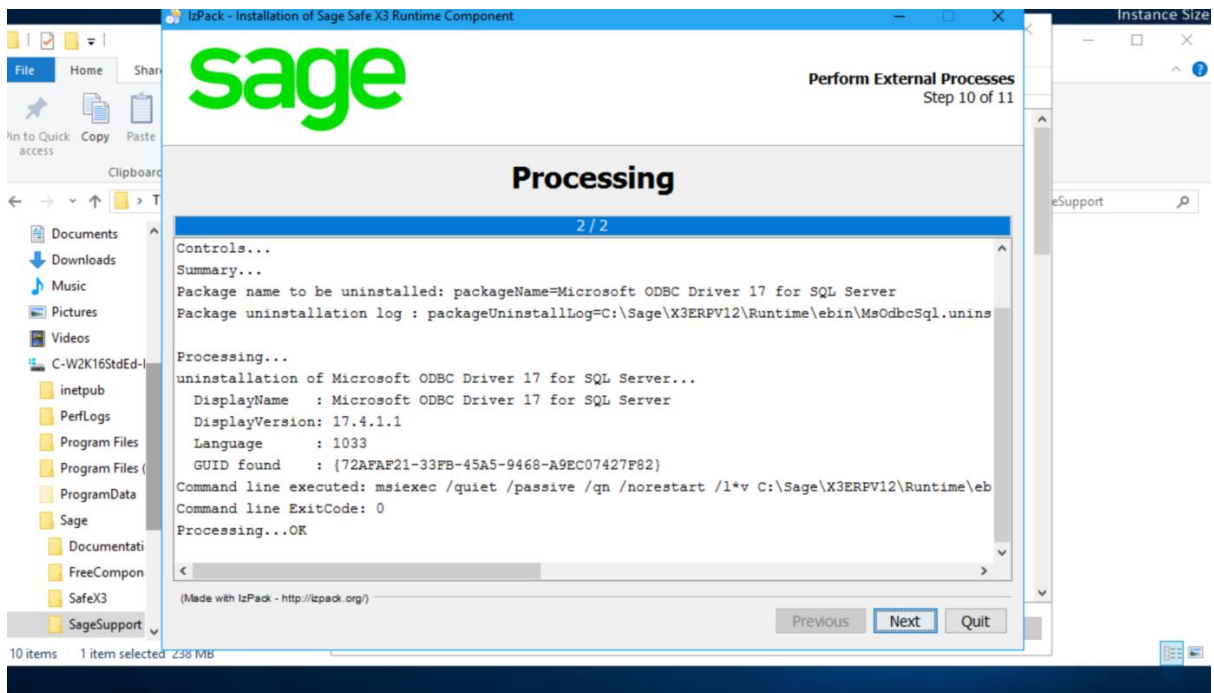
Apply 2021 R4

1. Apply ADXADMIN 94.1.9



2. Apply RUNTIME 94.1.9

Ensure that there are no adonix processes running before launching this installer.



3. Install PRINTSERVER 2.24.0

The screenshot shows the 'Installation of Sage Safe X3 V2 Print Server' wizard. The first window is titled 'Select Odbc driver(s) to be installed'. It contains the following text:

Select Odbc driver(s) to be installed

Sage X3 PrintServer uses an ODBC connection to access the database server. You must install the ODBC driver corresponding to your ERP X3 database.

To enable SAGE X3 PrintServer to connect to a MS SQLServer database

Install ODBC Driver 17 for SQLServer
(Will update the current ODBC Driver 17 with the version 17.7.2.1)

To enable SAGE X3 PrintServer to connect to an Oracle database

Install Oracle Instant client 19 and ODBC drivers

Buttons: Previous, Next, Quit

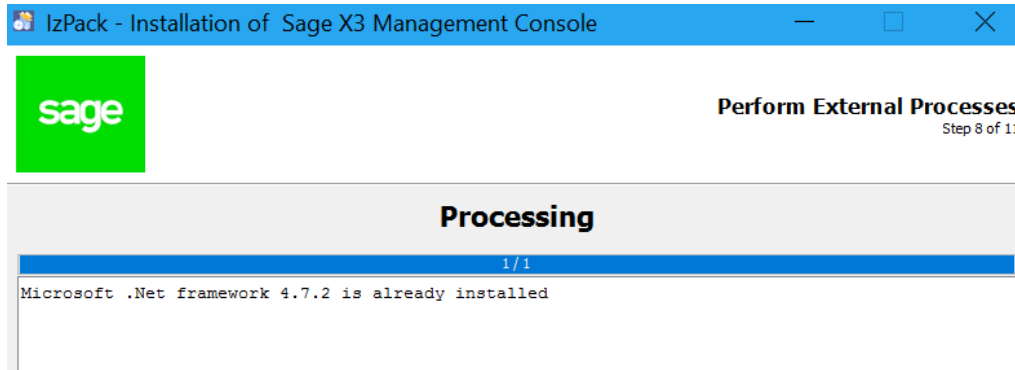
The second window is titled 'Perform External Processes' (Step 10 of 12). It shows a 'Processing' window with a command prompt output:

```

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Language : 2008
GUID found : {99799531-C0B6-4937-B32B-75E818F7C22D}
Command line executed: msixexec /quiet /passive /qn /norestart /! *v C:\Sage\SafeX3\EDTV2\EDTSRV
Command line ExitCode: 0
Processing...OK
    1 file(s) copied.
    1 file(s) copied.
    1 file(s) copied.
    1 file(s) copied.
    1 file(s) copied.
    1 file(s) copied.
    1 file(s) copied.
Log file generated will be: C:\Sage\SafeX3\EDTV2\EDTSRV\srvedit\Setinstall-2021_10_28_16_01_52
Initializations...
Update config
  
```

Buttons: Previous, Next, Quit

4. Apply CONSOLE 2.52.0



5. Performed a restart of the Windows Server, as this is required in order to complete the Print Server upgrade.
6. Multi-step upgrade of MongoDB from 3.4.16 to 4.2.12

Make sure you know the SSL Certificate details including the PEMKeyPassword.
Take a copy of the mongod.conf file.

6.1 Upgrade to MongoDB 3.6.14



6.2 Update storage from mapv1 to WiredTiger – see KB 103072 :

This entails doing a mongodump, changing the Storage to WiredTiger, move the MongoDBdata folder and then a mongorestore.

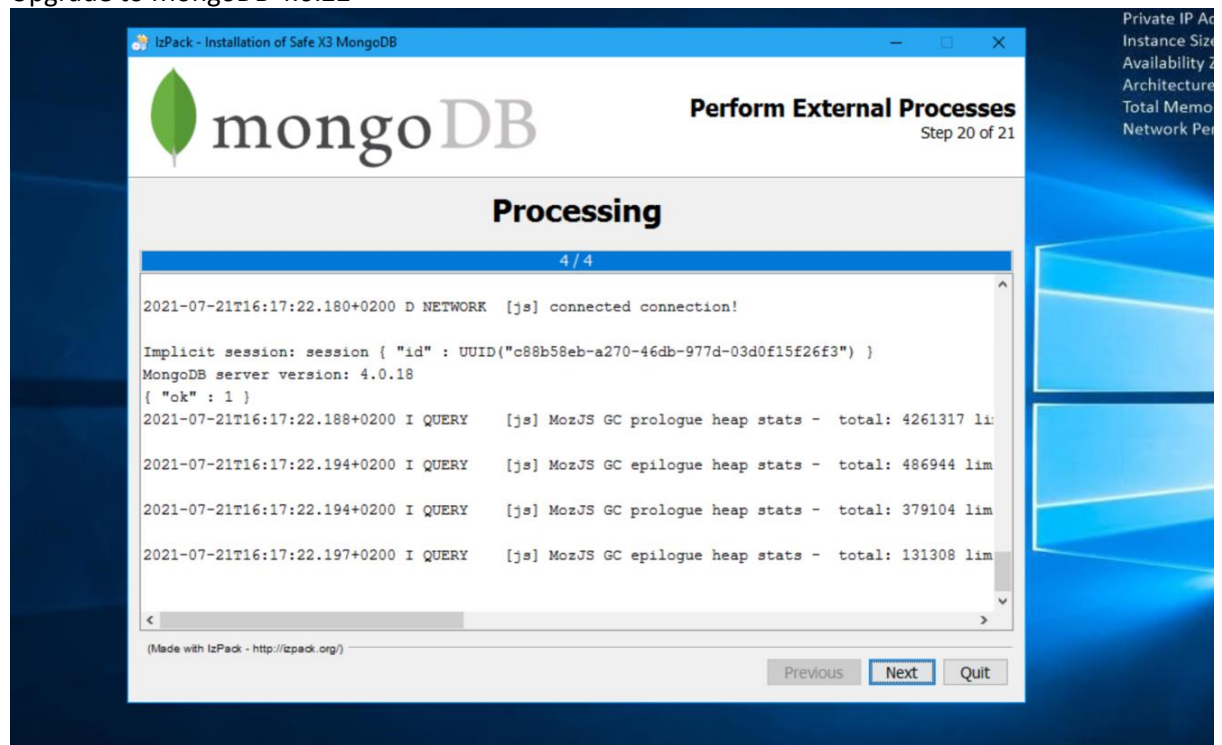
6.3 Check that MongoDB is now configured to use WiredTiger

```

mongodb.log - Notepad
File Edit Format View Help
2021-10-26T14:29:59.841+0100 I JOURNAL [serviceShutdown] removeJournalFiles
2021-10-26T14:29:59.844+0100 I JOURNAL [serviceShutdown] old journal file C:\Sage\MongoDB\data\journal\j_0 will t
2021-10-26T14:29:59.844+0100 I JOURNAL [serviceShutdown] Terminating durability thread ...
2021-10-26T14:29:59.903+0100 I JOURNAL [journal writer] Journal writer thread stopped
2021-10-26T14:29:59.903+0100 I JOURNAL [durability] Durability thread stopped
2021-10-26T14:29:59.903+0100 I STORAGE [serviceShutdown] shutdown: closing all files...
2021-10-26T14:29:59.909+0100 I STORAGE [serviceShutdown] closeAllFiles() finished
2021-10-26T14:29:59.909+0100 I STORAGE [serviceShutdown] shutdown: removing fs lock...
2021-10-26T14:29:59.909+0100 I CONTROL [serviceShutdown] now exiting
2021-10-26T14:34:09.736+0100 I CONTROL [main] ***** SERVER RESTARTED *****
2021-10-26T14:34:10.145+0100 I CONTROL [main] Trying to start windows service 'MongoDB'
2021-10-26T14:34:10.146+0100 I CONTROL [initandlisten] MongoDB starting : pid=5144 port=27017 dbpath=C:\Sage\Mongc
2021-10-26T14:34:10.146+0100 I CONTROL [initandlisten] targetMinOS: Windows 7/Windows Server 2008 R2
2021-10-26T14:34:10.146+0100 I CONTROL [initandlisten] db version v3.6.14
2021-10-26T14:34:10.146+0100 I CONTROL [initandlisten] git version: cbef87692475857c7ee6e764c8f5104b39c342a1
2021-10-26T14:34:10.146+0100 I CONTROL [initandlisten] OpenSSL version: OpenSSL 1.0.2s-fips 28 May 2019
2021-10-26T14:34:10.146+0100 I CONTROL [initandlisten] allocator: tcmalloc
2021-10-26T14:34:10.146+0100 I CONTROL [initandlisten] modules: none
2021-10-26T14:34:10.146+0100 I CONTROL [initandlisten] build environment:
2021-10-26T14:34:10.146+0100 I CONTROL [initandlisten]   distmod: 2008plus-ssl
2021-10-26T14:34:10.146+0100 I CONTROL [initandlisten]   distarch: x86_64
2021-10-26T14:34:10.147+0100 I CONTROL [initandlisten]   target_arch: x86_64
2021-10-26T14:34:10.147+0100 I CONTROL [initandlisten] options: { config: "C:\Sage\MongoDB\config\mongodb.conf", r
2021-10-26T14:34:10.148+0100 I STORAGE [initandlisten] wiredtiger_open config: create,cache_size=3583M,session_ma
2021-10-26T14:34:10.180+0100 I STORAGE [initandlisten] WiredTiger message [1635155250:180697][5144:14072418207956
2021-10-26T14:34:10.207+0100 I STORAGE [initandlisten] ...

```

6.4 Upgrade to MongoDB 4.0.22



6.5 Upgrade to MongoDB 4.2.12

7. Apply SYRACUSE 12.13

```

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Import done, 0 object(s) were created, 9 object(s) were modified, 0 errors
Import done, 1 object(s) were created, 83 object(s) were modified, 0 errors
Import done, 0 object(s) were created, 77 object(s) were modified, 0 errors
Import done, 0 object(s) were created, 61 object(s) were modified, 0 errors
Import done, 0 object(s) were created, 104 object(s) were modified, 0 errors
Import done, 0 object(s) were created, 5 object(s) were modified, 0 errors
Import done, 6 object(s) were created, 167 object(s) were modified, 0 errors
Import done, 2 object(s) were created, 103 object(s) were modified, 0 errors
Start server
Server running at http://localhost:8124/
Successfully processed 2 files; Failed processing 0 files
15:23:29.96 : 4 - Service creation ...
15:23:31.62 : 5 - Service start ...
  
```

8. Apply the 2021 R4 Application Patch

As of 2019 R4, Application Patches are Cumulative, and must be applied via the Administration > Utilities > Updates function – see the Link above.

Drop the x3-patch-12.0.28.zip into the upload field and apply the Update.

sage X3

Super administrator Super administrator

All > Administration > Utilities > Update

Updates

Name	Description	Version	Detailed status	Applied	Application Datetime	Status	Integ
x3-patch-12.0.28	x3-patch-12.0.28	R090.028.065	The update finished with warnings	✓	26/10/2021 16:45	warning	warn

If the Patch is at status Warning or Error, check the Development > Utilities > Patches > Updates (GESAUPD) function – this will provide details of which TRA-files to check for details.

sage X3

Super administrator Super administrator

All > Development > Utilities > Patches

Update

Sequence	Folder	Update
5	SEED	Header
4	X3	Header
3	SEED	Header
2	SEED	Header
1	X3	Header

Update

Catalog Detail

General

Sequence: 5, Folder: SEED, Internal version: R090.028.065, Update Type: Header, Process type: Integration, Upgrade status: Ended with warnings.

Generation status: Ended, Application end date + UTC time: 26/10/2021 18:56, Log in global check phase: X3/[TRAJ]/F318

Integration end log file: X3/[TRAJ]/F492

Catalog

Division

Sequence	Catalog	Status	Language	Legislation	Product ...	Log in check phase
1	SEED_resultPATCHScriptsvcatalog	Ended			X3	X3/[TRAJ]/F319
2	SEED_resultvcatalog	Ended with warnings.			X3	X3/[TRAJ]/F321
3						

9. Check the Patch-level in Administration > Utilities > Updates > About

All > Administration > Utilities > Update

Technical informat

Web server version: 12.13.0.31-0

Endpoints

Dataset: EMV12_X3, SEED

About

Product

Application

Release	Version
2021 R4 (12.0.28)	90.28.65

Server

Runtime: 94.1.9

10. Re-start Batch Server and Web Services as required.

11. Check that Batch Server is running, and that Requests are being processed

12. Run any fundamental checks/tests to verify that the system is working using the Browsers used by the Customer (for example Chrome and Firefox) – typically, this would be checks that Functions such as Administration > Administration > Web Services > Classic SOAP web services and Classic functions such as Purchasing > Orders > Orders load in all relevant Folders.
13. Test any Third-Party software which interacts with Sage X3 – for example, any Web Services or X3 Imports/Exports.
14. Install integration relevant Add-ons such as the Office, Outlook and Crystal Connector from the Administration > Utilities > Installation menu on a client machine and test that they still work.
15. Upgrade the Elastic Search
16. Run the Search Index Management for all relevant Folders

All > Administration > Usage

Search indexes administration

Endpoint

 🔍
Endpoints describe services locations

Entities

⊕
Entities to be indexed. Leave empty for all entities

Locales

 🔍 🗑️ ⊕
 Delete indexes before update
 Update modified records only

17. Check that the Elastic Search is working

SEED ? ☆ ▾ 🗺

GB010 X

FUNCTIONS

No result found

DOCUMENTS (8)

GB010
BP

SONGB0110010
Sales Orders - Header

SONGB0110022
Sales Orders - Header

SONGB0110043
Sales Orders - Header

SONGB0120010
Sales Orders - Header

EMPLOYEE

Employee	Requests in p
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Conclusion

This “Build diary” document provides an informal list of steps to upgrade from 2019 R4 to 2021 R4 – the principal would be the same for other Releases of V12 after 2019 R4.

Hopefully, this document will provide guidance on how to carry out an upgrade.