Test system Build Diary

2021 R4 (V12 patch 28) Migration from PU9 (9.0.11)

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Disclaimer

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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 migrate all the components to a PU9 instance to the Release 12.0.28 on an existing single-server installation.

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PU9 to V12 Patch 28 upgrade process

Starting Architecture

Single server (X3PU9TRAINVM)

- Windows Server 2012 R2 Standard
- Syracuse 9.18.1-0
- MongoDB 3.4.16
- Elastic Search 1.5.1
- X3 Application PU9
- X3 Patch 9.0.11
- X3 Runtime 19r.113
- X3 Console CFG.2.43.0.34
- X3 Print Server EDT.2.18
- Web Server (ADC) WEB.236.1
- Apache 2.2.25
- SQL Server Management Studio 2014
- SQL Server 2014 (SP3-CU-GDR) (KB4535288) - 12.0.6372.1 (X64)
- JDK Zulu 1.8.0_232 ** No need to upgrade

Not upgrading the following components (will disable these services):

- Java Bridge Server 16j.223.2

Multiple folders

- SEED
- UAT
    - History (archive) folder
- LIVE (BRI only, newly created folder)

Overview of upgrade activities

Upgrades

Adxadmin	94.1.9
Console	2.52.0
Print Server	None required at this patch level (Out of Scope)
Runtime	94.1.9
Syracuse	12.13.0
X3 (full)	12.0.28
X3 hotfix	12.0.28
Elastic Search	7.9
X3 Services	11.0.43

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Preparation

Copy and extract the required patches to the software directory
Update Windows Server, Notepad++ and Firefox/Chrome browsers

Review Documentation and setup workplan document

Check the patch instructions in "x3-patch-documents-12.0.28" directory

Access Online Help (http://online-help.sageerpx3.com/erp/12/)

- How To> Technical> Architecture and system requirements
- Whats New> Release Notes 2021 R4 (Version 12.0.28)
- Technical help> Upgrade> public technical help
    - Before you start
        - Prerequisites overview
        - V12 prerequisites
    - Technical help> Upgrade
        - Easy upgrade guide

KB articles

- Additional notes when upgrading ElasticSearch (https://support.na.sage.com/selfservice/viewdocument.do?externalId=99424)
- Additional notes when upgrading to MongoDB 3.6 (https://support.na.sage.com/selfservice/viewdocument.do?noCount=true&externalId=103072)
- Additional notes when upgrading to MongoDB 4.x (https://support.na.sage.com/selfservice/viewdocument.do?noCount=true&externalId=107620)

Upgrading SQL Server
https://docs.microsoft.com/en-us/sql/database-engine/install-windows/upgrade-sql-server?view=sql-server-ver15

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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.

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Documentation to use for planning and execution of this task

Sage Online documentation

Overall V12 documentation
http://online-help.sageerpx3.com/erp/12/public/index.html

Pre-requisites
http://online-help.sageerpx3.com/erp/12/public/Prerequisites-(Last-version).html
http://online-help.sageerpx3.com/erp/12/public/prerequisites_overview.html

Installation documentation
http://online-help.sageerpx3.com/erp/12/public/getting-started_sage-erp-x3-installation-procedure.html

Application Server : https://online-help.sageerpx3.com/erp/12/staticpost/installing-the-application-server/

Console: https://online-help.sageerpx3.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 (sageerpx3.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 | (sageerpx3.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

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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"

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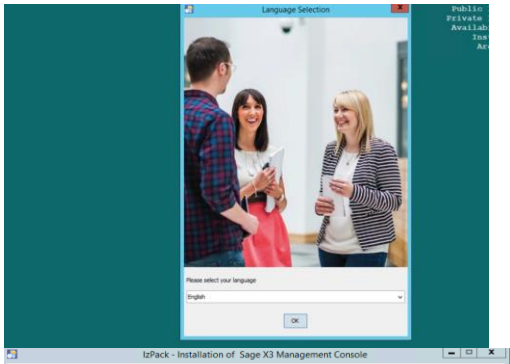
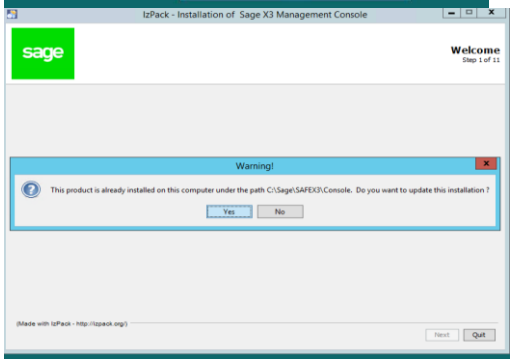
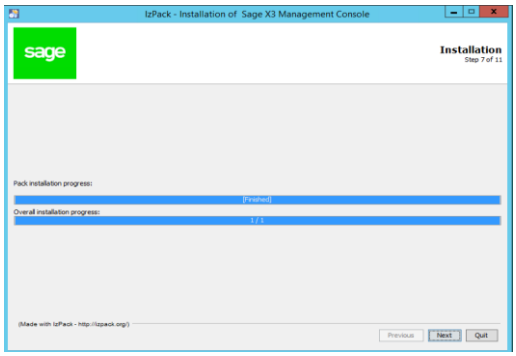
Apply technology component patches

- Update Console 2.52.0







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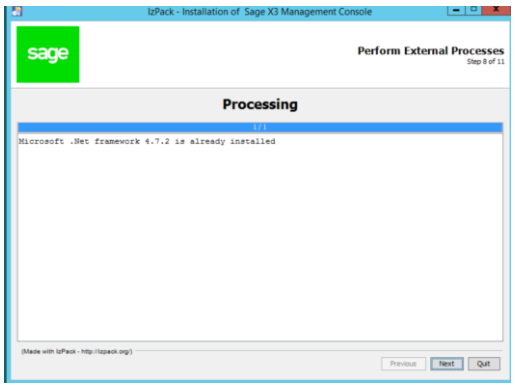
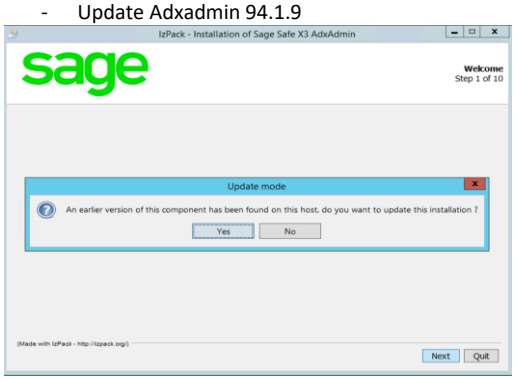
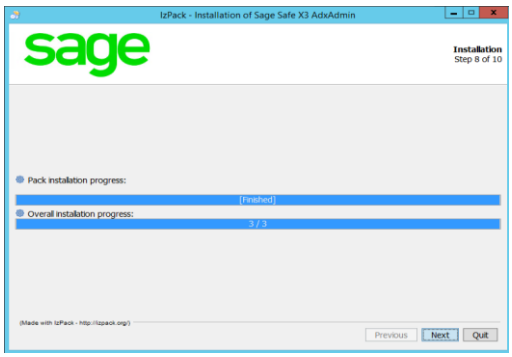


- Update Adxadmin 94.1.9





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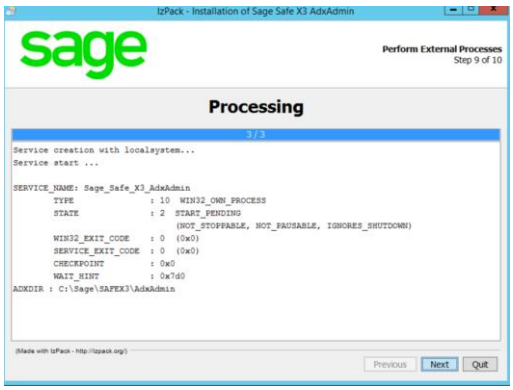
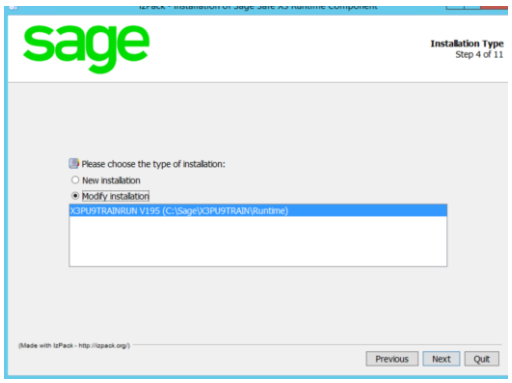
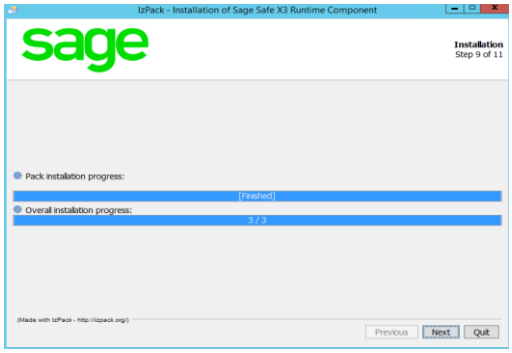


- Update Runtime 94.1.9





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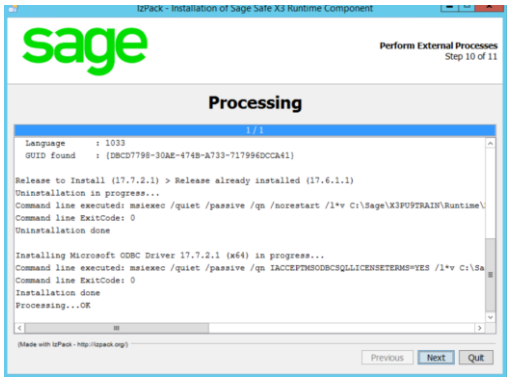


- Update X3-Services 11.0.43

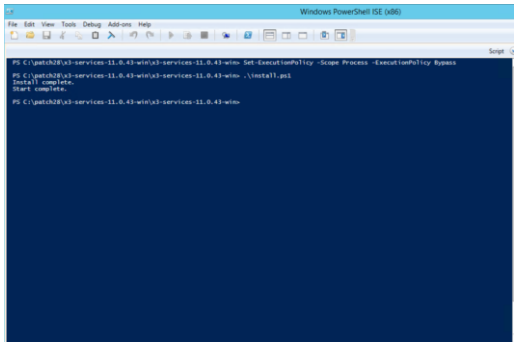
Instructions:

From directory :-
C:\patch28\x3-services-11.0.43-win\x3-services-11.0.43-win

Run this script from a PowerShell prompt with administrator privileges
.\nodejs\win32-x64\node.exe .\service.js install

Ensure the Powershell command :-
`Set-ExecutionPolicy -Scope Process -ExecutionPolicy Bypass`

Is executed to bypass scripts that are not digitally signed:-



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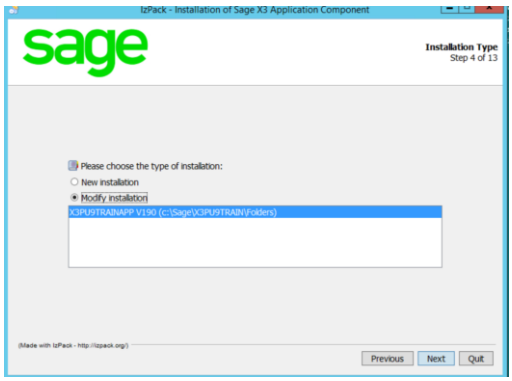
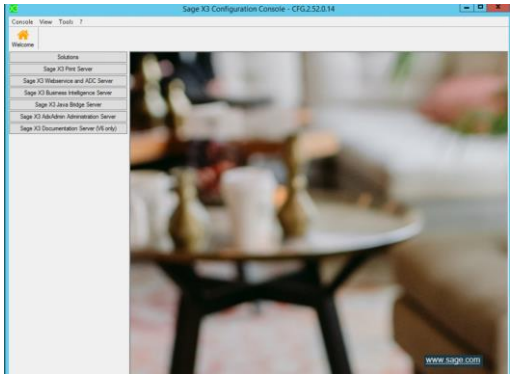
- Update Application component 12.0.28 (x3-application-12.0.28.jar)
-



- Restart Windows Server

- Use X3 console to reconfigure Runtime server



Select Solution:

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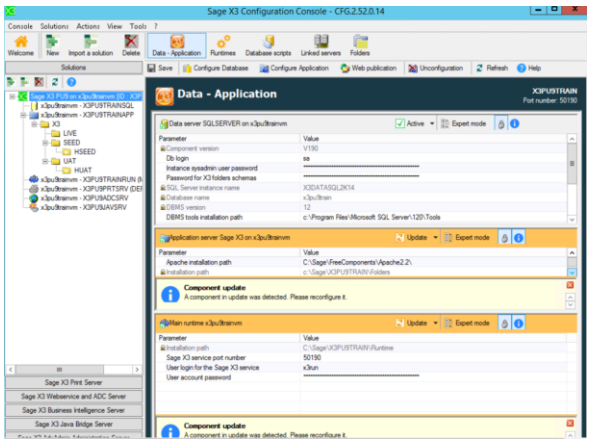
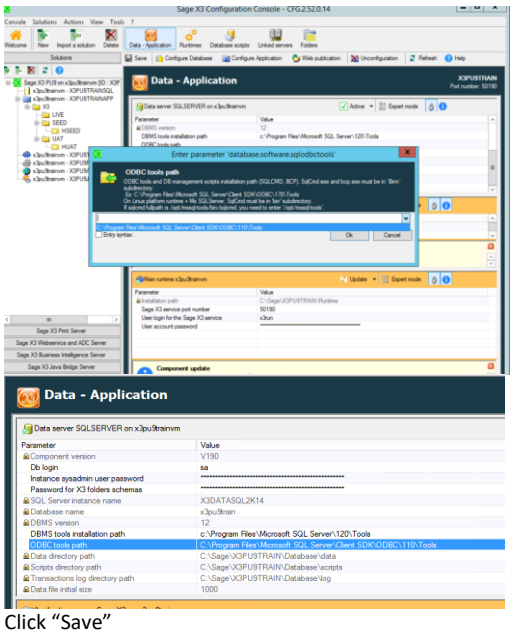


Added ODBC tools path (from drop down)



Click “Save”

Click “Configure Application”

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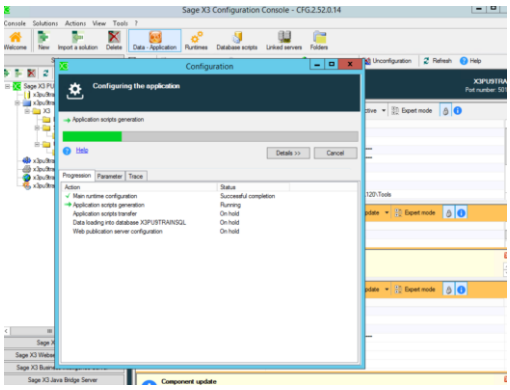

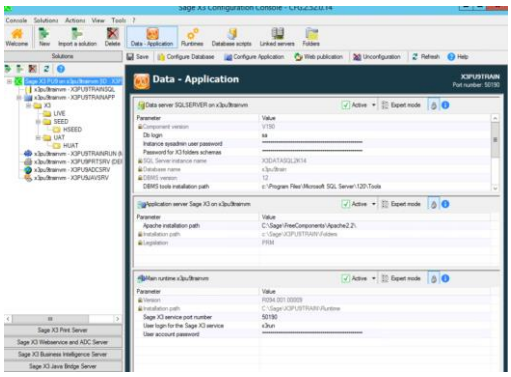

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- Upgrade MongoDb from 3.6.14 to 4.2.12

Make sure Syracuse service is stopped

Ensure Mongo Storage is set to WiredTiger

If not :-
Edit mongodb.conf

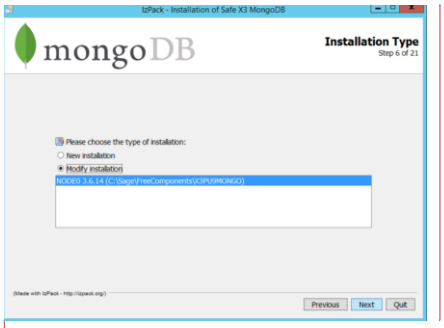
```
operationProfiling:
    slowOpThresholdMs: 10000

        engine: wiredTiger
##          engine: mmapv1
```

Stop MongoDB service
Rename data directory then create new empty data directory
Start MongoDb service
Run “mzRunMongoRestore.cmd” to pull the Syracuse data back in

a. Upgrade to Mongo 4.0.18.84

Review KB 103072 for more information if needed



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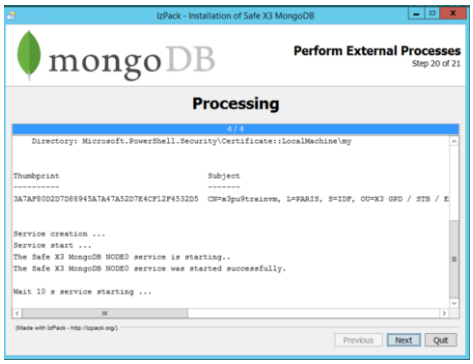

Repeat above for 4.2.12.10 version, do mongodump between each version as a backup

Ensure parameter below is set within Mongo.
Access the Mongo Shell and enter
Set `db.adminCommand( { setFeatureCompatibilityVersion: "4.0" } )`

Recheck/edit the config file
Change slowOpThresholdMs back to 10000

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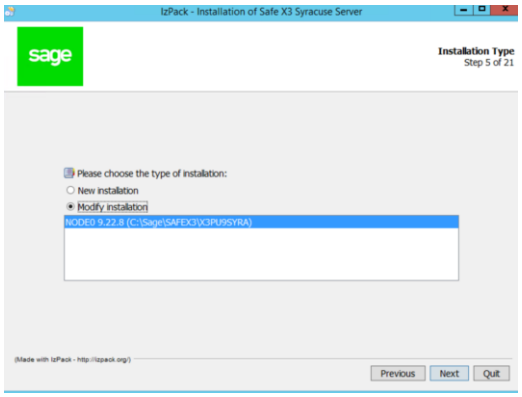
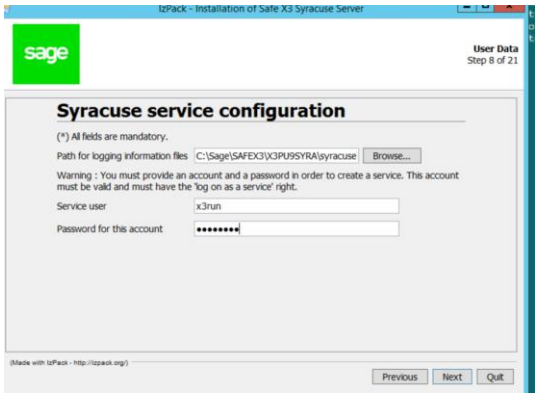
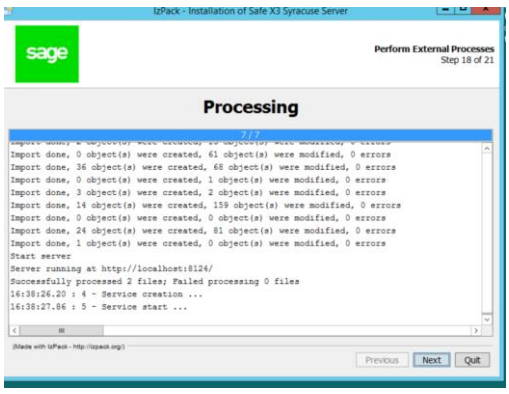
- Upgrade to SyracuseServer 12.13.0







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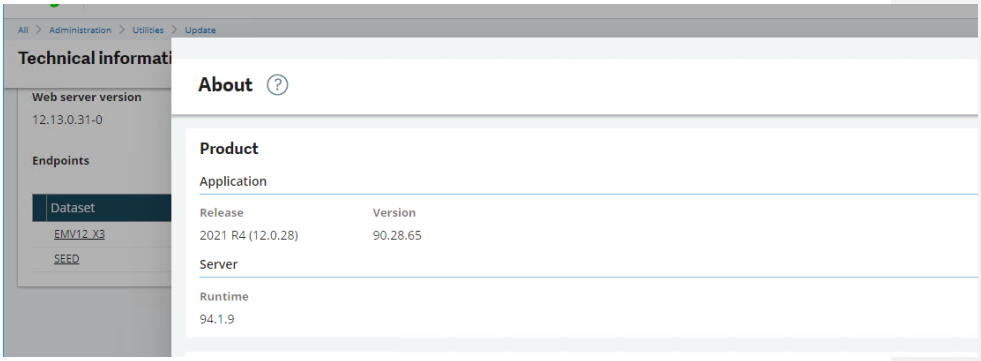
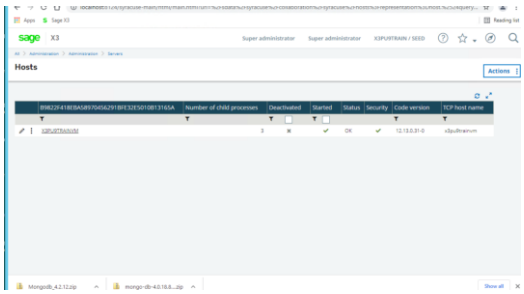
Finishing X3 update steps

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



Login as ADMIN user and check hosts



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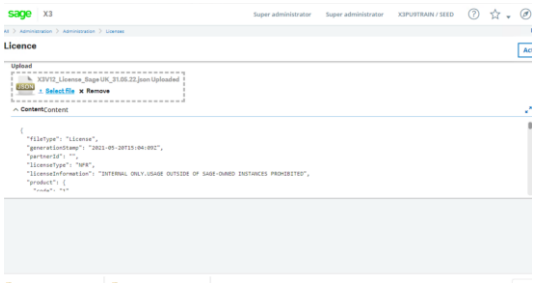
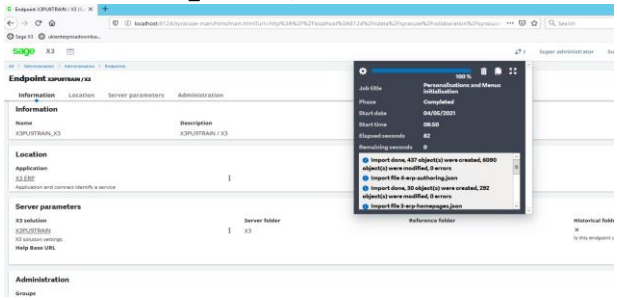


Update supervisor

Login to X3 as ADMIN
Connect to X3 folder
Launch classic function Parameters, Users, Users

Run Personalisations and menus initialisation

Administration> Administration> Endpoints> Endpoints
Select “X3PU9TRAIN_X3” folder, then run “Personalizations and menus initialization”



Logout and login

Check versions, select the X3 folder

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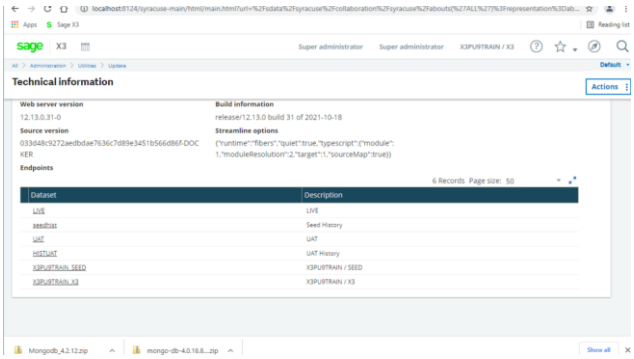
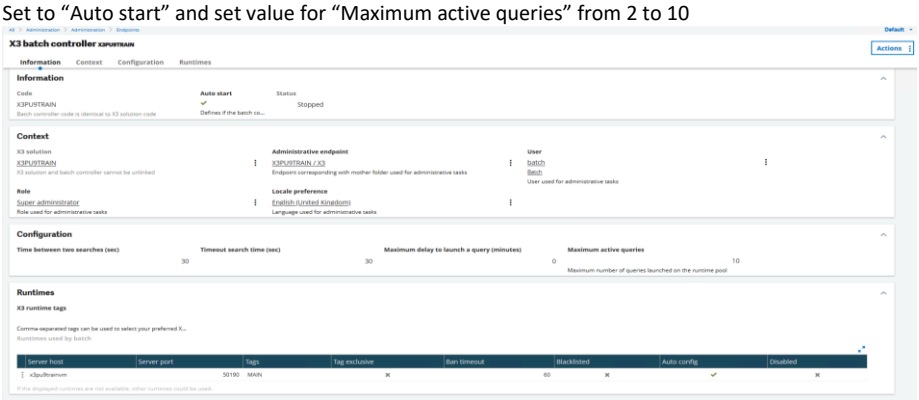


Check/update the batch server

Decided to do this first so I could run the folder validations all together through the batch server. Be aware that existing batch jobs ready to run against the child folders when the batch server comes up shouldn't work and will therefore abort!

Set to "Auto start" and set value for "Maximum active queries" from 2 to 10



Start batch server and make sure it is running

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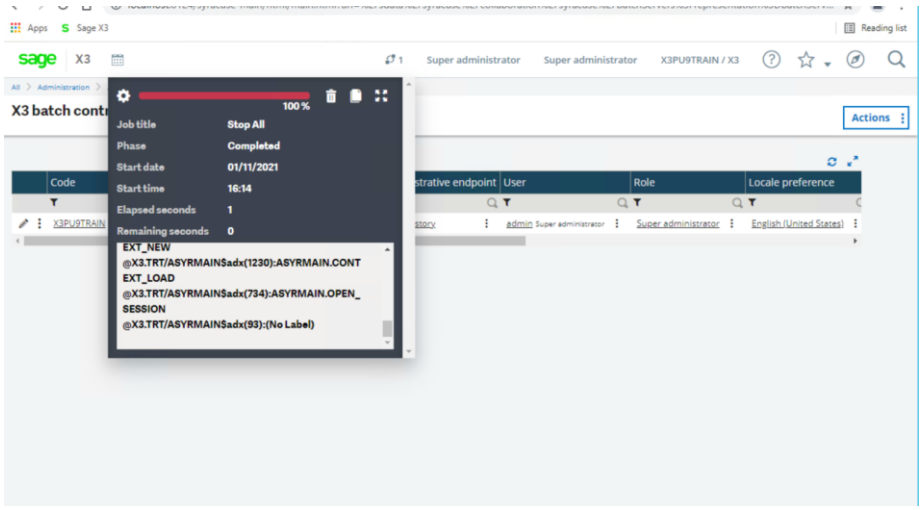

Note:

An error was returned : " Create Session error : X3 engine error: EVENTS: Non-existent label "

A root cause is currently being investigated, however a workaround solution has been found:-

Workaround: In the Batch Controller screen, Administrative Endpoint field, Change value Seed History to X3

The batch controller can then be started.

Revalidate child folders

Login and connect to X3 folder

First stopped Web Pools and Elastic Search service, to reduce load

Navigate to Parameters, General Parameters, Folders
Edit each child folder record, check/change option "MIG" = "Yes" (For LIVE, UAT and SEED folders)
Make some small change and re-save the record

You can do revalidate the folders individually, but in this case we will run all at the same time via the batch server

Usage, Batch server, Query management
Launch three new queries with task code "VALDOS" for each of the three folders:

- SEED
- UAT
- LIVE

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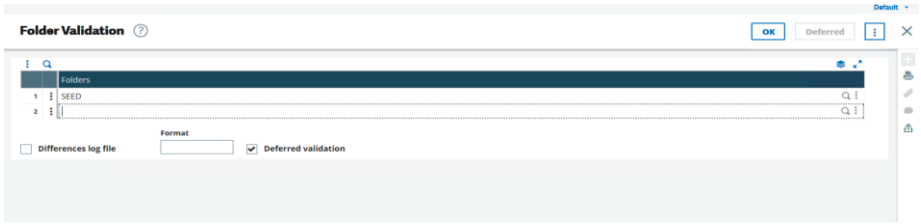
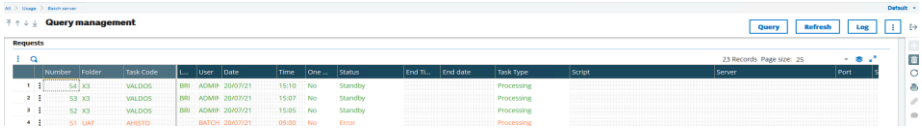
NOTE: we are running as three separate jobs to run in parallel

Run HUAT afterwards as a separate job

Select the date and time, and click Validation on the right-hand panel.

Select the folders to be validated and then click OK





Took 3 hours from starting first one to finishing last one

Check for any additional patches to apply in the PATCH directory of the installation media

First need to update per "How can I enable/disable Automatic Window Validation as part of Cumulative Patching since X3 V12.0.21 / 2020 R1 Update?" (https://support.na.sage.com/selfservice/viewdocument.do?externalId=107874)

For SEED, LIVE and UAT folders, navigate to Parameters, General Parameters, Parameter values
Select SUP, PRF
Change LAUNCHSYNC parameter to “No”

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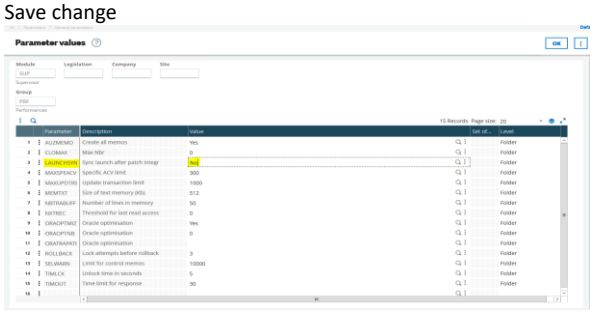
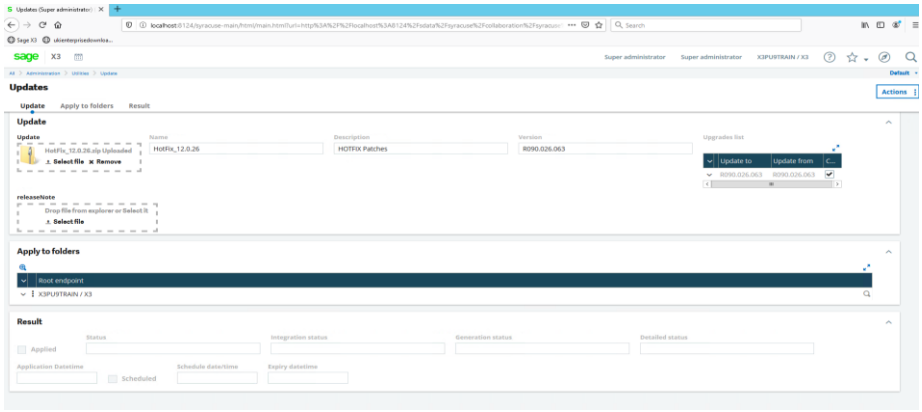
Save change



Logout, then login again

Apply Hotfix_12.0.28.zip
Navigate to Administration, Utilities, Update, Updates
Load file “HotFix_12.0.28.zip”



Upgrade ElasticSearch to 7.9

Follow “Additional notes when upgrading ElasticSearch”
https://support.na.sage.com/selfservice/viewdocument.do?externalId=99424

Update Search index

Navigate to Administration, Usage, Search Index Management
Select the data source endpoint to index (SEED)
Enter the Locale for which the index must be updated (Leave as default)
Select Delete index before update
Click Update index

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Conclusion

This “Build diary” document provides an informal list of steps to upgrade from PU9 to 2021 R4.

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

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