

Sage X3 – Housekeeping suggestions

X3 Version 12

Updated: 07/10/2021



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Document Information

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Introduction

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This document is designed to give a Sage X3 Applications administrators some ideas as to what housekeeping tasks could be useful to perform.

This is not a complete list of all tasks you should perform on your own system, but aims to give some pointers to common administration tasks that would generally be recommended by Sage to be performed.

As this document is generic, you will need to adapt it for your own situation. If you need help to determine which housekeeping tasks are relevant for your specific site, you could engage your local Sage X3 partner to assist.

If you have a service provider that performs system maintenance or provides system services (such as Cloud customers) some sections may not be completely relevant.



Confirming Sage X3 version information

A common question when requesting help from Sage Support will be "What version of Sage X3 are you using?"

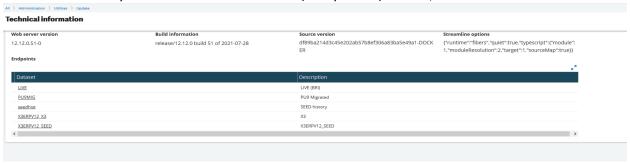
There are various different components that make up your X3 system, but the most important to know the versions for are:

- a. Sage X3 Patch level
- b. Runtime
- c. Syracuse Web Server

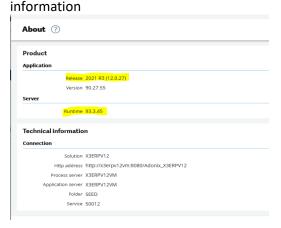
Luckily you can confirm the versions for all three of these from one screen within X3 itself

Navigate to Administration, Utilities, Update, About

On this first screen you can see the "Web Server" (i.e. Syracuse) version, in this case 12.12.0.51-0



Each X3 folder could potentially have a slightly different version, although for most customers this would not be the case. You can check each folder individually by clicking the link for the relevant folder. For example, click the "X3ERPV12_SEED" folder name to get the X3 folder version and runtime version



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Here we can see the "Patch" version is 27 which is the X3 folder patch level and the "Runtime version" is 93.3.45 in this example



Setting up separate users for Batch Server and Web Services

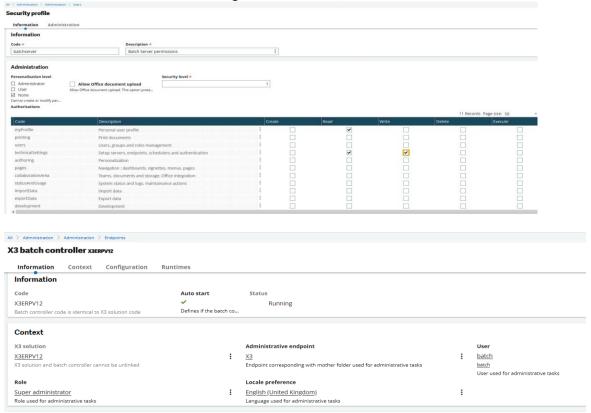
When setting up Web Services and Batch Jobs, it is tempting to just set these up using the ADMIN user, as it's quick and easy to do so. Whilst this will work, you are giving your batch users and web service users the same security equivalence as your Administrator (i.e. access to everything) and also may run into situations where changes to the ADMIN user will effect these other services. It is best practice to setup new users to be used for batch server and also web services. Indeed, you may decide to have multiple users in both categories, if it better suits your business requirements

The steps are:

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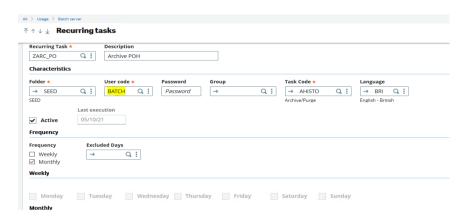
- 1. Setup new users as required in Administration, Administration, Users, Users with the relevant permissions
- 2. Create corresponding users for the relevant folders, Parameters, Users, Users with the relevant permissions. NOTE: the user for the batch server will also need to be created in the "X3" folder, as well as any child folders
- 3. For the batch server itself, navigate to Administration, Administration, Endpoints, Batch server. Set the "User" to the batch user you have setup. Apart from giving better access control and visibility, you can also change the badge which the batch user is using. In some older versions of Sage X3 using the ADMIN user for example would consume an ERPDEV badge, which is not desirable. Optionally you can also change the "role" if appropriate

NOTE: In order to be able to start the batch server, the batch server user needs security profile authorizations for the "technicalSettings" to be enabled, as shown below:

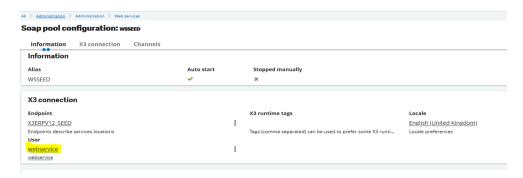




4. For the Batch Server recurring tasks, navigate to Usage, Batch Server, Recurring Task Management and set the User Code to your batch user

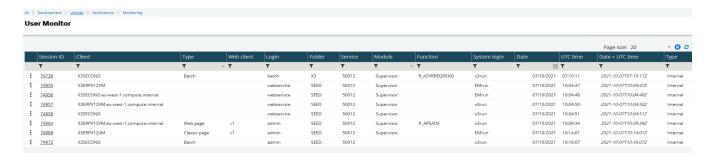


5. For Web Services, navigate to Administration, Administration, Web Services, Classic SOAP pools configuration and set the "user" to your web services user. NOTE: the Web Service user (and language) is just a default setting. When calling web services, the calling program may well use a different user and/or language setting



Now when you want to confirm which users are using the system, you can easily see which users are Web Services or Batch server users, as well as being able to better control and manage the permissions and accesses for the users using these functions

For example: Navigate to Development, Utilities, Verifications, Monitoring, User Monitoring



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Archive / Purge

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Some data is useful for only a finite period of time, such as log files or temporary tables, other data is needed long term but is perhaps only referred to in detail occasionally, such as transactional data from previous financial years. X3 provides the ability to clear out certain data by purging (deleting permanently) and some data can be archived to a separate area, leaving it online for query purposes.

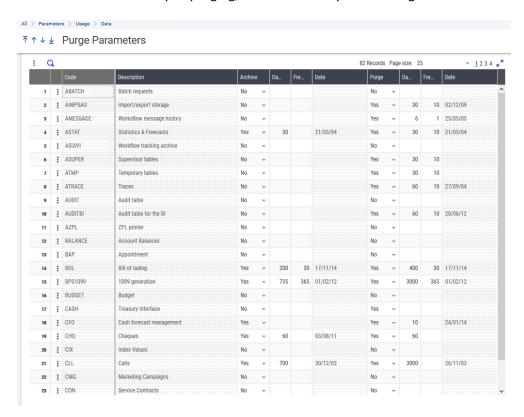
Whilst both purging and archiving are optional, it is prudent to consider using either or both these facilities in order to give best possible performance and to keep disk usage to a minimum

Navigate to Parameters, Usage, Data, Purge Parameters

This shows the available Archive and Purge routines. You should review the list and configure according to your business needs

Only data considered as closed (i.e. that which will not change any more) can be purged or archived

Some routines relate only to purging, some relate only to archiving and some allow both activities



You control how long to keep data with the "Days" setting. Any data that is purgeable (closed) and is older than the specified number of days, then qualifying for being purged on the next run

"Frequency" controls the gap between Purges. For example, if set to 10 days, then after a purge run it will not attempt another purge run for another 10 days. It is suggested you set this to 0 or 1 day for all tasks you are using, then create a scheduled batch task to perform the purge at an appropriate frequency for your requirements, for example weekly or monthly



Purging

Purging should be configured for each folder, including the "X3" folder

You should pay particular attention to the purge jobs starting with "A" as most of these will likely need to be enabled and will apply to most systems and most folders

The ABATCH task is a special case as this applied only to the "X3" folder, as it stores the information relating to the Batch Server itself

As another example, ATRACE is used to manage the log files which is created by most batch jobs. These files are retained in the folder TRA directory until purged

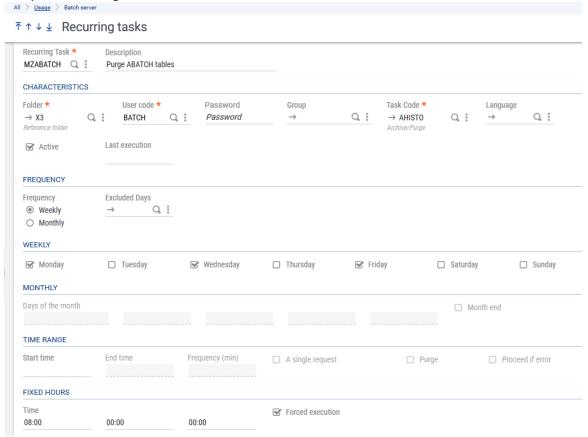
For the purposes of demonstration, this document will show the setup for purging for these two jobs, but you should review and decide which jobs are applicable for your own circumstances

Example of setup for ABATCH task

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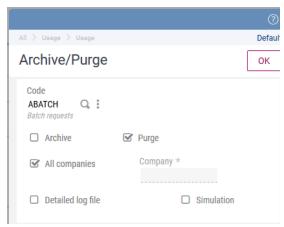
Log into the "X3" Folder and then go to option Usage, Batch Server, Recurring Task Management (GESABA)

Setup the recurring task as shown below:





- Use the task code AHISTO which is the Archive/Purge code
- Set the task frequency as desired for your requirements
- Selecting "Forced Execution" ensures the job executes when the batch server is re-started and the execution time has lapsed
- Online help is available at http://online-help.sageerpx3.com/erp/9/staticpost/recurring-task-management/
- You will not be able to activate the task until you have defined any required parameters (Parameter Definitions)



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- Enter the code for the Purge or Archive routine
- Ensure you select "Purge" and / or "Archive" as appropriate
- "Detailed log file" and "Simulation" would not normally be selected

Once the task has been saved, you can see the executions of the task by navigating to Usage, Batch Server, Request Management

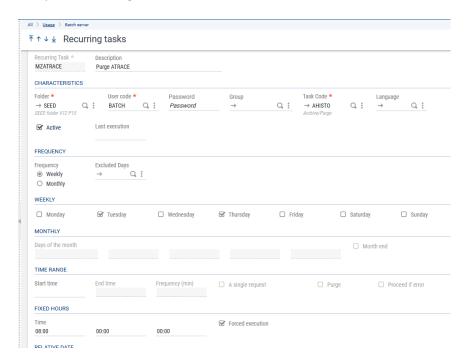
The recurring task may not appear on the list immediately, as it won't be in the list until the morning of its first run



Example of setup for ATRACE task

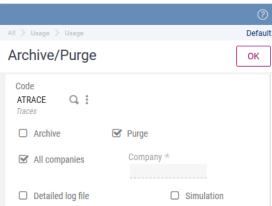
This task relates to each folder individually. For our example, we will setup for the SEED folder Connect to the SEED folder, then navigate to option Usage, Batch Server, Recurring Task Management (GESABA)

Setup the recurring task as shown below:



Parameters

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Repeat these same setup steps for your other folders in this solution



Archiving

Archiving allows you to retain historical data for read only review purposes in a separate area from the live transactional data. This is useful where you want to retain the historic information, but not want to impact overall system performance by keeping too much data in the main folder itself

You should review your data volumes in conjunction with your business requirements and decide which tables (if any) could or should be archived to achieve these business objectives

Example of set up for Archiving

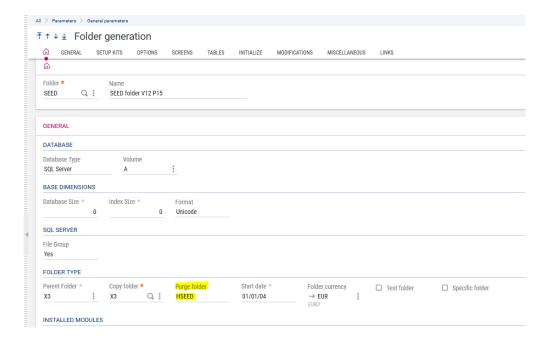
a. Setup Archive folder

Development, Utilities, Folders, Creation of Archive folder Default Creation of Archive folder OK Folder * Database Size * Index Size * Growth factor * File Group HSEED 2048 1024 2.00 Enquiry menu profile * Q: HIST0

This could take several minutes to complete

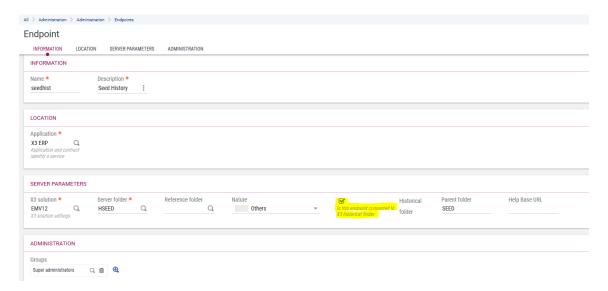
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Check the Folder setup to confirm after completion. Parameters, General Parameters, Folders





Create end point for this purge (aka history) folder Administration, Administration, Endpoints, Endpoints



b. Check the Archive parameters

Parameters, Usage, Data, Purge Parameters

Configure the Archiving for any objects you are interested in, setting the days/frequency as required for your business requirements

c. Setup Batch Job to run the Archive process

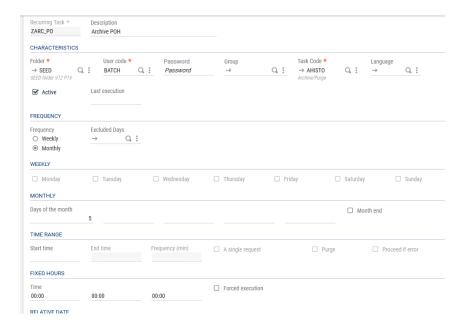
Help on the archive process is available online

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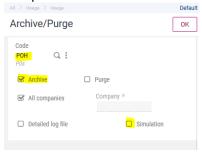
http://online-help.sageerpx3.com/erp/12/staticpost/archivepurge/http://online-help.sageerpx3.com/erp/12/staticpost/archivepurge-2/

This task relates to each folder individually. For our example, we will setup for the SEED Folder Navigate to option Usage, Batch Server, Recurring Task Management (GESABA)





Add parameters



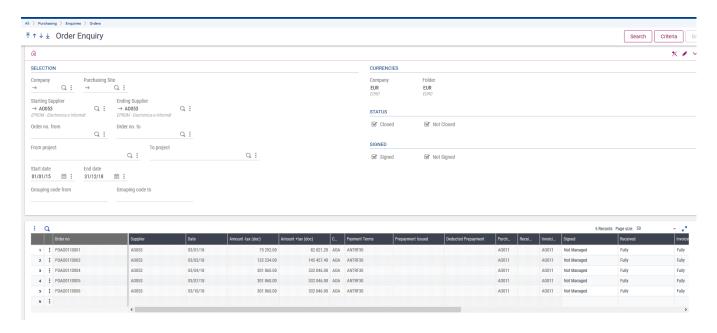
You can run the Archive/Purge interactively, by navigating to Usage, Usage, Archive/Purge if needed

d. Check results by doing Enquiry on historic data

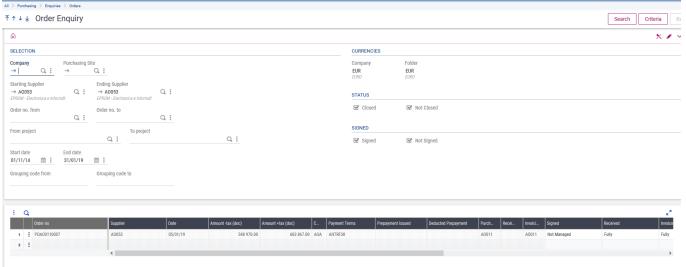
Connect to your Seed history folder, then do any queries you are interested in to see the historical data For example, navigate to Purchasing, Enquiries, Orders, List of orders (CONSCPO)

Archive folder shows the following transactions:





The same enquiry on the original SEED folder now only shows the following:



Validation of Historic folder

If you upgrade or patch the main folder, the historic folder (e.g. HSEED in this example) will need to be manually revalidated. You will see messages to this effect, for example you will see message "The folder validation must be relaunched for the historized folder HSEED" when launching a function in the historic folder

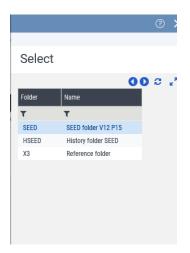
To revalidate the HSEED folder:

- 1. Connect to the "X3" folder
- 2. Navigate to Usage, Batch Server, Request Submission
- Select folder "X3", User Code as required and task code "VALDOS", then click the "Validation" button



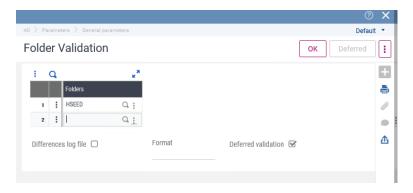


4. Pick the HSEED folder

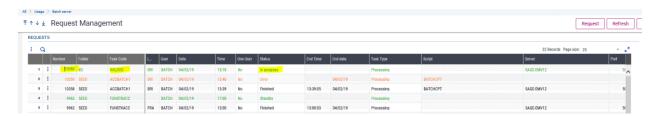


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5. Pick any other options if required, then click "OK" to send the task to the Batch Server



6. You can monitor the tasks progress through Usage, Batch Server, Request Management (or Administration, Administration, Endpoints, Batch Server, then select "List of queries")





Removing other temporary files

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Some temporary files are not automatically removed and need to be maintained manually. In essence, some or all files in certain directories could be removed periodically, as noted below:

For all cases described, ensure all Sage X3 services are stopped, and you have a current backup of all of Sage X3, before removing any files

Directory	Files that could be removed	Special instructions/notes
folders\< <foldername>>\tmp</foldername>	All files more than 7 days	
	old	
folders\X3_PUB\< <foldername>>\TMP</foldername>	All files more than 7 days	
	old	
runtime\tmp	All files more than 7 days	
	old	
Database\trace	Any files no longer needed	Database trace files are written to this location. These are generally manually enabled for diagnostic purposes only
Apache\logs	Access.log and error.log could be renamed, for example once a month	Apache is installed manually by your installer before Sage X3, so the location will vary. Be cautious, as there may be more than one Apache installation on your server

Cloud customers may not have access to the server file system, however you should ensure the Cloud provider is monitoring and maintaining these directories, as they may or may not be aware this needs to be done



Monitor/manage to ensure batch jobs not taking up too much resources

Depending on your users' active hours and busiest times, you may want to ensure that some heavy processing batch jobs, such as described in this document, are not executed during the users' main working hours

You should additionally consider when the system backups are taking place as there may be some tasks which should not be run during these times also

You should therefore draw up a list of times during which it is acceptable to run the batch tasks and schedule them accordingly. You can consider if you need to enforce these hours using "Hourly Constraints" and/or "Batch server calendar" for the Batch Server tasks

Navigate to Parameters, Usage, Batch Server where you will find these options to allow you to configure allowable dates and allowable days/hours of batch task execution

Once hourly constraints have been configured, you can modify the Task configuration to ensure it conforms. Navigate to Usage, Batch Server, Task Management and configure the tasks as needed

Cloud customers may not be able to review system performance directly, however your provider should be able to provide assistance to identify where system resources may be getting overloaded

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Backup / Restore

Your backup strategy will need to reflect the Business' Disaster recovery objectives and policies, so the first step is to confirm and understand these objectives and policies, specifically:

Recovery Time Objective (RTO)

How much downtime is acceptable, in other words the time it takes to get the service back to a state where users can login and work normally again after a failure

Recovery Point Objective (RPO)

How much data it is acceptable to lose once recovery has been achieved. In other words, how much work the users will need to redo after a successful recovery

Cloud customers should ensure they understand what these policies are with their provider

These two items alone should provide a good guide to the type and frequency of backups that need to be taken, in order to satisfy these requirements

If you have a multi-server Sage X3 instance (different X3 components spread out across different servers), you should consider all these servers as one whole in a backup strategy. i.e. you will need to backup all the servers and perhaps also need to synchronize these backups for some servers

The items you need to consider for backup include:

- SQL Server or Oracle Database
- MongoDB

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- Filesystem files
 - o Relatively static data (such as binaries)
 - Regularly changing data (such as log files and Elastic Search index files)
 - Don't forget some X3 specific data is stored under the Windows User home directory, for example some Management Console information
- Windows Server registry entries

You need to ensure you take SQL Server database backups and SQL Server log file backups such that any business recovery objectives are achieved

Essential configuration data and other user data, such as documents, are stored in the Mongo Database, so you therefore also need to ensure you backup MongoDB database

The file system and Windows registry should also be backed up regularly to ensure you capture regularly changing files such as log files, and maintain backups of relatively static files, after patching for example



Testing the recovery/restore procedures

You should regularly test your recovery processes, which includes restoring the data from backups. This would need to be done on separate hardware from your LIVE system. Testing your restore processes allows you to:

- Ensure your backups are working and usable
- Confirm your recovery processes and procedures work well and are up to date
- Give the Sage X3 Administrators a chance to practice the recovery steps, so they are well versed in the processes

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Change Control procedure

There are many changes that can be made to even a single node X3 instance, with any such changes having potential to disrupt the correct functioning of the instance:

- Operating System patches (Windows Updates)
- Changes to operating system parameters (Windows registry edit, changes to firewall settings)
- Sage X3 Technology Stack patches (Syracuse, Runtime, etc.)
- Sage X3 patches or hotfixes
- Updates to Sage X3 configuration files (Syracuse, Management Console, MongoDB, SQL Server, etc.)

In multi-node instances, the list gets a bit longer:

- Load balancer setup
- Network topology

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It is therefore important to have a change control procedure that allows you to plan and understand what changes are applied to any component of your X3 instance or the supporting infrastructure, so that:

- Changes can be applied in a controlled manner, going through testing before being promoted to the LIVE instance
- Any issues introduced by any change can be identified and reverted if necessary
- The business can understand any risks from proposed changes
- Business users can be scheduled to be involved in testing and changes

For some, this process may be as simple as a spreadsheet listing any changes that have been made, but in other cases there may be formalized systems to request and authorize changes before they are applied

Change control will often only apply to LIVE instances, although there is an argument for it to also be applied to TEST instances also

Cloud customers will likely have no control over the servers or when patches are applied, however your provider should be able to advise when any such changes are to be applied



Patching and Testing

A "patch" is where new code needs to be installed but is still within the same major version. e.g. Applying Patch 27 to a V12 instance that is already on Patch 20 is "patching" but going from X3 V7 to X3 V12 is "migrating" or "upgrading". In this section we will only consider "patching"

Sage will generally provide a quarterly release but may also release a "hotfix" to resolve specific issues.

With the quarterly release patch there are generally multiple patching activities that need to be undertaken. Refer to the Sage X3 Support team alerts and updates page at https://www.sagecity.com/gb/sage-x3-uk/f/sage-x3-uk-announcements-news-and-alerts for more information, and also check the compatibility matrix in this page. Review the patch "Readme" and any release notes to understand what components need to be updated and in what order.

Hotfixes are typically a few files only and will have specific patch documentation to advise how to implement.

NOTE: when applying a "Hotfix" you should still go through these same steps, as for any other patch. Even though the impact of a HotFix is likely to be less, you still need to understand the impact and perform testing to confirm its effect

The general flow of a patching activity could be summarized as described below:

- Patch Analysis and planning
 - You perform a patch analysis to determine the areas of functionality that are affected, not forgetting any customizations you may have implemented
 - Identify and understand any pre-requisite and post-patch steps you need to take
 - You will also need to be able to backout the patch if it fails for some reason. You should therefore have a backout plan which can be implemented in your LIVE instance if necessary
 - Document all the expected steps, which should include links to all the additional notes or documentation that needs to be referred to. This document can then become your "Patch diary" to give a clear and repeatable process

NOTE: Sage Support strongly advise that you should always apply all the latest Technology patches relevant for your X3 patch release level, even though some may be flagged as "Recommended" rather than "Mandatory" in the patch documentation

• Apply patch in TEST environment

It is important to have a test environment which is completely separate from the LIVE environment, i.e. on separate hardware and with no shared components. This is to ensure that there is no cross-contamination between the environments, and no performance impact on LIVE when running the TEST instance

- Take a pre-patch backup
- Perform pre-requisite tasks, such as applying Syracuse patch
- Apply the Sage X3 patch

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- For the X3 patch itself, you should apply these using the "Updates Management" function (Administration, Utilities, Update, Updates)
- Perform any post-patch tasks



This may include applying additional patches, functional configuration steps or other activities

- Validate and perform testing in TEST environment
 - Review the patch logs to ensure they went in without errors and that you have understand any warning messages
 - It is recommended you always test all business critical functions to ensure there are no unexpected side effects in these most crucial areas
 - Test all areas affected by the patching activity, as identified by your earlier patch analysis
 - Ensure you test any external links and any partner applications
 - For example, Web Services, Business Intelligence and any other third party or customized interfaces

NOTE: if you hit any problems or issues you should resolve and document the solutions, then perform a re-test before proceeding. This will ensure you have a "clean" patching run and will have a well-documented and repeatable process in your "Patch diary" document

- Test your backout/restore strategy
 - Once you are happy the patch is successfully applied, you may wish to test your backout plan, although in many cases this may be to restore your environment to the pre-patch backup
- Promote the patch through your test system hierarchy
 - If you have separate test instance (for example, you have a separate patch test and UAT)
 then you should apply the documented patch process to the next TEST instance
- Once all testing is successfully completed, schedule the patching activity for your LIVE instance. You will go through similar steps as per the TEST instance:
 - Ensure all users are logged out
 - Take a pre-patch backup
 - Perform pre-requisite tasks
 - Apply the patches
 - Perform post-patch tasks
 - Validate and perform non-destructive testing in LIVE environment
 - Allow key users onto the system for final checks
 - Release to all users

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• Update your Change Control documentation



Auditing

Your auditing strategy will need to reflect the Business' Auditing objectives and policies, so the first step is to confirm and understand these objectives and policies

These policies would often include the following objectives:

- Sustaining accountability
- Ensuring compliance with standards and policies
- Monitoring for inappropriate or unusual activity
- Monitor health and performance of a system

From a Sage X3 perspective, this boils down to deciding what data you need to audit, for example failed logins, updates to key fields on certain tables, etc.

WARNING: the more auditing you enable, the more overhead you create on system performance and could also potentially generate large amounts of audit data, which then needs to be stored and managed. You should therefore setup auditing for the minimum amount needed that achieves the business objectives

Steps to implement Auditing

- Check the AUDIT activity code has been enabled. This controls the overall availability of auditing (Should be enabled by default)
- Auditing needs to be setup for each table using "Audit" tab in Tables function (Development,
 Data and parameters, Tables, Tables) Setup whichever fields should be audited and which
 events trigger the audit (create, update and/or delete) Database triggers are created
 automatically to enable this functionality. Remember to "Validate" the table once you have
 updated it
- You can also set parameter value TABTRA to "Yes" (Module: SUP, Group: SEC) if you want to track folder user connections (Usage, Audit, Connections)

Additional notes

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- Audit data writes to AUDITH and AUDITL tables
- Workflow batch task triggers for each line of AUDITH, if workflow option is selected
- Use the functions in Usage, Audit to review the data
- Audit data can be purged via Usage, Archive/Purge

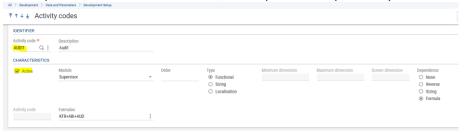


Example of Auditing setup

In this example, we will setup Auditing on BPCUSTOMER table for changes to the Credit Limit

a. Check the activity code

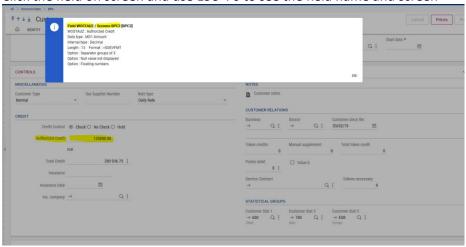
Development, Data and Parameters, Development Setup, Activity Codes



b. Identify the table and field(s) for auditing

Navigate to Common Data, BPs, Customers

Click the field on screen and use ESC+F6 to see the field name and screen



c. Check the screen to identify the table

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Navigate to Development, Script Dictionary, Screens, Screens



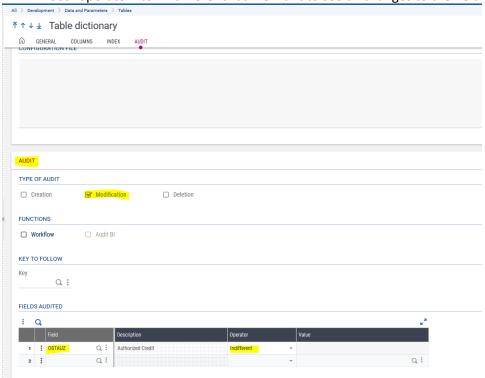


d. Setup Auditing on the BPCUSTOMER table

Navigate to Development, Data and parameters, Tables, Tables Query back the BPCUSTOMER table then go to the "Audit" tab I will deselect "Workflow" in my case

Add the "Authorized credit" field (OSTAUZ)

Set "operator" to "Indifferent" as we want to see all changes to the field



Save the changes, then click "Validation"

e. Test results by making change to the Authorized Credit field

Navigate to Common Data, BPs, Customers
Pick a couple of Customers and modify the "Authorized Credit" field
For customer AO001 change from 10'000'000 to 999'999
Customer BE001 change from no value to 132'000

f. Check the audit tables

Navigate to Usage, Audit, Tables

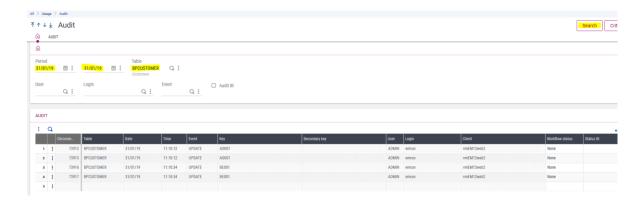
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For online help see http://online-help.sageerpx3.com/erp/12/staticpost/tables/

Enter date range that covers todays date and BPCUSTOMER for the table, then click "Search"

You will see four rows for the two updates, one before and one after the update. You can drill into the "Details of fields" from here if you wish

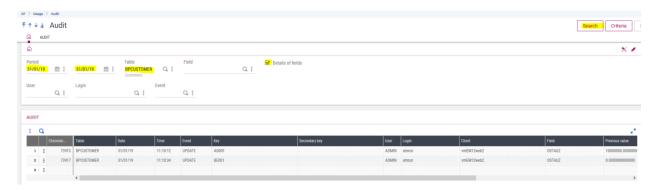




Navigate to Navigate to Usage, Audit, Fields

Enter date range that covers todays date, BPCUSTOMER for the table and check the "Details of fields" then click "Search"

This shows two records for the two updates, but also has the field information immediately available, showing the before and after values



Scroll across to see the field details

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Syracuse / Elastic Search / MongoDB

You should monitor and archive the Syracuse, Elastic Search and MongoDB log files on a regular basis

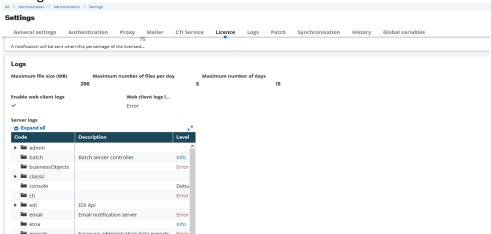
Cloud customers may not have access to the server file system, however you should ensure the Cloud provider is monitoring and maintaining these log files, as they may or may not be aware this needs to be done

For all three components, you may wish to regularly scan the log files for any errors or unusual messages for further investigation, as a proactive measure to identify potential user issues

Over time, you will find a lot of log files will accumulate and some of the log files will grow quite large. It is prudent to periodically archive these log files to a different location in order to control disk space usage and make it easier to use the log files when they are needed

Syracuse

Logging levels and log file rotation can be modified in Administration, Administration, Settings, Global Settings



Set the following parameters to ensure the log files can grow big enough for the logging needed, and the log files do not get removed too quickly. These suggested settings assume you have the default values currently set:

- -- Maximum file size (MB) set to "200" (10 default)
- -- Maximum number of files per day "5" (5 default)
- -- Maximum number of days "15" (5 default)
- -- Enable web client logs (Checked)
- -- Web client logs level = Error

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Most of the logs are automatically rotated and deleted per the schedule you specify, however some of the service related log files are not archived automatically. You should therefore regularly archive these logs, for example by using ZIP or similar tool to archive the old logs every month or so. This allows you to keep the number and size of the log files to a manageable level.

All Syracuse log files are located in the <SYRACUSE INSTALL DIRECTORY>\Syracuse\logs for example "C:\Sage\Syracuse\logs"



Elastic Search

For Elastic Search 7.9, the Elastic Search configuration file "log4j2.yml" located in the <ELASTIC SEARCH INSTALL DIRECTORY>/config allows you to change the level of logging. For example, "C:\Sage\ElasticSearch\config" Refer to the Elastic Search documentation for detailed explanation of the capabilities, at https://www.elastic.co/guide/en/elasticsearch/reference/current/logging.html

Logs are rotated daily by default so should not get too large, however the number of log files will quickly accumulate if left unchecked. You should regularly archive these logs, for example by using ZIP or similar tool to archive the old logs every month or so.

The log files are locate in the < ELASTIC SEARCH INSTALL DIRECTORY>\logs for example "C:\Sage\ElasticSearch\logs"

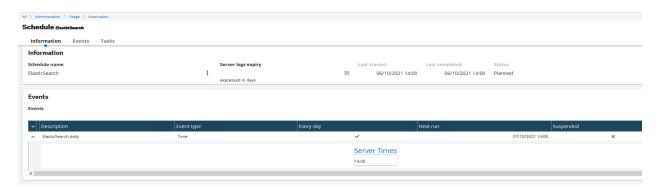
Elastic Search indexes

The Elastic Search indexes needs to be regularly updated in order to ensure the search results reflect recently added data

This task can be automated by scheduling to run at specific times. This process uses a different scheduler and is setup as described below:

Create a new schedule

Navigate to Administration, Usage, Automate, Scheduler Click the "New Schedule" button and create a new schedule as shown below, using whichever days/times are suitable for your requirements



Then click "Save"

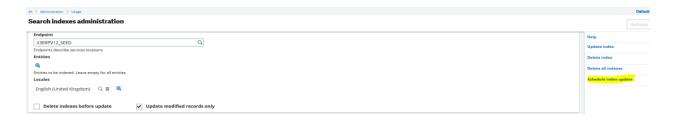
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Setup the Elastic Search Index update

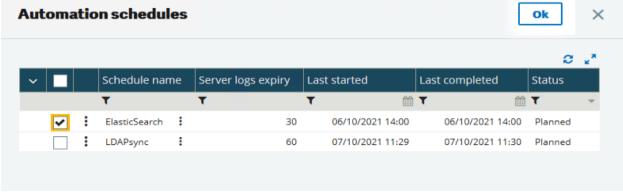
Navigate to Administration, Usage, Search Index Management

The default settings should be sufficient for the scheduled update, so you can just click the "Schedule index update" option





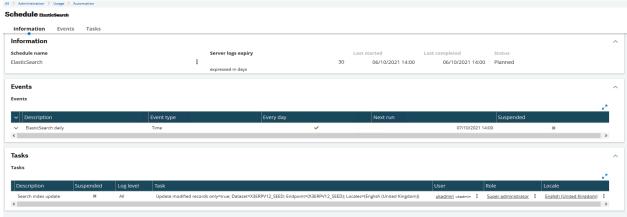
Pick the schedule created in the previous step and click OK



You'll see the message "Task created on scheduler ..."

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You can check the tasks for your scheduler to confirm as shown below:





MongoDB

Log file management

The MongoDB configuration file "mongodb.conf" located in the < MONGODB DIRECTORY>\config does allow you to change the level of logging. For example, "C:\Sage\MongoDB\config" By default it has relatively minimal logging configured, although this is still quite verbose. It is not recommended to reduce the logging level, even on a LIVE installation

With default settings, the log file "mongodb.log" can grow quite quickly. You should regularly archive this log file, although you will need to stop MongoDB service in order to do this. For example use ZIP or similar tool to archive the old log every month or so. This allows you to keep the size of the log file to a manageable level so when it is needed for diagnostic purposes, it is easy to manage and search through for relevant messages. You could consider changing the "logAppend" configuration file option to "false" which will rename the log file every time that MongoDB service is restarted.

The log file is locate in the <MONGODB INSTALL DIRECTORY>\logs for example "C:\Sage\MongoDB\logs"

You can manually rotate the log file with MongoDB up and running by using the mongo shell, and run the following command:

```
db.adminCommand( { logRotate : 1 } )
```

Refer https://docs.mongodb.com/v4.2/tutorial/rotate-log-files/ and https://docs.mongodb.com/v4.2/reference/configuration-options/index.html#systemlog-options for further explanations

MongoDB Performance monitoring tools

MongoDB has its own command line performance monitoring tools you can use for monitoring performance and investigating poor MongoDB performance.

These are all located in the MongoDB bin directory.

- mongoperf
- mongostat
- mongotop

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You can find the documentation for these tools on the MongoDB web site https://docs.mongodb.com/v4.2/reference/program/



Proactive Performance Monitoring / Tuning

System Performance monitoring is often not considered necessary by the Business, that is until there is a performance problem

The trouble with this approach is that you may gather a lot of performance data with a performance problem in-situ, but it may not be clear what is the root cause or even worse you may make incorrect assumptions as you do not know what is considered "normal" for the performance statistics you are reviewing

You may wish to consider an alternative approach, which would be to regularly gather performance data whilst the system is running normally

This allows you to:

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- Gather a "Normal" performance baseline which can then be used as a comparison when performance is poor
- Be able to see historic trends and react appropriately if there is a trend which indicates
 resources may run out, such as CPU usage trending upwards over time, or disk space being
 reduced at an alarming rate

There are various tools available for both Windows and Linux platforms. For example, Windows Performance Monitor can be used to schedule the regular gathering of a wide range of system statistics, including SQL Server information

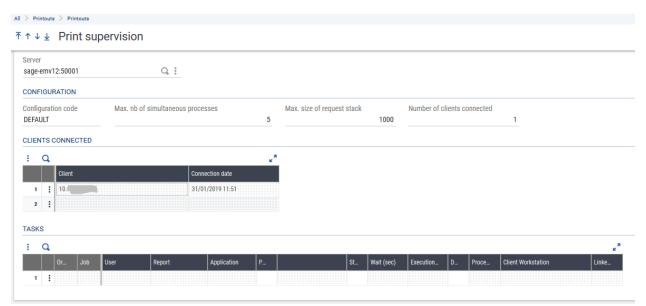
Cloud customers should discuss what information is available with their provider



Miscellaneous topics

There are various functions that can be used to check or manage your X3 instance which could be useful to a Sage X3 System Administrator, although many would only be used when required. The most notable are discussed below:

Printouts—Printouts, Print supervision



This function shows the print jobs currently running and allows users with the appropriate authorization level to delete tasks or to change their priority

Development, Utilities, Verifications, Data, Consistency



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Whilst it can be difficult to analyze the output this function generates; the objective of this function is to compare the links between tables described in the X3 data dictionary with the actual tables stored in the Database itself. This process is resource intensive, as it reviews all the data in any tables you choose to run against, so should only run at quiet times. This facility is useful when planning to migrate to a later version of Sage X3.

WARNING: you should not attempt to correct any standard tables if they are shown as having potential issues in the output, but instead to log a call with Sage Support to ask for assistance



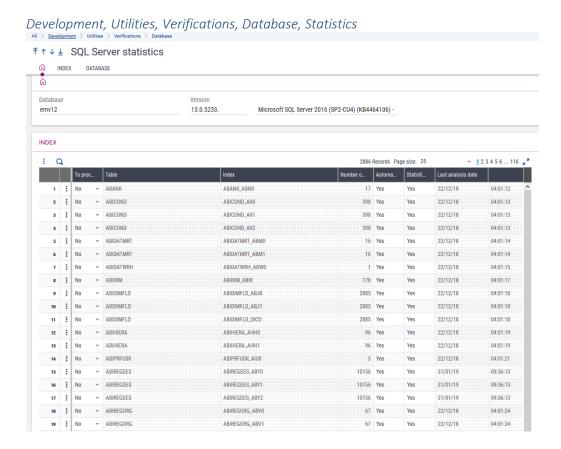
Development, Utilities, Verifications, Database, Search index

Online help is available via the URL http://online-help.sageerpx3.com/erp/12/staticpost/identify-missing-indexes/ This routine should complete quite quickly. It provides a report comparing the X3 Data Dictionary description of the indexes against the indexes that exist in the database

Parameters, Usage, Data, Database Optimisation

Allows you to activate a pre-defined custom index, or add your own

As with adding any custom index, you should perform your own testing to confirm the benefit of adding the index outweighs any disadvantage introduced



It is important that the table statistics are up to date to reflect the current data volumes and distribution. By default, this is managed automatically by SQL Server

You can check the database tables' statistics are being automatically generated and see the last date/time the statistics were gathered. If needed, you can also use this screen to select certain tables and then force a new statistics generation for those tables.

Administration, Certificates, Certificates (and Certificate Authorities)

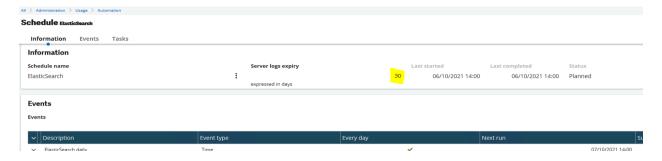
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You should be aware of what expiry dates your certificates have, in order to be able to renew them before they expire, as needed



Administration, Usage, Automation, Server logs

These log files relate to jobs that have been configured through the Scheduler. The log files are automatically purged according to the "Server logs expiry" you specify when setting up a Schedule

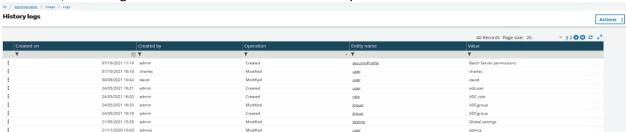


Administration, Usage, Logs, History Logs

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See the online documentation at https://online-help.sageerpx3.com/erp/12/staticpost/mongodb-traceability/

If enabled, the MongoDB audit entries are viewed in this option.



You configure which data you want to audit and set the purging rules in Administration, Administration, Settings, Global settings in the "History" section





Conclusion

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Hopefully this document provides additional clarifications to accompany the Online help, and will provide you some ideas of the administrative tasks you should be considering as a Sage X3 System Administrator