

Web Scheduling Bits & Pieces

Reggie Perrins – 4th December 2024

Sage



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New Web Scheduling Installer

Web Scheduling New Installer

2024 Release of sedApta's Web Scheduling add-on includes a new, simplified, Installer.

This presentation is based on a pre-release version of the 2024 Installer – there may be some changes before the Release.

The major improvement is in the logic of the installer in that the directory-structure, IIS/URL setup and database setup steps are now grouped together in pages with multiple components. The new installer goes through two Phases when you install a fresh instance:

Packages

Configuration Manager
Company Chart Service
License Manager
Access Control Manager

and

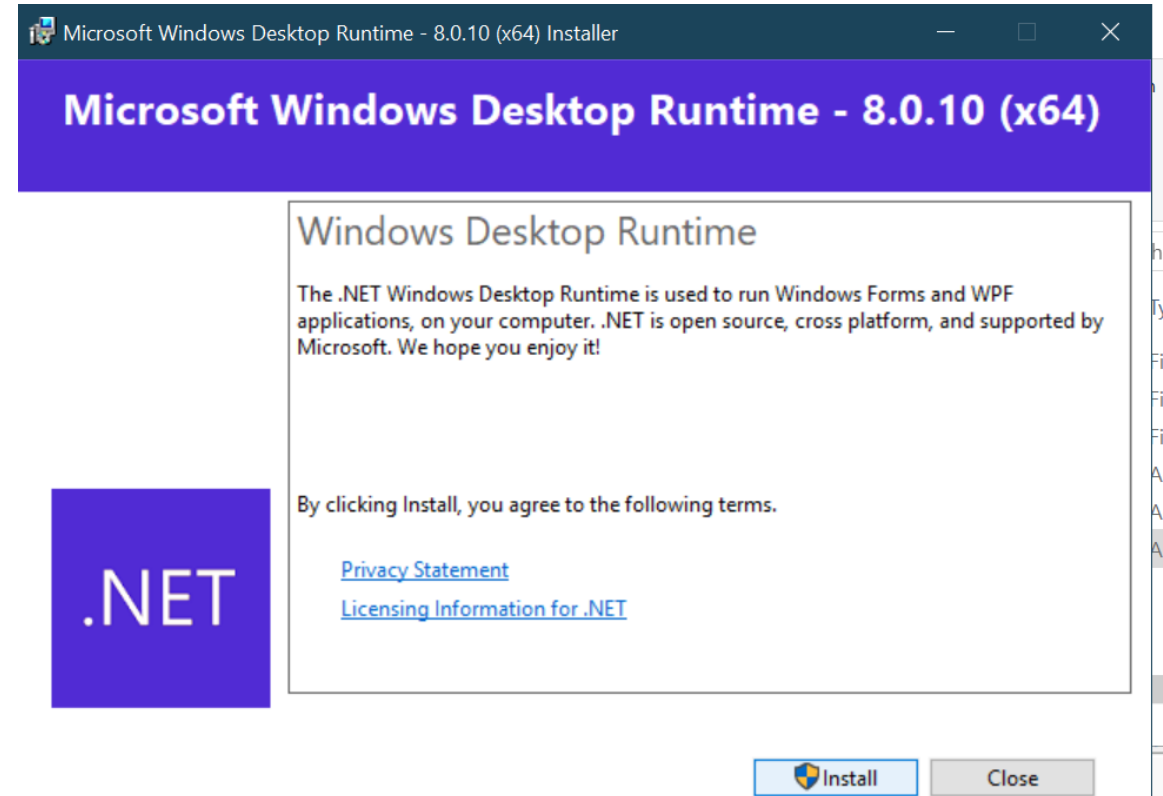
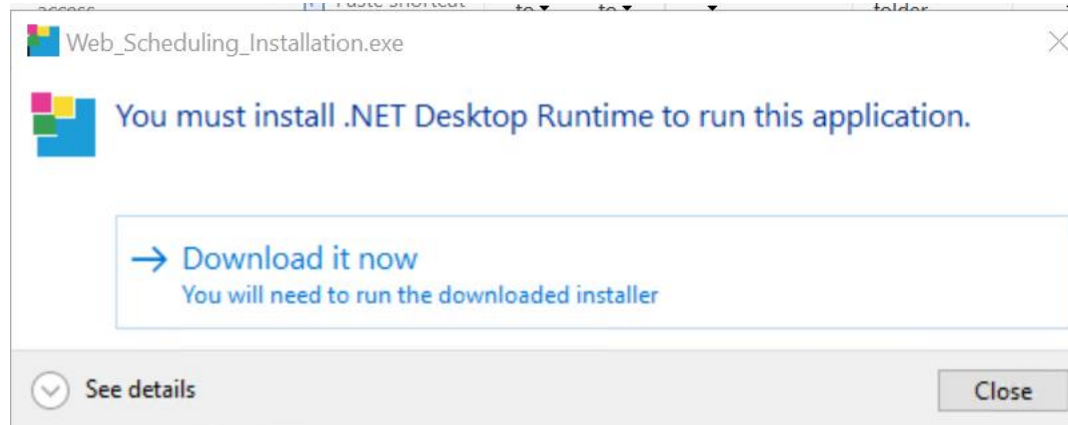
Packages

DbUpdateCmd
DbUpdate
MOM Scripts
MOM Database (DEFAULT)
Unit of Measurement for MoM (DEFAULT)
ShiftBook for MoM (DEFAULT)
Factory Scheduling (DEFAULT)
Notification Engine (DEFAULT)
Widget Editor (DEFAULT)
Material for MoM (DEFAULT)
Entity Manager Bricks (DEFAULT)
Storage Service
Procedure Launcher (DEFAULT)
X3 Interface (DEFAULT)

Note that both Phases offer the opportunity to import and export the configuration for that Phase.

Web Scheduling New Installer

The first change is that the Installer automatically checks for and downloads the 8.0.10 .NET



Web Scheduling New Installer

Don't be fooled by the above – I carried on with the installation and came across a problem



Access Control Manager

Error on Upload Role to ACM

Url Acm

Url AcmWs

Retry (8)

Skip

DESCRIPTION

```
<title>Configuration Error</title>
<meta name="viewport" content="width=device-width" />
<style>
body {font-family:"Verdana";font-weight:normal;font-size:.7em;color:black;}
p {font-family:"Verdana";font-weight:normal;color:black;margin-top: -5px}
b {font-family:"Verdana";font-weight:bold;color:black;margin-top: -5px}
H1 { font-family:"Verdana";font-weight:normal;font-size:18pt;color:red }
H2 { font-family:"Verdana";font-weight:normal;font-size:14pt;color:maroon }
pre {font-family:"Consolas","Lucida Console",Monospace;font-size:11pt;margin:0;padding:0.5em;line-height:14pt}
```

Web Scheduling New Installer

In retrospect, I looked in Windows Event Viewer and came across a large number of errors – I followed the trail and it led to the fact that ACM still requires .NET 4.8

The image shows two overlapping windows. The left window is 'Event Properties - Event 1310, ASP.NET 4.0.30319.0'. The 'Details' tab is active, showing application and process information. The 'Exception information' section is expanded, displaying an error message about the 'targetFramework' attribute in the Web.config file.

The right window is a File Explorer showing the directory 'D:\sedApta\Shared\ACM\WebServiceApp'. It contains a table of files and folders:

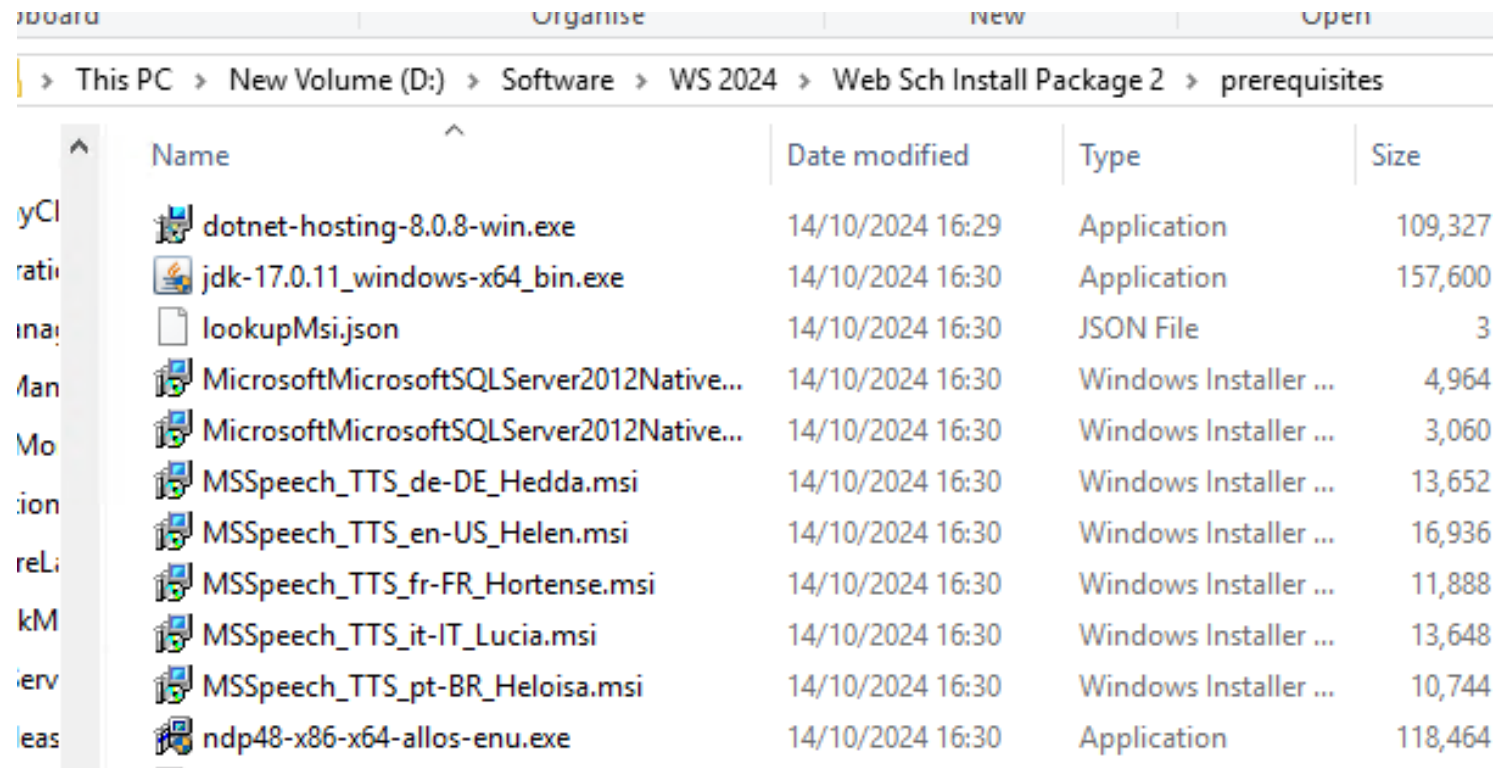
Name	Date modified	Type	Size
bin	12/11/2024 17:56	File folder	
AcmServiceApp.svc	12/11/2024 17:56	SVC File	
Global.asax	12/11/2024 17:56	ASAX File	
Web.config	12/11/2024 17:56	CONFIG File	

Below the File Explorer is a Notepad window titled 'Web.config - Notepad' showing the following XML code:

```
<system.web>
  <httpRuntime targetFramework="4.6" />
</system.web>
-->
<system.web>
  <compilation targetFramework="4.8" />
  <httpRuntime targetFramework="4.8" />
</system.web>
```

Web Scheduling New Installer

This pre-req can be fulfilled by running the ndp48-x86-x64-allos-enu.exe installer in the pre-requisites folder and re-launch the installer again

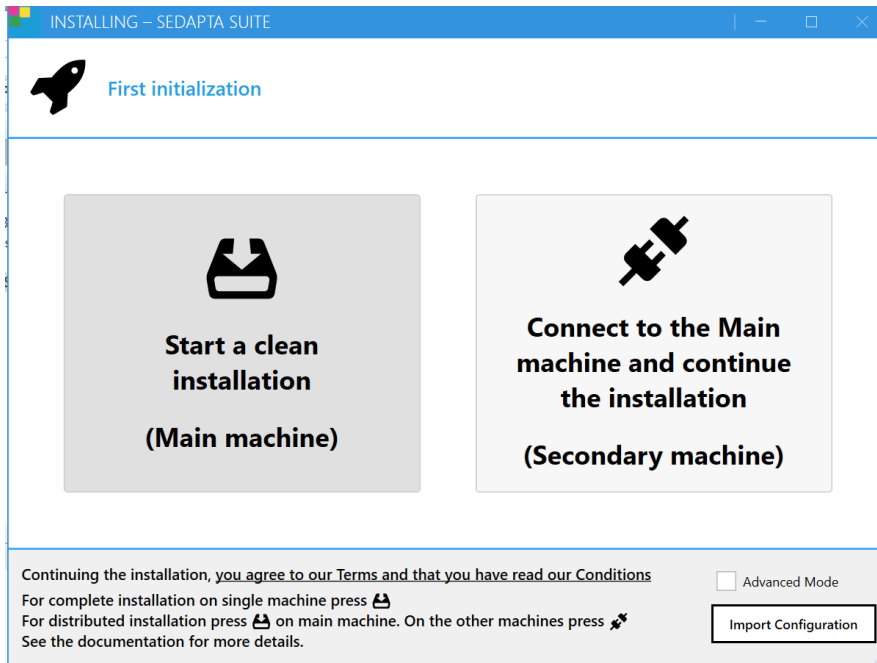


Name	Date modified	Type	Size
dotnet-hosting-8.0.8-win.exe	14/10/2024 16:29	Application	109,327
jdk-17.0.11_windows-x64_bin.exe	14/10/2024 16:30	Application	157,600
lookupMsi.json	14/10/2024 16:30	JSON File	3
MicrosoftMicrosoftSQLServer2012Native...	14/10/2024 16:30	Windows Installer ...	4,964
MicrosoftMicrosoftSQLServer2012Native...	14/10/2024 16:30	Windows Installer ...	3,060
MSSpeech_TTS_de-DE_Hedda.msi	14/10/2024 16:30	Windows Installer ...	13,652
MSSpeech_TTS_en-US_Helen.msi	14/10/2024 16:30	Windows Installer ...	16,936
MSSpeech_TTS_fr-FR_Hortense.msi	14/10/2024 16:30	Windows Installer ...	11,888
MSSpeech_TTS_it-IT_Lucia.msi	14/10/2024 16:30	Windows Installer ...	13,648
MSSpeech_TTS_pt-BR_Heloisa.msi	14/10/2024 16:30	Windows Installer ...	10,744
ndp48-x86-x64-allos-enu.exe	14/10/2024 16:30	Application	118,464

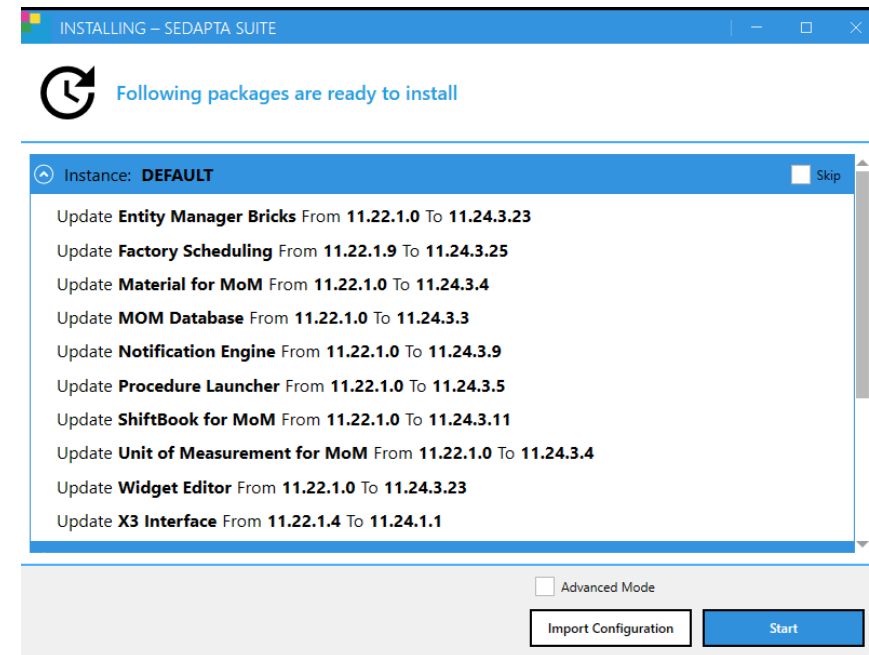
Web Scheduling New Installer

On re-launching the installer, it detects if this is going to be a new installation or an upgrade.

Fresh Installation



Upgrade



I'd recommend the old un-install and re-install route.

Web Scheduling New Installer

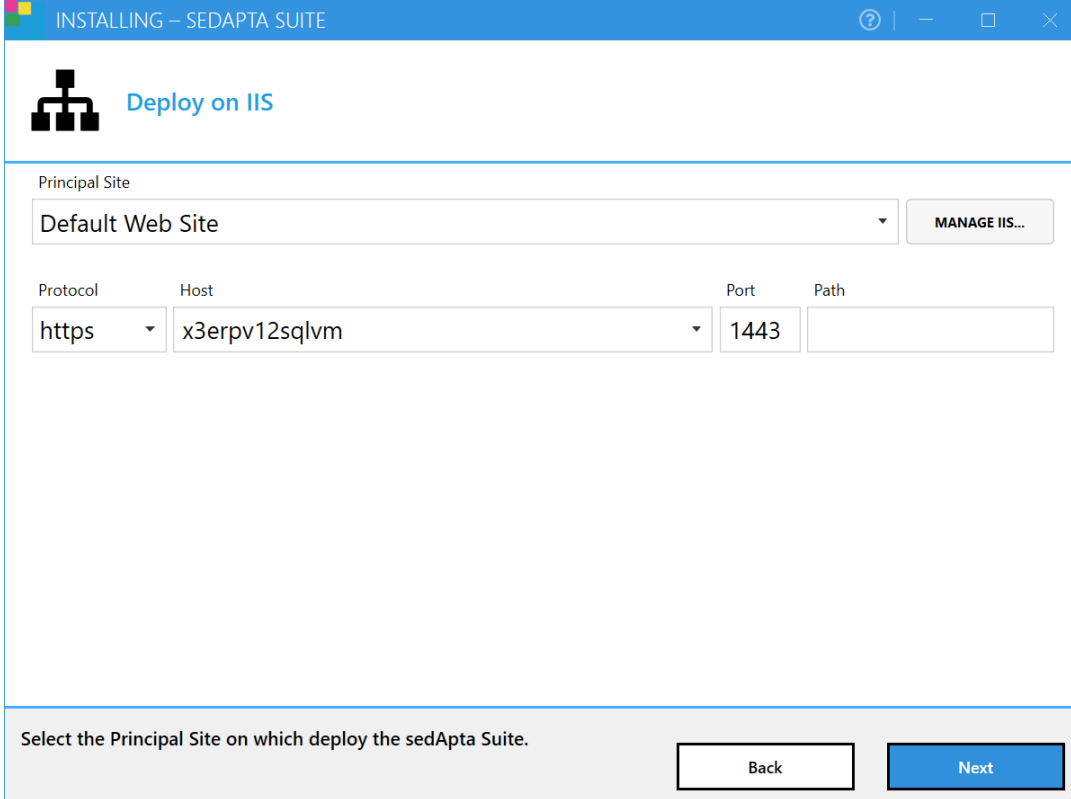
Note that you can now install across multiple servers – probably why you get two Phases of installations with different Packages.

You can import a saved configuration xml file at the start of each phase, and then export it at the end of each phase – I highly recommend this, as documentation and as an aid if you need to re-do the installation or to send in as part of the initial information-gathering if you need to create a Support Case.

Web Scheduling New Installer

Installation Phase 1

The first major Page is the same – it is where you make your initial choices on deploying Web Scheduling on IIS



The screenshot shows a Windows installer window titled "INSTALLING - SEDAPTA SUITE". The main heading is "Deploy on IIS" with a tree icon. Below this, there are several configuration fields:

- Principal Site:** A dropdown menu set to "Default Web Site" with a "MANAGE IIS..." button to its right.
- Protocol:** A dropdown menu set to "https".
- Host:** A text input field containing "x3erpv12sqlvm".
- Port:** A text input field containing "1443".
- Path:** An empty text input field.

At the bottom of the window, there is a grey bar with the text "Select the Principal Site on which deploy the sedApta Suite." and two buttons: "Back" and "Next".

Web Scheduling New Installer

If you've not manually created a https binding for the installation, the installer detects that and offers you the facility to set one up.

INSTALLING - SEDAPTA SUITE

Deploy on IIS

Principal Site
Default Web Site

Add HTTPS... MANAGE IIS...

Protocol	Host	Port	Path
http	x3erpv12sqlvm	80	

Select the Principal Site on which deploy the sedApta Suite.

Back Next

Add Site Binding

Type: https Ip Address: All Unassigned Port: 1443

Host name: x3erpv12sqlvm

Example: www.contoso.com or marketing.contoso.com

SSL certificate:

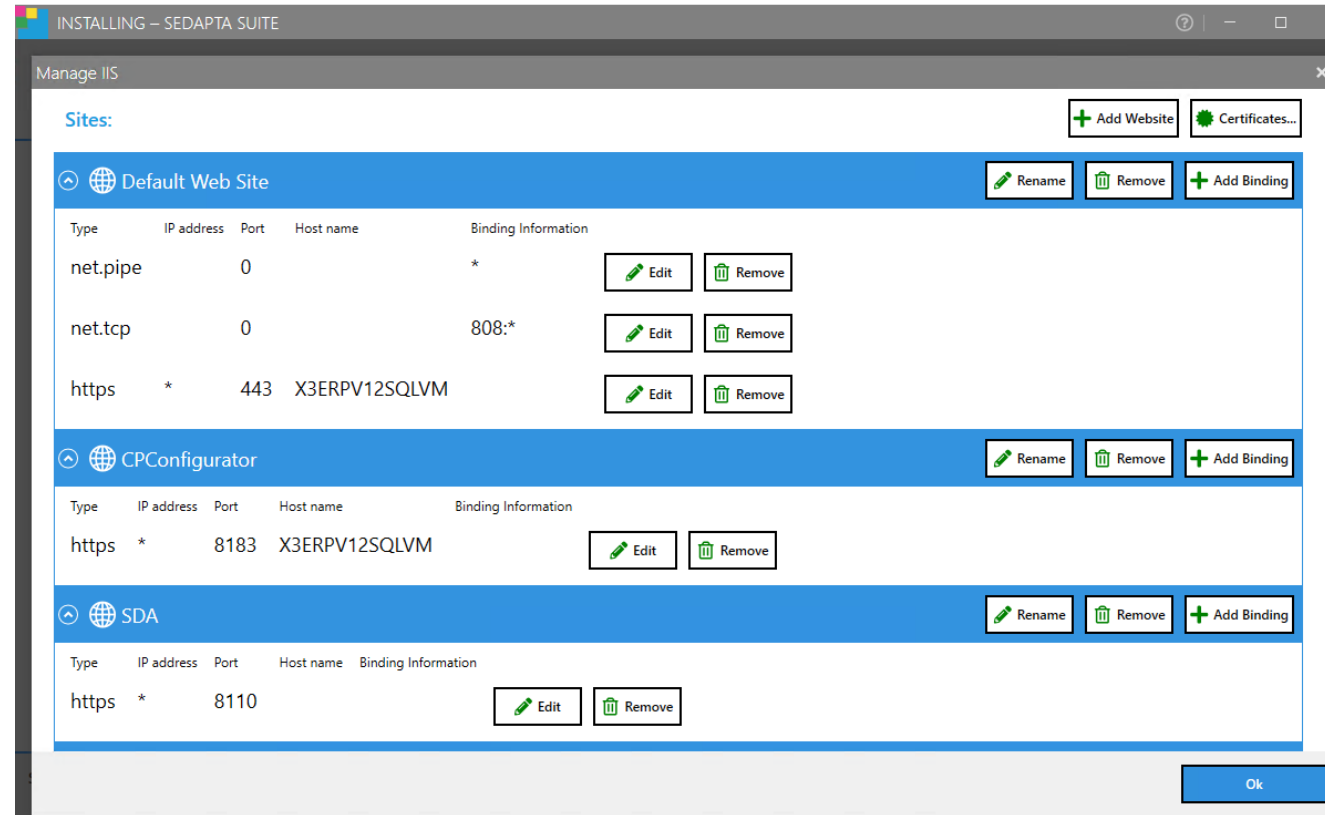
Select... View...

Safe X3 MongoDB MONGO01 x3erpv12sqlvm WSCERT

Cancel Ok

Web Scheduling New Installer

By clicking on the Manage IIS button, you get access to IIS Bindings – this example shows what you get with multiple web-based applications installed:



Web Scheduling New Installer

Be careful at this point – it might be prudent to pick a new port such as 1443 to avoid clashes with other applications such as X3 – I did an installation and used 443 without realising X3 was using 443 in Hosts for a https connection, and X3 didn't like it!

I had another case where the default Port was the one for the first site with https binding, and that was for SEI – it showed it in the greyed-out description, but I didn't notice it until I'd done the installation so I had to re-do it.

In the following Installation, I picked on 1443 for Web Scheduling.

Web Scheduling New Installer

The bindings are, of course, available in IIS

The image shows two overlapping windows. On the left is the Internet Information Services (IIS) Manager. The 'Default Web Site' is selected, and the 'Edit Site Binding' dialog is open. The 'Type' is set to 'https', the 'IP address' is 'All Unassigned', and the 'Port' is '1443'. The 'Host name' is 'x3erpv12sqlvm'. A 'Certificate' dialog is also open, showing the 'General' tab with the 'Thumbprint' field highlighted. The thumbprint value is '31d6a08147b62aef7a4eda7f58bbaaea30b9343e'. On the right is the 'INSTALLING - SEDAPTA SUITE' window. The 'Deploy on IIS' section is active, showing the 'Principal Site' as 'Default Web Site'. Below this, a table lists the binding configuration:

Protocol	Host	Port	Path
https	x3erpv12sqlvm	1443	

At the bottom of the installer window, there is a prompt: 'Select the Principal Site on which deploy the sedApta Suite.' with 'Back' and 'Next' buttons.

Web Scheduling New Installer

After clicking “Next”, you get the opportunity to select and import a configuration – this takes some of the manual work out of the process as long as you have the correct settings, such as the SSL Certificate and Connected Application Client ID and Secret Key, already in the config-file.

Note that 2024 Release uses XML format for its Config-files, so the previous “flat” ini-files won’t work.

At the end of the setup Pages of the installation, you are invited to save/export the values – again, I would highly recommend doing this as part of your documentation process and also to save time if you need to revert and re-do the installation.

After importing a configuration xml-file, please check that all the components have been ticked – I have found that Factory Scheduling and ACM are still un-ticked in Phase 1.

Manufacturing Operations Management



Factory Scheduling

Production and resources scheduling

Common



Access Control Manager

Authenticates user access and checks for permissions according to the user roles.

Web Scheduling New Installer

After clicking “Next”, the first re-engineered screen is displayed – you can now set up all the directories on one page, by clicking the “**ADVANCED**” button, and the sub-directories take note of the installation-directory:

The screenshot shows the 'INSTALLING – SEDAPTA SUITE' window. The main area is titled 'Installation Location' and contains a 'Suite' text box with the path 'D:\sedApta' and a folder icon button. Below this is a button labeled 'v ADVANCED'. At the bottom, there are 'Back' and 'Next' buttons. A footer note reads: 'Enter here the path of installation Suite folder. Click on Advanced in order to check or change the specific installation folders.'

On the right side, a 'SUITE FOLDERS' panel lists the following folders and their paths:

Folder Name	Path
SupplyChain	D:\sedApta\SupplyChain
Base Services	D:\sedApta\Shared
Master Data Services	D:\sedApta\Shared
Database	D:\sedApta\Database
OSA	D:\sedApta\OSA
Documentation	D:\sedApta\Documentation

Web Scheduling New Installer

After clicking “Next”, the next page has also been re-engineered in that it now allows you to do more advanced configurations of SQL Server:

Server : single/multi-server

Type Server : SQL/ORA

Type User : Single-schema

Type Auth : Win/Cred

INSTALLING - SEDAPTA SUITE

Deploy Databases

Server Type Server Type User Type Authentication

SERVER

Server name

DATABASES

Storage Service Database !

Login

Password

Database Name

Enter here the database configurations for installing the sedApta suite.
It is recommended to test the connections before proceeding.

Web Scheduling New Installer

Key fields:

Type User can be “Multi” or “Single” to allow the Installer to either specify different database Schemas for each database, or one schema for all databases.

Typically, I use a single connection-schema approach for simplicity – in my case, “WEBSH”.

Credentials can be Credentials or Windows Authentication

Server name. This the Database Server, and the button beside it gives access to the Credentials of the Database Administrator.

Note that the Administrator Credentials aren’t brought in as part of a configuration import – you need to specify them manually.

Web Scheduling New Installer

Server name. This is the Database Instance, and the button beside it gives access to the Credentials of the Database Administrator which will be used to create the Database schema(s). This is the equivalent of “sa”.

Typically, I use a custom administrator account such as “WSDBADMIN”.

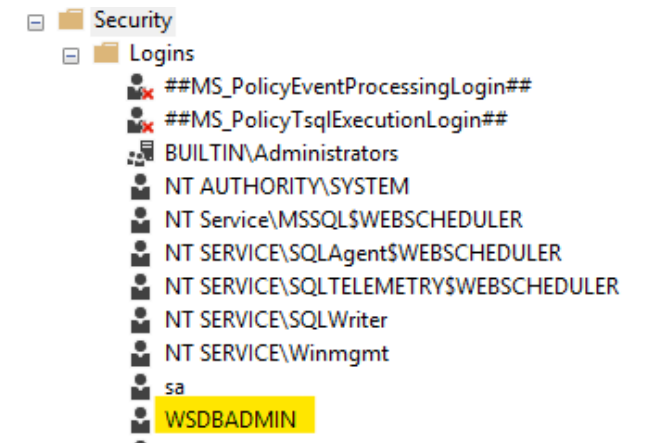
Administrative Credentials

Server name

Authentication

Login

Password



Web Scheduling New Installer

If “Single” Type User is selected, then all databases will have the same schema for Web Scheduling to connect with at run-time – not to be confused with the Database Administrator schema used at setup time.

In my case, I’ve created “WEBSH” schema for all the databases.

The screenshot shows the 'Deploy Databases' configuration interface. At the top, there's a 'Deploy Databases' header with a database icon. Below it, there are dropdown menus for 'Server' (set to 'Single'), 'Type Server' (set to 'SQL Server'), 'Type User' (set to 'Single'), and 'Type Authentication' (set to 'Credentials').

The 'SERVER' section contains a 'Server name' field with the value 'X3ERP12SQLVM\WEBSCHEDULER', a 'Login' field with 'WEBSH', and a 'Password' field with masked characters. There are also icons for adding users and toggling visibility.

The 'DATABASES' section lists three databases: 'ACM Database', 'Company Chart Database', and 'Configuration Manager Database'. The 'Database Name' is set to 'ACNDB'. A checkbox labeled 'Run initialization script' is checked. At the bottom right, there are two buttons: 'Create, Fix & Verify' and 'Test Connection'.

Please note that the “Run initialization script” should be ticked if the prompt is displayed – this will pre-populate the relevant tables as required.

Web Scheduling New Installer

Once the credentials for a database have been chosen, the “Create, Fix & Verify” button can be used to configure and populate the database, and then the “Test connection” can be used to double-check that the database has been created correctly.



SUCCESS

Create, Fix & Validate successfully

Close



SUCCESS

Connected successfully

Close

Web Scheduling New Installer



After creating a database, move on to the next one.

DATABASES

ACM Database ✓
Company Chart Database
Configuration Manager Database

Database Name

Run initialization script



 Create, Fix & Verify  Test Connection

Note the “Run initialization script” tick-box on some of the databases.

DATABASES

ACM Database ✓
Company Chart Database ✓
Configuration Manager Database

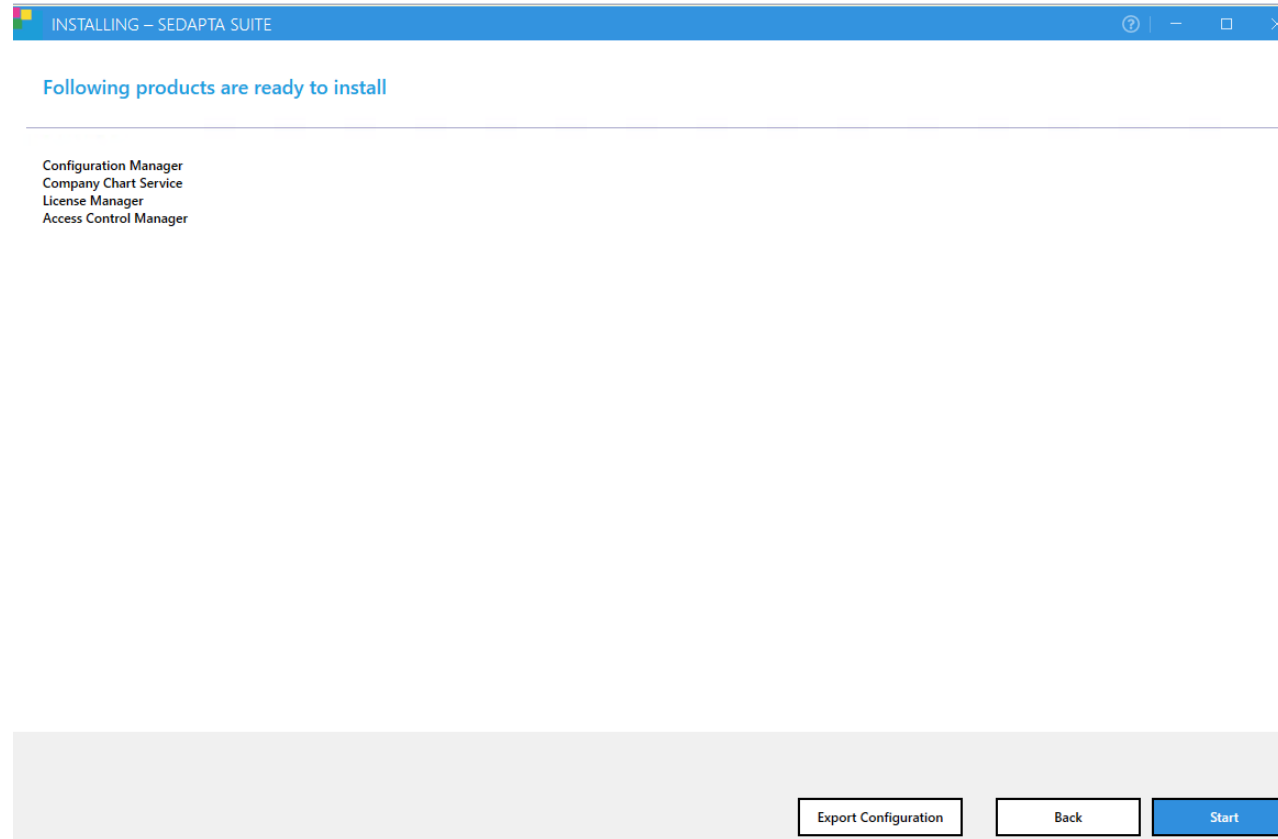
Database Name

 Create, Fix & Verify  Test Connection

Web Scheduling New Installer

Check that the Databases have been created, before moving on to do Phase 1 installation.

Remember to export the configuration first.



Web Scheduling New Installer

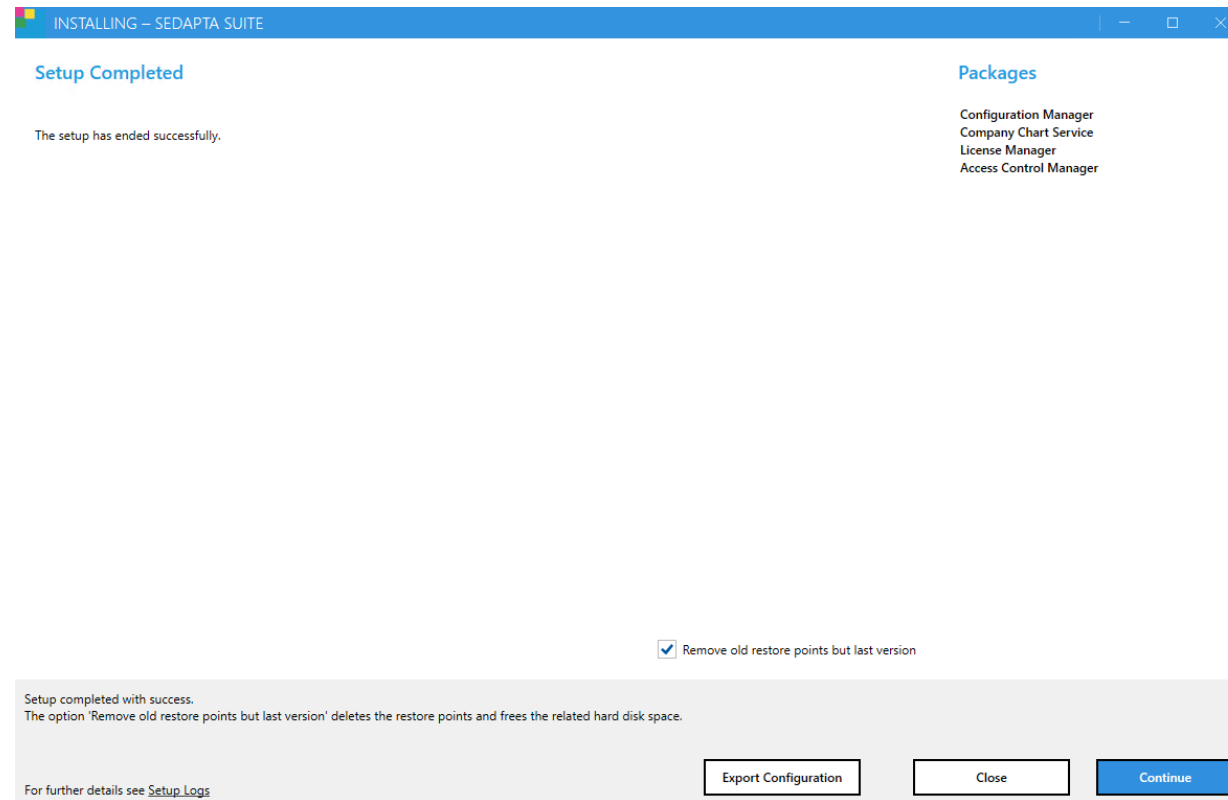
A screen prompts for updating the Web Scheduling Administrator password – this is optional.

The screenshot shows a window titled "INSTALLING - SEDAPTA SUITE". The main heading is "Administrator User" with a user icon. Below this, there are three password input fields: "Current password" (with five dots), "Set the new password" (with "Enter password" placeholder), and "Password" (with "Enter password" placeholder). A red error message is displayed below the "Set the new password" field: "Requirement that all passwords be at least 8 characters in length. Password must meet complexity requirements". At the bottom, there is a "User Name" field and a "Password" field. A footer section contains the text: "Enter the administrator user password here. Optionally, a secondary admin user can be added." and two buttons: "Skip" and "Next".

Web Scheduling New Installer

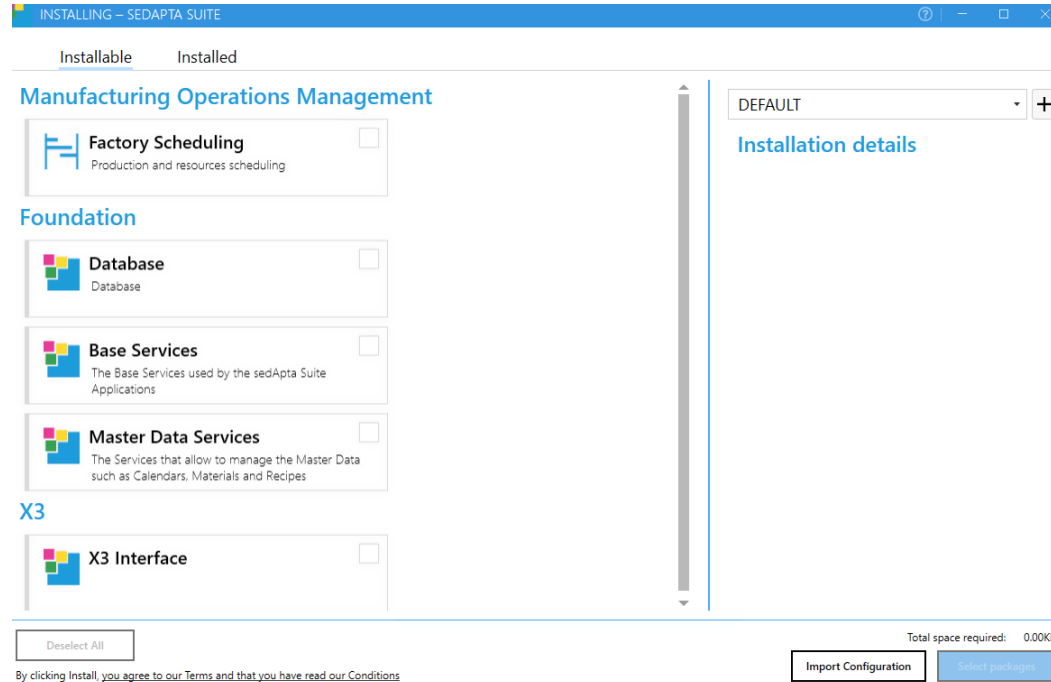
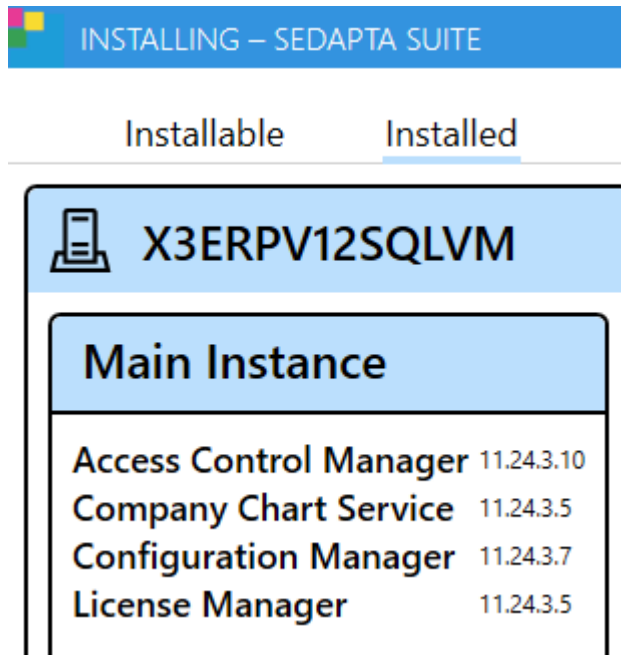
After the installation of Phase 1, then export the configuration again for good luck!

At this point, Phase 1 is now complete and you can either stop or continue with Phase II



Web Scheduling New Installer

Installation Phase 2



Again, you have the opportunity to import a saved configuration – note, this is the saved configuration from the second Phase, and holds different information from Phase 1.

Web Scheduling New Installer

As with earlier versions of Web Scheduling installer, please check that all the boxes are ticked after importing an earlier configuration file – please tick Factory Scheduling and Master Data Services

INSTALLING – SEDAPTA SUITE

Installable (14) Installed

Manufacturing Operations Management

Factory Scheduling
Production and resources scheduling

Foundation

Database
Database

Base Services
The Base Services used by the sedApta Suite Applications

Master Data Services
The Services that allow to manage the Master Data such as Calendars, Materials and Recipes

X3

X3 Interface

Entity Manager Drivers

▾ **Master Data Services**

- ShiftBook for MoM **11.24.3.11**
- Material for MoM **11.24.3.4**

▾ **Factory Scheduling**

- Factory Scheduling **11.24.3.25**

Web Scheduling New Installer

The installer needs to double-check the IIS/Web configuration



Deploy on IIS

Principal Site

Default Web Site

MANAGE IIS...

Protocol

Host

Port

Path

https

x3erpv12sqlvm

1443

Web Scheduling New Installer

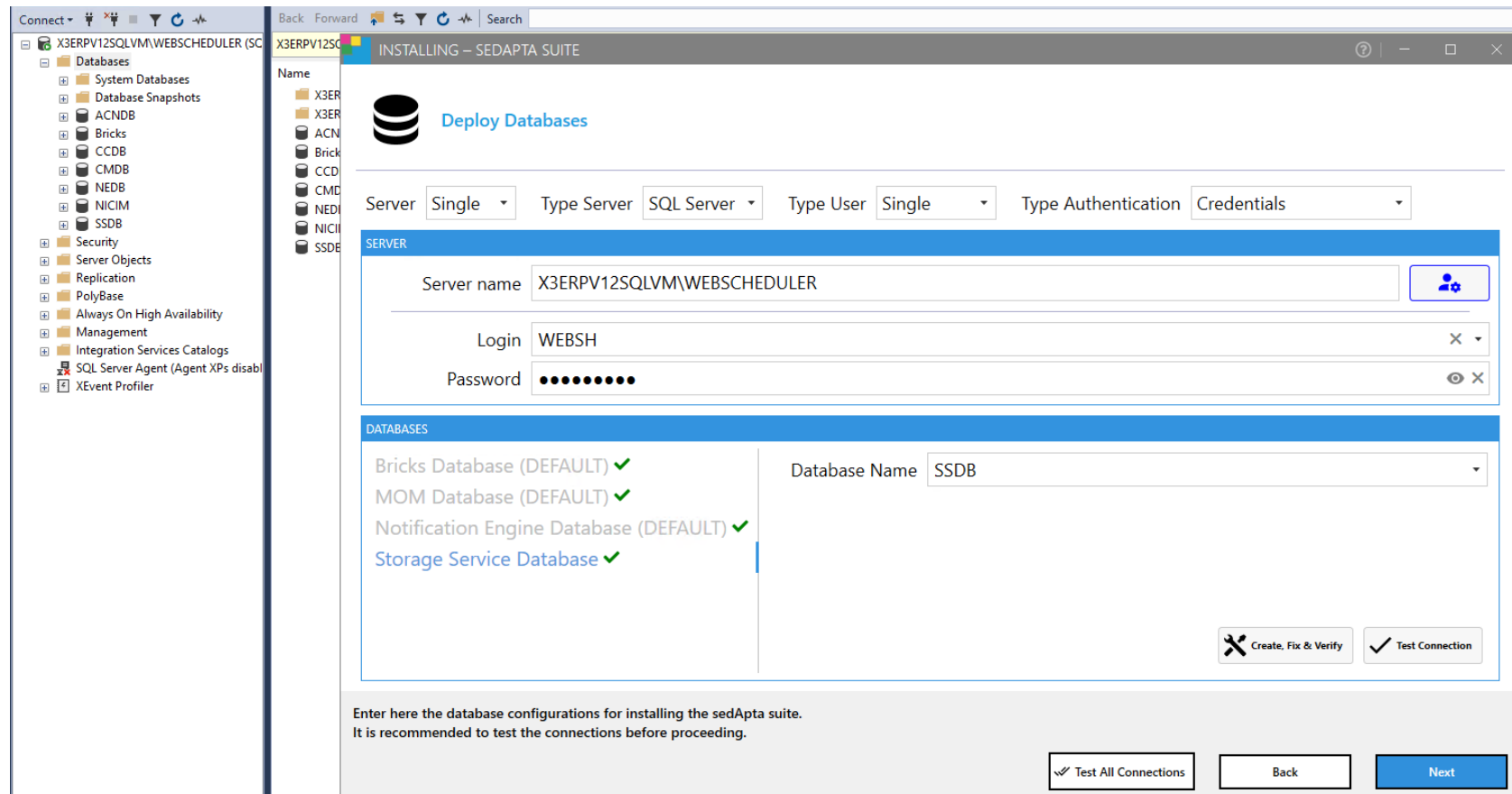
Now, the installer allows you to specify directories for Procedure Launcher NICIM Logs

Nicim logs folder Procedure Launcher
[DEFAULT]

Path

Web Scheduling New Installer

Before prompting for the database credentials for Bricks, MOM, Notification Engine and Storage Service Database



Web Scheduling New Installer

The next step is to create the “Endpoints” for Factory Scheduling

Factory Scheduling Service Endpoint Factory Scheduling [DEFAULT]

Protocol	Host	Port	Path
https ▾	x3erpv12sqlvm	1443	WSSelfhost

Url

https://x3erpv12sqlvm:1443/WSSelfhost

Notification Engine

Notification Engine Https Endpoint

User Message Connector Endpoint

Enter here the base address of the User Message Connector Endpoint.

UserMessages

REST Connector Endpoint

Enter here the base address of the REST Connector Endpoint.

RestConnector

Web Scheduling New Installer

The next step is to create the “Endpoints” for other advanced parts of Notification Engine

Certificate Expiration Date Configuration

Notification Engine [DEFAULT]

Certificate Expiration Date Endpoint
Enter here the address where to find the certificate to verify.

Protocol	Host	Port	Path
https	x3erpv12sqlvm	1443	

Url
https://x3erpv12sqlvm:1443

Certificate Expiration Date Host Name
Enter here the name of the host where to find the certificate to verify.

Enter here the name of the host where to find the certificate to verify.

https://x3erpv12sqlvm:1443/

Service EndPoint

Notification Engine [DEFAULT]

Runtime Service Instance Name
Name of the Notification Engine Runtime Service Instance

Name of the Notification Engine Runtime Service Instance
Default

Notification Engine Service Endpoint
Enter here the address the Notification Engine API must use to communicate with Notification Engine Service.

Protocol	Host	Port
http	x3erpv12sqlvm	11002

Url
http://x3erpv12sqlvm:11002

Main Node Polling Rate
Main node check polling rate (in seconds). If 0 main node check is disabled. (Recommended value 60)

Main node check polling rate (in seconds). If 0 main node check is disabled. (Recommended value 60)

0

Web Scheduling New Installer

Connectors EndPoints

Notification Engine [DEFAULT]

sedApta Component Connector Endpoint

Enter here the base address of the sedApta Component Connector endpoint.

Protocol	Host	Port
http	x3erpv12sqlvm	8005

Url
http://x3erpv12sqlvm:8005

User Message Connector Port

Enter here the internal port used by User Message Connector.

Protocol	Host	Port	Path
http	x3erpv12sqlvm	8006	

Url
http://x3erpv12sqlvm:8006

REST Component Connector Port

Enter here the internal port used by REST Component Connector.

Protocol	Host	Port	Path
http	x3erpv12sqlvm	8007	

Url
http://x3erpv12sqlvm:8007

Configure the Connectors Endpoints

SMTP Server Configuration

Notification Engine [DEFAULT]

SMTP Server Endpoint

Enter here the address of the SMTP Server.

Protocol	Host	Port
https	x3erpv12sqlvm	465

Url
https://x3erpv12sqlvm:465

SMTP Server Credential

The credential of the SMTP server.

User

Password

SMTP Server Domain

Enter here the domain used in component emails sent by SMTP Connector.

Enter here the domain used in component emails sent by SMTP Connector.

sedapta.com

Web Scheduling New Installer

Other configuration settings

Authentication Idle Timeout

[Entity Manager Bricks](#)
[DEFAULT]

Maximum period after which a user is considered idle if there is no traffic from his client. Once the timeout period has expired, the user is logged out. Default: 480 minutes (8 hours)

Authentication Idle Timeout

[Procedure Launcher](#)
[DEFAULT]

Maximum period after which a user is considered idle if there is no traffic from his client. Once the timeout period has expired, the user is logged out. Default: 480 minutes (8 hours).

Authentication Idle Timeout

[Storage Service](#)

Maximum period after which a user is considered idle if there is no traffic from his client. Once the timeout period has expired, the user is logged out. Default: 480 minutes (8 hours)

Processed procedure cache duration

[Procedure Launcher](#)
[DEFAULT]

Processed procedure cache expiration time.

Web Scheduling New Installer

Procedure Launcher configuration settings

Processing not traced procedure cache duration

Procedure Launcher
[DEFAULT]

Processing not traced procedure cache expiration time.

Processing not started procedure cache duration

Procedure Launcher
[DEFAULT]

Processing not started procedure cache expiration time.

Time between cache status check

Procedure Launcher
[DEFAULT]

Time in seconds between cache status check.

Service User pool slot number

Procedure Launcher
[DEFAULT]

Number of service users used to call Nicim.

Web Scheduling New Installer

X3 Interface GraphQL configuration settings.

These are the same as covered in earlier Tips & Tricks Presentations.

Make sure the Connected Application Client ID and Secret Key are correct in “User” and “Password”

X3 Interface GraphQL Installation

X3 Interface
[DEFAULT]

X3 BaseUrl
Doc - API

Doc - API

X3 Endpoint
X3 Endpoint

X3 Endpoint

X3 Username
X3 Username used for Bearer Authentication

X3 Username used for Bearer Authentication

X3 Client Credential (connected app)
X3 GraphQL ClientID and Secret credential used for Bearer Authentication.

User

Password

Certificate HashCode
Represents the thumbprint of the signing certificate GraphQL.

Current User

 +

Certificate

 C

Thumbprint

 ⓘ

Web Scheduling New Installer

X3 Interface configuration settings.

These aren't used, but the pre-release installer forces you to enter values before letting you proceed – I believe this will be fixed in the Release version.

X3 Interface Installation

X3 Interface [DEFAULT]

Would you like to configure also the old JSON interface?

X3 Server
X3 Server

X3 Server

X3 Folder
X3 Folder

X3 Folder

X3 Username
X3 Username used for Bearer Authentication

X3 Username used for Bearer Authentication

X3 Client Id
X3 Client Id used for Bearer Authentication

X3 Client Id used for Bearer Authentication

X3 Secret
X3 Secret used for Bearer Authentication

X3 Secret used for Bearer Authentication

Certificate HashCode
Represents the thumbprint of the signing certificate.

Current User

 +

Certificate

 C

Thumbprint

 i

Interface Installation

Back Next

Web Scheduling New Installer

Now ready to do the Phase 2 installation – export the configuration first (different name from Phase 1 config file).

The screenshot shows the 'Setup Completed' window of the 'INSTALLING - SEDAPTA SUITE' installer. The window is divided into three main sections:

- Following products are ready to install:** A list of components including DbUpdateCmd, DbUpdate, MOM Scripts, MOM Database (DEFAULT), Unit of Measurement for MoM (DEFAULT), ShiftBook for MoM (DEFAULT), Factory Scheduling (DEFAULT), Notification Engine (DEFAULT), Widget Editor (DEFAULT), Material for MoM (DEFAULT), Entity Manager Bricks (DEFAULT), Storage Service, Procedure Launcher (DEFAULT), and X3 Interface (DEFAULT).
- Setup Completed:** A message stating 'The setup has ended successfully.'
- Packages:** A list of installed packages including DbUpdateCmd, DbUpdate, MOM Scripts, MOM Database (DEFAULT), Unit of Measurement for MoM (DEFAULT), ShiftBook for MoM (DEFAULT), Factory Scheduling (DEFAULT), Notification Engine (DEFAULT), Widget Editor (DEFAULT), Material for MoM (DEFAULT), Entity Manager Bricks (DEFAULT), Storage Service, Procedure Launcher (DEFAULT), and X3 Interface (DEFAULT).

At the bottom of the window, there is a checkbox labeled 'Remove old restore points but last version' which is checked. Below this, a message states: 'Setup completed with success. The option 'Remove old restore points but last version' deletes the restore points and frees the related hard disk space.' At the bottom right, there is a link 'or further details see Setup Logs'.

Navigation buttons are located at the bottom of the window:

- Export Configuration
- Back
- Start
- Export Configuration
- Close
- Continue

Web Scheduling New Installer

After Phase 2 has been completed, there's a prompt to continue but it seems to be a dead-end?

The screenshot displays the Sage X3 ERP V12 SQLVM installer interface. The top navigation bar shows 'Installable' and 'Installed' tabs. The 'Foundation' section is active, showing 'Base Services' as installed. The 'Installation details' section shows a tree view with 'Base Services' and 'Bricks'. The 'Main Instance' section shows a list of components and their versions.

Foundation

- Base Services** (The Base Services used by the sedApta Suite Applications)

Installation details

- Base Services
 - Bricks

X3ERP V12 SQLVM

DEFAULT	Main Instance
Entity Manager Bricks 11.24.3.23	Access Control Manager 11.24.3.10
Factory Scheduling 11.24.3.25	Company Chart Service 11.24.3.5
Material for MoM 11.24.3.4	Configuration Manager 11.24.3.7
MOM Database 11.24.3.3	DbUpdate 11.24.3.6
Notification Engine 11.24.3.9	DbUpdateCmd 11.24.3.6
Procedure Launcher 11.24.3.5	License Manager 11.24.3.5
ShiftBook for MoM 11.24.3.11	MOM Scripts 11.24.3.3
Unit of Measurement for MoM 11.24.3.4	Storage Service 11.24.3.7
Widget Editor 11.24.3.23	
X3 Interface 11.24.1.1	

Total space required: 0.00KB

By clicking Install, you agree to our [Terms](#) and that you have [read our Conditions](#)

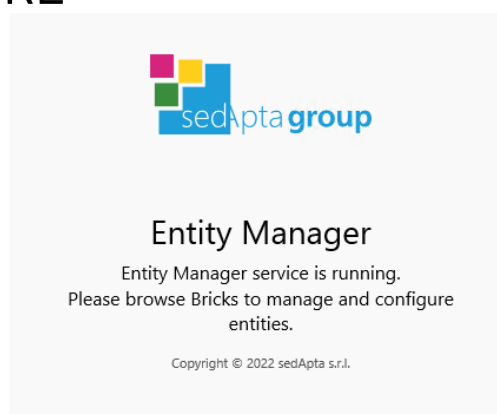
Web Scheduling New Installer

Post Installation tasks.

- 1) Check the Installer's log situated in C:\ProgramData\sedApta\logs\installer
- 2) Check the Windows Services – perhaps disable the Notification Engine?

Secondary Log-on	Enables star...	Manual	Local Syste...	
Secure Socket Tunneling Pr...	Provides su...	Running	Manual	Local Service
Security Accounts Manager	The startup ...	Running	Automatic	Local Syste...
sedApta ACM Service	sedApta AC...	Running	Automatic	Local Syste...
sedApta Agent Configurati...	sedApta Ag...	Running	Automatic	Local Syste...
SedApta Factory Scheduling...	SedApta Fa...	Running	Automatic	Local Syste...
sedApta Notification Engin...	sedApta No...	Disabled	Local Syste...	
Sensor Data Service	Delivers dat...	Disabled	Local Svste...	

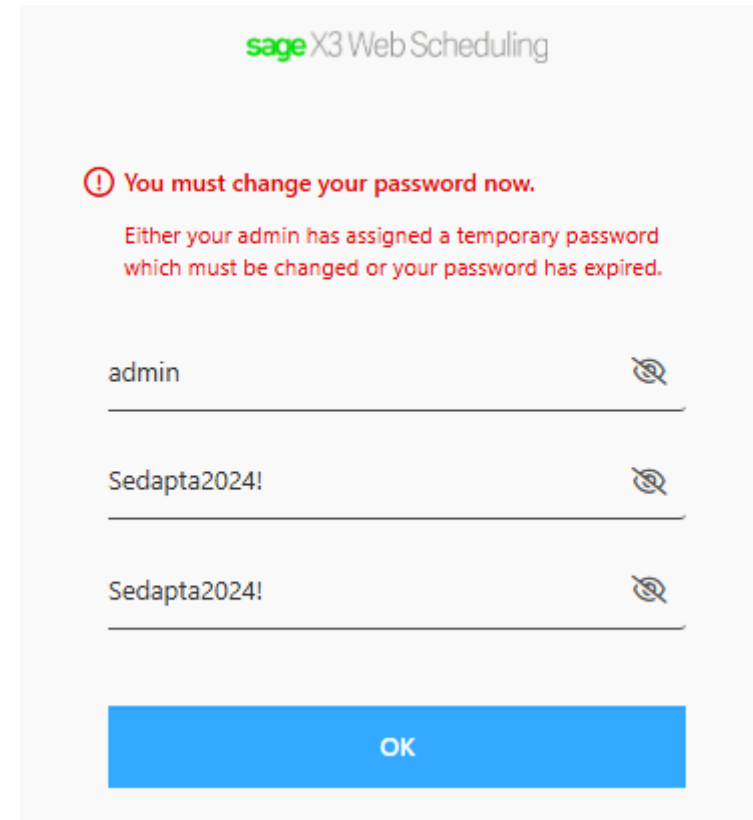
- 3) Launch the Entity Manager URL



Web Scheduling New Installer

Post Installation tasks.

4) Launch ACM and change the administrator password

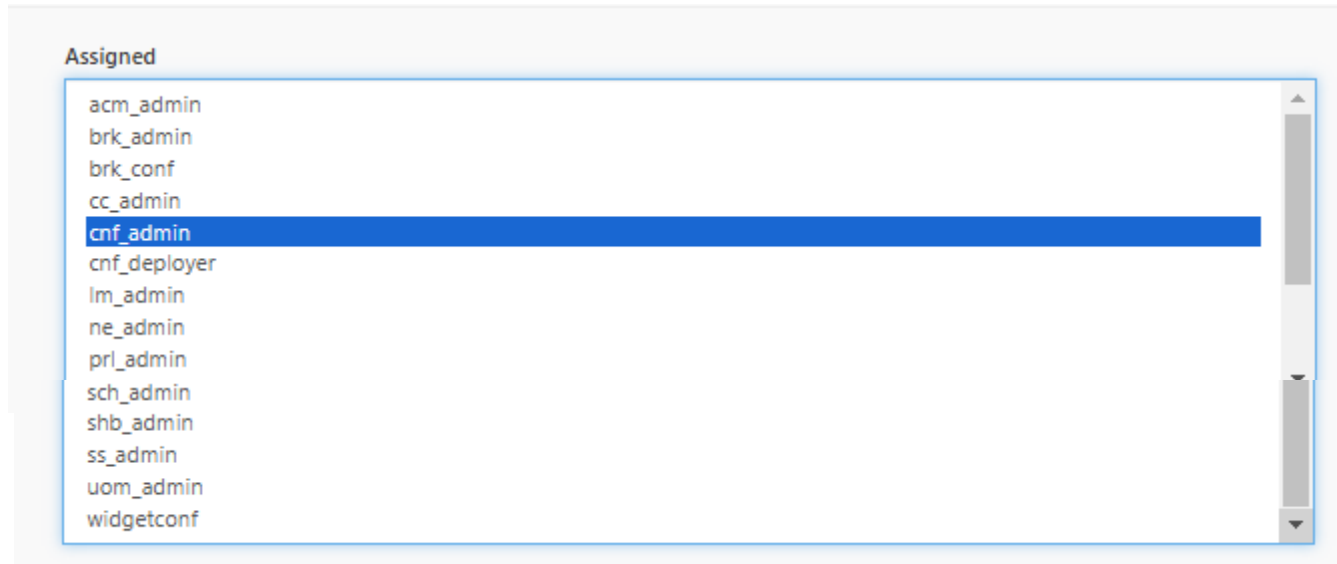


The screenshot shows the Sage X3 Web Scheduling interface. At the top, it says "sage X3 Web Scheduling". Below that, there is a red warning icon and the text "You must change your password now." followed by a sub-message: "Either your admin has assigned a temporary password which must be changed or your password has expired." There are three input fields: the first is labeled "admin" and has a toggle icon; the second and third are both labeled "Sedapta2024!" and also have toggle icons. At the bottom, there is a blue button labeled "OK".

Web Scheduling New Installer

Post Installation tasks.

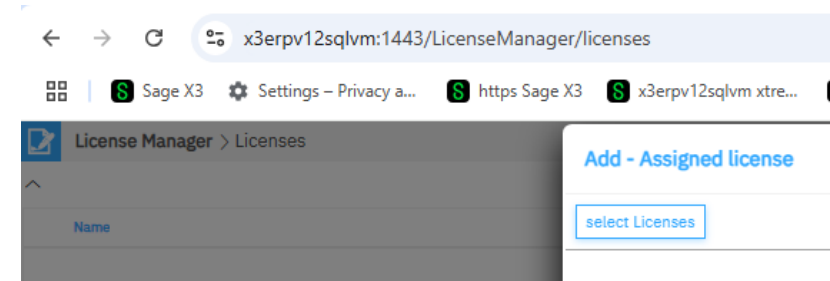
5) Set up the administrator's Roles in ACM – I added all the high-level admin Roles, to allow me to set up everything including the License , Configuration Manager, Analytics and Bricks.



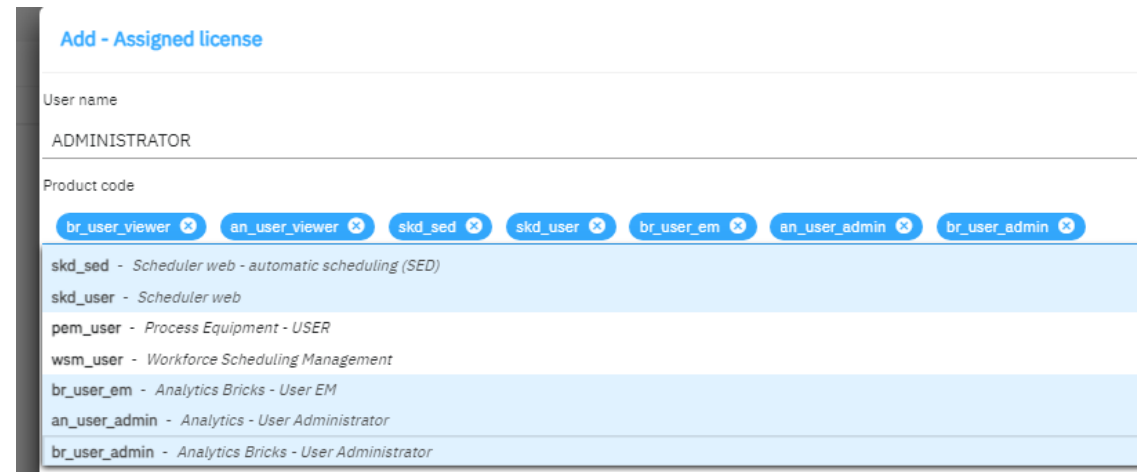
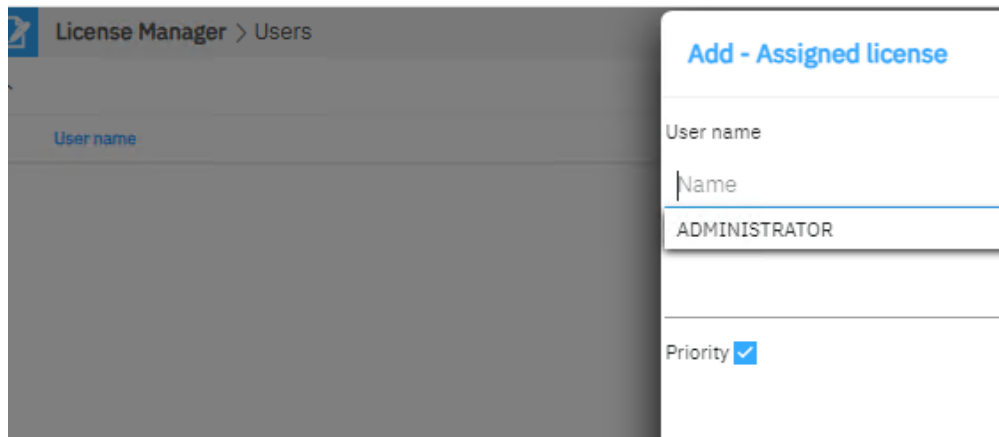
Web Scheduling New Installer

Post Installation tasks.

6) Launch the License Manager to import the License



7) Add the administrator User and assign "Product Codes"

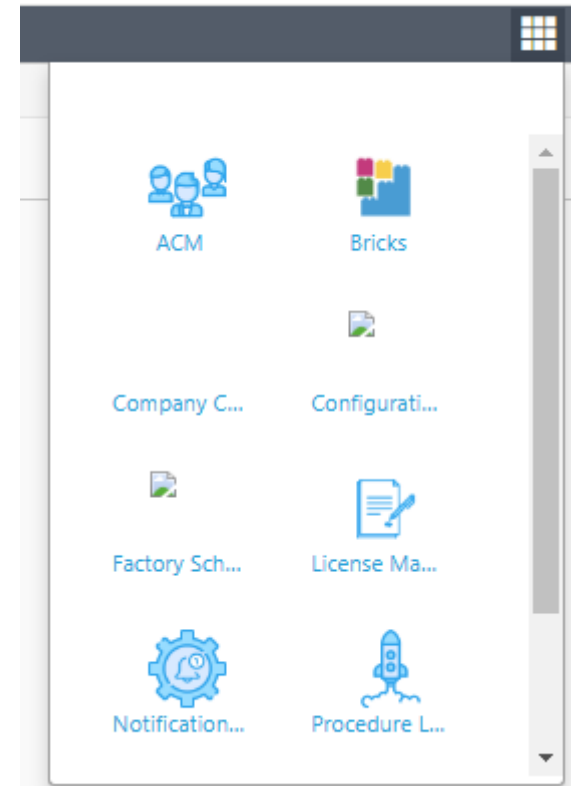


Web Scheduling New Installer

Post Installation tasks.

8) Check what's available to administrator

Hopefully, ACM, Bricks, Company Chart, Factory Scheduling License Manager, Notification Engine, Procedure Launcher, Shiftbook MOM and Unit of Measure MOM are all available.

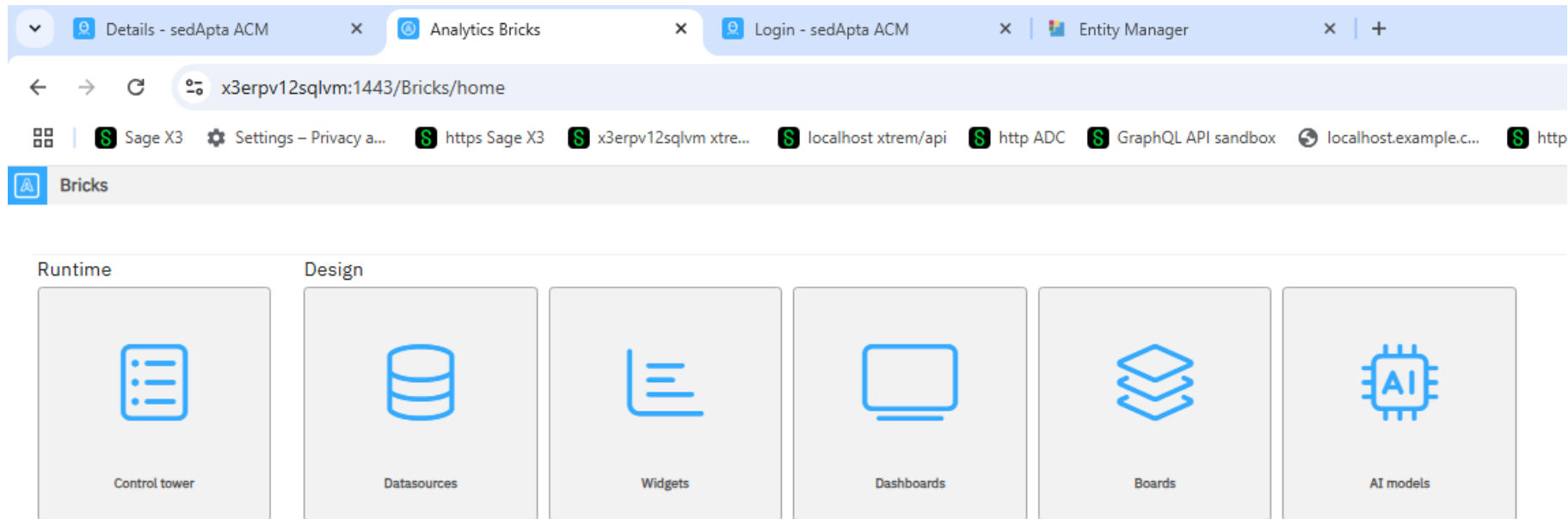


Web Scheduling New Installer

Post Installation tasks.

9) Where's Analytics gone?

As part of 2024, the classic Analytics has been re-engineered and is now launched using Bricks more on this in the next section



Web Scheduling New Installer

When doing a fresh installation, I found that the Web Scheduling “Sage X3 Interface GraphQL” settings in SupplyChain\X3_Interface_GraphQL\appsettings.json were not populated properly, so I manually amended a copy of a Web Scheduling 2023 installation as required – this might relate to the forced entry of the old JSON Interface details – again, hopefully, this will be fixed in the Release version.

```
{
  "ConnectionStrings": {
    "NICIMContext": {
      "connectionString": "Server=x3erpvl2sqlvm\\webscheduler;Database=NICIM;User Id=WEBSH;Password=XXXXXXXXXX;MultipleActiveResultSets=True;Encrypt=False",
      "providerName": "System.Data.SqlClient"
    }
  },
  "X3": {
    "BaseUrl": "http://x3erpvl2sqlvm:8124/xtrem/api/",
    "UserName": "admin",
    "ClientId": "9f30192cea754f1e8b699b1ee013c9f8",
    "Secret": "Rk5sI8qzVgarZ1PvVxmTq#ABEc2?59t5",
    "XtremEndpoint": "SEED",
    "APITimeout": "60",
    "OAuth2Timeout": "60",
    "MaxItemsPerQuery": "100",
    "AllowPagination": "true"
  },
  "LicenseManagerEndpoint": "https://x3erpvl2sqlvm:1443/LicenseManager",
  "ImportOnlyUsedMaterials": true,
  "MaterialService": "false",
  "DebugMode": false,
  "DegreeOfParallelism": 30,
  "Service": {
    "Timeout": "60",
    "timeout": "60"
  },
  "AnalyticsDB": {
    "connectionString": "Server=x3erpvl2sqlvm\\webscheduler;Database=Analytics;User Id=WEBSH;Password=XXXXXXXXXX;MultipleActiveResultSets=True;Encrypt=False"
  },
  "Certificate": {
    "Hash": "31d6a08147b62aef7a4eda7f58bbaaea30b9343e"
  }
}
```

Web Scheduling New Installer

That's it – Web Scheduling has now been installed and basic configuration completed.

Bricks & Mortar

Bricks & Mortar

This part of the of the presentation highlights two components of Web Scheduling which may have been overlooked in the past, but which have become more important in recent Releases.

Bricks

This is the UI Framework editor, but it is also used as the basis of Analytics in 2024 – the old Analytics has been re-engineered using the Bricks Framework.

Configuration Manager

This application provides access to all the configuration settings for the installation – the most important settings are related to the Databases, Passwords and Endpoints.

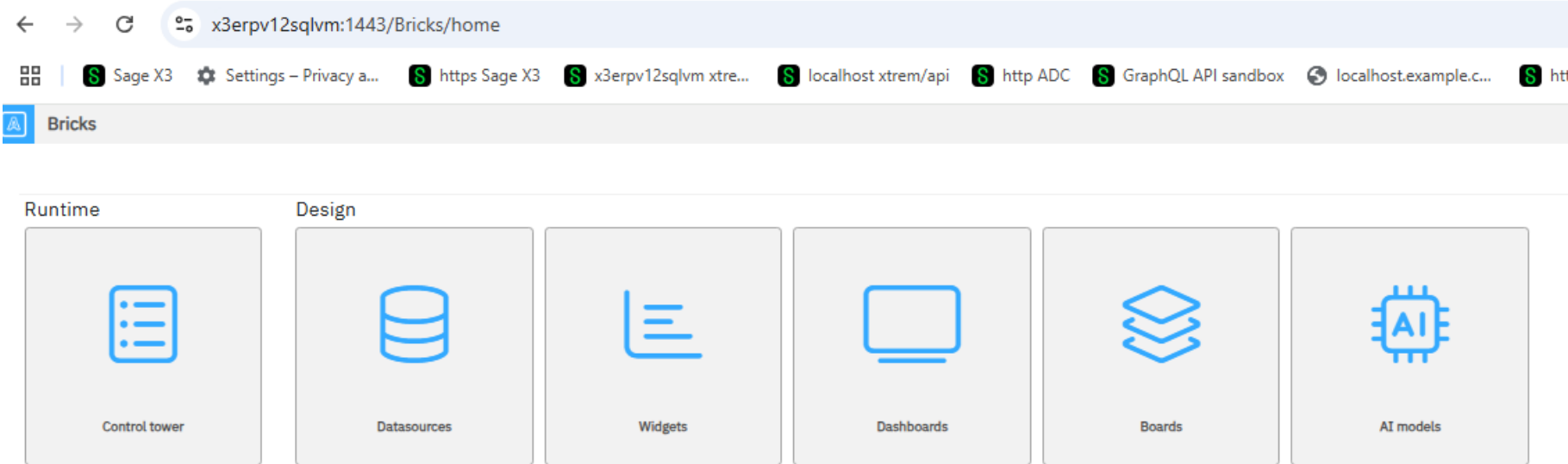
Hence “Mortar” – it is the configuration for integration within Web Scheduling, and holds it all together.

Bricks

Now, let's look at the new Analytics Bricks in a bit more detail

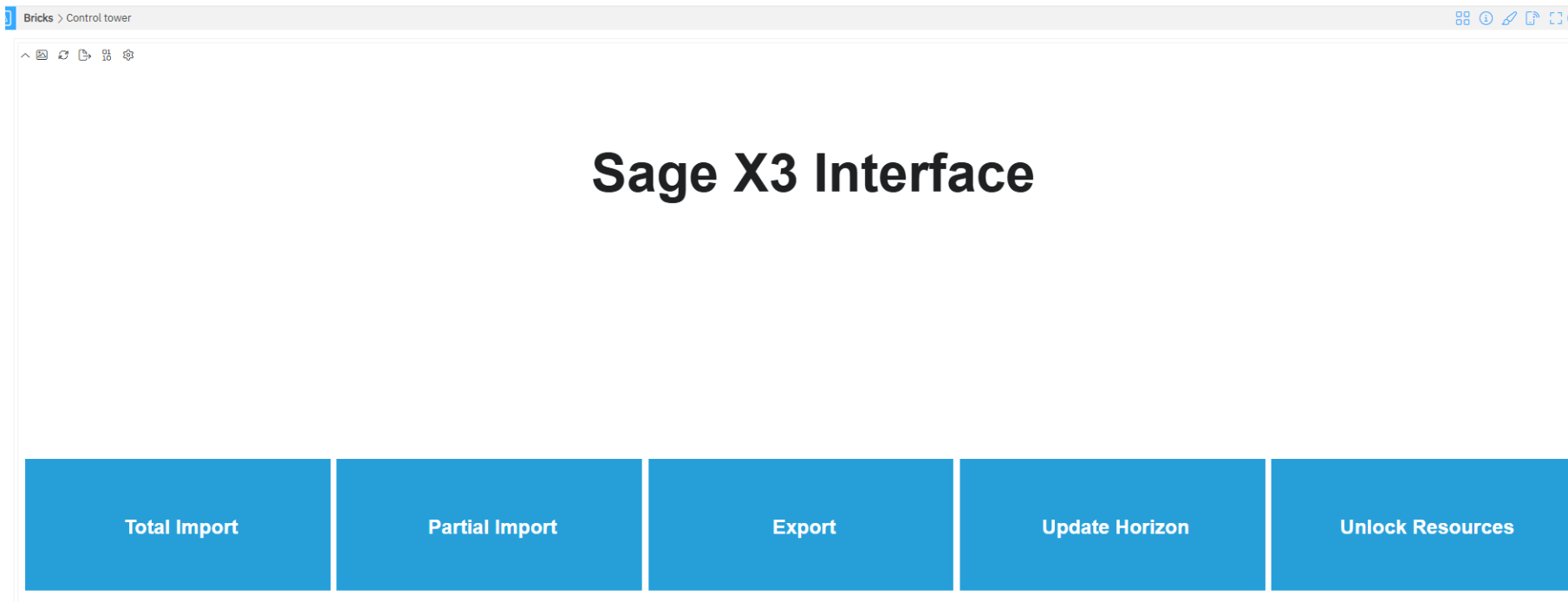
Basically, it consists of two parts

- 1) Runtime – this section has a “Control tower” which contains the X3 Interface import/export actions
- 2) Design – this section contains configuration settings for Bricks



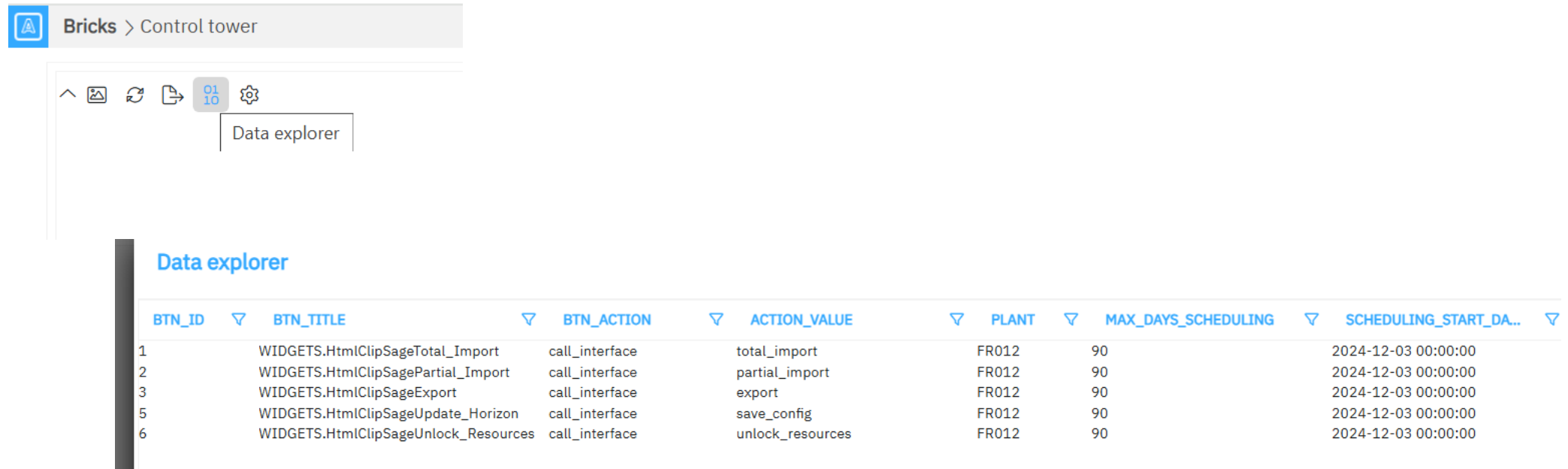
Bricks Control tower

The Control tower is the centre of operations – in Sage X3’s case, it is where you can find the “Analytics” which launches the Total Import, Partial Import, Export, Update Horizon and Unlock Resources.



Bricks Control tower

The “Data explorer” shows the Import/Export history

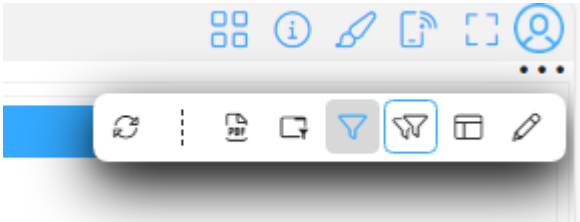


The screenshot shows the Bricks Control tower interface. At the top, there is a breadcrumb navigation bar with "Bricks > Control tower". Below this is a toolbar with icons for home, refresh, and a search icon. A search box contains the text "Data explorer". The main content area is titled "Data explorer" and displays a table with the following data:

BTN_ID	BTN_TITLE	BTN_ACTION	ACTION_VALUE	PLANT	MAX_DAYS_SCHEDULING	SCHEDULING_START_DA..
1	WIDGETS.HtmlClipSageTotal_Import	call_interface	total_import	FR012	90	2024-12-03 00:00:00
2	WIDGETS.HtmlClipSagePartial_Import	call_interface	partial_import	FR012	90	2024-12-03 00:00:00
3	WIDGETS.HtmlClipSageExport	call_interface	export	FR012	90	2024-12-03 00:00:00
5	WIDGETS.HtmlClipSageUpdate_Horizon	call_interface	save_config	FR012	90	2024-12-03 00:00:00
6	WIDGETS.HtmlClipSageUnlock_Resources	call_interface	unlock_resources	FR012	90	2024-12-03 00:00:00

Bricks Control tower

Where are the filters previously on the Interface page? They are now in the Filters section in the menu ribbon



Edit Layout Manager Filters

Editable Filters

Filter Name	Value	
<i>Text</i>		
Plant	FR012	x
<i>CORE.DATETIME</i>		
Scheduling Start Date	Today	📅 v x
<i>Numeric</i>		
Max Days Scheduling	90.00	↕ x
<i>True/False</i>		
Material Check		<input type="checkbox"/> x

Bricks Design Datasource

Bricks allows you to access the Web Scheduling Database, to view and maintain the data

The screenshot displays the Bricks Datasources interface. On the left, a search bar is visible with a list of folders: Default, MOM DB, S&OP DB, and Sage_X3_Interface. The main area shows a tree view of folders under 'Default', including MOM DB, ATTACHMENTS, FACTORY SCHEDULING, DYNAMIC CONSTRAINTS, GUI CONFIGURATION, LAYERS, MATCHING CONSTRAINTS, STATIC CONSTRAINTS, UTILITIES, and WORKRGROUPS. The WORKRGROUPS folder is expanded, showing a list of tables: S_WRK_STRUCTUREGROUP, S_WRK_WORKGROUP, S_WRK_WORKGROUP_STRUCTURE, S_WRK_WORKGROUP_USER, S_APP_GLOBAL_SETTINGS, S_SYS_PAR_USER, and S_SYS_SCHED_START. On the right, a table view shows data for the S_WRK_WORKGROUP table. The table has three columns: WORKGROUP_C..., WORKGROUP_D..., and STRUCTUREGR... The data rows are: Global, Global, GlobalStructureGroup and SAGE, SAGE, GlobalStructureGroup.

WORKGROUP_C...	WORKGROUP_D...	STRUCTUREGR...
Global	Global	GlobalStructureGroup
SAGE	SAGE	GlobalStructureGroup

Bricks Design Datasource

Edit entity

General

NAME
S_WRK_WORKGROUP

Cache

DESCRIPTION

Query

Parameters

ENTITY MANAGER INSTANCE
DEFAULT

Calculated fields

APPLY ODATA QUERY

ENABLE DEFAULT WIDGET

Alarms


Editing

Edit entity

General

TYPE TABLE
Simple

Cache

CONNECTION 
MOM Database

Query

READ TIMEOUT
30

Parameters

QUERY ✓

1 `SELECT * FROM S_WRK_WORKGROUP`

Edit entity

Data editor

General

READ ONLY

Cache

ENABLE DATA INSERT

Query

ENABLE DATA UPDATE

Parameters

ENABLE DATA UPDATE ALL

Calculated fields

ENABLE DATA DELETE

ENABLE DATA DELETE ALL

Alarms

ENABLE BULK INSERT

Editing

WRITE TIMEOUT
30

Bricks Design Datasource

Add data
 WORKGROUP_D...
 STRUCTUREGR...

<input type="checkbox"/>	Global	Global	GlobalStructureGroup
<input type="checkbox"/>	SAGE	SAGE	GlobalStructureGroup

WORKGRO... Clone data

<input checked="" type="checkbox"/>	Global
-------------------------------------	--------

WORKGROUP_C... Delete data

<input checked="" type="checkbox"/>	Global	Glo
<input type="checkbox"/>	SAGE	SAGE

Edit data
 WORKGROUP_D...
 STRUCTUREGR...

<input checked="" type="checkbox"/>	Global	Global	GlobalStructureGroup
<input type="checkbox"/>	SAGE	SAGE	GlobalStructureGroup

Edit data

Workgroup Code *

Global

Workgroup Descr

Global

Structuregroup Code *

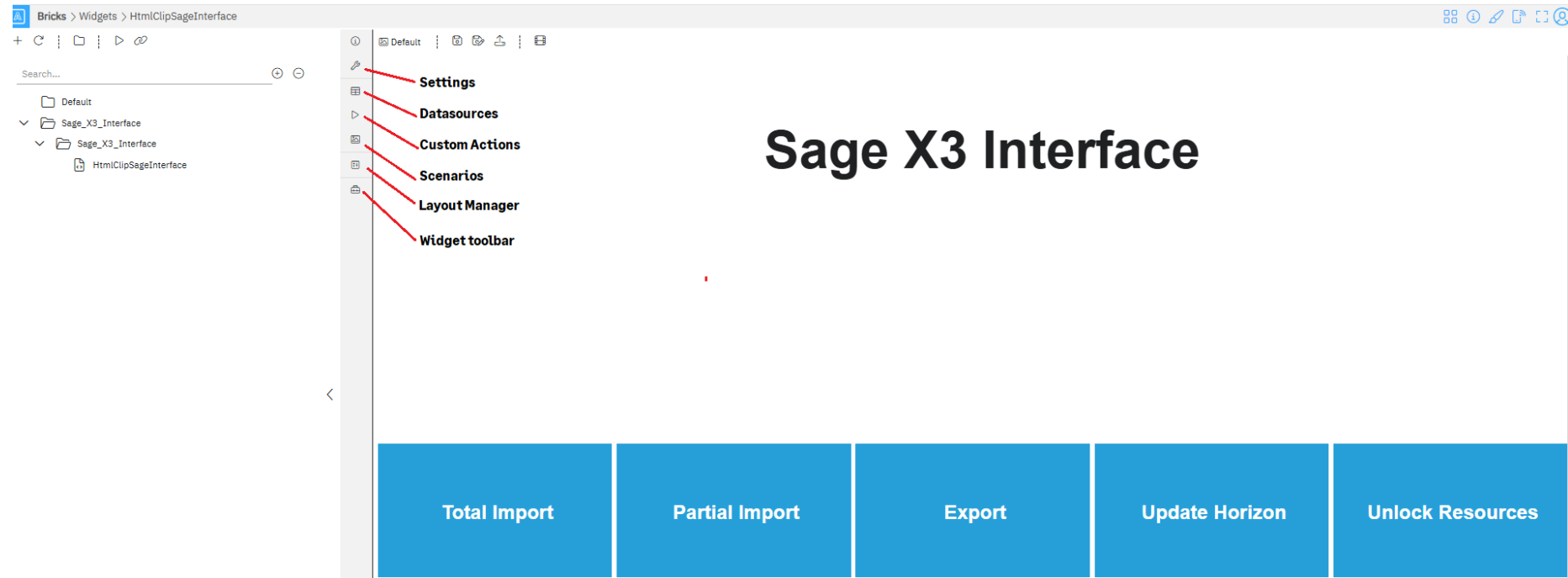
GlobalStructureGroup - All structures

Bricks Design Dashboard

The Design section allows you to build Dashboards from Widgets and Boards acting on Databases.

These Dashboards are then published on the Control Tower.

In Sage X3's case, there is only one Dashboard which is the Sage_X3_Interface – you can drill into the Widget

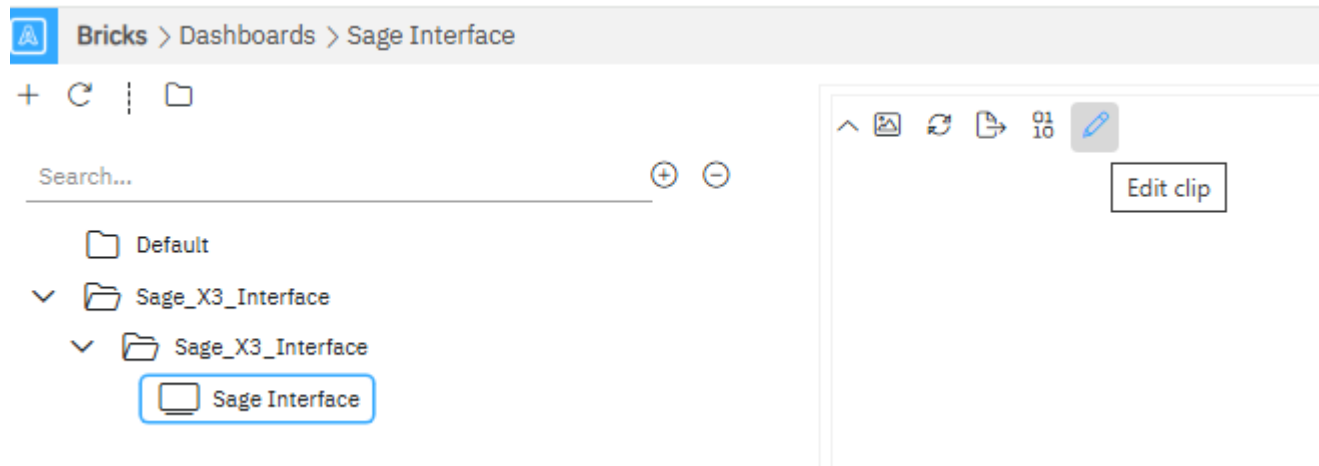


Bricks Design Dashboard

The Design section allows you to build Dashboards from Widgets and Boards acting on Databases.

These Dashboards are then published on the Control Tower.

In Sage X3's case, there is only one Dashboard which is the Sage_X3_Interface – you can drill into the Widget from Dashboards



Bricks Design Dashboard

The Sage X3 Dashboard contains one Widget, Sage_X3_Interface.

Editing the Widget allows you to look at the **Datasource** which has Parameters tab containing the selectors/parameters and their defaults passed through to the Widget.

The screenshot shows the 'Datasource' configuration window with the 'Parameters' tab selected. The left sidebar contains navigation options: Query, Parameters, Calculations, Joins, and Fields. The main area displays a list of parameters:

- Plant (selected)
- Scheduling Start Date
- Max Days Scheduling
- Material Check

On the right, the configuration for the selected 'Plant' parameter is shown:

- Name: Plant
- Type: String
- Multivalue:
- Default value: FR012
- Runtime Value:
- Decorate:

Bricks Design Dashboard

As well as allowing you to configure parameters and their default values, the grid-layout can be defined

Auto-binding : When to load and show data

Display Type : Auto/Desktop/Mobile format

Group : Name of group

Multi-instance : allow use in multiple tabs

Auto-refresh interval : refresh interval

Add enabled : Allow adding

Remove enabled : Allow deleting

Resize enabled : Allow resize action

Drag enabled : Allow dragging

Compact enable : Allow Compact action

Max item Cols : Max number of columns per item

Max item Rows : Max number of rows per item

Min item Cols : Min number of columns per item

Min item Rows : Min number of columns per item

Hide menu : Hide the widget's corner menu

Hide toolbar : Hide the widget's toolbar

Layout manager settings

Auto binding

Display type

Group

Multi instance

Auto refresh interval

Add enabled

Remove enabled

Resize enabled

Drag enabled

Compact enabled

Max item cols
12.00

Max item rows
12.00

Min item cols
1.00

Min item rows
1.00

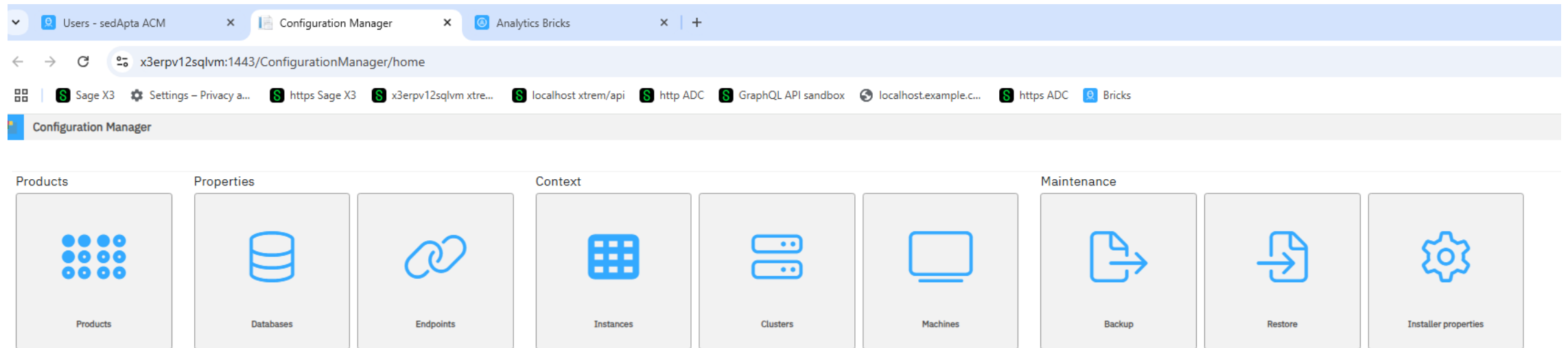
Hide menu

Hide toolbar

Configuration Manager

Configuration Manager allows you to see and amend the Configuration of Web Scheduling components.

On loading the site, this is the set of options:



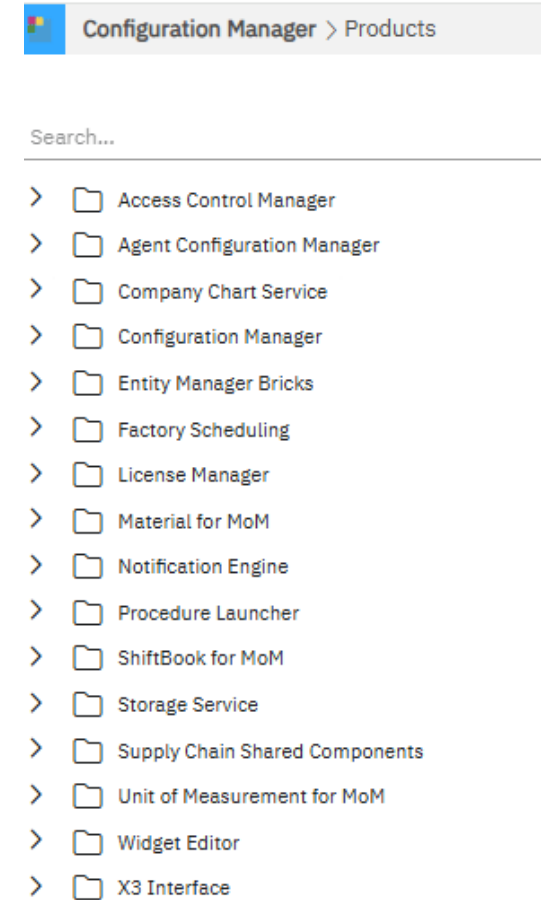
Configuration Manager - Products

The main tiles of interest for us are “Products”, “Databases” and “Endpoints”

Products tile gives access to the configurations of the different Components.
The most important of these Components are














Access Control Manager – ACM settings such as password format/validation

X3 Interface – some of the settings relating to the Graph QL Interface



Configuration Manager - Products

Access Control Manager Password Policy:

		Signing Certificate Thumbprint	31d6a08147b62aef7a4eda7f58bbaaaa30b9343e	MAIN
<input checked="" type="checkbox"/>		Enable Multi Factor Authentication (MFA)	False	MAIN
<input checked="" type="checkbox"/>		Enable Self-Service Password Recovery	False	MAIN
T		Administrator Email Address		MAIN
<input checked="" type="checkbox"/>		Allow Frame	False	MAIN
<input checked="" type="checkbox"/>		Force HttpOnly Cookies	False	MAIN
T		Email Validation Pattern	@[^@]+	MAIN
<input type="text" value="3"/>		Password Max Invalid Attempts	3	MAIN
T		Password Validation Pattern	^(?=.*[a-z])(?=.*[A-Z])(?=.*[0-9])(?=.*[!@#\\\$%\\^&*])	MAIN
T		Phone Number Validation Pattern	^([0-9](\\ \\+ -\\.)+)\$	MAIN
<input type="text" value="3"/>		Username Minimum Required Length	3	MAIN
T		Username Validation Pattern	([A-Za-z0-9_-])*	MAIN
<input checked="" type="checkbox"/>		Enforce Password Expiration	True	MAIN
<input type="text" value="90"/>		Password Expiration Days	90	MAIN

Configuration Manager - Products

Access Control Manager ACMDB Database Settings – similar settings are available on the other Components.

<input type="checkbox"/>			Password Expiration Days	90	
<input type="checkbox"/>			Refresh Token Lifetime	1209600	
<input type="checkbox"/>				ACMDB Database	SqlServer

Edit property

General

Description
Enter here the credentials used to connect to the ACMDB database.

Legacy

Connection type
SqlServer

Hostname
X3ERP12SQLVM

Port

Instance
WEBSCHEDULER

Initial catalog
ACNDB

Advanced

Authentication
User and password

Username
WEBSH

Password
.....

Edit property

General

NDBAlias
ACNDB

Legacy

NDBFileCon

Advanced

Lock TimeOut
2000

Awake Connection

Edit property

General

Connection timeout
15

Legacy

Connection retry count
1

Advanced

Connection retry interval
10

Encrypt

Trust server certificate

SQL connection column encryption setting

Enclave attestation url

Configuration Manager - Products

X3 Interface – Connected Application and GraphQL settings

The image shows a screenshot of the Configuration Manager interface. On the left, there is a list of 'Available properties...' with columns for Name and Value. The properties include X3 BaseUrl, X3 Endpoint, X3 Username, X3 Client Credential (connected app), Certificate HashCode, Access Control Manager Web Service Endpoint, Company Chart Endpoint, License Server Endpoint, MOM Database, and Bricks Database. On the right, an 'Edit property' dialog is open, showing the 'General' tab. The dialog displays the description of the selected property: 'X3 GraphQL ClientID and Secret credential used for Bearer Authentication'. Below the description, the 'Username' field is populated with the value '9f30192cea754f1e8b699b1ee013c9f8'. The 'Password' field is currently empty and masked with dots.

	Name	Value
<input type="checkbox"/>	X3 BaseUrl	http://x3erpv12sqlvm:8124/xtrem/api
<input type="checkbox"/>	X3 Endpoint	SEED
<input type="checkbox"/>	X3 Username	admin
<input type="checkbox"/>	X3 Client Credential (connected app)	User: 9f30192cea754f1e8b699b1ee013c9f8
<input type="checkbox"/>	Certificate HashCode	31d6a08147b62aef7a4eda7f58bbbaea30b9343e
<input type="checkbox"/>	Access Control Manager Web Service Endpoint	https://x3erpv12sqlvm:1443/ACMWS/AcmServiceApp.svc
<input type="checkbox"/>	Company Chart Endpoint	https://x3erpv12sqlvm:1443/CompanyChart
<input type="checkbox"/>	License Server Endpoint	https://x3erpv12sqlvm:1443/LicenseManager
<input type="checkbox"/>	MOM Database	SqlServer
<input type="checkbox"/>	Bricks Database	SqlServer

Edit property

General

Description
X3 GraphQL ClientID and Secret credential used for Bearer Authentication

X3 Client Credential (connected app)

Username
9f30192cea754f1e8b699b1ee013c9f8

Password
.....

Configuration Manager - Databases

This tile brings together all the Databases which make up Web Scheduling

Configuration Manager > Databases

Available databases...

<input type="checkbox"/>	Name
<input type="checkbox"/>	Configuration Manager Database
<input type="checkbox"/>	Company Chart Database
<input type="checkbox"/>	ACM Database
<input type="checkbox"/>	Notification Engine Database
<input type="checkbox"/>	Bricks Database
<input type="checkbox"/>	Storage Service Database
<input type="checkbox"/>	MOM Database

Edit database

General

Description
Enter here the credentials used to connect to the MOM database.

Legacy

Connection type
SqlServer

Hostname
X3ERP12SQLVM

Port

Instance
WEBSCHEDULER

Initial catalog
NICIM

Advanced

Authentication
User and password

Username
WEBSH

Password
.....

Edit database

General

NDBAlias
NICIM

Legacy

NDBFileCon

Advanced

Lock TimeOut
2000

Awake Connection

Edit database

General

Connection timeout
15

Legacy

Connection retry count
1

Advanced

Connection retry interval
10

Encrypt

Trust server certificate

SQL connection column encryption setting











Enclave attestation url

Configuration Manager - Endpoints

Endpoints brings together all the URLs for Web Scheduling

Configuration Manager > Endpoints

Available endpoints...

<input type="checkbox"/>	Name	Value	Cluster	Instance
<input type="checkbox"/>	 Configuration Service Endpoint	https://x3erpv12sqlvm:1443/ConfigurationService	MAIN	
<input type="checkbox"/>	 Company Chart Endpoint	https://x3erpv12sqlvm:1443/CompanyChart	MAIN	
<input type="checkbox"/>	 License Manager Endpoint	https://x3erpv12sqlvm:1443/LicenseManager	MAIN	
<input type="checkbox"/>	 Access Control Manager Web Manager Endpoint	https://x3erpv12sqlvm:1443/ACM	MAIN	
<input type="checkbox"/>	 Printer Broker Endpoint	https://x3erpv12sqlvm:1443/ACM	MAIN	
<input type="checkbox"/>	 Access Control Manager Web Service Endpoint	https://x3erpv12sqlvm:1443/ACMWS	MAIN	
<input type="checkbox"/>	 Access Control Manager Web Service Complete Endpoint	https://x3erpv12sqlvm:1443/ACMWS/AcmServiceApp.svc	MAIN	
<input type="checkbox"/>	 ACN Endpoint	x3erpv12sqlvm:51024	MAIN	
<input type="checkbox"/>	 Configuration Manager Endpoint	https://x3erpv12sqlvm:1443/ConfigurationManager	MAIN	
<input type="checkbox"/>	 Web Manager	https://x3erpv12sqlvm:1443/UomMom	MAIN	DEFAULT

Configuration Manager - Actions

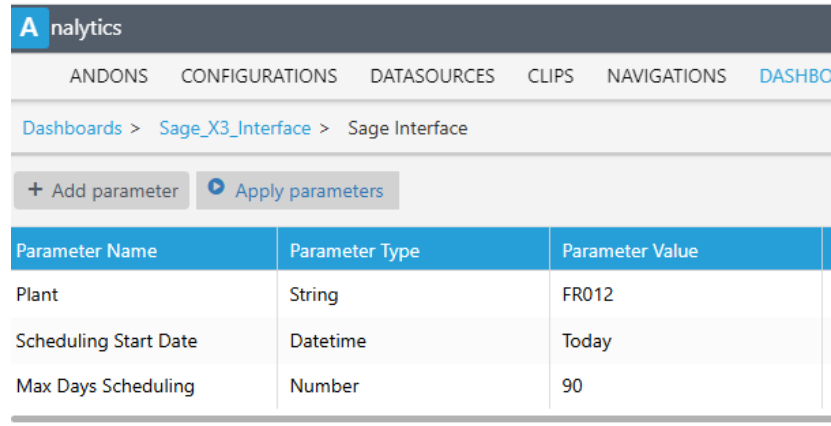
Suggested tasks you might want to use Configuration Manager for:

- 1) A change in Connected Application Client ID or Secret Key
- 2) A change in Password Policy
- 3) Maintaining S_WRK_WORKGROUP_USER and/or S_WRK_WORKGROUP_USER_SELECTION

Analytics Bricks - Import

As mentioned before, Bricks has taken the place of Analytics within Web Scheduling.

The Bricks > Control tower shows the same options, but what's happened to the old filters?

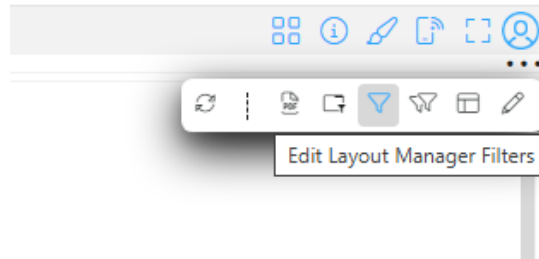


The screenshot shows the 'Analytics' control tower interface. At the top, there is a navigation bar with 'Analytics' selected. Below it, there are tabs for 'ANDONS', 'CONFIGURATIONS', 'DATASOURCES', 'CLIPS', 'NAVIGATIONS', and 'DASHBOARDS'. The breadcrumb trail indicates the current location: 'Dashboards > Sage_X3_Interface > Sage Interface'. There are two buttons: '+ Add parameter' and 'Apply parameters'. Below these is a table with three columns: 'Parameter Name', 'Parameter Type', and 'Parameter Value'.

Parameter Name	Parameter Type	Parameter Value
Plant	String	FR012
Scheduling Start Date	Datetime	Today
Max Days Scheduling	Number	90

Analytics Bricks - Import

The Filters are now accessed via the “Edit Layout Manager Filters” button at top-right.



Edit Layout Manager Filters

Editable Filters

Text

Filter Name	Value
Plant	FR012

CORE.DATETIME

Filter Name	Value
Scheduling Start Date	Today

Numeric

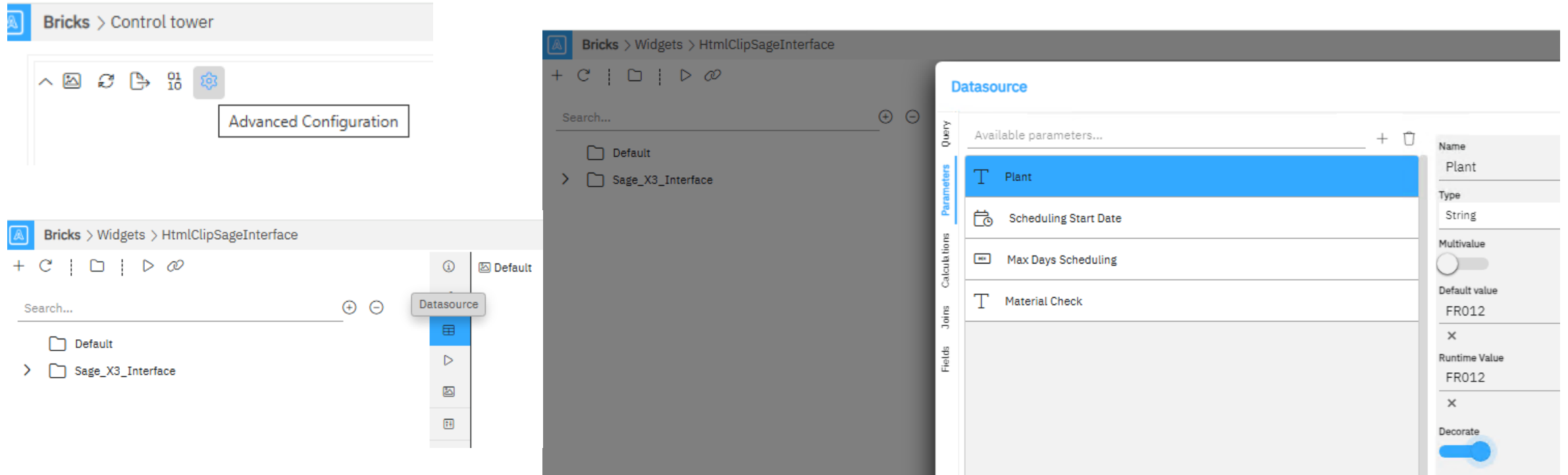
Filter Name	Value
Max Days Scheduling	90.00

True/False

Filter Name	Value
Material Check	<input type="checkbox"/>

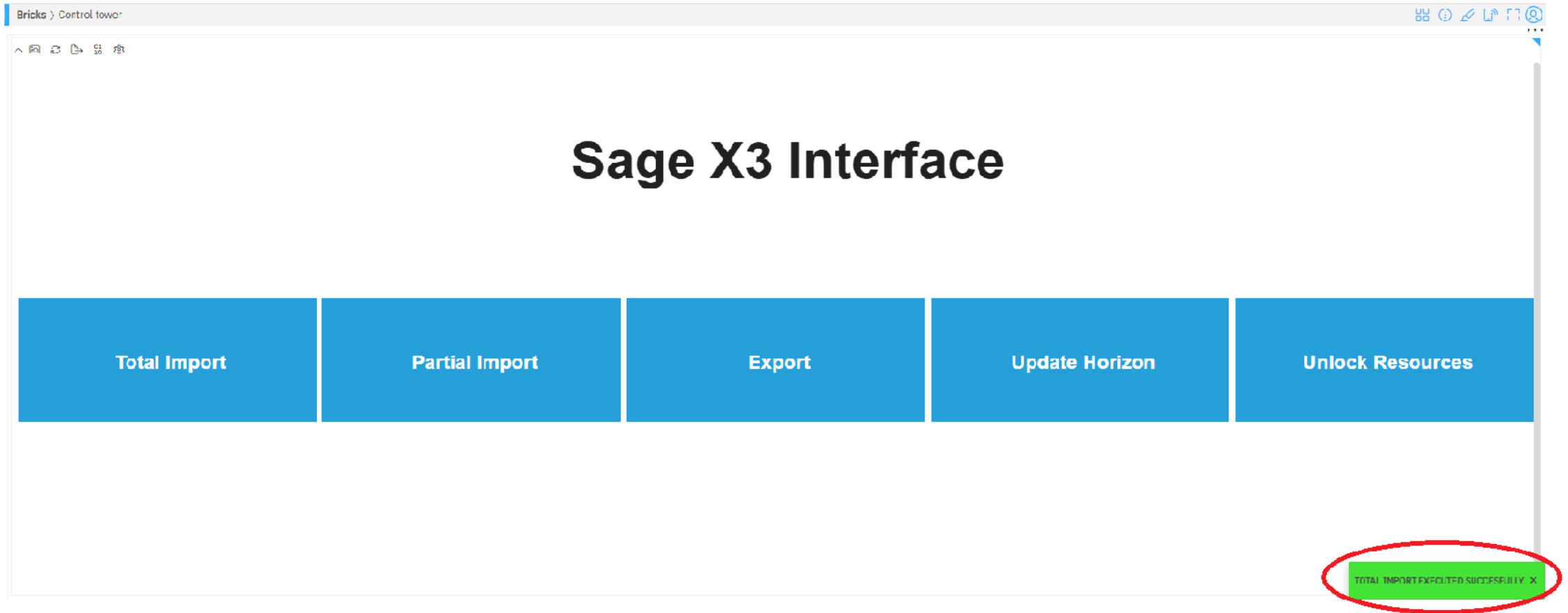
Analytics Bricks - Import

Another way is to launch Advanced Configuration “cog” from Analytics Bricks



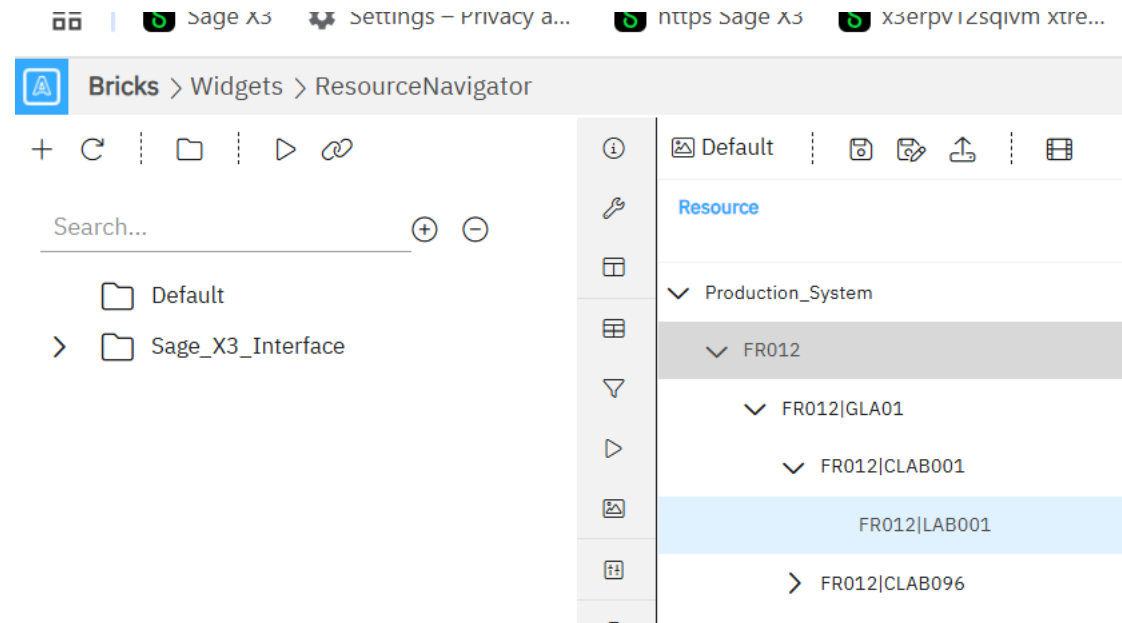
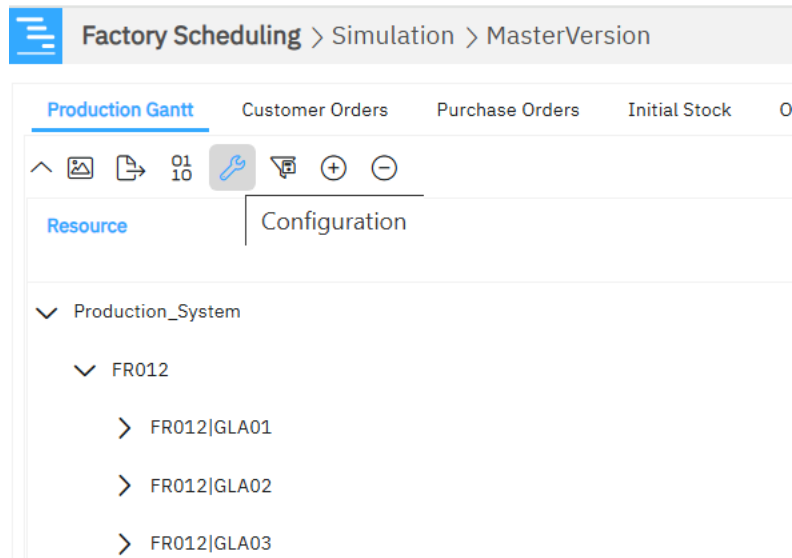
Analytics Bricks - Import

And the status of an Import is displayed at bottom-right.

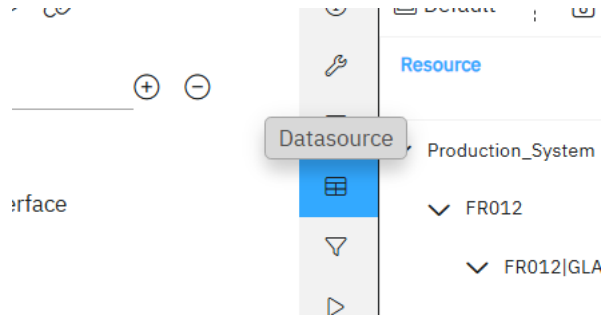


Factory Scheduling

As well as Analytics, Bricks is used in Factory Scheduling. For example, the layout of Production Gantt, Resource is accessible via the “Configuration” Spanner:







Factory Scheduling



Datasource

Query	Base URL
	https://x3erpv12sqlvm:1443/WSSelfhost/
Parameters	Query
	ResourceNavigator/ResourceNavigatorOData?sessionGuid={{sessionGuid}}&controlId={{controlId}}
Calculations	Method
	GET

Datasource

Query	Available Columns	Selected Columns
Parameters	   	<input type="checkbox"/> Resource
Calculations		<input type="checkbox"/> ParentId
Joins		<input type="checkbox"/> Id
Fields		<input checked="" type="checkbox"/> Selected
		<input type="checkbox"/> Type
		<input type="checkbox"/> Description

Web Scheduling Troubleshooting

Web Scheduling Troubleshooting

Introduction: A potted history of X3 and Web Scheduling

Web Scheduling is an add-on provided by sedApta in Italy. It imports data from an X3 Folder and stores that data in its own databases where it can report on it and manipulate it before exporting the results back to the X3 Folder when it is deemed to be satisfactory.

In order to import and export the X3 Folder data, it has to interface with X3 via its own Interface Service.

Prior to 2023 release of X3 and Web Scheduling, there was only one Interface, namely “Sage_X3_Interface”, which operated on JSON extracts from X3, and SOAP Web Services to send data back to X3.

In 2023, Web Scheduling was enhanced so it was able to use a new Interface, “Sage X3 Interface GraphQL” to interact with X3 via the “X3 Services” GraphQL Service for Queries on X3 Folder data – X3 SOAP Web Services were used for Mutations/Updates to X3 Folder data.

Web Scheduling Troubleshooting

In 2024, the “X3 Services” GraphQL Service has been changed to use X3 Import Templates (aka “Operations”) instead of SOAP Web Services to provide the mechanism for Mutations/Updates – this new mechanism is implicitly used by Web Scheduling.

The main focus of this Presentation is troubleshooting the Analytics Imports using the Web Scheduling-to-X3 Interface, and in particular the GraphQL versions.

Unfortunately, the log-files in Web Scheduling don’t cover the internal workings for Factory Scheduling Simulations. Also, some of the API-calls made by Analytics during Imports are not covered in depth by the Interface logging as they are written by Sedapta.

Web Scheduling Interface Troubleshooting

The Interfaces

As mentioned earlier, I am concentrating on the GraphQL Interface which actually entails looking at two levels of interfacing:

- 1) The sedApta Web Scheduling “Sage X3 Interface GraphQL”
- 2) Sage’s GraphQL “X3 Services”

Both Interfaces have been covered in the Autumn 2023 Tips & Tricks “New ADCs and GraphQL” Presentation, but I’ll cover them here as well – the information needs updating to include the new Mutations mechanism within the X3 Services interface.

Effectively, the Web Scheduling Interface has not changed in nature, only as far as the data it handles may have changed to accommodate new/changed behaviour and features within Web Scheduling.

Web Scheduling Interface Troubleshooting

This leaves the main changes being in the GraphQL Interface where Mutation SOAP Web Service calls have been replaced by API Operations in X3 using Import Templates.

To get debugging for Imports and Exports within Web Scheduling, enable increase logging in both the “Sage X3 Interface GraphQL” and “X3 Services” configurations.

For the Web Scheduling Sage X3 Interface GraphQL, this means amending the log.config file in sedApta\SupplyChain\X3_Interface_GraphQL\ to change the logging-level to be “Trace” at the bottom of the log.config – you can also change the output directory in this file, if you like – the default log output directory is C:\ProgramData\sedApta\logs\X3InterfaceService.

```
27
28 <rules>
29 <logger name="*" minlevel="Trace" writeTo="logfile"></logger>
30 </rules>
31 </nlog>
32
```


Web Scheduling Interface Troubleshooting

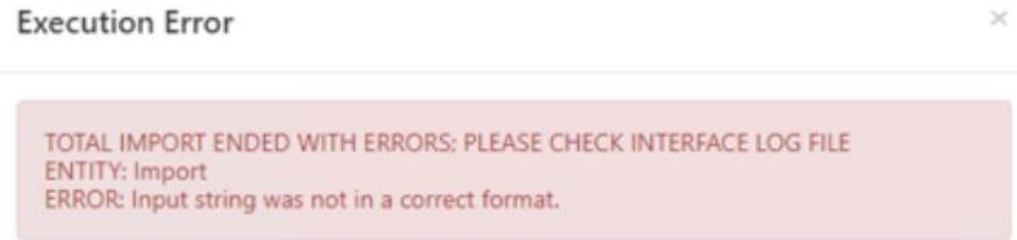
X3 Services logging can be increased by changing the xtrem-config.yml to “debug” or “verbose”

```
1  storage:
2      managedExternal: true
3
4  deploymentMode: development
5  logs:
6      disabledForTests: false
7      domains:
8          sage/xtrem-x3-gateway/storage:
9              level: critical
10         sage/xtrem-x3-gateway/web-service:
11             level: debug
12         sage/xtrem-x3-sql-manager/sql:
13             level: debug
14         sage/xtrem-service/service:
15             level: debug
16         sage/xtrem-service/http:
17             level: debug
18
```

Web Scheduling Interface Troubleshooting

The general strategy for investigating Web Scheduling issues is to set the logging for both the above services and then look at the log-files for both. The two logs should provide overlapping information so you can see the Web Scheduling call to GraphQL and then the GraphQL progress.

As an example, a [Hotfix \(Input string was not in a correct format.\)](#) has recently been released where the details on screen are very basic



and more information is available in the Web Scheduling log - this additional information identifies the Hotfix as the resolution.

```
2024-10-25 15:35:30.4306|INFO||Sedapta.Sage.X3InterfaceService.API.Actions.QueryCustomValueAPI|Execution time of QueryCustomValueAPI action 31.18 ms.
2024-10-25 15:35:30.4463|INFO||Sedapta.Sage.X3InterfaceService.API.Actions.QueryWorkOrdersAPI|Executing QueryWorkOrdersAPI API.
2024-10-25 15:35:30.4936|INFO||Sedapta.Sage.X3InterfaceService.API.Actions.QueryWorkOrdersAPI|Execution time of QueryWorkOrdersAPI HTTP web API call on endpoint http://192.168.0.18:8124/xtrem/api 41.94 ms.
2024-10-25 15:35:31.8170|INFO||Sedapta.Sage.X3InterfaceService.API.Actions.QueryWorkOrdersAPI|Execution time of QueryWorkOrdersAPI HTTP web API call on endpoint http://192.168.0.18:8124/xtrem/api 1323.11 ms.
2024-10-25 15:35:31.8647|ERROR||Sedapta.Sage.X3InterfaceService.API.Actions.QueryWorkOrdersAPI|Input string was not in a correct format.
2024-10-25 15:35:31.8647|ERROR||Sedapta.Sage.X3InterfaceService.API.Actions.QueryWorkOrdersAPI|mscorlib
2024-10-25 15:35:31.8647|ERROR||Sedapta.Sage.X3InterfaceService.API.Actions.QueryWorkOrdersAPI| at System.Globalization.TimeSpanParse.TryParseByFormat(String input, String format, TimeSpanStyles styles, TimeSpanResult& result)
at System.Globalization.TimeSpanParse.TryParseExact(TimeSpan input, String format, IFormatProvider formatProvider, TimeSpanStyles styles, TimeSpanResult& result)
at System.Globalization.TimeSpanParse.ParseExact(String input, String format, IFormatProvider formatProvider, TimeSpanStyles styles)
at System.TimeSpan.ParseExact(String input, String format, IFormatProvider formatProvider)
at Sedapta.Sage.X3InterfaceService.API.Actions.QueryWorkOrdersAPI.ParseWorkOrders(JSONObject json)
at Sedapta.Sage.X3InterfaceService.API.Actions.QueryWorkOrdersAPI.ParseResponse()
```


Web Scheduling Interface Troubleshooting

This can then be executed and the actual results examined and perhaps refined.

```
Sage | GraphQL API sandbox
1* {
2*   xtremX3Manufacturing {
3*     workOrder {
4*       query {
5*         first: 1
6*         filter: "{[_updateStamp: { _gte: '2000-01-01 00:00:00Z'}, productionSite: {code: 'G01'}, orderStatus: {_lt: 4}, _or: [ {workOrderOptimized: 2}, {schedi
7*       }
8*     }
9*     pageInfo {
10*       endCursor
11*       hasNextPage
12*       startCursor
13*       hasPreviousPage
14*     }
15*     edges {
16*       node {
17*         number
18*         endDate
19*         initialObjective
20*         _updateStamp
21*         orderStatus
22*         priority
23*         workOrderOperationLines {
24*           query(first: 1000) {
25*             edges {
26*               node {
27*                 _id
28*                 operationNumber
29*                 operationSplit
30*                 operationStatus
31*                 timeUnit
32*                 setupTime
33*                 runTime
34*                 postRunTime
35*                 waitingTime
36*                 operationDescription
37*                 operationNumber
38*                 subcontract
39*                 remainingQuantity
40*                 actualWorkCenter {
41*                   code
42*                   description
43*                   type
44*                 }
45*                 tool {
46*                   code
```

Web Scheduling Interface Troubleshooting

Thanks to the fact that the GraphQL queries and mutations executed by Web Scheduling can be extracted and executed directly in the GraphQL Sandbox, that makes testing and investigating a bit easier – it also shows if the problem is in the data retrieved or passed by X3 Services or in how the data is used in Web Scheduling.

If the Sandbox returns the same error/issue, then it is not a problem with Web Scheduling as such, so investigations can concentrate on X3 Services and GraphQL – the X3 Services tracing in xtrem-security.yml can then come into play to expose higher level of detail on a statement.

You could, potentially, take a copy of a X3 Folder in-house and just investigate using Sandbox in some cases.

[Diagnosing "New ADC" \(Automated Data Collection\) issues \(aka X3Services\)](#)

Web Scheduling Interface Troubleshooting

The SQL Statements behind GraphQL **Queries** can be determined by just setting the logging level to Debug in X3 Services.

```
0.BvFg0ylC6CGmca3UMUhqOrlxgXIovlKaSxHoCZQRbas"}
20636 | 001796 | 15:10:09.256 | DEBUG | xtrem-service/http | HTTP request 29 body:
query: {
  x3Purchasing {
    purchaseOrderLine {
      query(
        filter: "{purchaseOrder: {purchaseSite: {code: 'FR012'}, isClosed: false}, product: {code: 'SFI028'}}"
      ) {
        edges {
          node {
```

```
20636 | 001797 | 15:10:09.308 | VERBOSE | xtrem-x3-gateway/storage | SELECT TOP 21 t0.POHNUM_0 AS T_0_POHNUM_0, t0.POPLIN_0 AS T_0_POPLIN_0,
t0.POPSEQ_0 AS T_0_POPSEQ_0, t0.CPY_0 AS T_0_CPY_0, t0.POHTYP_0 AS T_0_POHTYP_0, t0.LINREVNUM_0 AS T_0_LINREVNUM_0, t0.ITMREF_0 AS T_0_ITMREF_0,
t0.ITMDES1_0 AS T_0_ITMDES_1_0, t0.ITMDES_0 AS T_0_ITMDES_0, t0.GROPRI_0 AS T_0_GROPRI_0, t0.PRIREN_0 AS T_0_PRIREN_0, t0.DISCRGVAL1_0 AS
T_0_DISCRGVAL_1_0, t0.DISCRGVAL2_0 AS T_0_DISCRGVAL_2_0, t0.DISCRGVAL3_0 AS T_0_DISCRGVAL_3_0, t0.DISCRGVAL4_0 AS T_0_DISCRGVAL_4_0, t0.DISCRGVAL5_0
```

```
t1.CMMNUM_0 AS T_1_CMMNUM_0, t0.CREDATTIM_0 AS T_0_CREDATTIM_0, t0.UPDDATTIM_0 AS T_0_UPDDATTIM_0, t0.UPDTICK_0 AS T_0_UPDTICK_0, t0.CREUSR_0 AS
T_0_CREUSR_0, t0.UPDUSR_0 AS T_0_UPDUSR_0 FROM SEED.PORDERP t0 INNER JOIN SEED.PORDERQ t1 ON t1.POHNUM_0 = t0.POHNUM_0 AND EXISTS(SELECT TOP 1 * FROM
SEED.PORDERQ r0 WHERE r0.POHNUM_0 = t0.POHNUM_0 AND (r0.POPLIN_0 = 0 OR r0.POPLIN_0 = t0.POPLIN_0) AND (r0.POQSEQ_0 = 0 OR r0.POQSEQ_0 = t0.POPSEQ_0) AND
t1.POHNUM_0 = r0.POHNUM_0 AND t1.POPLIN_0 = r0.POPLIN_0 AND t1.POQSEQ_0 = r0.POQSEQ_0 ORDER BY r0.POPLIN_0 DESC,r0.POQSEQ_0 DESC ) INNER JOIN SEED.PORDER
t2 ON t2.POHNUM_0 = t0.POHNUM_0 INNER JOIN SEED.FACILITY t3 ON t3.FCY_0 = t2.POHFCY_0 INNER JOIN SEED.ITMMASTER t4 ON 1=1 AND EXISTS(SELECT TOP 1 * FROM
SEED.ITMMASTER r0 WHERE 1=1 AND (r0.ITMREF_0 = ' ' OR r0.ITMREF_0 = t0.ITMREF_0) AND t4.ITMREF_0 = r0.ITMREF_0 ORDER BY r0.ITMREF_0 DESC ) WHERE t3.FCY_0
= 'FR012' AND (CASE WHEN t2.CLEFLG_0 = 2 THEN 1 WHEN t2.CLEFLG_0 IS NULL THEN NULL ELSE 0 END) = 0 AND t4.ITMREF_0 = 'SFI028' ORDER BY T_0_POHNUM_0 ASC,
T_0_POPLIN_0 ASC, T_0_POPSEQ_0 ASC
```

```
20636 | 001798 | 15:10:09.309 | VERBOSE | xtrem-x3-sql-manager/sql | [SEED] Execute SELECT TOP 21 t0.POHNUM_0 AS T_0_POHNUM_0, t0.POPLIN_0 AS
```

Web Scheduling Interface Troubleshooting

Unfortunately, it is more difficult to debug **Mutations**.

Prior to 2024R1, Mutations were represented by SOAP Web Service calls and the Web Service call could be tracked from Web Scheduling log to X3 Services log. For example, a case where the X3 Services SOAP Pool was in a non-running state could be determined as follows:

The “symptom” in Web Scheduling is

The screenshot shows a web interface with a table and a modal dialog. The table has two columns: 'Parameter Type' and 'Parameter Value'. The rows contain the following data:

Parameter Type	Parameter Value
NA012	NA012
Today	Today
90	90

Overlaid on the table is a modal dialog titled 'Execution Error'. Inside the dialog is a red message box with the following text:

TOTAL IMPORT ENDED WITH ERRORS; PLEASE CHECK INTERFACE LOG FILE
ENTITY: Deletion Mutation
ERROR: An error occurred. Contact your administrator.

Web Scheduling Interface Troubleshooting

Web Scheduling log

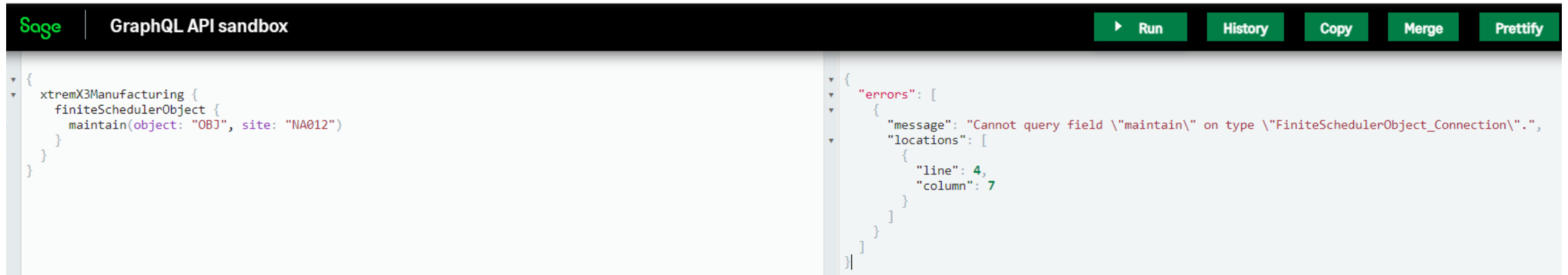
```
-----  
2024-12-03 17:56:16.7402|INFO||Sedapta.Sage.X3InterfaceService.API.Actions.ManagingDeletionAPI|Executing ManagingDeletionAPI API.  
2024-12-03 17:56:16.7402|TRACE||Sedapta.Sage.X3InterfaceService.API.Actions.ManagingDeletionAPI|Query of ManagingDeletionAPI: mutation { xtremX3Manufacturing { finiteSchedulerObject { maintain(object: "OBJ", site: "NA012")  
2024-12-03 17:56:18.2782|INFO||Sedapta.Sage.X3InterfaceService.API.Actions.ManagingDeletionAPI|Execution time of ManagingDeletionAPI HTTP web API call on endpoint http://x3erpv12sqlvm:8124/xtrem/api 1531.40 ms.  
2024-12-03 17:56:18.2782|TRACE||Sedapta.Sage.X3InterfaceService.API.Actions.ManagingDeletionAPI|Response of ManagingDeletionAPI: {"errors":[{"message":"An error occurred. Contact your administrator.","locations":[{"line":4,"column":7}],"path":["xtremX3Manufacturing","finiteSchedulerObject","maintain"],"extensions":{"code":"system-error","diagnoses":[{"severity":3,"message":"An error occurred. Contact your administrator.","path":[]}]}]},"data":{"xtremX3Manufacturing":{"finiteSchedulerObject":{"maintain":null}},"extensions":{"diagnoses":[]}}  
2024-12-03 17:56:18.2782|ERROR||Sedapta.Sage.X3InterfaceService.API.Actions.ManagingDeletionAPI|An error occurred. Contact your administrator.  
-----
```

X3 Services log

```
8200 | 000703 | 16:56:16.811 | VERBOSE | xtrem-x3-gateway/web-service | XML REQUEST  
<soapenv:Envelope xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/" xmlns:wss="http://www.adonix.com/WSS" xmlns:soapenc="http://schemas.xmlsoap.org/soap/encoding/">  
  <soap:Header/>  
  <soapenv:Body>  
    <wss:getDescription soapenv:encodingStyle="http://schemas.xmlsoap.org/soap/encoding/">  
      <callContext xsi:type="wss:WebServicePoolParameters">  
        <codeLang xsi:type="xsd:string">BRI</codeLang>  
        <poolAlias xsi:type="xsd:string">ADC_on_SEED</poolAlias>  
        <poolId xsi:type="xsd:string"></poolId>  
        <requestConfig xsi:type="xsd:string">adxwss.optreturn=JSON&adxwss.request.origin=xtrem</requestConfig>  
      </callContext>  
      <publicName xsi:type="xsd:string">CWSGFSOBJ</publicName>  
    </wss:getDescription>  
  </soapenv:Body>  
</soapenv:Envelope>  
  
8200 | 000704 | 16:56:18.198 | VERBOSE | xtrem-x3-gateway/web-service | DATA  
.....  
enc:root": "0", "soapenv:encodingStyle": "http://schemas.xmlsoap.org/soap/encoding/", "xsi:type": "wss:CAdxMessage", "type": "4", "message": "[ADC_on_SEED stopped] has been stopped. Channel allocation refused")}]}}  
8200 | 000705 | 16:56:18.198 | VERBOSE | xtrem-x3-gateway/web-service | JSON RESPONSE
```


Web Scheduling Interface Troubleshooting

The Mutation could be tested in GraphQL Sandbox



The screenshot shows the Sage GraphQL API sandbox interface. On the left, a GraphQL mutation is defined: `xtremX3Manufacturing { finiteSchedulerObject { maintain(object: "OBJ", site: "NA012") } }`. On the right, the response shows an error: `"errors": [{"message": "Cannot query field \"maintain\" on type \"FiniteSchedulerObject_Connection\".", "locations": [{"line": 4, "column": 7}]}]`. The interface includes buttons for Run, History, Copy, Merge, and Prettify.

This proves that it's an issue with X3 Services rather than Web Scheduling.

SOAP pool status

Alias	Host	Port	Process	PID	Status	User login	Locale
ADC_on_SEED	X3ERP12SQLVM	0	W0	4792	Stopped	admin	en-US

Web Scheduling Interface Troubleshooting

Unfortunately, it is more difficult to debug **Mutations**.

One thing to remember in X3 2024, is that they normally equate to X3 Import Templates, so you can get a bit of insight by setting up separate storage areas for import directories in Parameters, Usage, Import/Export, Import/Export Parameters (GIMPEXPPAR)

The screenshot shows the 'Import/Export parameters' configuration page. The breadcrumb trail is 'All > Parameters > Usage > Imports / Exports'. The page title is 'Import/Export parameters'. The configuration is divided into two main sections: 'Export parameters' and 'Import parameters'. Under 'Export parameters', there are fields for 'Default directory' and 'Temporary directory', each with a search icon and a dropdown arrow. To the right of the 'Temporary directory' field is a 'Sequence no.' field. Under 'Import parameters', there are fields for 'Default directory', 'Temporary directory', 'Final directory', and 'Error directory', each with a search icon and a dropdown arrow. The values for the import parameters are: '[IMPORT]', '[IMPORT_TMP]', '[IMPORT_OK]', and '[IMPORT_ERR]' respectively.

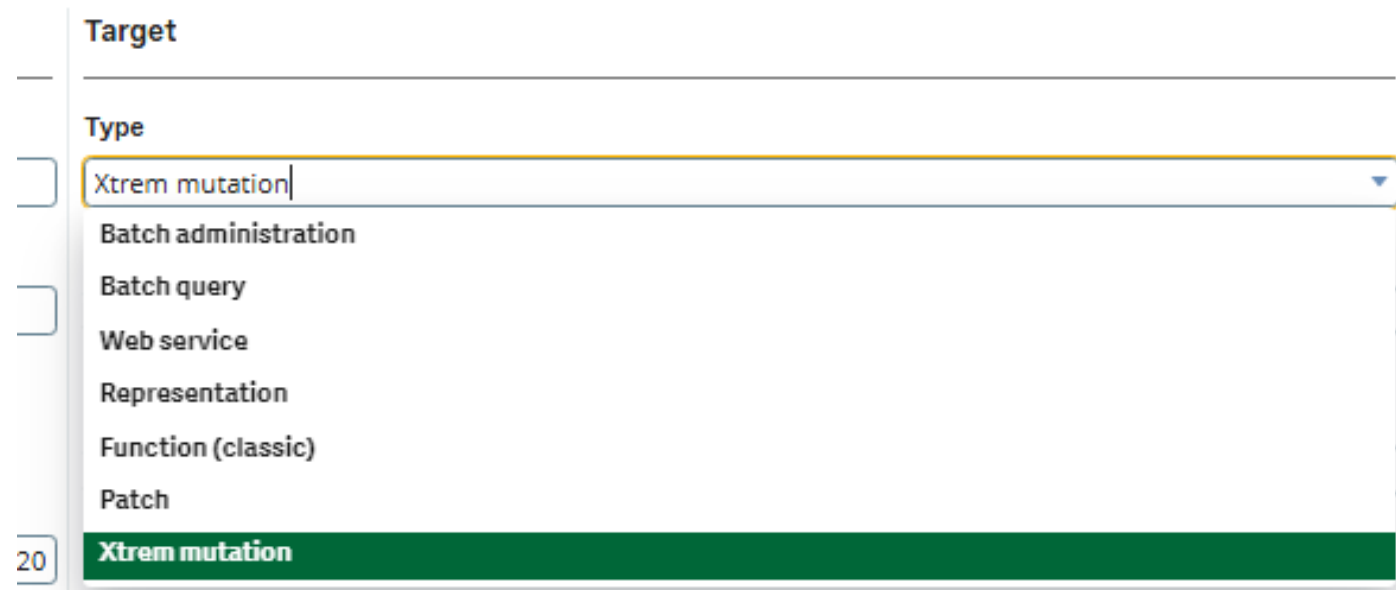
Web Scheduling Interface Troubleshooting

When the Mutations are executed, the data will be written to a JSON file which is then consumed by a JSON Import Template – it will be deposited in the appropriate Storage Area, IMPORT_ERR or IMPORT_OK and that can be examined to see if there's anything particularly suspicious in it.

Web Scheduling Interface Troubleshooting

In 2024R1, X3 Services Mutations were re-engineered to be calls to API Operations rather than SOAP Web Services calls as part of the implementation of X3 Builder. Unfortunately, no additional Logging was implemented at that stage.

However, 2024R2 provides an extra category of X3 Session logging



The screenshot shows a web interface with a 'Target' field and a 'Type' dropdown menu. The 'Type' dropdown is open, showing a list of options: 'Xtrem mutation', 'Batch administration', 'Batch query', 'Web service', 'Representation', 'Function (classic)', and 'Patch'. The 'Xtrem mutation' option is highlighted in green and is also the selected value in the dropdown. A '20' is visible in a small box on the left side of the dropdown menu.

Web Scheduling Interface Troubleshooting

To take advantage of this new X3 Session Logging, you need to find the appropriate Function...

For example

```
-----  
2024-11-19 18:32:09.6498|INFO||Sedapta.Sage.X3InterfaceService.API.Actions.ManagingDeletionAPI|Executing ManagingDeletionAPI API.  
2024-11-19 18:32:09.6498|INFO||Sedapta.Sage.X3InterfaceService.API.Actions.ManagingDeletionAPI|Calling API at http://x3erpvl2sqlvm:8124/xtrem/api  
2024-11-19 18:32:09.6498|TRACE||Sedapta.Sage.X3InterfaceService.API.Actions.ManagingDeletionAPI|Query of ManagingDeletionAPI: mutation { x3Manufacturing {  
finiteSchedulerObject { maintainFiniteSchedulerObject(parameters: {object: "OBJ", site: "FR012"}) { oStatus oMessage } } }}  
2024-11-19 18:32:13.3878|INFO||Sedapta.Sage.X3InterfaceService.API.Actions.ManagingDeletionAPI|Execution time of ManagingDeletionAPI HTTP web API call on endpoint  
http://x3erpvl2sqlvm:8124/xtrem/api 3732.07 ms.  
2024-11-19 18:32:13.3878|TRACE||Sedapta.Sage.X3InterfaceService.API.Actions.ManagingDeletionAPI|Response of ManagingDeletionAPI:
```

Given the above call, you need to look for maintainFiniteSchedulerObject – launch Development, Data and Parameters, API, Operations (GESAPIOPE) and filter for this in the Xtrem operation name column on the left-hand list.

This will reveal that the Operation calls MFGGFSOBJMAINTAIN Script

Web Scheduling Interface Troubleshooting

The screenshot displays the Sage X3 Web Scheduling Interface. On the left, a table lists various API operations. The right pane shows the configuration for the selected operation, 'MFG_GFSOBJ_MAINTAIN'.

Operation	Main node name	Xtream operation name
ASU_ADU_READ_PARAM_C	UserParameterValue	readParameterValueString
ASU_ADU_READ_PARAM_D	UserParameterValue	readParameterValueDate
ASU_ADU_READ_PARAM_I	UserParameterValue	readParameterValueInteger
ASU_ADV_READ_PARAM_C	GeneralParametersData	readParameterValueString
ASU_ADV_READ_PARAM_D	GeneralParametersData	readParameterValueDate
ASU_ADV_READ_PARAM_I	GeneralParametersData	readParameterValueInteger
ASU_ARP_GENERICPRINT	GenericPrintReport	printReport
COM_BPC_CREATE	Customer	create
COM_BPC_UPDATE	Customer	update
MFG_GFSOBJ_MAINTAIN	FiniteSchedulerObject	maintainFiniteSchedulerObject
MFG_MFG_GFSUPDATE	WorkOrder	workOrderOptimization
MFG_MKJ_CREATE	WorkOrderProductionReporting	create
MFG_MKM_CREATE	WorkOrderMaterialTracking	create
MFG_MKO_CREATE	WorkOrderOperationTracking	create
PJM_PTE_COMPUTE_RATE	TimeEntryLine	computeProjectEmployeeLaborRate
PJM_PTE_COMPUTE_UOM	TimeEntryLine	computeUnitOfMeasure
PJM_PTE_COST_TYPE	TimeEntryLine	computeProjectEmployeeCostType
PJM_PTE_CREATE	TimeEntryLine	create
PJM_PTE_DELETE	TimeEntryLine	delete
PJM_PTE_UPDATE	TimeEntryLine	update
PUR_PIH_CREATE	PurchaseInvoice	create
PUR_PTH_CREATE	PurchaseReceipt	purchaseReceipt
STO_CUD_COUNT	StockCountListDetail	processCount
STO_CUD_RENUM_COUNT	StockCountListDetail	renumberCountList
STO_PREH_PICK_TICKET	PickTicketLine	updatePickTicketLine
STO_REO_REORDER	StockReorder	processReorder
STO_SGH_CHANGE_BYLPN	StockChangeByLpn	stockChangeByLpn
STO_SGH_INTERSITE	StockChange	intersiteTransfer
STO_SGH_LPN_GROUPING	StockChangeByLpn	lpnGrouping
STO_SGH_LPN_HANDLING	LpnOperations	lpnOperations
STO_SGH_STOCK_CHANGE	StockChange	stockChange
STO_SGH_SUBCONTRACT	StockChange	subcontractTransfer

API operation configuration details:

- Operation:** MFG_GFSOBJ_MAINTAIN
- Mutation type:** Custom
- Operation method:** Script
- Main node name:** FiniteSchedulerObject
- Xtream operation name:** maintainFiniteSchedulerObject
- Description:** Finite scheduler object maintenance
- Module:** Manufacturing
- Activity code:** Active
- Node binding (request):** MFG_GFSOBJ_MAINTAIN
- Request node name:** MaintainFiniteSchedulerObject
- Package name:** @sage/x3-manufacturing
- Node binding (response):** MFG_GFSOBJ_MAINTAIN
- Script:** MFGGFSOBJMAINTAIN
- Sub-program:** PROCESS_MFG_GFSOBJ_MAINTAIN

Web Scheduling Interface Troubleshooting

After you've found the appropriate Function-name, create a new X3 Sessions log for it.

[All](#) > [Administration](#) > [Usage](#) > [Logs](#)

X3 session log

Settings

File

Label *
MFGGFSOBJMAINTAIN

Description *
MFGGFSOBJMAINTAIN

Enabled

Max log time (min.) *
720

Target

Type

- Xtrem mutation
- Batch administration
- Batch query
- Web service
- Representation
- Function (classic)
- Patch
- Xtrem mutation**

Level selection

Levels

- LOG_TRT1
All 4GL instructions
- LOG_TRT0
Function calls with timing (such as 'Gosub' and 'Call')
- LOG_SQL0
Read and for loop SQL instructions

Level digest

I've tested this, and it does produce the expected tra-file in runtime\logs.

Appendix – further reading

Further reading

Tips & Tricks October 2022

[Deep Dive into Engine Traces](#) – covers Trace Flags which are used by X3 Session Logs

Tips & Tricks November 2023

[Mobile Automation, Web Scheduling and GraphQL](#) – covers X3 Services and Web Scheduling

Tips & Tricks June 2024

[New Features in 2024 R1](#) – covers the new X3 Builder

[Web Scheduler install](#) – covers pre-2024 Web Scheduler installer

Thank you!

