Switch 2022 Spring

What's new?

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Contents

General 3
Before you upgrade 3
Speed improvements 3
Property run-time validation 3
Default elements on the Enfocus Appstore 3
Installation process 4
Manuals 4
Upgrading or downgrading the App 5
Node.js Script Expression 6
Native JSON support 8
Single line text with variables 8
Disable sample job 8
Search function for sample jobs 8
Copy variable from Inspect Jobs 9
Web portal toolbar button 9
Setting custom color to multiple folders at once 9
Job boards 10
Thumbnails 10
Advanced job board column filters 10
Customize fields 11
Refresh job info element 12
Set flow stage 12
Custom field 13
Client module 13
UX improvement 13
Scripting 14
Node.js version 16 support 14
getFlowName(), Scope.FlowElements and Scope.Flow 14
flowElement.getPluginResourcesPath() in Node.js 14
XPath Support in Node.js 14
JSON dataset support 14
Translation support in Node.js 15
Bug fixes 16

General

Before you upgrade

It is strongly advised to back up the Switch application data root before starting Switch for the first time after upgrading. The Application Data Root Tool that can be used to back up the Switch application data root can be found in the Switch installation folder after the installation has finished.

Speed improvements

Property run-time validation

If a flow element property contains a dynamic value (text with variables or script expression) then the actual value can only be generated at the moment there is a job object available. This means the value cannot be validated at the moment the flow is activated. The run-time validation solves this: the property value is generated and validated just before the jobArrived entry point is started. This way Switch can verify that, for example, a script expression generates the value that is available in the dropdown list.

The properties run-time validation was optimized for Node.js scripts and elements so that Switch processing performance will improve for the cases where those scripts and elements have properties with dynamically calculated values.

Note: As this optimization was not done for elements that still use legacy scripting, the speed improvement will only be noticeable when using the elements developed using Node.js scripting. As we are currently migrating all of our default flow elements to Node.js, this speed improvement will become more and more noticeable.

Default elements on the Enfocus Appstore

Since the release of the Enfocus Appstore in 2016 a lot of new functionalities have been added to Switch, such as the possibility to create and use various Apps that enable you to integrate with other platforms, perform specific tasks or queries. Apps allow users to go even beyond the powerful native capabilities of our core solution.

Another advantage of the Enfocus Appstore is that it allows our App creators to release new Apps or to implement new functions and features to existing Apps without having to wait until the next major release of Switch. Switch users also get a notification in Switch if a new version of the App is available and they have the ability to decide themselves if they would like to upgrade or downgrade to a specific version. Once the decision is made the chosen version gets automatically deployed on the Switch system.

So why not use this functionality with our default flow elements as well? And this is exactly what we have done with this release: we moved most of our default flow elements to the Enfocus Appstore. This will allow us to release changes and improvements to these default flow elements much faster and easier without having to wait for the next release of Switch.

Installation process

Switch 2022 Spring installer does not contain the default elements anymore. Instead, once you have finalized the installation process of Switch 2022 Spring, when launching the flow designer, the default flow elements will automatically be deployed from the Enfocus Appstore.

If you are upgrading an existing Switch installation the process will replace the previously installed default flow elements with the default flow elements from the Enfocus Appstore. For upgrade installations, these default flow elements are the same as the ones used in Switch 2021 Fall. This ensures the existing workflows do not change their behaviour after upgrading from Switch 2021 Fall to Switch 2022 Spring.

> **NOTE:** To enable the deployment of the default flow elements, you have to be signed in in Switch with your Enfocus ID. Otherwise, you will still be using the previously installed default flow elements.

For new installations of Switch the default elements are automatically installed after you successfully log in with your Enfocus ID using the 'Sign in' tab of the About dialog. In this case some of the installed default elements will be the new versions developed using Node.js scripting.

For offline installations of Switch 2022 Spring, to get the default flow elements you need to first install Switch 2021 Fall and then upgrade to Switch 2022 Spring.

Manuals

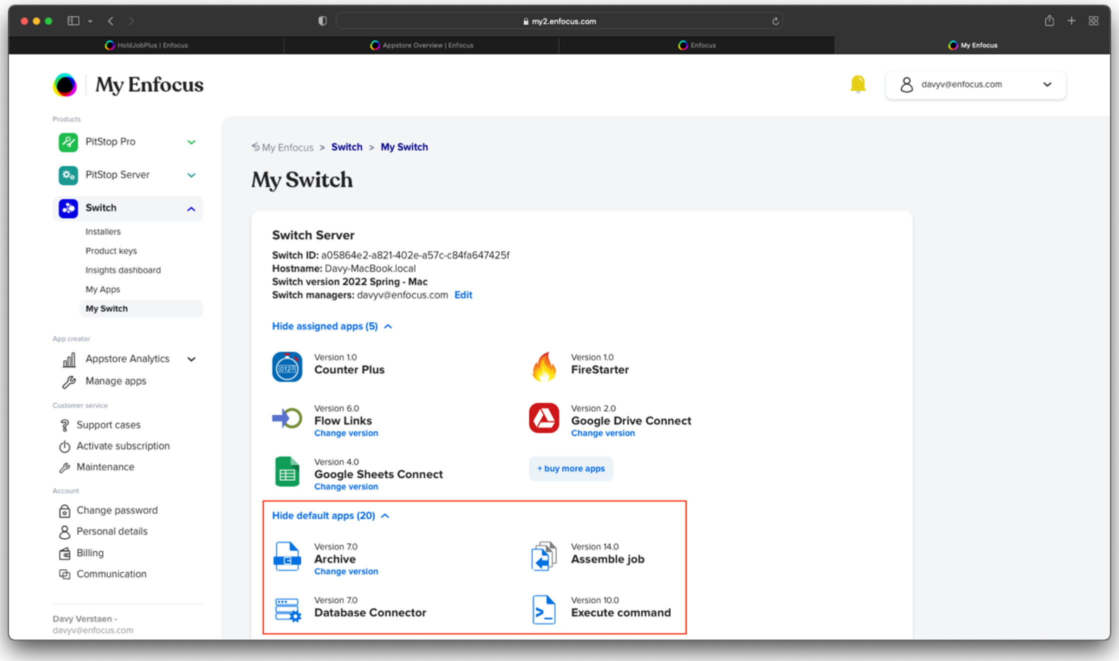
Because the default flow elements have been migrated to Apps, the explanation of the App functionalities will not be available anymore in the reference guide of the corresponding Switch version.

Every default element will now have its own manual. You can access this manual by right-clicking on the default flow element in the Flow elements pane and selecting "App details..." This will take you to the dedicated App page on the Enfocus Appstore where you can find more information about the default flow element App.

Upgrading or downgrading an App

Upgrading or downgrading an App can be done on the My Switch page on the My Enfocus site. Once Switch has deployed the default flow elements on your Switch installation a new default apps section will become available on this page.

This section will provide you with an overview of the currently deployed default flow elements on your Switch installation, but you will also have the possibility to update a specific default flow element if a newer version is available. To update the default flow element, just click on "Change version" and select the version you would like to deploy on your Switch installation.



My Switch

Switch Server

Switch ID: a05864e2-a821-402e-a57c-c84fa647425f
Hostname: Davy-MacBook.local
Switch version 2022 Spring - Mac
Switch managers: davyv@enfocus.com Edit

Hide assigned apps (5)

Version 1.0
Counter Plus

Version 1.0
FireStarter

Version 6.0
Flow Links
Change version

Version 2.0
Google Drive Connect
Change version

Version 4.0
Google Sheets Connect
Change version

+ buy more apps

Hide default apps (20)

Version 7.0
Archive
Change version

Version 14.0
Assemble job

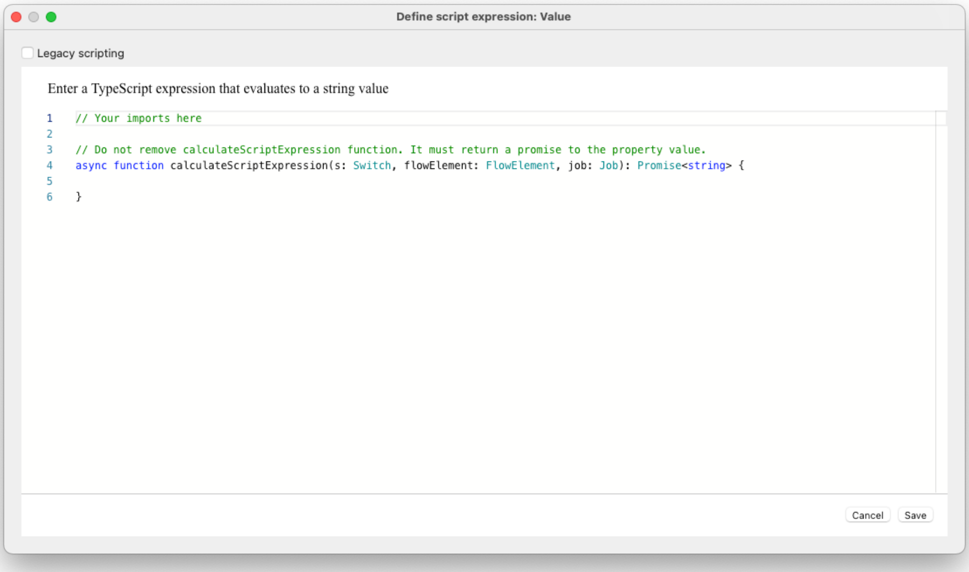
Version 7.0
Database Connector

Version 10.0
Execute command

Node.js Script Expressions

As you probably already know, a script expression is a JavaScript program that gets evaluated in the context of a job (file or job folder) to determine the value of a particular property of a flow element or connection. This allows the property value to depend on the job or its associated metadata.

In previous versions of Switch these script expressions still needed to be defined using the old legacy scripting language. With the release of 2022 Spring it's now also possible to define these script expressions in Node.js TypeScript instead.



Enter a TypeScript expression that evaluates to a string value

```
// Your imports here

// Do not remove calculateScriptExpression function. It must return a promise to the property value.
async function calculateScriptExpression(s: Switch, flowElement: FlowElement, job: Job): Promise<string> {

}
```

However, the option still exists to enable the legacy JavaScript expressions, but we propose that every new script expression is written in TypeScript. Also, with the end of legacy scripting, foreseen with the release of Switch 2024 Spring, we urge the user to migrate all the existing legacy scripts to Node.js TypeScript.

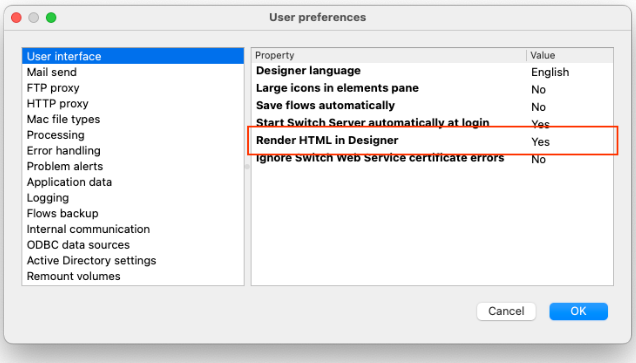
Using Node.js TypeScript also allows you to use additional packages that allow you to achieve a high level of flexibility in your script expression. In this release the packages that you can use are limited to the native ones available in Node.js v16.14.2. You can find an overview of the native packages here: https://nodejs.org/download/release/v16.14.2/docs/api/

In this release you do not have the possibility yet to use other third-party packages in the script expressions.

To make defining the Node.js script expressions convenient and easy we have integrated the Monaco editor in Switch.

In this release you have the choice to use the editor directly in the Switch flow designer or externally in the web browser of your choice. This can be defined in the Switch Designer preferences under User interface -> Render HTML in Designer. Be aware that this is a beta functionality that could change in future releases of Switch and that changing this property will require a restart of the Switch Designer.

NOTE: On Apple Silicon Mac systems the Monaco editor will always open in a web browser.



User preferences

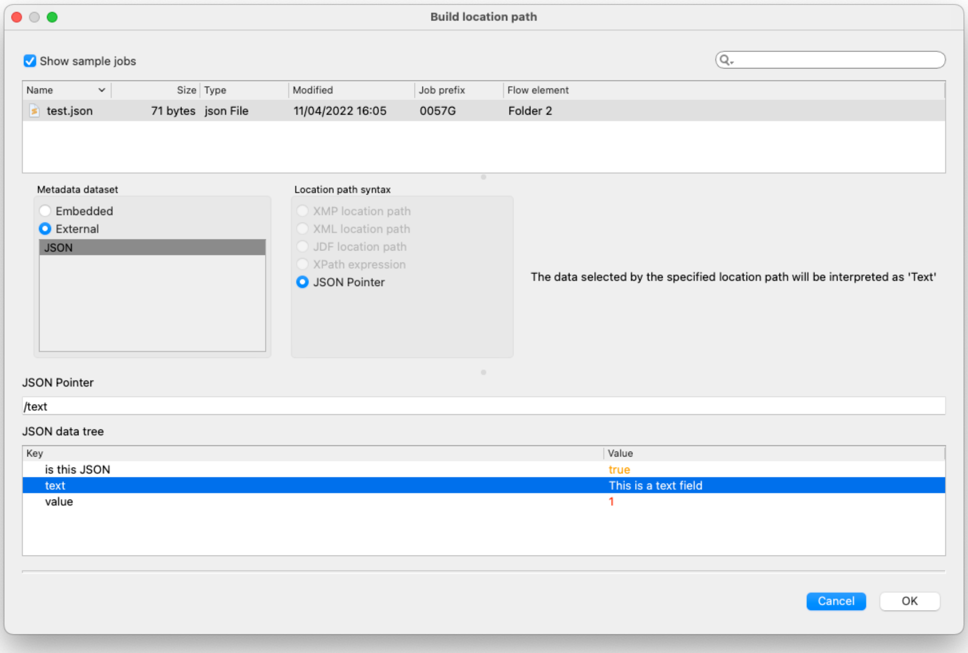
- User interface
- Mail send
- FTP proxy
- HTTP proxy
- Mac file types
- Processing
- Error handling
- Problem alerts
- Application data
- Logging
- Flows backup
- Internal communication
- ODBC data sources
- Active Directory settings
- Remount volumes

Property	Value
Designer language	English
Large icons in elements pane	No
Save flows automatically	No
Start Switch Server automatically at login	Yes
Render HTML in Designer	Yes
Ignore Switch Web Service certificate errors	No

Native JSON support

The use of metadata within Switch has exponentially grown in the last couple of years and for already a long time we natively supported XMP, XML and JDF. But because a lot of modern RESTful APIs are using JSON, we were lacking this type of metadata dataset and we were relying on tools like JSON pickup to transform the JSON to XML to be able to use this in Switch.

In this release we are proud to announce that we now support native JSON within Switch, meaning that this type of dataset can be used in Text with variables, Node.js Script expressions, and of course in Node.js scripts as well.



Build location path

☑ Show sample jobs

Name	Size	Type	Modified	Job prefix	Flow element
test.json	71 bytes	json File	11/04/2022 16:05	0057G	Folder 2

Metadata dataset

○ Embedded
● External

JSON

Location path syntax

○ XMP location path
○ XML location path
○ JDF location path
○ XPath expression
● JSON Pointer

The data selected by the specified location path will be interpreted as 'Text'

JSON Pointer

/text

JSON data tree

Key	Value
is this JSON	true
text	This is a text field
value	1

Single line text with variables

Disable sample jobs

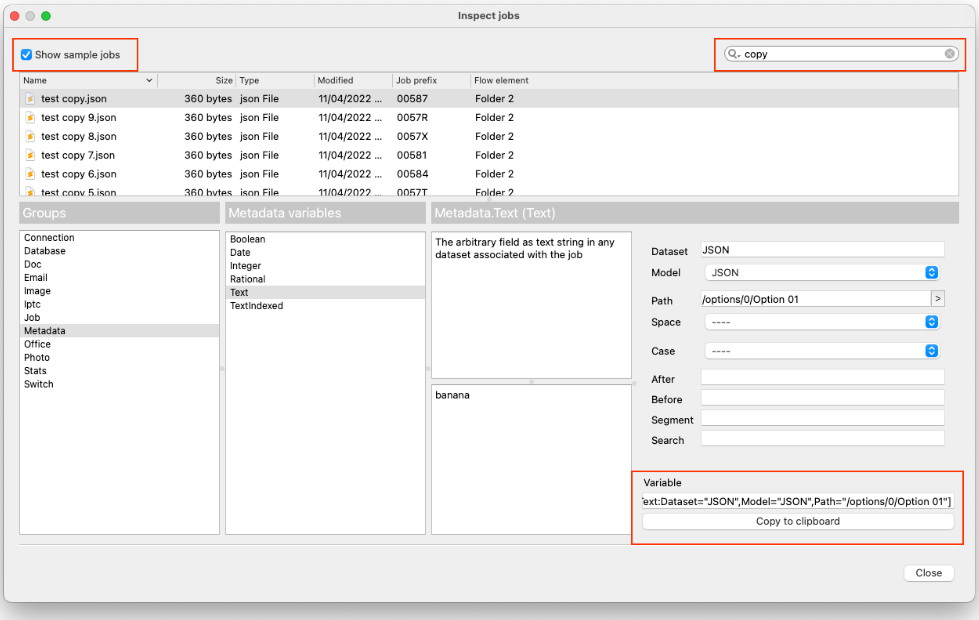
Sometimes when you want to quickly change something while using Single line text with variables, it could take a while because Switch has to load the sample jobs. In this release we have added an option to enable you to show or hide the sample jobs when you are editing specific settings in this environment.

Search function for sample jobs

If there are too many jobs, it can be hard to find the sample job you need. The new search field will enable you to filter the list of sample jobs by defining specific search queries.

Copy variable from Inspect Jobs

When using the Inspect jobs functionality, in the past, you were not able to visualize the entire variable structure. This functionality has now been added: once you have defined your variable you can copy it to your clipboard.



Name	Size	Type	Modified	Job prefix	Flow element
test copy.json	360 bytes	json File	11/04/2022 ...	00587	Folder 2
test copy 9.json	360 bytes	json File	11/04/2022 ...	0057R	Folder 2
test copy 8.json	360 bytes	json File	11/04/2022 ...	0057X	Folder 2
test copy 7.json	360 bytes	json File	11/04/2022 ...	00581	Folder 2
test copy 6.json	360 bytes	json File	11/04/2022 ...	00584	Folder 2
test copy 5.json	360 bytes	json File	11/04/2022 ...	0057T	Folder 2

The arbitrary field as text string in any dataset associated with the job

banana

Dataset: JSON
Model: JSON
Path: /options/0/Option 01
Space: ----
Case: ----
After:
Before:
Segment:
Search:

Variable
ext:Dataset="JSON",Model="JSON",Path="/options/0/Option 01"]

Web Portal toolbar button

In Switch Designer a toolbar button has been added that will open the Web Portal directly in your default browser.

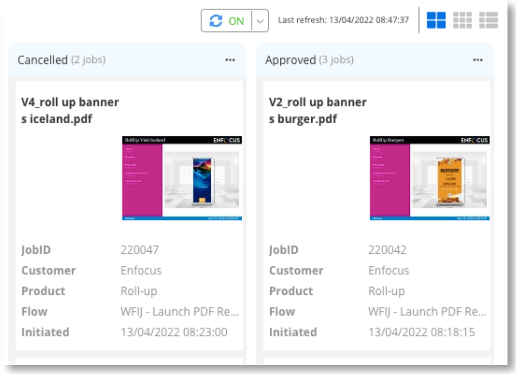
Setting custom color to multiple folders at once

You can now select multiple folders in a flow and assign a custom color to the whole selection. When you right-click, it displays a predefined list of colors. Note that the custom option is not available.

Job boards

Thumbnails

In the previous release we introduced the ability to show thumbnails for each job making it easier for the Web Portal users to identify jobs. In this release we added an additional view mode that will show larger thumbnails.



Cancelled (2 jobs)

V4_roll up banners iceland.pdf

JobID	220047
Customer	Enfocus
Product	Roll-up
Flow	WFIJ - Launch PDF Re...
Initiated	13/04/2022 08:23:00

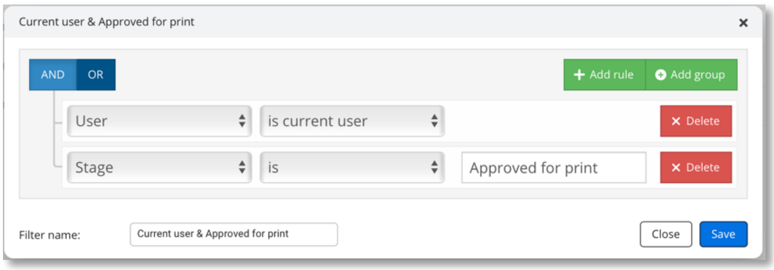
Approved (3 jobs)

V2_roll up banners burger.pdf

JobID	220042
Customer	Enfocus
Product	Roll-up
Flow	WFIJ - Launch PDF Re...
Initiated	13/04/2022 08:18:15

Advanced job board column filters

In the previous release we have introduced the ability to define custom column filters in the job board columns, now it is possible to define an additional condition to the user property to filter the jobs based on the current logged in user.



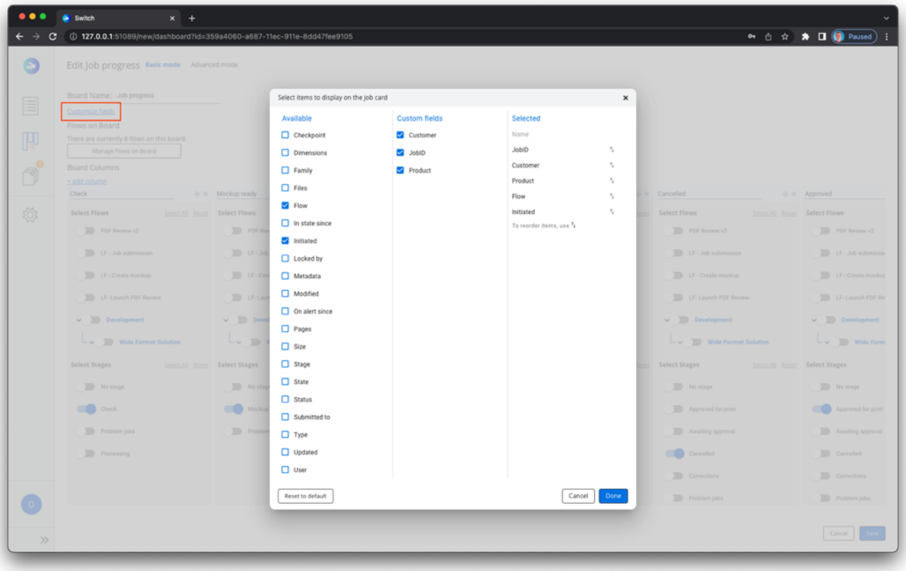
User | is current user

Stage | is | Approved for print

Filter name: Current user & Approved for print

Customize fields

Related to the new thumbnail view, the ability to customize the fields that are displayed in this view has been added as well. You now have the possibility, when creating the job board, to define which information will be shown by default, this is defined by the user that is creating the board.



Select items to display on the job card

Available

- ☐ Checkpoint
- ☐ Dimensions
- ☐ Family
- ☐ Files
- ☑ Flow
- ☐ In state since
- ☑ Initiated
- ☐ Locked by
- ☐ Metadata
- ☐ Modified
- ☐ On alert since
- ☐ Pages
- ☐ Size
- ☐ Stage
- ☐ State
- ☐ Status
- ☐ Submitted to
- ☐ Type
- ☐ Updated
- ☐ User

Custom fields

- ☑ Customer
- ☑ JobID
- ☑ Product

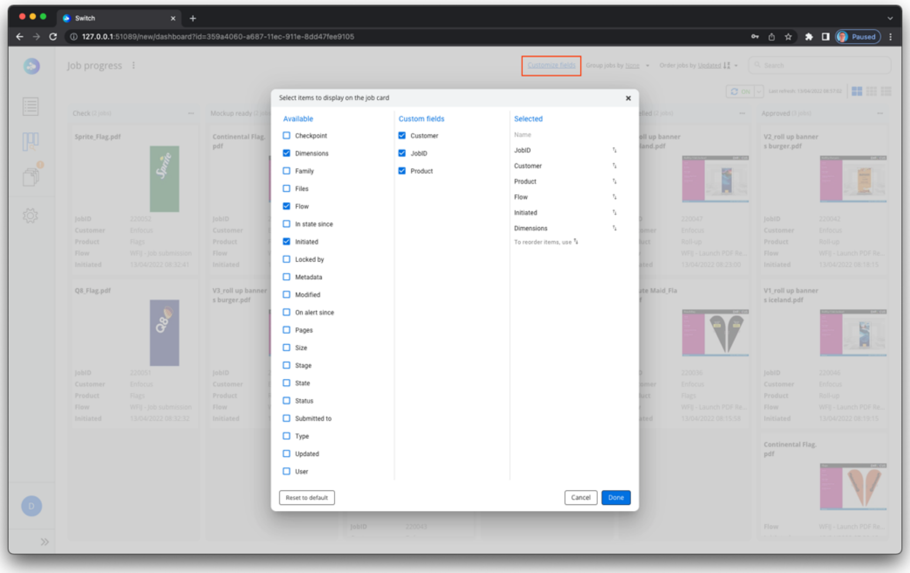
Selected

Name

- JobID
- Customer
- Product
- Flow
- Initiated

To reorder items, use ⇅

However, each user has the possibility to overrule the predefined fields and define his own view. The changes that a user applies will only be applied to his web session and will be stored in the cache of his web browser.



Select items to display on the job card

Available

- ☐ Checkpoint
- ☑ Dimensions
- ☐ Family
- ☐ Files
- ☑ Flow
- ☐ In state since
- ☑ Initiated
- ☐ Locked by
- ☐ Metadata
- ☐ Modified
- ☐ On alert since
- ☐ Pages
- ☐ Size
- ☐ Stage
- ☐ State
- ☐ Status
- ☐ Submitted to
- ☐ Type
- ☐ Updated
- ☐ User

Custom fields

- ☑ Customer
- ☑ JobID
- ☑ Product

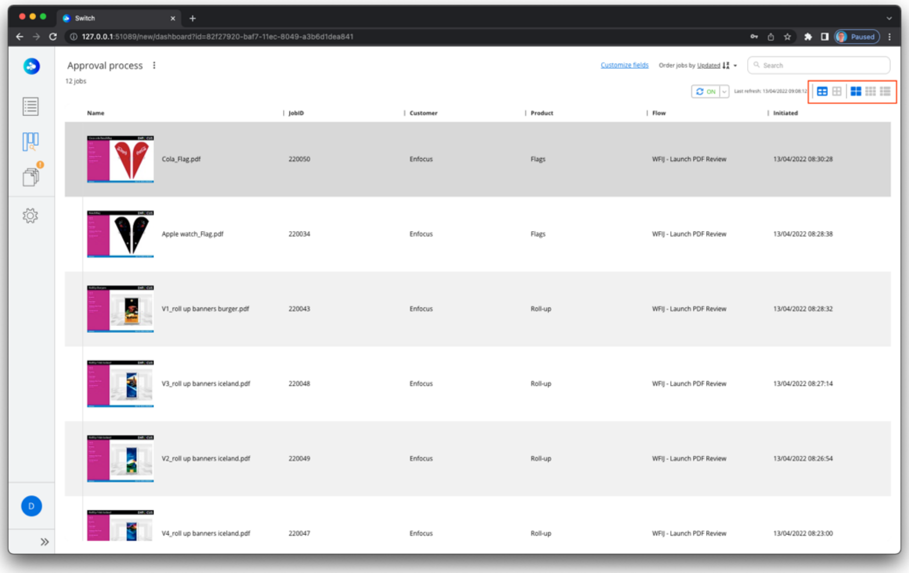
Selected

Name

- JobID
- Customer
- Product
- Flow
- Initiated
- Dimensions

To reorder items, use ⇅

When you create a job board with only one column it will now take the complete width of the browser window into account. The environment is also quite responsive and will automatically adapt when the size of the browser window is changed. A new table view has also been added that will also show the defined fields and the size of the thumbnails can be defined as well.



Switch
127.0.0.1:51089/new/dashboard?id=82f27920-baf7-11ec-8049-a3b6d1dea841
Paused
Approval process
12 jobs
Customize fields
Order jobs by Updated
Search
ON
Last refresh: 13/04/2022 09:08:12
D

Name	JobID	Customer	Product	Flow	Initiated
Cola_Flag.pdf	220050	Enfocus	Flags	WFIJ - Launch PDF Review	13/04/2022 08:30:28
Apple watch_Flag.pdf	220034	Enfocus	Flags	WFIJ - Launch PDF Review	13/04/2022 08:28:38
V1_roll up banners burger.pdf	220043	Enfocus	Roll-up	WFIJ - Launch PDF Review	13/04/2022 08:28:32
V3_roll up banners iceland.pdf	220048	Enfocus	Roll-up	WFIJ - Launch PDF Review	13/04/2022 08:27:14
V2_roll up banners iceland.pdf	220049	Enfocus	Roll-up	WFIJ - Launch PDF Review	13/04/2022 08:26:54
V4_roll up banners iceland.pdf	220047	Enfocus	Roll-up	WFIJ - Launch PDF Review	13/04/2022 08:23:00

Refresh job info element

In this release a lot of new features and functionalities have been added to the Refresh job info element. Be aware that some of the functionalities that were used in previous versions of Switch will be deprecated.

Set flow stage

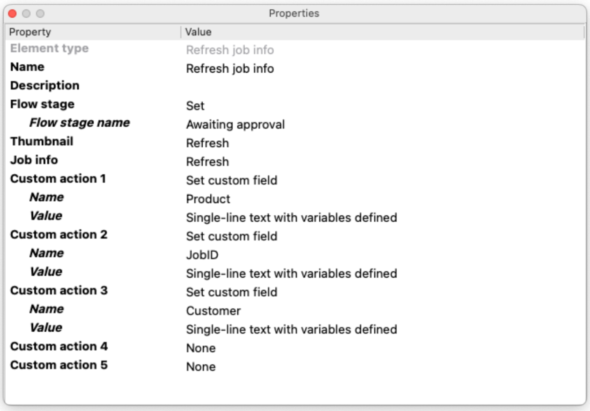
The functionality to define the flow stage has been moved from the Folder element to the Refresh job info element, also additional features have been added to keep, set, or remove the flow stage.

Because the functionality has been moved, the Flow stage property in the Folder element has been deprecated, meaning that if you add a new Folder element in your flow, the Flow stage property will not be available anymore.

In existing flows, where the Flow stage property has been set in the Folder element, the property will still be visible and used but it’s the intention that this is moved to the Refresh job info element. Once the defined value is deleted from the Folder element and the property is empty, it will still be visible but it will automatically be removed when upgrading to the next version of Switch.

Custom field

You also have the possibility to define and/or remove 5 custom fields in the Refresh job info flow element. Here you can define the name and the value of the custom field that can be used as a custom field in the job boards.



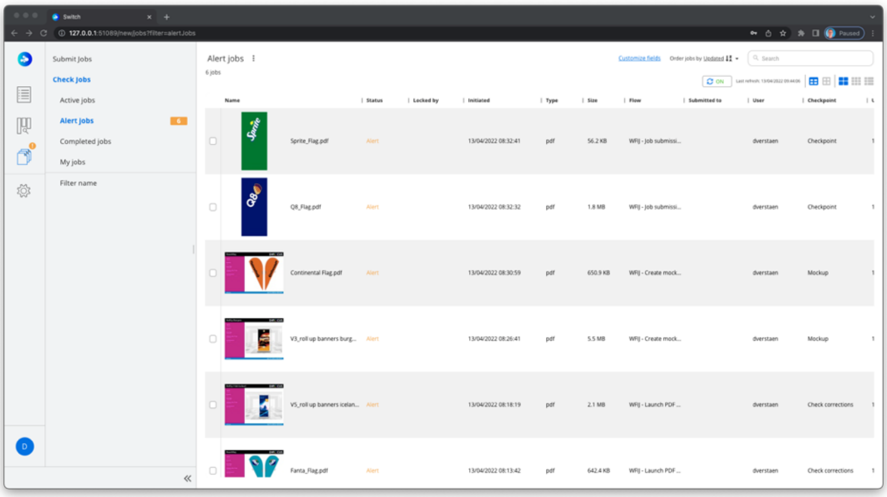
Property	Value
Element type	Refresh job info
Name	Refresh job info
Description	
Flow stage	Set
Flow stage name	Awaiting approval
Thumbnail	Refresh
Job info	Refresh
Custom action 1	Set custom field
Name	Product
Value	Single-line text with variables defined
Custom action 2	Set custom field
Name	JobID
Value	Single-line text with variables defined
Custom action 3	Set custom field
Name	Customer
Value	Single-line text with variables defined
Custom action 4	None
Custom action 5	None

Client module

UX improvement

The Check Jobs view has been completely redeveloped from scratch to obtain the same look and feel as the job boards view. This has resulted in a uniform way of the code that we use to develop our Web Portal.

Thanks to this improvement we are now able to use the same functionalities as already described in the job boards section of this document, where we can use the additional views but also give our users the ability to customize the fields that are shown.



Alert jobs

6 jobs

Name	Status	Locked by	Initiated	Type	Size	Flow	Submitted to	User	Checkpoint	L
Sprite_Flag.pdf	Alert		13/04/2022 08:32:41	pdf	56.2 KB	WFIJ - Job submissi...		dverstaen	Checkpoint	1
Q8_Flag.pdf	Alert		13/04/2022 08:32:32	pdf	1.8 MB	WFIJ - Job submissi...		dverstaen	Checkpoint	1
Continental Flag.pdf	Alert		13/04/2022 08:30:59	pdf	650.9 KB	WFIJ - Create mock...		dverstaen	Mockup	1
V3_roll up banners burg...	Alert		13/04/2022 08:26:41	pdf	5.5 MB	WFIJ - Create mock...		dverstaen	Mockup	1
V5_roll up banners icelan...	Alert		13/04/2022 08:18:19	pdf	2.1 MB	WFIJ - Launch PDF ...		dverstaen	Check corrections	1
Fanta_Flag.pdf	Alert		13/04/2022 08:13:42	pdf	642.4 KB	WFIJ - Launch PDF ...		dverstaen	Check corrections	1

Even the custom fields that you can define in the new Refresh job info element can be used in this view.

Scripting

Node.js version 16 support

Switch now allows script writers to take advantage of the latest features and bug fixes that are available in the Node.js LTS version 16.14.2

getFlowName(), Scope.FlowElements and Scope.Flow

You are now able to retrieve the name of the flow from within Node.js scripting so that you can use it in the filename for your own custom log files on disk. Additionally, the Scope.Flow and Scope.FlowElements for global data to share global data on flow level have been added as well. The API description can be found in the Node.js scripting documentation.

flowElement.getPluginResourcesPath() in Node.js

In this release you can use flowElement.getPluginResourcesPath() during the development and testing phase of your App. This was also possible in legacy scripting, for testing purposes only, where the resource folder associated with the calling script; in the current implementation this is always the folder that contains the calling script package but implementations should not count in this fact.

The resource folder is intended for use by scripted plug-ins and should not be used from regular script packages except for testing; there is no reliable way to transport external resources with regular script packages. The API description can be found in the Node.js scripting documentation.

XPath Support in Node.js

As a script writer or expression editor writer you now have XPath support working out of the box (i.e. without having to search and include 3rd-party modules). This will enable you to query XML files that came in as a job or as dataset. The API description can be found in the Node.js scripting documentation.

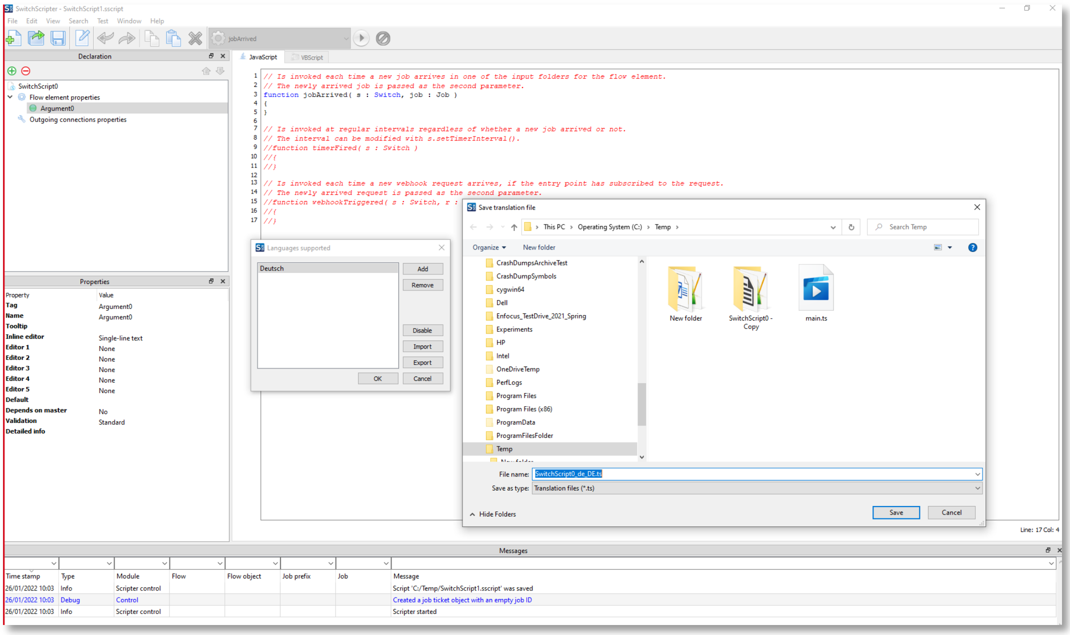
JSON dataset support

You are now able to add/read/update/delete JSON metadata to/from your job. Be aware that the JSON dataset support is only available in combination with Node.js scripting. The API description can be found in the Node.js scripting documentation.

Translation support in Node.js

You are now able to translate the strings that are shown to the user, for example, log messages. This can be done by using the Localization menu item in SwitchScripter.

- First add the language.
- Use the Export option to generate the .ts file. In case of a Node.js script, SwitchScripter will call the GenerateTranslation option from SwitchScriptTool to generate the .ts file.
- Use the Import option to import the translated strings. In case of a Node.js script, SwitchScripter will put the translated .ts files in the expected location in the script folder.
- SwitchScripter generates the qm file when saving the script package. In case of a Node.js script, SwitchScripter will call SwitchScriptTool which will call the lrelease tool to generate the qm file while packing the script into a script package.



```
// Is invoked each time a new job arrives in one of the input folders for the flow element.
// The newly arrived job is passed as the second parameter.
function jobArrived( s : Switch, job : Job )
{
}

// Is invoked at regular intervals regardless of whether a new job arrived or not.
// The interval can be modified with s.setTimerInterval().
//function timerFired( s : Switch )
//{
//}

// Is invoked each time a new webhook request arrives, if the entry point has subscribed to the request.
// The newly arrived request is passed as the second parameter.
//function webhookTriggered( s : Switch, r :
//{
//}
```

Property	Value
Tag	Argument0
Name	Argument0
Tooltip	
Inline editor	Single-line text
Editor 1	None
Editor 2	None
Editor 3	None
Editor 4	None
Editor 5	None
Default	
Depends on master	No
Validation	Standard
Detailed info	

File name: SwitchScript0_de_DE.ts

Save as type: Translation files (*.ts)

Time stamp	Type	Module	Flow	Flow object	Job prefix	Job	Message
26/01/2022 10:03	Info	Scripter control					Script 'C:/Temp/SwitchScript1.sscript' was saved
26/01/2022 10:03	Debug	Control					Created a job ticket object with an empty job ID
26/01/2022 10:03	Info	Scripter control					Scripter started

Bug fixes

The following bugs have been fixed

ENFS-28584	Improve error handling when dataset is missing on disk while still expected by Switch
ENFS-30380	Errors that get logged during flow startup
ENFS-30605	No error message while workflows stopped
ENFS-30883	FTP Send Issue
ENFS-30968	Assemble job: Error in line 330 of script : Trying to access undefined member o
ENFS-30969	Missing properties are not highlighted in red if multiple scripts of the same type are used
ENFS-31021	Readability of Client data issue
ENFS-31046	createNewJob fails in 2021 Fall
ENFS-31131	Console gives many CORS errors related to get /thumbnails call
ENFS-31135	Job boards issues
ENFS-31210	XML Path Location Error
ENFS-31242	If field is not required, data validation should ignore empty string -bug
ENFS-31424	Submit point metadata issues with ':'
ENFS-31504	About panel connection ok, but appstore connection not
ENFS-31628	Issue with checkpoint filters
ENFS-31639	Typescript compile error in index.d.ts
ENFS-31825	Can't upload to FTP with 2-byte name
ENFS-31884	NodeScriptExecutor is not recreated (Channel closed error)
ENFS-31938	SWS doesn't start if some app is missing