

# **KYOCERA Scan2SharePoint User Manual**

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# Table of Contents

Foreword	0
<b>Part I Welcome</b>	<b>5</b>
<b>Part II Support</b>	<b>5</b>
<b>Part III Overview</b>	<b>5</b>
1 Running the Servers .....	8
<b>Part IV License Activation</b>	<b>9</b>
1 Evaluation Mode .....	9
2 Production Mode .....	11
License Manager .....	12
Online Activation .....	14
Offline Activation.....	16
Pay Per Scan (PPS) .....	18
Document Cost Calculation.....	21
Uploading of Billing Information.....	23
Reports .....	25
<b>Part V Setup</b>	<b>27</b>
1 KYOCERA Scan2SharePoint Manager .....	28
2 Settings .....	29
General Server Settings .....	31
Network Server Settings .....	32
FTP-ES Server Settings .....	34
Kyocera MFP Configuration.....	36
3 Configuring Clients .....	36
Client Groups .....	38
Toolbar & Context Menu.....	42
Moving clients.....	43
Clients .....	44
Konica Minolta Client.....	47
4 Configuring Users .....	49
User Groups .....	49
Context Menu .....	52
Users .....	54
5 Log .....	56
Error Codes .....	58
6 Services .....	74
<b>Part VI Creating Templates</b>	<b>76</b>
1 Template General Settings .....	78
2 Capture .....	80

<b>Client Capture</b> .....	<b>81</b>
Capturing Document Metadata .....	83
Creating Picklists .....	87
Static List .....	90
SQL .....	92
Script .....	95
XML .....	98
Dynamic Picklists.....	100
Value displayed and value returned.....	102
Deleting a Picklist.....	104
<b>3 Process</b> .....	<b>105</b>
<b>Reading Document Content</b> .....	<b>105</b>
Full Document OCR.....	105
<b>4 Store</b> .....	<b>107</b>
<b>Connector Settings</b> .....	<b>107</b>
Sharepoint Connector .....	116
<b>Part VII Global Questions</b> .....	<b>120</b>
<b>Part VIII Appendices</b> .....	<b>121</b>
<b>1 Appendix A - Metadata</b> .....	<b>121</b>
KYOCERA Scan2SharePoint Expression Editor .....	124
Tags .....	131
<b>Functions</b> .....	<b>138</b>
join .....	144
lcase .....	144
lpad .....	145
ltrim .....	145
match .....	146
remove .....	146
replace .....	147
reverse .....	147
rpad .....	148
rtrim .....	148
split .....	149
take .....	149
trim .....	150
ucase .....	151
unique .....	151
<b>Character Escaping</b> .....	<b>152</b>
<b>Examples</b> .....	<b>154</b>
Conditional Expressions .....	157
<b>2 Appendix B - XPath Expressions</b> .....	<b>159</b>
<b>3 Appendix C - Database Connection Strings</b> .....	<b>160</b>
<b>4 Appendix D - Pdf Input Documents</b> .....	<b>161</b>
<b>5 Appendix E - Document Size</b> .....	<b>162</b>
<b>6 Appendix F - Equitrac Authentication</b> .....	<b>163</b>
Equitrac Notifier Setup .....	165
<b>Part IX Tutorials</b> .....	<b>169</b>

<b>1 KYOCERA Scan2SharePoint Expression Editor .....</b>	<b>169</b>
Entering expressions with keyboard only .....	170
Entering expressions with keyboard and mouse .....	172
Providing sample data .....	173
 <b>Index</b>	 <b>0</b>

## 1 Welcome



Thank you for choosing KYOCERA Scan2SharePoint as your document capture solution.

KYOCERA Scan2SharePoint is an advanced document processing solution which enables you to scan documents via TWAIN or to load existing documents from a hard drive or network share and then to publish them in a SharePoint instance using the the SharePoint Connector.

KYOCERA Scan2SharePoint provides powerful metadata support. Metadata is data that provides information about the documents that are processed by KYOCERA Scan2SharePoint and can come from various sources. Some metadata is generated by the KYOCERA Scan2SharePoint Processing Server as it processes documents. Other metadata can be captured by users as they scan documents at the MFP.

KYOCERA Scan2SharePoint allows you to apply conditional logic to determine which metadata to use under different circumstances and where to route documents. What this means is that KYOCERA Scan2SharePoint can make intelligent decisions on what metadata to use or where documents should be stored based on the conditions you specify.

This help manual will guide you through the process of configuring your KYOCERA Scan2SharePoint work flows - called templates. Please read through the manual from start to finish. Some of the concepts will only become clear once you have implemented them in a template. We encourage you to configure test templates as you work through the manual and to try out the many features that KYOCERA Scan2SharePoint offers.

## 2 Support

If you require any support or information about KYOCERA Scan2SharePoint your first port of call is your reseller. If your reseller is not able to assist you directly the request for support will be forwarded by them to New Dynamic Solutions. If you are not able to contact your reseller you can send an email to [partners@newdynamicsolutions.com](mailto:partners@newdynamicsolutions.com). We will then introduce you to another partner in your region who would be able to assist you.

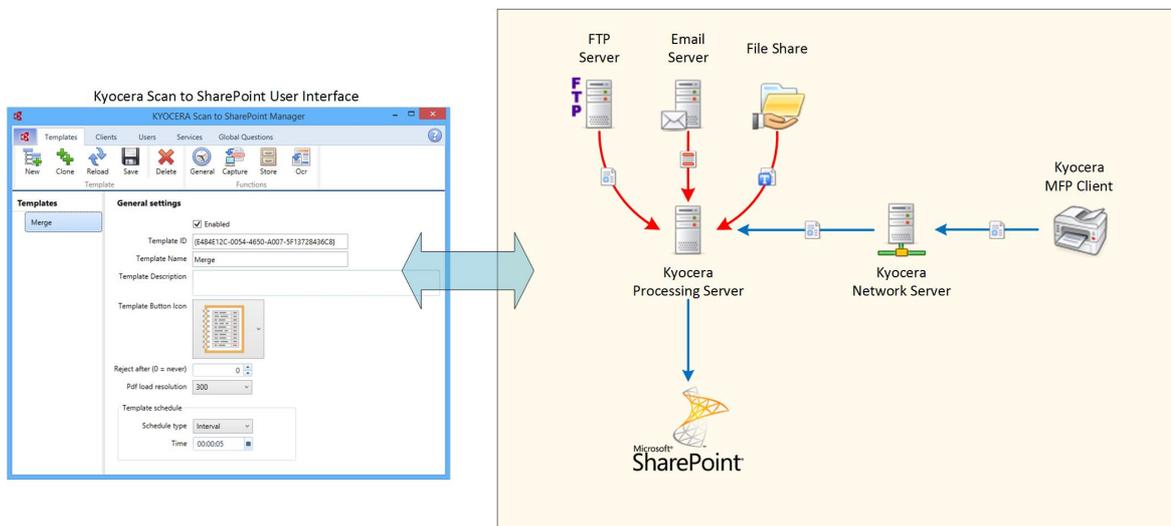
You can also make use of the [Support](#) website to find answers to [Frequently Asked Questions](#) or to download additional documentation from the [Knowledge Base](#).

## 3 Overview

In this section we present an overview of the primary role players in the KYOCERA Scan2SharePoint system and how they participate in the three-tiered document work flow of Capture, Process and Store. These role players are:

- KYOCERA Scan2SharePoint Processing Engine User Interface which is responsible for the configuration of the KYOCERA Scan2SharePoint system from the management of services, clients and users to the configuration of templates.
- KYOCERA Scan2SharePoint Processing Server which is responsible for the capturing, processing and storing of documents.
- KYOCERA Scan2SharePoint Network Server which is responsible for user authentication, serving templates to clients and resolving pick list data.
- MFP Clients which are responsible for capturing documents and metadata and uploading them to the network server which in turn hands them over to the processing server for processing.

Below is a graphic representation of the KYOCERA Scan2SharePoint ecosystem.



## The WHERE

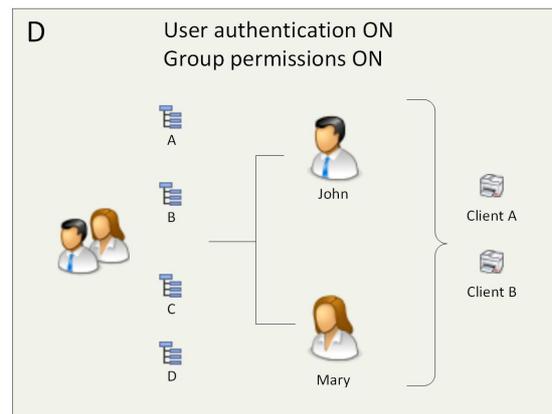
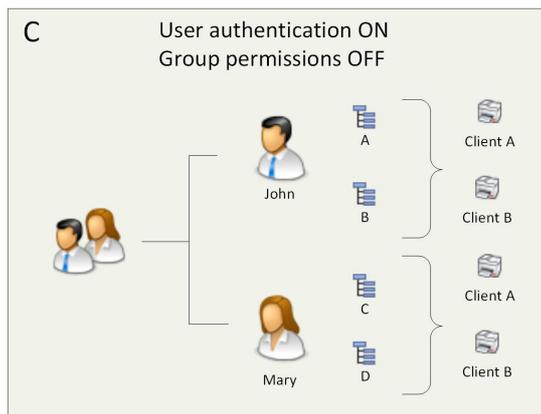
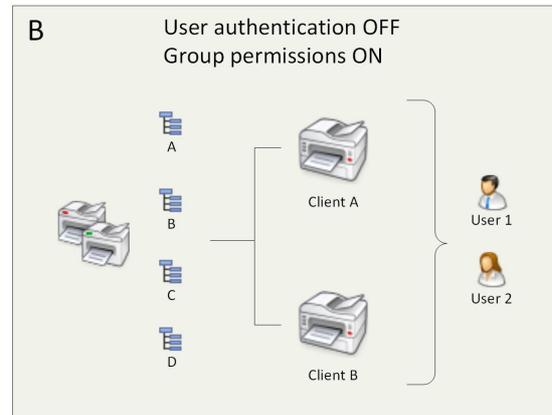
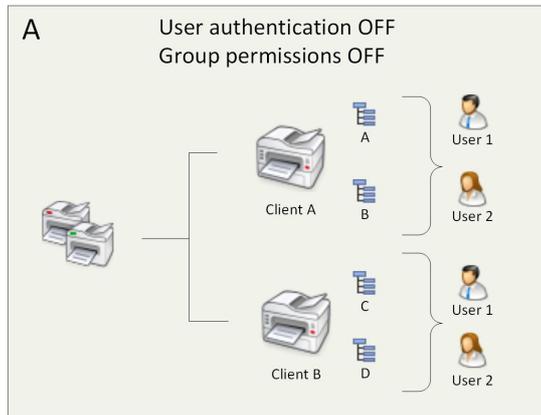
Documents reach the processing server from Kyocera MFP clients. If you have multiple templates configured the user can select which one to use. By configuring multiple templates you can control the quality, source (ADF or glass) and orientation of the scanned document, template questions, i.e. metadata to be captured by the user as well as the final destination of the processed document.

## The WHO

You can control which users are allowed to process documents through KYOCERA Scan2SharePoint in various ways, depending on where the documents come from. You have fine grained control over

which users are allowed to process documents ranging from free-for-all to authenticated user level control. In the free-for-all scenario you don't have to configure users, only clients while in the authenticated scenario you have to configure users who will have to authenticate themselves before they will be able to upload documents. In both these scenarios the user is presented with a list of templates to choose from before a document can be uploaded. The list of templates can be controlled on an individual client/user level or on a client/user group level.

Below is a graphic representation of the various options:



- A** Any user can upload documents and the templates they can choose from are specific to the client.
- B** Any user can upload documents and the templates they can choose from are the same on all clients belonging to the group.
- C** Only authenticated users can upload documents and the templates they can choose from are specific to the client.
- D** Only authenticated users can upload documents and the templates they can choose from are the same on all clients belonging to the group.

## The WHAT

Templates allow to determine to which SharePoint repository documents will be published to.

If you find that your business needs have outgrown the capabilities offered by KYOCERA Scan2SharePoint you can contact your reseller to discuss upgrade options to higher end versions of the product.

## 3.1 Running the Servers

The KYOCERA Scan2SharePoint Processing and Network servers are independent 32bit Windows console applications which are installed as Windows services by the KYOCERA Scan2SharePoint installer. This allows them to be run in "headless" environments where a user does not have to be logged in to the server in order for them to run.

You can also run them as console applications.

### Note

Both the Processing and Network servers require elevated (administrator) privileges to run as console applications.

To run the servers as console applications do the following:

- Create a shortcut to the respective exe in the KYOCERA Scan2SharePoint installation directory. The processing server application is called "svnts-pr.exe" and the network server "svnts-cn.exe".
- Right click on the shortcut and select "Properties" from the pop up dialog.
- Select the "Shortcut" tab.
- In the "Target" edit box add the text **cmdline** at the end of the existing text with a space in between.
- Select the "Compatibility" tab and ensure that the "Run this program as an administrator" check box is selected.

- Press the "OK" button.
- Double click the newly created shortcut

## 4 License Activation

KYOCERA Scan2SharePoint offers an [Evaluation Mode](#) under which all functionality is available for you to try and play with. In this mode vector documents (Searchable Pdf, PDF/A, Microsoft Word & Excel etc.) are truncated to 2 pages maximum while raster formats such as Tiff and Pdf are watermarked.

In [Production Mode](#) you would need to have a valid license file which removes the above limitations.

### 4.1 Evaluation Mode

KYOCERA Scan2SharePoint's evaluation mode allows you to evaluate all KYOCERA Scan2SharePoint's functions, modules and connectors but with two restrictions. A "NOT FOR RESALE" watermark is added to every page of raster output documents such as Tiff and Pdf while vector output formats such as Searchable PDF, PDF/A, Microsoft Word and Excel are limited to two output pages. A page is inserted at the end of the document that states that it has been created with an evaluation version of KYOCERA Scan2SharePoint and that some pages have been removed from the document.

An example of a watermarked page is shown below:



## 4.2 Production Mode

You have to activate your KYOCERA Scan2SharePoint installation before you can create fully functional templates or run the KYOCERA Scan2SharePoint Processing Server without limitation.

KYOCERA Scan2SharePoint includes a rich set of features as standard but there are several features and connectors that can be purchased separately. A KYOCERA Scan2SharePoint license can be tailored to your specific needs. Your license is tied to the serial number you received with your purchase. If you have not received a serial number or have lost it please contact your reseller. This serial number will not change with future changes to your license.

KYOCERA Scan2SharePoint supports 2 different licensing models namely a full license with no limit on the number of documents that can pass through the system and a Pay Per Scan (PPS) model where you are charged for each document that passes through the system on a prepaid or a post-paid basis. The specifics of these models are discussed later.

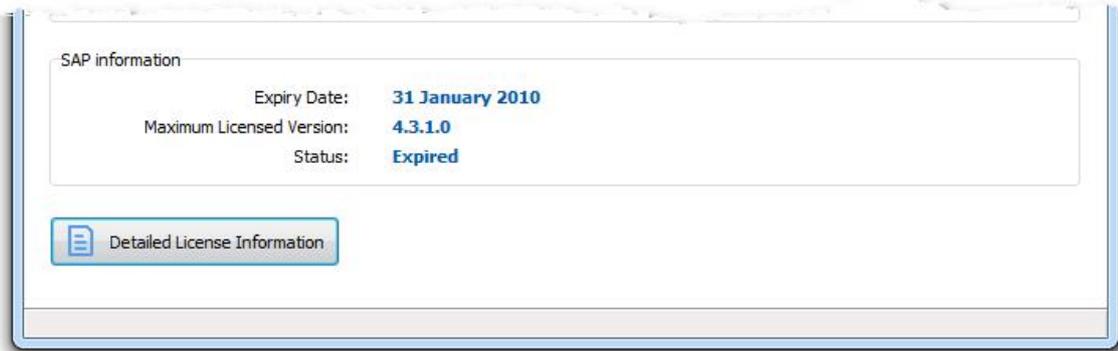
### Software Assurance Program (SAP)

With a KYOCERA Scan2SharePoint Software Assurance Program subscription you are entitled to support as well as to any major version of KYOCERA Scan2SharePoint that is released during the your SAP period. If your SAP subscription expires, you are entitled to run the latest release version of KYOCERA Scan2SharePoint at the time that your subscription expired.

If your SAP subscription is up to date (not expired) the License Manager will show the following:



If your SAP has expired the License Manager will show the following:



The "Maximum Licensed Version" indicates the version you are **entitled** to run and may not be the same as the version that you are actually running. If the version you have installed is later than the one shown you will not be able to run it and if it is earlier you are entitled to upgrade your installation to the version indicated.

\* Pay Per Scan is only available in certain countries. Please contact your reseller for details.

#### 4.2.1 License Manager

The KYOCERA Scan2SharePoint License Manager is a standalone application with which you can manage and view the specifics of your license. License activation can be done in either online or offline mode. In the online mode all you need to do is to enter your serial number and click the "Activate" button. The License Manager will contact the KYOCERA Scan2SharePoint license portal and retrieve your specific license file.

In the offline mode you need to create a server information file which you will then have to upload to the KYOCERA Scan2SharePoint licensing portal from a computer with Internet connectivity. A license activation file will then be generated that you must download to your computer. You must copy the license activation file to the KYOCERA Scan2SharePoint server from where you can activate your license. Detailed steps to do this are discussed in the [Offline Activation](#) section.

We recommend that you use the online activation as it is much easier and quicker than the offline process. You could temporarily connect your server to the Internet while you activate your license and then disconnect it afterward (please read the important note below if you intend to do this).

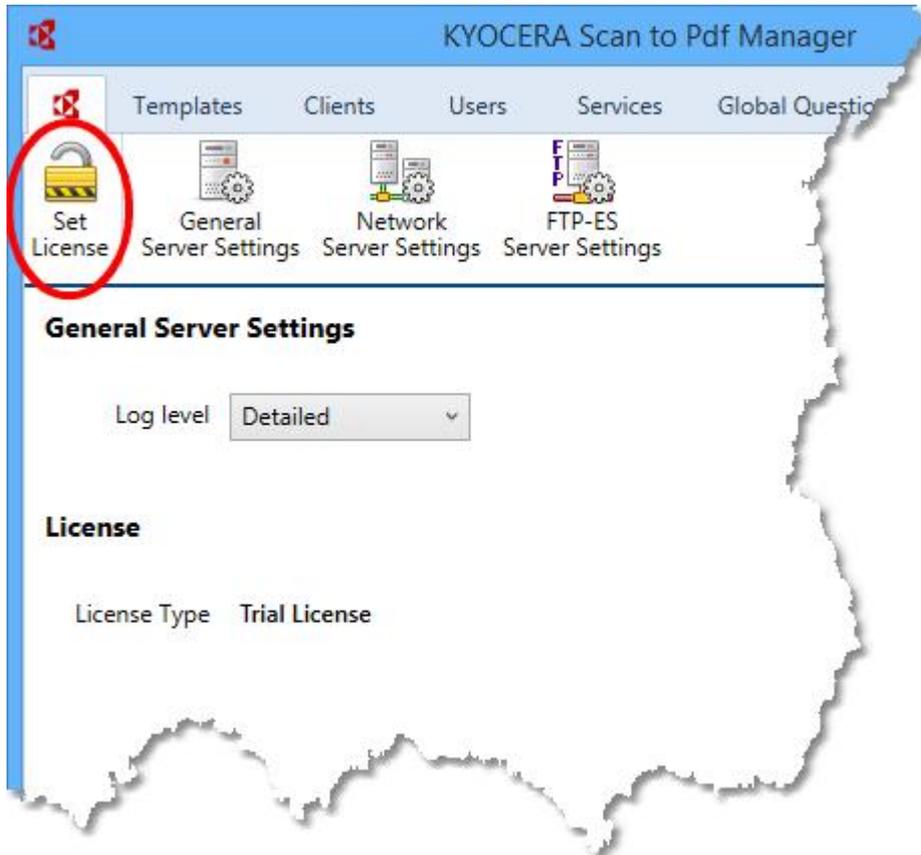
#### IMPORTANT NOTES

1. KYOCERA Scan2SharePoint requires an active network interface card (NIC) in order to function. An installed NIC that is not connected to the network is not active and does not appear in the list of available NICs on the system so please ensure that at least one NIC is always active. Also ensure that the NIC that was active during the license activation process is also active whenever you want to run KYOCERA Scan2SharePoint. A permanent Internet connection is not required for KYOCERA

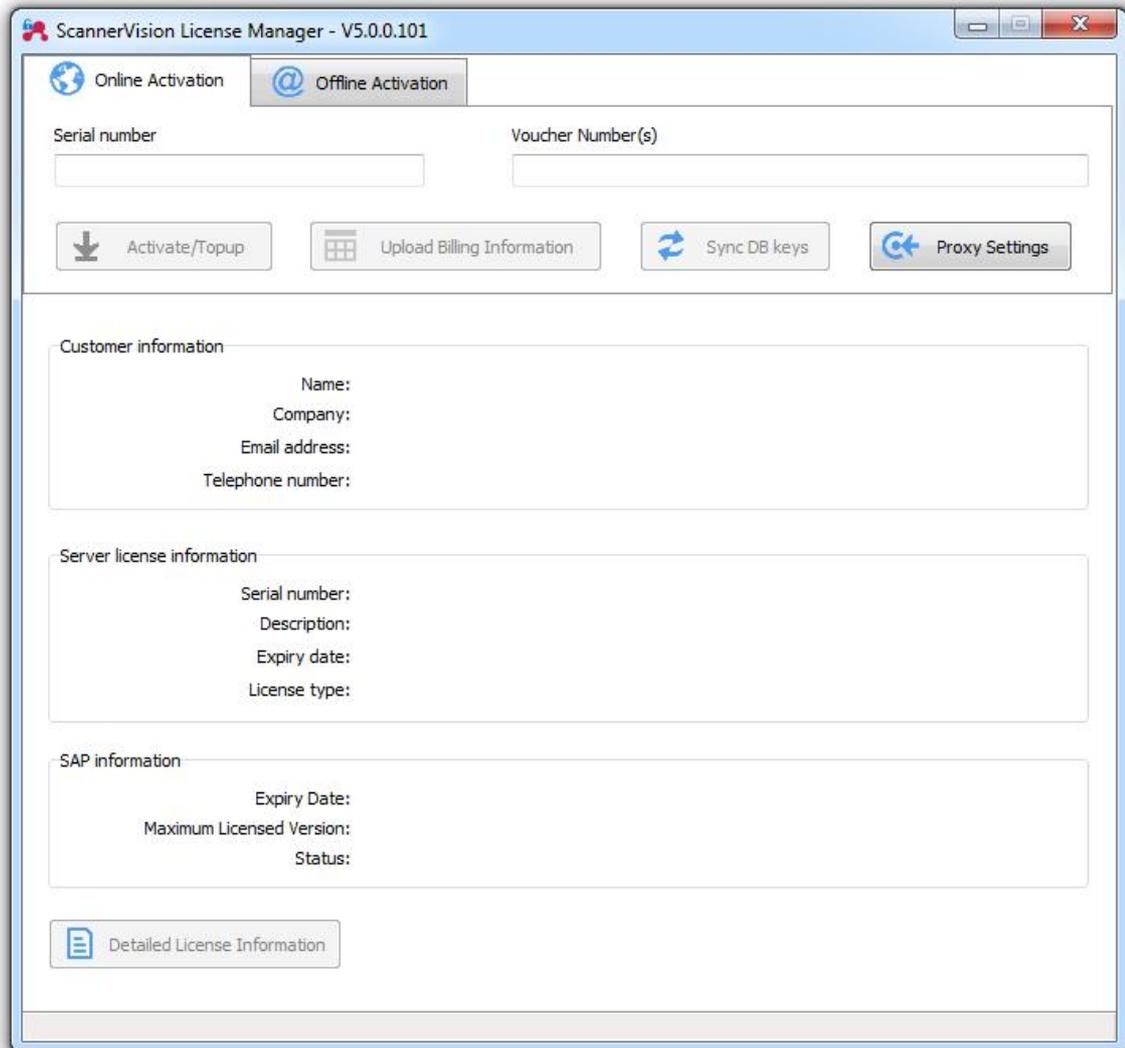
Scan2SharePoint to function but one would be required for online license activation.

2. **Ensure that the date and time of your** KYOCERA Scan2SharePoint server is correct (we recommend that you synchronize the system time with a time server). If the UTC time of your server is out with more than 15 minutes you will not be able to activate your license.

To launch the License Manager click on the left most tab with the Kyocera logo and then click the "Set License" button:



The License Manager window will appear:



Select the activation method you want to use by clicking on the [Online Activation](#) or [Offline Activation](#) tab at the top of the screen.

#### 4.2.1.1 Online Activation

To do an online activation of your license please follow these steps:

1. Enter your serial number.
2. Follow the optional steps below.

3. Click the "Activate/Topup" button.

Optional steps:

1. Add any per page billing voucher numbers you may have separated by commas.
2. If you connect to the Internet through a proxy server you must provide the details of the proxy server by clicking on the "Proxy Settings" button and completing the information.

If the license activation was successful your screen will update with the particulars of your license:

The screenshot displays the 'ScannerVision License Manager - V5.0.0.101' application window. At the top, there are two tabs: 'Online Activation' and 'Offline Activation'. Below the tabs, there are two input fields: 'Serial number' containing '8JTW-EGV2-6NFA-HMFT' and an empty 'Voucher Number(s)' field. Three buttons are visible: 'Activate/Topup', 'Upload Billing Information', and 'Proxy Settings'. The main content area is divided into three sections: 'Customer information', 'Server license information', and 'SAP information'. Each section contains key-value pairs for various fields.

Customer information	
Name:	John Scot
Company:	PieInTheSky
Email address:	johnscot@pieinthesky.com
Telephone number:	1234567890

Server license information	
Serial number:	8JTW-EGV2-6NFA-HMFT
Description:	NFR
Expiry date:	22 December 2020
License type:	Unlimited

SAP information	
Expiry Date:	31 January 2015
Maximum Licensed Version:	Any, currently supported, released version
Status:	Valid

At the bottom left, there is a button labeled 'Detailed License Information'.

To view the full details of your license please click the "Detailed License Information" button in the lower left hand corner of the screen. Please verify that all the information in the license is correct.

#### 4.2.1.2 Offline Activation

In order to do an offline license activation you would need access to a computer/laptop that has access to the Internet. You also need to be registered on the [KYOCERA Scan2SharePoint](http://my.scannervision.com) licensing portal.

To do an offline activation of your license please follow these steps:

1. Add any per page billing voucher numbers you may have separated by commas (optional).
2. Click the "Generate" button. A "Browse For Folder" dialog will appear.
3. Select the folder where you want the server information file to be saved and click "Ok" on the "Browse For Folder" dialog. A confirmation dialog will appear with the path and file name (ServerInfo.dat) of the server information file.
4. Copy the ServerInfo.dat file to the computer/laptop that has Internet connectivity.
5. Go to the <http://my.scannervision.com> licensing portal and log in to the portal.
6. Click on the "License" button on the toolbar:

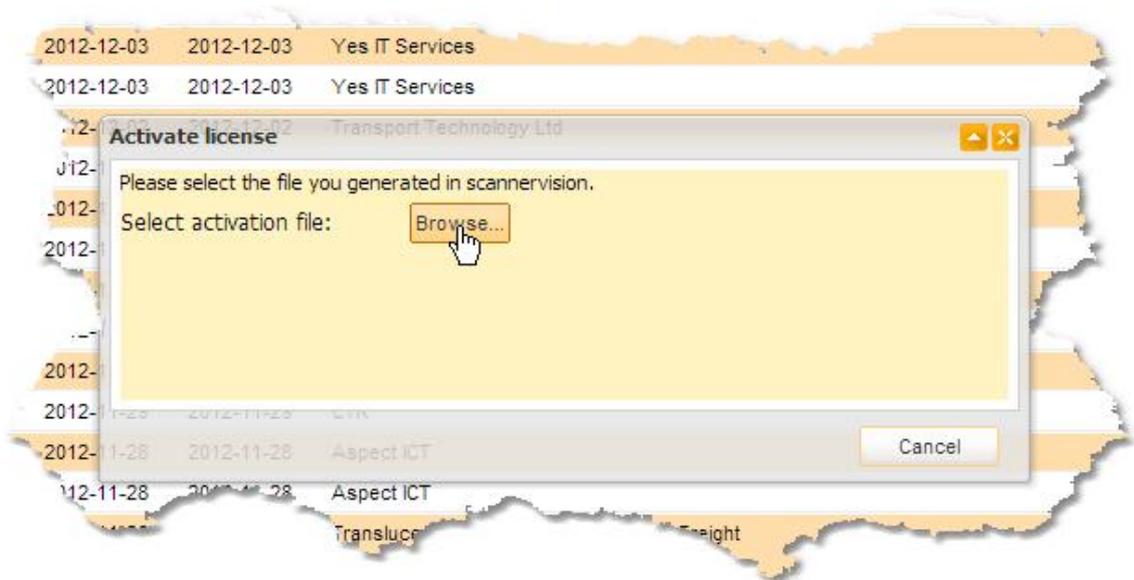


7. Find your serial number (license key) in the list and select it.
8. Click the "Offline activation" button:



9. Click the "Browse" button on the popup window and navigate to the "ServerInfo.dat" file created

above.



10. A popup will appear confirming the activation of your license:

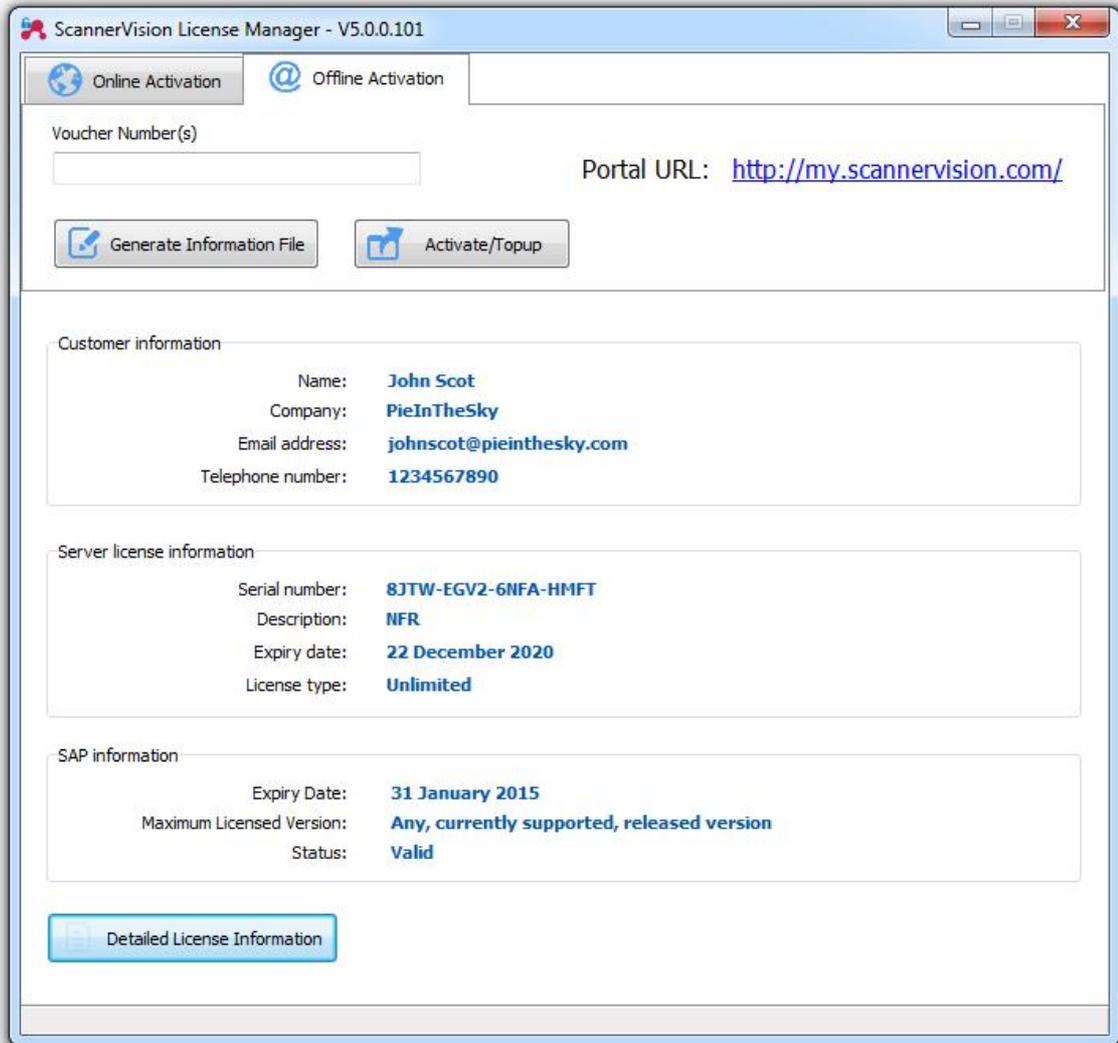


11. Click the "Ok" button. A license activation file called "activationfile.laf" will be downloaded to your computer and sent to your email address.

12. Copy the "activationfile.laf" to the KYOCERA Scan2SharePoint server.

13. Click the "Activate/Topup" button on the License Manager application and navigate to where you have copied the "activationfile.laf" above and click "Open".

If the license activation was successful your screen will update with the particulars of your license:



To view the full details of your license please click the "Detailed License Information" button in the lower left hand corner of the screen. Please verify that all the information in the license is correct.

#### 4.2.2 Pay Per Scan (PPS)

##### **NOTE**

Pay Per Scan is only available in certain countries. Please contact your reseller for details.

PPS allows you to pay only for the pages that passes through KYOCERA Scan2SharePoint on a prepaid or post-paid basis. With the prepaid option you buy vouchers that you load into KYOCERA Scan2SharePoint through the License Manager. The voucher represents a number of credits which are loaded into the database. Once credits have been loaded your KYOCERA Scan2SharePoint is ready to process documents. With the post-paid option you pay for the documents that have passed

through the system at the end of the month. You can also load vouchers for the post-paid option in which case the number of credits will be added to your balance.

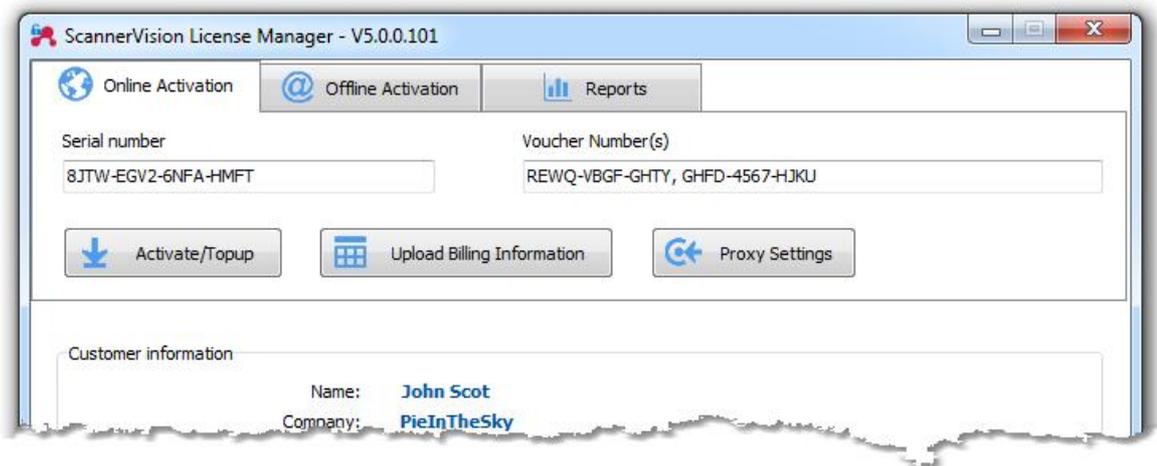
Depending on certain allowances in your license a portion of your unused credits can be carried over to the following month. See the [Document cost calculation](#) section for more details.

#### NOTE

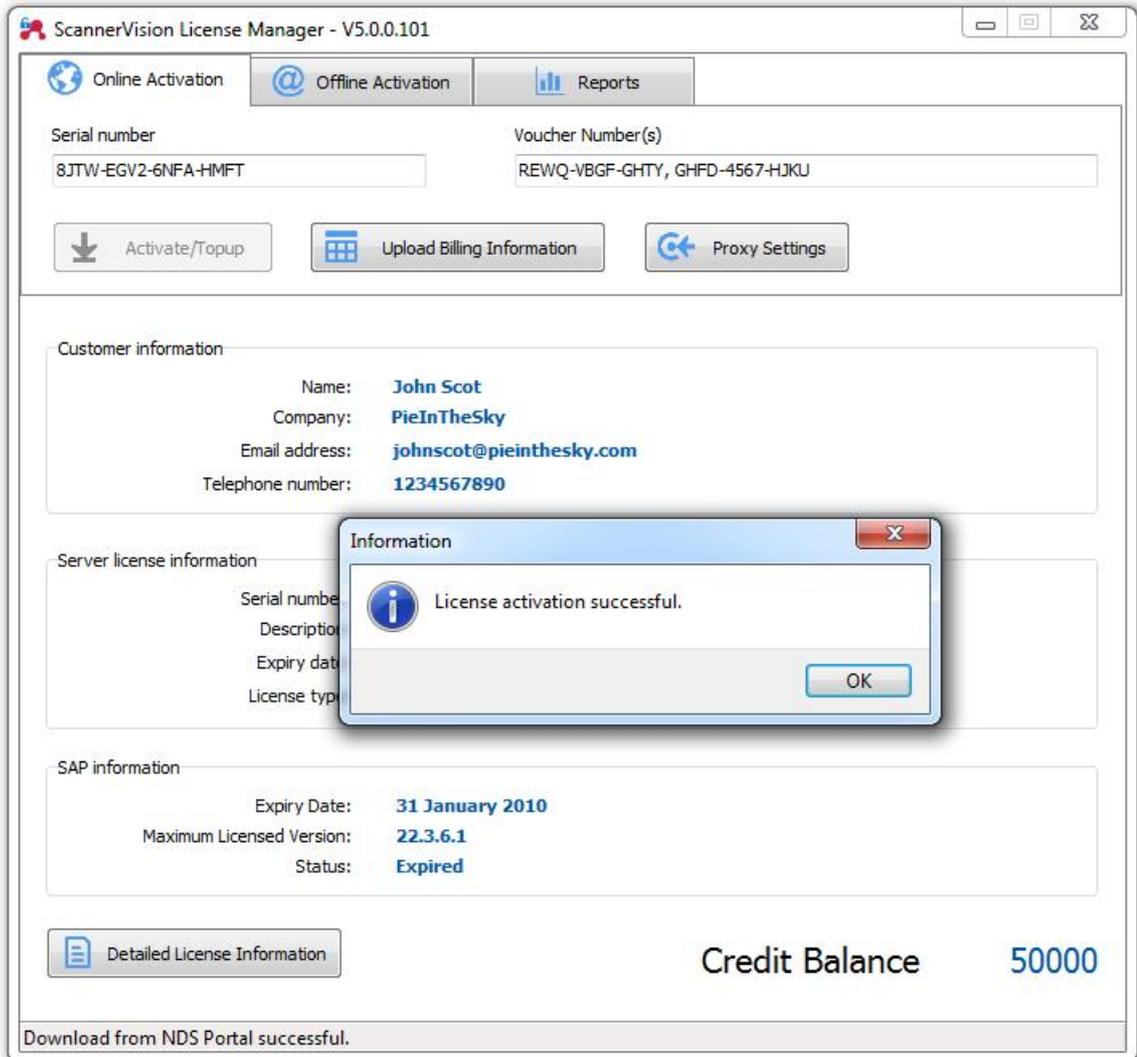
PPS credits do not relate to currency on a one to one basis. In other words, 1 credit does not necessarily equal 1 Euro/Dollar/Pound/Rand etc.

Post-paid PPS requires a permanent Internet connection and is therefore not available as an offline option.

When activating your license you can enter any voucher numbers you have in the "Voucher Number(s)" edit box before you click the "Activate" button as shown below. You can redeem vouchers after you have activated your license by entering them into the "Voucher Number(s)" edit box and clicking the "Activate" button.



Once the license has been activated you will see the following:



Notice the addition of the "Credit Balance" value in the lower right hand corner of the screen as well as the "Reports" tab that has appeared at the top of the screen. These items will appear only when you have a PPS license.

### Credit Balance

The credit balance value is your current credit balance at this moment in time. It is a real time value which means it is updated immediately when a document has passed through the system. So while the processing engine is running and processing documents, you will see this value changing continuously.

In the prepaid mode you have to have a large enough positive credit balance before processing of a document will be allowed. In post-paid mode you can have a positive or negative credit balance.

## Reports

From the reports tab you can run various reports of the transactions that have gone through KYOCERA Scan2SharePoint. For more information refer to the [Reports](#) section.

### 4.2.2.1 Document Cost Calculation

After you have successfully activated your PPS license you should look at the specifics of your license by clicking the "Details License Information" button. Navigate to the page of the license report that contains the PPS information.

#### **NOTE**

PPS credits do not relate to currency on a one to one basis. In other words, 1 credit does not necessarily equal 1 Euro/Dollar/Pound/Rand etc.

The license information report will look something like this:

ScannerVision License Information		
<b>Credit Carry Over</b>		
Percentage	15%	
Ceiling	1000	
<b>Pay Per Scan Information</b>		
BASE		
Credit allocations		Credits per page
Credits per page		1
MODULES		
Credit allocations		Credits per page
Annotation		2
Barcode 1D		3
Barcode 2D		3
Barcode Writing		3
OCR		5
Zone OCR		5
ICR		7
MICR		7
OMR		7
CONNECTORS		
Credit allocations		Credits per page
File System		2

### Credit Carry Over

If at the end of the month you have not used all your credits, a portion (or all) of your credits can be carried over to the following month. How much is carried over is calculated as follows:

- If only the ceiling value is specified (Percentage = 0%) all unused credits are carried over up to the ceiling level. So if your credit balance at the end of the month is 1500 credits and the ceiling value is 1000, then 1000 credits are carried over and you lose 500 credits. If your credit balance is 700 at the end of the month all 700 credits are carried over.
- If only the percentage value is specified (Ceiling = 0) then the specified percentage of unused credits are carried over with no upper limit. So if your credit balance at the end of the month is 15000 and the percentage value is 15% then 2250 credits are carried over (15000 x 15% = 2250).
- If both values are specified the percentage of unused credits are carried over up to the ceiling limit. So if your credit balance at the end of the month is 15000 and the percentage value is 15% and the ceiling value is 1000 then 1000 credits are carried over (15000 x 15% = 2250, but ceiling is 1000).

15% = 2250 which is greater than the ceiling of 1000).

- If both the percentage and ceiling values are 0 no credits are carried over.

### Pay Per Scan Information

The cost (in credits) of processing a document through KYOCERA Scan2SharePoint depends on the functions that are used when processing the document like OCR, barcode reading etc. and the number of pages in the document. The cost of using a function is specified next to the respective function on a cost per page basis. In the image above for example the cost of using OCR is 5 credits per page and Barcode 1D is 3 credits per page.

The "Credits per page" value is a rate that is applied for every page regardless of the functions used. So if you don't use any of the functions specified above and process a 15 page document the cost of that document would be 15 credits (1 credit per page x 15 pages = 15 credits).

### Cost Calculations Example

Let's say you have enabled Barcode 1D, Zone OCR and ICR in your template and you are processing a 20 page document, the cost of the document would be as follows:

3 credits for barcode 1D x 20 pages	= 60 credits
5 credits for Zone OCR x 20 pages	= 100 credits
7 credits for ICR x 20 pages	= 140 credits
1 credit per page x 20 pages	= 20 credits
<b>Total</b>	<b>= 320 credits</b>

### NOTE

All enabled functions' cost accrue to the total document cost regardless of whether the function produced any outcome. For example, if Barcode 1D is enabled and your documents does not contain any barcodes the cost of Barcode 1D is still applied to every page.

#### 4.2.2.2 Uploading of Billing Information

When you have a post-paid PPS license your transaction data is uploaded to the KYOCERA Scan2SharePoint license portal on a regular basis. You therefore need to ensure that your server is permanently connected to the Internet. If KYOCERA Scan2SharePoint is not able to contact the license portal document, processing will stop as described below.

Uploading of billing information is a function of the processing service and therefore will only occur while the processing service is running.

To view details of how often KYOCERA Scan2SharePoint will upload billing information to the license portal click on the "Detailed License Information" button on the License Manager and scroll the page where you see something like this:

Billing information upload schedule		
Day	Time	Enabled
Monday	20:00:00	Yes
Tuesday	20:00:00	Yes
Wednesday	21:00:00	Yes
Thursday	10:00:00	Yes
Friday	22:00:00	Yes
Saturday	22:22:22	Yes
Sunday	00:00:00	Yes

Interval

Not applicable

\*Portal upload failure grace period

01:00:00 (Hours:Minutes:Seconds)

\*Document processing will stop after this period if billing information can not be uploaded to the NDS Portal

### Billing information upload schedule

The upload schedule indicates how often billing information is uploaded to the KYOCERA Scan2SharePoint licensing portal. If your license does not contain explicit scheduling information, billing data will be uploaded daily at 12 o'clock at night.

The schedule can be specified in terms of explicit week days and time of day or as an interval. If any of the days of the week are enabled, i.e. the value under the "Enabled" heading is "Yes", then uploads will happen on those days at the specified local time as indicated under the "Time" heading. If no days are enabled, uploads will happen on a scheduled basis.



In the above image you will notice that all the days are disabled and "Interval" now has a value which indicates that uploads will happen every 6 hours.

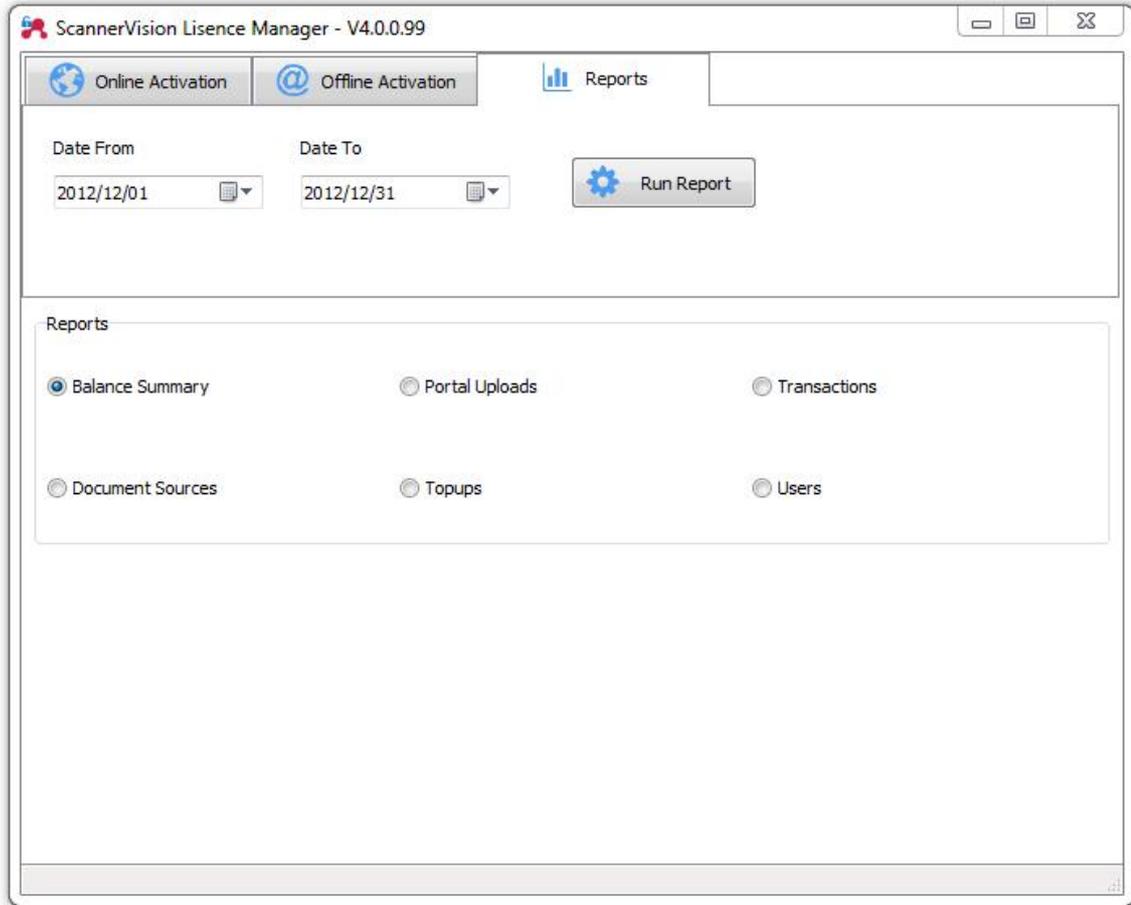
### Failure to upload

If for some reason KYOCERA Scan2SharePoint is not able to upload billing information to the portal, it will enter a grace period which is specified in the license file. As per the image above the license allows for a grace period of 1 hour but it can be any value as dictated by the license.

During the grace period KYOCERA Scan2SharePoint will continue to process documents while it retries to upload billing information to the portal every 5 minutes. If the grace period lapses without any successful upload processing will stop. If you restart the processing KYOCERA Scan2SharePoint will first try to upload the billing information and only if it was successful will it allow document processing to resume.

#### 4.2.2.3 Reports

There are 6 reports that you can run as shown below:



### To run a report

When you open the License Manager it defaults the dates over which report are run to the beginning and end of the current month. You can change the date range with the "Date From" and "Date To" date pickers. Select the report you want to run and then press the "Run Report" button.

### Reports

Below is a description of the information each report offers for the reporting period:

#### **Balance Summary**

A summary of all credit topups, transactions and portal uploads.

#### **Portal Uploads**

A list of all portal uploads and the number of credits that have accrued since the last upload.

#### **Document Sources**

A list of document sources that produced documents for processing. In this report you will see all the hot folders, ftp servers and clients etc. from where documents entered the system. The report does not show which sources are configured but rather the ones from which documents

arrived for processing.

### Topups

A list of all vouchers that were loaded into KYOCERA Scan2SharePoint showing when the voucher was loaded, the voucher number and the number of credits.

### Users

A list of users that produced documents.

### Transactions

Below is a screen shot of a transaction report:

ScannerVision Transactions						
Date from: 2013-11-01 12:00:00 AM			Date to: 2013-11-30 11:59:59 PM			
No.	Date & Time	Document source name	Document source address	Document source description	Pages	Credits
1	2013-11-13 11:27:52 AM	G:\Hot Folder		HOTFOLDER	3	- 47
Remove Blank Pages		<input checked="" type="checkbox"/>	Number of Blank Pages Removed: 0			
Feature Type	Feature Name	Page Mask	Credits Per Page	Pages	Credits	
Base	Engine		- 1	3	- 3	
Module	Barcode1D		- 3	3	- 9	
Module	Ocr		- 5	3	- 15	
Module	Zone/cr	1, 2, 5-10	- 7	2	- 14	
Connector	File System		- 2	3	- 6	
2	2013-11-13 11:27:58 AM		G:\Hot Folder 2	HOTFOLDER	3	- 24
3	2013-11-13 11:28:45 AM		G:\Hot Folder	HOTFOLDER	11	- 177
4	2013-11-13 11:31:09 AM		G:\Hot Folder 2	HOTFOLDER	11	- 33
5	2013-11-13 11:35:17 AM		G:\Hot Folder 2	HOTFOLDER	3	- 24
Remove Blank Pages		<input checked="" type="checkbox"/>	Number of Blank Pages Removed: 0			
Feature Type	Feature Name	Page Mask	Credits Per Page	Pages	Credits	
Base	Engine		- 1	3	- 3	
Connector	Email		- 5	3	- 15	
Connector	File System		- 2	3	- 6	
2013-11-13 12:00:00 AM						1

With the transaction report you can see details of each document that was processed by KYOCERA Scan2SharePoint. Details that are shown include the source of the document, the number of pages, the cost of the document and specifics of which functions were used during the processing of the document. The latter is not shown by default as you can see in document numbers 2, 3 & 4 in the image above. Documents 1 & 5 on the other hand show the details of the functions used. To reveal the details of a transaction click on the line in which it appears.

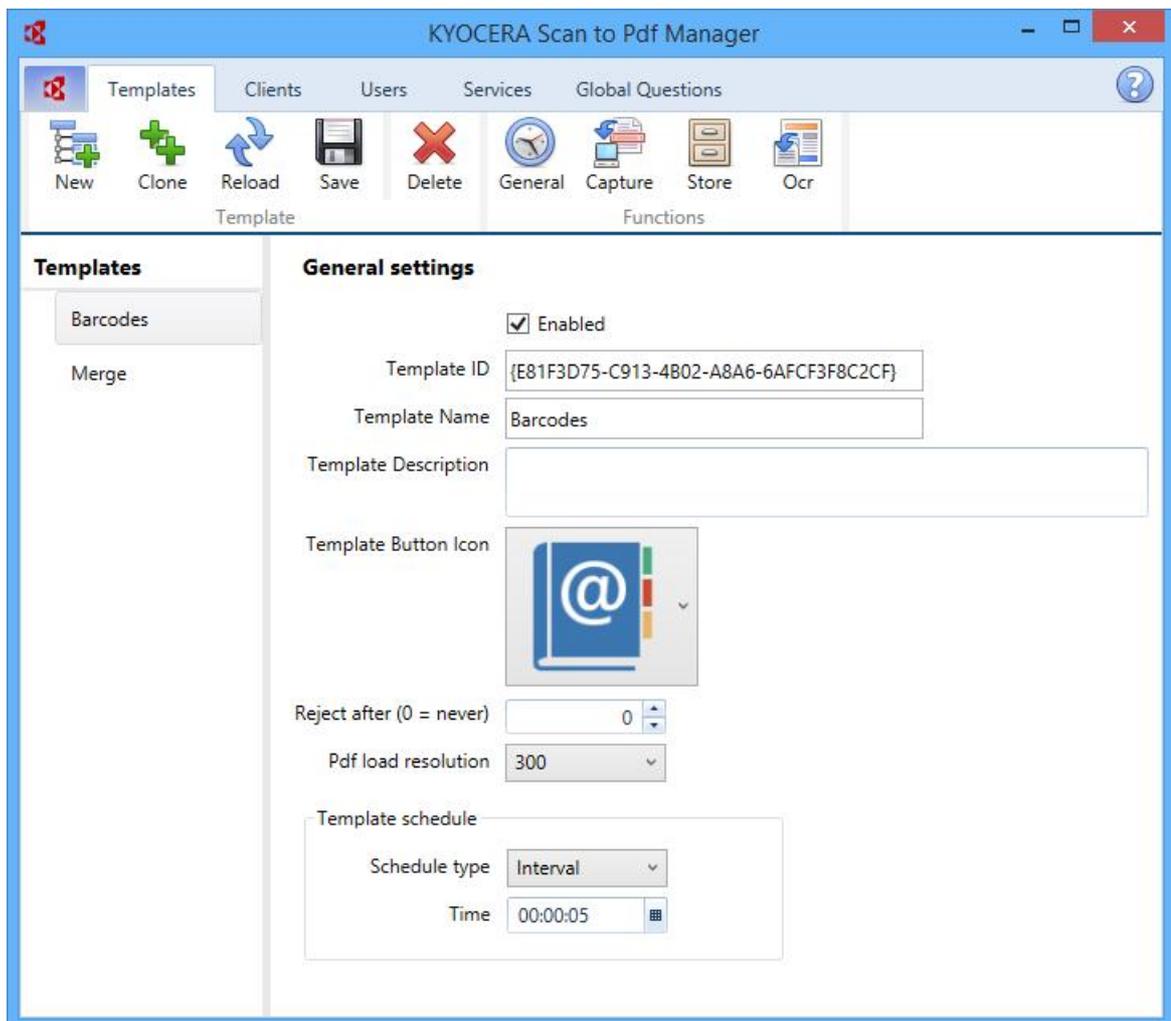
## 5 Setup

Every aspect of KYOCERA Scan2SharePoint's operation is configured using the Kyocera ScannerVision Manager user interface application shown below. In this section we will cover:

- [Kyocera ScannerVision Manager](#)

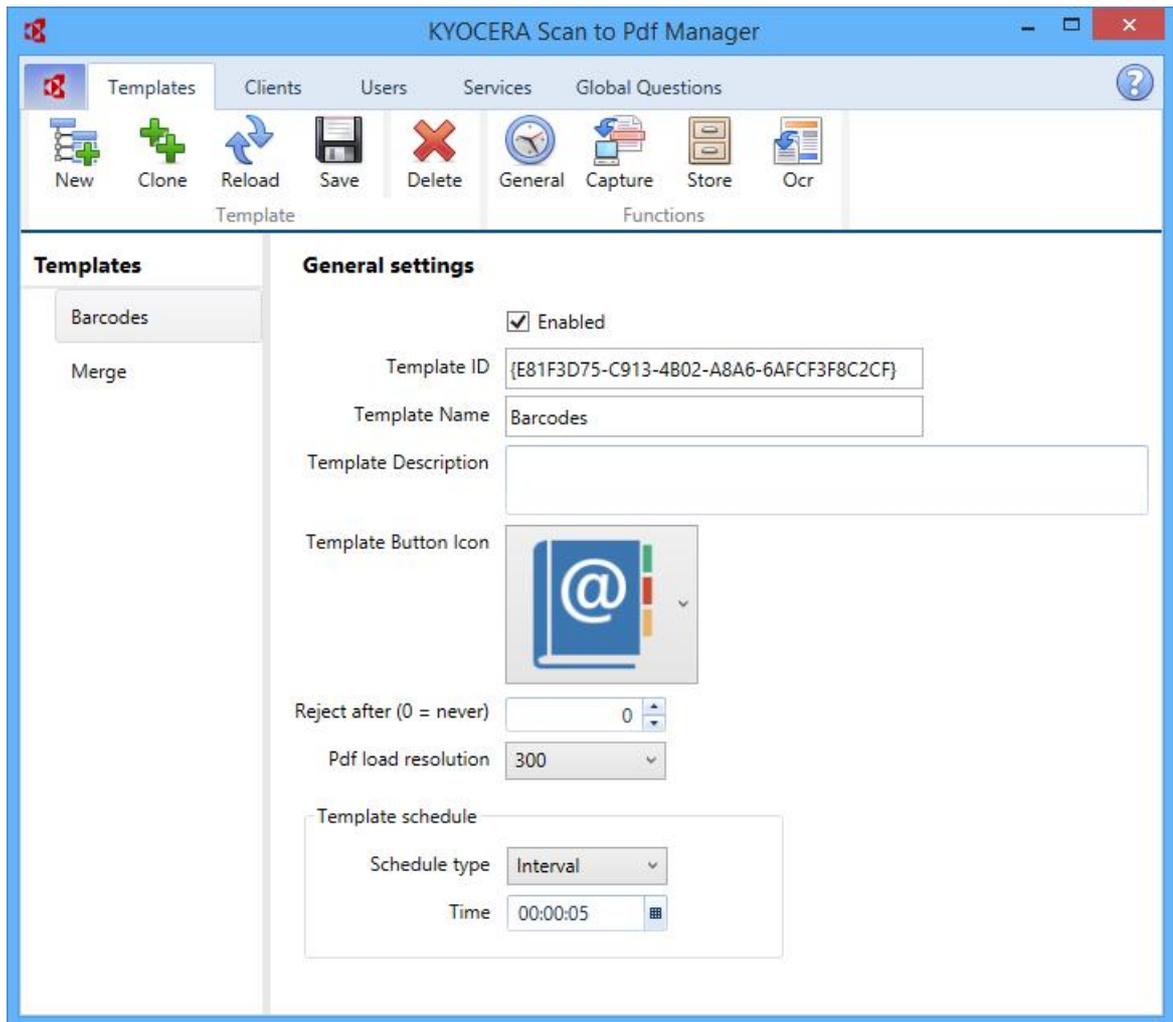
- [Settings](#)
- [Configuring Clients](#)
- [Configuring Users](#)
- [Services](#)

Templates are covered in detail in the [Creating Templates](#) section.



## 5.1 KYOCERA Scan2SharePoint Manager

The KYOCERA Scan2SharePoint Manager provides several tabs from which the various configuration options can be managed. Each tab has a toolbar at the top with buttons to activate various screens or commands. In the screen shot below the "Templates" tab is shown.

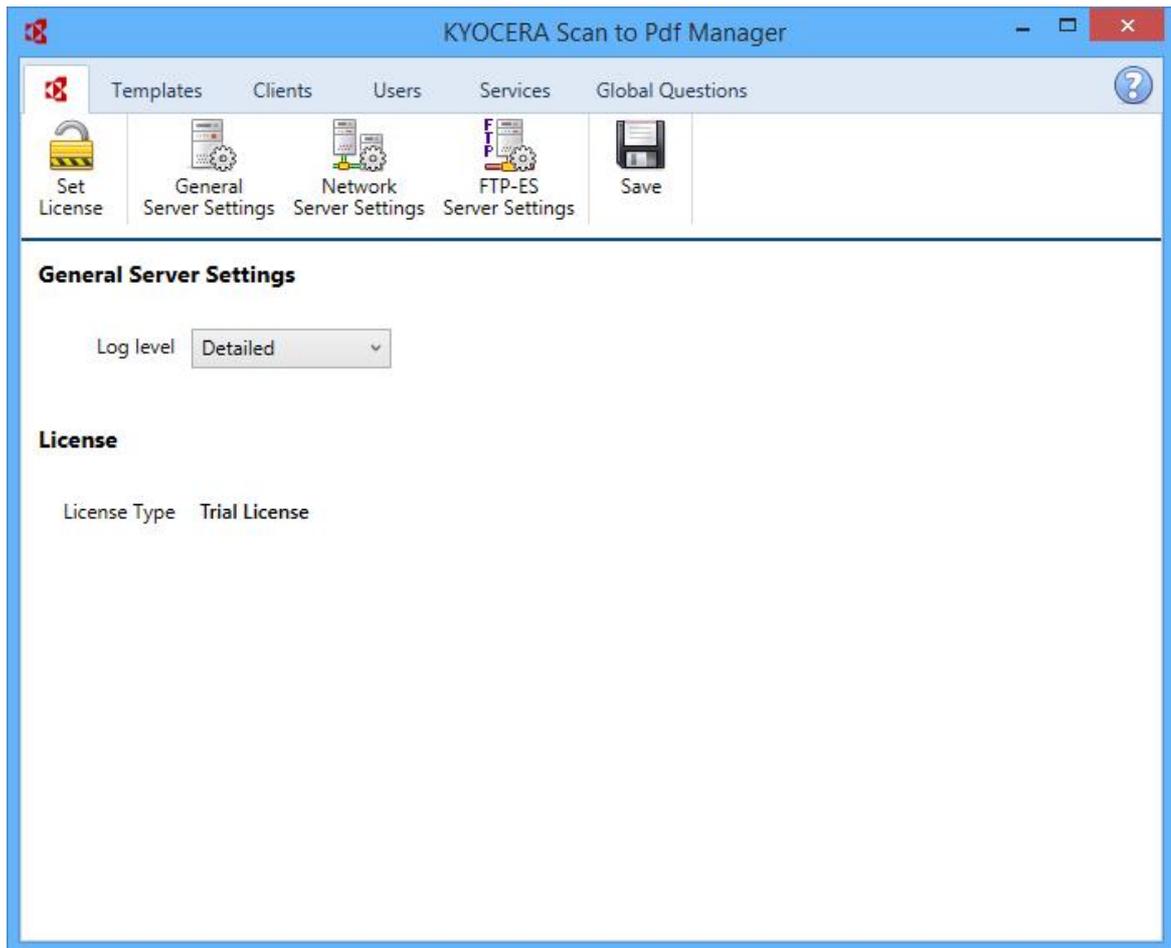


Note that the left most tab with the Kyocera logo is also a tab that can be selected to configure general [Settings](#).

In the top right hand corner of the window below the title bar you will see a button with a blue and white question mark symbol. Press this button to open this help manual.

## 5.2 Settings

KYOCERA Scan2SharePoint settings apply to KYOCERA Scan2SharePoint in general and are not specific to any template, user or client.



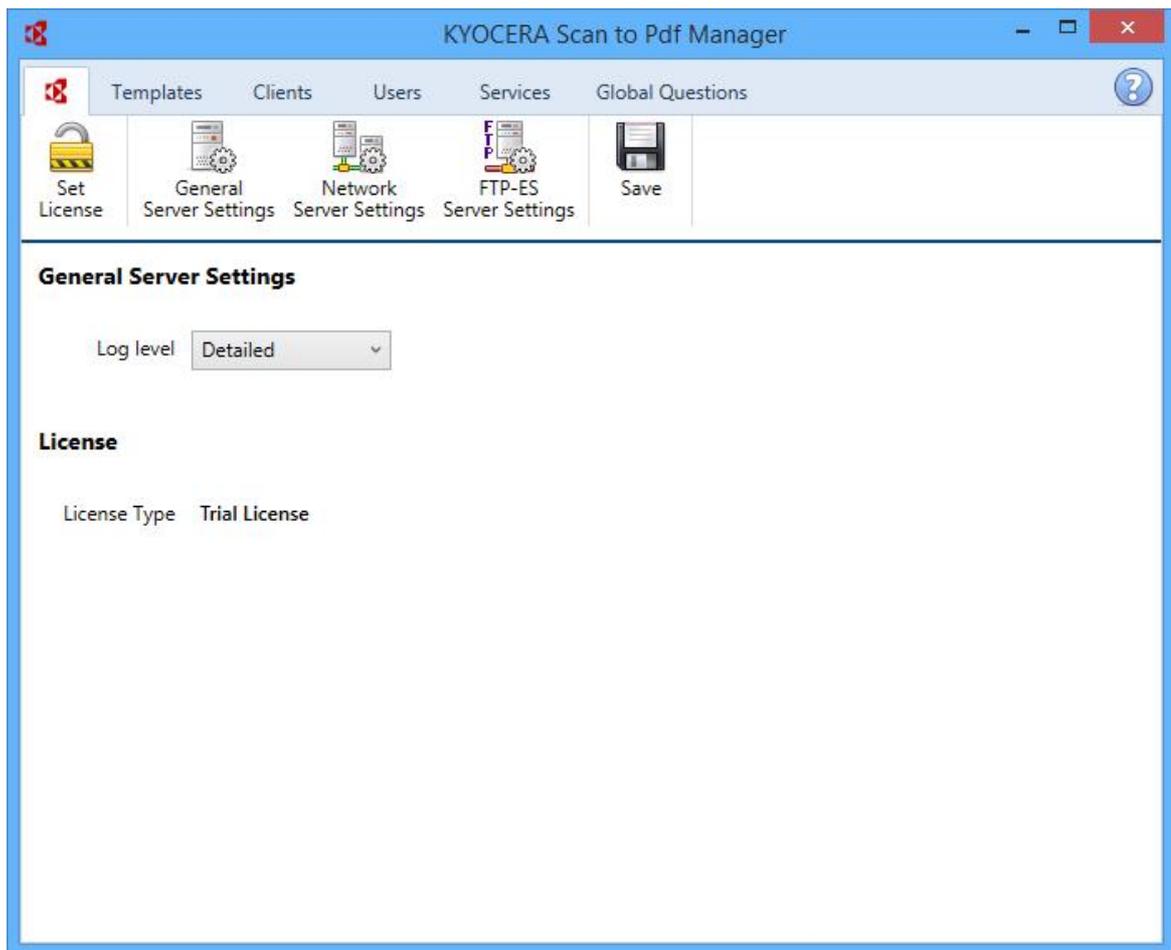
Settings are grouped as follows:

- [General Server Settings](#)
- [Network Server Settings](#)
- [FTP-ES Server Settings](#)

### **Save**

Saves your current settings. Saved settings take immediate effect without the need to restart the Networking or Processing services.

## 5.2.1 General Server Settings



### Log level

Select the log level of the processing and networking servers. Options include (from least verbose to most detailed):

<b>Errors</b>	Log only errors.
<b>Warnings</b>	Log errors and warnings.
<b>Info</b>	Log errors, warnings and informational messages.
<b>Details</b>	Log everything.

### License Type

Displays the type of license that is active.

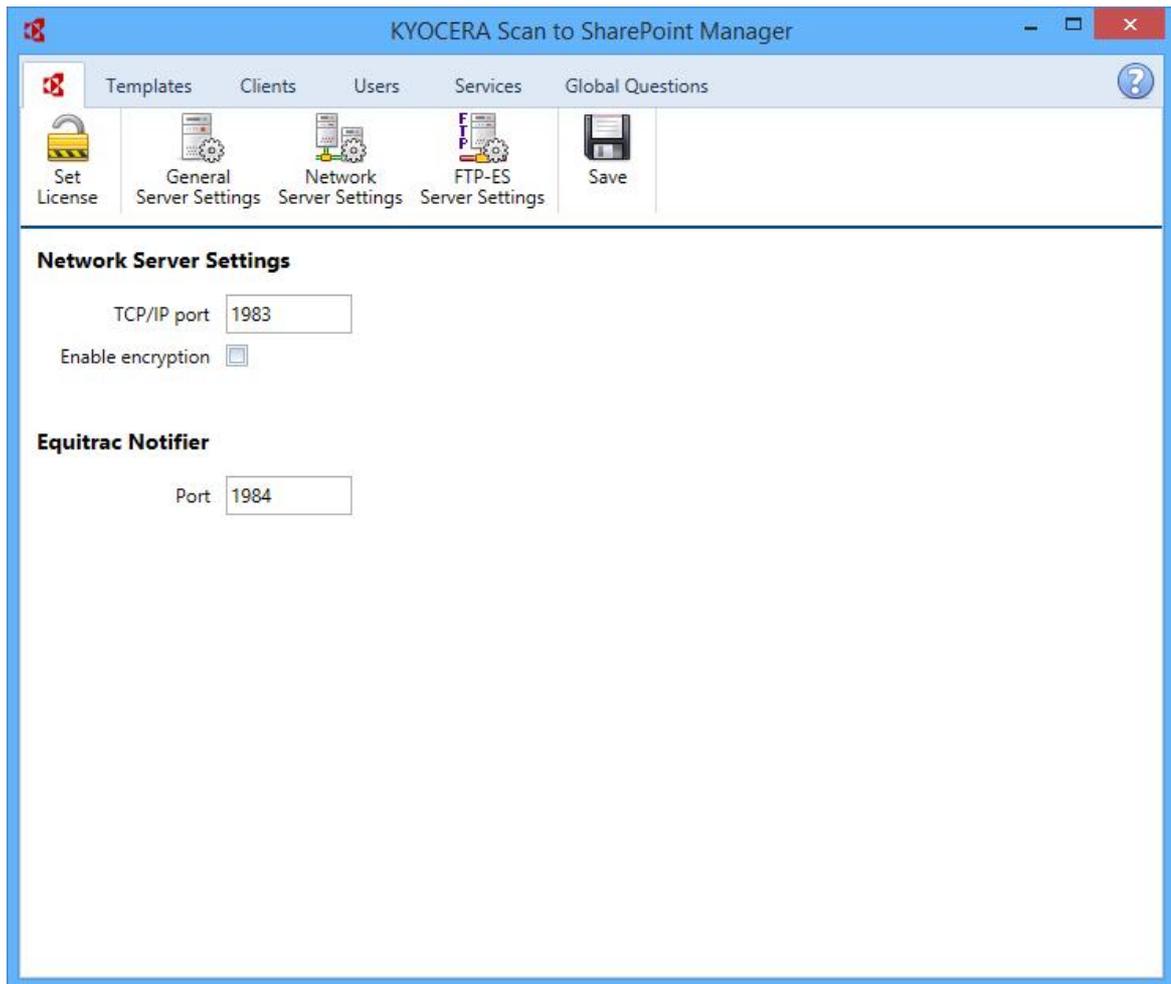
**Save**

Saves your current settings.

**5.2.2 Network Server Settings**

The Network Server communicates with clients using a proprietary TCP/IP protocol that has been optimized for speed and that add very little overhead to the data being transferred. The network server binds to port 1983 by default but you can change this by specifying a different port.

Communication can also be encrypted between clients and the server. When encryption is enabled on the server, communication to all clients is encrypted. If encryption is disabled on the server, clients can still be configured to encrypt communication in which case the communication between the particular client and server will be encrypted.



### TCP/IP port

The port number on which the Network Server binds.

### Enable encryption

Select this option if you want encryption between all clients and the server to be encrypted.

### Note

The KYOCERA Scan2SharePoint network protocol implements a hand shaking mechanism during which the server and client transmits a few bytes of data in an unencrypted form. This is always the case regardless of whether or not encryption is enabled on either end. The data that is transmitted contains no sensitive information such as user names or password.

The data that is sent by the client (which always initiates the communication) is:

Client protocol version number:

1 byte. A number indicating which version of the protocol is implemented by the client. The Network Server supports multiple versions.

Client identifier:	1 byte. A number identifying the client as a Desktop client, Ricoh MFP client etc.
Force encryption flag:	1 byte. A flag that tells the server to encrypt all data after the handshaking has completed - regardless of whether the "Enable encryption" option on the server has been disabled.
Client host name:	Unicode character array of varying length - depending on the length of the client's network host name.

The data that is sent by the server in response to the client is:

Force encryption flag:	1 byte. A flag that tells the client to encrypt all data after the handshaking has completed.
Authentication type:	1 byte. A flag that tells the client what type of authentication challenge to present to the user.
Minimum supported protocol version:	1 byte. A number indicating the minimum protocol version that the server will accept.
Maximum supported protocol version:	1 byte. A number indicating the maximum protocol version that the server will accept.

### Equitrac Notifier Port

The port to which the [Equitrac Notifier](#) application connects.

### Save

Saves your current settings.

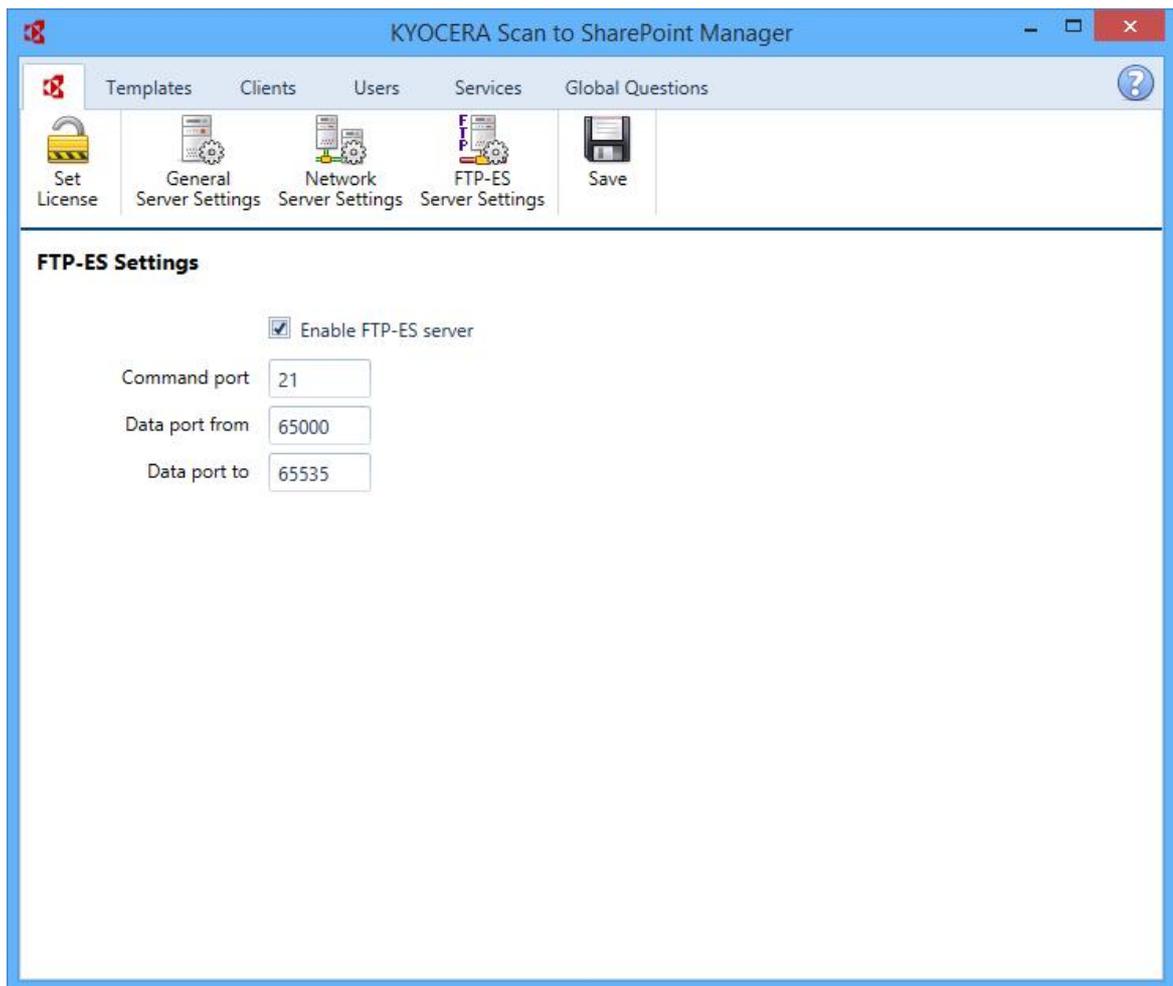
## 5.2.3 FTP-ES Server Settings

The FTP-ES Settings section is where you configure KYOCERA Scan2SharePoint's built-in secure ftp server which is used by Kyocera MFP clients to upload scanned documents for processing.

The embedded Kyocera MFP client requires specific configuration settings and the KYOCERA Scan2SharePoint FTP server has been built with this in mind. It is therefore important that the machines on which the Kyocera MFP client is installed are configured accordingly. Please see the [Kyocera MFP Configuration](#) section for details.

The KYOCERA Scan2SharePoint FTP server is not started by default. To enable it check the "Enable FTP server" check box.

The FTP server is part of the KYOCERA Scan2SharePoint networking service so whenever changes are made to the settings below you have to restart the networking service for the changes to take effect.



### Enable FTP server

This check box enables the FTP server when the KYOCERA Scan2SharePoint networking service is started.

### Command port

The TCP port on which the FTP server will bind. The default port for FTP is 21 but it could be any **available** port up 65536. The FTP server will bind to the specified port for all active IP addresses on the system. So if you have say 2 network cards on the server say to connect to 2 network segments the FTP server will be reachable on both segments.

### Data port from and to

The ftp clients on the Konica Minolta MFPs run in passive mode which is to say that the clients initiate the connection to both the command and data channels of the ftp server. This means that both the

command and data ports on which the ftp server binds needs to be open in the server firewall software. If you want to limit the range of ports that you have to open in your firewall you can limit the range of data ports the ftp is allowed to pick from by specifying the upper and lower limit in the respective edit boxes.

### **Save**

Saves your current settings.

#### **5.2.3.1 Kyocera MFP Configuration**

The embedded Kyocera client requires specific configuration settings in order to communicate with the KYOCERA Scan2SharePoint FTP server. Please ensure that you have configured your Kyocera MFP using the COMMAND CENTER as follows:

#### **Advanced -> Secure Protocols**

Secure Protocol Settings

SSL - **On**

Clientside Settings

Effective Encryption - **Select at least one**

Certificate Verification - **Off**

#### **Scanner -> FTP**

FTP Settings

FTP - **On**

FTP Port Number - **This is retrieved from the** KYOCERA Scan2SharePoint server

FTP Encrypted TX - **On**

## **5.3 Configuring Clients**

Clients in KYOCERA Scan2SharePoint are devices or applications that capture documents and metadata and then upload them to the Network Server. Clients fall into one of two categories namely Desktop Clients and MFP Clients. Desktop clients are Microsoft Windows applications that run on computers with one of the supported Microsoft Windows operating systems installed. MFP clients run on supported multi functional devices from manufacturers such as Ricoh, Kyocera, Samsung, Konica Minolta and more.

## Desktop clients

Desktop clients offer two modes of operation namely Twain scanning and loading of existing documents from disk or the network. The Twain scanning mode of operation allows the user to scan documents from any Twain source that is installed on the system. Most of the often used Twain scan settings can be controlled by the KYOCERA Scan2SharePoint template. This assures consistency across multiple desktop clients and Twain sources. In the second mode of operation the user loads existing documents from the client application. The two methods are not mutually exclusive. It is possible for example to scan a document using a Twain source and then to load one or more existing documents from disk. When the document is uploaded to the KYOCERA Scan2SharePoint Network Server it becomes a single document.

## MFP clients

MFP clients are applications that run on multi functional devices that offer the ability to install third party applications on the device and for which a KYOCERA Scan2SharePoint client has been developed.

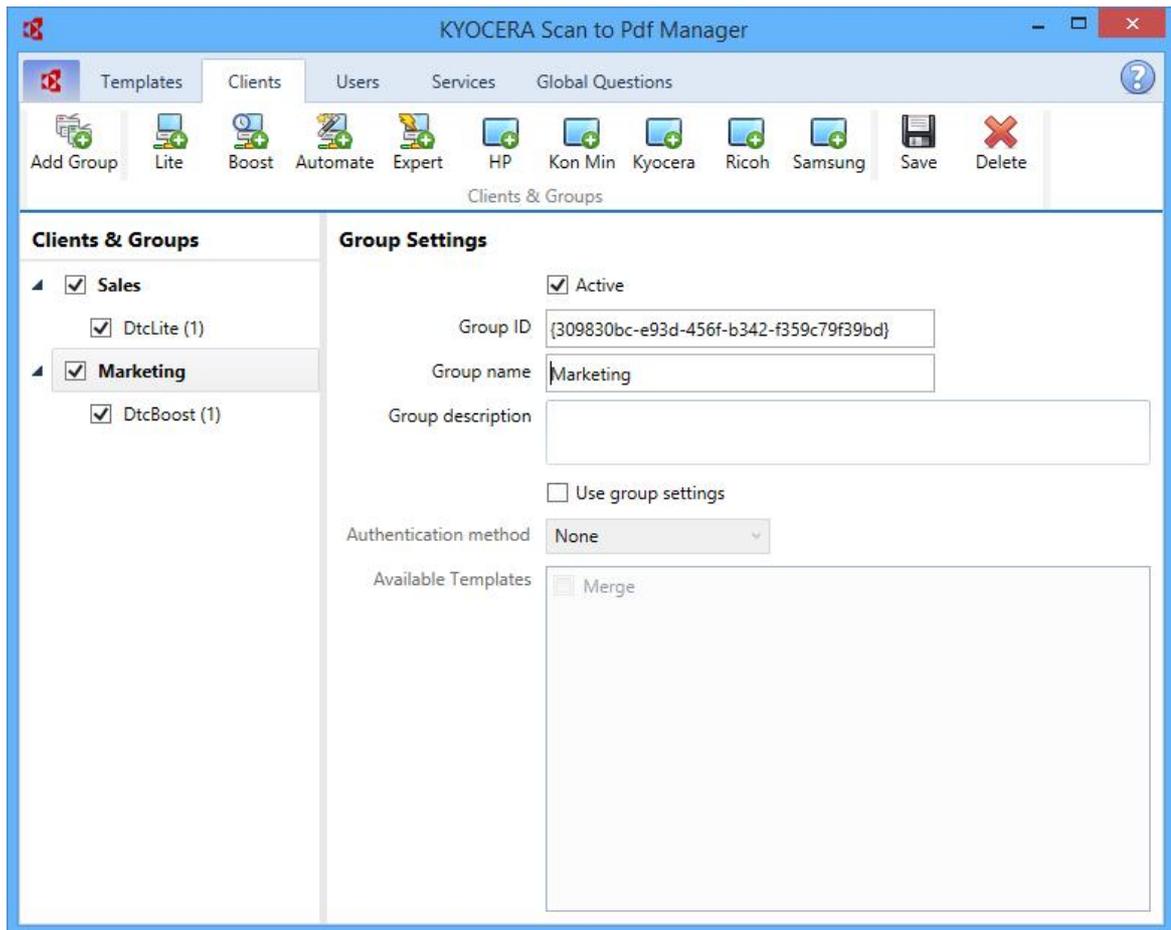
## Configuration

There is no distinction between the configuration of a desktop client and an MFP client in KYOCERA Scan2SharePoint apart from selecting the type of client that you want to configure. In the case of the Konica Minolta client there are a few more steps to follow. Clients must belong to a [Client Group](#). It is up to you to decide how you want to group the clients you configure. Your decision may be based on the physical location of the devices in your organization, the department in which they will be used, the templates that will be available on them or whatever other grouping criteria you may wish to apply.

When a user wants to submit a document to the KYOCERA Scan2SharePoint server she has to do it in the context of a template. The template defines the entire work flow around a document and as such form the foundation of the document capture process. The templates that are available on an MFP or desktop client could be determined by various configuration options as is discussed in the [Overview](#) section.

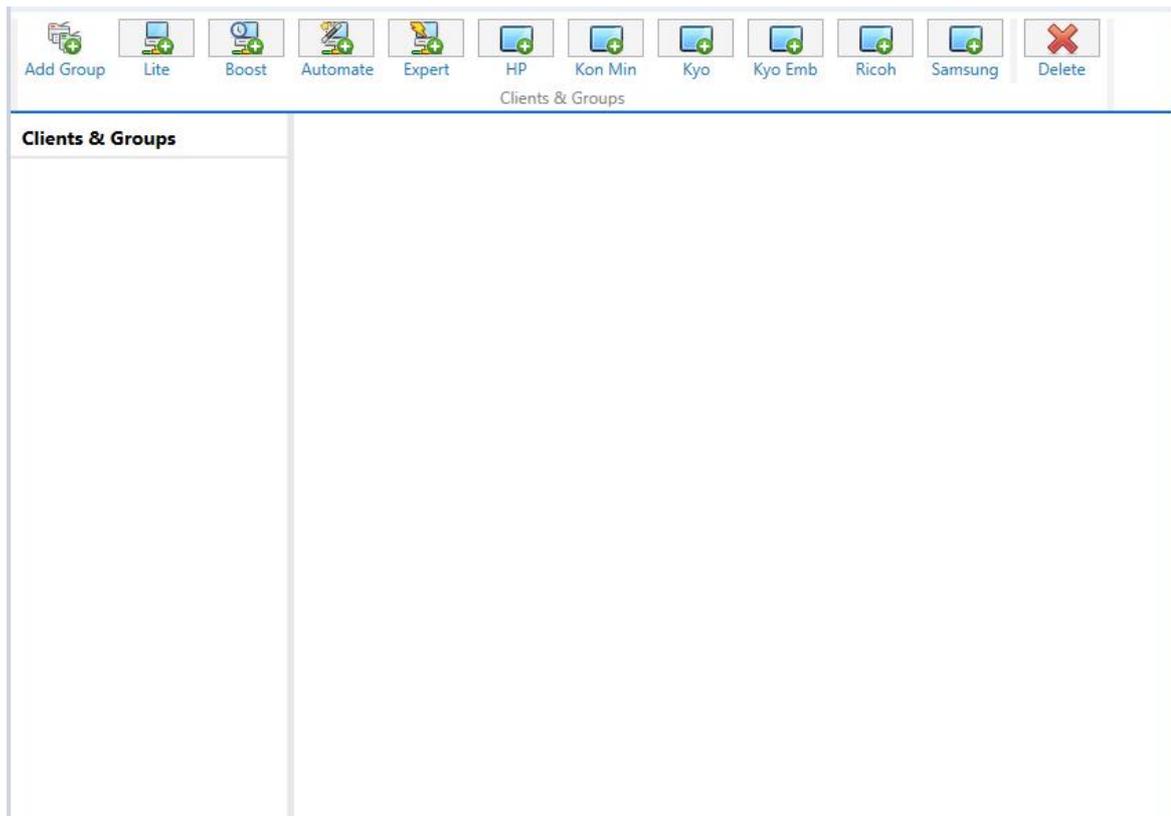
One of the ways you can control which templates are available on clients belonging to a group, is to assign them on a group level. This makes life a little easier when it comes to deciding which templates should be available on which clients. You do of course also have the option to configure clients individually. When you want to control clients individually you have to manually configure all the clients that belong to the particular group. You can't configure only certain clients in the group individually while others are controlled on the group level.

To configure clients press the "Clients" tab shown below:



### 5.3.1 Client Groups

The Client Group settings screen is shown below. When no clients or client groups have been configured the "Clients & Groups" list as well as the configuration area to the right will be empty.



Before clients can be configured a client group must be created. To do this, click the "Add Group" button on the toolbar.



After you have pressed the "Add Group" button you will see the following screen:

When a new group is created it is given the name "Client Group" with a number in brackets. This number is normally one higher than the number of existing groups with the same name, unless there is a gap in the numbering in which case the first available number is used. The group name entry in the tree view on the left of the screen is automatically put in edit mode so that you can immediately name the group appropriately. Group names can be changed in the "Clients & Groups" tree view by pressing the F2 key or by entering a new name in the "Group name" edit box in the main edit area of the screen.

### Active

Enables/disables the group. If a group is disabled no client belonging to the group will be able to connect to the Network Server.

### Group ID

The identifier of the group which is assigned automatically when the group is created. This is a read only field.

### Group name

A descriptive name for the group.

### Group description

A short description of the group. This could be used to provide further information about the group to other KYOCERA Scan2SharePoint administrators.

### Use group settings

When this option is enabled clients' authentication method and templates are configured on the group level. In other words, all clients belonging to the group will share the list of templates you select here as well as the authentication method. If this option is disabled both the authentication method and templates list have to be configured on a per client basis.

### Authentication method

The authentication method determines how a client is authenticated when a connection request comes in to the Networking Server. If you select "None" all the templates you select will appear on the clients belonging to the group. If either "ScannerVision" or "Equitrac" is selected the templates specified under the **User** or **User Group** settings will be used.

The authentication method is only available when the "User group settings" check box is checked. Available options are:

<b>None</b>	No authentication is required so any person will be able to use a client in the group.
<b>ScannerVision</b>	Only ScannerVision users will be able to use the clients in the group.
<b>Equitrac</b>	Only signed in Equitrac users will be able to use the clients in the group. See <a href="#">Appendix F - Equitrac</a> for more information.

### Available Templates

A list of all templates in KYOCERA Scan2SharePoint that have client capture enabled. Select the templates in the list which you want to be available on clients in the group. You can re-arrange the order of the templates which will be the order in which they are displayed on the client. To change the order of a template select the template and right click on it to show the context menu. From the context menu you can move the selected template up or down.

It is advisable to select a template icon for every template that will appear on a client as it makes identification of template easier.

### 5.3.1.1 Toolbar & Context Menu

The toolbar at the top of the Client Group settings screen is shown below:

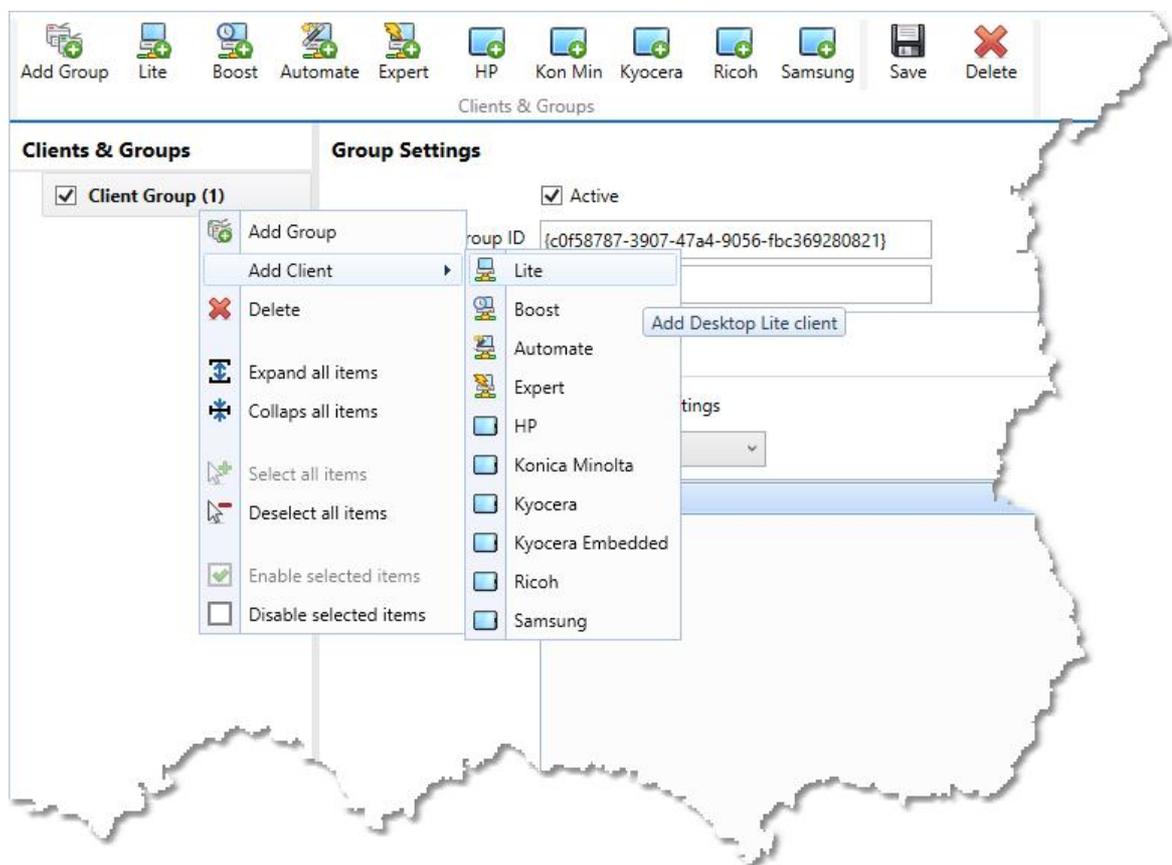


With buttons on the toolbar you can add or delete groups and clients.

When you right click on the "Client & Groups" tree view the context menu shown below appears which repeats some of the functions available on the toolbar plus it provides some additional ones.

#### Note

On both the toolbar and context menu, commands and buttons enable when applicable. For example, when no group is selected all client related commands and buttons are disabled.



**Add Group**

Adds a new client group.

**Add Client (Lite, Boost, Automate etc.)**

Adds a new client of the relative type, i.e. when you click the "Light" button or context menu option a Desktop Client Lite client is added to the selected group.

**Delete**

Deletes all the selected clients and groups. You can select any number and combination of clients and groups which will all be deleted when the "Delete" button is pressed or context menu option selected. When a group is deleted all clients within the group are also deleted.

**Expand/Collapse all items**

Expands or collapses all items in the tree view.

**Select/Deselect all items**

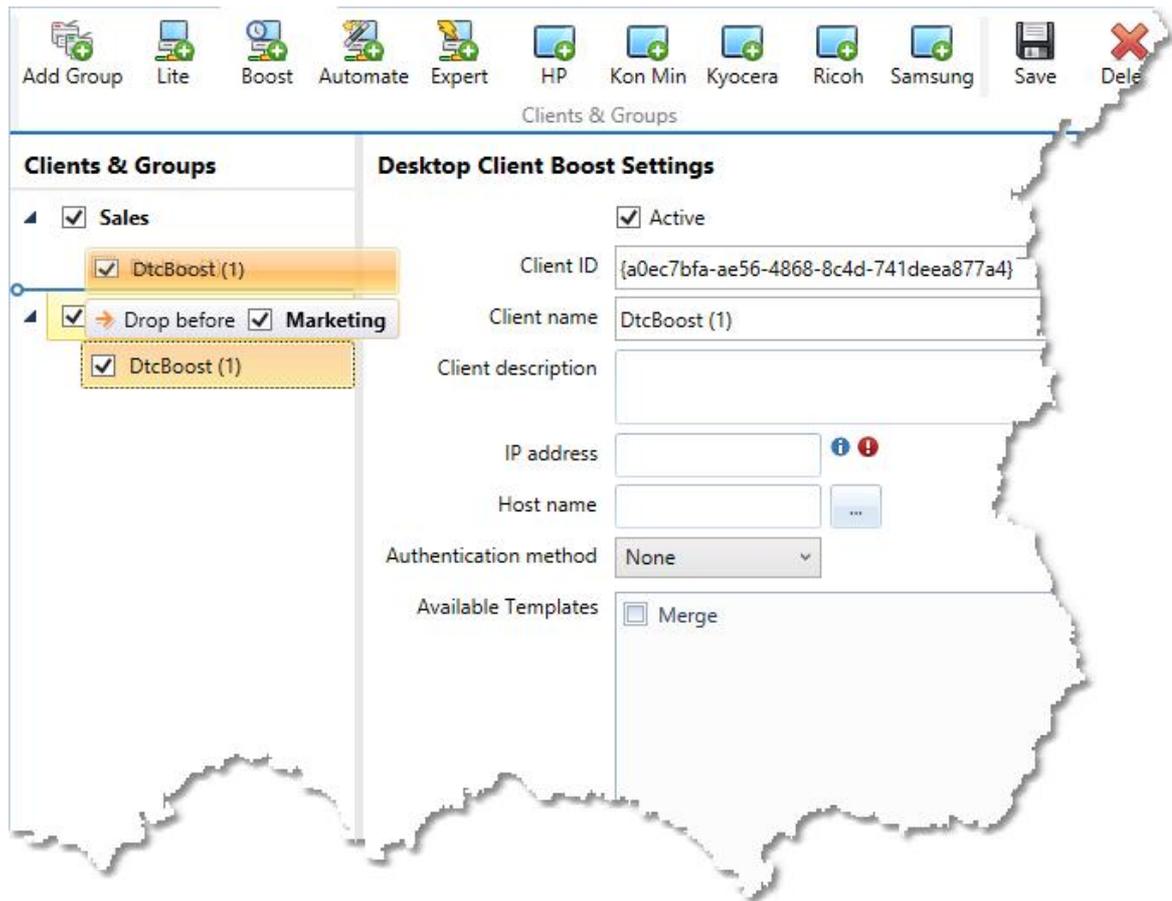
Selects or deselects all items in the tree view.

**Enable/Disable all items**

Enables or disables all selected items.

**5.3.1.2 Moving clients**

Clients can be moved from one group to another by dragging the client to the required group as shown below:



### 5.3.2 Clients

The Client settings screen is shown below. To add a client, select the group to which the client should belong and press the relevant button on the toolbar or select the relevant option from the "Clients & Groups" context menu. To show the "Clients & Groups" context menu right click in the tree view below the "Clients & Groups" heading.

**Clients & Groups**

- ✓ Sales
  - ✓ DtcLite (1)
- ✓ Marketing

**Desktop Client Lite Settings**

Active

Client ID: {6a4e27e7-0307-4cdf-9821-6907fe169a0c}

Client name: DtcLite (1)

Client description: [Empty text area]

IP address: [Empty text field]

Host name: [Empty text field]

Authentication method: None

Available Templates:  Merge

### Active

Enables/disables the client. If a client is disabled it will not be able to connect to the Network Server.

### Client ID

The identifier of the client which is assigned automatically when the client is created. This is a read only field.

### Client name

A descriptive name for the client.

### Client description

A short description of the client. This could be used to provide further information about the client to other KYOCERA Scan2SharePoint administrators.

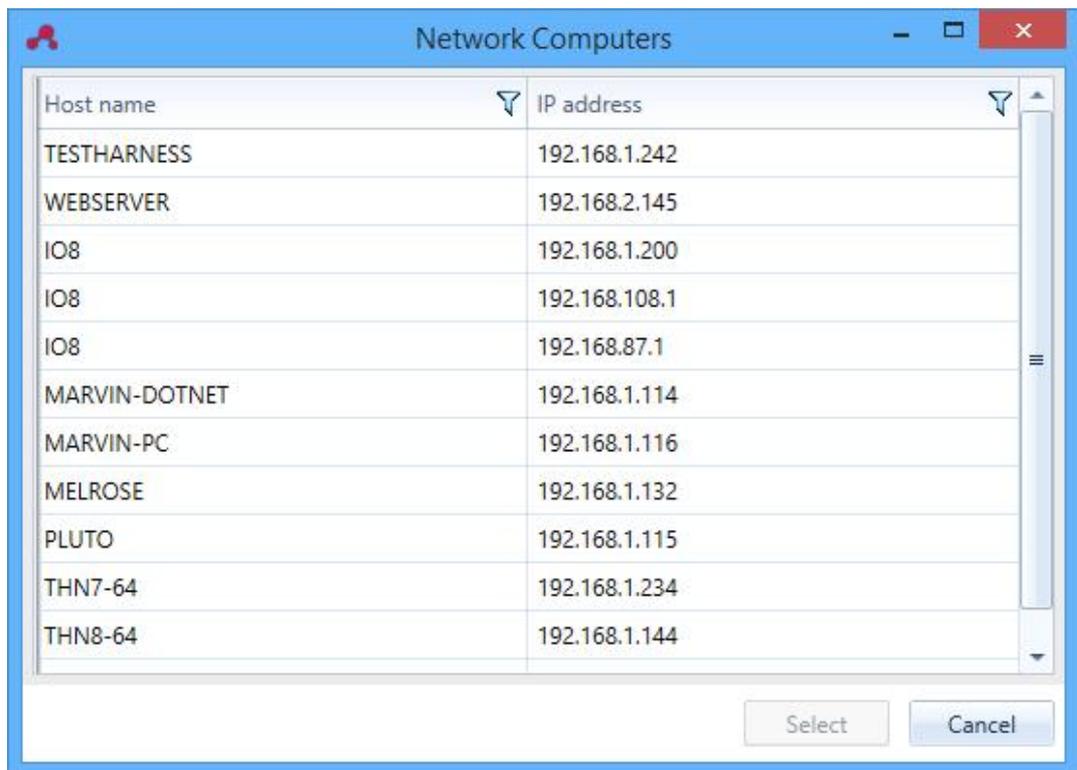
### IP address / Host name

The IP address or host name of the MFP or computer on which the client application runs. You can specify either the IP address or host name. When a client connects to the Network Server it is first validated against the IP address and if that fails against the host name.

When you press the "..." button to the right of the "Host name" edit box a window with a list of the addresses of devices that were discovered on the network. You can select an address from the list.

### Note

The discovery of devices on the network could take several minutes to complete. Please be patient when you use this function.



### Authentication method

The authentication method determines how a client is authenticated when a connection request comes in to the Networking Server. If you select "None" the templates you select below will appear on the clients belonging to the group. If either "ScannerVision" or "Equitrac" is selected the templates specified under the **User** or **User Group** settings will be used.

The authentication method is only available when the "User group settings" check box is checked. Available options are:

#### None

No authentication is required so any person will be able to use a client in the group.

**ScannerVision**

Only ScannerVision users will be able to use the clients in the group.

**Equitrac**

Only signed in Equitrac users will be able to use the clients in the group. See [Appendix F - Equitrac](#) for more information.

**Available Templates**

A list of all templates in KYOCERA Scan2SharePoint that have client capture enabled. Select the templates in the list which you want to be available on clients in the group. You can re-arrange the order of the templates which will be the order in which they are displayed on the client. To change the order of a template, select the template and right click on it to show the context menu. From the context menu you can move the selected template up and down.

It is advisable to select a template icon for every template that will appear on a client as it makes identification of template easier.

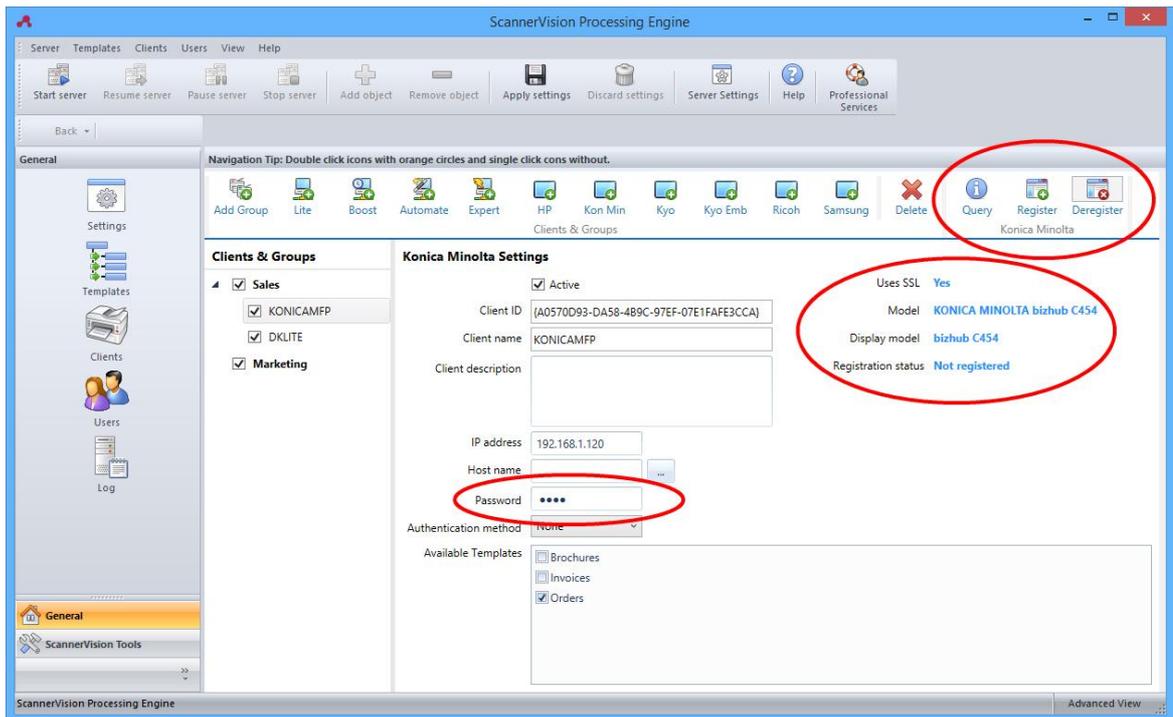
**5.3.2.1 Konica Minolta Client**

The Konica Minolta client settings screen has a number of additional elements which are circled in red in the screen shot below. The Konica Minolta client does not connect to the KYOCERA Scan2SharePoint Network Server directly but via a web proxy server. A KYOCERA Scan2SharePoint client is also not installed on a Konica Minolta MFP but **registered**. The registration process involves the sending of information about the web proxy server and some other information to the MFP.

Once you have added a Konica Minolta client and filled in all the relevant information you have to register the client on the MFP before you will be able to use KYOCERA Scan2SharePoint on the MFP.

**To register a client:**

1. Press the "Query" button. This queries the MFP to obtain certain information such as SSL is enabled on the communication channel, make and model and importantly, whether or not the KYOCERA Scan2SharePoint client is already registered on the device. If it is not, the "Register" button will enable and if it is the "Deregister" button will enable.
2. To register the client press the "Register" button.
3. To deregister the client press the "Deregister" button.



## Password

The password to connect to the MFP.

After the "Query" button is pressed and communication has been established with the MFP the information on the top right of the screen is updated with the following data:

<b>Uses SSL</b>	Indicates if network communication between the web server and the MFP occurs on a secure (encrypted) connection
<b>Model</b>	Manufacturer and model number
<b>Display model</b>	Model number
<b>Registration status</b>	Indicates whether or not a KYOCERA Scan2SharePoint client has been registered on the MFP

## 5.4 Configuring Users

Users in KYOCERA Scan2SharePoint represent people who are allowed to make use of Desktop or MFP [Clients](#). By configuring users you have the ability to restrict access to clients to authorized personnel only. You can also select the templates a user sees when he/she logs in to the client on a per user or user group basis.

### Important Note

Users only come into play if user authentication has been enabled on the particular client they are using or the group the client belongs to.

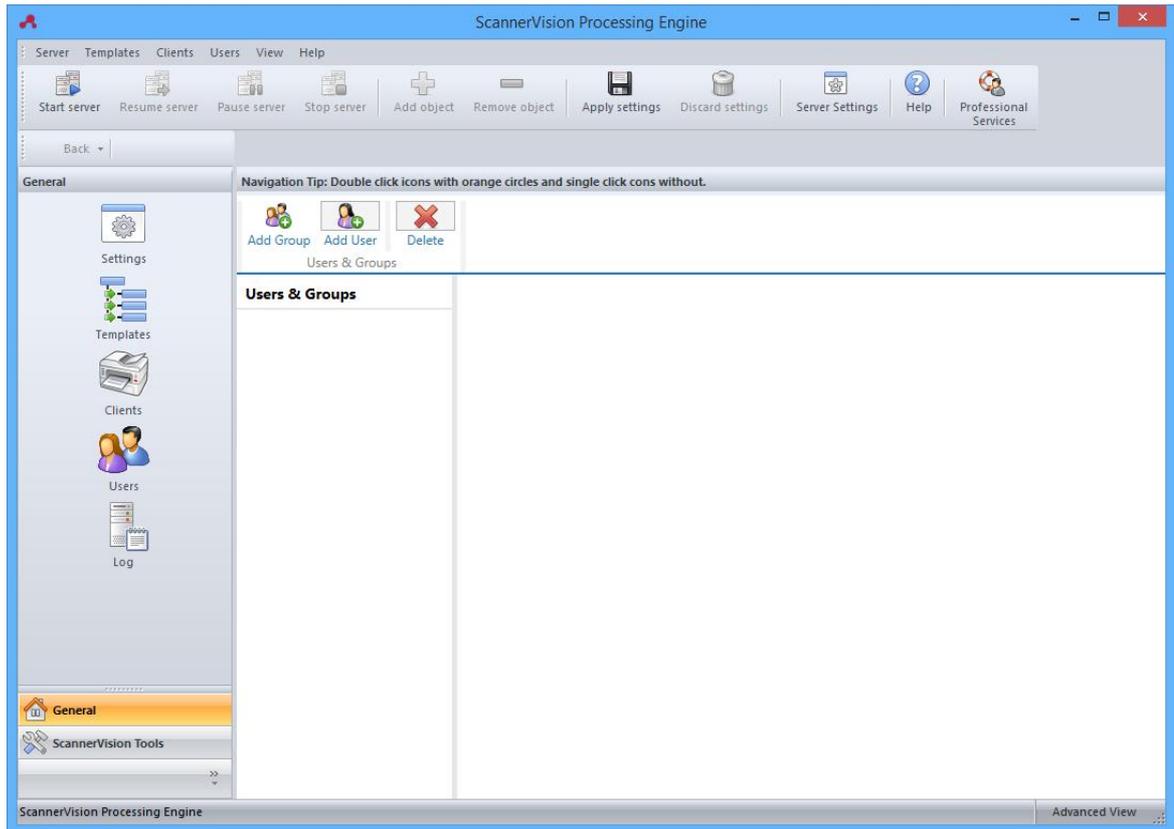
To configure users press the "Users" tab shown below:

The screenshot shows the 'Users' configuration window in the KYOCERA Scan to Pdf Manager. The window title is 'KYOCERA Scan to Pdf Manager'. The 'Users' tab is selected, showing a toolbar with 'Add Group', 'Add User', 'Save', and 'Delete' buttons. Below the toolbar, the 'Users & Groups' section shows a tree view with 'Sales' expanded and 'Sarah' selected. The 'User Settings' section on the right contains the following fields:

- Active
- User ID: {424b458c-1de0-4149-9a02-4f3b423fd06b}
- User name: Sarah
- User description: (empty text box)
- Email address: (empty text box)
- Browse folder: (empty text box with a browse button)
- Password: (empty text box)
- Available Templates:  Merge

### 5.4.1 User Groups

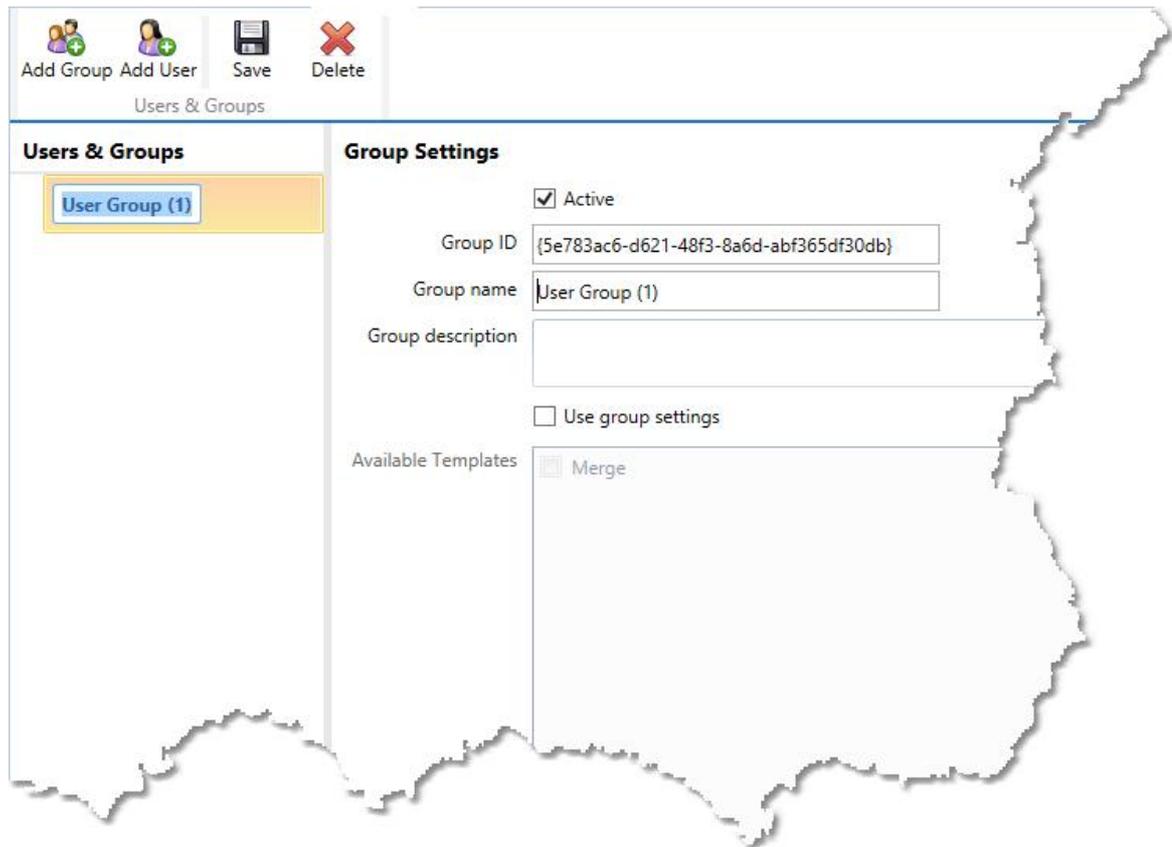
The User Group settings screen is shown below. When no users or user groups have been configured the "Users & Groups" list as well as the configuration area to the right will be empty.



Before users can be configured a user group must be created. To do this click the "Add Group" button on the toolbar.



After you have pressed the "Add Group" button you will see the following screen:



When a new group is created it is given the name "User Group" with a number in brackets. This number is normally one higher than the number of existing groups with the same name, unless there is a gap in the numbering in which case the first available number is used. The group name entry in the tree view on the left of the screen is automatically put in edit mode so that you can immediately name the group appropriately. Group names can be changed in the "Users & Groups" tree view by pressing the F2 key or by entering a new name in the "Group name" edit box in the main edit area of the screen.

### **Active**

Enables/disables the group. If a group is disabled no user belonging to the group will be able to connect to the Network Server.

### **Group ID**

The identifier of the group.

### **Group name**

A descriptive name for the group.

**Group description**

A short description of the group. This could be used to provide further information about the group to other KYOCERA Scan2SharePoint administrators. Both the User name and description are only of value to the administrators of KYOCERA Scan2SharePoint and in the context of the Processing Engine User Interface.

**Use group settings**

When this option is enabled, templates that are available to users in the group are specified on the group level. In other words, all users belonging to the group will show the list of templates you select here. If this option is disabled, templates have to be selected on a per user basis.

**Available Templates**

A list of all templates in KYOCERA Scan2SharePoint that have client capture enabled. Select the templates in the list which you want to be available on clients in the group. You can re-arrange the order of the templates which will be the order in which they are displayed on the client. To change the order of a template, select the template and right click on it to show the context menu. From the context menu you can move the selected template up and down.

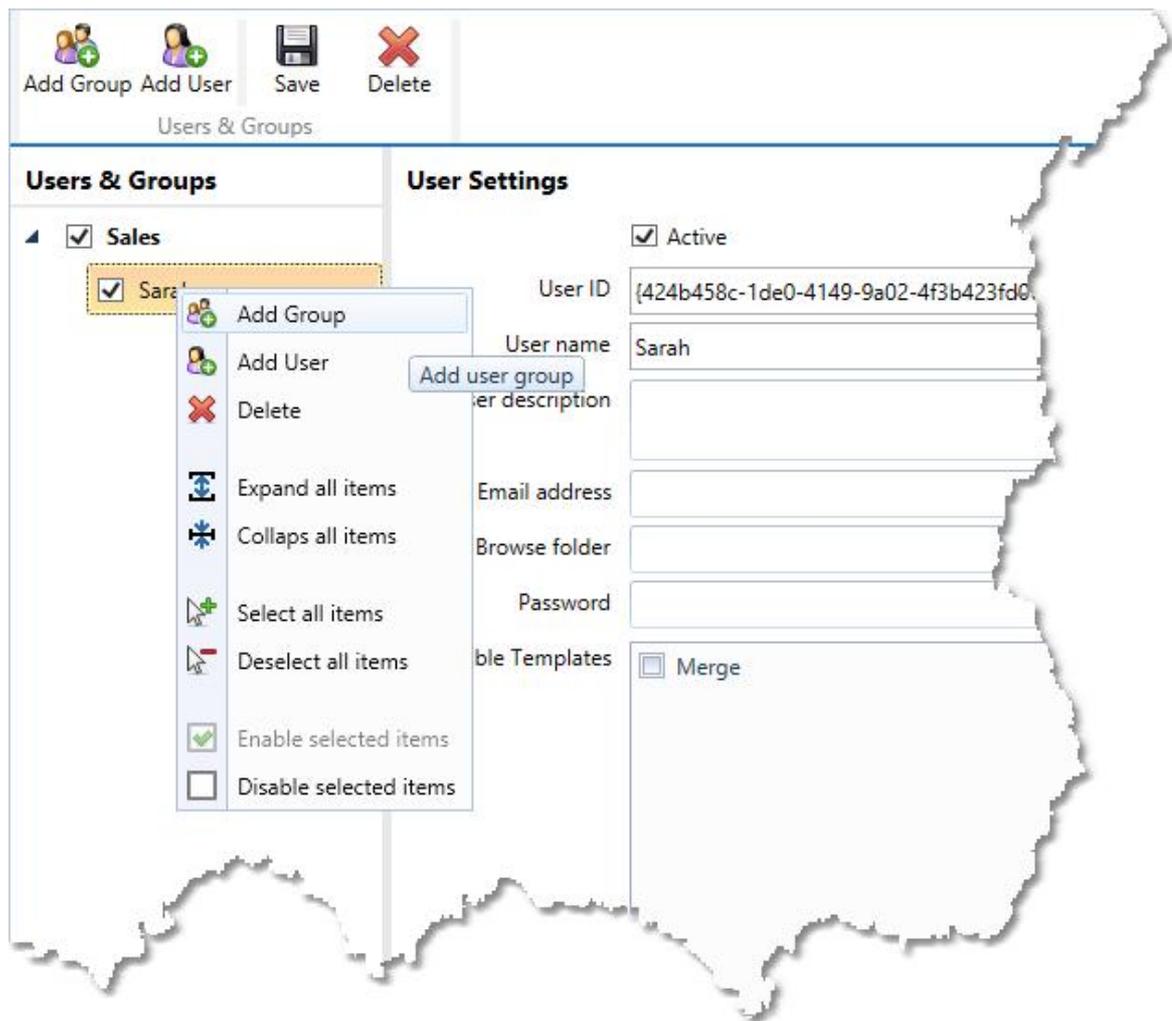
It is advisable to select a template icon for every template that will appear on a client as it makes identification of template easier.

**5.4.1.1 Context Menu**

When you right click on the "User & Groups" tree view the context menu shown below appears which repeats some of the functions available on the toolbar plus it provides some additional ones.

**Note**

On both the toolbar and context menu, commands and buttons enable when applicable. For example, when no group is selected all user related commands and buttons are disabled.



### Add Group

Adds a new user group.

### Add User

Adds a new user to the selected group.

### Delete

Deletes all the selected users and groups. You can select any number and combination of users and groups which will all be deleted when the "Delete" button is pressed or context menu option selected. When a group is deleted all users within the group are also deleted.

**Expand/Collapse all items**

Expands or collapses all items in the tree view.

**Select/Deselect all items**

Selects or deselects all items in the tree view.

**Enable/Disable all items**

Enables or disables all selected items.

## 5.4.2 Users

The User settings screen is shown below. To add a user, select the group to which the user belongs and press the "Add User" button on the toolbar or select the "Add User" option from the "Users & Groups" context menu.

The screenshot shows the 'Kyocera ScannerVision Manager - Scan to Pdf' application window. The top navigation bar includes 'Templates', 'Clients', 'Users', 'Services', and 'Global Questions'. Below this, there are icons for 'Add Group', 'Add User', 'Save', and 'Delete'. The main interface is divided into two panes: 'Users & Groups' on the left and 'User Settings' on the right. In the 'Users & Groups' pane, a tree view shows 'Sales' expanded with a sub-item 'Sarah'. The 'User Settings' pane contains the following fields: 'Active' (checked), 'User ID' (text box with value '{424b458c-1de0-4149-9a02-4f3b423fd06b}'), 'User name' (text box with value 'Sarah'), 'User description' (empty text box), 'Email address' (empty text box), 'Browse folder' (empty text box with a browse button), 'Password' (empty text box), and 'Available Templates' (checkbox for 'Merge').

**Active**

Enables/disables the user. If a user is disabled he/she will not be able to connect to the Network Server.

**User ID**

The identifier of the user which is assigned automatically when the user is created. This is a read only field.

**User name**

A descriptive name for the user.

**User description**

A short description of the user. This could be used to provide further information about the user to other KYOCERA Scan2SharePoint administrators.

**Email address**

The email address of the user. This could be used in the Email Connector to send the user an email containing relevant information including the scanned document, extracted metadata etc. This value is available in the [USERMAIL] metadata tag.

**Home folder**

A folder on the server or a network share that is specific to the user. Documents and captured metadata could be routed here for later retrieval by the user. This value is available in the [USERHOMEFOLDER] metadata tag.

**Password**

The user password.

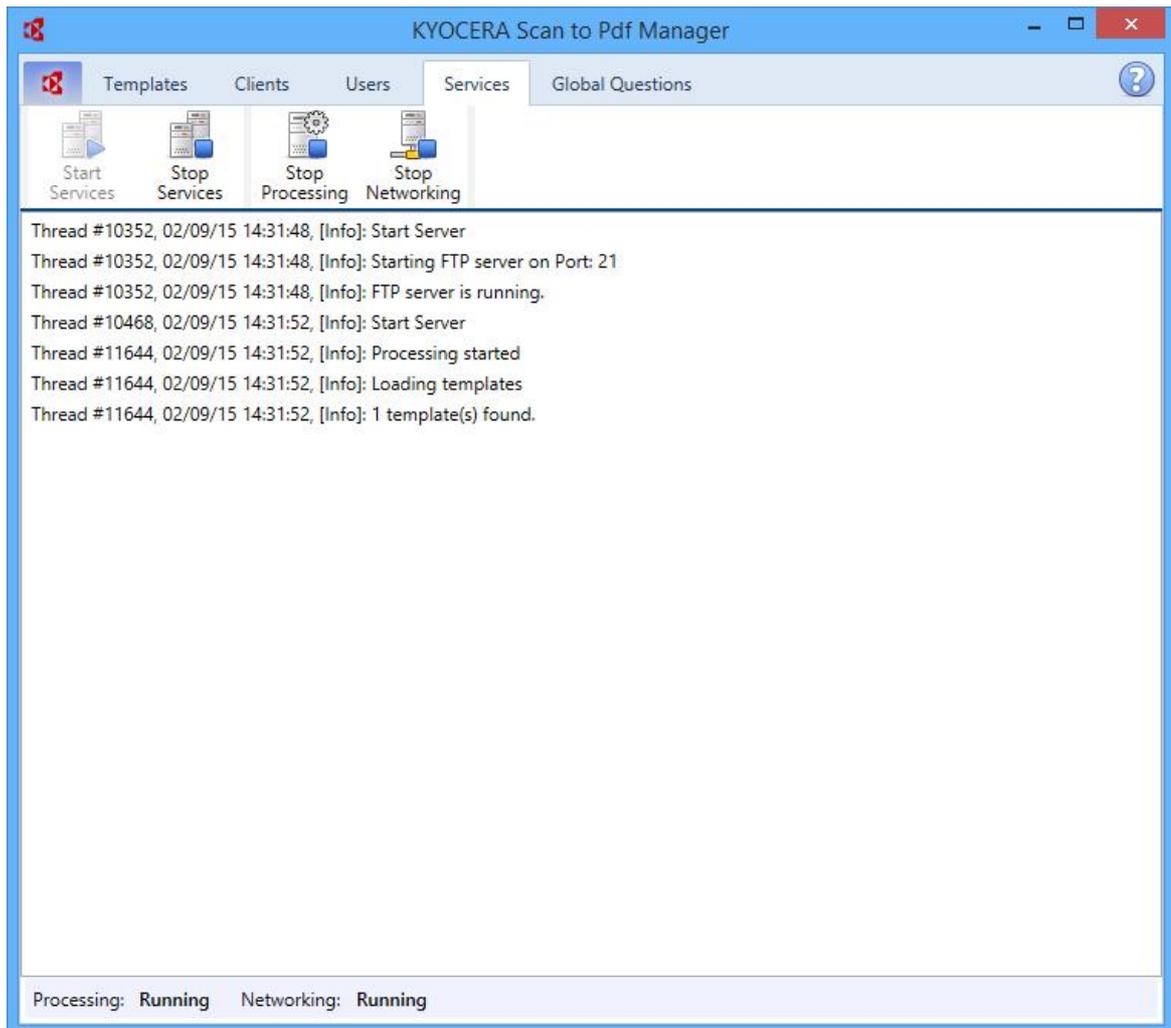
**Available Templates**

A list of all templates in KYOCERA Scan2SharePoint that have client capture enabled. Select the templates in the list which you want to be available on clients in the group. You can re-arrange the order of the templates which will be the order in which they are displayed on the client. To change the order of a template, select the template and right click on it to show the context menu. From the context menu you can move the selected template up and down.

It is advisable to select a template icon for every template that will appear on a client as it makes identification of template easier.

## 5.5 Log

To see log output from the KYOCERA Scan2SharePoint Network and Processing servers click the "Services" tab in the toolbar. The log screen will appear:



The level of detail you see in the log window depends on the log level you have selected on the [General Server Settings](#) screen.

The log output that you see in the log window is stored to disk in the "C:\ProgramData\KYOCERA Scan2SharePoint\Logs" folder.

The log files in the root of the "C:\ProgramData\KYOCERA Scan2SharePoint\Logs" folder are log messages that are generated by the Processing Engine User Interface. Log messages of the Network and Processing servers are recorded in the Network and Processing sub folder respectively.

## 5.5.1 Error Codes

### General

0	Function not successful
2	Successfully aborting
3	Function successful. Delete file before quitting
4	Function successful. Retry doing the failed op
8	Function called recursively. A least one call was successful, but some failed
-13	Invalid parameter passed
-789	The structure size is invalid
-27	Invalid bits/pixel
-11	Invalid width/height
-2	Invalid bitmap handle
-814	A NULL pointer was passed
-1360	Signed image data not supported
-290	The buffer size is too small
-149	An unspecified exception occurred - could be memory access violations
-351	There is nothing to do. No items was found
-144	Image is empty
-21	Invalid QFactor specified
-261	Invalid handle
-1364	32-bit Grayscale bitmaps not supported
-1486	The LUT length is invalid. LUTLength should be $1 \ll (\text{HighBit} - \text{LowBit} + 1)$

-1491	The DIB is invalid
-100	User has aborted operation
-29	Escape key pressed - or user aborted operation
-1	Not enough memory available
-3	Not enough memory available (too low)
-16	Feature not supported
-143	Document capability is required
-804	Extended grayscale support is required
-315	JBIG capability is required
-10	File not found
-14	Not able to open file
-5	Error writing file
-6	File not present - abort
-7	Error reading file
-4	Error seeking to position
-295	not enough disk space
-805	File is read-only. Cannot open file with write access
-9	Invalid file format
-8	Invalid filename specified
-1490	Error creating file
-309	The DXF filter is required
-319	The JBIG filter is required
-349	WMF filter is required

-355	CMW filter is required
-356	CMP filter is required
-357	FAX filter is required
-358	PDF filter is required
-359	TIF filter is required
-819	DCR filter is required
-820	KDC filter is required
-821	DCS filter is required
-822	ABC filter is required
-823	ABI (ABIC) filter is required
-824	JB2 (JBIG2) filter is required
-541	J2K filter is required
-825	PNG filter is required
-807	LTCLR.DLL is missing
-353	LVKRN.DLL is required
-818	LTSGM.DLL is missing
-1479	LTANN.DLL is missing
-1480	LTIMG.DLL is missing
-1482	LTKRN.DLL is missing
-1483	UTFIL.DLL is missing
-1484	LTDIS.DLL is missing
-1485	LTDIC.DLL is missing
-815	The overlay does not exist

-816	Something is wrong with the overlay index
------	-------------------------------------------

### File Handling

-28	Invalid window size
-1353	Invalid filter name
-310	Page not found
-311	You cannot delete a page from a file containing only one page
-12	Image format recognized, but sub-type not supported
-77	Premature end-of-line code
-800	The PSD Layer is missing
-23	Invalid compression format
-78	Bad version number
-520	Thumbnail not found
-1492	The PSD Channel is missing
-530	Error in JP2 Box values
-531	The header does not match the JP2 signature - not a JP2 file
-532	JP2 file has a feature that is unsupported
-533	Invalid save options were specified to the encoder
-534	File header does not contain SOC marker
-535	File contains complete header but no compressed image data
-536	Invalid save options were specified or file includes invalid encoded values
-537	Compression ratio, target file size, or tile size was too small for encoder

-538	Specified Wavelet decomposition level was too high
-539	Decoder could not translate J2K marker - file is corrupt or invalid
-540	J2K file has image with more than 30 bits per component
-65	stamp not found
-141	Stamp size is too big or invalid bits/pixel, etc
-142	Stamp is present but data is corrupted
-801	Bad JPEG marker
-806	Bad JPEG Resync marker
-808	The size of the JPEG marker cannot exceed 64K
-809	The required JPEG marker is missing
-811	The marker index is invalid (too big)
-810	This file does not contain Exif extensions

### Color Profiles

-918	Invalid colorspace
-785	Invalid format
-786	Method not supported
-787	Error opening profile
-788	Invalid color profile
-791	U and V not multiples
-792	No non planar vertical sub sampling supported
-793	Planar alignment not supported
-794	Unsupported conversion

-795	Truncate height
-796	Truncate width
-797	Truncate width and height
-1150	Unknown ICC profile Tag
-1151	Unknown ICC profile Type
-1152	Unknown ICC profile Tag and Type
-1153	Invalid ICC profile
-1154	Invalid ICC profile
-812	The ICC profile was not found
-817	The ICC profile was invalid
-813	An error has occurred while decoding the profile

**Pdf**

-721	The Pdf file is encrypted but no password has been specified.
-722	Invalid password specified
-723	FAX is required for this function
-724	CMP is required for this function
-725	Invalid Document Structuring comments (Ps and EPS)
-726	Could not find Fonts directory
-727	Cannot insert, delete, append or replace pages
-728	File is corrupted
-729	Either the files required for initializing the PDF engine were not found or they were found but they are incorrect

**Dialogs**

-150	An error occurred during creation of the common dialog
-151	You have already initialized the dialogs
-152	You did not initialize the dialogs
-153	You did not initialize the dialogs
-154	The dialogs could not load the LTCLR.dll
-155	The dialogs could not load the LTDLGRES.dll
-900	LTCLR.DLL is not loaded
-901	LDLGRES.DLL is not loaded
-902	Dialogs not correctly initialized

**Annotation**

-202	Annotation DLL not loaded
-200	LTDIS.dll not loaded
-201	LTFIL.dll not loaded
-148	One or more annotation objects are still locked

**TIFF**

-15	Unknown compression format
-917	The compact function was finished without copying all the pages
-140	Bad TIFF tag
-404	Tag not found

-1365	Cannot add tags to a IFD selected
-------	-----------------------------------

**Document**

-1200	DLLs are not loaded
-1201	Specified index is not corrected
-1202	invalid fill method
-1203	Invalid recognition module
-1204	invalid character filter
-1205	invalid zone type
-1206	invalid language Id
-1207	invalid spell language
-1208	invalid enumeration section
-1209	invalid page count
-1210	Illegal internal code as a parameter
-1211	Set parameter is not acceptable
-1212	End of list of the available Code Pages
-1213	Error while loading the Code Page Definition file
-1214	The length of the exported code exceeds the buffer size
-1215	Character conversion is not available for the given character
-1216	Conflict: The selected Code Page does not support some characters in the selected languages. There is no exact code in the Code Page for them
-1217	Character Set and Code Pages module initialization error
-1218	OCR engine initialization error

-1219	OCR engine termination error
-1220	Module initialization warning
-1221	Application has aborted the current process
-1222	Application has terminated the current recognition process without losing the recognized text
-1223	Module is not present
-1224	OS could not load a module
-1225	Missing entry in a module
-1226	Invalid module
-1227	Module initialization error
-1228	The requested function is not available, or there is no appropriate license
-1229	General error in the engine
-1230	General Protection Fault in the engine
-1231	Not supported operational system
-1232	Syntax error in the specified engine Settings file
-1233	Invalid setting
-1234	The engine is busy
-1235	Recognition process Time Out
-1236	Internal error in image module
-1237	Not enough memory during image processing
-1238	Invalid rectangle dimensions
-1239	Non-supported resolution
-1240	Cannot process compressed image

-1241	Invalid bitmap address
-1242	Unsupported BitsPerPixel value
-1243	Internal error in image module
-1244	Invalid image handle
-1245	Buffer overflow during processing the image
-1246	Image operation denied
-1247	No more lines in defined image area
-1248	Non-supported image size
-1249	Engine manager module error
-1250	No recognized text available, either because the zone is empty or the required recognition module has not been initialized properly
-1251	There is no selected recognition module
-1252	There is no zone in the zone list
-1253	Invalid zone index
-1254	Invalid zone coordinates
-1255	MOR recognition module initialization error
-1256	MOR recognition module's knowledge base file not found
-1257	MOR recognition module's knowledge base file corrupted
-1258	Incorrect knowledge base file version
-1259	Size of image is too large
-1260	File is corrupted
-1261	Internal error in the MOR recognition module
-1262	General Protection Fault in the MOR recognition module

-1263	Dot-matrix recognition error
-1264	Checkmark recognition error
-1265	HNR module's knowledge base file is corrupted
-1266	Parameter is out of valid range
-1267	Internal error in the RER module
-1268	RER module's knowledge base file not found
-1269	Character Set is empty for the RER module
-1270	The specified Character Set not fully supported by the RER recognition module
-1271	RER specific file not found
-1272	Not enough memory for the SPL module
-1273	Uninitialized spell object
-1274	Spell file open error
-1275	Spell file read error
-1276	User dictionary write error
-1277	Invalid file format
-1278	Module initialization error
-1279	User dictionary close error
-1280	Illegal language setting
-1281	No more suggestions/items available
-1282	Internal checking error
-1283	Item already exists in the User dictionary
-1284	Item doesn't exist in the User dictionary

-1285	Item wasn't inserted into the User dictionary
-1286	Section does not exist in the User dictionary
-1287	Regular expression syntax error
-1288	Output format conversion subsystem was not initialized
-1289	No more converters available
-1290	There is no converter DLL file
-1291	Wrong parameter or parameter not found
-1292	TMP file is corrupted
-1293	TMP file not found
-1294	Cannot create TMP file
-1295	Cannot seek in TMP file
-1296	TMP file read error
-1297	TMP file write error
-1298	Cannot close TMP file
-1299	Cannot load the DLL file
-1300	Internal error in ATMTXT module. (End-Of-File detected)
-1301	Not enough memory for ATMTXT/TMP module
-1302	Image is not available for inserting into the output
-1303	Not enough memory to register an info item
-1304	Output file open error
-1305	Output file read error
-1306	Output file not found
-1307	Output file write error

-1308	Invalid command sequence in the ICF file
-1309	Cannot create the output file
-1310	Not enough memory for ATMTXT/TXT module
-1311	Invalid document type
-1312	File too large
-1313	There was a WARNING during the output file conversion
-1314	Operation cancelled
-1315	Illegal option specified
-1316	Encrypted source
-1317	Output file seek error
-1318	Braille recognition module initialization error
-1319	Matrix matching recognition module initialization error
-1320	M/TEXT recognition module initialization error
-1321	Non-implemented feature
-1322	couldn't find specific zone
-1323	No available selected zone
-1324	can't export the specified page
-1325	can't lock the specified page
-1326	can't set the specified page to be activated.
-1332	Too many regions result when layout analysis
-1333	Top or bottom horizontal line not found
-1334	The slope of line too large
-1335	Frame has not been detected, so can not add virtualline

-1336	Too many lines
-1337	Too many pages in batch processing list
-1338	This region is not a table region
-1339	This region is a table region but contains no data
-1340	This line is not valid (neither horizontal nor vertical or type is not match)
-1341	Angle is too large, can not rotate image
-1342	Unable to determine orientation
-1343	Invalid RDF file name
-1344	PDF DLLs are not loaded
-1346	ICR Module is missing
-1347	OMR Module is missing
-1348	Languages files are missing
-1349	OCR engine initialization error
-1350	ICR Module is missing
-1351	OMR Module is missing
-1352	Languages files are missing

**TWAIN**

-80	TWAIN Failure due to unknown causes
-81	TWAIN Not enough memory to perform operation
-82	TWAIN No Data Source
-83	TWAIN DS is connected to max possible apps

-84	TWAIN DS or DSM reported error
-86	TWAIN Unrecognized MSG DG DAT combination
-90	TWAIN Operation was cancelled
-560	No TWAIN Library
-561	Invalid DLL
-562	TWAIN is not initialized
-564	Check status
-565	End of list
-566	Cap is not supported
-567	Source is not open
-568	Bad value
-569	Invalid state
-570	Caps neg not ended
-571	Open file
-572	Invalid handle
-573	Write to file
-574	Invalid version number
-575	Read from file
-576	File is not valid
-577	Invalid access right
-578	Custom base
-579	Denied
-580	File exists

-581	File not found
-582	Not empty
-583	Paper jam
-584	Paper double feed
-585	File write error
-586	Check device on line
-587	Stop scan

### Barcode

-410	Invalid error check digit
-411	Invalid bar code type
-412	Invalid bar code text out option
-413	Invalid bar code width
-414	Invalid bar code height
-415	Bar code string is too small
-416	Invalid bar code string for a specified bar code type
-417	No bar code recognition
-418	Invalid bar code measurement unit
-419	Invalid multiple max count
-420	Invalid bar code group
-421	Invalid bar code data structure
-422	No duplicated bar code
-423	Reached the last duplicated bar code

-424	Invalid bar code data string length
-425	Invalid bar code area location
-431	Barcode PDF417 symbol is found but cannot read successfully
-1382	Bar Code Engine DLL not found
-1481	Incorrect module value it should be $\geq 0$

### Automation

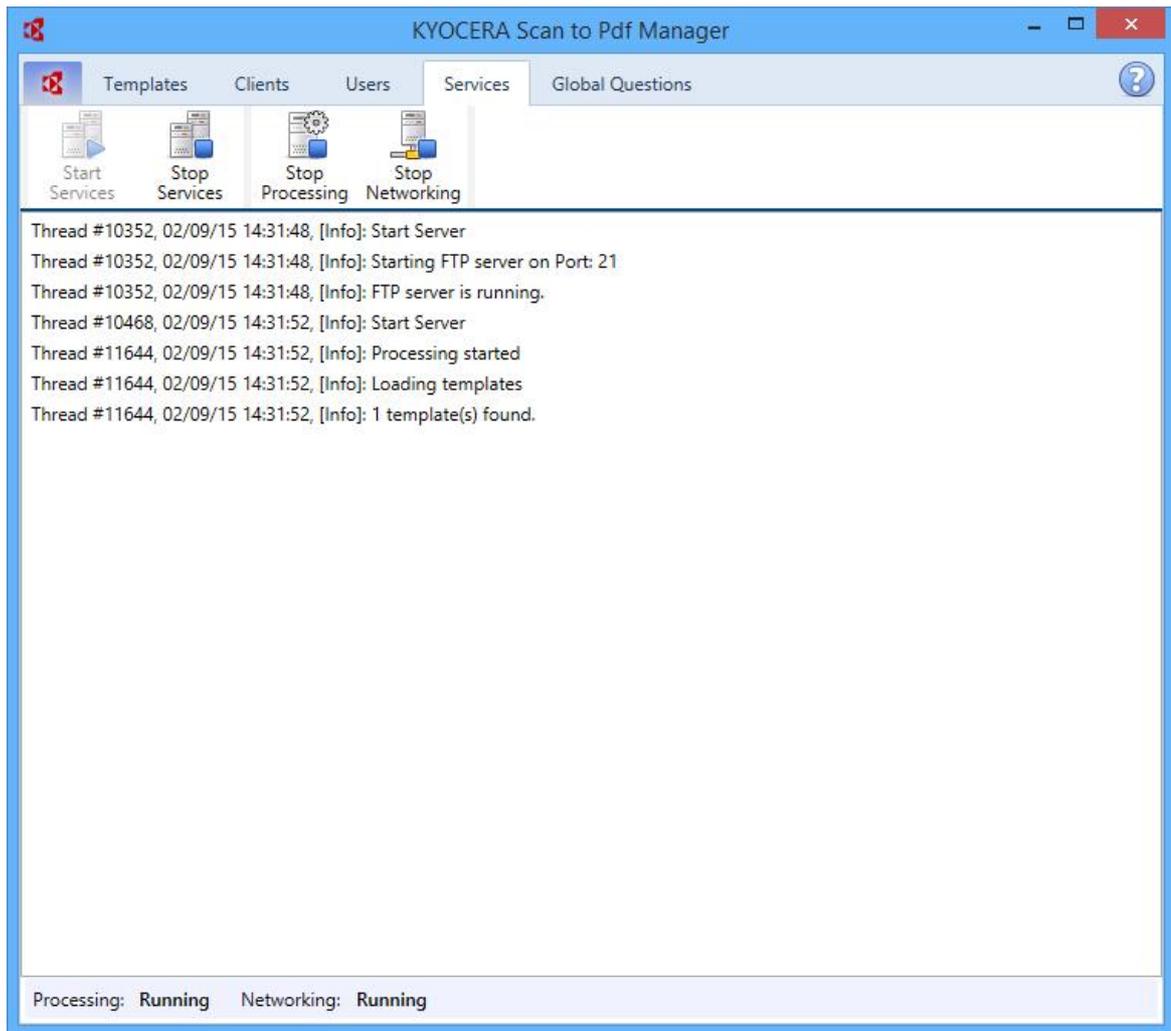
-690	Invalid handle
-691	Invalid state

### Container

-630	Invalid state/handle
-631	Invalid operation
-632	No resources available

## 5.6 Services

The KYOCERA Scan2SharePoint services can be started and stopped using the respective buttons in the toolbar of the "Services" tab shown below.



### **Start Services**

Starts both the Processing and Network services.

### **Stop Services**

Stops both the Processing and Network services.

### **Start/Stop Processing**

Starts the Processing service only. If the Processing service is already running clicking this button will stop the service.

### **Start/Stop Networking**

Starts the Networking service only. If the Networking service is already running clicking this button will stop the service.

## 6 Creating Templates

Templates determine what processing KYOCERA Scan2SharePoint performs. They determine where documents come from, what processing is done on them and where they ultimately end up. You can define as many templates as you want and they don't have to function in isolation. You could for example configure a template to read a barcode and based on the value of the barcode route the document to a specific folder from where it will be picked up by another template which knows how to process that particular type of document.

There are 3 primary functions every template performs. They are:

- [Capture](#)

This determines where documents come from e.g. Clients, Ftp, Hot Folder etc.

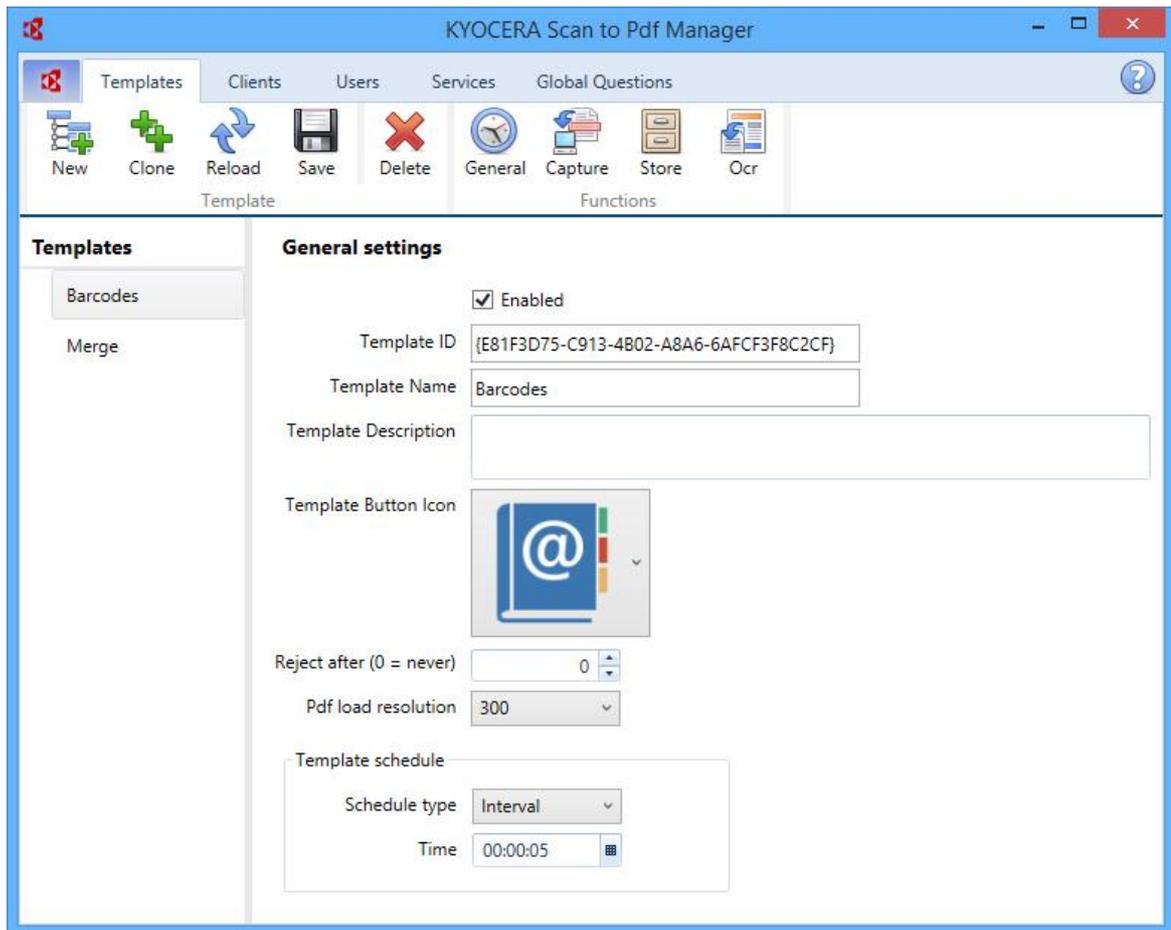
- [Process](#)

This determines what is done to the document e.g. barcode reading, OCRing or splitting.

- [Store](#)

This determines where documents finally end up which could be another folder on the server or network, a database, email or a document management system such as SharePoint, Laserfiche or AivikaOne.

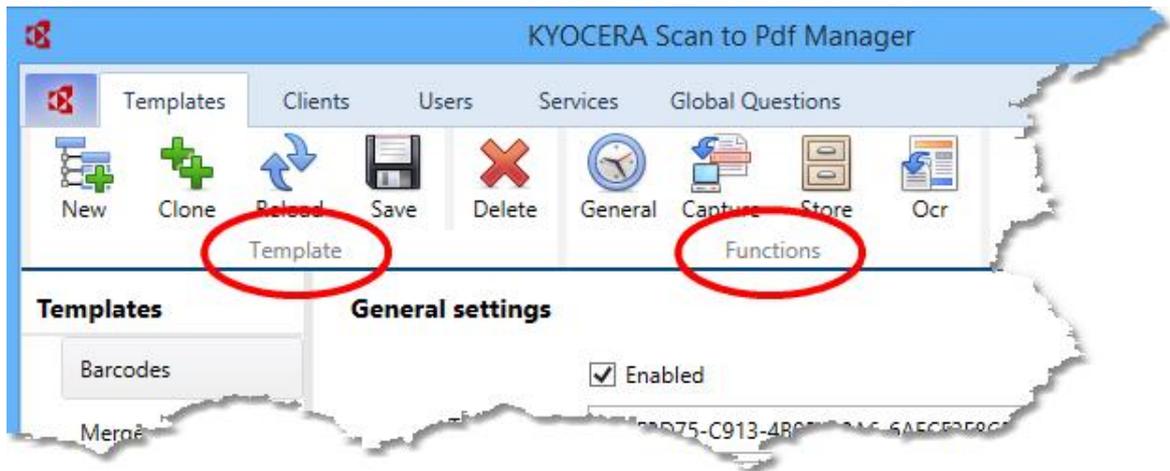
These functions are discussed in detail in the relevant sections that follow. To access the template configuration area click the "Templates" tab:



This will open the templates configuration screen. To add a new template click the "New" button in the toolbar.

To configure a template select it in the "Template" list to the left of the screen.

The Templates toolbar is divided into 2 parts namely "Template" and "Functions" as highlighted below:



## Templates

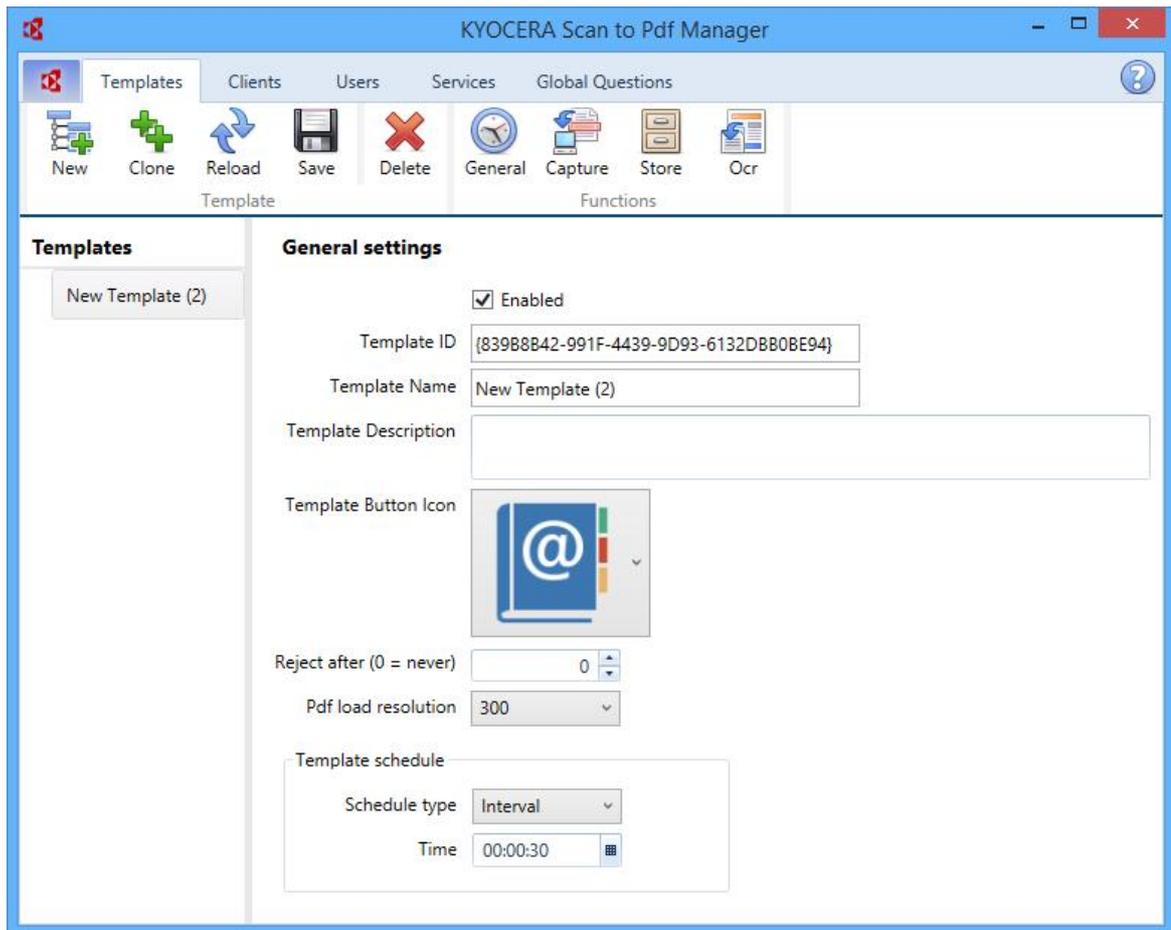
The "Templates" group in the toolbar contains "Action" buttons Create, Clone, Reload, Save and Delete templates. The "Clone" button makes a copy of the selected template and renames it to the name of the selected template followed by a number in brackets. The cloned template is also given its own unique identifier.

## Functions

The "Function" group in the toolbar contains "Navigation" buttons that navigate to the configuration screens of the different functions that are available to you.

## 6.1 Template General Settings

On the General Settings screen you configure general template information such as the template name, the icon to show on clients and the template execution schedule.



### Enabled

Enables/disabled the template. Disabled templates are not executed.

### Template ID

The identifier of the template.

### Template Name

You can (and should) give your template a meaningful name. This will make it easier to identify templates when you have many.

### Template Description

This is where you can put any additional information about the template to aid yourself or fellow administrators. The value you enter here is for your own use and has no effect on the functioning of the template.

### Template Button Icon

Bitmap images can be assigned to a template to aid in their identification on desktop and MFP clients. You can create your own images 96x96 pixels in size. Put them in the "C:\ProgramData\KYOCERA Scan2SharePoint\Buttons" folder. They will be available after you have restarted the application. The color of the bottom left pixel is used as the transparency color and every pixel in the image with this color will be transparent. Images have to be 24bit, RGB bitmaps.

### Reject after

If KYOCERA Scan2SharePoint encounters a problem with the processing of a document it will re-process the document the next time the template is scheduled for execution. The number of retries can be limited to the number specified here. If the retry limit is reached the document is moved to the rejected folder ("C:\ProgramData\KYOCERA Scan2SharePoint\Rejected").

If you set this value to 0 KYOCERA Scan2SharePoint will re-process the document forever or until it succeeds.

### PDF load resolution

The resolution of the bitmap to which Pdf documents are rasterized. For more information refer to [Appendix D - Pdf Input Documents](#).

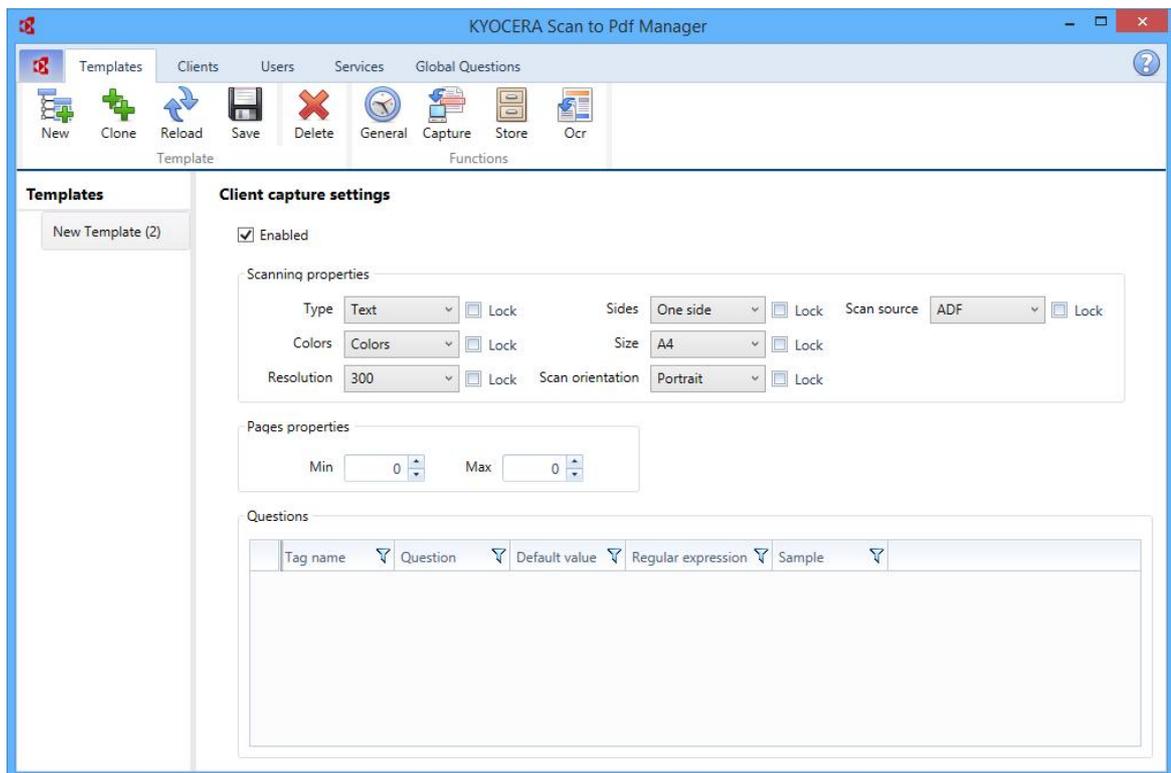
### Template Schedule

Templates can be configured to run at an interval or on a fixed time every day.

<b>Schedule type</b>	Set the type of schedule. Options are "Interval" or "Time of day".
<b>Time</b>	Sets the interval between runs when the schedule type is set to "Interval" or the time at which the template should run when the schedule type is "Time of day".

## 6.2 Capture

Template processing starts with the capturing of a document. KYOCERA Scan2SharePoint supports only capturing from MFP and/or desktop clients.



## 6.2.1 Client Capture

Client capture allows for the capturing of documents from desktop or MFP [Clients](#). When documents are processed that have been captured from a KYOCERA Scan2SharePoint client the following metadata tags will be populated:

[USERNAME]

[USERPASSWORD]

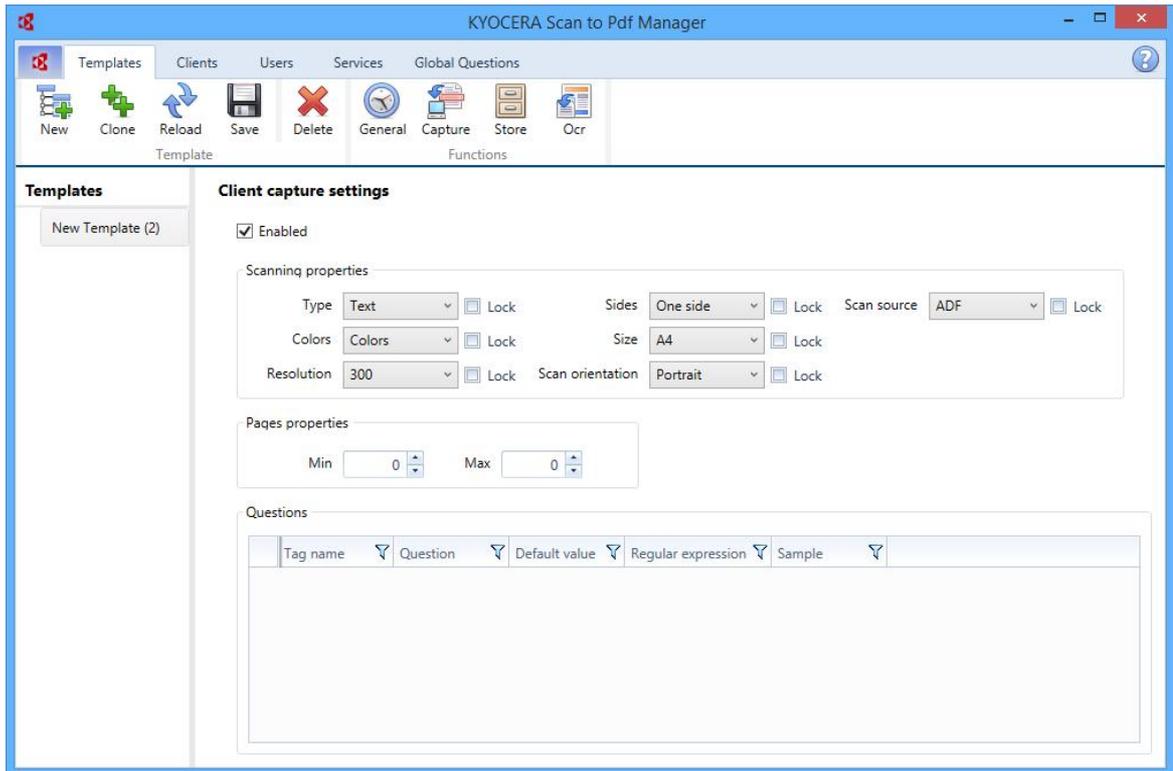
[USERMAIL]

[USERHOMEFOLDER]

[CLIENTIPADDRESS]

[CLIENTSN]

[MFDMODELNR]



### Enabled

Enables/disables client capture.

### Scanning properties

Scan properties configure the scan properties of the MFP device or TWAIN source in the case of a desktop client. The properties defined here can be locked by selecting the "Lock" check box after each property. This will prevent the user from modifying the property on the client. These options do not apply when existing documents are loaded into the Desktop Client.

<b>Type</b>	The type of document that is scanned. Options are text, photo and text and photo.
<b>Color</b>	Color option of the scan. Options are Auto, B&W (black and white), Greyscale and Colors.
<b>Resolution</b>	The scan resolution. Options are 100dpi, 200dpi, 300dpi, 400dpi and 600dpi.
<b>Sides</b>	Select if images are scanned on one side only or both sides. Options are One side and Duplex (both sides).
<b>Size</b>	The size of the image to be scanned, options are Auto, A3, A4, A5, B4, B5, Letter, Legal, Executive or Folio.

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<b>Orientation</b>	The orientation of the pages to be scanned. Options are Portrait and Landscape.
<b>Scan source</b>	The source of the document to scan. Options are ADF (Automatic Document Feeder) and Glass.
<b>Lock</b>	Prevents users from changing settings. If the box is selected, users can see which setting is set for the process, but cannot change the scan setting.

### Pages Properties

The minimum and the maximum number of pages that a document is allowed to have. If the number of pages of a document are out of bounds it will not be submitted to the Network Server. If the minimum and maximum number of pages are the same value (larger than zero) the document must contain exactly that number of pages. To allow any number of pages, select zero for both the minimum and maximum value.

### Questions

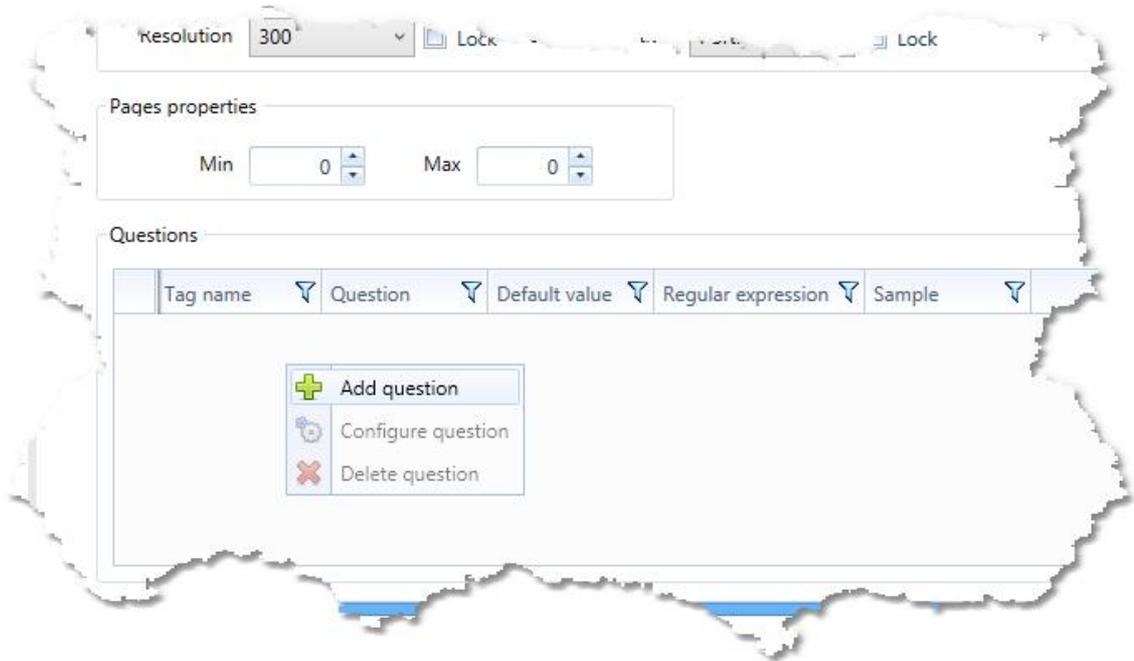
Please refer to the [Capturing Document Metadata](#) section for details.

#### 6.2.1.1 Capturing Document Metadata

Document metadata is information that describes a document or enriches the information about a document. Metadata is captured through a set of questions or prompts that are presented to a user once a template has been selected on one of the KYOCERA Scan2SharePoint clients (Desktop or Embedded MFP clients). The metadata that is captured this way accompanies the document through the whole KYOCERA Scan2SharePoint processing work flow and it can be used in various ways. It could for example be used to determine the final output destination of the document or it could be used as a key into a database table from where additional information could be obtained. The metadata can also be stored along with the scanned document in a document management system such as SharePoint or Laserfiche.

For an in depth discussion of metadata please refer to [Appendix A - Metadata](#).

To add metadata questions to a template, right click in the "Questions" list window of the "Client Capture" screen and select the "Add question" menu option:



The KYOCERA Scan2SharePoint - Template Question dialog is shown:

ScannerVision - Template Question

Question: Customer

Tag name: CUSTOMER

Default:

Regular expression:

Sample:

Minimum size: 0

Maximum size: 50

Required

Question type: Selected

Picklist

	Name	Picklist Type	GUID
<input checked="" type="checkbox"/>	PCustomers	SQL	53E39431-4337-4330-80A8-2E2EE84426CF

Save Cancel

**Question (Required)**

The prompt or question that is displayed to the user on the client.

**Tag name (Required)**

The metadata tag name by which this information is identified in the template. This value will appear in the [KYOCERA Scan2SharePoint Expression Editor](#) list under the "Template tags" heading.

**Default (Optional)**

The default answer to the question/prompt if the user does not provide one. The user will see this value in the respective edit field on the client.

**Regular expression (Optional)**

The data that is entered by the user can be validated by specifying a Regular Expression. The client application will try to find a match for the provided regular expression in the data that is entered by the user. If no match is found the user is presented with a message that states that data that was entered is incorrect. A sample of the correct data is also shown if you provide such in the Sample edit box.

By providing a regular expression, the quality and/or correctness of the captured information can be improved which if left unverified could potentially lead to problems later during the processing of the document.

**Sample (Optional)**

If a regular expression is provided and the user enters information that does not conform to the regular expression the user is prompted with a message to state that the entered data is not valid. The sample value you specify here is included in the message to show the user what the expected format of the data is.

**Minimum size (Required)**

The minimum number of characters that must be entered by the user.

**Maximum size (Required)**

The maximum number of characters that can be entered by the user.

**Required (Optional)**

Indicates that the question is required to be filled in by the user.

**Question type (Required)**

The selection you make here determines what options the user has for entering information on the client. The different options are:

<b>Typed</b>	The user is required to manually type in a value.
<b>Typed &amp; Selected</b>	The user has the option to either type in a value or to select a value from a drop down list.
<b>Selected</b>	The user is required to select a value from a drop down list.
<b>Browse</b>	The user is required to select a file system folder from a drop down list.

When the "Typed" or "Browse" option above is selected the "Picklists" section is not visible.

### Picklists (Required)

The "Picklists" section appears when the "Question type" is either "Typed & Selected" or "Selected". Please refer to the [Creating Picklists](#) section for details on how to create picklists.

#### 6.2.1.1.1 Creating Picklists

When you want a user to select a value from a drop down list box on the client instead of typing in a value you have to configure a picklist. The values of the picklist can be obtained in one of four ways:

1. Static list
2. Database query
3. Visual Basic script
4. XML file

Picklists don't belong to a specific template or global metadata question even though they could be created from within either context. Once a picklist has been created it will appear in the list of available picklists of all templates and global metadata questions.

To add a picklist to a template or global metadata question, right click in the "Picklist" grid and select the "Add Picklist" option or press the  button to the right of the picklist grid:

Maximum size 50

Required

Question type Selected

Picklist

Name	Picklist Type	GUID
------	---------------	------

- Add Picklist
- Edit Picklist
- Delete Picklist

Save Cancel

To edit or delete an existing picklist right click on the row and choose the desired option:

Maximum size 50

Required

Question type Selected

Picklist

Name	Picklist Type	GUID
<input type="checkbox"/> Departments	Static List	27DA1D91-6404-40F0-94AD-

- Add Picklist
- Edit Picklist
- Delete Picklist

Save Cancel

The Static picklist editor is shown below:

ScannerVision - PickList

Name Departments

Guid 6576359C-BF61-43D4-94BE-5CFFDD70A919

Type Static List

Dynamic retrieval

Picklist items

- Sales
- Marketing
- Human Resources

Add Item

Delete Item

Save Cancel

The upper part of the editor is the same for all picklist types. When the picklist type is changed the lower part of the editor changes according to the type of picklist.

### **Name (Required)**

The name by which the picklist is identified.

### **Guid**

The auto generated, read-only ID of the picklist.

### **Type (Required)**

The type selection determines how the items of the picklist are generated and can be one of the following:

1. [Static list](#)
2. [SQL query](#)
3. [Script](#)
4. [XML file](#)

### **Dynamic retrieval (Optional)**

The Dynamic retrieval check box indicates that the picklist makes use of metadata that has been captured by previous questions. Please refer to the [Dynamic Picklists](#) section for further details.

#### 6.2.1.1.1.1 Static List

A static picklist is one that has a fixed list of values that don't change often or that are not dependent on the answers of previous questions. This is not to say that the list can never change but that a change to the list requires the manual addition to or removal of items from the list. The static picklist editor window is shown below:

ScannerVision - PickList

Name: Departments

Guid: 6576359C-BF61-43D4-94BE-5CFFDD70A919

Type: Static List

Dynamic retrieval

Picklist items

Sales
Marketing
Human Resources

Buttons: Add Item, Delete Item

Buttons: Save, Cancel

To add a list item right click in the "Picklist items" grid and select the "Add Item" menu option or press the  button to the right of the "Picklist items" grid. A new item with the value "New Item" is added to the list.

To edit the value of a list item, select the item in the grid and press the "F2" key or click on the selected item again.

To delete an item right click on it and select the "Delete Item" menu option or press on the  button.

## 6.2.1.1.1.2 SQL

A SQL picklist obtains its values from a database. The editor window is shown below:

ScannerVision - PickList

Name: PICustomers

Guid: 53E39431-4337-4330-B0AB-2E2EE84426CF

Type: SQL

Dynamic retrieval

Connection string: Provider=SQLOLEDB.1;Password=Nashua.123;Persist Se...

SQL Query:  
1 select Id,  
2 CustomerNumber  
3 from Customers

Column displayed: CustomerNumber

Column returned: Id

Test Picklist

Save Cancel

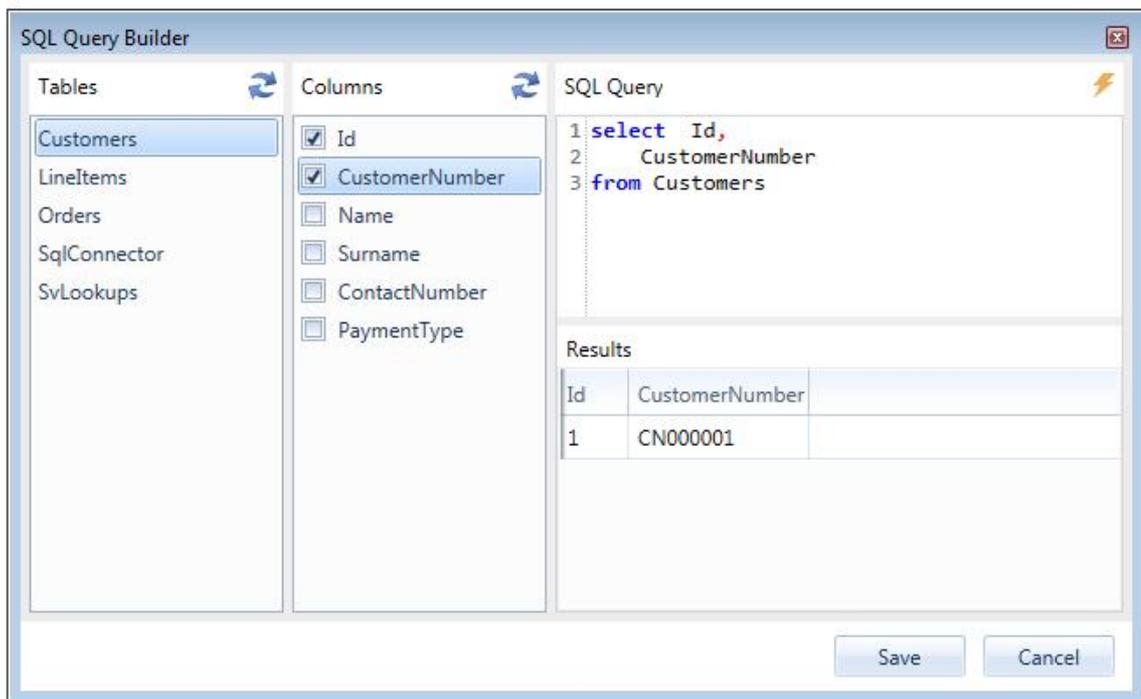
**Connection string (Required)**

The connection string contains the information necessary to connect to a database engine. Refer to [Appendix C - Database Connection Strings](#) for more information.

**SQL Query (Required)**

The SQL query is what gets executed by KYOCERA Scan2SharePoint to obtain picklist values. You can be as specific or elaborate as you need to be with the query you specify. Any legal SQL query is allowed but try to observe common SQL query best practice. For example, don't use "select \*" when you only want 1 or 2 columns. It puts unnecessary load on KYOCERA Scan2SharePoint and the network as result sets get large. To this end we encourage you to make use of the SQL Query Builder

which you can launch by pressing the  button to the right of the SQL editor. The SQL Query Builder window is shown below:



Select the table from which you want do the look-up in the "Tables" column. Once you've selected the table, the "Columns" list is updated with the columns in the table. To refresh the list of tables and columns press the respective  button at the top of the list.

In the columns list select the columns you want to return from the table. The SQL query editor updates automatically with the selected table and columns.

To test the query press the  button in the top right hand corner of the window. If the query execution is successful the first 3 records of the result set are shown in the "Results" grid.

### Note

The SQL Query Builder is a one-way tool. If you launch the SQL Query Builder with an existing SQL query, the table and columns referenced in the query will not be selected automatically when the SQL Query Builder window opens. You will have to make your selections again to modify your query.

### Column displayed/returned (Required)

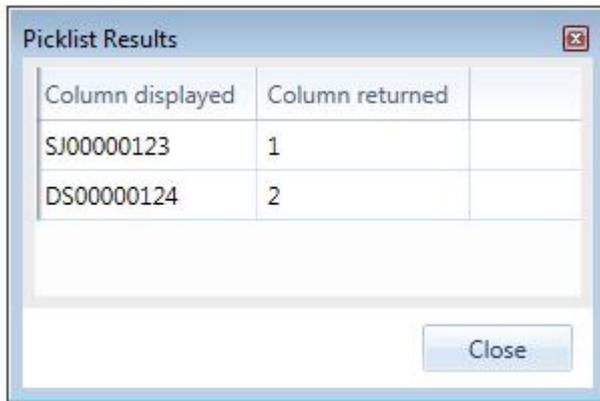
Select the column which you want displayed to the user and which column's value must be returned to KYOCERA Scan2SharePoint as the selected value. You can enter the column names manually or you can select the column from the respective drop down list box. The list box is populated by executing the query against the database and extracting the column names from the result set.

Please refer to the [Value displayed and value returned](#) section for an explanation of the significance

of the "Column displayed" and the "Column returned".

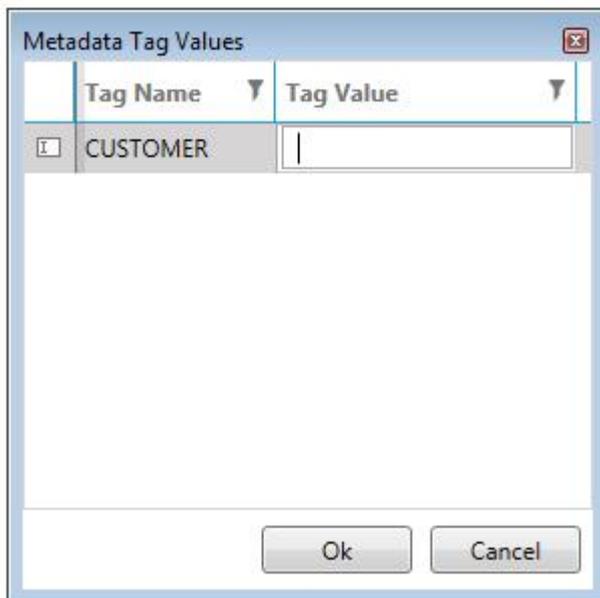
### Test Picklist

To test that your picklist is configured correctly press the "Test Picklist" button. You will be presented with the "Picklist Results" dialog shown below:



The dialog will show a maximum of 3 rows. Verify that the "Column displayed" and the "Column returned" values are what you expected.

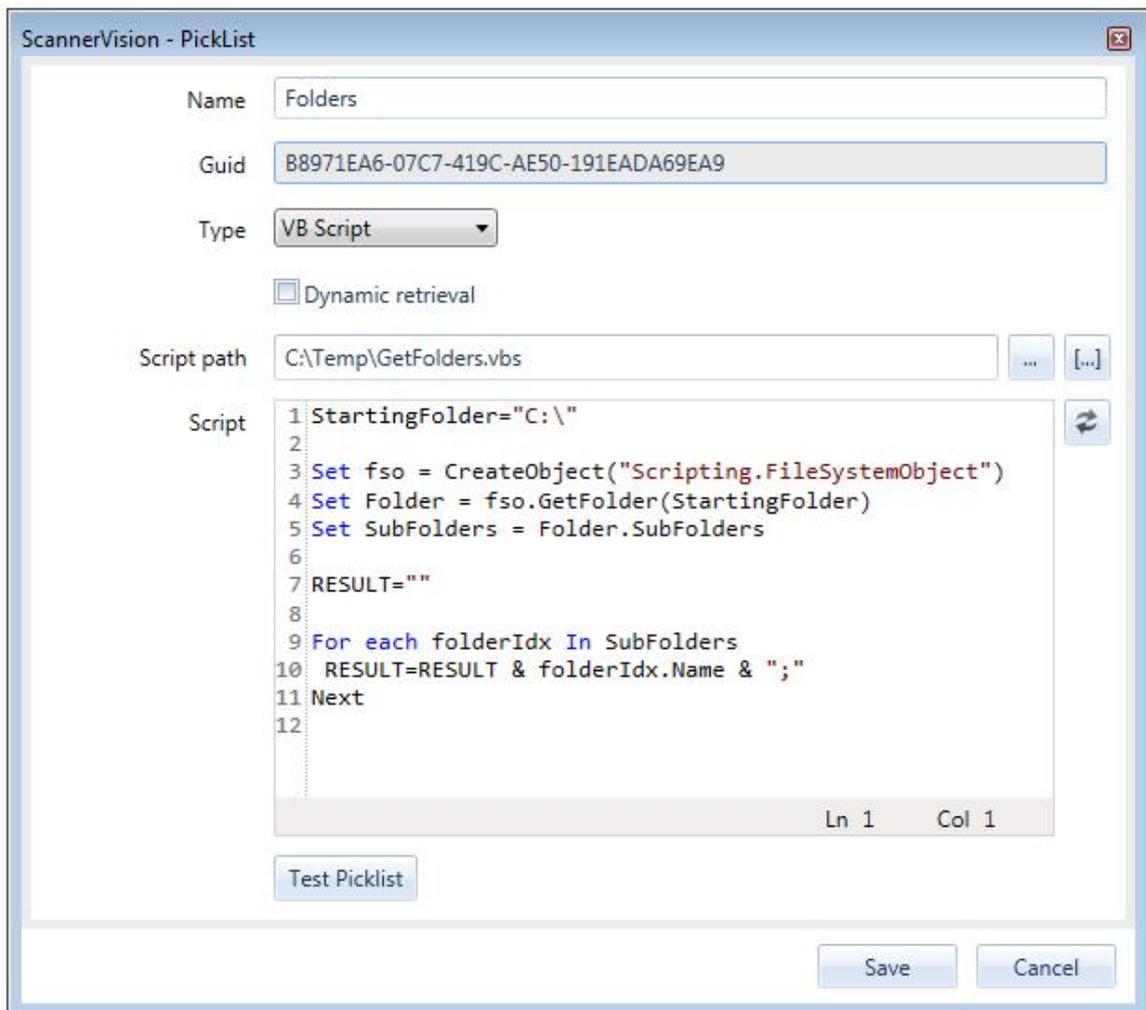
If you have referenced KYOCERA Scan2SharePoint metadata tags in your query you will be prompted to provide temporary values for the metadata tags you've used:



The values you specify here are used to by KYOCERA Scan2SharePoint to substitute for the used metadata tags. If you enter legitimate values then the query should execute successfully.

## 6.2.1.1.1.3 Script

A Script picklist obtains its values by executing a Visual Basic or JScript script. The editor window is shown below:

**Script path (Required)**

The path to the script file to execute. You can select a script file by pressing the "..." button to the right of the Script path edit box. The path may contain KYOCERA Scan2SharePoint metadata tags. To edit the path in the [KYOCERA Scan2SharePoint Expression Editor](#) press the "[...]" to the right of the Script path edit box.

**Script**

If you have selected a Script file it is loaded automatically into the script editor when the picklist editor is opened. If however the Script path contains KYOCERA Scan2SharePoint metadata tags the script cannot be loaded automatically. To load the script press the  button to the right of the script editor. You will be presented with the "Metadata Tag Values" dialog discussed in the "Test Picklist" section below. If you provide values which, when parsed, resolves to an existing file on the system the file is loaded into the script editor.

If the Script path does not contain any KYOCERA Scan2SharePoint metadata tags, any changes you make to the script in the script editor is saved to the file when the "Save" button is pressed.

The values you want displayed on the client should be returned as a semicolon delimited list. For example, if you want to return a list of folders on the server you could write the following script:

```
StartingFolder="C:\Storage"

Set fso = CreateObject("Scripting.FileSystemObject")

Set Folder = fso.GetFolder(StartingFolder)

Set SubFolders = Folder.SubFolders
RESULT = ""
For each folderIdx In SubFolders

    RESULT = RESULT & folderIdx.Name & ";"

Next
```

### Metadata

KYOCERA Scan2SharePoint metadata can be referenced in your script through the "Values" method of the "Metadata" object. The Values method takes a string parameter that represents the metadata tag you want to reference. To reference the [DATETIME] tag you would write the following:

```
Metadata.Values("DATETIME")
```

### Value displayed & value returned

The Script picklist editor does not offer the ability to select a value to display and a value to return as SQL and XML picklists do but you can still achieve this result. To do this you have to return the value to display and the value to return as name-value pairs separated by ASCII character 30. The value to display is first then ASCII character 30 and then the value to return. Name-value pairs are separated by a semicolon e.g.

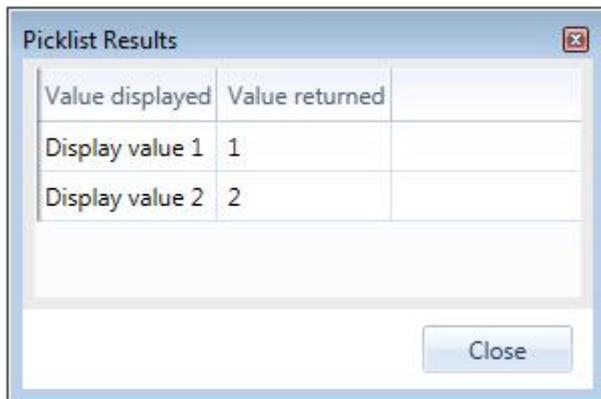
```
RESULT = "Display value 1" & Chr(30) & "1;" & "Display value 2" & Chr(30) & "2"
```

With this script the values "Display value 1" and "Display value 2" are show to the user, but the values "1" or "2" respectively are returned to KYOCERA Scan2SharePoint.

Please refer to the [Value displayed and value returned](#) section for an explanation of the significance of the "Column displayed" and the "Column returned".

### Test Picklist

To test that your picklist is configured correctly press the "Test Picklist" button. You will be presented with the "Picklist Results" dialog shown below:



The dialog will show a maximum of 3 rows. Verify that the "Value displayed" and the "Value returned" values are what you expected.

### Note

When testing your picklist only Standard KYOCERA Scan2SharePoint metadata tags will be parsed when the script executes. If you reference a metadata tag in your script that does not exist in the context of the picklist editor, the script will not return any results. For example if you are configuring a picklist from within the context of a Global Metadata question, no metadata tags defined in templates will be parsed.

## 6.2.1.1.1.4 XML

An XML picklist obtains its values from an Xml file. The editor window is shown below:

The screenshot shows a dialog box titled "ScannerVision - PickList". It contains the following fields and controls:

- Name: Text box containing "Xml"
- Guid: Text box containing "5650FEA2-C87D-4B89-935C-C7046B0B688C"
- Type: Dropdown menu showing "XML"
- Dynamic retrieval: Unchecked checkbox
- XML path: Text box containing "C:\Temp\Picklist.xml" with a browse button ("...") and an edit button ("[...]")
- XPath (displayed): Text box containing "./picklist/[LEVEL]/entry/value" with an edit button ("[...]")
- XPath (returned): Text box containing "./picklist/level1/entry/key" with an edit button ("[...]")
- Use XPath expression of value displayed for value: Unchecked checkbox
- Test Picklist: Button
- Save: Button
- Cancel: Button

**XML path (Required)**

The path to the XML file. You can select a file by pressing the "." button to the right of the XML path edit box. The path may contain KYOCERA Scan2SharePoint metadata tags. To edit the path in the [KYOCERA Scan2SharePoint Expression Editor](#) press the "[...]" to the right of the XML path edit box.

**XPath displayed/returned (Required)**

XPath is a query language for selecting nodes from an Xml document. An in depth discussion of the XPath language is beyond the scope of this document. Xml picklists allow you specify separate XPath expressions for the value displayed and the value returned. The XPath expressions may contain KYOCERA Scan2SharePoint metadata tags. To edit the XPath expressions in the [KYOCERA](#)

[Scan2SharePoint Expression Editor](#) press the "[...]" to the right of the respective XPath edit boxes.

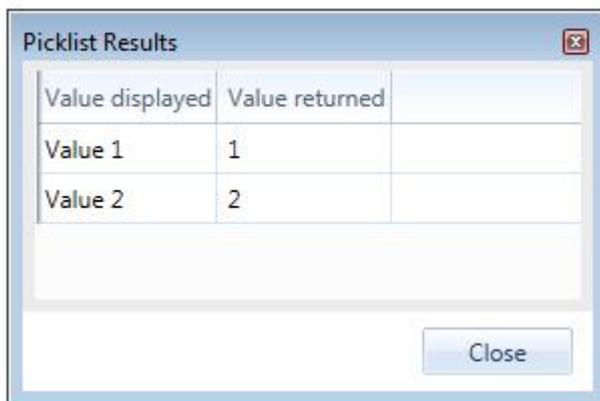
Please refer to the [Value displayed and value returned](#) section for an explanation of the significance of the "Column displayed" and the "Column returned".

### Use XPath expression of value displayed for value returned (Optional)

To use the same XPath expression for both the value displayed and the value returned, select the "Use XPath expression of value displayed for value returned" check box.

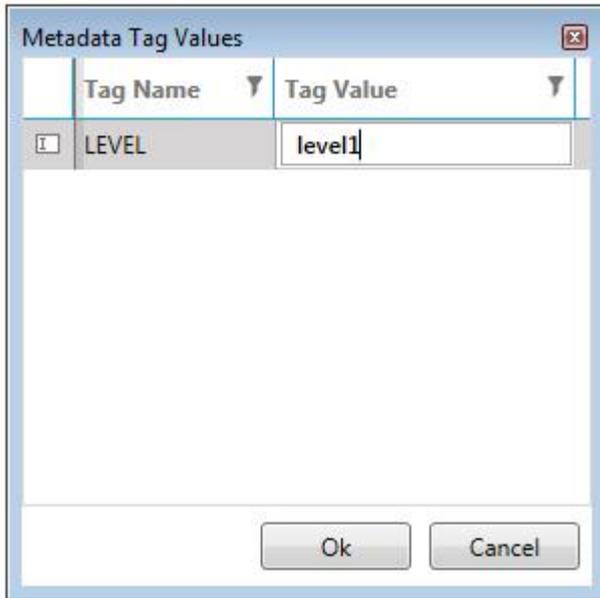
### Test Picklist

To test that your picklist is configured correctly press the "Test Picklist" button. You will be presented with the "Picklist Results" dialog shown below:



The dialog will show a maximum of 3 rows. Verify that the "Value displayed" and the "Value returned" values are what you expected.

If you have referenced KYOCERA Scan2SharePoint metadata tags in your query you will be prompted to provide temporary values for the metadata tags you've used:



The values you specify here are used to by KYOCERA Scan2SharePoint to substitute for the used metadata tags. If you enter legitimate values then the XPath expression should execute successfully.

#### 6.2.1.1.2 Dynamic Picklists

Dynamic picklists make use of metadata captured by previous template and/or global metadata questions to filter the values returned by the picklist.

We will work through a fictitious scenario to explain how you could make use of this functionality.

We are required to create a KYOCERA Scan2SharePoint template for the storing of order payment receipts in a SharePoint library. The library has fields for storing the customer number and order number. The template must require the user to select the customer and order numbers from drop down lists with values obtained from a SQL Server database.

To achieve this we will configure 2 template questions (or prompts to be more accurate) and 2 picklists. The prompts will be of type "Selected" and the picklists will be of type "SQL" (refer to the [SQL query](#) section for details on how to configure a SQL picklist).

The details of the prompts and picklists are tabulated below:

Question/Prompt	Tag Name	Picklist Name	Picklist Type
Customer number:	CUSTOMER	PICustomers	SQL
Order number:	ORDERNUMBER	PIOrders	SQL

The PICustomers picklist will be a simple look-up from the Customers table:

```
select  Id,  
        CustomerNumber  
from Customers
```

Every time the "Customer number:" drop down list box is opened on the client a request is sent to the KYOCERA Scan2SharePoint server to obtain a list of customers. The server will execute the query above to get the list.

Now, once the user has selected the customer number, it would be great if we could limit the list of order numbers in the "Order number:" drop down list box to only those belonging to the selected customer. In order to do this several things have to be in place:

1. The "Customer number:" prompt must be the first one in the list of template questions. It is intuitive for users to start at the top of the list of questions and to work their way down. By putting the "Customer number:" first in the list we can be reasonably sure that the user will have made a selection of the customer number by the time the list of order numbers is fetched. The order of the questions in the "Questions" area of the "Client Capture" screen can be changed by right clicking on an item and selecting the relevant menu option from the context menu that appears.
2. The "Dynamic retrieval" option must be selected when we create the PIOrders pick list. This tells the KYOCERA Scan2SharePoint client application to send all previously captured metadata (the customer number in this case) to the server when it asks for a list of order numbers.
3. The SQL query of the PIOrders picklist must filter the result set of the orders query on the customer Id to ensure that only order numbers for the selected customer are returned to the KYOCERA Scan2SharePoint client.

The SQL query that we will use for the PIOrders picklist looks like this:

```
select  Id,  
        OrderNumber  
from Order  
where CustomerId = "[CUSTOMER]"
```

In this query we are filtering the result set on the CustomerId column. Only records with a value in the CustomerId column equal to the [CUSTOMER] KYOCERA Scan2SharePoint metadata tag will be returned. As stated above we have ensured that the [CUSTOMER] tag will contain a value by putting the "Customer number:" prompt at the top of the questions list.

Before the KYOCERA Scan2SharePoint server executes the query it will replace all references to KYOCERA Scan2SharePoint metadata tags with actual values.

If for example the user has selected the customer number "CUST00012345" the query that the

KYOCERA Scan2SharePoint server executes will look like this:

```
select  Id,
        OrderNumber
from Order
where CustomerId = "12345"
```

Why "12345" and not "CUST00012345" you may ask? Please refer to the [Value displayed and value returned](#) section for an explanation.

Now, when the user selects the "Order number:" drop down list box on the client, it will only contain the order numbers for the selected customer.

Please refer to the [Character Escaping](#) for information on character escaping in SQL queries.

#### 6.2.1.1.3 Value displayed and value returned

For the purposes of the discussion to follow let us assume you have the following "Customers" database table:

Id	Name	Surname	CustomerNumber	ContactNumber
1	Sally	Jones	SJ00000123	123-456-7890
2	Donald	Smith	DS00000124	321-654-0987

Relational database tables records usually have a unique number that identifies each record in the table. This number is called the primary key. In the table above the primary key is called "Id" and as you can see it is just an incrementing number. When a record is added to the Customer table, the database engine will automatically insert a new unique Id for the record (assuming that the table was designed to do this). Whenever a reference needs to be made to a customer in another table, say Orders, only the Id of the customer would be needed. Knowing the Id of the customer record is enough to uniquely identify the customer. We could also use the CustomerNumber field as it would

also be unique but it is a bigger value and therefore inefficient to deal with in other tables. There are other reasons why you would not typically use the CustomerNumber field as a reference in other tables but those are beyond the scope of our discussion here.

Now, if a KYOCERA Scan2SharePoint template requires the user to select a customer from a list we want to present the user with a list that contains the customer name, surname and possibly the telephone number or even the CustomerNumber. We need to be sure that the user is given enough information to be able to uniquely identify the customer. If we have two customers called "Donald Smith" we need to present the user with more information in order to distinguish between them. The important thing to understand is that whatever combination of fields from the Customers table we present to the user, that is not what we want to return to KYOCERA Scan2SharePoint when the user submits the document. We want to return the customer's Id. So there is a distinction between what information we want to show to the user and what information we want to return to KYOCERA Scan2SharePoint.

KYOCERA Scan2SharePoint gives us the ability to make this distinction with SQL, VBScript/JScript and XML picklists. In the screen shot below you can see an example of how we could construct the solution we discussed above. We know we need to select enough information from the Customers table to present to the user as well as the Id of the record. So we are going to need the "Id", "Name", "Surname" and "CustomerNumber" columns but we need to return only two columns in the result set of the query we execute. The one column must be the Id and the other a combination of the "Name", "Surname" and "CustomerNumber" columns. To do this we are going to concatenate the "Name", "Surname" and "CustomerNumber" fields and call it "Customer". We will also add some formatting to the data by putting in spaces and brackets where appropriate to improve readability.

Here is a screen shot of the SQL picklist editor and the SQL query:

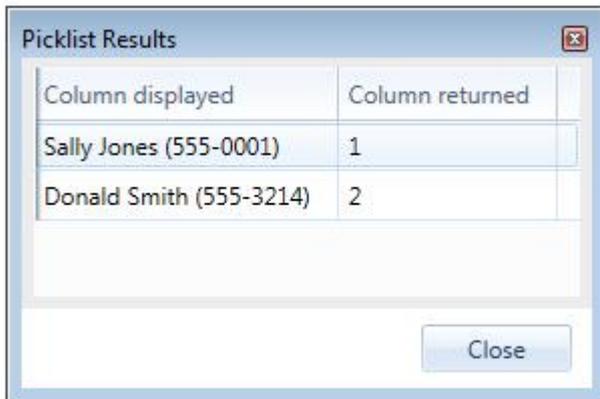
The screenshot shows the 'ScannerVision - PickList' dialog box. It contains the following fields and values:

- Name: Customers
- Guid: 27DA1D91-6404-40F0-94AD-5A5B616BB617
- Type: SQL
- Dynamic retrieval
- Connection string: Provider=SQLOLEDB.1;Password=Nashua.123;Persist Security Info=True;User ID=sa;Initial Catalog=...
- SQL Query:

```
1 select Id,
2   Name + ' ' + Surname + ' (' + ContactNumber + ')' as 'Customer'
3 from Customers
```
- Column displayed: Customer
- Column returned: Id
- Buttons: Test Picklist, Save, Cancel

Notice that we have selected the "Id" column in the "Column returned" drop down list and the "Customer" column in the "Column displayed" list.

When we execute this query by pressing the "Test Picklist" button we get the following results:

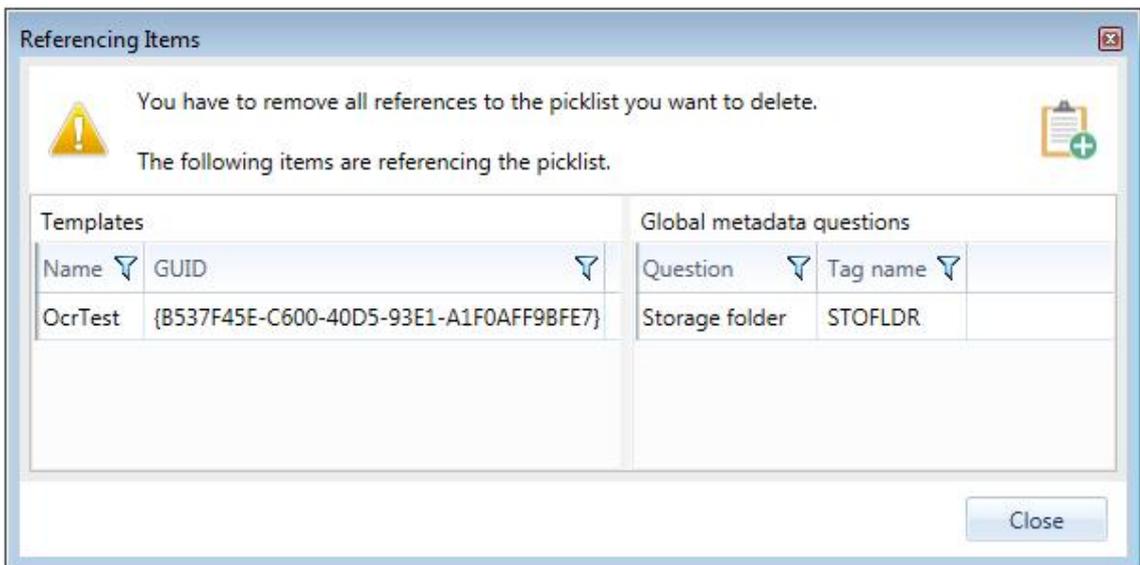


Column displayed	Column returned
Sally Jones (555-0001)	1
Donald Smith (555-3214)	2

Make sure that the column displayed and column returned show the correct data.

#### 6.2.1.1.4 Deleting a Picklist

KYOCERA Scan2SharePoint will not allow you to delete a picklist that is being referenced by a template or a global metadata question. If you tried to do so you will be greeted by the following dialog:



Templates		Global metadata questions	
Name	GUID	Question	Tag name
OcrTest	{B537F45E-C600-40D5-93E1-A1F0AFF98FE7}	Storage folder	STOFLDR

This dialog will list all the templates (left) and the global metadata questions (right) that are referencing the picklist. You will have to remove all the references to the picklist from the listed

entities before you will be able to delete the picklist. To help you with this you can press the button in the top right hand corner. This will copy the contents of the dialog to the Windows clipboard. You can then paste this information into a text editor and print it out if needed.



## 6.3 Process

KYOCERA Scan2SharePoint allows you to OCR documents that are processed. The OCR'd text can also be used in many other ways and with the powerful selection capability offered by [KYOCERA Scan2SharePoint Expressions](#) you could select very specific text from OCR'd text for file naming or populating metadata fields in SharePoint.

### 6.3.1 Reading Document Content

#### Achieving good results

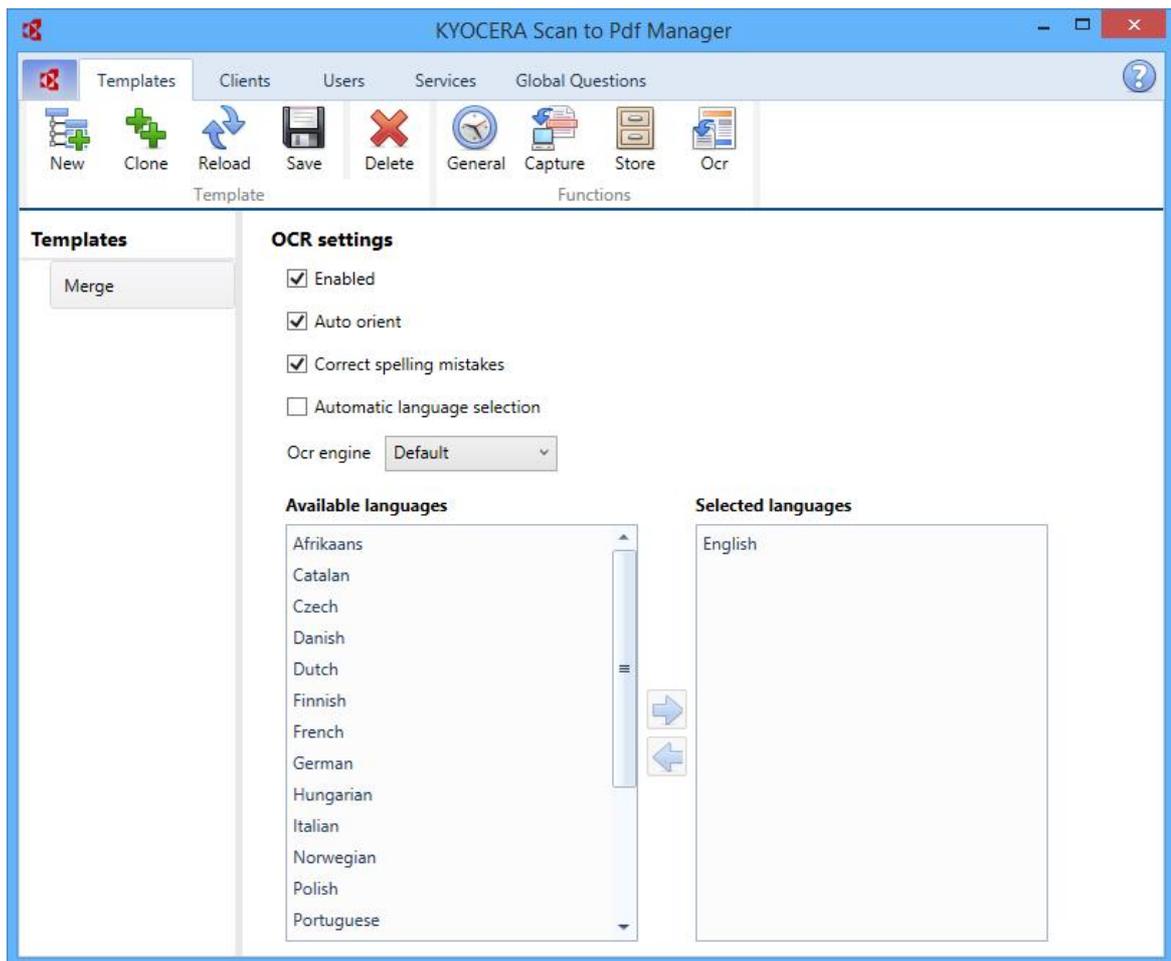
The ability for humans to read a document or recognize shapes, marks and lines on a page comes naturally. For a computer this is very difficult and therefore we have to give it the best possible chance to do so. The single most important factor that determines the accuracy of the computer's reading ability is the quality of the document it is reading.

As far as possible try to:

1. Ensure that documents are scanned at 300dpi or higher.
2. Use Tiff documents instead of Pdf documents as input to KYOCERA Scan2SharePoint. See [Appendix D - Pdf Input Documents](#) for more information on this.
3. Ensure that scanners are clean so that noise is not introduced in the scan.

#### 6.3.1.1 Full Document OCR

KYOCERA Scan2SharePoint offers two OCR engines namely Nuance Omnipage and Leadtools Advantage with the former being the default. You may find that the accuracy and speed of the two engines may differ in your environment so choose the one that best suits your needs.

**Enabled**

Enables/disables the OCR engine. OCR has to be enabled for certain output document types such as Searchable PDF and PDF/A.

**Auto orient**

Automatically rotates the page being OCR'd to the upright position if it is rotated.

**Correct spelling mistakes**

Automatically correct spelling errors based on the FIRST language in the "Selected languages" list.

**Automatic language selection**

Automatically detect the language of the text being OCR'd.

### **OCR Engine**

Selects the OCR engine to use. When "Default" is selected, the Nuance Omnipage 18 engine is used.

### **Available Languages**

The languages that are supported by the OCR engine.

OCR engines usually make use of dictionaries to improve the accuracy of its recognition. For example, if the engine encounters a character that could either be an "o" (the letter o) or "0", the number zero, which one is it? Sometimes the particular font of the text makes it very difficult to know. The only way to decide is to look at the context in which the character was found. If the character was found among other alphabetic characters, chances are it is not a number but a letter. The same goes for characters used in different languages. The engine compares the character that it has read against those that are found in a particular language and will select the proper ASCII/UNICODE character (see the [Tags](#) section for more details on ASCII and UNICODE characters).

### **Selected Languages**

The languages that must be used by the OCR engine when finding matches for words and characters.

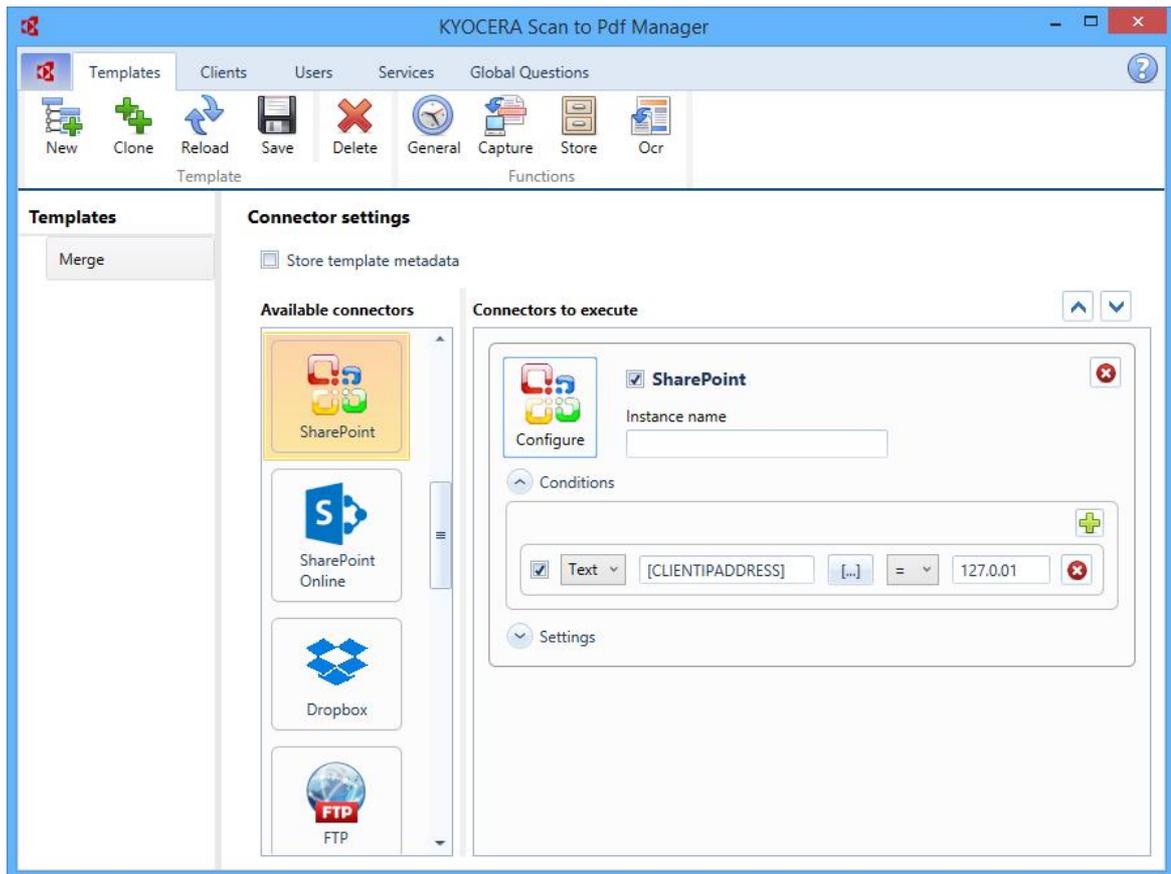
## **6.4 Store**

The final stage in the KYOCERA Scan2SharePoint document processing work flow is the storing of the processed document and optionally its metadata.

### **6.4.1 Connector Settings**

Connectors link KYOCERA Scan2SharePoint to external systems such as relational database engines for which an ADO/ODBC driver is available and document management systems such as SharePoint, Laserfiche and AivikaOne. KYOCERA Scan2SharePoint gives you the ability to put conditions on the execution of connectors which allows you to make decisions on where documents ultimately end up.

KYOCERA Scan2SharePoint ships with the SharePoint Connector only. To get access to more connectors please contact your KYOCERA Scan2SharePoint reseller.



### Store template metadata

When this option is enabled KYOCERA Scan2SharePoint uploads a text file containing the KYOCERA Scan2SharePoint metadata in a Microsoft Ini file format before it uploads the document being processed. The data in the file looks like this:

```
[METADATA0]
Name=VVRD
Value=MjAxNC0wNi0yNVQxMjozMToxOC44ODI1Mzc0Wg==
[METADATA1]
Name=VUNU
Value=MjAxNC0wNi0yNVQxMjozMToxOFo=
[METADATA2]
Name=VFpE
Value=KzAyOjAw
...
[METADATA]
Count=58
```

Each KYOCERA Scan2SharePoint metadata tag is represented in a section called "METADATA" with a number appended e.g. "METADATA0". The entries in each section represent the tag as a Name/ Value pair with the Name entry holding the tag name and the Value entry holding the tag value. The data is Base64 encoded.

A section called "METADATA" **without** a number is included with a single value called Count. The Count entry contains the number of metadata entries contained in the ini file which can be used to construct the "METADATAx" section names.

### Organizing connectors

Connectors execute in the order which they appear in the "Connectors to execute" list. A connector's position in the list can be changed by using the arrow buttons in the top right hand corner of the connector's border.

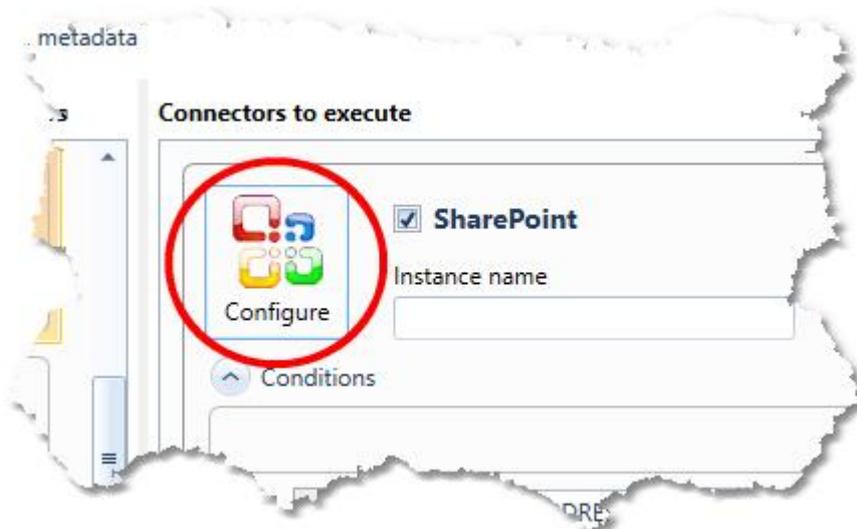


The arrow buttons are context aware so only the arrows that are applicable are visible. For example if only one connector is added to the "Connectors to execute" list none of the arrow buttons will be visible. If more than one connector exists, the top most connector will only show the "Down" arrow and so forth.

To delete a connector click the  button.

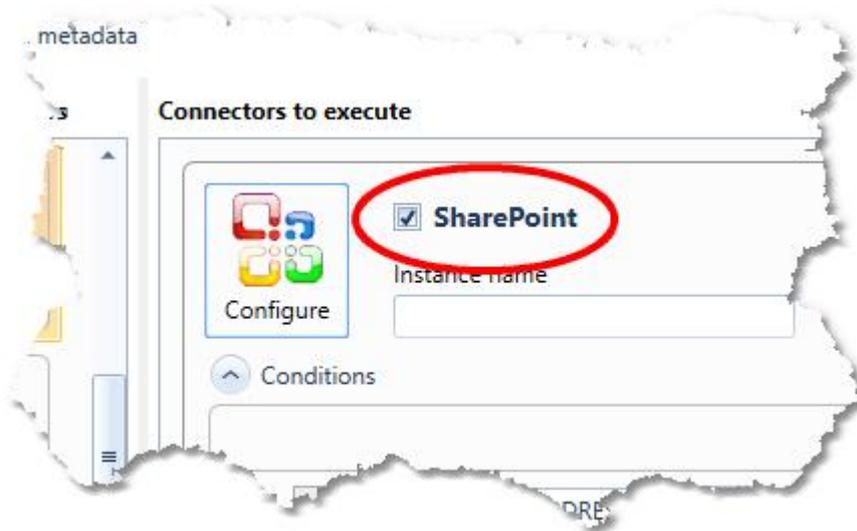
### Configuring a connector

Connectors that are added to the "Connectors to execute" list must be configured by clicking the "Configure" button (shown below). The connector's setup screen is shown which is different for each connector.



### Enabling/disabling a connector

When a connector is added it is enabled by default. To disable it deselect the check box to the right of the "Configure" button.



### Instance name

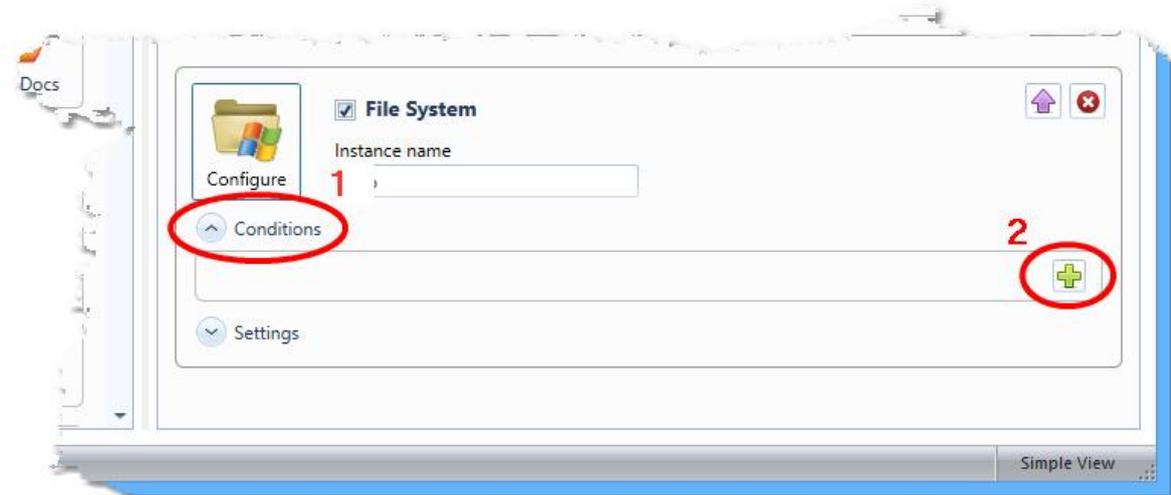
A connector's instance name identifies the connector instance when more than one of a particular type has been added to the template.

### Conditions

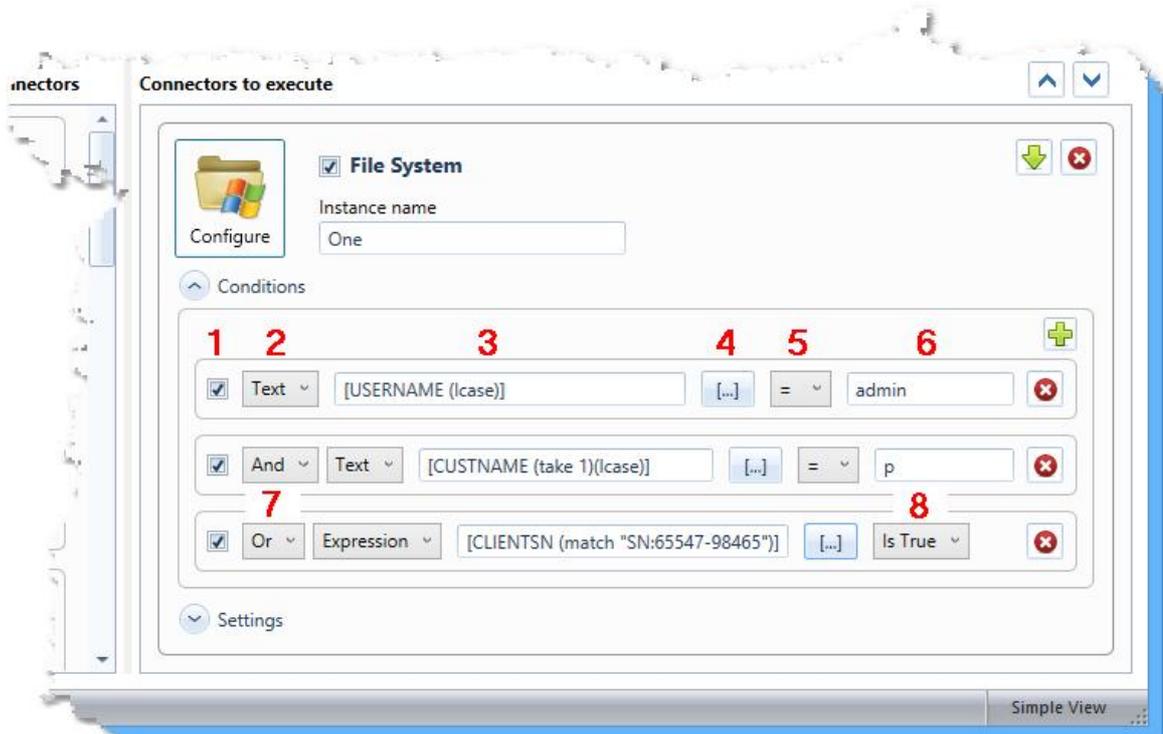
Conditions allow you to decide when a connector should execute. Conditions could be based on textual or numeric comparisons or on KYOCERA Scan2SharePoint expressions that evaluate to true or false. The screen shots below have been taken in the context of the Windows File System Connector but they work the same way and have the same meaning with all connectors.

To add a condition:

1. Expand the "Conditions" section.
2. Press the "+" button in the top right hand corner of the Conditions border.



In the screen shot below three conditions have been added.



The bold red numbered parts of the conditions in the screen shot above have the following meaning:

1. Enables/Disabled the condition. Disabled conditions are not evaluated - it is as if they don't exist.
2. Condition type. See below for more information.

3. Argument one. The argument you want to compare - typically a metadata expression.
4. Displays the [KYOCERA Scan2SharePoint Expression Editor](#) to construct the expression of the first argument.
5. Comparison operator. See below for more information.
6. Argument two. The argument you want to compare against. In the case of Text conditions this is a text phrase and in the case of Number conditions this is a rational number.
7. Logical operator. See below for more information.
8. Invert logic. See below for more information.

In the discussion that follows references are made to KYOCERA Scan2SharePoint Metadata Expressions. If you don't know what they are or how they work please study [Appendix A - Metadata](#) first.

### **Condition type**

Three types of conditions are supported namely:

#### **1. Text**

Textual comparison is based on the ordinal value of each character in the text. For an explanation of what the ordinal value of a character is please refer to the [Tags](#) section. It is important that you understand this concept otherwise you may not understand why your conditions don't evaluate the way you expected.

The characters 'a' and 'A' are not the same because they have different ordinal values. In the screen shot above you will see that in the first condition we have included the "lcase" function which converts all the characters of the USERNAME tag to lowercase. This ensures that the condition does not give a false negative when the username contains uppercase characters. So even if the username is "Admin", "ADMIN" or "aDMin", the comparison that is performed would be "admin" = "admin". When you don't care what the case is of the characters in the text that you compare we recommend that you follow this approach to make your conditions more robust.

When it comes to textual comparison there is no notion of numbers and symbols. The phrase "5 > 1" does not mean 5 greater than 1 in the context of textual comparison because the ordinal value of the characters '5', '1' and '>' has nothing to do with the numeric values 5 and 1 or the "greater than" operator.

#### **2. Number**

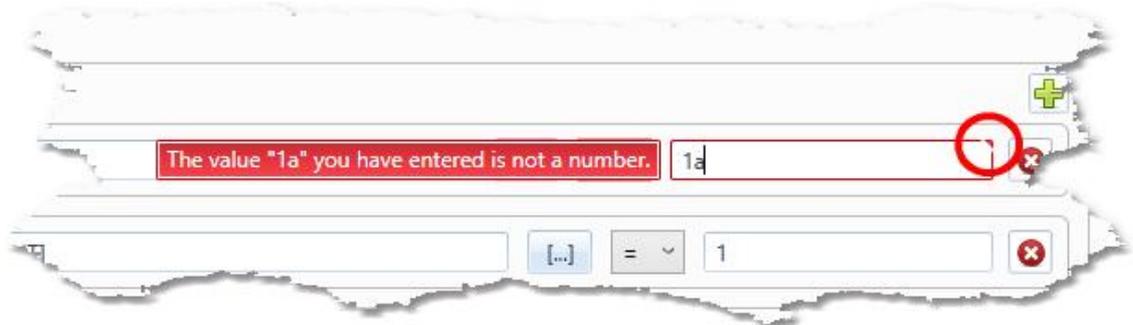
Numeric comparison is based on rational numbers (numbers that can contain decimals). When numeric conditions are evaluated the first argument is converted to the rational number that is represented by the text. For example if the text is "515.90" it is converted to the number 515.90.

When using numeric conditions you have to be sure that the value of the tag CAN be converted to a number. In other words, the text must represent a number only. If for example a tag value includes the currency symbol, say "\$", to hold the value "\$515.90" the conversion to a number would fail. This does not mean that you can't use a numeric condition in this situation, you just

have to strip away the "\$" character by adding a "(take 2-)" function to the tag. KYOCERA Scan2SharePoint trims all leading and trailing non-printable character off the first argument before the conversion process. So if the tag (let's call it TAGNAME) value was "\$ 515.90" you don't have to do the following:

[TAGNAME (take 3-)] or [TAGNAME (take 2-)(trim)]

Numeric conditions require a number as the second argument. As soon as you enter a value that cannot be converted to a number a red border will appear around the edit box and a small red triangle will appear in the top right hand corner of the edit box. Hover the mouse over this triangle to see a tool tip with a description of the error as shown below:



### 3. Expression

Expression conditions are evaluated as TRUE or FALSE. A TRUE expression is one that contains one or more characters and a FALSE expression is one that does not contain any characters, i.e. it is completely empty. The phrase " " is not empty, it contains 3 space characters and therefore is a TRUE expression. The space character is one of the non-printable characters (see the [Tags](#) section for more information) and they are not stripped automatically when expressions are evaluated. Make sure you do this yourself to eliminate difficult to find errors.

You would typically use the "match" function in your expressions as this gives you the full power of regular expressions to look for any text or sub-text in metadata such as barcodes and OCR'd text.

#### Invert logic

You could also choose to invert the logic of the expression by selecting "Is False" in the drop down box shown below:



By inverting the logic you are instructing KYOCERA Scan2SharePoint to execute the connector

when the expression is FALSE. How is this useful? You would use this technique when you want to execute a connector only when another did not execute, i.e. "Execute connector 'B' only when connector 'A' did not execute".

As an example let us assume you want to route documents into two different folders. Your template is processing Invoices, Orders and Quotations and you want the invoices to go the "Processed Invoices" directory on a network share and Orders and Quotations to go to your SharePoint server. How you determine what type of document you are processing is not important so for the sake of this example let's assume you are OCRing the whole document with the idea of looking for the phrase "INVOICE" in the OCRed text. To route invoices to the "Processed Invoices" share you would add a File System connector with the condition:

`[OCRTEXT(ucase)(match "INVOICE")]` with "invert logic" option set to "Is True". So, if the phrase "INVOICE" is found in the OCRTEXT tag the connector is executed.

To route Orders and Quotations to your SharePoint server you would add a SharePoint connector with the EXACT SAME condition that you used in the File System connector except the "invert logic" option set to "Is False". When KYOCERA Scan2SharePoint evaluates the expression and the phrase "INVOICE" is found the expression evaluates to TRUE but since the logic is inverted the TRUE now becomes a FALSE and the connector is NOT executed. Inversely, if the phrase "INVOICE" is **not** found in the OCRTEXT tag the expression evaluates to FALSE but with the inversion of logic the FALSE becomes TRUE and the connector is executed.

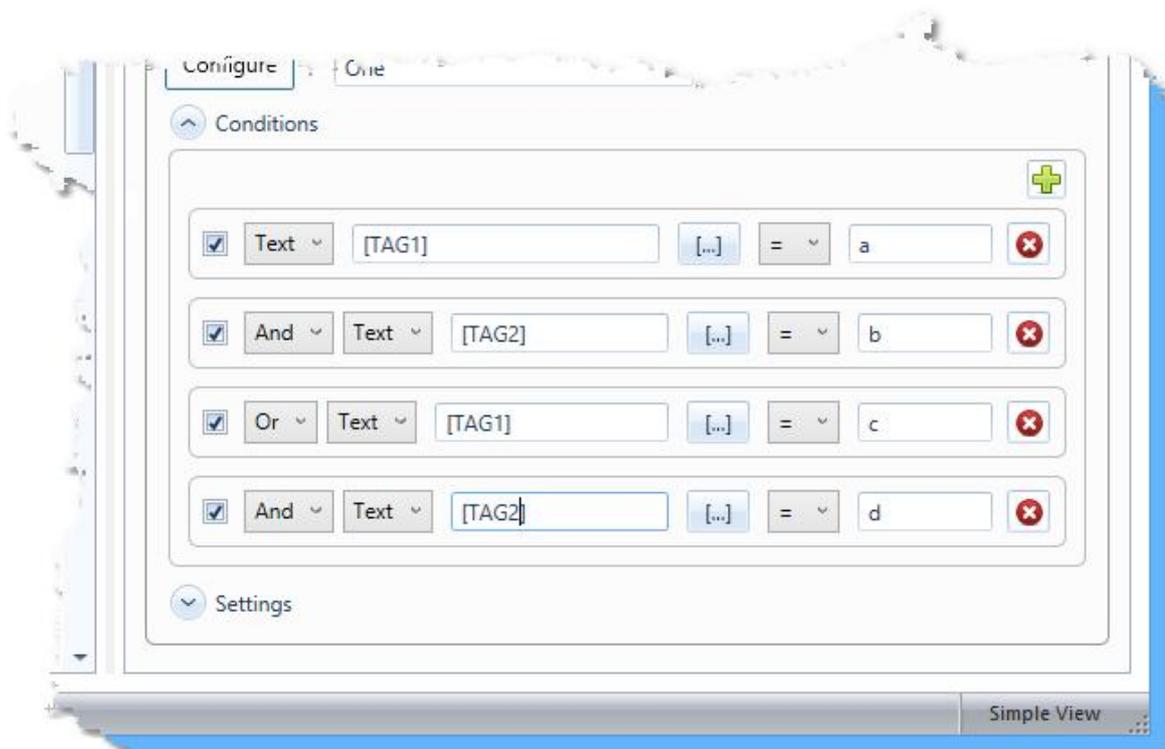
### Comparison operator

The comparison operator determines how arguments of Text and Number conditions are compared. The comparison operators are:

=	Equal to
!=	Not equal to
<	Less than
<=	Less than or equal to
>	Greater than
>=	Greater than or equal to

### Logical operator

When you have more than one condition you have to tell KYOCERA Scan2SharePoint whether all conditions must be true before the connector executes or whether any one could be true. In the screen shot below we have four conditions:



KYOCERA Scan2SharePoint evaluates the conditions above as follows:

$(( [TAG1] = 'a' ) \text{ and } ( [TAG2] = 'b' ) )$

or

$(( [TAG1] = 'c' ) \text{ and } ( [TAG2] = 'd' ) )$

In English this means the connector will execute when:

Tag 1 is equal to 'a' AND Tag 2 is equal to 'b'

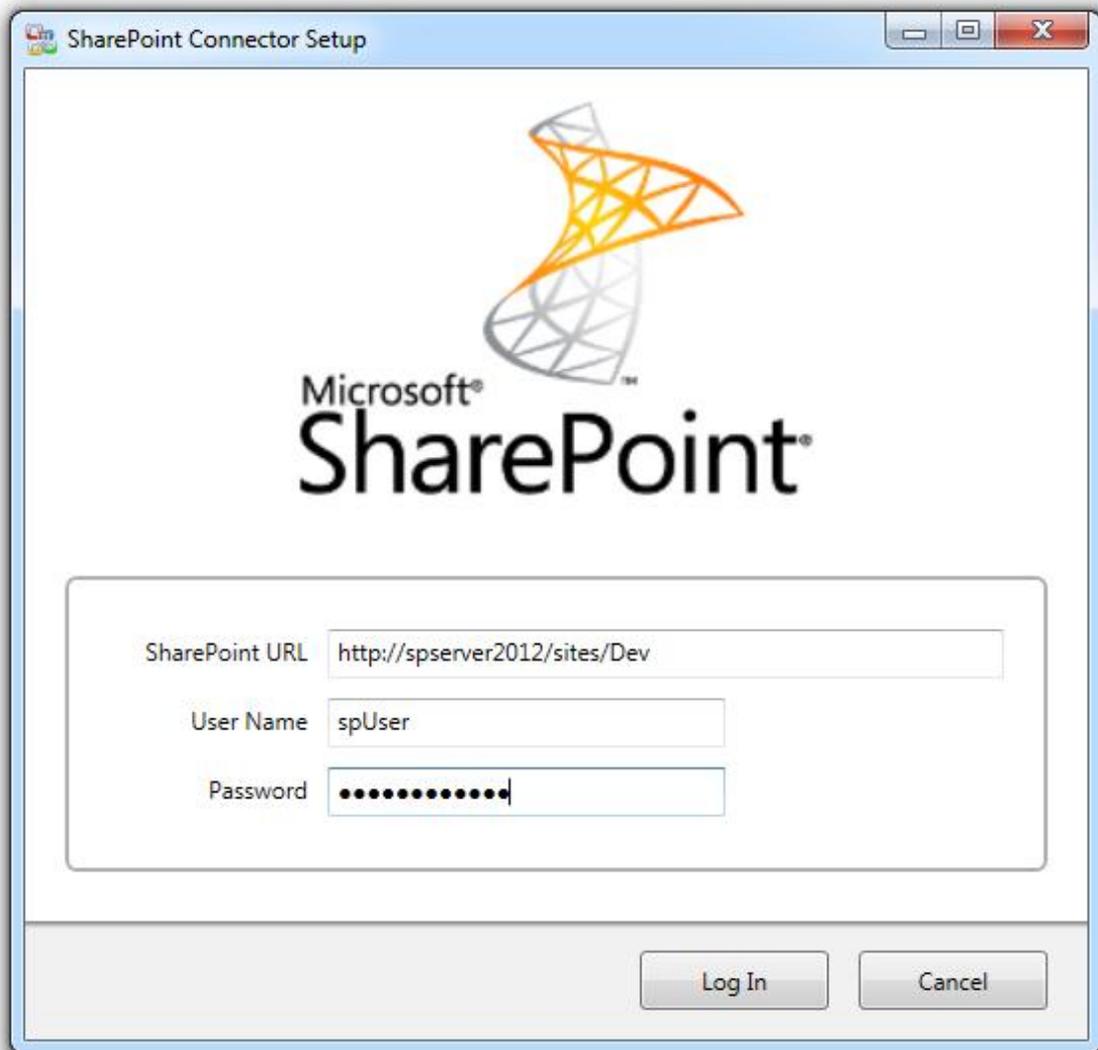
OR when:

Tag 1 is equal to 'c' AND Tag 2 is equal to 'd'

Every "And" condition that follows an "Or" condition up to end of the conditions or the next "Or" condition are evaluated together.

#### **6.4.1.1 Sharepoint Connector**

The Microsoft SharePoint connector uploads documents to SharePoint server versions 2007, 2010, 2012 and SharePoint Online - which is Microsoft's cloud offering. The SharePoint and SharePoint 360 connectors are separate connectors but they function in exactly the same way. The only difference you will see between the two is cosmetic. In the discussion that follows when references are made to "the connector" and "SharePoint" both SharePoint and SharePoint 360 are implied.



Anywhere that you see the "[...]" button you can make use of KYOCERA Scan2SharePoint metadata tags.

In order to configure the SharePoint connector you need to have access to the SharePoint server to which documents will be uploaded.

### **SharePoint URL**

The URL of the SharePoint server needs to be fully qualified which is to say it has to contain the "http://" or "https://" protocol specifier as well as the site if applicable.

### **User Name & Password**

You have to provide credentials with sufficient rights on the SharePoint server to upload documents.

When you click on the "Log In" button the SharePoint server is contacted and a list of all the libraries is retrieved from the server. Upon completion the following page is displayed:

SharePoint Connector Setup

Document Title [ORIGINALFILENAME] [...]

Destination Library Documents [Refresh] [...]

Folder Folder1/Folder12 [...] [...]

Overwrite file if it exists

Mapping Library Documents [Refresh]

Library Type DocumentLibrary

Library Fields

Field Title	Value
Name	
Source URL	
Shared File Index	
Title	
Template Link	
HTML File Link	
URL	

[Refresh] [...]

Log Out Save Cancel

### Document Title

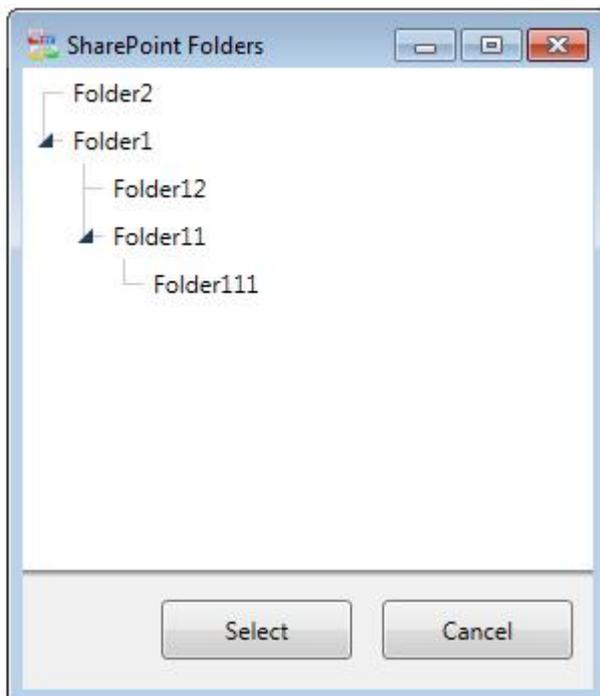
The name that will be given to the document in the SharePoint folder.

### Destination Library

The library of the site into which the document is uploaded. Click the  button next to the library drop down list to refresh the list of libraries. You can also specify metadata expressions in the library name.

### Destination Folder

The folder in the library into which the document is uploaded. Click the  button next to the folder edit box to show the SharePoint Folders window:



Select the folder into which you want the document to be uploaded and press the "Select" button. You can also specify metadata expressions in the folder path.

### Overwrite file if it exists

Select this options if you want existing documents on the server to be overwritten by the newly uploaded one.

### Mapping Library

The library from which field names are retrieved. Click the  button next to the library drop down list to refresh the list of libraries.

### Library Fields

Library fields is metadata that is associated with documents in the selected library. To assign a value to a field select the row in which the field name appears and then click in the "Value" cell and enter the value you want assigned. To assign a KYOCERA Scan2SharePoint metadata expression to a field select the row in which the field name appears and click the "[...]" button below the fields grid. This will show the [KYOCERA Scan2SharePoint Expression Editor](#). Alternatively you can just type the metadata expression directly.

Click the  button below the fields grid to refresh the list of library fields.

### Note

When you specify a metadata expression in the destination library name, the connector can not use it to obtain a list of library fields from the server. This is why there is a "Mapping Library" selection that you cannot modify, i.e. you can only select one of the existing values in the list.

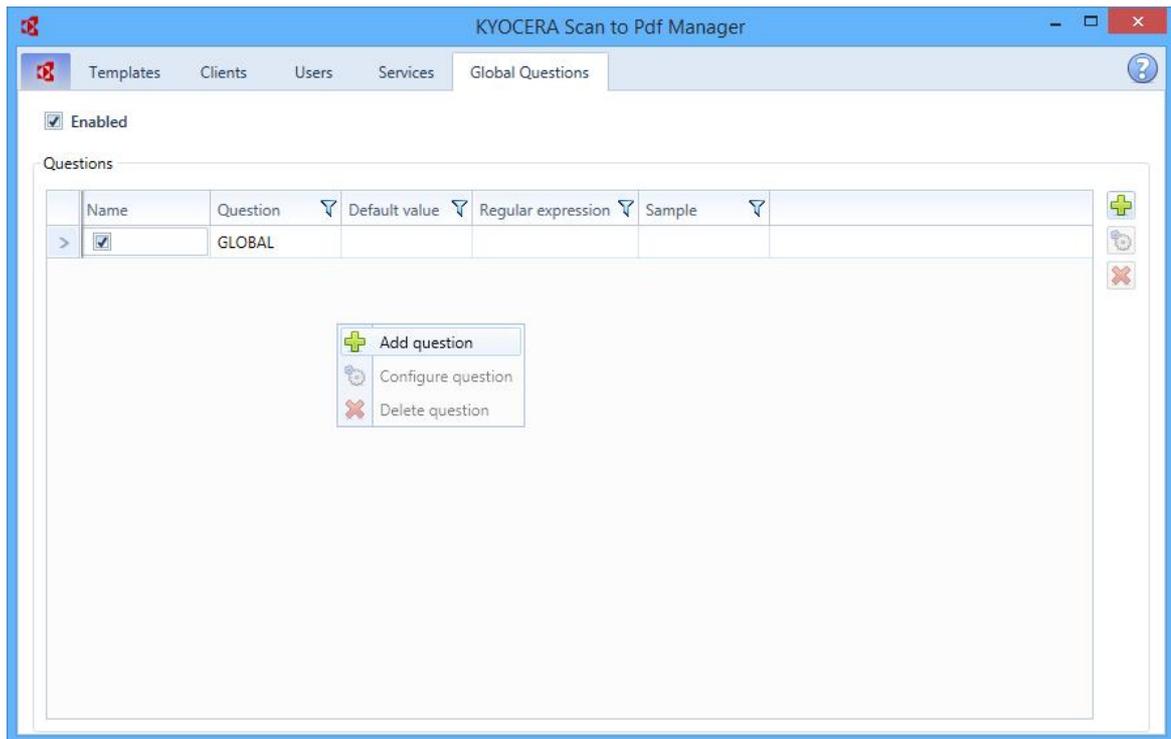
You should realize that since the destination library could be different (and probably would be if you use metadata in its name) from the mapping library, not all the fields that you have specified mappings for may exist in the destination library. Only fields that exist in the destination library will be updated with the mapped values.

## 7 Global Questions

Please refer to the [Capturing Document Metadata](#) section for an overview of document metadata and how it can be configured.

Questions that are configured on the "Global Questions" screen apply to all templates.

To add a global metadata question right click in the list window of the "Global Questions" screen and select the "Add question" menu option:



## 8 Appendices

### 8.1 Appendix A - Metadata

The term "metadata" refers to data that describes other data. If you take a photograph with a digital camera or cell phone the photo may be captured with the date, time and GPS coordinates of when and where the photo was taken (depending on the specific device capabilities). The photo itself is of course the actual data you are interested in primarily, while the date, time and GPS coordinates are metadata that gives more information about the photo.

KYOCERA Scan2SharePoint metadata contains information about the documents that are processed by KYOCERA Scan2SharePoint and can be:

1. Generated by the KYOCERA Scan2SharePoint itself or the connectors used in the template. This includes data such as the user who captured the document, the date and time of processing and in the case of the Windows File System connector, the output file name of the document.
2. Obtained from the document itself through OCRing or barcode reading.
3. Captured on the client by the user who has to provide this information at the time of the document capture.

KYOCERA Scan2SharePoint metadata is a collection of name value pairs where the name is the

identifier of a specific value e.g. YYYY=2013. "YYYY" is the name and "2013" is the value which in this case represents the year when the document was processed. The name of the metadata is also known as the Metadata Tag or just Tag for short. The terms metadata and tag are used interchangeably in the text. Where the use of metadata is allowed in the KYOCERA Scan2SharePoint processing process, you would reference the tag name in square brackets e.g. [YYYY] and the processing engine will replace the name with the actual value when a document is processed.

Here is an example.

Let us say you want to produce a PDF document with a file name that includes the date and time of when the document was processed and you want to copy the file to a network share using the Windows File System connector (WFS). In the WFS connector's "File Name" edit box you would enter the following:

[Document \[DD\] \[MMMM\], \[YYYY\] - \[HH\]\\_\[NN\]\\_\[SS\].pdf](#)

This will expand to (assuming the date and time of processing was 15 March, 2013 at 10:23:11 AM):

[Document 15 March, 2013 - 10\\_23\\_11.pdf](#)

You can find more examples [here](#).

Some metadata is always available like the date and time related tags used in the example above. You don't have to configure anything for them to be available, you just use them. These are called the [Standard tags](#). All other tags have to be defined by you, the author of the template. You can define metadata on a global level (not worldwide of course, only global across all templates) and/or on a template level. Metadata values can be obtained during document capturing by KYOCERA Scan2SharePoint clients (desktop or MFP) through the answers users provide to template questions or they can be obtained by the processing engine during document processing through for example barcode reading or zone OCRing. If required, the values of metadata you have configured (i.e. all non-standard tags) could be modified during document processing with the use of scripts.

Some connectors offer additional tags that are not necessarily available outside the context of the particular connector. An example of this are the UNIQUESUFFIX tags offered by the Window File System connector.

The value of a tag does not necessarily have to correlate with how it is presented. You could for example have a value of "A-B" and have it presented as "A:B". KYOCERA Scan2SharePoint provides powerful [functions](#) with which you can present the data in the format you want without changing the value itself.

For example, let us say you have to read a barcode on the first page of an order form that includes the customer and order numbers separated by a space. So you configure a barcode rule that stores the barcode value in the CUSTOMERORDER tag. Now, let us say you process and order form with the barcode below printed on it:



When KYOCERA Scan2SharePoint processes the document it will read the barcode and put the value "CN0002342 ON000239445" in CUSTOMERORDER tag as instructed. But how will you separate the customer number from the order number? You have two choices. You can either split the two sections on the space character between them or you can pick the characters you need. Either way, you still reference the CUSTOMERORDER tag whenever you need either the customer number or order number. You just need to add some functions that will instruct KYOCERA Scan2SharePoint to take only the part of the data that you need.

You could for example use the **split** function to tell KYOCERA Scan2SharePoint to split the two parts of the barcode on the " " (space) character between them and then use the **take** function to select first part for the customer number or the second part for the order number.

To extract the customer number you would use the following expression:

```
[CUSTOMERORDER (split " ")(take 1)]
```

and to extract the order number you would use this expression:

```
[CUSTOMERORDER (split " ")(take 2)]
```

Another approach to obtain the customer and order number could be to tell KYOCERA Scan2SharePoint to **take** characters 1-9 for the customer number and 11-21 for the order number.

Where you need the customer number only you would use this:

```
[CUSTOMERORDER (take 1-9)]
```

and where you need the order number only you would use this:

```
[CUSTOMERORDER (take 11-21)]
```

Both techniques would yield the required result. You may ask, "But which one should I use?". The answer is - as is often the case - it depends. If the customer and order numbers are fixed in length i.e. the customer number will always contain 9 characters and the order number 10, then the second technique without the split is the better choice since there is less typing for you and less work for KYOCERA Scan2SharePoint to do. If the numbers are varying in length however you obviously cannot count characters and therefore would have to make use of some sort of delimiter that marks the end

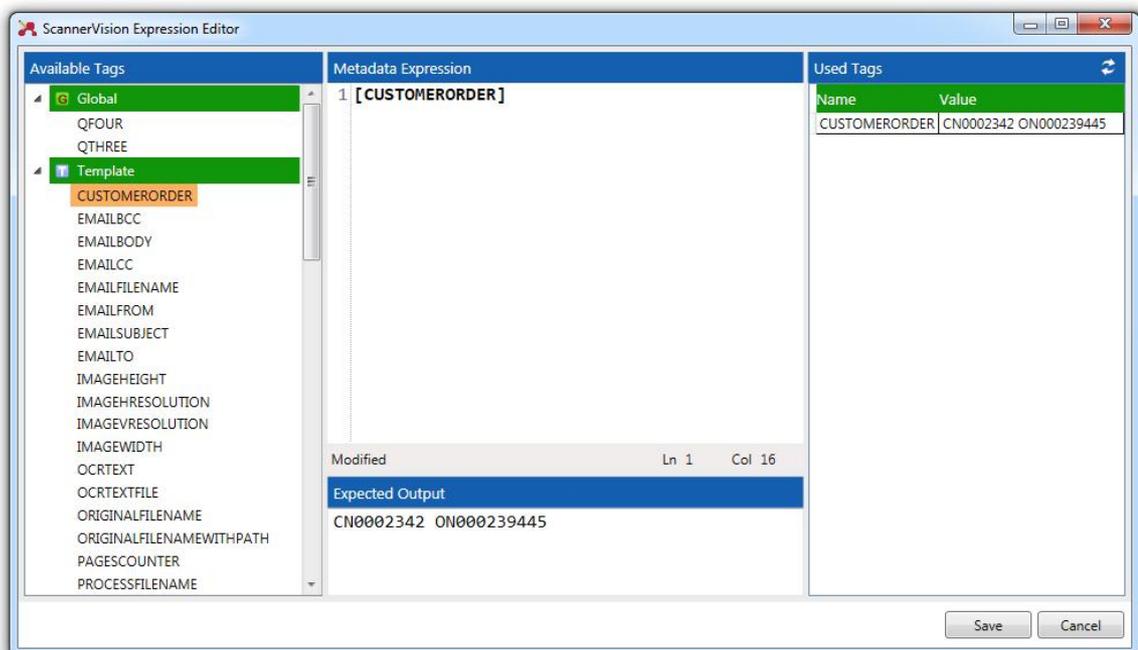
of the customer number and the start of the order number. In our example the delimiter is the space character. In this scenario the first method is obviously the one to use.

The KYOCERA Scan2SharePoint metadata functions are explained in detail in the [Functions](#) section. Once you understand how they work you can do very powerful things with your metadata!

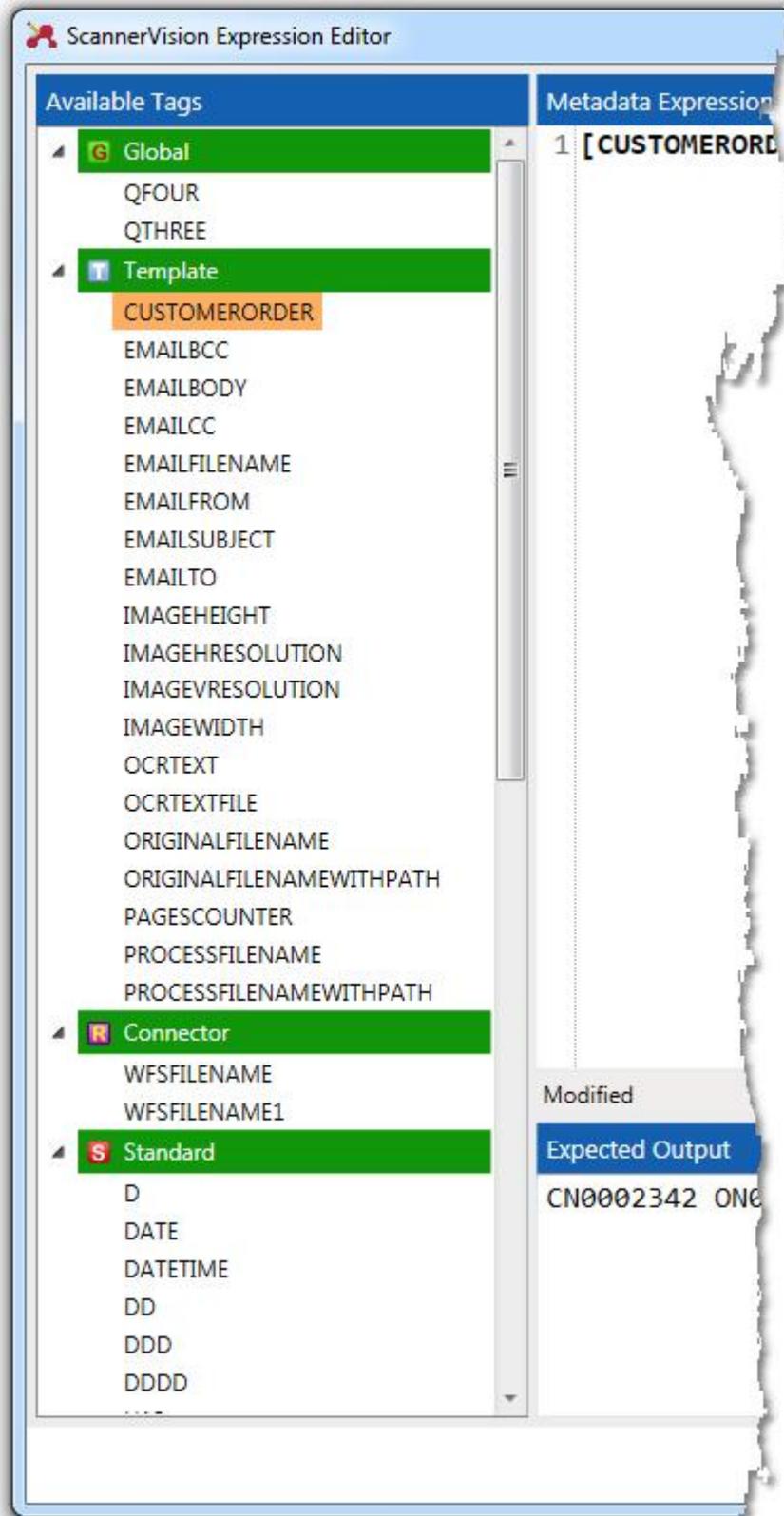
KYOCERA Scan2SharePoint provides you with a powerful [KYOCERA Scan2SharePoint Expression Editor](#) with which to create and test your expressions. Using the KYOCERA Scan2SharePoint Expression Editor you can see the result of your expressions using sample data that you can modify in the editor itself.

### 8.1.1 KYOCERA Scan2SharePoint Expression Editor

The KYOCERA Scan2SharePoint Expression Editor shown below is a rich environment in which you can build the metadata expressions that you want to use in your template. It offers several aids that are designed to help you to get the results you expect. One of these is the ability to see the output of your expression using sample data that you provide, in real time. You therefore don't have to wonder what the output of the expression would be or to process a test document through the system to see the output of the expression. Provided that your sample data represents real-world data, what you see in the expression editor is what you can expect to see during run time.



## Available Tags



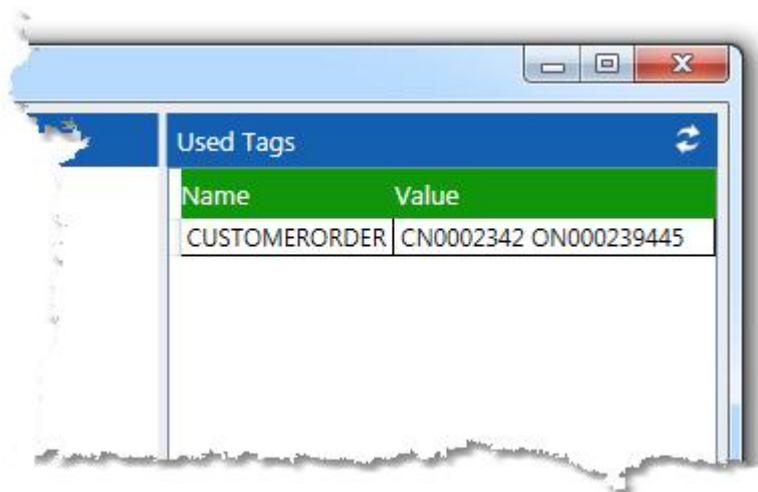
The available tags section contains all the metadata tags that are available for you to use in your expression. The tags are presented in a tree view with the tags grouped into between one and four groups. The groups represent the different types of metadata that is available in KYOCERA Scan2SharePoint namely "Global", "Template", "Connector" and "Standard". At a minimum you will get the Standard group since these tags are always available. The Global and Template groups are visible when global and/or template metadata have been configured respectively. The connector group will show up when the expression editor is opened from a connector setup screen, but only if the connector supports additional tags such as the Windows File System connector with its UNIQUESUFFIX tags.

The groups in the tree view can be collapsed or expanded by clicking the triangle to the left of the group heading. To collapse or expand all groups simultaneously you can right click with your mouse over the tree view and select the desired option from the context menu.

To insert a tag in your expression place the caret in the desired location of the "Metadata Expression" editor window and double click the tag you want to insert.

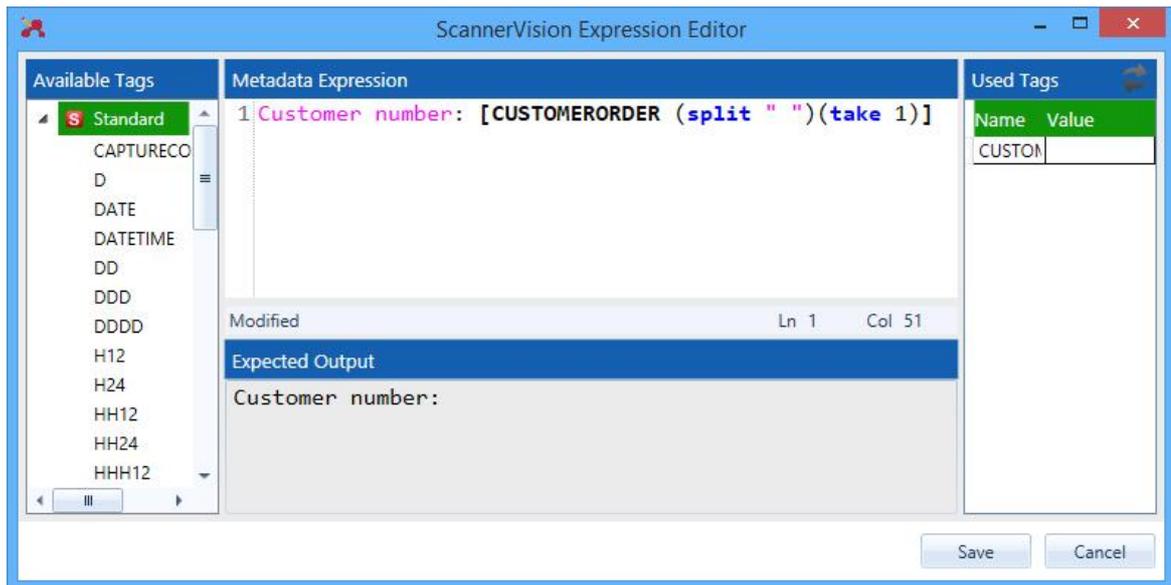
You can modify tags' sample data in the Used Tags grid. To reset the sample data to the original values, click the ↺ button in the top right hand corner.

### Used Tags



When a valid expression is entered into the expression editor window the Used Tags grid is updated with all the tags that are used in the expression. The grid shows the names of the tags as well as the sample value of each tag. You can edit the sample value in the grid by clicking in the relevant cell. To apply your changes click outside the grid or press Enter. The expression will be parsed using the sample data you entered and the output will appear in the Expected Output window.

### Metadata Expression



The metadata expression window is where you enter your expression. The editor offers syntax highlighting which colors the various sections of your expression to make it easier to read. Functions names are printed in bold, blue font; static text is printed in magenta and tag names are printed in a bold, black letters.

There are various ways to enter expressions and you can use them in any combination you wish:

1. You can type the expression using the keyboard.
2. You can double click a tag in the Available Tags section to insert it at the current caret position.
3. You can use "Code Completion" by pressing Ctrl-Space while the caret is between the square brackets of a metadata tag or the round brackets of a function. A context menu will appear with either tag names or function names - depending on the context of the caret. You can then navigate through the menus using the cursor keys on your keyboard or using the mouse. To insert the selected item in the menu, press the Enter key or left click on it with your mouse. Existing values are replaced with the newly selected ones.
4. You can right click in the expression editor area with your mouse to show the context menu from where you can select the desired action. Depending on the context of the caret in the expression, certain menu options may be disabled.

To use options 3 and 4 above, the caret in the editor has to be in between either square brackets for metadata tags or round brackets for functions. If this is not the case, pressing Ctrl-Space will have no effect and the menu items in the right click context menu will be disabled. Tags or functions names that appear outside the scope of their respective style of bracket is treated as plain text.

In the screen shot above there are three sections in the expression with peculiar highlighting:

1. Plain text. The plain text "Order number: " is printed in a magenta colored font. Text parameters of functions such as "match", "join" and "split" are also printed in a magenta colored font.
2. Metadata tag. The CUSTOMERORDER tag appears between opening and closing square brackets "[" and "]" and is printed in bold, black font.
3. Functions. The "split" and "take" functions appear between opening and closing round brackets "("

and ")" and are printed in bold, blue font.

At the bottom of the expression editor is a status bar with three sections which indicate the state of the editor window. The first section would contain the word "Modified" when the expression has been modified, "Error" when there is a syntax or parsing error in the expression or blank when there is no error in the expression and it has not been modified. To the right of the status bar are two sections that indicate the position of the caret in the editor. The "Ln" value indicates the current line number and the "Col" value indicates offset into the current line.

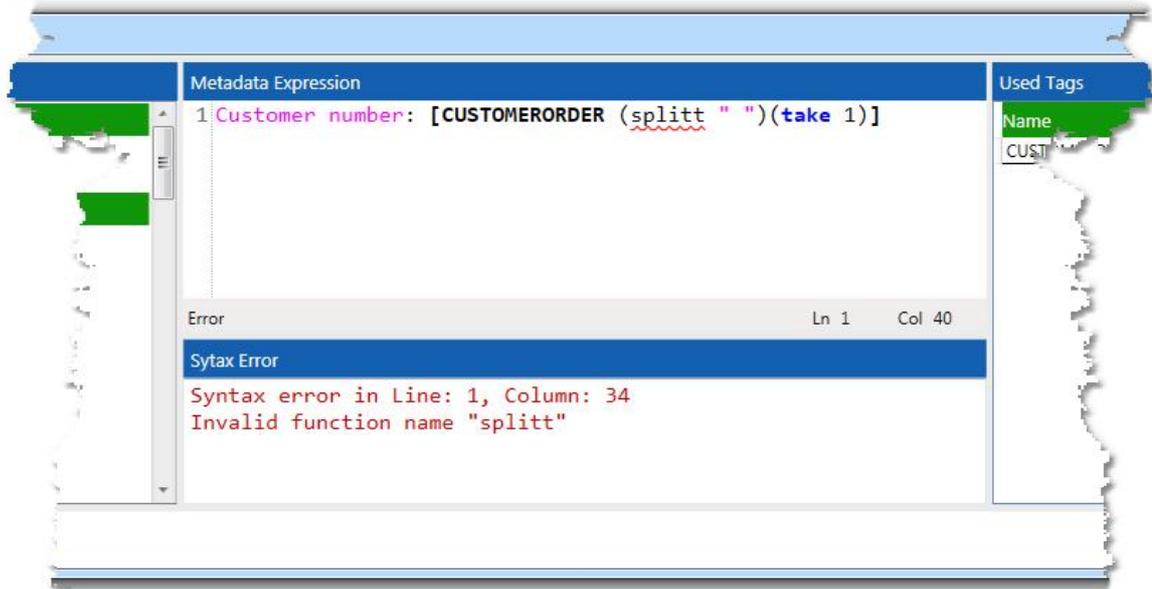
### Expected Output



Whenever a change is made to the expression in the expression editor it is parsed. The parsing of the expression does several things:

1. It validates the syntax of the expression. If there are any errors in the expression the parsing will fail. When this happens the caption of the output window changes from "Expected Output" to "Syntax Error" and the output window will indicate what the error is.
2. If the expression does not contain any errors, the output of the expression is shown in the output window using the given sample data.
3. If the expression does not contain any errors, the Used Tags grid is updated with the names (if any) of the tags used in the expression. You can then modify the sample data if you desire.

In the screen shot below you can see what the expression editor would look like when there is an error in the expression.



There are several aids to indicate that there is a problem with the expression and to help you to figure out what the problem is. They are:

1. The word "Error" appears in the status bar below the expression editor window.
2. A red squiggly line appears in the location where the problem is. In the screen shot above the line appears under the function name "splitt".
3. The caption of the output window below the expression editor changes from "Expected Output" to "Syntax Error".
4. An error message appears in the output window. In the example above the message indicates that the "splitt" function name is invalid.
5. The Save button disables.

After you have entered an expression and you have satisfied with the result you can click the save button. This will copy the expression into the edit box from where the KYOCERA Scan2SharePoint Expression Editor was launched.

## 8.1.2 Tags

In this section we present all the Standard metadata tags that are available in every template.

### Standard Tags

Tag Name	Description	Example value
<b>Date and Time</b>		
DATETIME	Date and time, formatted as YYYY-MM-YY HH24:NN:SS	2013-04-02 08:03:07
DATE	Culture specific short date format. This date format conforms to the regional settings of the operating system on which KYOCERA Scan2SharePoint is installed.	4/2/2013
TIME	Culture specific short time format. This date format conforms to the regional settings of the operating system on which KYOCERA Scan2SharePoint is installed.	8:03 AM
UTC	Coordinated Universal Time, formatted as "yyyy'-MM'-'dd'T'HH':'mm':'ss'. 'ffffffK"	2013-04-02 08:03:07.1234567Z
UCT	Coordinated Universal Time, formatted as "yyyy'-MM'-'dd'T'HH':'mm':'ss'Z"	2013-04-02T08:03:07Z
TZD	Time zone offset, formatted as +/-HH12:mm or "Z" if offset is zero.	+02:00 or Z
YYYY	Four digit year	2013
YY	Two digit year without century	13
MMMM	The full name of the month	April
MMM	The abbreviated name of the month	Apr
MM	The month with leading zeros from 01 through 12	04
M	The month without leading zeros from 1 through 12	4
DDDD	The full name of the day of the week	Tuesday
DDD	The abbreviated name of the day of the week	Tue
DD	The day of the month with leading zeros from 01 through 31	02
D	The day of the month without leading zeros	2

	from 1 through 31	
WW	Week of the year with leading zeros from 01 through 52	15
W	Week of the year without leading zeros from 1 through 52	15
HH24	The hour with leading zeros, using a 24-hour clock from 00 to 23	08
H24	The hour without leading zeros, using a 24-hour clock from 0 to 23	8
HHH12	AM/PM designator	AM
HH12	The hour with leading zeros, using a 12-hour clock from 00 to 12	08
H12	The hour without leading zeros, using a 12-hour clock from 0 to 12	8
NN	The minute with leading zeros, from 00 through 59	03
N	The minute without leading zeros, from 0 through 59	3
SS	The second with leading zeros, from 00 through 59	07
S	The second without leading zeros, from 0 through 59	7
ZZZ	Thousandths of a second	000
ZZ	Hundredths of a second	00
Z	Tenths of a second	0
<b>Client</b>		
CLIENTIPADDRESS	The IP address of the client that is connected to the server or from where the document was submitted	192.168.1.103
CLIENTSN	The serial number of the machine from where the document was submitted	SN:0029332022
MFDMODELNR	The model number of the machine from where the document was submitted	Aficio 4502
<b>User</b>		
USERNAME	The user name of the KYOCERA	billy

	Scan2SharePoint user who submitted the document	
USERMAIL	The email address of the KYOCERA Scan2SharePoint user who submitted the document	billyb@domain.com
USERHOMEFOLDER	The home folder of the KYOCERA Scan2SharePoint user who submitted the document	\some\folder
<b>SMTP Server</b>		
SMTPSERVER	SMTP server address	192.168.1.1
SMTPPORT	SMTP server port	25
SMTPAUTHENTICATION	SMTP server authentication method	No Authentication
SMTPUSER	SMTP server user name	admin
SMTPFROM	FROM address of emails sent by KYOCERA Scan2SharePoint	noreply@domain.com
SMTPTO	Address to which emails are sent to by KYOCERA Scan2SharePoint	administrator@domain.com
<b>KYOCERA Scan2SharePoint</b>		
MAINCOUNTER	The total number of documents that have been processed by KYOCERA Scan2SharePoint	32665
MACHINEID	The product ID of the Windows operating system	55041-049-8010363-86340
SVSERVERVERSION	The KYOCERA Scan2SharePoint version number	4.5.0.0
<b>Document</b>		
ORIGINALFILENAME	The name of the incoming file excluding the file path but including the file extension	Scan_000123.pdf
ORIGINALFILENAME WITHPATH	The fully qualified name of the incoming file	H:\Hot Folder \Scan_000123.pdf
PROCESSFILENAME	The name of the file after image processing has been performed, excluding the file path but including the file extension	Scan_000123.tif
PROCESSFILENAME WITHPATH	The fully qualified name of the file after image processing has been performed	H:\Hot Folder \Scan_000123.tif
PAGESCOUNTER	The number of pages in the document being processed	43

IMAGEWIDTH	The width of first page in the document being processed	1240
IMAGEHEIGHT	The height of first page in the document being processed	1754
IMAGEHRESOLUTION	The horizontal resolution of the first page in the document being processed	150
IMAGEVRESOLUTION	The vertical resolution of the first page in the document being processed	150

### Email Capture Tags

The following table lists the tags that are available when email capturing has been configured for the template. These tags are only available during document processing.

Tag Name	Description
<b>Email Capture</b>	
EMAILBCC	Complete BCC address as obtained from the email header
EMAILBODY	Email body text
EMAILCC	Complete CC address as obtained from the email header
EMAILFILENAME	Name of attachment
EMAILFROM	Complete FROM address as obtained from the email header
EMAILTO	Complete TO address as obtained from the email header
EMAILSUBJECT	Email subject

The format of email addresses in the TO, FROM, CC and BCC fields is dependent on the email client/server from which the email was sent and could be in any of the following forms (and possibly more)

"Name Surname" <person@domain.com>

or

"Name Surname"

or

<person@domain.com>

You can use the KYOCERA Scan2SharePoint metadata functions to extract only the data you want.

## OCR Tags

The following table lists the tags that are available when OCRing is enabled in the template. These tags are only available during document processing.

Tag Name	Description
<b>OCR</b>	
OCRTEXT	OCRed text, limited to 64MB*
OCRTEXTFILE	Fully qualified path to a file containing all OCRed text
OCRTEXTXML	XML description of the OCRed words including the position and dimensions of each word's bounding box
OCRTEXTXMLFILE	Fully qualified path to a file containing the XML description of the OCRed words

Since documents can be very large the value of the OCRTEXT and OCRTEXTXML tags are limited to 64MB. If you need to get access to the full body of OCRed text, you can reference the OCRTEXTFILE or OCRTEXTXMLFILE tags which hold the fully qualified path to text files containing all the OCRed text.

\* There is one exception to the 64MB limit. When you configure a data export rule in the Data Export Settings tab and you reference ONLY the OCRTEXT or OCRTEXTXML tags (no metadata functions, custom text etc.) in the "Custom output" field e.g. [OCRTEXT] or [OCRTEXTXML], all OCRed text will be exported to the specified file. When specifying [OCRTEXTXML] in the export rule be sure to select either the Unicode or UTF8 encoding. Failing to do so could result in an output file that may not be parseable by all Xml parsers.

The xml structure produced by the OCRTEXTXML tag is shown below:

```
<Document>
  <Page>
    <word x="37" y="58" w="170" h="29">Pottery</word>
  </Page>
  <Page>
  </Page>
  <Page>
    <word x="665" y="227" w="76" h="21">Product</word>
    <word x="1077" y="1428" w="10" h="17">3</word>
    <word x="1190" y="1427" w="58" h="20">$4.50</word>
    <word x="1306" y="1426" w="56" h="20">$6.00</word>
    <word x="814" y="2231" w="8" h="16">10</word>
  </Page>
</Document>
```

## Special Tags

You can make use of special tags called "Hash tags" which you won't find in the tag lists that the [KYOCERA Scan2SharePoint Expression Editor](#) provides. They are not "Standard", "Global" or "Template" per se, although they are always available. Hash tags are so called because they are comprised of the "#" or "#0x" prefix followed by a number e.g. #13 and #0x00B0. The number is called the "ordinal value". You would use these when you want to include non-printable characters like TAB, CR, LF etc. All characters - whether they are printable or not - have an ordinal value. Here are a few examples:

TAB = #9

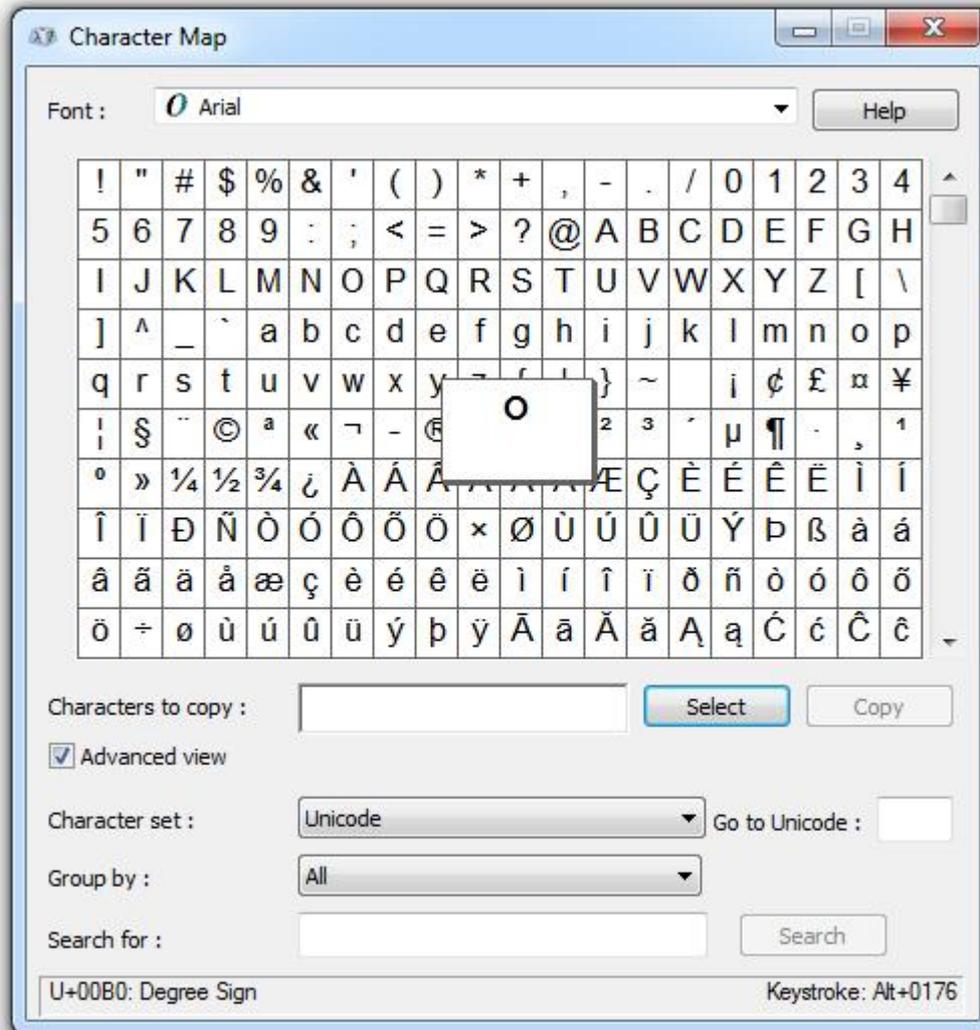
CR = #13

LF = #10

° = #0176 (degree symbol)

**TIP**

You can find all characters' ordinal values using the built-in character map in Windows. If you have Windows 7 installed, just type "Character Map" in the "Search programs and files" edit box in the Start Menu.



In the screen shot above the degree symbol is highlighted. In the status bar at the bottom of the screen you can see its UNICODE value in both HEX and decimal format. The HEX format "U+00B0" is on the left and the decimal format "0176" on the right. You can use either the decimal or HEX value in expressions. Not all characters have a decimal value though such the Greek alphabet letters e.g. Alpha ("Α"). Decimal values have to be prefixed with a "#" symbol and HEX values with "#0x" when they are used in expressions.

The letters in the HEX ordinal values are not case sensitive.

Here are a few examples:

Expression	Output
15[#0x00B0]	15°
15[#0x00b0]	15°

15[#176]	15°
[#0x03b1][#0x03b2][#0x03b3] or [#0x03b1#0x03b2#0x03b3]	αβγ
[#91] or ["["]	[
[#93] or ["]]	]

### 8.1.3 Functions

This section of the manual serves as a reference of the available metadata functions that are available in the [KYOCERA Scan2SharePoint Expression Editor](#). The examples given in this section are intended to show the behavior of the relevant function only. For more complete and real world example refer to the [Examples](#) section.

The KYOCERA Scan2SharePoint Expression Parser is the engine that reads your expressions and execute the functions you specified. Before explaining the functions and how they work we will explain how the Expression Parser works internally as this will help you to unlock the full power that the functions provide.

#### Terminology

We will start by defining a few programming terms that we will use in the text that follows.

##### **Functions and parameters**

Functions are instructions that a computer executes. You are telling the computer to DO something. Among the available metadata functions are the "ucase" and "split" functions. With the "ucase" function you are telling the computer, "Make all characters in the text uppercase". With some functions the computer needs more information such as with the "split" function which needs to know WHAT to split on. We will be telling the "split" function what to split on with what is called a function parameter. Some functions may require more parameters than others but all KYOCERA Scan2SharePoint metadata functions have an implied parameter namely the text on which to work. This is mostly the metadata tag in the context of which the function appears but it could also be the result of previous function. You won't have to specify this parameter explicitly.

Metadata tags in KYOCERA Scan2SharePoint are delineated with square brackets. The [DATETIME] tag represents a date and time value such as "2013-04-02 08:03:07". To apply metadata functions to the [DATETIME] tag you would put the functions inside the tag, before the closing square bracket, surrounded with parentheses and with a space between the tag name and the opening parentheses of the first function.

In the following expression:

[\[DATETIME \(split "-"\)\(take 1\)\]](#)

we are applying the "split" and "take" functions to the DATETIME tag. In the case of the "split" function we are passing it a parameter "-" which tells the function that we want the date & time to be split on the hyphen. This results in 3 parts namely "2014", "04" and "02 08:03:07" which become the input of the "take" function. In the "take" function we are passing the parameter 1 which tells the function that we want the first part of the split result i.e. "2014".

If a function requires more than one parameter such as the "replace" function they are separated by commas e.g.:

```
[DATETIME (replace "-", "/")]
```

### **Input & Result**

*Input* is the data on which a function works and *Result* is the outcome of that operation. In the expression:

```
[DATETIME (split "-")(take 1)]
```

the value of the DATETIME tag - let us assume that to be "2013-03-12 14:23:54" - is the **input** of the "split" function and the outcome "2013", "03", "12 14:23:54" is its **result**. The result of the "split" function becomes the input of the "take" function which yields the result "2013".

### **Characters and Strings**

We will explain characters and strings in the context of a text editor like Notepad. Anything you type into Notepad is just text whether it is letters of the alphabet, numbers or symbols. Every keystroke represents a **character** e.g. 'A', 'b', '1', '@'. These are all characters and each has a unique number called an ordinal value which we encountered in the discussion of metadata [tags](#) and the UNICODE character map. Not all characters are visible such as the Space or Tab characters but they all have an ordinal value.

A sequence of characters is called a **string**. A string can contain zero or more characters. When a string contains zero characters it is called an empty string. The following are all strings: "Customer", "INVOICE00012345", "\$3000", "25°", "A", "".

To distinguish between the **character** A and the **string** A in the discussion below we use single quotes to indicate the character 'A' and double quotes to indicate the string "A". So,

```
'A' = Character A
```

```
"A" = String A
```

```
'AB' is not valid because there is no character AB.
```

### **Integers**

Integers are whole numbers which are numbers without a decimal value e.g. 1, 300, -15.

## Arrays

An **array** is a series of values and you can visualize it as a table with many rows and only one column. The numbers of the rows are called **indexes** and the values are called **elements**.

Index	Elements
1	CN000123
2	ON023456

The table above represents an array with 2 elements. To refer to the elements we use the notation [1], [2] etc. So, [1] = "CN000123" and [2] = "ON023456". Don't confuse the square brackets "[" and "]" with KYOCERA Scan2SharePoint tags. If we want to refer to the whole array, we use the notation: ["CN000123", "ON023456"]. Here the double quotes indicate the elements in the array are *strings*. You could also have ['a', 'b', 'c'] which would be an array of characters.

Arrays in KYOCERA Scan2SharePoint metadata functions will always contain strings or characters. When we want to refer to an array of strings we use the notation string[] and for a character array we use character[].

Any string can be thought of as an array of characters. So the string "Apple" is equivalent to: ['A', 'p', 'p', 'l', 'e']

This is why you are able to use the "take" function on a string. Let us use the DATETIME tag with the value "2013-03-12 14:23:54" as an example. You could define an expression as follows:

```
[DATETIME (take 1-4)]
```

The result of the expression is the array ['2', '0', '1', '3']. If you pasted the expression above in the [KYOCERA Scan2SharePoint Expression Editor](#) you won't see the array ['2', '0', '1', '3'] but "2013". The result of the "take" function is an array and whenever the **last** function in an expression produces an array KYOCERA Scan2SharePoint automatically converts it to a string by concatenating all the elements in the array - even when the elements are strings themselves. We discuss this in more detail below. The concatenation of array elements to produce a string is what the "join" function does so we could have written the expression above as follows:

```
[DATETIME (take 1-4)(join)]
```

If we call a function such as "(split "-")" we are instructing KYOCERA Scan2SharePoint to look for all instances of the "-" string and to split the string there. The result is an array of strings. Using the DATETIME example above again, if we had the following expression:

```
[DATETIME (split "-")]
```

the result is an array of strings as follows:

```
[1] = "2013"
```

```
[2] = "03"
```

[3] = "12 14:23:54"

So, given the expression:

`[DATETIME (split "-")(take 1)]`

the string array result of the "split" function becomes the input of the "take" function. We told the "take" function to take array element 1 which is "2013". Not surprisingly, if we had said (take 2) the result would have been "03".

When a string is passed into a function that expects a `string[]` as input, the function converts the string into an array of strings e.g. "apple" becomes ["a", "p", "p", "l", "e"]. Similarly, when a `string[]` is passed to a function that expects a `character[]`, the elements in the array are concatenated and then converted into a `character[]` e.g. ["brown", "dog"] becomes ['b', 'r', 'o', 'w', 'n', 'd', 'o', 'g'].

To see this for yourself, enter the following expression in the [KYOCERA Scan2SharePoint Expression Editor](#):

`["ABCD" (join "*")]`

The result of this is: "A\*B\*C\*D". The join function expects an array so the string "ABCD" is converted to ["A", "B", "C", "D"] before the join "\*" is performed.

### Types

Type is a collective noun for *character*, *string*, *integer* and *array*. Here are the types we have encountered:

Example	Identifier	Description
'A'	character	A single character
"Apple"	string	Zero or more strings
1	integer	A number without decimals
['A', 'b', '\$']	character[]	Array of character
["Apple", "Pear"]	string[]	Array of string

### Application of the terms

With the information given above you will understand the following statement:

The *split* function takes a *string* as *input*, a *string* as a *parameter* and *returns a string[]*.

### Implicit "join"

When a metadata function returns an array of string and it is the last function of the tag, KYOCERA Scan2SharePoint does an implicit "join" of the array elements to form a string.

Example:

Let's say the BC4 tag contains the value "2013-03-12" and you perform a split on the "-" character like this:

```
[BC4 (split "-")]
```

The result you'll see in the [KYOCERA Scan2SharePoint Expression Editor](#) is "20130312" and not ["2013", "04", "12"]. Behind the scenes KYOCERA Scan2SharePoint actually did this:

```
[BC4 (split "-")(join)]
```

### Regular Expressions

The "split" and "match" functions take a string parameter which represents the pattern on which to do the split or match. This pattern could be any valid regular expression. An explanation of regular expressions is beyond the scope of this manual. A good understanding of regular expressions is however highly recommended if you want to make full use of the power of KYOCERA Scan2SharePoint metadata functions. We can recommend the [Regular-Expressions.info](#) website if you want to brush up on you Regex skills.

### White Space

White space characters include the following:

- SPACE (U+0020)
- OGHAM SPACE MARK (U+1680)
- MONGOLIAN VOWEL SEPARATOR (U+180E)
- EN QUAD (U+2000)
- EM QUAD (U+2001)
- EN SPACE (U+2002)
- EM SPACE (U+2003)
- THREE-PER-EM SPACE (U+2004)
- FOUR-PER-EM SPACE (U+2005)
- SIX-PER-EM SPACE (U+2006)
- FIGURE SPACE (U+2007)

- 
- PUNCTUATION SPACE (U+2008)
  - THIN SPACE (U+2009)
  - HAIR SPACE (U+200A)
  - NARROW NO-BREAK SPACE (U+202F)
  - MEDIUM MATHEMATICAL SPACE (U+205F)
  - IDEOGRAPHIC SPACE (U+3000)
  - LINE SEPARATOR character (U+2028)
  - PARAGRAPH SEPARATOR character (U+2029)
  - CHARACTER TABULATION (U+0009)
  - LINE FEED (U+000A)
  - LINE TABULATION (U+000B)
  - FORM FEED (U+000C)
  - CARRIAGE RETURN (U+000D)
  - NEXT LINE (U+0085)
  - NO-BREAK SPACE (U+00A0).

**8.1.3.1 join**

Concatenates all elements in a string array inserting the given delimiter in between.

Property	Value
Input	string[]
Parameter	string
Result	string

**Examples**

Input	Function	Result
"ABCDE"	(join "-")	"A-B-C-D-E"
["2013", "04", "01"]	(join "-")	"2013-04-01"
["ABC", "GHI"]	(join "DEF")	"ABCDEFghi"
["2013", "04", "01"]	(join "") or (join)	"20130401"

**8.1.3.2 lcase**

Converts all characters in all elements of a string array to lowercase.

Property	Value
Input	string[]
Parameter	-
Result	string[]

**Examples**

Input	Function	Result
-------	----------	--------

"Apples"	(lcase)	"apples"
["Apples", "Pears", "ORANGES"]	(lcase)	["apples", "pears", "oranges"]

### 8.1.3.3 lpad

Left pads all elements in a string array with the given character up to the required length.

Property	Value
Input	string[]
Parameter	character, integer
Result	string[]

#### Examples

Input	Function	Result
"Apples"	(lpad '*', 10)	****Apples
["Apples", "Pears", "ORANGES"]	(lpad '*', 10)	["****Apples", "*****Pears", "****ORANGES"]

### 8.1.3.4 ltrim

Removes all leading, white space characters from all elements in a string array.

Property	Value
Input	string[]
Parameter	-
Result	string[]

#### Examples

Input	Function	Result
" Apples "	(ltrim)	"Apples "
[" Apples ", " Pears ", " Oranges "]	(ltrim)	["Apples ", "Pears ", "Oranges "]

### 8.1.3.5 match

Finds all matches of the given regular expression in all elements in a string array.

Property	Value
Input	character[]
Parameter	regex string
Result	string[]

### Examples

Input	Function	Result
"ab12cd34ef15"	(match "\\d\\d")	["12", "34", "15"]
"ab12cd34ef15"	(match "1\\d")	["12", "15"]
["ab12cd34ef1", "5ab12cd34ef15"]	(match "\\d\\d")	["12", "34", "15", "12", "34", "15"]

### 8.1.3.6 remove

Removes all elements in a character or string array that matches a given regular expression. If no regular expression is provided the function removes all empty elements.

Property	Value
Input	character[] / string[]
Parameter	regex string
Result	character[] / string[]

**Examples**

Input	Function	Result
"2013-07-31 11:40:01"	(remove "[-,:; ]")	["20130731114001"]
["ab==ef=gh"]	(split "=")(remove)	["ab", "ef", "gh"]

**8.1.3.7 replace**

Replaces all instances of a sub string matching a given regular expression with another given string

Property	Value
Input	character[] / string[]
Parameter	regex string, string
Result	character[] / string[]

**Examples**

Input	Function	Result
"2013-07-31 11:40:01"	(replace "-", "/")	["2013/07/31 11:40:01"]

**8.1.3.8 reverse**

Reverses all elements in a character or string array.

Property	Value
Input	character[] / string[]
Parameter	-
Result	character[] / string[]

**Examples**

Input	Function	Result
"abcdef"	(reverse)	["fedcba"]
"ab12cd34ef15gh17"	(match "1\d")(reverse)(take 1,3)	["17", "12"]
["ab=cd=ef=gh"]	(split "=")(reverse)(join "-")	["gh-ef-cd-ab"]

### 8.1.3.9 rpad

Right pads all elements in a string array with the given character up to the required length.

Property	Value
Input	string[]
Parameter	character, integer
Result	string[]

### Examples

Input	Function	Result
"Apples"	(rpad '*', 10)	Apples*****
["Apples", "Pears", "ORANGES"]	(rpad '*', 10)	["Apples*****", "Pears*****", "ORANGES*****"]

### 8.1.3.10 rtrim

Removes all trailing, non-printable characters from all elements in a string array.

Property	Value
Input	string[]
Parameter	-
Result	string[]

**Examples**

Input	Function	Result
" Apples "	(rtrim)	" Apples"
[" Apples ", " Pears ", " Oranges "]	(rtrim)	[" Apples", " Pears", " Oranges"]

**8.1.3.11 split**

Split all elements in a string array on the given regular expression, removing the regular expression.

Property	Value
Input	character[]
Parameter	regex string
Result	string[]

**Examples**

Input	Function	Result
"ab12cd34ef15"	(split "\\d\\d")	["ab", "cd", "ef"]
"ab12cd34ef15"	(split "1\\d")	["ab", "cd34ef"]
["ABC", "ABC"]	(split "B")	["A", "CA", "C"]
["ABC", "ABC"]	(split "CA")	["AB", "BC"]

**8.1.3.12 take**

Select a range of elements from string array.

Property	Value
Input	string[]
Parameter	integer, integer, ...

Result	string[]
--------	----------

### Notes

You can pass and unlimited number of parameters to the take function.

Individual elements are specified by index e.g. 1, 2, 3

Element ranges are specified as "from" - "to" e.g. 1-5, 4-1. If the range goes from a higher number to a lower number, the elements are inverted.

To select from an index to the end of the array, omit the "to" value in the range e.g. "2-" which select from element 2 to the end of the array.

Indexes and ranges can be mixed and repeated e.g. 1, 3-5, 1, 6, 9-

### Examples

Input	Function	Result
"abcde"	(take 1)	"a"
"abcde"	(take 1, 3)	"ac"
"abcde"	(take 1-3)	"abc"
"abcde"	(take 1-3, 5)	"abce"
"abcde"	(take 2-)	"b,c,d,e"
"abcde"	(take 3-1)	"c,b,a"
["AB", "12", "CD", "34"]	(take 1)	["AB"]
["AB", "12", "CD", "34"]	(take 2, 1)	["12", "AB"]
["AB", "12", "CD", "34"]	(take 3-1)	["CD", "12", "AB"]

#### 8.1.3.13 trim

Removes all leading and trailing non-printable characters from all elements in a string array.

Property	Value
Input	string[]

Parameter	-
Result	string[]

**Examples**

Input	Function	Result
" Apples "	(trim)	"Apples"
[" Apples ", " Pears ", " Oranges "]	(trim)	["Apples", "Pears", "Oranges"]

**8.1.3.14 ucase**

Converts all characters in all elements of a string array to uppercase.

Property	Value
Input	string[]
Parameter	-
Result	string[]

**Examples**

Input	Function	Result
"Apples"	(ucase)	"APPLES"
["Apples", "Pears", "oranges"]	(ucase)	["APPLES", "PEARS", "ORANGES"]

**8.1.3.15 unique**

Removes all duplicates from all elements in a string array.

Property	Value
----------	-------

Input	string[]
Parameter	-
Result	string[]

### Examples

Input	Function	Result
"Apples"	(unique)	"Aples"
["Apples", "Apples", "Pears"]	(unique)	["Apples", "Pears"]

## 8.1.4 Character Escaping

Character escaping in general computing terms is the act of adding a special character(s) to a sequence of characters to give an alternate meaning to a subsequent character(s) or to be a substitute for a specific character(s).

A common example of this is the replacement of the space character ' ' with "%20" in URLs and the substitution of '<' and '>' with "&lt;" and "&gt;" in Xml and Html.

KYOCERA Scan2SharePoint metadata expressions can be used in the context of various domain specific languages (DSL) such as SQL, Xml and VBScript. Since metadata expressions is a DSL in itself there are situations where the syntax of the one DSL conflicts with that of the other.

We'll use database picklists (see [Creating Picklists](#) for more information) to explain the conflict in meaning of square brackets in SQL queries and KYOCERA Scan2SharePoint metadata expressions.

Let's say we are tasked with creating a KYOCERA Scan2SharePoint template that must ask the user for his/her department and employee number. We want the user to select a department from a list of departments and then to selected his/her name from a list of employees which has been filtered to show only those employees belonging to the selected department.

The query below is the Microsoft TSQL query we will use to build the list of departments:

```
select [DepartmentName], [DepartmentId]
from [dbo].[Departments]
```

The metadata tag name we assign to the departments picklist is [DEPTNO]. When the user selects a department, the department id is put in the metadata tag named [DEPTNO]. This information is sent to the KYOCERA Scan2SharePoint server so that it is available in subsequent queries like the one we'll use to create the list of employees which is shown below:

```
select [EmployeeName], [EmployeeId]
from [dbo].[Employees]
where [DepartmentId] = "[DEPTNO]"
```

## The Problem

Before KYOCERA Scan2SharePoint can execute the SQL query it must first parse the query to find all the KYOCERA Scan2SharePoint metadata tags and replace them with actual values. Both Microsoft TSQL and metadata expressions make use of square brackets to indicate special entities such as tables and column names in the case of TSQL and metadata expressions in the case of KYOCERA Scan2SharePoint. So given the queries we presented above the KYOCERA Scan2SharePoint Expression Parser would not know which values between square brackets are database entities and which are metadata tags. In the form above the parser will treat them all as metadata tags and you will end up with a TSQL query after parsing that looks like this:

```
select , from . and select , from .where = "" respectively
```

## The Solution

To solve this problem we have to **escape** all TSQL related square brackets so that the KYOCERA Scan2SharePoint Expression Parser does not try and replace them with metadata values. To escape a character in a KYOCERA Scan2SharePoint metadata expression you would use the sequence ["x"] where x is the character(s) you are escaping. The queries above in their escaped form would look like this:

```
select ["[DepartmentName]"], ["[DepartmentId]"]
```

```
from ["[dbo]"].["[Departments]"]
```

or

```
select ["[DepartmentName]"], ["[DepartmentId]"]
```

```
from ["[dbo].[Departments]"]
```

or

```
["select [EmployeeName], [EmployeeId]
```

```
from [dbo].[Employees]
```

```
where [DepartmentId] = "[DEPTNO]"
```

and

```
select ["[EmployeeName]"], ["[EmployeeId]"]
```

```
from ["[dbo]"].["[Employees]"]
```

```
where ["[DepartmentId]"] = "[DEPTNO]"
```

or

```
select ["[EmployeeName], [EmployeeId]"]
```

```
from ["[dbo].[Employees]"]
```

```
where ["[DepartmentId]"] = "[DEPTNO]"
```

or

```
["select [EmployeeName], [EmployeeId]  
  
from [dbo].[Employees]  
  
where [DepartmentId]" = "[DEPTNO]"
```

Now after parsing the queries would look like the ones we had originally except that the [DEPTNO] metadata tag would have been replaced with whatever the value for [DEPTNO] was. As you can see, there are several ways to escape the queries. They are all valid. It is up to you to decide which is more readable.

We suggest that you copy and paste the various queries above into the [KYOCERA Scan2SharePoint Expression Editor](#) to see the results for yourself.

In situations where your queries don't make use of the square brackets to delineate database entities, i.e. they are only used to reference KYOCERA Scan2SharePoint metadata tags, you are welcome to use a regular "unescaped" query such as:

```
select EmployeeName, EmployeeId  
from Employees  
where DepartmentId = [DEPTNO]
```

Be ware though that [DEPTO] refers to a KYOCERA Scan2SharePoint metadata tag.

### 8.1.5 Examples

In the discussion so far you have seen the KYOCERA Scan2SharePoint metadata functions used in fairly trivial expressions. In this section we present several more complex examples of how you can use these functions.

Throughout the examples we'll use the fictitious BC tag which holds our sample data. If you want to try out these examples for yourself, copy and paste the expression into the [KYOCERA Scan2SharePoint Expression Editor](#). The first time you do this, the Expected Output window will show the un-parsed expression and you will see the "BC" tags appear in the Used Tags grid. Once you have entered some sample data into the grid the expression will parse as usual. Alternatively, you can put the sample data in double quotes in the place of the BC tag e.g.

```
["2013/05/25" (split "/" )(join "-")]
```

We present the sample data in the examples in double quotes so that you can see if there are leading or trailing non-printable characters included in the data. When you copy the sample data, make sure to copy everything BETWEEN the quotes and not to include the quotes themselves - unless of course you use the shorthand shown above in which case you must include the quotes as well.

### Reformat Date and Time

Requirement	Replace "/" with "-" in date.
Sample data	"2013/05/25"
Expression	[BC (replace "/" "-")]
Result	2013-05-25
Requirement	Convert date and time to UTC format.
Sample data	"05/25/2013 23:07:48"
Expression	[BC (split "/" " ")(take 3, 1, 2)(join "-")]T[BC (split " ")(take 2)]Z
Result	2013-05-25T23:07:48Z
Requirement	Ensure that month and day have a leading zero and replace "/" with "-".
Sample data	"2013/3/4"
Expression	[DATETIME (split "/" " ")(lpad '0', 2)(join "-")]
Result	2013-03-04

### Character case

Requirement	Ensure that the name of day start with a capital letter and the remaining letters are lowercase.
Sample data	"monday", "MONDAY", "moNDaY"
Expression	[BC (ucase)(take 1)][BC (lcase)(take 2-)]
Result	Monday

### Email address

Requirement	Create a string of semi-colon delimited email addresses given the TO field from an email message header.
Sample data	""Some User1", <someuser1@domain.com>, "Some User2", <someuser2@domain.com>"
Expression	[BC (match "[_a-z0-9-]+(\\.[_a-z0-9-]+)*@[a-z0-9-]+(\\.[a-z0-9-]+)*(\\.[a-z]{2,4})"))(join "; ")]
Result	someuser1@domain.com; someuser2@domain.com

Note

To create a Regex that will match every possible form of email address is no trivial task. The one presented here will match most common forms but you will have to adapt it for specific situations if this one is not sufficient.

### Matching

Requirement	Extract all 2 digit numbers from a string.
Sample Data	"ab12cd34ef56qw1we3"
Expression	[BC (match "\d\d")]
Result	123456

### Find n<sup>th</sup> last instance

Requirement	Find last sub folder name in a folder path with unknown number of sub folders
Sample Data	"C:\Users\Public\Documents\microsoft\"
Expression	(split "\\")(remove)(reverse)(take 1)
Result	microsoft

#### Note

Since the split function takes a regular expression the backslash needs to be escaped.

Since the sample data contains a trailing backslash the split function will split on the last backslash which results in an empty last element in the string array. The remove function without a parameter removes all empty elements in the string array. If you omitted the remove function you would have needed to use "take 2" instead.

This technique above can be used to get any last n<sup>th</sup> element in the array by just specifying the relevant instance in the take function call.

### Extract directory

Requirement	Find the directory only of a fully qualified path.
Sample Data	"C:\Users\Public\Documents\microsoft\filename.tiff"
Expression	(match "(.+\\)*")
Result	C:\Users\Public\Documents\microsoft\

#### Note

Since the match function takes a regular expression the backslash needs to be escaped.

For this expression to work reliably the path:

- Has to contain a file name

OR

- Has to end with a trailing backslash

Otherwise the last sub directory will be stripped off e.g. "C:\Users\Public\Documents\microsoft" will end up as "C:\Users\Public\Documents\"

## 8.1.6 Conditional Expressions

KYOCERA Scan2SharePoint allows you to make use of conditional logic in your expressions. Conditional expressions allow you to use different values as metadata depending on the value of other metadata.

As an example, let's use the following scenario: We want to split a document on a QR barcode called BCSPLITTER and the newly split document must be renamed to the value of the barcode. In order to do this you would use the DOCUMENTSPLITTER tag for the file name in the <%WFS%>. However, if the original document contains only one page then this technique will not work. Since there is only one page in the document it cannot be split and therefore the DOCUMENTSPLITTER tag would be empty. Actually, the DOCUMENTSPLITTER tag would contain the text "[DOCUMENTSPLITTER]" which by KYOCERA Scan2SharePoint convention represents a tag that has no value.

It would be very useful if you could actually test if the DOCUMENTSPLITTER tag was empty and if so use a different tag value e.g. BCSPLITTER. This is exactly what a conditional expression allows you to do.

The syntax of conditional expressions is:

`{a} ? b : c`

where

a = Condition

b = Value to return if condition is TRUE

c = Value to return if condition is FALSE

### Condition

The condition part of a conditional expression has to be enclosed in curly braces. You would typically compare the value of a metadata data tag with a known value or the value of another tag. In our example above we want to test whether or not the DOCUMENTSPLITTER tag is "empty" - which is to say it contains the value "[DOCUMENTSPLITTER]". The condition part of the expressions would then look like this:

`{[DOCUMENTSPLITTER] == "[DOCUMENTSPLITTER]"}`

The double equals sign above notes comparison and the double quotes around the second [DOCUMENTSPLITTER] denotes a string literal. "[DOCUMENTSPLITTER]" is not the same as [DOCUMENTSPLITTER]. As stated "[DOCUMENTSPLITTER]" is treated as TEXT while [DOCUMENTSPLITTER] denotes the DOCUMENTSPLITTER TAG and more specifically the value of the DOCUMENTSPLITTER tag.

### Arguments

The "b" and "c" in the syntax definition above are called arguments. Arguments could be text (string literals) or tags.

### Full Expression

The full conditional expression of our example looks like this:

```
[[[DOCUMENTSPLITTER] == "[DOCUMENTSPLITTER]" ? [BCSPLITTER] : [DOCUMENTSPLITTER]]
```

In English the above expression reads like this: If the DOCUMENTSPLITTER tag is empty (i.e. contains the text value "[DOCUMENTSPLITTER]") then use the value of the BCSPLITTER tag otherwise use the value of the DOCUMENTSPLITTER tag.

So why would this expression do what we want? We stated in our example that single page documents must also be renamed to the value of the BCSPLITTER tag (i.e. the barcode value), the same as for multi-page documents containing multiple instances of the particular QR code we want to split on. By convention KYOCERA Scan2SharePoint populates the BCSPLITTER tag with the value of the last instance of the QR code found in the original document, we can't just use the BCSPLITTER tag as the file name for the split documents since they would then all have the same name. We can however (and should) use the DOCUMENTSPLITTER tag since it would contain the value of the barcode that caused a documents split. In the single page document case no split occurs and therefore the DOCUMENTSPLITTER tag is empty, but the BCSPLITTER tag is not - it contains the value of the one and only QR code in the document.

### Most robust solution

There is still one problem with the full expression we created in the previous section. What happens when we have a single page document does NOT contain a QR code? Now both the DOCUMENTSPLITTER and BCSPLITTER tags are empty! To solve this we would use a second conditional expression in place of the first argument "b". This expression would do exactly the same as the first one, except it would test if the BCSPLITTER tag is empty. It is up to you how you would handle this situation. You could for example use the ORIGINALFILENAME if no QR code is found.

Here is the final expression that will handle all situations:

```
[[[DOCUMENTSPLITTER] == "[DOCUMENTSPLITTER]" ? [[BCSPLITTER] == "[BCSPLITTER]" ? ORIGINALFILENAME : BCSPLITTER : [DOCUMENTSPLITTER]]
```

## 8.2 Appendix B - XPath Expressions

XPath is a querying language for XML data. An XPath expression resembles a UNIX file system path e.g. "/node/node/node".

Consider this the following xml document:

```
<document>
  <name>Invoice 89363</name>
  <company>ABC Ltd</company>
  <id>473276256</id>
  <ref>BOL8817</ref>
  <date>2010/04/26</date>
</document>
```

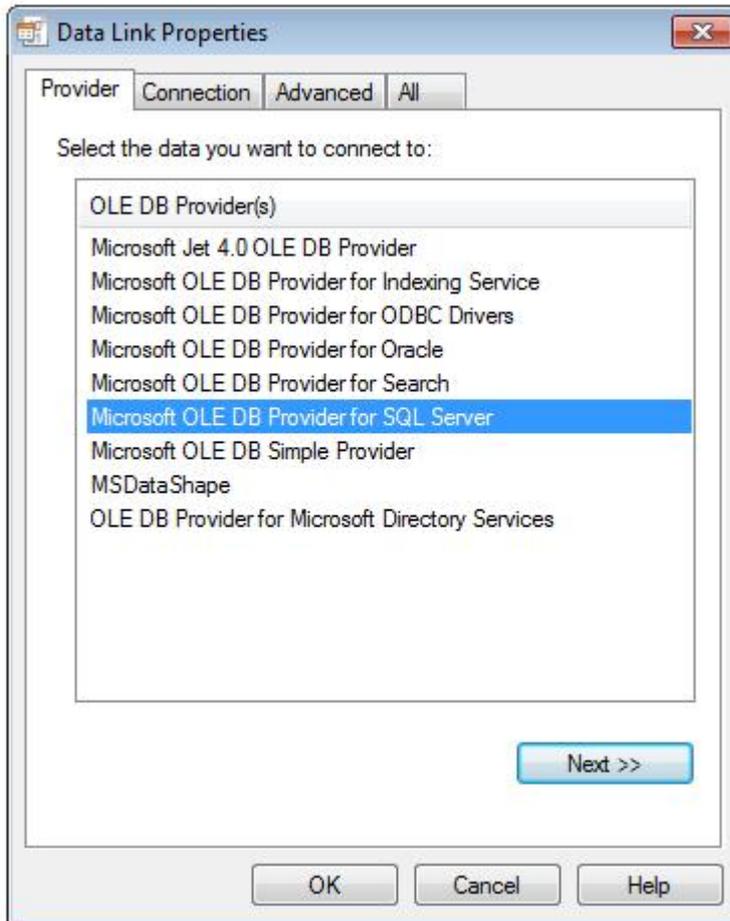
To find the "id" node you would use the following Xpath expression:

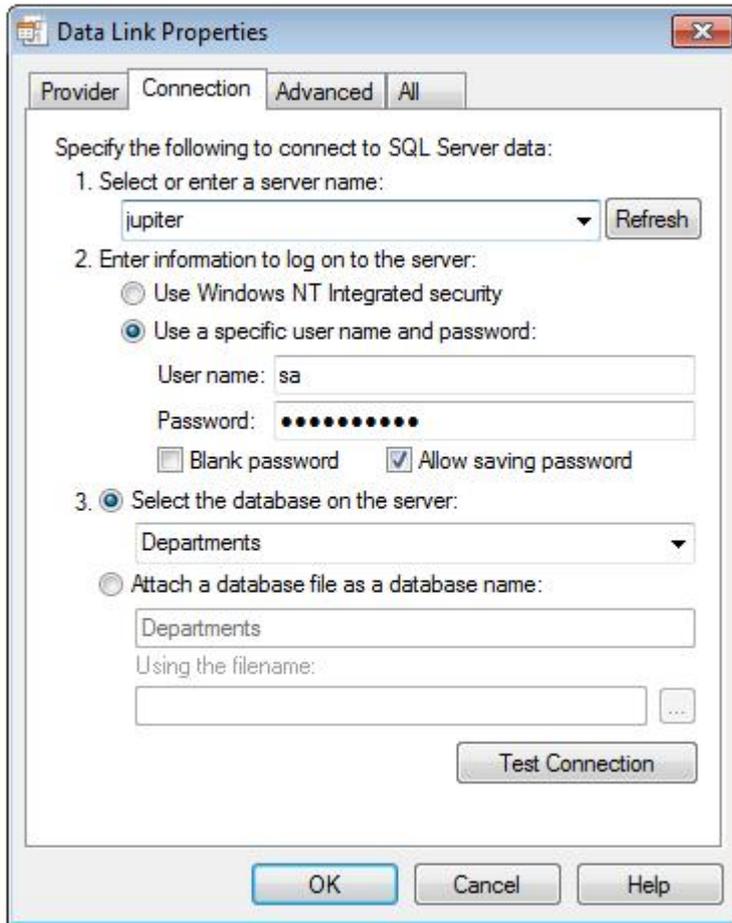
```
/document/id
```

A complete explanation of the XPath language please refer to: [XPath Tutorial](#)

### 8.3 Appendix C - Database Connection Strings

Although a database connection string can be typed manually it is easier to make use of the "Data Link Properties" dialog shown below to configure the connection string.





There are many options available when configuring a database connection string. Please press the "Help" button in the lower right hand corner of the dialog for additional help.

The list of "OLE DB Providers" shown in the screen shot to the left is dependent on the number of OLE DB drivers installed on the system. The list you see may differ.

#### **Word of warning**

The "SQL Server Native Client" provider does not store the password in the connection string - even though the "Allow saving password" option is selected. This is a known bug/limitation of the provider and **not of** KYOCERA Scan2SharePoint.

## **8.4 Appendix D - Pdf Input Documents**

A PDF document can be a vector or a raster format or a combination of the two. Vectors are lines, shapes, symbols and text using specified fonts that represent the content of the document. When this document is loaded by KYOCERA Scan2SharePoint it needs to be converted into a 2 dimensional array

of pixels called a bitmap. This process is called rasterization. The value of the "PDF Load Resolution" setting on the [Template General Settings](#) screen determines the resolution of this bitmap. The higher the resolution the better the quality of the bitmap would be but the bigger it would be also. Any operation like OCRing is done on the bitmap and not the original vector document so you have to ensure the bitmap is of sufficient quality to ensure good results. 300dpi is a good number for OCRing.

When the PDF document contains raster images (such as .bmp, .png, .jpeg which are already arrays of pixels and not lines, symbols or fonts) the image does not need to be rasterized like in the case of vector PDFs, but it still needs to be loaded as a 2 dimensional array of pixels (bitmap) like the vector. A different process called resampling could now possibly come into play. When the original raster image is for example 600dpi but the "PDF Load Resolution" option is set to 300dpi it means that the original image would not fit into the 300dpi bitmap. The original image therefore needs to be scaled down or re-sampled to fit into the 300dpi bitmap. The same process happens when the original image is 200dpi. In this case the image is scaled up (blown up) to 300dpi.

In both of the cases described above the "PDF Load Resolution" determines how big the bitmap is into which KYOCERA Scan2SharePoint will load the PDF. As has been mentioned already, this value plays an important role in the accuracy of OCRing. It also determines the size of output documents. For example, if you need to convert low resolution images like fax documents which are usually 1 bit (monochrome) and between 150dpi and 200dpi to PDF documents, there would be little point in producing 300dpi images to go into the PDF. It would be more sensible to set the "PDF Load Resolution" to the same value as the incoming documents' resolution. Conversely, say you need to reduce the size of PDF documents for backup purposes and the incoming documents are 600dpi or higher then setting the "PDF Load Resolution" to 300dpi would result in smaller PDFs with little loss in perceived quality at normal zoom levels.

The chances of image quality loss as a result of the rasterization and resampling process cannot be eliminated completely. If you have the option to use Tiff documents over Pdf as input to KYOCERA Scan2SharePoint we recommend Tiff.

## 8.5 Appendix E - Document Size

Various factors influence the size of output documents produced by KYOCERA Scan2SharePoint including:

1. Size (A4, A3 etc.), resolution and color/bit depth of the input document.
2. PDF load resolution in the case where the input document is a Pdf.
3. Color/bit depth of the output document.
4. Compression algorithm of the output document.

To reduce the size of output documents you can start by making sure the input documents are not larger than what they should be to ensure that your results are good enough. For example, if any processing you perform on the document requires any form of OCRing or barcode reading then the incoming document should have a minimum resolution of 300 dpi. If it is higher the improvement in OCR accuracy may not justify the increase in output document size. 300 dpi would be "good enough".

Secondly, higher bit depth documents such as 24bpp would normally be bigger than 8bpp or 1bpp ones. Select the lowest output bit depth that would still yield adequate color fidelity.

Lastly, the compression algorithm you choose for Tiff and Pdf documents will have a big impact on

the size of the output document. The default compression algorithm for Tiff and raster Pdf documents is LZW which is a good all round choice for most documents. If you only work with 1bit, black and white input documents CCITT or G4 would yield much smaller documents.

When the output document format is PDF/A or searchable Pdf the default compression is algorithm is LZW for 1bpp documents. For all other bit depths it is JPEG for PDF/A and JPEG2000 for searchable Pdf. If the output document size is too big when using the defaults you can experiment with other algorithms but the results may vary depending on the type of content in the incoming documents. If for example you are converting fax documents (i.e. 1bpp) with little graphic content to PDF/A you will probably get better results when using G4 compression or even CCITT since these algorithms were specifically designed for fax documents. In the case of documents with higher bit depths JPEG 4:1:1 will yield better results since a measure of quality loss is introduced when using this option.

## 8.6 Appendix F - Equitrac Authentication

KYOCERA Scan2SharePoint allows for single sign-on with Equitrac when both the Equitrac and KYOCERA Scan2SharePoint MFP clients are installed on an MFP. What this means is that when a user has been authenticated by the Equitrac client the user will also be authenticated in the KYOCERA Scan2SharePoint client. This allows the user to sign in with the Equitrac client and then to switch to the KYOCERA Scan2SharePoint client without the need to sign in again on the KYOCERA Scan2SharePoint client.

This single sign on is made possible with the use of a facility offered by Equitrac server where it would call a user defined application for every user that signs in using the Equitrac MFP client application. When the Equitrac server calls the external application it passes it the path to an Xml file that is generated by the Equitrac server. The Xml file contains information about the user as well as the action that was perform i.e. sign in or sign out.

When KYOCERA Scan2SharePoint is installed an application called EquitracNotifier.exe is installed in the root of the KYOCERA Scan2SharePoint installation directory. This is the application that must be called by the Equitrac server to authenticate users in KYOCERA Scan2SharePoint. The Equitrac Notifier application does not need to be installed on the same server as KYOCERA Scan2SharePoint and it offers a facility that makes it easy to port it to other machines.

### Equitrac configuration

A discussion of the configuration of the Equitrac system is beyond the scope of this manual. Please refer to the Equitrac documentation for details. Pay particular attention to how command line arguments are passed to external applications.

### Command line arguments

When the Equitrac Notifier application is started without command line arguments the graphical user interface (GUI) is shown. The application accepts two command line arguments that have to be provided in the correct sequence. These arguments are "--file" followed by the fully qualified path to the Xml file generated by the Equitrac server. Below is an example of how the Equitrac Notifier application is called with command line arguments:

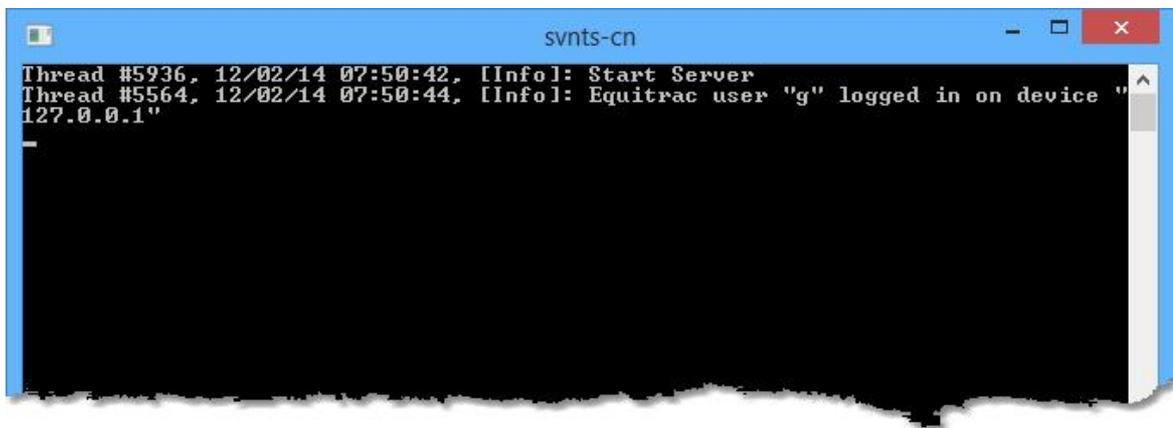
```
$Path\EquitracNotifier.exe --file "C:\SomePath\EquitracActivateDevice.xml"
```

#### Note

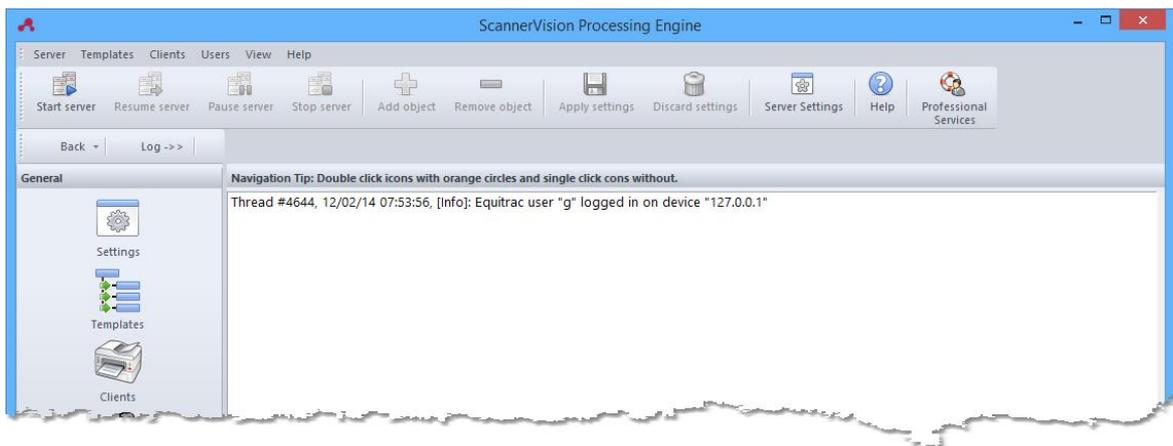
The example above only shows the **pattern** for calling the Equitrac Notifier application with command line arguments. The actual path to the application and xml file will be different for actual installations.

#### Operation

When the EquitracNotifier.exe is launched with the command line arguments shown above no graphical user interface is shown. In this mode the application reads the xml file, passes the relevant information to the KYOCERA Scan2SharePoint Network Server and if configured to do so deletes the xml file and then shuts down. If you are running the network server in console mode you will see log output in the console window of all Equitrac activity, as shown below:



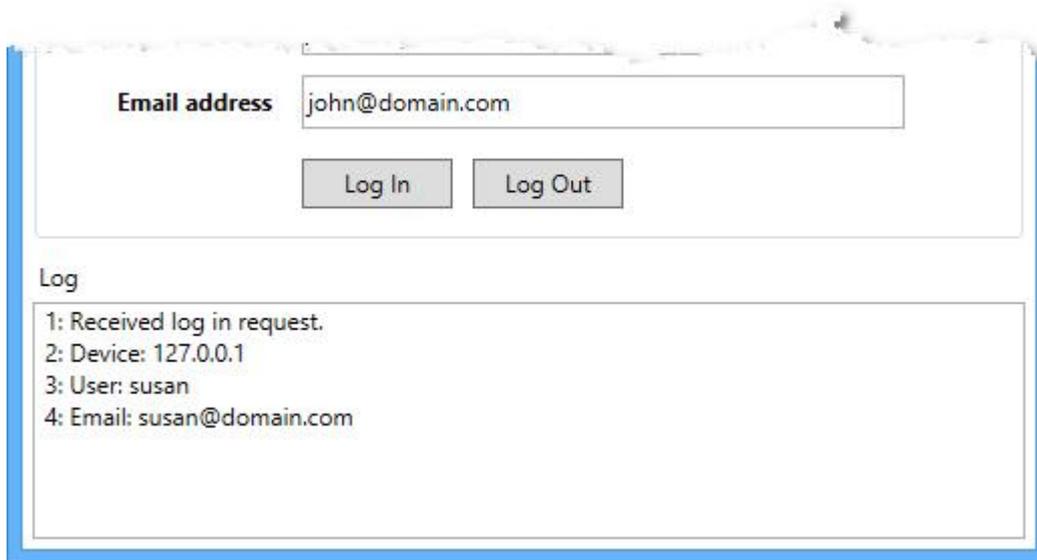
The Processing Engine User Interface's log window also shows Equitrac sign in/out activity:



When the EquitracNotifier.exe is launched without command line arguments only the GUI is shown. With the GUI you can configure various settings which are discussed in the [Equitrac Notifier Setup](#) section as well as perform test log ins and log outs.

### Running instances

When the Equitrac Notifier GUI is open and a second instance of the EquitracNotifier.exe is launched **on the same computer** with command line arguments (e.g. a user signs in to Equitrac) the details for the user signing in or out is displayed in the log window of the GUI as shown below:



### Note

Both the GUI instance and the command line instance must be run on the same computer. You cannot therefore view log activity of remote instances.

## 8.6.1 Equitrac Notifier Setup

The Equitrac Notifier application screen is shown below.

The screenshot shows the 'Equitrac Notifier' application window. It is divided into three main sections: 'Server Settings', 'Test', and 'Log'.  
1. **Server Settings:** Contains three text input fields: 'ScannerVision server address' (127.0.0.1), 'Equitrac Notifier port' (1984), and 'Communication timeout (ms)' (15000). Below these is a checked checkbox for 'Keep Equitrac file'. At the bottom are three buttons: 'Save', 'Create Package', and 'Update Registry' (with a green checkmark icon).

2. **Test:** Contains three text input fields: 'Device IP address' (127.0.0.1), 'User name' (g), and 'Email address' (john@domain.com). Below these are two buttons: 'Log In' and 'Log Out'.

3. **Log:** A large empty text area for displaying logs.

### Server Settings

KYOCERA Scan2SharePoint server address

The IP address of the KYOCERA Scan2SharePoint Network Server. If this value is left blank it is assumed that the KYOCERA Scan2SharePoint Network Server is installed on the current machine.

### Equitrac Notifier port

The HTTP port on which the Equitrac Notifier communicates with the Networking Server.

### Note

If you change this port you have to change it on the Networking Server also and you have to make sure that the port is allowed through the server's firewall.

### **Communication timeout**

The timeout that is allowed for successful communication to the KYOCERA Scan2SharePoint Network Server. The default is 5000 milliseconds.

### **Keep Equitrac file**

When this option is selected the Equitrac Xml file is not deleted after processing.

### **Save**

Saves the current settings in the "C:\ProgramData\KYOCERA Scan2SharePoint\Config\EquitracSettings.xml" file.

### **Create package**

Creates a Zip archive of all the files that are necessary to run the Equitrac Notifier application. When you click this button you are prompted to select a folder where the package must be created. Make sure that the folder you select is completely empty otherwise you will get an error.

The "EquitracNotifier.zip" package that is created can be extracted on any machine into any desired directory.

### **Update Registry**

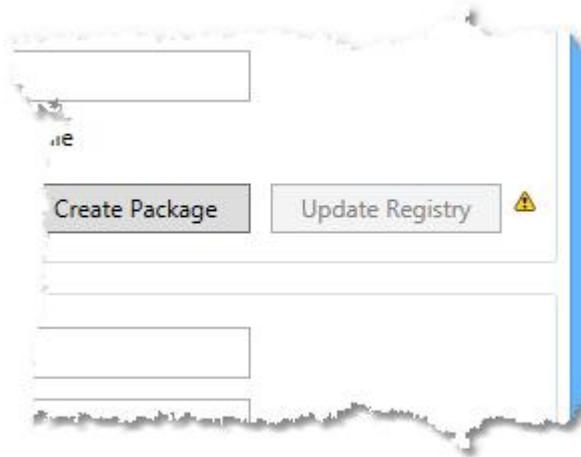
As of this writing the Equitrac server looks in a specific Windows Registry key for the path of the external application that is to be called when a user signs in or out of Equitrac. To simplify this process press the "Update Registry" button to update the registry key with the path of the Equitrac Notifier application.

#### **Note**

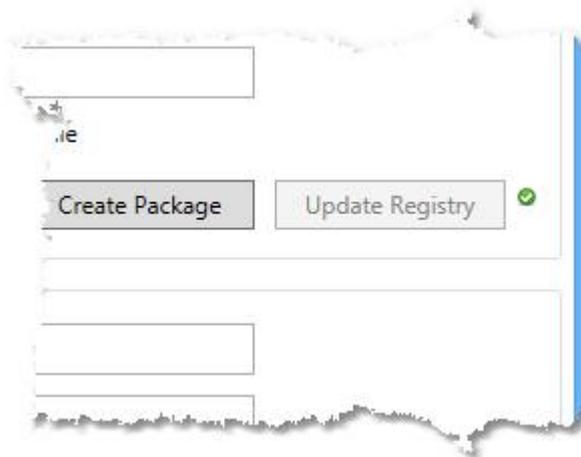
You have to run the Equitrac Notifier application with administrator privileges before you will be able to use this facility.

If the "Update Registry" button is disabled there could be one of 2 reasons:

1. You are not running the application with administrator privileges **and** the registry key does not exist or does not point to the current path. If this is the case then a yellow exclamation mark will be shown next to the button like this:



2. The registry is up to date. In this scenario a green check mark will be shown next to the button like this:



### Test

You can test your settings by simulating an Equitrac server sign in or sign out event. Provide the IP address of the simulated MFP client, the user name and email address of the user you want to sign in or out and then press the respective button of the action you want to simulate. The KYOCERA Scan2SharePoint log window will show the activity if everything is configure correctly. Make sure that the Network Server is running and that the log level is set to "Detailed".

### Device IP address

The IP address of the MFP client on which the user is to be signed in or out.

### User name

The user name of the user you want to sign in or out.

**Email address**

The email address of the user you want to sign in or out.

**Log In / Out**

Press the respective button to sign the user in or out.

## 9 Tutorials

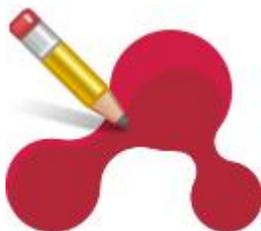
### 9.1 KYOCERA Scan2SharePoint Expression Editor

In the tutorials that follow we will be using the stand-alone [KYOCERA Scan2SharePoint Expression Editor](#) application that is installed in your KYOCERA Scan2SharePoint installation directory. You are welcome to work through the tutorials using the KYOCERA Scan2SharePoint Expression Editor that you have launched from the KYOCERA Scan2SharePoint application, just be aware that the last expression you enter will become part of your template if you save the expression. The stand-alone KYOCERA Scan2SharePoint Expression Editor does not save your expressions anywhere.

The tutorials follow on each other so we strongly recommend that you follow along accordingly. The later the tutorial the less instruction is given since you would have covered that material in earlier tutorials.

**Launching the KYOCERA Scan2SharePoint Expression Editor**

You are looking for an application called "ExpressionEditor.exe" which is installed in your KYOCERA Scan2SharePoint installation directory. Its icon looks like this:



The default KYOCERA Scan2SharePoint installation directory is:

32bit Windows: "C:\Program Files\KYOCERA Scan2SharePoint\KYOCERA Scan2SharePoint Server N"

64bit Windows: "C:\Program Files (x86)\KYOCERA Scan2SharePoint\KYOCERA Scan2SharePoint Server N"

N = KYOCERA Scan2SharePoint major version.

### 9.1.1 Entering expressions with keyboard only

In this tutorial you will learn how to enter metadata expressions using your keyboard only.

1. Launch the KYOCERA Scan2SharePoint Expression Editor.
2. If you don't see a blinking caret in the Metadata Expression window press the Tab key on your keyboard until the caret appears (or you could just click with your mouse in the window to give it focus).
3. Press the "[" key on your keyboard. A matching closing bracket "]" is inserted automatically and your expression is parsed. You will notice that you get a Syntax Error immediately. DON'T WORRY! This will go away once you have entered a valid expression.
4. With the caret between the square brackets like this: "[ ]", type the word "DATETIME" or press Ctrl-Space and select the DATETIME menu option from the "Standard" group and press Enter. You now have a valid expression with parses successfully. You will see a date and time string appear in the Expected Output window and the word "DATETIME" will appear in the Name column of the Used Tags grid and the sample data in the Value column.
5. Position the caret in front of the closing square bracket using the arrow keys like this: "[DATETIME]"

*We are now going to add a function*

6. Press the Space bar and enter an opening round bracket "(" (Shift-9 on most keyboards). As with the square brackets, the editor automatically adds the matching closing bracket ")" for you. You will again see the Syntax Error as you did when you entered the square bracket which will go away when you've entered a valid function.
7. The caret should now be between the two round brackets like this: "[DATETIME ()]". Type the word "split" or press Ctrl-Space, select the split menu option and press Enter. Notice that as you type (if you type slowly) the text between the round brackets is black with a red squiggly line underneath. These are aids that tell you that there is a syntax error in your expression and where it is. Once you have typed the word "split" completely the color of the font changes to blue. However, there is still a red squiggly line under the closing ")" bracket. If you read the error message in the Syntax Error window below you will see why. The split function takes a string parameter that tells it what to split on, and there needs to be white space before the parameter.
8. With the caret in front of the closing ")" bracket like this: "[DATETIME (split)]" press the Space bar and enter a double quote (not two single quotes!), a space and then another double quote.

Your expression should now look like this: "[DATETIME (split " ")]"

---

If you look at the Expected Output window you will see that the space between the date and time portions of the original string has disappeared! The reason for that is that the split function has separated the date and time portions into a string array and it has removed the space character. And because KYOCERA Scan2SharePoint does an implicit "join" on functions that return string arrays as a result when they are the last function in the metadata tag, the two strings in the array are concatenated. Let's fix that.

9. With the caret between the closing ")" and "]" brackets enter another opening round bracket and enter the function name "take" with a integer parameter of 1. Your expression should look like this:

```
"[DATETIME (split " ")(take 1)]"
```

Now the output looks better. We have selected the 1 element in the 2 element string array that was produced by the split function.

You can now play around with different characters to split on and selecting different elements from the string array.

## 9.1.2 Entering expressions with keyboard and mouse

In this tutorial you will learn how to enter metadata expressions using your keyboard and mouse. We are carrying on from the first tutorial called [Entering expressions with keyboard only](#) so if you have not completed it yet please do so before you continue here.

1. Select all text in the Metadata Expression window (use your mouse or press Ctrl-A) and delete it.
2. Double click the DATETIME tag in the Available Tags tree view. The expression "[DATETIME]" appears in the expression window, a date time string appears in the Expected Output window and the Used Tags grid is updated with the DATETIME tag and its sample data.
3. Position the caret anywhere between the "[" and "]" brackets.
4. Double click the DATE tag in the Available Tags tree view. The DATETIME tag in the expression window is replaced with the DATE tag and the Expected Output window and Used Tags grid are updated accordingly.
5. Replace the DATE tag with the DATETIME tag.
6. Insert a space between the DATETIME tag and the closing "]" bracket.
7. With the caret in front of the closing "]" bracket, right click with your mouse and select the "split" function from the "Insert Function" menu. The caret automatically positions itself between the double quotes.
8. Enter a space between the double quotes.
9. Position the caret between the closing ")" and "]"
10. Using the same procedure as in step 7. insert the "take" function and enter 1 as the parameter.

To replace a tag or function name with the mouse, position the caret anywhere over the tag or function name, right click and select the new value from the menu.

### 9.1.3 Providing sample data

In this tutorial you will learn how to supply sample data for your tags.

1. Enter the following expression in the Metadata Expression window:

"Document processed up until [DATETIME]: [MAINCOUNTER]"

The Used Tags grid is updated with the DATETIME and MAINCOUNTER tag names and sample data.

2. Select the Value cell of the MAINCOUNTER row in the Used Tags grid and enter a new counter value.
3. Press Enter. The Expected Output window is updated with the new counter value you entered.