

Workflow 8

Automating a print process

Connect Workflow Walkthrough

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Introduction

Connect Workflow lets you automate the processing, distribution and printing of business documents. Once installed on a server, it can be set up to automate all tasks related to document processes.

Workflow caters for inputs from a huge variety of sources, such as email, web pages, databases, individual files (PDF, CSV, XML, etc), print streams, FTP, and ERP systems. This data can then be analyzed, modified, stored, verified, routed and used as triggers for other processes entirely within Workflow. And of course it can be merged with Designer templates and outputted in multiple ways (printed, emailed, archived, sent to third party solutions, etc.).

This walkthrough will teach you how to create a **print process** for Connect documents – invoices in this case - in the Workflow Configuration tool.

It consists of three parts. The first part shows how to build the simplest possible print process. Each following part gives you more control over the process and its output and introduces a few more key aspects of Workflow.

The final process merges data with a template to create invoices, prints them to different files – grouped by their number of pages - and archives each individual invoice in a folder.

You will discover the required Connect tasks and the appropriate order of tasks in this process and you will learn how to create a branch in a process.

You will also be introduced to basic Workflow concepts, such as the job file and metadata. This helps you understand what is going on in the process and will make it easier for you to build other Workflow processes in the future.

Part 1: A simple print process

This part shows you the quickest and easiest way to build a print process in Connect Workflow. You will learn how to create a Workflow Print process that uses the All In One plugin.

A print process in Workflow normally requires just two or three tasks. (The input file required by each of the plugins is underlined.)

- An Input task, often a Folder Capture task. This task retrieves files corresponding to a specified file mask, from a specified folder. The input file typically contains data to be merged with a template.
- The **All In One** plugin. This plugin combines four different OL Connect plugins:
 - The Execute Data Mapping task. This task generates a record set by executing a data mapping configuration on a given data file.
 - The Create Print Content task. This task creates a set of print content items by merging a template's Print context with the records generated by the Execute Data Mapping task.
 - The Create Job task. This task creates a job set. It collects print content items generated by the Create Print Content task, and can filter and rearrange them using a Job Preset. The (optional) Job Preset needs to be created in Connect Designer.
 - The Create Output task. This task takes a job set and generates print output (a spool file, or files on disk) in a format specified by an Output Preset, and sends this output to the appropriate target location. The Output Preset needs to be created in Connect Designer.
- A Send To Folder task (optional), to save the output to a file.

Why use the All in One plugin?

The All in One task is optimized: it exchanges less data with the server than the plugins do when used separately, and content creation can already start whilst the data mapping is in progress. One limitation of the All in One is that it can't use a Job Preset to group, filter and sort print content items. When necessary, the All in One can be configured to carry out just the two first tasks, as will be demonstrated in part 2 of this walkthrough. Even then, the All in One delivers better performance than the individual plugins.

Preparation: collecting the necessary files

To be able to follow this walkthrough you'll need the following Connect files:

- A data file. The XML file provided with this tutorial: **olsg-data.XML**, contains the data to be merged with the template.
- A data mapping configuration. Use the file **OLSG-invoice.OL-Datamapper** provided with this tutorial or the configuration that is the result of the DataMapper tutorial 'Creating an XML

Data Mapping Configuration’. This data mapping configuration was designed to match the supplied XML file.

- A template with a Print context. The template **OLSG-invoice.OL-template** is provided with this tutorial. Alternatively, you could use the template that is the result of the Designer tutorial ‘Creating an invoice’.

This walkthrough starts with a simple print process without grouping, sorting or filtering, so **no Job Preset** is needed at this time.

In addition to the data file, data mapping configuration and template, the All In One plugin does need an **Output Preset**. An Output Preset determines in what format and to which destination a print job is outputted. You will create one in the first exercise.

1. Creating an Output Preset

This exercise shows how to create an Output Preset to store print output in one PDF file.

1. If it isn’t running already, launch Connect Designer by double-clicking the application icon.
2. Choose **File > Print Presets > Output Creation Settings...** The *Output Creation* dialog appears.
3. Make sure that **<New>** is selected as the configuration name.
4. Click **Next** to go to the Print options page.

The screenshot shows the 'Output Creation' dialog box, specifically the 'Print Options' page. The title bar says 'Output Creation'. Below the title bar, it says 'Print Options' and 'Use this page to select the main print options'. The dialog is divided into several sections: 'Printer' with a 'Model' dropdown set to 'Generic PDF'; 'Output Options' with radio buttons for 'Prompt for file name' (selected), 'Directory', 'LPR Queue', and 'Windows Printer'; 'Production Options' with checkboxes for 'Booklet Imposition', 'Cut and Stack Imposition', 'Add Inserter marks', 'Print virtual stationery', 'Add additional content', and 'Separation'; 'Copies' with a 'Copies' spinner set to '1' and a 'Collate' checkbox; and 'Pure Color Thresholds' with 'Black Threshold Percentage' set to '90.0' and 'White Threshold Percentage' set to '2.5'. At the bottom, there are buttons for '?', 'Preview', '< Back', 'Next >', 'Finish', and 'Cancel'.

5. Select **Generic PDF** in the *Printer model* drop-down.

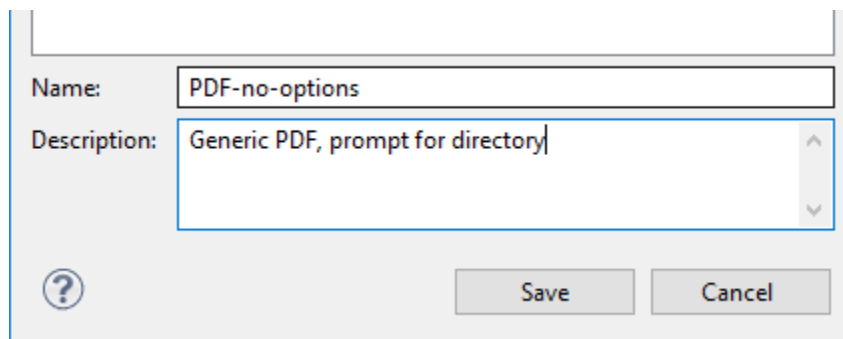
Note: In a new installation, Generic PDF is the only listed option. If you have a printer at hand, you may click the *Import Definition* button at the right, select *Edit available printers* and add your printer model to the list.

In this walkthrough it is assumed that the output has to be saved to a file.

6. Select **Prompt for file name**. Of course, in an automated process you don't want to be prompted for a file name, but don't worry: you won't. The print process in Workflow will be configured to determine the actual output location. Therefore you could choose any option for the output type here; however *Prompt for file name* is easiest because you don't have to make any additional settings.

Tip: Check **Print virtual stationery** if you want the template's Media to be printed when generating the invoice in a PDF format. Media (also called virtual stationery) are PDF files representing preprinted paper.

7. Click **Next**, then **Finish**. The *Save file* window is opened.



The screenshot shows a 'Save file' dialog box. It has two text input fields: 'Name' and 'Description'. The 'Name' field contains the text 'PDF-no-options'. The 'Description' field contains the text 'Generic PDF, prompt for directory'. Below the fields are two buttons: 'Save' and 'Cancel'. There is also a help icon (a question mark inside a circle) at the bottom left of the dialog box.

8. Give the Output Preset a name, for example **PDF-no-options**, and click Save. The Output Preset is saved with the name **PDF-no-options.OL-outputpreset**.
The Output Preset's default location is
C:\Users\<username>\Connect\workspace\configurations\OutputCreationConfig.

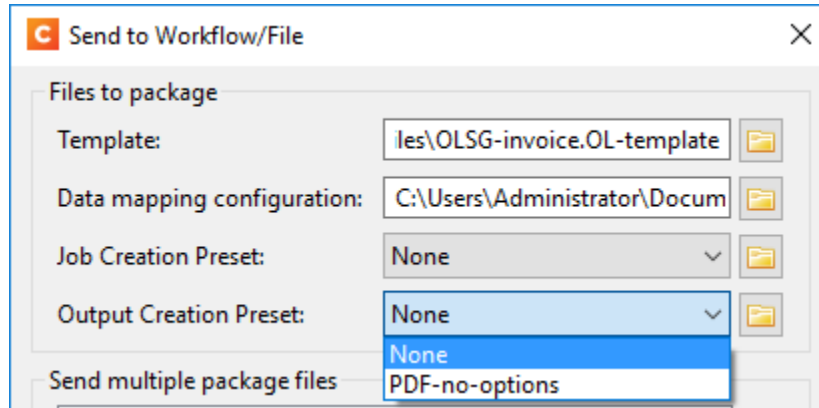
2. Sending Connect Designer documents to Workflow

Before the required files can be used in Workflow, they have to be sent to Workflow from within the Designer.

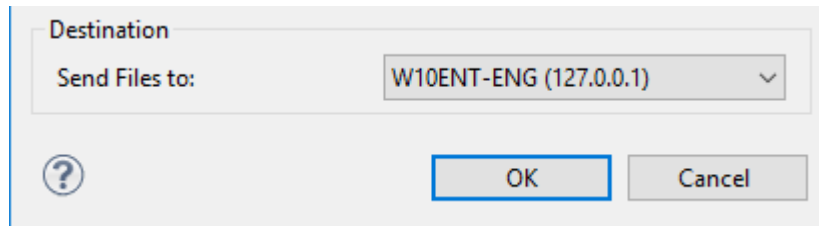
1. Choose **File > Send to Workflow...** The *Send to Workflow/File* dialog appears.
2. Select the template: click on the *Browse for template file* button to the right of the Template field and select **OLSG-invoice.OL-template** (or the template that you have made following the Designer tutorial 'Creating an Invoice').
3. Select the data mapping configuration: click on the icon to the right of the Data mapping configuration field and select **OLSG-invoice_XML.OL-datamapper** (or the data

mapping configuration that you have made, guided by the DataMapper tutorial 'Creating an XML Data Mapping Configuration').

4. Select the Output Preset **PDF-no-options.OL-outputpreset** from the *Output Creation Preset* drop-down list.



5. In **Destination**, select your Workflow IP address and click **OK**. All selected files are now sent to Workflow.



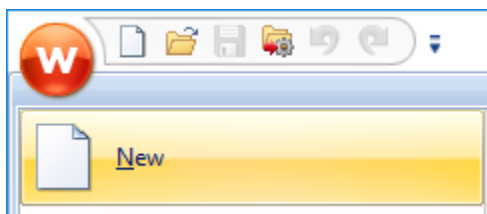
If no IP address is displayed, select **Save to File...** to create a package file. To import a package file in Connect Workflow, right-click *Connect Resources* in the *Configuration Components* pane and select **Import Connect Content**.

6. Launch the Workflow Configuration tool and verify that all the necessary files are available by browsing the subfolders under *Connect Resources*, in the *Configuration Components* pane.

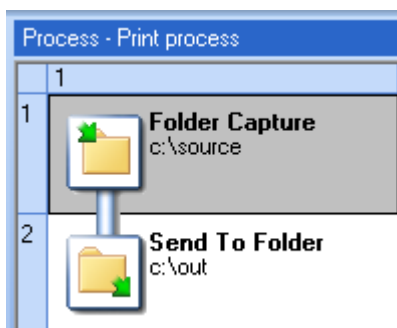
Creating a print process

3. Creating a Workflow configuration

To start creating a new Workflow configuration, click the Workflow button (W) at the upper left hand corner and choose **New**.



A Workflow configuration can consist of many processes. One process is always added at the start of a new configuration. By default it has two tasks: a Folder Capture input task and a Send To Folder output task.



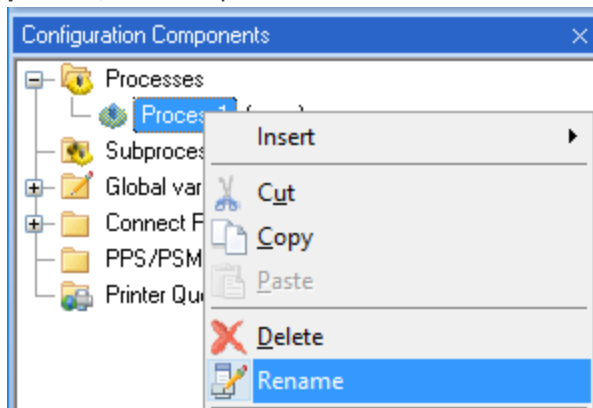
The Folder Capture task is configured to pick up any file from the C:\source folder. The Send To Folder task outputs the input file, renamed but otherwise unchanged, to the C:\out folder.

1. Save the configuration: click the Workflow button (W) and choose **Save As**. Type a name and click **OK**.

4. Creating a process and renaming it

The automatically added process is a good starting point for the print process so you don't have to add a process. But if you'd want to, you can add a process by right-clicking on **Processes** in the *Configuration Components* pane and then selecting **Insert > Insert Process**, or by clicking **Process** on the *Home* ribbon. To delete a process, right-click on the process and select **Delete**.

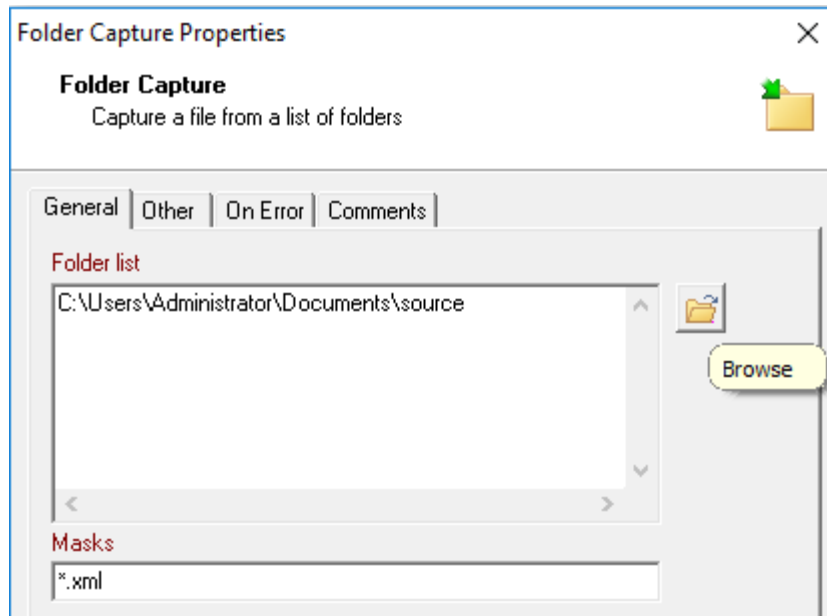
1. Rename the process by right-clicking on it and then selecting **Rename**. Enter **Print process**, for example.



5. Configuring the Folder Capture task

There are different kinds of Input tasks, as you can see on the *Inputs* tab in the *Plug-in Bar*. (The *Plug-in Bar* is located to the right of the *Process* area). The **Folder Capture** task retrieves files corresponding to a specified file mask, from a specified folder. In this exercise you will learn how to configure the *Folder Capture* task.

1. Double-click the *Folder Capture* task in the process area, or right-click on it and select **Properties**. The *Folder Capture Properties* dialog appears.



2. Click the *Browse* button next to the Folder List, and select the folder that you want to be monitored. For this walkthrough it doesn't matter which folder you choose, as long as you have access to it.
3. Change the Masks to ***.xml**

JOB FILE

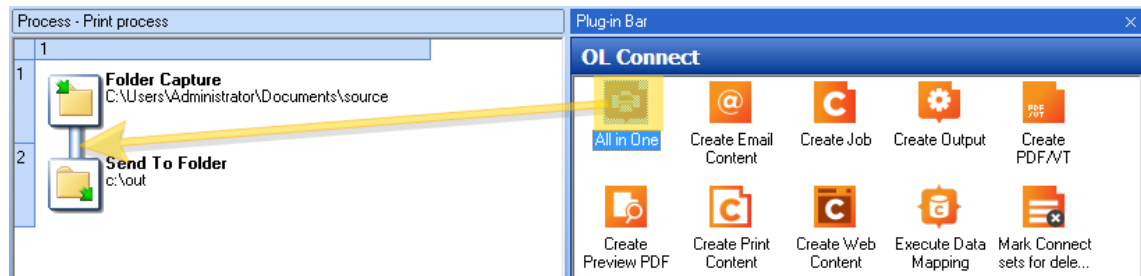
Every time a file is picked up, the process starts and the input file becomes the job file. This file will be handed down through the process, from one task to another. It may be changed, copied, and split by tasks in the process. Often, as in this case, the job file is a data file, but it could also be an image or another type of file.

Each branch in a Workflow process can hold no more than one job file. If more than one file is retrieved via an Input task, then the entire process is run for each file sequentially. If the job file gets split during the process, then the *rest* of the process is run as a loop for each split portion. (In this walkthrough the job file is not split. It does get copied, in part 3).

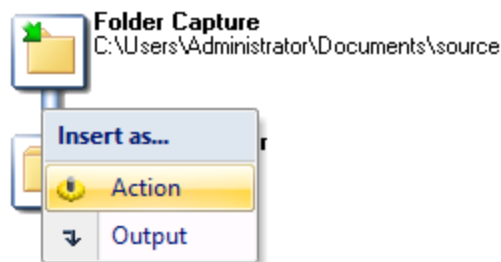
6. Adding the All In One plugin

Now you can add and configure the All In One plugin.

1. Click on the *OL Connect* tab in the *Plug-in Bar*. This is where all OL Connect tasks are displayed.
2. Locate the **All in One** task and drag and drop it after the input task.



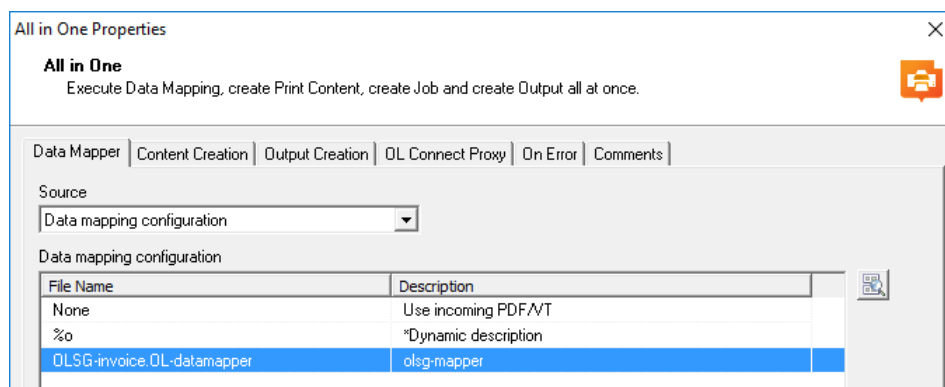
3. Choose **Action** to insert this task as an Action task.



ACTION/OUTPUT TASK

An Action task can be followed by other tasks, while an Output task is always located at the end of a process or branch.

The *All In One Properties* window appears.



4. On the *Data Mapper* tab, select the data mapping configuration **OLSG-invoice_XML.OL-datamapper** (or your own data mapping configuration, if you've made one with the Datamapper tutorial).
5. On the *Content Creation* tab, select the template **OLSG-invoice.OL-template** (or the template that you have made following the Designer tutorial 'Creating an Invoice').

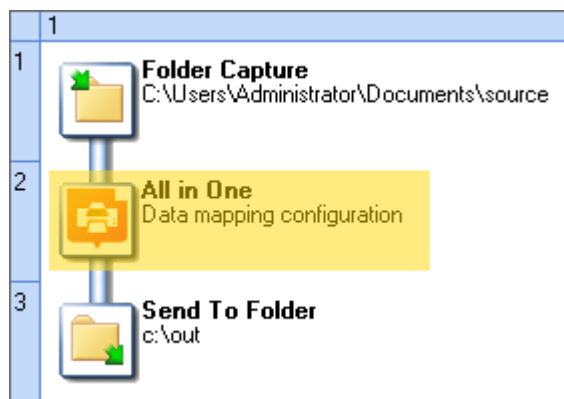
Note: There is no *Job Creation* tab because the All In One plugin doesn't use a Job Preset. It can only create a job without sorting, filtering or grouping the print content items.

6. On the *Output Creation* tab select the Output Preset you have made in the first exercise: **PDF-no-options.OL-outputpreset**.
7. On the same tab, in the *Output Management* section, check the **Through Workflow** option. This means that the output file will be handed down to the next task in the process (the Send To Folder task in this case). Every option set in the Output Preset is still used, except for the output location.



8. Click **OK**.

The process flow looks like this:



Note: In this part of the walkthrough the Send To Folder task is maintained as a separate output plugin to be able to introduce you to a few key concepts in Workflow. But the simplest possible print process would consist of the Folder Capture and All In One task only. You could simply drag the All In One **on** the Send To Folder task to add it as an Output task. For this the Output Preset would have to define an actual directory or printer to send the output to.

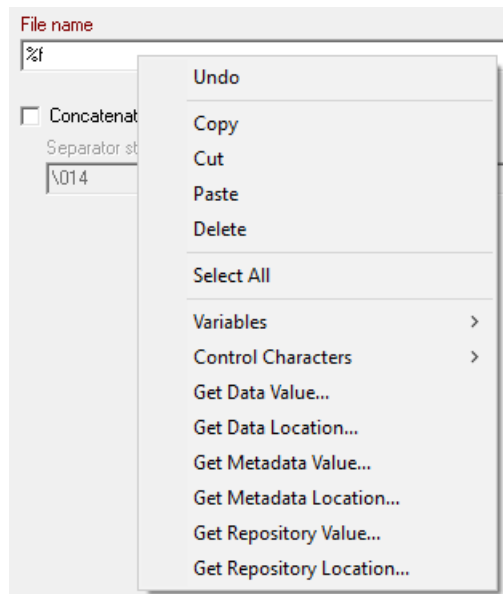
7. Configuring the Send To Folder task

This exercise explains how to configure the Send To Folder task. The Send To Folder task saves the **job file** to a file.

The last task in the All In One (the output creation task) replaces the original job file – the input data file - with the output PDF file. So, at this point in this particular process the job file is the output file.

1. Double-click the Send To Folder task, or right-click it and select **Properties**.
The *Send To Folder Properties* window appears.

2. On the *General* tab, click the *Browse folder* button next to the *Folder* field and select an output folder. Again, for this walkthrough it doesn't matter which folder you choose, as long as you have access to it.
3. The *File name* field reads *%f*. This is a system variable that represents the job file name. Right-click the *File name* field. A contextual menu appears, giving access to variables and data selection functions.



Tip: Right-clicking on any a field with a **maroon** field name opens the contextual menu that gives access to variables and data selection functions.

4. Select **Variables > System > %O** (Original file name without extension) and complete the file name by adding **.PDF**
5. Click **OK**.

Running the print process

When the process is complete, you can test it in debug mode within the Workflow configuration tool, before sending it to the Connect Workflow service. First, though, you have to enter the appropriate server connection settings.

8. Entering Connect Proxy information

All OL Connect tasks require the OL Connect Proxy information. The tab OL Connect Proxy, present in the Properties window of each task, defines where to process the jobs sent through OL Connect tasks. This is common to all OL Connect tasks. The required information is:

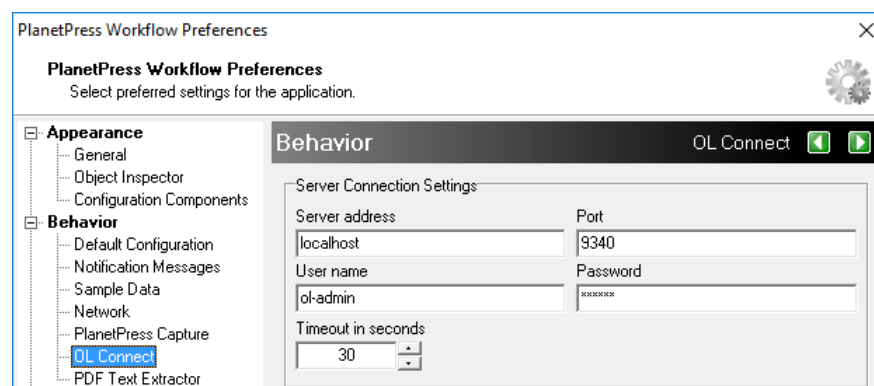
- **OL Connect Proxy Address:** the machine name or IP Address where the OL Connect Server resides. If Connect Server is installed on the same machine as the Workflow Configuration tool, this is **localhost**.
- **Port:** the port used to communicate with the OL Connect Server. Default: **9340**.
- **Username:** the user name expected by the OL Connect Server. By default it is **ol-admin**. Take a look in the Connect Server configuration or in the Connect Designer preferences to see which user name is used. (Open Connect Designer and choose Window > Preferences > Print > General.)
- **Password:** the password expected by the OL Connect Server for the above user name. By default the password is set to **secret**.

Usually these values are not set per task. You can set the default values in the OL Connect User options page of the Workflow Preferences:

1. Click on the Workflow button (W) and then on the *Preferences* button on the bottom right.



The *Preferences* dialog appears.



2. Click **OL Connect** in the *Behavior* section on the left.
3. Enter the appropriate information under **Server Connection Settings**.

9. Debugging the process

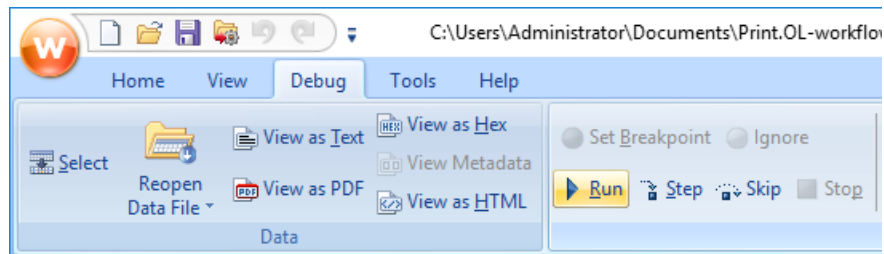
The process is now complete. You can test it within the Workflow configuration tool before sending it to the Connect Workflow service.

Use the XML data source file (**olsg-data.xml**) example provided with this walkthrough to debug the process.

1. Click **Debug** in the top menu to open the *Debug* ribbon.

2. Click **Select**. Browse to the XML file (**olsg-data.xml**), select it and click **OK**.

Tip: You can also use a sample data file included in a data mapper configuration. Select **Connect Resources > Data Mapping Configurations > your data mapping configuration**, right-click a data file and choose **Set as sample data file**.



The *Run*, *Step*, *Skip* and other buttons become enabled after a data file has been selected. You can now debug the process using these buttons.

3. Click **Run**. This executes the entire process in one go.
In the Process area, a blue arrow pointing downwards signals which task is currently being executed.
The *Messages* pane gives information about each task and displays any error messages.
The *Debug Information* pane gives information about the job and displays the contents of Workflow variables.
4. Open the Windows File Explorer, browse to your output directory and check that the output file is there. When you double-click the output file it will be opened with the default PDF reader (often a browser).

10. Stepping through the process

By executing the process one step at a time, you can observe changes in the data to understand exactly what is happening.

1. Test the process again, now using **Step**. After each step:
 - Open the job file as Text (click **View as Text**, or double-click the name of the job file in the Debug Information pane).
You will see that the job file is a copy of the XML input file – until the All In One plugin has completed its job.
 - Open the metadata file (click **View Metadata**, once the link is enabled, or double-click the name of the Metadata file in the Debug Information pane).

METADATA FILE

When an OL Connect task adds data to the **Connect database** it also adds data about that data to the **metadata** file. Metadata aren't created just to make debugging easier. These metadata tell the next step in the process what it needs to work on. They could also be used by other tasks to refer to the entities in the Connect database (not demonstrated in this walkthrough). A set of special Workflow plugins allows to edit the metadata during a Workflow process.

OL Connect tasks store their metadata under *User defined information*.

User defined information	
Name	Value
_vger_destination	C:\ProgramData\Objectif Lune\PlanetPress Workflow 8\PlanetPress Watch\Debug\vgerC7DF68.dat
_vger_outputcommand_id	f129774a-ce9d-423c-8745-c2fc533a87bd
_vger_task_id	4

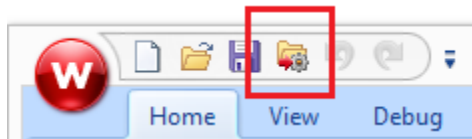
- Open the job file as PDF (click **View as PDF**, once the link is enabled). The last task in the All In One (the output creation task) replaces the original job file – the XML file - with the output PDF file.
2. Check the output in your output folder again. The previous file has been overwritten.

11. Sending the configuration to the Connect Workflow service

No errors, or all problems solved? Then the Workflow configuration can be 'sent' to the Connect Workflow service.

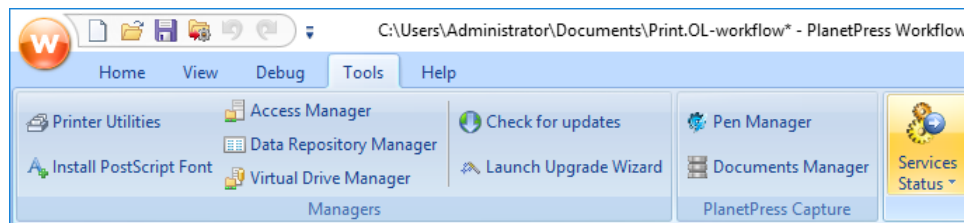
Note: The Connect Workflow service can only run one configuration at the same time. The service reads its configuration file when it starts up. If the service is running when you send a new configuration, it automatically stops and restarts with the new configuration.

1. Click on the *Send configuration* icon in the toolbar at the top left of the screen.



Or use the menu: click the Workflow button (W) > **Send Configuration** > **Send Local**.

2. Start (or restart) the services: on the *Tools* tab in the menu, click **Services status** > **Start**.



12. Testing the configuration on the server

Finally, verify that the Connect Workflow service functions as expected with the new configuration file.

1. Copy the XML data source file (**ols-g-data.xml**) to the input folder defined in the Folder Capture task.

The file will almost immediately disappear from the folder when it is picked up by the Folder Capture input task.

2. The print process is executed automatically. When it has finished, you can open the PDF output file in the folder that you have selected in the Send To Folder task.

Part 2: An advanced print process

The process built in Part 1 of this walkthrough can only print a simple job without grouping, sorting, filtering or commingling.

This part of the walkthrough shows how to create a print process that outputs groups of documents to different files (or jobs).

Grouping and sorting documents and outputting them to different print jobs can be important, not just for large mailers who earn a discount by pre-sorting their mail, but also for smaller companies, for example when some documents have to be put in bigger envelopes than other documents.

Key elements in an advanced print process are the **Job Preset** and **Output Preset**. A Job Preset can group, filter and sort the print content items that have been generated when merging a template with a record set. An Output Preset can then split the output in different files or jobs.

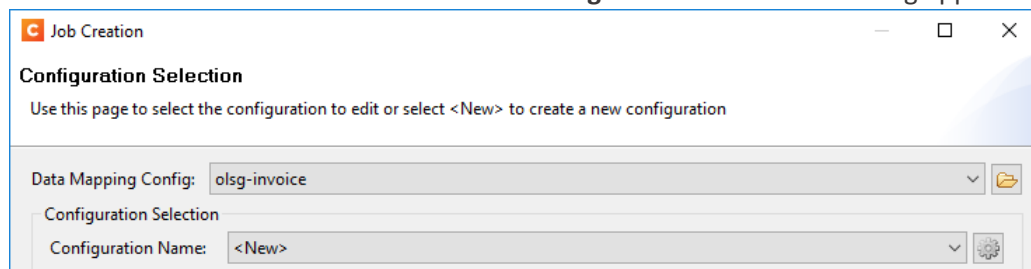
Creating the Print Presets

In this exercise you will create both the Job Preset and Output Preset for a print process that groups invoices by their number of pages and outputs each group of invoices to a different file.

1. Job Preset: grouping

This Job Preset groups items by their number of pages (1 to 2, or above), so that the actual output can be split into one file (or one job if the output task would actually output to a printer or printer queue) containing documents that have one or two pages, and one with larger documents.

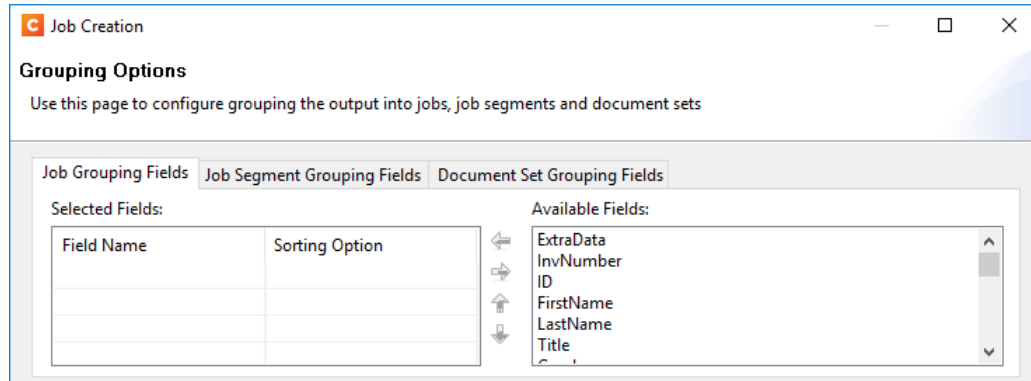
1. Launch Connect Designer by double-clicking the application icon.
2. Choose **File > Print Presets > Job Creation Settings...** The *Job Creation* dialog appears.



3. Click on the *Browse* button to the right of the *Data Mapping Config* drop-down list and select the data mapping configuration for XML provided with this tutorial: **OLSG-invoice.OL-Datamapper**, or the data mapping configuration that you've created with the DataMapper tutorial 'Creating an XML Data Mapping Configuration'.

Without a data mapping configuration it isn't possible to select a data field in the criteria for grouping.

4. Check **Use grouping** in the *Options* section and click **Next**. The *Grouping Options* dialog opens with the *Job Grouping Fields* tab selected by default.

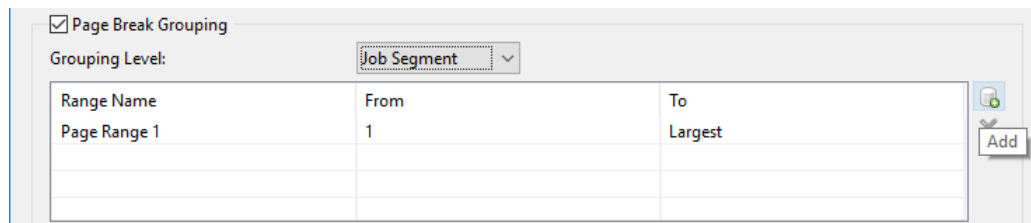


The tabs are supplementary to one another, so you could group documents in document sets, job segments *and* jobs. The lower part of this dialog is reserved for page break grouping options.

5. In this exercise we're only grouping the documents by their number of pages. Check **Page Break Grouping**.

Note: Page break grouping can also be used in addition to 'normal' grouping. It can take place before or after the grouping on the chosen level.

6. Page break grouping can only be done on one level. Select **Job Segment** from the *Grouping Level* drop-down list.
7. Click the *Add* button to add a page range.

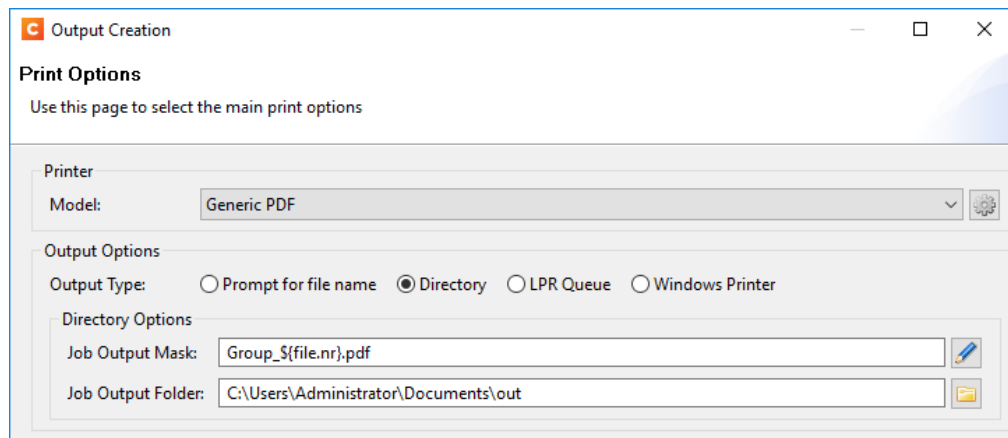


8. Change *Page Range 1* so that it contains all documents from 1 to 2 pages: click in the *To* field and type **2**. *Page range 2* is automatically adjusted to contain all documents larger than two pages.
9. Click **Finish**. The *Save file* window opens.
10. In the *Name* field type the name for your job file configuration: **Group-by-pages**, and click **Save**. Your job file configuration is saved with the name **Group-by-pages.OL-jobpreset**. A Job Preset's default location is
C:\Users\<username>\Connect\workspace\configurations\JobCreationConfig.

2. Output Preset: separation

This Output Preset **splits** the groups of content items and outputs them to different jobs/files.

1. In the Connect Designer, choose **File > Print Presets > Output Creation Settings...** The *Output Creation* dialog appears.
2. Select **<New>** as configuration name. Click **Next**.
3. Select **Generic PDF** in the *Printer model* drop-down.
4. Select **Directory** and enter a directory.
5. In the *Output Mask* field, type **Group_\${file.nr}.pdf**.

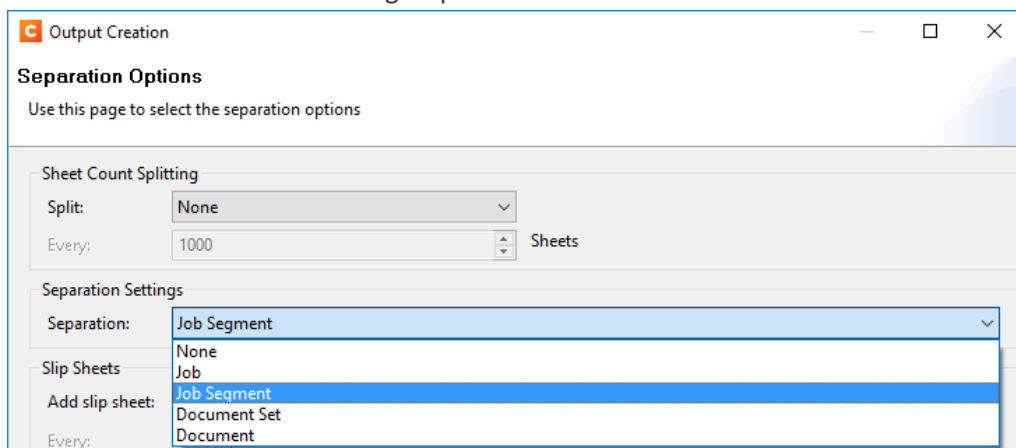


The screenshot shows the 'Output Creation' dialog box with the 'Print Options' tab selected. The 'Printer' section has 'Model' set to 'Generic PDF'. The 'Output Options' section has 'Output Type' set to 'Directory'. The 'Directory Options' section has 'Job Output Mask' set to 'Group_\${file.nr}.pdf' and 'Job Output Folder' set to 'C:\Users\Administrator\Documents\out'.

Tip: For a list of variables that start with \$ see: http://help.objectiflune.com/en/planetpress-connect-user-guide/1.7/#designer/Output/Print/Variables_available_in_the_Output.htm

You will learn how to use variable **data** in file names in the next part of this walkthrough.

6. Check **Separation**, then click **Next**.
7. The invoices have been grouped on the *Job Segment* level in the Job Creation task. Choose **Job Segment** from the *Separation* drop-down list under *Separation Options* to create one file for each of these groups.



The screenshot shows the 'Output Creation' dialog box with the 'Separation Options' tab selected. The 'Sheet Count Splitting' section has 'Split' set to 'None' and 'Every' set to '1000'. The 'Separation Settings' section has 'Separation' set to 'Job Segment'. The 'Slip Sheets' section has 'Add slip sheet' set to 'Job Segment'.

8. Click **Next**, then **Finish**. The *Save file* window is opened.
9. Type a name for the Output Preset, for example **PDF-separate-jobsegments**, in the *Name* field and click **Save**. The Output Preset is saved in the Connect workspace folder with the name **PDF-separate-jobsegments.OL-outputpreset**.
10. Send the Job Preset and Output Preset to Workflow (**File > Send to Workflow...**). The new presets are listed in the drop-down lists in the *Send to Workflow/file* dialog.

Adjusting the print process

Launch the Workflow Configuration tool if it isn't running yet. The files sent from the Designer will automatically be unpacked and can be found in the *Connect Resources* folder. Now the print process has to be adjusted to use these files.

The All In One plugin, used in the simple print process made in Part 1, can't use a Job Preset. It always delivers the output as an unsorted, ungrouped job or file.

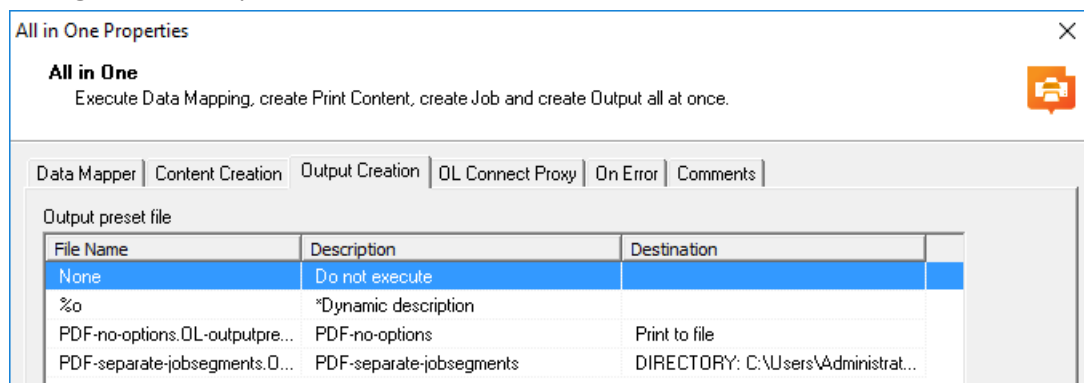
To enable a print process to do grouping, filtering or sorting, Create Output has to be turned off in the All In One plugin, and the Job Creation and Output Creation tasks must be added to the print process.

Note: It is also possible to remove the All In One and replace it by all four plugins that make up a print process (Execute Data Mapping, Create Print Content, Create Job and Create Output). However that should only be done when it is absolutely necessary (e.g. when the extracted data have to be edited or enhanced before the print content is created). In any other case, turning Create Output off is the best solution.

3. Turning off Output Creation in the All in One task

First you will learn how to turn off Output Creation in the All in One plugin.

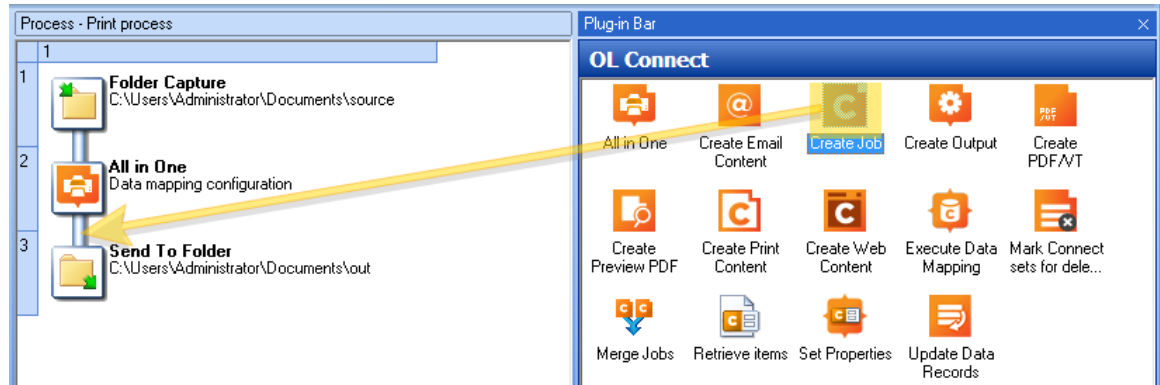
1. Double-click the All In One plugin.
2. On the *Output Creation* tab, select **None**. The All In One plugin will now stop after having created the print content items.



4. Adding the Create Job task

The next step is to add the Create Job plugin to the process. This plugin creates a **job**: a collection of content items. The items have to be grouped according to the Job Preset you have just made.

1. In the *Plug-in Bar*, on the *OL Connect* tab, locate the **Create Job** task and drag and drop it underneath the All In One task.



The *Create Job Properties* window opens.

2. On the *General* tab, select the Job Preset **Group-by-pages.OL-jobpreset**.

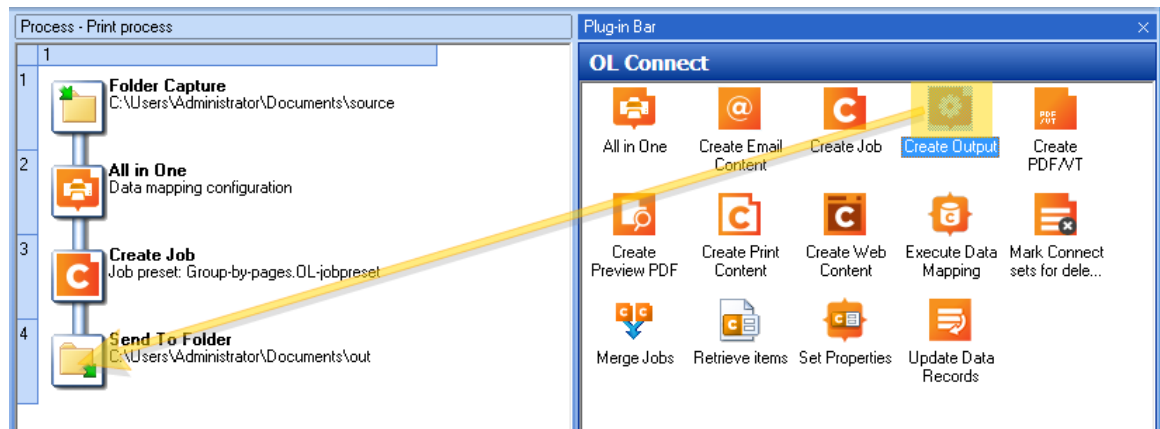
Note: Even with this plugin, using a Job Preset is not obligatory. The Default setting uses the IDs defined in the metadata to collect the print content items and put them in one job.

3. Click **OK**.

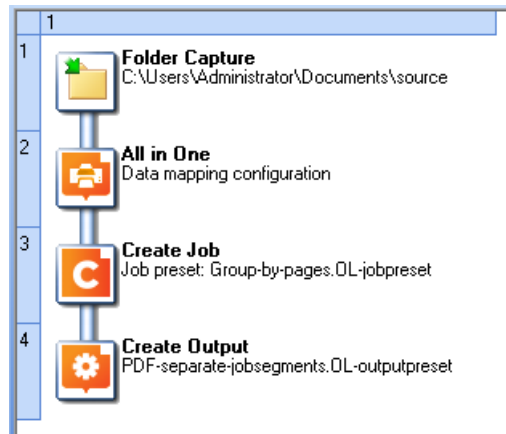
5. Adding the Create Output task

The Create Output task generates and distributes print output in a format and to a destination (a printer queue, Windows printer, folder...) specified by an Output Preset.

1. Locate the **Create Output** task on the *OL Connect* tab in the *Plug-In Bar* and drag and drop it **on** the Send To Folder task to replace it.



2. The *Create Output Properties* window appears. On the *General* tab, select the Output Preset: **PDF-separate-jobsegments.OL-outputpreset**.
3. Click **OK**. The Print process now looks like this:



6. Debugging the process

1. Debug the process using the Step button on the Debug tab. Open the job file and metadata file after each step.
The **metadata** file now displays data at different levels. Click on a Metadata level to the left, to see the data that has been attached on that level (under User defined information). The Job node has information about the job as a whole, a Group has information about a record set and a Document about one record.

The Group node in this picture contains the ID of the content set in the Connect database:

Data Selector

Sample metadata filename
C:\ProgramData\Objectif Lune\PlanetPress Workflow 8\PlanetPress Watch\Debug\debug1EC73EE.dat.meta

Metadata level	Production information										
Job											
Group	<table border="1"> <thead> <tr> <th>Name</th> <th>Value</th> </tr> </thead> <tbody> <tr> <td>Number of Documents in Group</td> <td>1</td> </tr> <tr> <td>Number of data pages in Group</td> <td>1</td> </tr> <tr> <td>Group index in Job</td> <td>1</td> </tr> <tr> <td>Number of pages in Group</td> <td>1</td> </tr> </tbody> </table>	Name	Value	Number of Documents in Group	1	Number of data pages in Group	1	Group index in Job	1	Number of pages in Group	1
Name	Value										
Number of Documents in Group	1										
Number of data pages in Group	1										
Group index in Job	1										
Number of pages in Group	1										
Document											
Data page											
Page											

User defined information	
Name	Value
_vger_contentset_id	51504

Note: When working with OL Connect tasks, only *Job*, *Group* and *Document* nodes can contain information about the actual job. Although visible in the metadata file, the *Datapage* and *Page* nodes don't contain any actual job related information.

In this process, viewing the output PDF isn't possible, for two reasons:

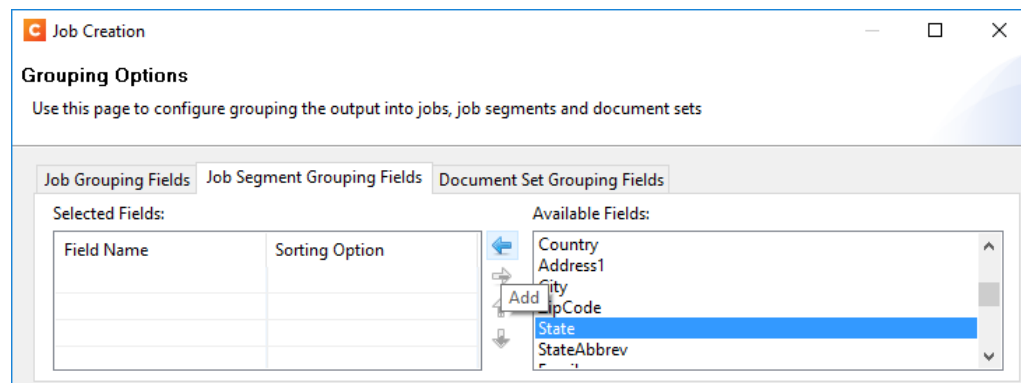
- The Create Output task is the last task in the process, so the output isn't handed back to the process.
 - The Create Output task only replaces the job file with the PDF output if there is only **one** output file. When the output is **separated** it replaces the job file with a **CSV file** that lists the paths to the outputted files.
2. Open the Explorer, browse to your output directory and check that the output files are there. You should get two output files: one for each page range. You can open them with a PDF reader or browser.
 3. Finally, upload the configuration to the Connect Workflow service and test it.

7. Exercises (optional)

- A. Create a Job Preset that groups the documents by state instead of their number of pages. You should generate 10 output files, one for each state.

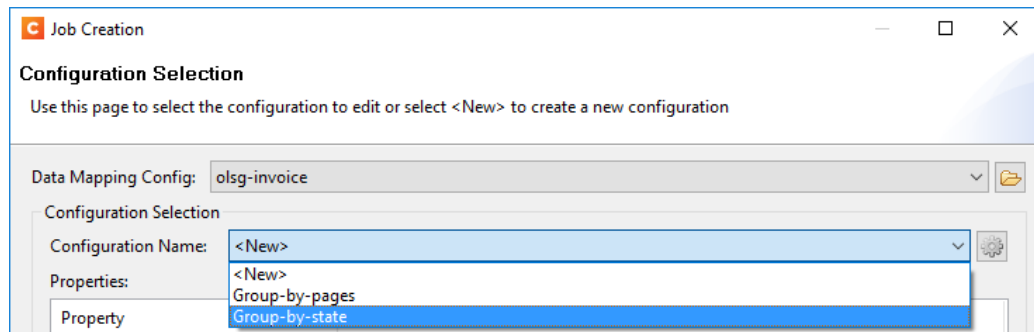
Solution:

1. Create a new Job Preset and open the same data mapping configuration as before.
2. On the *Job Segment* tab, select the data field **State** in the *Available Fields* list.
3. Click the blue arrow to add the selected data field to the *Selected Fields* area.

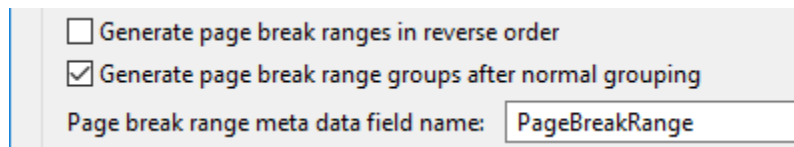


4. Save the Job Preset with the name **Group-by-state**.
 5. Send the Job Preset to Workflow, select it in the Create Job plugin properties and try debugging the process.
- B. Try combining page break grouping with normal grouping. For example:

1. Open the Group-by-state Job Preset in the Designer: select **File > Print Presets > Job Creation Settings...** and choose **Group-by-state** from the *Configuration Name* drop-down list.



2. Add page break grouping on the *Job Segment* level and create two page ranges, one for documents with 1 – 2 pages and one for larger documents, just as in the Group-by-pages Job Preset. Leave the other options unchecked.
3. Save the Job Preset and send it to Workflow. Select this Job Preset in the Create Job plugin properties. Now try debugging the process. You should get one or two output files per state (one if there aren't any documents larger than two pages for that state). Note that all documents with smaller invoices are generated first, and then all documents with larger invoices.
4. Open the same Job Preset in the Designer and check the option *Generate page break range groups after normal grouping*.



Note: The option *Generate page break range groups after normal grouping* only takes effect when normal grouping and page break grouping are applied at the same level.

5. Save the Preset and send it to Workflow. Again, you should get one or two output files per state, but with this Job Preset they are generated in a different order: per state, instead of per page range.
6. Open the same Job Preset in the Designer and remove the normal grouping on the Job Segment level. Instead, group documents by **State** on the *Document Set* level.
7. Save the Preset and send it to Workflow. When you run this configuration, you should get two output files, one with the smaller documents, grouped by state, and one with the larger documents, also grouped by state.

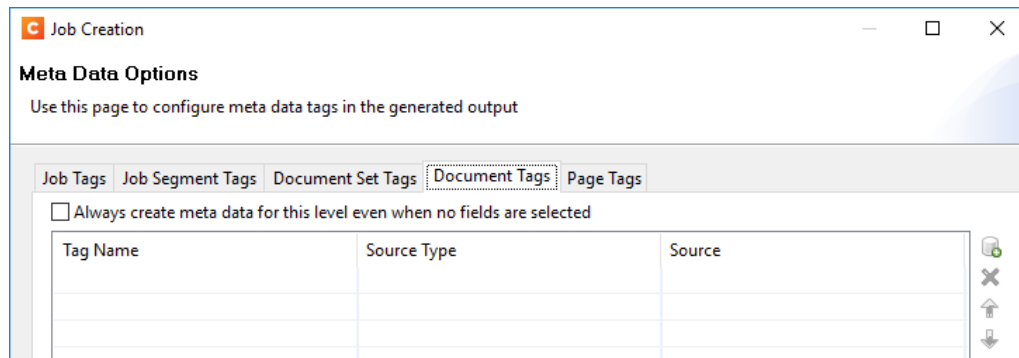
Part 3 Adding a branch for archiving

A process that archives invoices would up to a certain point do exactly the same as the process that prints the invoices. So instead of creating a whole new process, you can create a branch in the print process. Both the branch and the main process can use the Print Content items created by the All In One. The branch only needs a different Job Preset and Output Preset.

1. Creating the Job Preset

This Job Preset doesn't group the documents, but provides the invoice number for each invoice, so that the invoices can be saved using their invoice number in the file name.

1. Launch the Designer.
2. Choose **File > Print Presets > Job Creation Settings...**
3. Select the same data mapping configuration as before.
4. The *Configuration name* should be set to **<New>**.
5. Check **Include meta data**.
6. Click **Next**. The *Meta data options* appear.



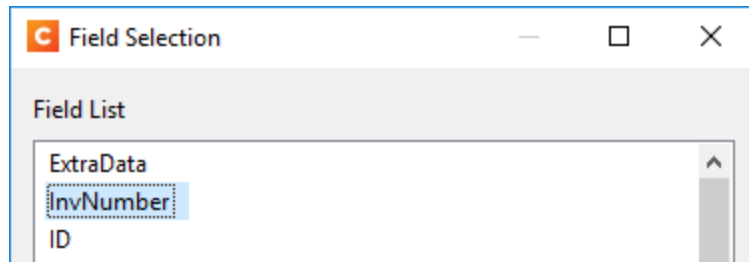
Each tab in this dialog represents one of the five levels in a (PDF or AFP) output file: job, job segment, document set, document and page. A Job Preset can provide the Output Preset with tags on each of these levels.

Note: These meta data tags can only be used in an Output Preset. They do not appear in the metadata file in Workflow.

7. On the *Document Tags* tab, click the *Add meta data* button and select **Add field meta data**.



8. Choose **InvNumber** from the list of data fields and click **OK**.



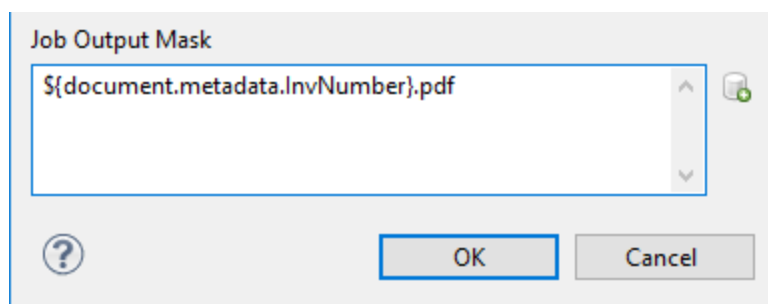
9. Click **Finish**.
10. In the *Save File* window, type the name for your Job Preset, e.g. **DocTags-InvNumber**, and click **Save**.

2. Creating the Output Preset

The Output Preset that archives the invoices must be configured to store each invoice in a folder, using the invoice number in the file name, and to create one file for each document using the meta data tag provided by the Job Preset in the file name.

This Output Preset **splits** the groups of content items and outputs them to different jobs/files.

1. Choose **File > Print Presets > Output Creation Settings...**
2. In the *Output Creation* dialog, select **<New>** as configuration name. Click **Next**.
3. Select **Generic PDF** in the *Printer model* drop-down.
4. Select **Directory** and enter a directory.
5. Click the *Options* button next to the *Output Mask* field.
6. Set **File Separation** to **Document** to make the process create one file per document.
7. In the *Output Mask* field, enter **\${document.metadata.InvNumber}.pdf**.



The part between brackets is a reference to the tag name defined on the *Document tags* tab in the Job Preset. (See: [http://help.objectiflune.com/en/planetpress-connect-user-guide/1.7/#designer/Output/Print/Variables available in the Output.htm](http://help.objectiflune.com/en/planetpress-connect-user-guide/1.7/#designer/Output/Print/Variables%20available%20in%20the%20Output.htm).)

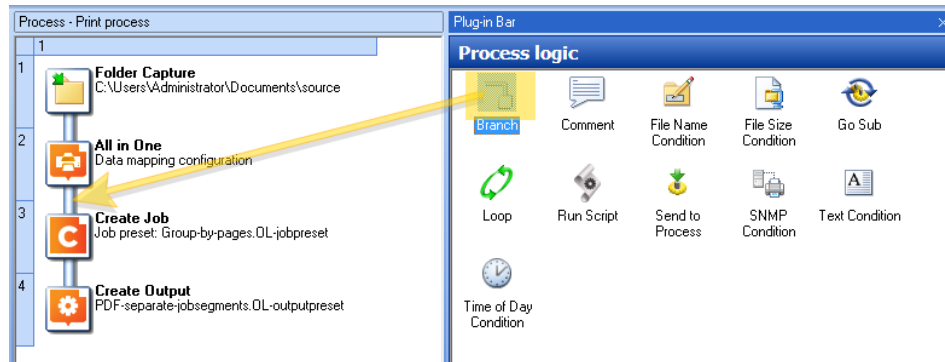
The specified tag points to a data field. Each time the Output Preset creates a file, it will look in the Connect database and use the value of that data field as the file name.

8. Click **OK**. Note that the **Separation** option is now checked.
9. Check **Print Virtual Stationery** to make the invoices look exactly like invoices printed on paper.
10. Click **Next** and verify that the separation level is set to **Document**.
11. Click **Finish**. Type a name for the Output Preset, for example **PDF-archive**, in the *Name* field and click *Save*. The Output Preset is saved in the Connect workspace folder with the name **PDF-archive.OL-outputpreset**.
12. Send the Job Preset and Output Preset to Workflow (**File > Send to Workflow...**), selecting the new presets from the drop-down lists in the *Send to Workflow/file* dialog.

3. Adjusting the process: creating the branch

This exercise shows how to create a branch in the advanced print process that archives the invoices.

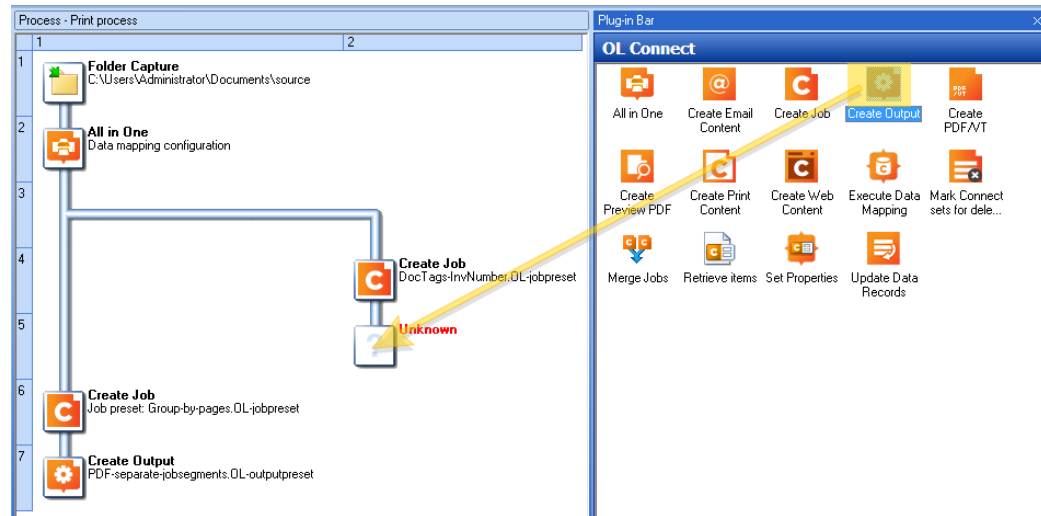
1. Launch Workflow and open the advanced print process.
2. In the *Plug-in Bar*, the *Process logic* tab, locate the **Branch** task and drag and drop it underneath the All In One task.



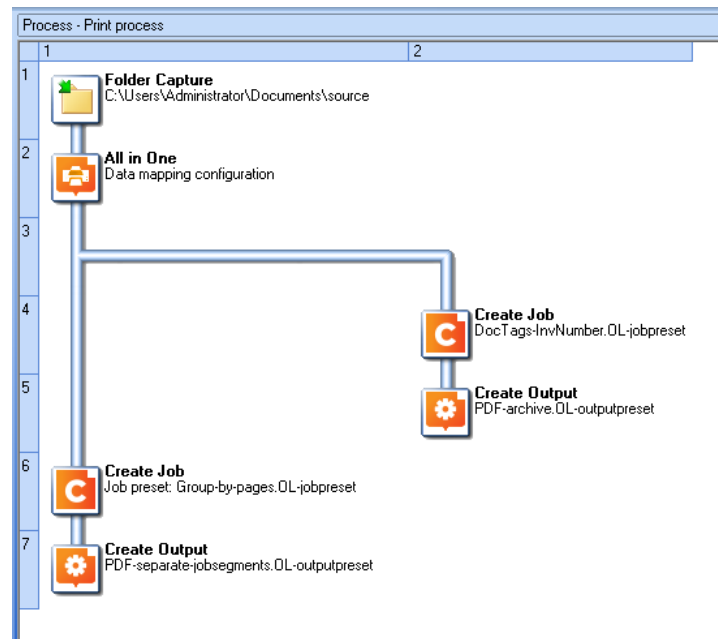
Note: Dragging an output plugin - such as the Create Output task - between two tasks in a process and adding it as an Output task creates a new branch with the respective plugin at its end.

3. In the *Plug-in Bar*, in the *OL Connect* tab, locate the **Create Job** task and drag and drop it on the new branch. The *Create Job Properties* window opens.
4. Set the Create Job task to use the **DocTags-InvNumber** Job Preset.

5. In the *Plug-in Bar*, in the *OL Connect* tab, locate the **Create Output** task and drag and drop it on the 'Unknown' output task.



6. Set the Create Output task to use the **PDF-archive** Output Preset. The final process looks like this:



4. Debugging the process

Before sending the configuration to the Connect Workflow service, debug the process using the *Step* button.

- Pay attention to the **name** of the job file and metadata file: they change once the process has entered the branch. The job file and metadata file get copied when the process enters a

branch. When the main process resumes after the branch has completed, it does so with the original files.

- Note that branches are not executed simultaneously. When a process branches, steps in the branch are executed first.

The process should now output one PDF per invoice in addition to the PDF files that contain the grouped invoices.

5. Exercises (optional)

- A. Change the main process so that it outputs files named after their page range.

Hints:

- In the *Grouping* options, give each page range a name.

Range Name	From	To
SmallDocuments	1	2
LargeDocuments	3	Largest

- Use the *Page break range meta data field name* in the output file mask:
`${segment.metadata.PageBreakRange}.pdf`

- B. Change the main process so that it groups invoices by state and creates output files named after the respective state (Alberta.pdf, etc).

Hints:

- Create a **Group-by-state** Job Preset; see Part 2, exercise 7A.
- Add the **State** field as a *Job Segment Tag* to the Group-by-state Job Preset.
- For the Output Preset, open the **PDF-separate-jobsegments.OL-outputpreset** and change the output file mask to **`${segment.metadata.State}`**.