

Digital Business Automation Blue Demos 2018

Lab instructions for 2. Datacap sub-scenario

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0 Introduction

IBM Datacap is a complete solution for document and data capture. Datacap scans, classifies, recognizes, validates, verifies, and exports data and document images quickly, accurately and cost effectively.

By combining the common recognition engines for Optical Character Recognition (OCR), Intelligent Character Recognition (ICR), Optical Mark Reading (OMR) and barcodes with libraries of hundreds of script-based and code-based (.NET) actions, Datacap accurately captures data from any type of structured, highly variable, or unstructured documents.

Datacap can capture machine print, hand print, bar codes, and check box data. By using the Datacap rules engine, data capture can be tailored to fit the most demanding business requirements and can be changed quickly when business needs change.

This DBA Blue Demos 2018 scenario describes how to create an application in Datacap using two Authoring tools (FastDoc and Datacap Studio), connect it to an ECM system as well as use the created application with Datacap Desktop (fat client) and Datacap Navigator (web based through IBM Content Navigator).

In **Exercise 1** you will make yourself familiar with where to find the tools needed for the later exercises.

In **Exercise 2** you will use the FastDoc authoring tool to create an initial version of the application for scanning the mortgage application form and extracting fields from it. FastDoc is a tool that lets you create applications quickly. However it doesn't give you easy access to the full functionality of the Datacap product.

In **Exercise 3** you will use the Datacap Studio authoring tool to enhance and complete the application by adding additional fields, allowing for capturing additional input forms and configuring the communication to the ECM system. Datacap Studio is the more complex, but all encompassing developer tool for Datacap applications.

Exercise 4 lets you run the application you developed closely to the way a scanning operator would use it. The Datacap Desktop program can be considered as the run-time environment for the application you developed. It actually drives capturing the input in batches, processing it and at the end forwards the extracted data and the images to ECM.

Exercise 5 resembles the same tasks as exercise 4, however using IBM Content Navigator as UI and run-time environment. It teaches you how to use Datacap through a browser. In addition it shows that under production conditions the operator will likely only do the "Verify" task while the other tasks are automatically executed by the Rulerunner as part of the Datacap product.

Duration: about 1-2 days

Note:

In case you have already started any other session in the DBA Blue Demos 2018 event before, complete that other session before attending a new one. You will not be able to automatically re-use your implementation from that other session in this session.

0.1 Audience

Everyone interested in the Digital Business Automation space, especially technical people interested in the details of processing input originating from paper forms, extracting image content to strings and numbers that will be fed into the other components like IBM Business Automation Workflow and processed there.

0.2 Prerequisites

- Access to <https://bluedemos.com> with your IBM ID.
- Link to the shared box folder <https://ibm.box.com/s/aiwhfcfs7ms9spnrijwg8bzmk7ad6lsf>.
- You either started already with Template 7 and have the ECM sub-scenario already implemented,
or
you want to work only with Template 2 - Implement Datacap sub-scenario only.

0.3 Objectives

- Get familiar with the main aspects of IBM Datacap.
- Know how digital data can be extracted from analog input (paper forms) and forwarded to content management environments for further processing.

0.4 About this Lab

This lab is subdivided into multiple exercises. Each exercise consists of the following sections:

1) Exercise Introduction

Describes what you will learn & complete in this exercise, but also lists all needed data for the exercise so that experienced attendees can complete the exercise by only using this introduction section.

2) Step by Step Instructions

Guides you in easy to understand steps through the whole exercise. To be used by less experienced attendees.

3) Verification Instructions

Guides you through how to test & verify your implementation.

4) Exercise Summary

Summarizes what you have completed & learned.

1 Exercise 1: Getting Started

1.1 Getting Started – Introduction

In this exercise, you will explore the Datacap VM prepared for DBA Blue Demos 2018.

You either continue to work with your existing environment based on Template 7, or start working with your new environment based on Template 2 to perform the exercise.

VM 1 – ECM is only needed in up and running state. It's not required to access VM 1.

You will work with VM 2 – Datacap.

In this exercise you will make yourself familiar with launching the following tools:

Tool	Location / URL
Datacap FastDoc	Start -> Datacap FastDoc (Admin)
Datacap Desktop	Start -> Datacap Desktop
Datacap Studio	Start -> Datacap Studio

For this, you will require the following IDs and passwords:

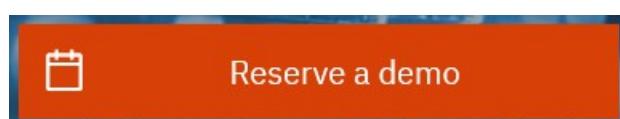
Tool	User ID	Password
Windows	Administrator	Admin (or passw0rd)
Datacap FastDoc/Desktop	admin	admin

The exercise is completed, when you have successfully launched all of those tools.

1.2 Getting Started – Step by Step Instructions

To get started with this sub-scenario, execute the following steps:

- 1) If you started with **Template 7**, and want to implement the Datacap sub-scenario now, make sure you already have completed the ECM sub-scenario. You have already registered for a session based on Template 7, therefore resume your existing demo environment and continue with step 9 below.
- 2) To start with Template 2, open <https://bluedemos.com> and login with your IBM ID.
- 3) Search for **IBM Digital Business Automation Blue Demos 2018** and select **IBM Digital Business Automation Blue Demos 2018 - Template 2 - Implement Datacap sub-scenario only**.
- 4) Click Reserve a demo.



- 5) Provide the necessary information and click Reserve demo.

Start date:*	Start time:*	End date:*	End time:*
2018-07-26	1:00 pm	2018-07-27	6:00 pm
Timezone:*		Region:*	
Europe/Berlin (CEST)		EMEA	
User email address:*		Additional email:	
Comments:			
Demo purpose:*	Customer name:*	Sales Connect ID:	
Practice / Self-Education	NONE		

This demo can be reserved for a maximum of 1500 hours and has an approximate duration of 30+ minutes

Reserve demo

Close

- 6) After you click Reserve demo you'll get two emails, the second one once your reservation is active according to the information provided in step 5. This second email does also contain the link and password to access your demo environment.

Reservation Confirmation

IBM Blue Demos

<your_email> (<your_email>)

Demo: IBM Digital Business Automation Blue Demos 2018 - Template 2 - Implement Datacap sub-scenario only [EMEA]
07/26/2018 - 07/27/2018 01:00 PM CEST - 06:00 PM CEST

Your reserved demo has started. Use your web browser to access the demo at the following link.

<https://cloud.skytap.com/vms/726cfb96f785cae502fb4f918669efd/desktops>

Password: <your_password>

- 7) Open the link and enter your password to access your environment. Click Submit.

- 8) Your demo lab environment opens. It will look similar to the following screen:

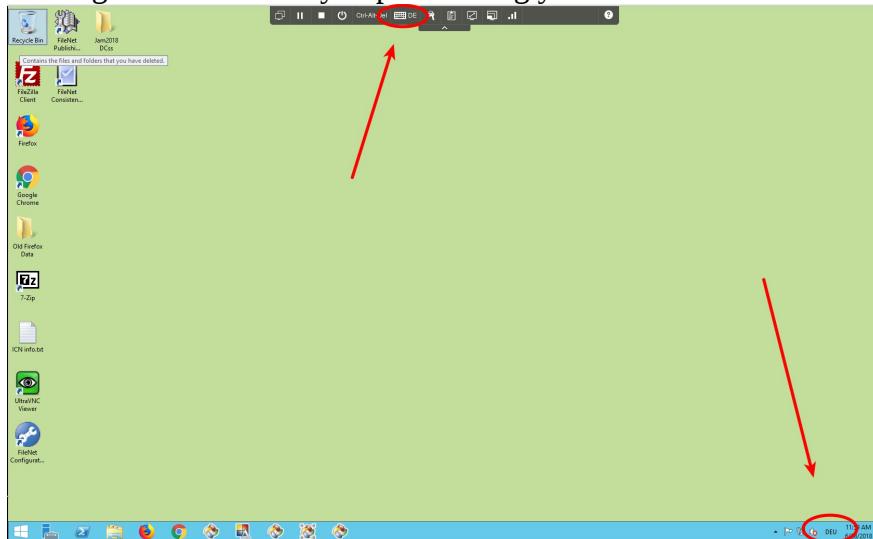
VM Name	Endpoints	vCPUs	RAM	Storage
VM 1 - ECM	1 (vm-1 - 10.0.0.2)	8	8 GB	100 GB
VM 2 - Datacap	1 (vm-2 - 10.0.0.3)	4	4 GB	80 GB
VM 3 - Workflow	1 (vm-34 - 10.0.0.1)	8	8 GB	120 GB
VM 4 - RPA	1 (vm-4 - 10.0.0.5)	8	8 GB	100 GB
VM 5 - ODM	1 (vm-5 - 10.0.0.4)	8	8 GB	80 GB

9) Start the Datacap sub-scenario VM in by clicking on the triangle.

That will start the VM and some time later it's state turns to running.

10) Log-in into the VM by clicking on it. The VM's desktop opens in a new browser tab, which you should switch to. Alternatively use Remote Desktop to connect to the VM by clicking the "RDP" link in the upper right corner. Your browser needs to be configured to launch the right tool for *.rdp files for this alternative.

- a. As a first action you might want to adapt your keyboard layout in two places from US English to whatever you prefer using your mouse:



11) If you start with sub-scenario #2 your Datacap application is not yet developed. Should you get stuck somewhere during developing your application you have the opportunity to make use of a few "cheating points":

- If you want to start developing the application from scratch, then please open the



folder on the desktop and run **makeStateBeforeExercise2.bat**

That will remove the "MGApp" application from Datacap and lets you start in a „clean environment“.

- If you want to create the conditions as they should be after finishing Exercise 2 then run **makeStateAfterExercise2.bat**.
- If you want to create the conditions as they should be after finishing Exercise 3 then run **makeStateAfterExercise3.bat**

12) In this DBA Blue Demos 2018 we don't have paper documents and scanners to produce the images that will be processed. Instead there are scanned images available already, which will be ingested in a virtual scanning step called „VSCAN“.

These input files to the overall process are located in "Desktop\Jam2018 DCss\images". You find "loan-*1.tif" files that contain images of loan applications and "payslip-*-2017-03.tif" files, which contain images of salary sheets, that will have to be submitted as part of the loan mortgage processing.

They look like the sample below.

What will be extracted by the application in Exercise 2 are the Customer_Name and the Date of Birth.

Later on in Exercise 3 further fields will be extracted

In the payslip images three fields (Customer Name, Date, and Net income) will be

extracted.

13) Have a look at the start menu. Here you find:



- a. Datacap FastDoc, one of the two development environments. It will be used in Exercise 2 to build a first version of the application.



- b. Datacap Studio, the other development environment, which will be used in Exercise 3 to enrich the application with further fields, features and functionality.



- c. Datacap Desktop, which will be used in Exercise 4. It is the „fat client“ that people like scan operators can use to run the Datacap application(s).

- d. To use Datacap Navigator to run the mortgage application, you need to have VM1 – ECM up and running. Use for example Firefox on your VM 2 – Datacap system to access
<http://vm-1.example.com:9081/navigator/?desktop=dcMGAApp>

1.3 Getting Started – Verification

You can judge by yourself whether you were able to find the essential files and programs necessary to run the other exercises in the Datacap sub-scenario.

1.4 Getting Started – Summary

In this exercise you should have made yourself familiar with where to find the essential files and programs necessary to run the other exercises in the Datacap sub-scenario.

2 Exercise 2: Datacap FastDoc

2.1 Datacap FastDoc – Introduction

In this exercise, you will explore the user interface of Datacap FastDoc.

You will work with VM 2 – Datacap.

In this exercise you will access the following tools:

Tool	Location / URL
Datacap FastDoc	Start -> Datacap FastDoc (Admin)
Datacap Desktop	Start -> Datacap Desktop

For this, you will require the following IDs and passwords:

Tool	User ID	Password
Windows	Administrator	Admin (or passw0rd)
Datacap FastDoc/Desktop	admin	admin

The exercise is completed, when you have built the first version of the Mortgage Application solution and have extracted the desired data fields from the sample loan application document.

Using FastDoc you'll learn, that the overall processing of a Datacap application is following a more or less fixed sequence of major steps (the Datacap workflow).

1. Scanning Documents

Either physical paper sheets are fed into scanner devices where Datacap reads the image data or the same result is achieved by “virtual scanning”, i.e. copying image files into a predefined directory and have Datacap “scan” (= just read) it from there.

2. Profiling the image

The image is processed to determine whether its coarse shape matches a predefined fingerprint. Based on the result either zones with predefined locations within the image are processed to recognize text there to populate named fields like “Customer_Name” or the field is populated by looking up keywords or labels inside the document and populate fields like “Customer_Name” from whatever text is found in the image for example right to, below, or five words to the right of the specified keyword/label.

3. Verification

When converting the content of an image to text, it can happen, that some characters in the image cannot get converted to text characters with a sufficient level of confidence. In such cases the parts, where the optical character recognition is not sure whether it did it right, are presented to the operator to allow for manual correction.

Other cases, that can be handled during verification include validity checks. In one of the input images the date field contains correctly recognized characters but they form an invalid date (like 34th of March) or represent a date out of the accepted range (like a date back in 1685).

4. Export

Here the image itself along with the extracted data is either stored on disk or handed over to a content management environment for further processing.

2.2 Datacap FastDoc – Step by Step Instructions

To get started with this exercise, execute the following steps:

- 1) Log-in to VM 2 – Datacap. When prompted for Windows user ID and password, use **Administrator / passw0rd**
- 2) Ensure Datacap Server is started. Click “Start > Datacap Server Manager”, select the “Service” tab and check the status. If not running, start it by clicking on the green triangle.
- 3) Click “Start > Datacap FastDoc (Admin)”.
- 4) Select “Datacap Server”, any application and log in using “admin/admin”, Station “1”.
- 5) Explore the user interface of Datacap FastDoc:

- a. Explore the different sections (Top bar, leftmost column)

- b. Click on the different icons in the leftmost column. For each of these icons, the rest of the UI shows what you can do and what you can act upon.



is for processing batches of documents

You see various actions that you can perform on batches of documents.



is for configuring documents, pages and fields

You can browse through the structure of a document with its pages and fields.



is for configuring the Datacap workflow

You see various types of jobs, the high level steps of the job's workflow and which processing rules are associated with each of these steps.

- 6) Now you will start to define the application for this exercise:



- a. In the top bar, click on Application Wizard ()
- b. Create a new “RRS” application, click “Next”
(RRS most likely stands for RuleRunner Service, which is one of Datacap's internal components)
- c. New Application Name: **MGApp**, Application Template: **Learning Template**, “Next”
- d. Click “Next”
- e. Add a sample image “C:\Users\Administrator\Desktop\Jam2018 DCss\images\loans1.tif”, click “Next”
- f. Click “Finish” and “Close”

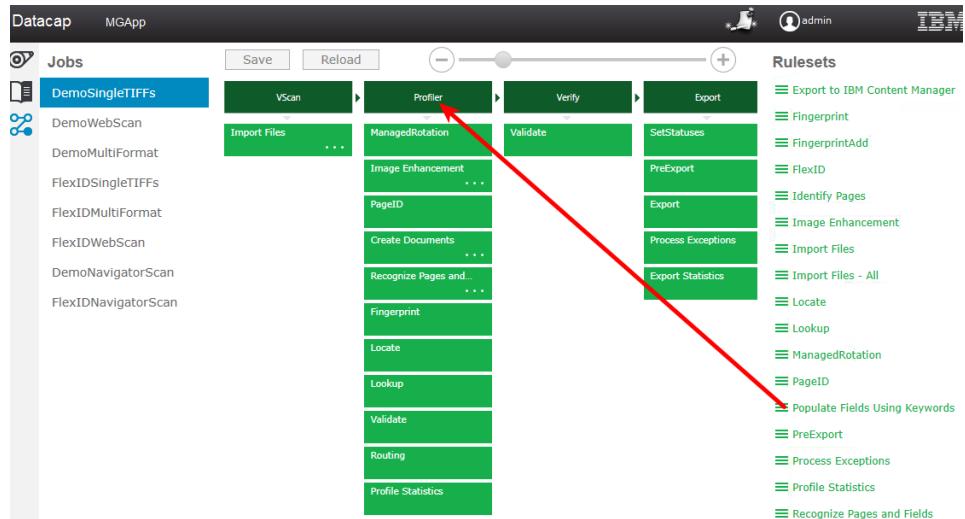
- 7) Log out of Datacap FastDoc and log in again selecting the newly created “MGApp” application.

- 8) Add necessary ruleset to “Profiler” step:



- a. Click on the workflow icon

- b. Locate the “Populate Fields using Keywords” ruleset in the rightmost column
- c. Drag it to the “Profiler” step and drop it there

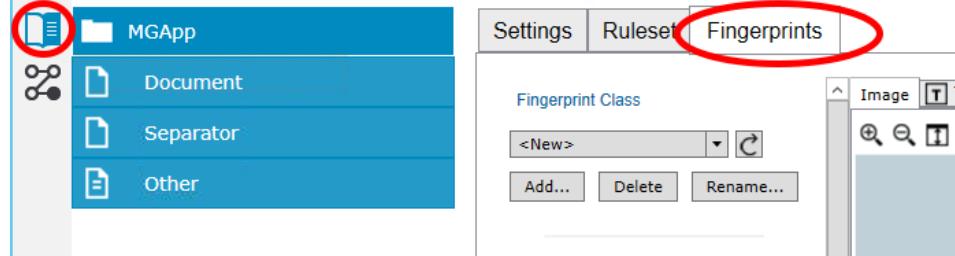


The ruleset is added to the stack for the “Profiler” step

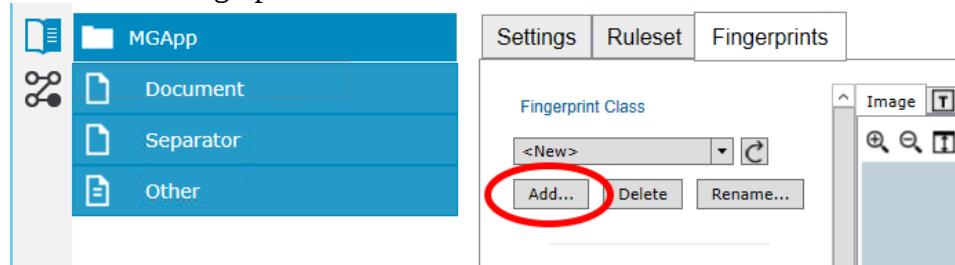
- d. Click "Save"

9) Add a Fingerprint:

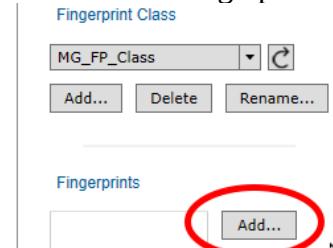
- a. Click on the “Configure Documents, Pages and Fields” icon and then on the “Fingerprints” tab



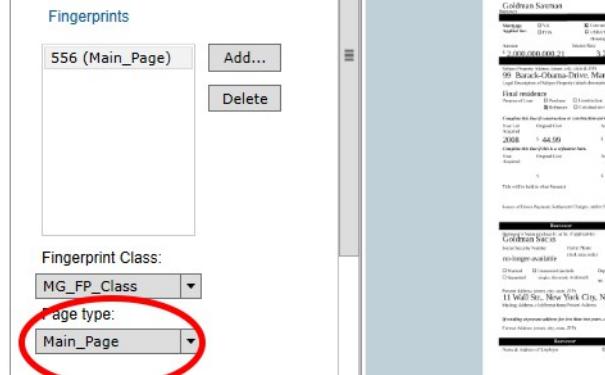
- b. Add a new “Fingerprint Class” called “MG_FP_Class”



- c. Then add a “Fingerprint”

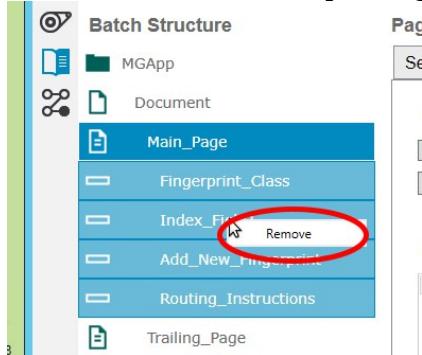


- d. Select “C:\Users\Administrator\Desktop\Jam2018 DCss\images\loan-gs1.tif” (takes some seconds to process) and set the Page type to “Main_Page”

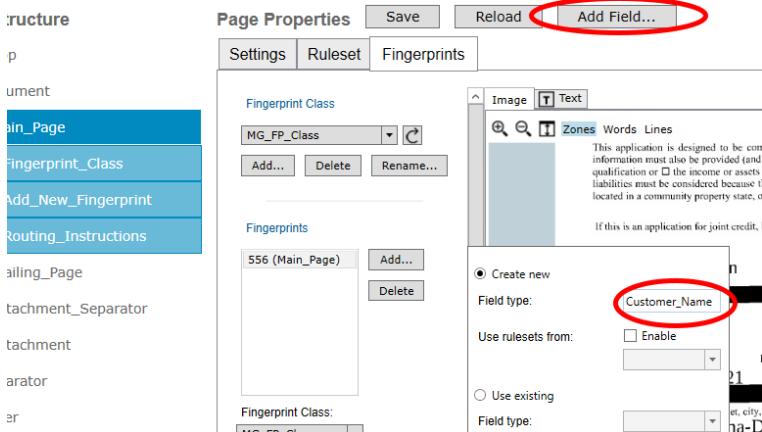


10) Define the fields:

- a. In the “Batch Structure” pane right-click on “Index_Field1” and remove it



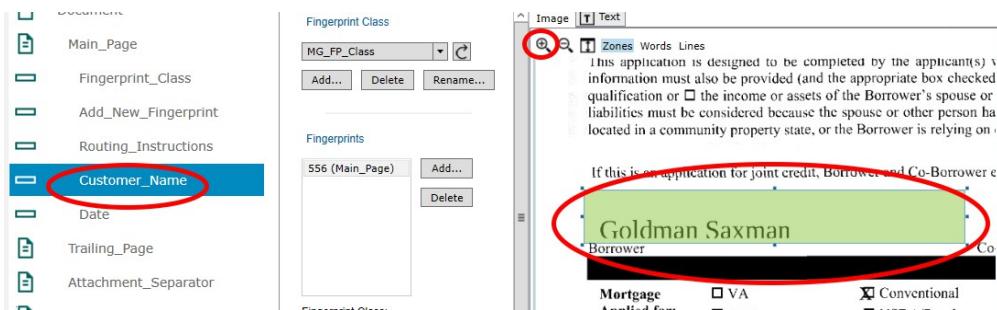
- b. Add a field called “Customer_Name” to the “Main_Page”



- c. Repeat the previous step adding a field called “Date”

- d. In the “Batch Structure” select the field “Customer_Name”. Use the magnifying glass and right-drag to move the image, so that you have an enlarged view of the “Borrower's name” in the image on the right.

Use the left mouse button to draw a rectangle defining the zone, in which the “Customer_Name” is placed.



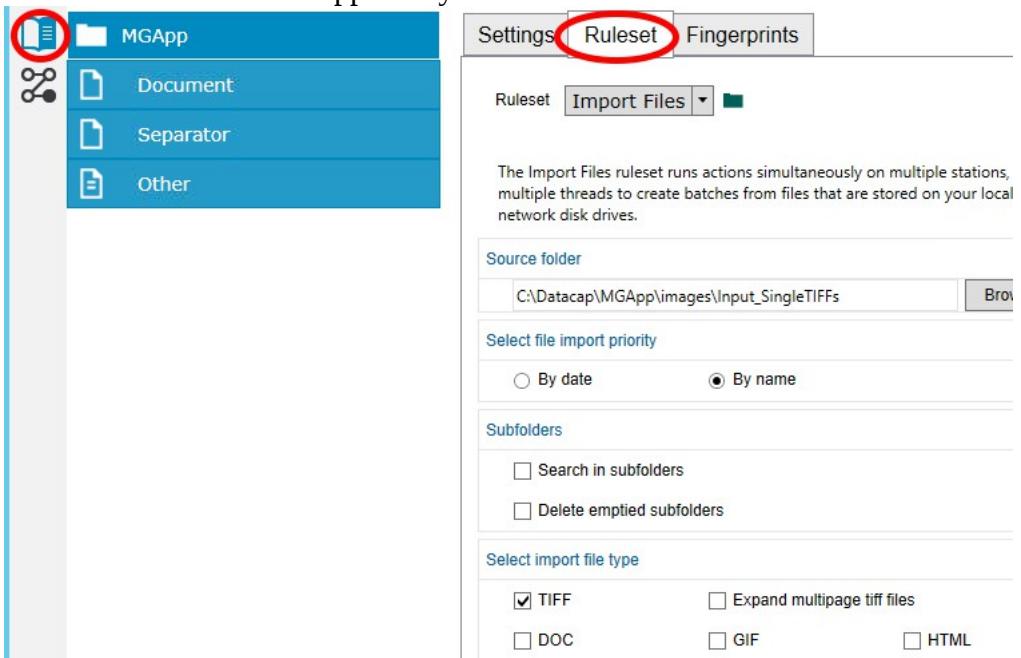
- e. Repeat the previous step for the “Date” field which captures the date of birth



- f. Click "Save"

11) Configure the rulesets:

- a. Click on the “Configure Documents, Pages and Fields” icon . Make sure you have selected the “MGApp” entry. and then select the “Ruleset” tab.



Note, that for the “Import Files” ruleset TIFF files will be imported from the shown source folder. When you click on any of the child items (Document, Separator, Other) of the Batch Structure, you notice that the Import Files Ruleset doesn't offer any further settings.

- b. There is no ruleset setting for the “Document” level, but you'll find settings for the “Main_Page” level.

You don't have to change anything for the “Image Enhancement” ruleset.

The left pane shows a file tree with the following structure:

- MGApp
- Document
- Main_Page
 - Fingerprint_Class
 - Add_New_Fingerprint
 - Routing_Instructions
 - Customer_Name
 - Date
 - Trailing_Page
 - Attachment_Separator

The right pane shows the 'Image Enhancement' ruleset settings:

- General Settings**: Rule setting: default
- Image Operations**: Add operation: Auto Rotate
 - Auto Rotate (unchecked)
 - Deskew (checked)
 - Remove Lines (checked)

- c. For “Main_Page” and ruleset “Recognize Pages and Fields”, please check “Load zones for fields” to load the zone position information for the current fingerprint.

The left pane shows the same file tree as before.

The right pane shows the 'Recognize Pages and Fields' ruleset settings:

- General Settings**: Rule setting: default
- Operations**:
 - Read Page
 - Load zones for fields (circled in red)
 - Read machine print on page
 - Run OCR/A recognition
 - Save results to a text file
 - Read barcodes on page
 - Add 2
 - Add 5
 - Australian Post 4-State Code

- d. Select item “Customer_Name” and in ruleset “Recognize Pages and Fields”, check “Read Field” to turn the related zone of the image to text data.

The left pane shows the file tree with 'Customer_Name' selected.

The right pane shows the 'Recognize Pages and Fields' ruleset settings:

- General Settings**: Rule setting: default
- Operations**:
 - Read Field (circled in red)
 - Add page recognition text to the zone
 - Read hand print in zone
 - Read barcode in zone
 - Add 2
 - Add 5
 - Australian Post 4-State Code

- e. For ruleset “Populate Fields using Keywords”, check “Field Information”, so that the field will be populated from the recognized text within the previously defined zone.

The screenshot shows the Datacap FastDoc interface. On the left, a sidebar lists several items: Document, Main_Page, Fingerprint_Class, Add_New_Fingerprint, Routing_Instructions, Customer_Name (which is highlighted with a blue background), and Date. On the right, a configuration panel is displayed for the 'Customer_Name' item. At the top, it says 'Ruleset Populate Fields Using Keywords'. Below this, a section titled 'Field Information' has a checkbox labeled 'Field Information' which is checked and circled in red. A note below states 'The field Customer_Name will be located.' Underneath, there is a heading 'Select the method to use to populate the field from full page recogn...' followed by four radio button options:

- Populate from the zone only
- Locate by keyword only
- Populate from the zone when it exists. Otherwise use locate by keyword
- Locate by keyword when it exists. Otherwise use populate from zone

- f. Repeat the two previous steps for the “Date” item.
- g. “Save” the solution and exit Datacap FastDoc.

2.3 Datacap FastDoc – Verification Instructions

To verify successful completion of this exercise, verify that you are able to run the MGApp application just created.

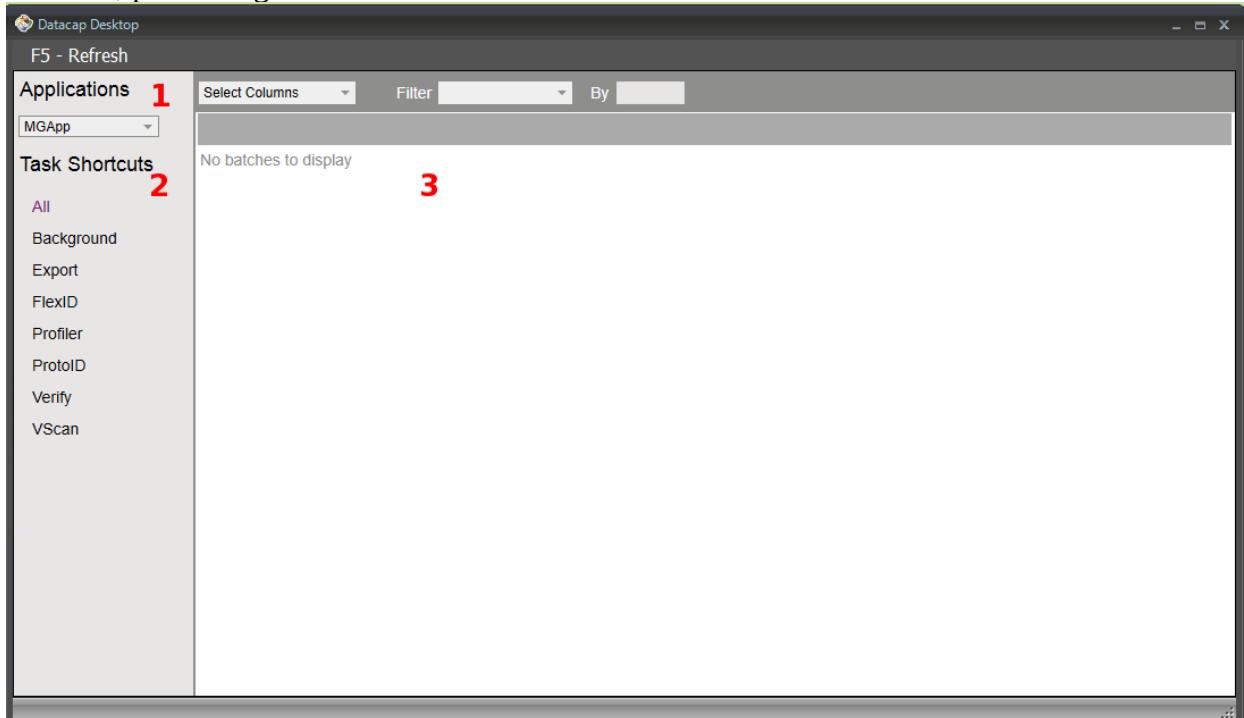
- 1) Start Datacap Desktop:

- a. Click “Start > Datacap Desktop”



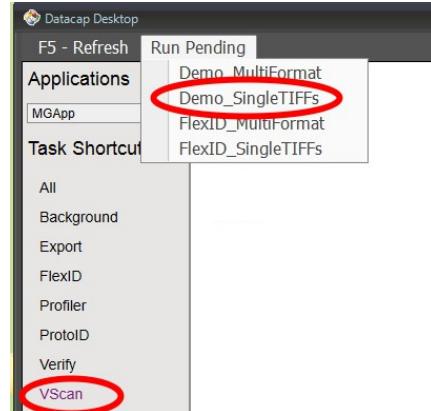
- 2) Log in as user “admin”, password “admin”, and station “1”

- 3) What you see afterwards is the “workplace“ of the person typically operating physical scanners, processing batches of documents:



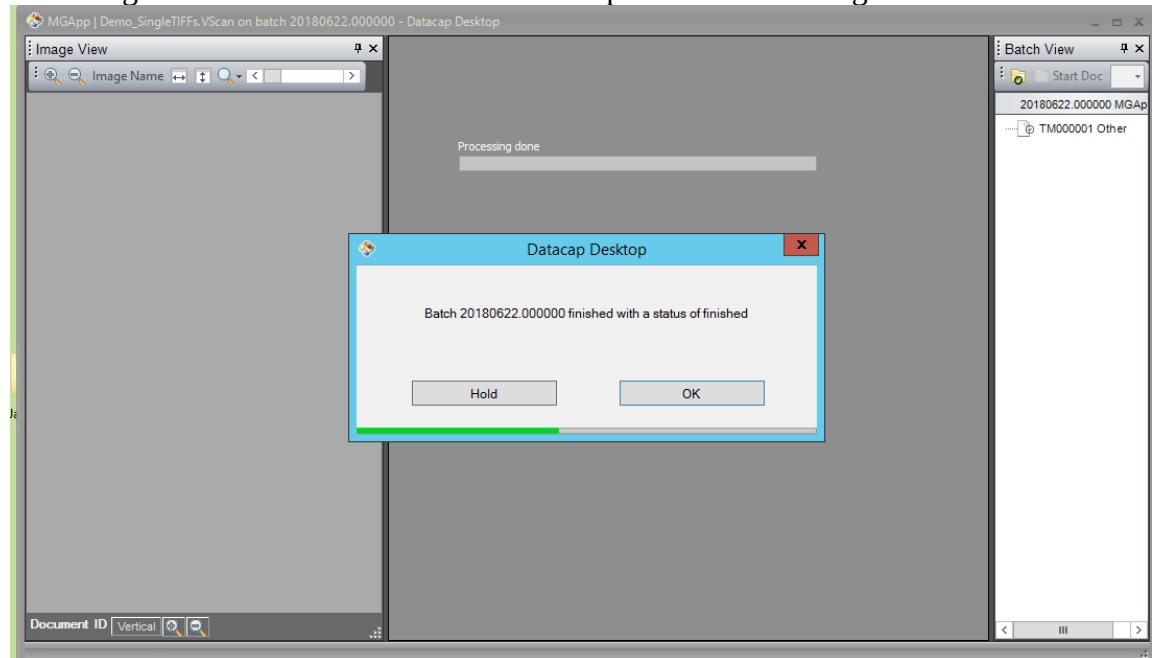
- a. On the top of the left column (1) you can select, which application to run. Select “MGApp”.
 - b. Below that on the left-hand side you can find various tasks (2) that can be run on batches. Clicking for example on “Profiler” will show you all existing batches that wait for the “Profiling” task. The “All” shortcut shows you all tasks waiting for action.
Right now there are no batches available yet.

- c. Now click on “VScan” and then on “Demo_SingleTIFFs”.

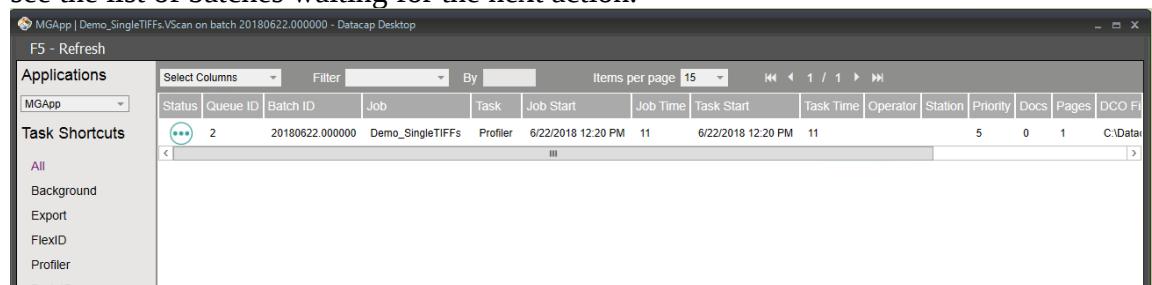


That will start a virtual scanning job, processing a batch of documents. The batch consists of all TIFF files that are located in “C:\Datacap\MGApp\images\Input_SingleTIFFs”. This is currently just a single file: “loan_gs1.tif”, which you also used for fingerprint definition earlier. It was placed there by the Application wizard run earlier.

- d. The virtual scanning process is starting and when it is finished it shows you a dialog, indicating that it is done. Click “OK” and “Stop” in the next dialog.



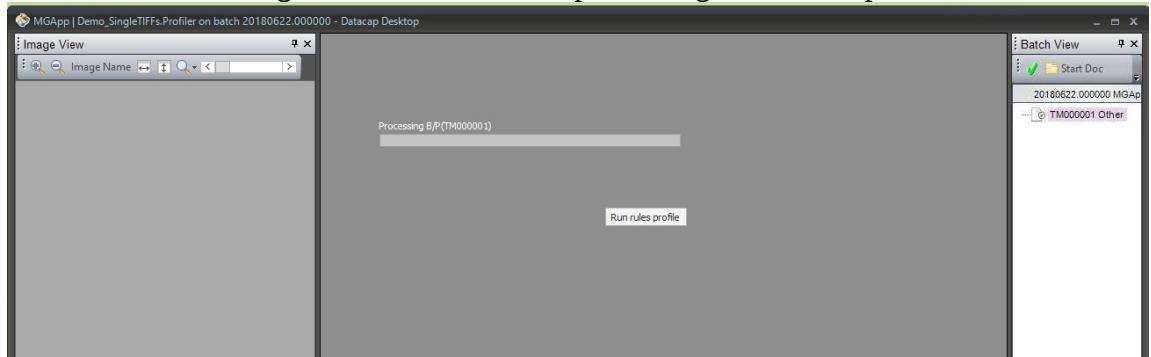
- e. When you return to Datacap Desktop’s main screen, click on the “All” shortcut to see the list of batches waiting for the next action.



There is only one batch so far – the one you just started. In the list you can for example see, that it is waiting for the “Profiler” step and that one page was scanned.

MGApp Demo_SingleTIFFs.VScan on batch 20180622.000000 - Datacap Desktop												
Applications		Select Columns		Filter		By	Items per page		15	<	1 / 1	>
Status	Queue ID	Batch ID	Job	Task	Job Start	Job Time	Task Start	Task Time	Operator	Station	Priority	Docs
2	20180622.000000	Demo_SingleTIFFs	Profiler	6/22/2018 12:20 PM	11	6/22/2018 12:20 PM	11			5	0	1 C:\Data\
All												
Background												
Export												
FlexID												
Profiler												
PrintIN												

- f. When double-clicking on the batch, it starts processing the next step.



Click OK in the dialog indicating the end of processing.

- g. You now see that the batch has reached the “Verify” task and “Profiling” has found one document.

MGApp Demo_SingleTIFFs.Profiler on batch 20180622.000000 - Datacap Desktop												
Applications		Select Columns		Filter		By	Items per page		15	<	1 / 1	>
Status	Queue ID	Batch ID	Job	Task	Job Start	Job Time	Task Start	Task Time	Operator	Station	Priority	Docs
2	20180622.000000	Demo_SingleTIFFs	Verify	6/22/2018 12:20 PM	29	6/22/2018 12:20 PM	11			5	1	1 C:\Data\
All												
Background												

- h. Double-click on the batch to start the “Verify” task. You’ll see the following screen

Close to (1) you can see the name of the two fields defined earlier when creating the “MGApp” application and the values, that have been extracted by Datacap. When clicking for example on Customer_Name (close to (1)) the related zone is highlighted on the image on the left (2) and an enlarged section of that image is shown at (3).

Close to (4) you find an entry field prefilled with the recognized text string. Here you could correct the value for “Customer_Name” before submitting it if necessary. In case of low recognition confidence, you’d see yellow or red marked areas in (3).

Datacap can be configured to automatically submit documents where the data was recognized with high confidence to avoid time consuming human intervention. Only documents where character recognition confidence is low or a validation fails would then get presented to an operator.

- i. Click on “Submit” to end the processing for this page and then “OK” in the dialog to end the “Verify” processing for this batch. The batch is now ready for the final “Export” task.

Status	Queue ID	Batch ID	Job	Task	Job Start	Job Time	Task Start	Task Time	Operator	Station	Priority
2	20180622.000000	Demo_SingleTIFFs	Export	6/22/2018 12:20 PM	1132	6/22/2018 12:20 PM	11				5

- j. Double click to run the “Export” task and then click “OK” in the finishing dialog.
- k. You now have verified the “MGApp” application you created earlier.

2.4 Datacap FastDoc – Summary

In this exercise you have:

- 1) Got a first impression on Datacap FastDoc.
- 2) Had a look at the different tabs and sections.
- 3) Developed a rudimentary Datacap application that is able to extract content of an image into data fields.
- 4) Verified that the “MGApp” application works and extracts the desired data fields from the image.

3 Exercise: Datacap Studio

3.1 Datacap Studio – Introduction

In this exercise, you will explore the user interface of Datacap Studio, the second development tool for Datacap.

VM 1 – ECM is only needed up and running. It's not required to access this VM.

You will work with VM 2 – Datacap.

In this Exercise you will access the following tools:

Tool	Location / URL
Datacap Studio	Start -> Datacap Studio
Datacap Desktop	Start -> Datacap Desktop

For this, you will require the following IDs and passwords:

Tool	User ID	Password
Windows	Administrator	admin
Datacap Studio/Desktop	admin	admin

The exercise is completed, when you have successfully accessed all of those tools and completed the verification steps.

If you want to get a more detailed set of information on Datacap Studio, please follow the below link to the Datacap Knowledge Center describing the functions and concepts of Datacap Studio:
https://www.ibm.com/support/knowledgecenter/en/SSZRWV_9.1.3/com.ibm.dc.develop.doc/dcdev176.htm

3.1.1 Datacap Studio Introduction – Step by Step Instructions

To get started with this sub-scenario, execute the following steps:

- 1) Log-in to VM 2 – Datacap. When prompted for Windows user ID and password, use **Administrator / passw0rd**.
- 2) Ensure Datacap Server is started. Click “Start > Datacap Server Manager”, select the “Service” tab and check the status. If not running, start it by clicking on the green triangle.
- 3) Click Start -> Datacap Studio.
- 4) Select the application you created in exercise 2 and login to that application.
- 5) Explore the user interface of Datacap Studio.
 - a. Explore the different sections “Document Hierarchy”, “Rulesets” as well as “Actions library” and “Task Profiles”.
 - b. Explore the different tabs at the top. The tabs are “Rulemanager”, “Zones” and “Test”.
- 6) Keep Datacap Studio open for the next exercise.

3.1.2 Datacap Studio Introduction – Verification Instructions

To verify successful completion of this exercise, verify that you have been able to open Datacap Studio and login as the admin user.

3.1.3 Datacap Studio Introduction – Summary

In this exercise you have:

- 1) Got a first impression on Datacap Studio.
- 2) Had a look at the different tabs and sections.

3.2 Datacap Studio – Learning Capabilities

In this exercise, you will extend the application created in Exercise 2 by further fields as well as add some learning capabilities. Learning capabilities allow the application to react to slight changes that will change the fingerprint but do not change the field structure during runtime.

The learning capabilities can be achieved by defining image recognition algorithms.

In theory, an image is scanned and built-in recognition engines will extract text from it.

This text can be used for decisions or can be stored in variables.

In Exercise 2, you already have created an application that recognizes text and stores it to a variable. This was done by defining fixed fields out of which the text is captured.

In this exercise, you will let Datacap search the entire document text and find specific text patterns. This allows your application to find the desired values even if the fingerprint does not match any known fingerprint.

3.2.1 Datacap Studio Learning Capabilities – Step by Step Instructions

To get started with this exercise, execute the following steps:

- 1) Verify that Datacap Studio is still started and you are logged in to your application.
- 2) In the Document Hierarchy panel, click the lock icon  to lock the DCO for editing.

DCO means **Datacap Object** and refers to how an image is stored inside of Datacap. This includes pages types, fields as well as different levels of access, which allows a very precise control of what data is visible at which step. For more information on DCO, please visit the below link:

https://www.ibm.com/support/knowledgecenter/en/SSZRWV_9.1.1/com.ibm.dc.develop.doc/dcdev_619.htm

- 3) Expand **Document**, **Main_Page** and right-click on **Main_Page**. Select Add -> Field
- 4) Select the new field. In the Properties section on the right, you can see the name. Change it to **Loan_Amount** and hit the Enter key.
- 5) Repeat step 3 and 4 for the following fields:
 - **Property_Address**
 - **Purchasing_Price**
 - **Net_Income**
- 6) Click the disk icon to save the changes and followed by the padlock icon unlock the DCO  
- 7) In the **Rulesets** section, select the **Locate** ruleset and Lock it for editing 
- 8) Expand and right-click **Locate** and select **Add Rule**. A new rule will be created. Rename the rule to “Populate Loan amount” and the function to “Populate by zonal”.

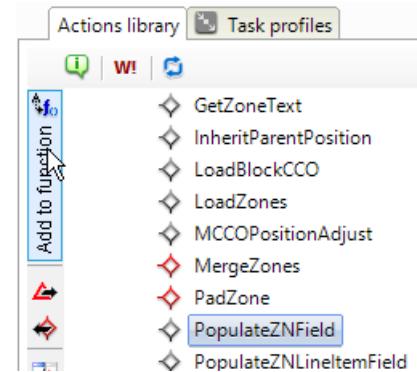
- 9) Right-click the **Populate Loan amount** rule and select **Add function**.

Rename the new function to “Populate Loan amount field”.

- 10) Select the **Populate by zonal** function.

In the **Actions library** section, look for the **Zones** library and click the **PopulateZNField**. Use the **Add to function** button to add this action to the function.

- 11) Select the **Populate Loan amount field** function. From the action libraries, find the **Locate** library and select the **Word find** action.



- 12) Right-click on **Word find** action and select **Information**.

This displays all information about the selected action. In this dialog the action explains what it does. It also shows up which parameters it expects and gives examples about action usage.

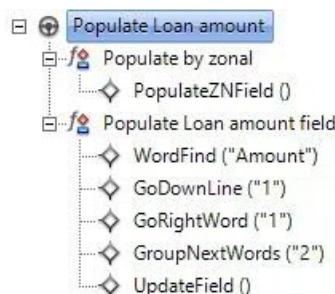
- 13) Add the action to the selected function. Use the **Add to function** button to add this action to the function selected in the **Rulesets** section.

- 14) Select the **Word find** action in your function and note the properties window on the right. Click on the right side of properties table to change the value to “Amount”. Hit Enter to confirm this.

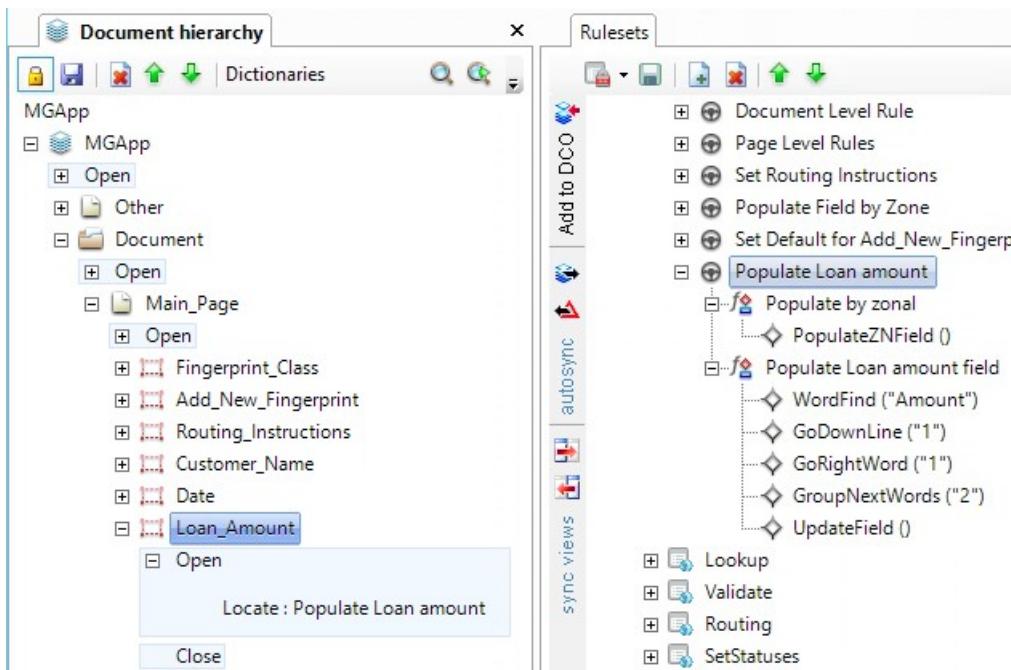
- 15) Repeat steps 11 and 12 for the following actions and parameters:

Action	Parameter
GoBelowWord	1
GoRightWord	1
GroupNextWords	1
UpdateField	

You will see a resulting rule as follows. If not, use the arrow keys at the top to adjust the order of the actions and functions:



- 16) In the **Document hierarchy** section, lock the DCO for editing and select the **Loan_Amount** field. In the Ruleset, select the **Populate Loan amount** rule. Click **Add to DCO** to assign the rule to the field opening. Your result should look like the below. Be sure to have the exact same order of functions and actions:



- 17) You now have added a field and learning capabilities for **Loan_Amount**. Repeat steps 8-14 for the fields **Property_Address**, **Net_Income** and **Purchasing_Price**. The following screenshots show the final configuration as well as the parameters for all actions. All new actions to be used are also located in the **Locate** actions library.

Property_Address	Net_Income	Purchasing_Price
<ul style="list-style-type: none"> □ Populate Property Address <ul style="list-style-type: none"> □ Populate by zonal <ul style="list-style-type: none"> ◊ PopulateZNField () □ Populate Property Address field <ul style="list-style-type: none"> ◊ WordFind ("Subject Property Address") ◊ GoDownList ("1") ◊ GroupNextWords ("2") ◊ UpdateField () 	<ul style="list-style-type: none"> □ Populate Net income <ul style="list-style-type: none"> □ Populate by zonal <ul style="list-style-type: none"> ◊ PopulateZNField () □ Populate Net income field <ul style="list-style-type: none"> ◊ WordFind ("Net Salary") ◊ GoRightWord ("1") ◊ GroupNextWords ("1") ◊ UpdateField () 	<ul style="list-style-type: none"> □ Populate Purchasing price <ul style="list-style-type: none"> □ Populate by zonal <ul style="list-style-type: none"> ◊ PopulateZNField () □ Populate Purchasing Price field <ul style="list-style-type: none"> ◊ WordFind ("Total") ◊ GoBelowWord ("2") ◊ GoRightWord ("1") ◊ GroupNextWords ("1") ◊ IsCurrency () ◊ UpdateField ()

The values used are also listed in the tables below for each “Populate ... field” function:

Populate Property Address field

Action	Parameter
WordFind	Subject Property Address
GoDownList	1
GroupNextWords	2
UpdateField	

Populate Net income field

Action	Parameter
WordFind	Net Salary
GoRightWord	1
GroupNextWords	1
UpdateField	

Populate Purchasing Price field

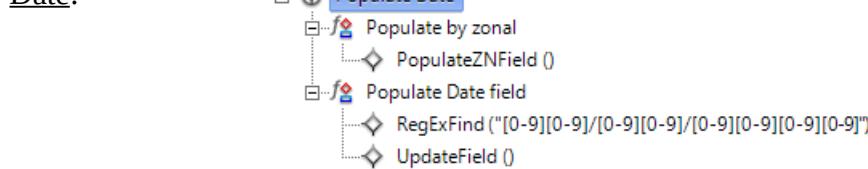
Action	Parameter
WordFind	Total
GoBelowWord	2
GoRightWord	1
GroupNextWords	1
IsCurrency	
UpdateField	

- 18) You have now enabled the application to locate the missing attributes without having a fingerprint defined by searching the text. Let's add this capability to the existing fields **Customer_Name** and **Date** by creating rules as in the previous exercises. These rules will replace the current rule assigned to each field – if any.

Note: In order to add the new rule to the field, you might have to delete the current rule from it. Therefore expand the field in Document hierarchy section and right-click the added rule. Select **Delete** from the context menu.



Action	Parameter
WordFind	joint credit
GoDownLine	1
GroupNextWords	2
UpdateField	

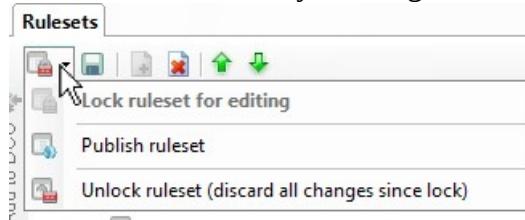


Action	Parameter
RegExFind	[0-9][0-9]/[0-9][0-9]/[0-9][0-9][0-9][0-9]
UpdateField	

(In the above example, the RegEx string is kept simple as validation shall be demonstrated later in this section. A more precise RegEx would make the search more accurate)

19) Save your changes in DCO and Rulesets sections.

20) Unlock the DCO. Publish the Ruleset by clicking the following button:



21) As the previous exercise has also implemented locating capabilities, we want to keep the most advanced ones. Therefore, you need to remove the

Populate_Fields_Using_Keywords ruleset from the **Profiler** Task profile.

In the Task profiles section, expand the **Profiler** Task profile. Lock the profile for editing .

22) Select **Populate_Fields_Using_Keywords** from the list and hit the delete button on top .

23) Save the changes and unlock the Task profiles.

3.2.2 Datacap Studio Learning Capabilities – Verification Instructions

To verify successful completion of this exercise, verify that you have similar settings as shown in all screenshots.

Follow all below steps to verify functionality.

- 1) Ensure, that you have only **loan-gs1.tif** inside the **C:\Datacap\MGApp\images\Input_SingleTIFFs** directory. If this is not the case, delete all images from this directory and add the **loan-gs1.tif** file from **C:\Users\Administrator\Desktop\Jam2018 DCss\images** directory.
- 2) Open **Start -> Datacap Desktop** and login as admin user.
- 3) Verify that you are logged in to the MGApp application on the upper left. If not, click on the application name and select the correct application.
- 4) Click **VScan** and select **Demo_SingleTIFFs**.
This will initiate the scan procedure so that Datacap can process the image in the next step.
- 5) Click **OK -> Stop**.
- 6) Select **All** and double-click the batch you have just started. The **Profiler** task will start and run. This is where the rules from the previous steps will be executed. Once completed, click **OK**.
- 7) Double-click the batch, which should now be at the **Verify** task. A user interface opens and the values for **Customer_Name**, **Loan_Amount**, **Date**, **Purchasing_Price** and **Property_Address** should be set.
Note: None of these values have been verified yet and might still be invalid.

- 8) Resize the Image view on the left by dragging the vertical separation line closer to the middle. You will see that the image you scanned is shown in step 4 of this verification.
- 9) If the implementation of rules is correct, you should see a value list for all fields as shown below:

?	Name	Value
✓	Fingerprint_Class	MG_FP_Class
✓	Add_New_Fingerprint	No
✓	Routing_Instructions	None
✓	Customer_Name	Goldman Saxman
✓	Date	03/34/2000
✗	Loan_Amount	2 000 000 000.21
✗	Property_Address	99 Barack-Obama-Drive, Mare Tranquillatis,...
✓	Purchasing_Price	33,000.00
✓	Net_Income	

10) Click **Submit** to advance the batch to the next step. Click **OK -> OK**.

11) Double-click the batch to start the **Export** task. Click **OK** once it finished.

12) Verify that the batch is no longer listed in the **All** view.

13) Close Datacap Desktop.

As the customer name and the date have been filled from the fingerprint, you will now check how the application behaves without a fingerprint:

14) Open the Windows Explorer and change into **C:\Datacap\MGApp\fingerprint**.

15) Open 556.tif and verify that this is the image you just scanned.

16) Delete the files 556.tif, 556.cco and 556.xml from the directory, which removes the fingerprint from the system.

17) Repeat steps 1-7 and verify the correctness of all field values. Note that **Fingerprint_Class** is no longer filled.

18) Enter “My_MG_FP” as the Fingerprint_class name.

19) Click **Submit** in the Verify step. Click **OK -> OK**.

20) Double-click the batch to run the export task. Completing the export creates a new fingerprint in **C:\Datacap\MGApp\fingerprint**. It should be named as 557.tif, 557.xml and 557.cco.

21) Close Datacap Desktop.

22) Open **C:\Datacap\MGApp\export** directory. There should be a text file with the name of your batch.

23) Open the file and verify that all field values are listed.

3.2.3 Datacap Studio Learning Capabilities – Summary

In this exercise you have:

- 1) Added new fields using Datacap Studio.
- 2) Extended existing rules.
- 3) Created and assigned new rules.

3.3 Datacap Studio – Adding new image type

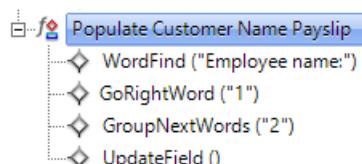
In this exercise, you will learn how to add a yet unknown type of documents to the system. The system will automatically find values even without having a fingerprint available.

3.3.1 Datacap Studio Add new image type – Step by Step Instructions

To get started with this exercise, execute the following steps:

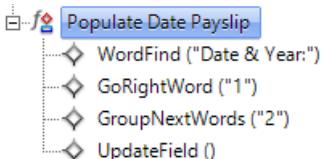
- 1) Verify that Datacap Studio is still started and you are logged in to your application.
- 2) Lock the **Locate** ruleset for editing.
- 3) Expand the **Populate Customer Name** rule in the Rulesets section.
- 4) Right-click the rule and add a new function called “Populate Customer Name Payslip”.
- 5) Use the following actions in this order to extract the value and get it assigned to the field. Refer to the previous action for help:

Action	Parameter
WordFind	Employee name:
GoRightWord	1
GroupNextWords	2
UpdateField	

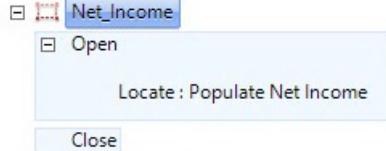


- 6) Repeat step 3 and 4 for the function “Populate Date”. The results should look like below:

Action	Parameter
WordFind	Date & Year:
GoRightWord	1
GroupNextWords	2
UpdateField	



- 7) Assign the **Populate Net Income** rule to the **Net_Income** field by using the Document hierarchy section:



- 8) Save and publish the ruleset to apply your changes.
- 9) Save and unlock your DCO to apply the changes.

3.3.2 Datacap Studio Add new image type – Verification

Similar to exercise 1.2.2, you will now try to scan a different type of document. The document is **payslip-gs-2017-03.tif** and is located in the **C:\Users\Administrator\Desktop\Jam2018 DCss\images** directory. Replace the existing image inside of the **C:\Datacap\MGApp\images\Input_SingleTIFFs** directory with the payslip image.

Follow the instructions below to verify the functionality:

- 1) Open Datacap Desktop and login as the admin user.
- 2) Click **VScan** and select **Demo_SingleTIFFs**. This should import the payslip document into the system.
- 3) Click **OK -> Stop**.
- 4) Select **All** in the Desktop and double-click the batch you have just created.
- 5) Once profiling is done, click **OK**. The batch should now have reached the Verify task.
- 6) Double-click the batch and check, that **Net_Income**, **Customer_Name** and **Date** all have a value. The screen should look similar to the below:

?	Name	Value
✗	Fingerprint_Class	
✓	Add_New_Fingerprint	No
✓	Routing_Instructions	None
✓	Customer_Name	Goldman Saxman
✓	Date	03/34/2000
✓	Loan_Amount	
✓	Property_Address	
✓	Purchasing_Price	
✓	Net_Income	5200.00

- 7) Assign a **Fingerprint_Class** name of your choice, for example “My_PaySlip_FP”.
- 8) Click **Submit** to bring the batch into the next state. Click **OK -> OK**.
- 9) Double-click the batch (which should be in Export state) and let the Export finish. Click **OK**.
- 10) Close Datacap Desktop.
- 11) Check, if there is a text file with the batch ID inside of **C:\Datacap\MGApp\export** and verify the content.

3.3.3 Datacap Studio Add new image type – Summary

In this exercise you have:

- 1) Added capabilities to extract information from other documents.
- 2) Imported a new document type and created a fingerprint.

3.4 Datacap Studio – Validation and Export

In this exercise, you will verify the data and configure the batches to be exported into FileNet P8. You will need the VM-1 started to continue with this exercise. **If you have not yet started the VM, please do that now.**

In this exercise, you will use two different tools to create rulesets.

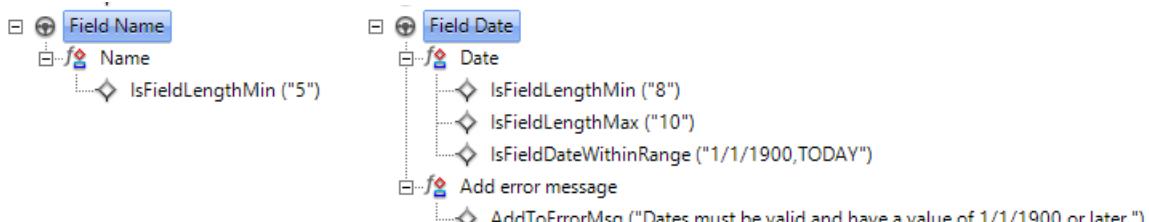
Important:

At this point, it is very important to understand the need to only modify the configuration with one client at a time. The reason for this is that Datacap clients are all designed to cache the configuration at startup. If a client changes the configuration after a second has been started, all changes done by the second client may cause an indefinite state of the entire application. This can lead to a variety of errors which are not easy to troubleshoot. In example: Before you login FastDoc, ensure that Datacap Studio has saved all of its work and that it is closed. When opening Datacap Studio again, be sure to save the changes in FastDoc and close FastDoc accordingly.

3.4.1 Datacap Studio Validation and Export – Step by Step Instructions

To get started with this exercise, execute the following steps:

- 1) Verify that Datacap Studio is still started and you are logged in to your application.
- 2) Expand the **Validations** library on the **Actions library** section.
- 3) Lock the **Validate** ruleset for editing in the **Rulesets** section.
- 4) Create rules, functions and actions as shown in the below screenshots:

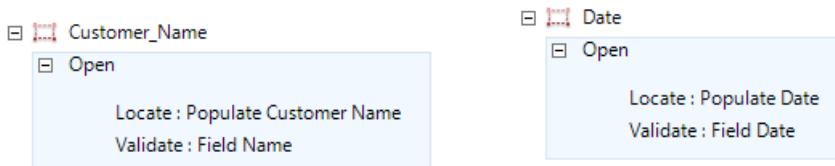


Field Date rule

Action	Parameter
IsFieldLengthMin	8
IsFieldLengthMax	10
IsFieldDateWithinRange	1/1/1900,TODAY
AddToErrorMsg	Dates must be valid and have a value of 1/1/1900 or later.

Hint: **AddToErrorMsg** can be found in **Invoice** actions library.

- 5) Add these functions to the related DCO after locking the **MGApp** in Document Hierarchy section:



- 6) Next you need to create a function to verify all currencies (**Net_Income**, **Purchasing_Price** and **Loan_Amount**) and assign to the DCOs (CHR(44) means the ASCII code for a comma, CHR(32) is ASCII for a blank):



Action	Parameter
ReplaceChars	@CHR(44),,*
ReplaceChars	@CHR(32),,*
IsFieldCurrency	
IsThisFieldEmpty	

The above function is applicable to all kind of currencies in the application. It is first removing any kind of unwanted characters such as a comma (ASCII code 44) and also blanks (ASCII code 32). It then tries to check, if the resulting text is a currency.

If any of the above fails, the fallback checks if the field is empty. In order to prevent unwanted field references by using incorrect names etc, we are using **IsThisFieldEmpty** which is only running on the scopes field, where the rule has been assigned to.

- 7) Unlock the DCO and save all changes.
- 8) Close Datacap Studio. It will be opened later again but needs to pickup all changes done in the meantime.
- Attention: Do not keep Datacap Studio running at this point!**
- 9) Open Start -> FastDoc (Admin). Login to your application by using the admin user.

- 10) Select **Configure Workflow** on the left.

- 11) Locate the **Export to FileNet Content Manager** compiled Ruleset on the right.

- 12) Drag this Ruleset on the **Export** Task. It should show up in the list.

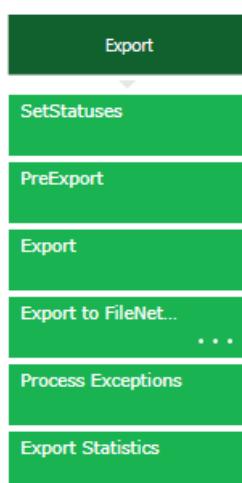
- 13) Drag the Ruleset from the Task list onto the Export Ruleset.

It should now appear below this Ruleset.

If not, drag Export onto Export to FileNet Content Manager to swap positions so that the order is as shown on the right.

- 14) Click Save.

- 15) Click the **Export to FileNet Content Manager** Ruleset.
It will now open the **Configure Document, pages and fields** dialog.



16) Use the following parameters to configure the ruleset on the batch level:

Parameter	Value
FileNet Content Manager URL	http://vm-1.example.com:9080/wsi/FNCEWS40MTOM
User ID	p8admin
Password	Think4me
Locale	English (United States)
Storage object id	Target
Parent folder	/Incoming Mortgage Application Documents

17) Save the changes and select the Document level on the left. A different configuration level is shown now. Use the following table to fill the UI:

Parameter	Value
Document title	@ID
Document class ID	LoanApplicationForm

18) Save the changes and expand the **Main_Page** level so that the fields are shown. You now have to select each of the below mentioned fields to enter the data according to the table. In order to start, please be sure check **Field Information** to enable the form:

Field name	Symbolic name	Property type
Customer_Name	MA_CustomerName	String
Loan_Amount	MA_LoanAmount	Floating Point
Date	MA_Date	Date and Time
Property_Address	MA_PropertyAddress	String
Net_Income	MA_NetIncome	Floating Point
Purchasing_Price	MA_PurchasingPrice	Floating Point

Below, you can see an example of how **Customer_Name** has been setup:

The screenshot shows the FastDoc interface. On the left, there is a tree view of document components. The 'Customer_Name' node is highlighted with a blue background, indicating it is selected. Other nodes include 'Document', 'Main_Page', 'Fingerprint_Class', 'Add_New_Fingerprint', 'Routing_Instructions', 'Date', and 'Customer_Name'. On the right, there is a configuration panel for the selected 'Customer_Name' field. It shows the 'Ruleset' dropdown set to 'Export to FileNet Content Manager'. Below it, under 'FileNet Content Manager Export Settings', the 'Field Information' checkbox is checked. A note says 'The field Customer_Name will be exported.' The 'Symbolic name' is listed as 'MA_CustomerName' and the 'Property type' is 'String'. There is also an unchecked checkbox for 'Multiple value property'.

19) Save your changes and close FastDoc.

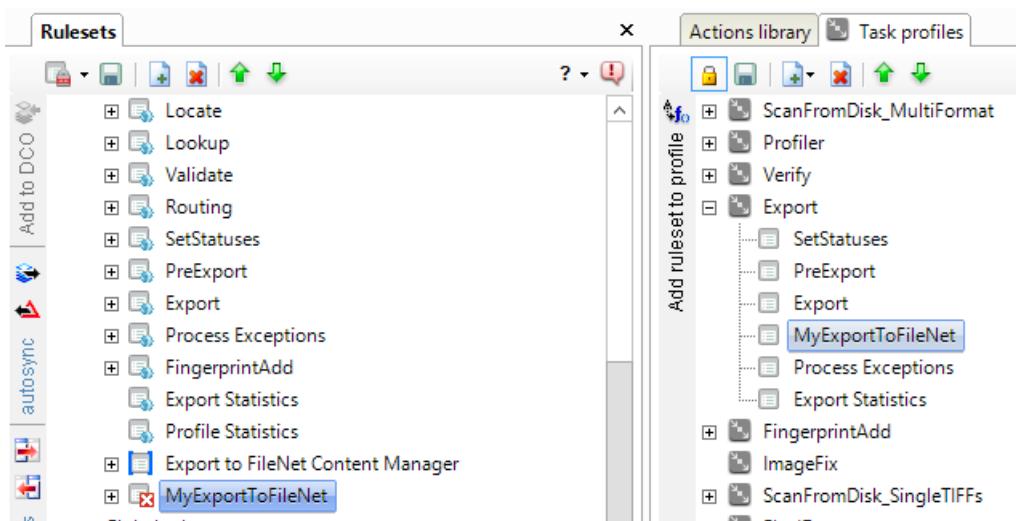
You now have a compiled ruleset created, which is accessing configuration parameters stored in the Datacap application. If you want to change the variables later, you can do so without modification of your application logic. You will now check the variables but will not modify it.

- 20) Open Start > Datacap Application Manager.
- 21) Select your MGApp application. Evaluate the values of all variables under the Custom Parameters tab.
- 22) Close Datacap Application Manager.
- 23) Open Datacap Studio and login as the admin user. This will allow Datacap Studio to know about the changes made in FastDoc.
- 24) You will see, that there is now an **Export to FileNet Content Manager** ruleset shown in your application.

This is a compiled ruleset with all the configuration we did in the previous steps. It will not work as it is currently, because we did only use dummy data for some properties.

You have to modify it to include both the Payslip and the Loan document. As this kind of configuration is not possible in FastDoc, you will copy the compiled ruleset in Datacap Studio. This will keep all settings made in FastDoc and will allow to apply customizations on top. Please note that some of the parameters (like MA_Date) are not correct at this point. This is to prevent using the compiled ruleset in the export step (which will fail because of incorrect property names).

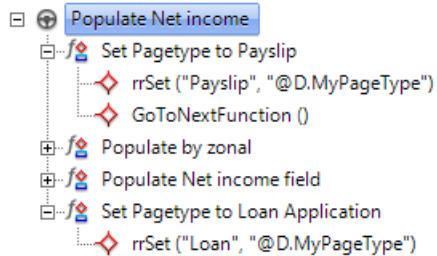
- 25) Right-click the **Export to FileNet Content Manager** ruleset in your application and select **Copy**.
- 26) Right-click again and select **Paste**. A new ruleset named **Ruleset1** is created and is already locked for editing.
- 27) On the **Task profiles** section, lock the profiles for editing by pressing button 
- 28) Expand the **Export** task profile and select **ExportToFileNet**. On the top, select the delete button  to delete the Ruleset.
- 29) Select **Ruleset1** and rename it to **MyExportToFileNet**. Click **Add ruleset to profile** so that it gets added to the Task Profile. Use the arrow buttons to sort it as shown in the below screenshot. Confirm that only 6 rulesets are listed in the Task profile as shown below
- 30) Save the changes and unlock the **Export** task profile.



You will now add logic to differentiate if a Payslip or a Loan document is uploaded. As only Payslip documents will have a Net_Income set, this will be used to determine the document type.

For this, you have to modify existing rules to set a parameter on the batch level depending on if Net_Income is set or not.

- 31) Lock the **Locate** ruleset and expand the **Populate Net income** rule. Add the below two functions before and after the existing ones. You will find the actions inside the “rrunner” actions library:



Action	Parameter
rrSet	“Payslip”, ”@D.MyPageType”
GoToNextFunction	
rrSet	“Loan”, ”@D.MyPageType”

This will set the variable **MyPageType** to the value “Payslip” initially.

An rrSet action will populate existing variables with the value specified or will create a new variable with the specified name and assign the value.

You can find more information on smart parameters for Datacap here:

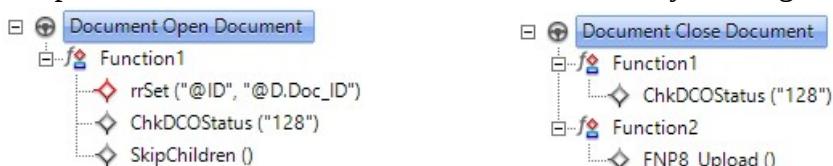
https://www.ibm.com/support/knowledgecenter/en/SSZRWV_9.1.1/com.ibm.dc.develop.doc/dcdev006.htm

Rules in Datacap are executing functions like doing a logical OR operation. That means functions are executed until one of them returns TRUE.

Functions are executing actions like doing a logical AND operation. That means, as soon as any action return false, the entire function will fail and will return. Actions after this failing action are not executed.

Applying the above to this rule, if all functions to assign a value to this field are failing, **MyPageType** will be set to “Loan”.

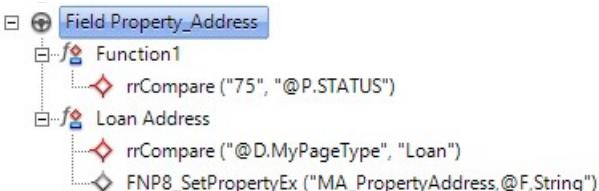
- 32) The above adds a custom variable to the Document level, which can be accessed from that point in time. Expand the **MyExportToFileNet** ruleset to use the parameter you set. Please see the below rules and adjust yours to the same. All customized actions are listed below with respective values to set. Unlisted actions are already existing and only have to be ordered.



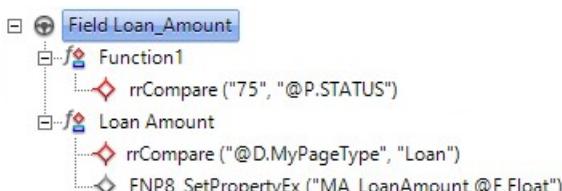
Action	Parameter
rrSet	“@ID”, ”@D.Doc_ID”



Action	Parameter
rrCompare	"@D.MyPageType","Loan"
FNP8_SetPropertyEx	MA_PurchasingPrice,@F,Float



Action	Parameter
rrCompare	"@D.MyPageType","Loan"
FNP8_SetPropertyEx	MA_PropertyAddress,@F,String

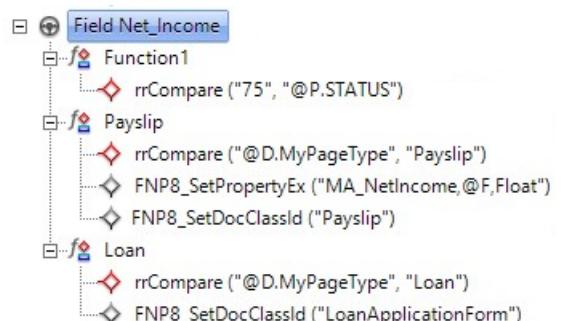


Action	Parameter
rrCompare	"@D.MyPageType","Loan"
FNP8_SetPropertyEx	MA_LoanAmount,@F,Float

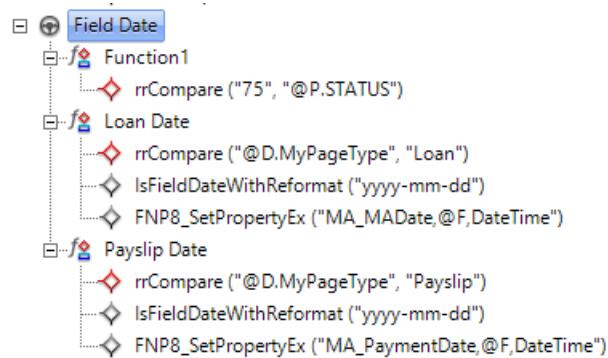


Action	Parameter
FNP8_SetPropertyEx	MA_CustomerName,@F,String
FNP8_SetDocTitle	@D.MyPageType+_+@F+_+@D.Doc_ID

Action	Parameter
rrCompare	"@D.MyPageType","Payslip"
FNP8_SetPropertyEx	MA_NetIncome,@F,Float
FNP8_SetDocClassId	Payslip
rrCompare	"@D.MyPageType","Loan"
FNP8_SetDocClassId	LoanApplicationForm



Action	Parameter
rrCompare	"@D.MyPageType","Loan"
IsFieldDateWithReformat	yyyy-mm-dd
FNP8_SetPropertyEx	MA_MADate,@F,DateTime
rrCompare	"@D.MyPageType","Payslip"
IsFieldDateWithReformat	yyyy-mm-dd
FNP8_SetPropertyEx	MA_PaymentDate,@F,DateTime



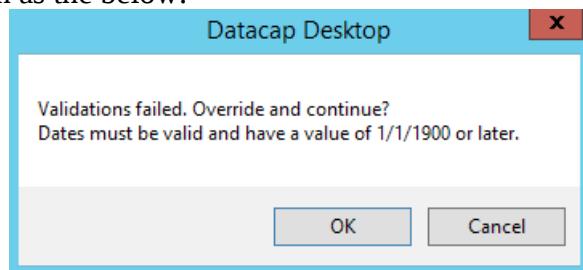
33) Save your changes. Unlock and publish both rulesets.

34) Close Datacap Studio.

3.4.2 Datacap Studio Validation and Export – Verification

In this verification step, you will check that the validation of a Payslip document is working. At the end, the document should be exported to FileNet P8 successfully.

- 1) Open Datacap Desktop and login as the admin user.
- 2) Click **VScan** and select **Demo_SingleTIFFs**. This should import the payslip document into the system.
- 3) Click **OK -> Stop**.
- 4) Select **All** in the Desktop and double-click the batch you have just created.
- 5) Once profiling is done, click **OK**. The batch should now be in Verify state.
- 6) Double-click the batch and check, that the **Net_Income**, **Customer_Name** and **Date** all have a value.
- 7) Change the Date to any invalid value such as “05/32/2000”.
- 8) Click **Submit** to try to advance the batch to the next state.
- 9) An error will be thrown such as the below:



- 10) Click **Cancel** and change the value back to some valid value such as “05/01/2017” or similar such as “1 May 2017”
- 11) Click Submit to bring the batch into next state.
- 12) Double-click the batch (which should be in Export state) and let the Export finish.

If the export fails at this step, this might be caused by different issues. One of them might be, that VM-1 is not started or that the network is not yet up for communication. Verify, if you have started VM-1 and if it is accessible by opening the following URL in a browser:
<http://vm-1.example.com:9080/wsi/FNCEWS40MTOM>

- 13) The document is now available in FileNet P8. Open Firefox or Chrome to login to IBM Content Navigator using the following URL:
<http://vm-1.example.com:9081/navigator/?desktop=MA>

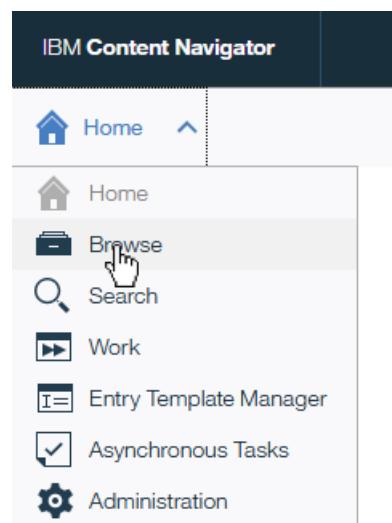
- 14) Login using p8admin / Think4me

- 15) On the upper left, click **Home** to expand the menu and select **Browse**:

- 16) You will see a directory structure.

- 17) Select **Incoming Mortgage Application Documents** on the left

- 18) A list of all available documents in that directory will be shown in the middle. Depending on how many documents you have imported, there might be more or less documents as shown below.



- 19) Double-click one of the documents to verify it can be displayed.

- 20) If the document list is showing a document, that contains the batch ID from our test batch, the exercise was successful. An example for a valid document export is shown below:

 Payslip_Goldman Saxman_20180629.000003.01 30 KB P8Admin

3.4.3 Datacap Studio Validation and Export – Summary

You now have a working Datacap application to handle the documents for a mortgage application. Your application is able to read known (fingerprinted) images and is also able to read images of a similar structure.

Your application is able to validate the correctness of captured field values.

Additionally the data and images can be exported to FileNet P8 – and assign the necessary Document Class and parameters dynamically.

4 Exercise: Datacap Desktop

4.1 Datacap Desktop - Introduction

In the previous exercise, you have already used Datacap Desktop.

As you should be familiar with that by now, this exercise is a re-cap of what you already learned. You will also discover some new features that you might not have come across yet.

Note: The screenshots may vary depending on the settings you used and the images you scan. The actual values do not matter during this section as it is important to understand how these values are captured.

4.1.1 Datacap Desktop Introduction – Step by Step Instructions

To get started with this exercise, execute the following steps:

- 1) Log-in to VM 2 – Datacap. When prompted for Windows user ID and password, use **Administrator / passw0rd**
- 2) Ensure Datacap Server is started. Click “Start > Datacap Server Manager”, select the “Service” tab and check the status. If not running, start it by clicking on the green triangle.
- 3) Click Start -> Datacap Desktop.
- 4) Login with the admin user.
- 5) Verify that on the upper left, the correct application is selected. If not, select it.
- 6) Click on VScan -> Demo_SingleTIFFs to initiate the scanning of a document.
- 7) Click OK -> Stop.
- 8) Keep Datacap Desktop open for the next exercise.

Note that Datacap Desktop shows several Tasks on the left and that the main part of the window might contain a list of batches. The list will only be shown for “All”.

When clicking on any other Task, the next batch in the list is automatically picked. You will see this in detail in the next part of this exercise.

4.1.2 Datacap Desktop – Verification Instructions

To verify successful completion of this exercise, verify that you have been able to open Datacap Desktop, login as the admin user and scan a document into a batch.

4.1.3 Datacap Studio – Summary

In this exercise you have:

- 1) Logged into Datacap Desktop.
- 2) Scanned a document into a batch.

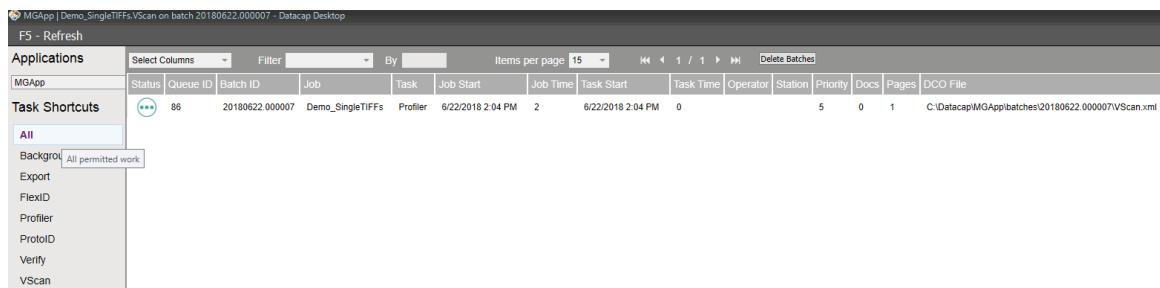
4.2 Datacap Desktop – Usage

In this exercise, you will explore the ways of interacting with batches using Datacap Desktop. This includes automatic processing as well as manually picking batches. Also Verification will be done in this section.

4.2.1 Datacap Desktop Usage – Step by Step Instructions

To get started with this exercise, execute the following steps:

- 1) Verify that Datacap Desktop is still started and you are logged in to your application.
- 2) Click **All** to verify that there is at least one batch listed



- 3) You see that the batch is waiting at the **Profiler** task. You now have two options to advance this batch to the next task:
 - a) Double-click the batch in this list
 - b) Click **Profiler** on the left.

As you have used the double-click many times until now, please use the **Profiler** task link.

Note: In production environments such a task is usually performed by RuleRunner automatically.

- 4) Click **OK -> Stop** and select **All** again.
- 5) The batch should now be at the **Verify** task. Click **Verify** on the left and the Verification panel should open.

You might see the **Image view** displaying the scanned image after optimization has been applied.

You may also see the Batch view that displays the structure of the current batch.

The list of fields will be shown in the middle and includes all field values as well as field names and the field status.

For example: In case a field fails validation, the would turn into a and action is required on that field.

- 6) In order to see the value on the image, select the **Date** field to see the original value from the image itself. A similar screen should appear:

The screenshot shows a salary slip application for 'Mimas Production Inc.' with the following details:

- Employee name:** Goldman Saxman
- Date of Birth:** 03/34/2000
- Month/Year of Payment:** May 2017
- Earnings**

	Earnings	Deductions
Basic	6500.00	Social Insurance: 400.00
Performance bonus	500.00	Health Insurance: 600.00
		Income Tax: 300.00
Total earnings	6500.00	Total deductions: 1300.00
		Net Salary: 5200.00

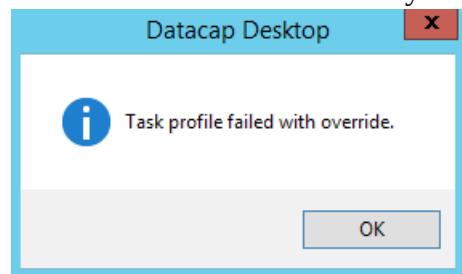
Produced electronically and valid without signature.

On the right, a table shows validation results:

Name	Value
✓ Fingerprint_Class	My_PaySlip_FP
✓ Add_New_Fingerprint	No
✓ Routing_Instructions	None
✓ Customer_Name	Goldman Saxman
✗ Date	03/34/2000
✓ Loan_Amount	
✓ Property_Address	
✓ Purchasing_Price	
✓ Net_Income	5200.00

A large text box displays the invalid date: **03/34/2000**. Below it, a status bar shows the date: **Date 03/34/2000**. A **Submit** button is at the bottom.

- 7) In the image you can see where the field has been located in the image (red box on the left), see the textual area (large image on the right) as well as the captured text in the text box.
- 8) We can also run the validations manually to check certain changes to the fields.
Update the **Date** value to something invalid such as “1234May7890”.
- 9) Click **Run Validations** on the top toolbar, which will run the validations only.
A screen similar to the below should appear:



- 10) This means the validation was not successful and the failing fields will be marked.
Click **OK**.

- 11) You should now have the **Date** field marked invalid. On the bottom status line, you see a message similar to below:

Date: The Date field contains 11 characters. The maximum number of characters allowed is 10.

Change the value to “123May7890” and run the validations again.

- 12) The message on the bottom should have changed to something like:

Date: The 123May7890 date in the Date field is not a valid date or has an invalid date format.

Now change the date to “1 May 1680” which is a valid date. Run the validations.

- 13) The message now displays the custom error that you have entered in the previous exercise:

Date: the 5/1/1680 date in the Date field must be between 1/1/1900 and 6/22/2018

This message is shown as you have only allowed date values of 1/1/1900 and later.

- 14) In this view, you can also pick a value from the image. We want to pick the **Date of Payment**. Just use the mouse and click the word “May” below the red box on the left.
- 15) Only single words can be captured by clicks, but you can also draw a rectangle around multiple words to capture. Click on the upper left of “May” and hold down the mouse button until you reached the lower right of “2017”. Do not be too exact as some space might be needed to capture data during runtime. The **Date** field should now have “May 2017” inserted.
- 16) As you want to have the same date of birth as for Loan application forms, please draw a rectangle around the original date and change the value to a valid one.
- 17) Click **Submit**, which does also include the validations to advance the batch to the next task.
- 18) Click **OK -> OK -> Stop**. Select **All** again.
- 19) The batch is now at the **Export** task. Click **Export** on the left to initiate the export task.
Note: Such a task is also usually done by RuleRunner in production environments.
- 20) Click **OK -> Stop**.

4.2.2 Datacap Desktop Usage – Verification Instructions

To verify completion of this exercise, you could check the document on FileNet P8 as you did in the previous exercise.

However, you can also check the log files for the export, which is what we are doing now.

- 24) Open the Windows Explorer and navigate to **C:\Datacap\MGApp\ batches** directory. In this directory, there is a directory named as your batch from this exercise (for example 20180622.000007)
- 25) Open this directory. There should be several .log and .xml files as well as some other files available. One file should be named “**export_rrs.log**” which includes all written information from the Export task. “**Export.xml**” contains all parameters the task used.
- 26) Open the **export_rrs.log** file using Notepad++.
- 27) You should be able to find every single rule and action from that task profile in this log. As you want to verify the success of the upload to FileNet P8, please search the document for the following string:
“MyExportToFileNet”

The search should be returning 5 hits as the ruleset is used in various places due to the configuration. This confirms your ruleset is being used.

- 28) You may want to check about the login to FileNet P8. Search the log for “**FNP8_Login**”. A line similar to the following should show:

14:48:58.80 action FNP8_Login ("@APPVAR(values/gen/FileNetUserID),@APPVAR(values/adv/FileNetPassword)")

- 29) From the same cursor position issue the next search term “action returned”. This will bring you to the line where the action was finished. You might also just scroll down a little to locate it manually. There should be two lines as follows:

14:48:58.80 Login Attempt using Domain Connection: p8admin

14:48:58.127 action returned true

The action will only return true, if the login was successful.

- 30) Next you want to confirm that the upload was successful. Search for “FNP8_Upload”. A line similar to the following will appear:

14:48:58.143 action FNP8_Upload ()

- 31) From the same cursor position search for “action returned” to get the closing for this action. You should see a line like this which should confirm the upload worked fine:

14:48:58.378 FNP8_Upload - call ClearProperties done

14:48:58.378 action returned true

4.2.3 Datacap Desktop Usage – Summary

In this exercise you have:

- 1) Explored Datacap Desktop usage.
- 2) Imported a document and verified field values.
- 3) Explored the logs of Datacap batches.

5 Exercise 5.1: Datacap Navigator

VM 1 –ECM is only needed up and running. It's not required to access this VM.
You will work with VM 2–Datacap.

In this exercise you will access the following tools:

Tool	Location/URL
Datacap Navigator Administration	http://vm-1.example.com:9081/navigator/?desktop=dcadmin
Datacap Navigator application	http://vm-1.example.com:9081/navigator/?desktop=dcMGApp
IBM Content Navigator Administration	http://vm-1.example.com:9081/navigator/

For this exercise you will require the following IDs and passwords:

Tool	User ID	Password
IBM Content Navigator	p8admin	Think4me
IBM Datacap Navigator	admin	admin

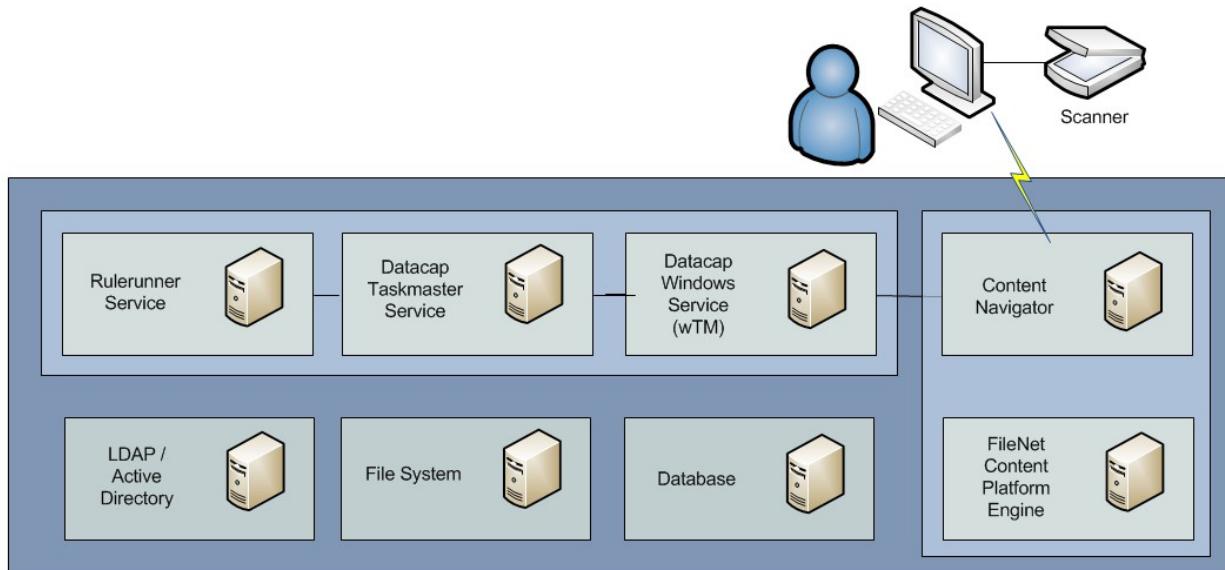
5.1.1 Datacap Navigator System Overview

With Datacap V9, Content Navigator provides a user interface for Datacap. The user accesses the system using a web browser.

Datacap includes a plugin component that operates within Content Navigator. Content Navigator accesses and executes the core Datacap services using the Datacap Windows Server (formerly wTM). Datacap Windows Service runs as a Microsoft Windows service that presents RESTful web services endpoints that expose the Datacap capabilities.

Datacap uses its Rulerunner service to execute image processing in background, on servers. Rulerunner executes image cleanup, conversion, OCR, validation rules and other functions. Datacap stores work-in-process images and data files on a File System and process tracking data in a database. Users are authenticated using LDAP or Active Directory.

Completed documents are stored in a content repository such as FileNet, IBM Content Manager and CMOD. Document data can be exported to databases and applications such as IBM Case Manager, SAP and Siebel.



5.1.2 Datacap Navigator Introduction – Step by Step Instructions

To get started with the sub-scenario, we first need to create Datacap repository and desktop that uses the MGApp application we created in the previous exercises. To configure IBM Navigator execute the following steps:

Add Datacap Navigator Repository

1. Login to VM2 – Datacap
2. Open Firefox and login to ICN admin desktop using the URL: <http://vm-1.example.com:9081/navigator>

IBM Content Navigator

Welcome to IBM Content Navigator

User name:
admin

Password:
[REDACTED]

Log In

IBM®

3. Log in with user name: **p8admin** and with password: **Think4me**. The IBM Content Navigator Admin user interface comes up.

The screenshot shows the IBM Content Navigator Admin interface. On the left, a sidebar lists various administrative options: Desktops, Repositories, Sync Services, FileNet Content Manager, Content Manager OnDemand, Daeja ViewONE, Viewer Maps, Plug-ins, Menus, Labels, Themes, Icon Mapping, Settings, Role-based Redactions, and Role-based Desktop Administration. The 'Desktops' option is selected and highlighted in blue. The main content area is titled 'Desktops'. It contains a brief description: 'You can create multiple desktops to give different users access to the content they need. For example, you can create a desktop that only allows users to search for content or a desktop that gives users access to a single repository.' Below this is a toolbar with buttons for 'New Desktop', 'Edit', 'Copy', 'Delete', 'Refresh', 'Export', 'Import', and 'Close'. A search bar labeled 'Name contains' is also present. A table lists four desktop entries:

Name	ID	Description
Admin Desktop	admin	Desktop for users with administrative privileges
Datacap	datacap	Default desktop for Datacap Navigator
Datacap Admin Desktop	dcadmin	Datacap Navigator administration feature and Datacap Dashboard feature
Datacap Advanced Desktop	dcAll	Default desktop for Datacap Navigator, Datacap Navigator administration feature, and

4. Select “Repositories” from the left-hand side.
 5. Select “Datacap Application” from “New Repository” drop down

The screenshot shows the same IBM Content Navigator Admin interface. The 'Repositories' option is now selected in the sidebar. The main content area shows a 'New Repository' dialog box. A red arrow points to the 'New Repository' button in the toolbar. Another red arrow points to the 'Datacap Application' entry in the list of repository types. The list includes: Content Manager, Content Manager OnDemand, FileNet Content Manager, Content Management Interoperability Services (CMIS), Box, and Datacap Application.

6. Enter the following configuration parameters

The screenshot shows a configuration interface with the following fields:

- * Display name: dcMGApp
- * ID: dcMGApp
- * Datacap wTM URL: http://vm-2.example.com:90/ServicewTM.svc
- * Application: MGApp
- * Default Station: 1
- Use ActiveX in IE: Yes (radio button selected)
- Use Virtual Viewer: Yes (radio button selected)

A "Connect..." button is at the bottom.

The “Display name” is what we are going to call our new repository. This is not creating a “true” repository, but simply creating a pointer to an application. By putting a “dc” in front, it helps administratively to distinguish Datacap application from actual repositories.

The “ID” is automatically set for you.

The “Datacap wTM URL” is the address to the wTM service (which presents RESTful web services endpoints that expose the Datacap capabilities).

For the “Application”, select the “MGApp” we created earlier in previous exercises. Note it may take a second or two for the wTM service to recognize. If you do not see your application listed, verify your Datacap wTM URL is correct.

7. Select Yes for “Use ActiveX in IE” and “Use Virtual Viewer”.

8. Click **Connect and login to the Datacap server with user **admin** and password **admin**.**

The screenshot shows a log-in dialog with the following fields:

- User name: dcMGApp
- Password: (empty field)

At the bottom are "Log In" and "Cancel" buttons.

9. You can leave all the default columns to display to the users in job monitor. These selected columns can later be edited in the user settings

The screenshot shows the IBM Content Navigator interface. On the left, a sidebar lists various navigation items such as Desktops, Repositories, Sync Services, and FileNet Content Manager. The main area is titled 'New Repository' and shows a configuration page for 'dcMGApp'. At the top, there are buttons for 'Save and Close', 'Save', 'Reset', and 'Close'. Below these are tabs for 'General' and 'Configuration Parameters'. Under 'General', there is a section for selecting job attributes to include when listing jobs. The 'Available Columns' list includes Task Start, Job Stop, Batch Directory, Page File, Operator Skip, Station Skip, Stored Operator, Stored Station, and Priority. The 'Selected Columns' list includes Queue ID, Batch, Job, Task, Status, Job Start, Job Time, Operator, and Station. Arrows between the columns indicate the selection status.

10. Click Save and Close

Add a New Navigator Desktop

- 1) Click on “Desktops” on the left-hand side.
- 2) Click on “New Desktop”.
- 3) Enter the following configuration parameters.

The screenshot shows the 'New Desktop' configuration page. At the top are buttons for 'Save and Close', 'Save', 'Reset', and 'Close'. Below is a section for 'Desktop: dcMGApp'. The 'General' tab is selected, showing fields for 'Name' (dcMGApp) and 'ID' (dcMGApp). A note below states: 'This desktop is enabled for mobile access.' The 'Authentication' tab is expanded, showing a dropdown for 'Repository' set to 'dcMGApp', a radio button for 'Enable' (selected), and a 'Select Users...' button. There is also a 'No access:' section.

“Name”: Add the Name you want to specify for your desktop. To make administration a bit easier, try and name it something similar to the repository name.

“ID”: The ID you would like to call when loading the desktop in the URL.

“Repository”: From the drop down arrow select the **dcMGAPP** repository created previously. This will be the default repository (application) when the desktop loads.

The rest can be left at the defaults.

- 4) Click on “Repositories Tab”

The Repository from the General tab will already appear in the Select Repositories.

- 5) Select “Target” from “Available Repositories” and click on the arrow to move it to “Selected Repositories”.

Desktop: dcMGApp

General **Repositories** Layout Appearance Menus

Specify which repositories you want users to have access to from this desktop. You must configure your repositories before you can add them to the desktop.

Tip: You can limit which repositories are available for each feature when you configure the desktop layout.

Filter

Available Repositories

- Datacap
- Design
- dcTravelDocs

Selected Repositories

- dcMGApp
- Target

→ ← ↑ ↓

- 6) Go to the “Layout” tab
- 7) Select the “Display feature” that you want to display in your desktop.

* Layout: ecm.widget.layout.NavigatorMainLayout

* Displayed features:

Feature
<input checked="" type="checkbox"/> Home
<input checked="" type="checkbox"/> Browse
<input checked="" type="checkbox"/> Search
<input checked="" type="checkbox"/> Datacap Admin Console
<input checked="" type="checkbox"/> Datacap Main Page
<input type="checkbox"/> Teamspaces
<input type="checkbox"/> Work
<input type="checkbox"/> Entry Template Manager
<input type="checkbox"/> Asynchronous Tasks
<input type="checkbox"/> Datacap Dashboard Page

* Default feature: Datacap Main Page

Choose the same ones as above. Make sure to choose “Datacap Main Page” as the default feature.

- 8) Highlight “Home” feature to see “Feature Configuration”.
- 9) Highlight “Browse” feature to see its “Feature Configuration”. We need to change the default repository to browse our actual ECM repository (“Target”) and see documents that have been exported from Datacap. Uncheck the “dcMGApp” and only check the “Target” repository.

General Repositories Layout Appearance Menus Workflows Mobile

* Layout: ecm.widget.layout.NavigatorMainLayout

* Displayed features:

Feature
<input checked="" type="checkbox"/> Home
<input checked="" type="checkbox"/> Browse
<input checked="" type="checkbox"/> Search
<input checked="" type="checkbox"/> Datacap Admin Console
<input checked="" type="checkbox"/> Datacap Main Page
<input type="checkbox"/> Teamspaces
<input type="checkbox"/> Work
<input type="checkbox"/> Entry Template Manager
<input type="checkbox"/> Asynchronous Tasks
<input type="checkbox"/> Datacap Dashboard Page

* Default feature: Datacap Main Page

Feature configuration

* Default repository: Target

Repositories: dcMGApp

Repository Name

dcMGApp

Target

Tree view: Show

Views: Details, Magazine, Filmstrip

- 10) Same for Search Feature, make it capable to search the ECM repository (“Target”)

General Repositories Layout Appearance Menus Workflows Mobile

* Layout: ecm.widget.layout.NavigatorMainLayout

* Displayed features: Move Up Move Down

Feature

- Home
- Browse
- Search
- Datacap Admin Console
- Datacap Main Page
- Teamspaces
- Work
- Entry Template Manager
- Asynchronous Tasks
- Datacap Dashboard Page

* Default feature: Datacap Main Page

Feature configuration

* Default repository: Target

Repositories: dcMGApp

Repository Name: Target

Views: Details Magazine Filmstrip

Document info pane: Show

Default behavior:

11) For the “Datacap Main Page” feature select the following

General Repositories Layout Appearance Menus Workflows Mobile

* Layout: ecm.widget.layout.NavigatorMainLayout

* Displayed features: Move Up Move Down

Feature

- Home
- Browse
- Search
- Datacap Admin Console
- Datacap Main Page
- Teamspaces
- Work
- Entry Template Manager
- Asynchronous Tasks
- Datacap Dashboard Page

* Default feature: Datacap Main Page

Feature configuration

Job Information
Pane: Show
Default behavior: Expanded

Quick Launch
Pane: Show Hide

Shortcut Pane: Show Hide

Saved Filter
Pane: Show Hide

Tab Page Close
Icon: Show Hide

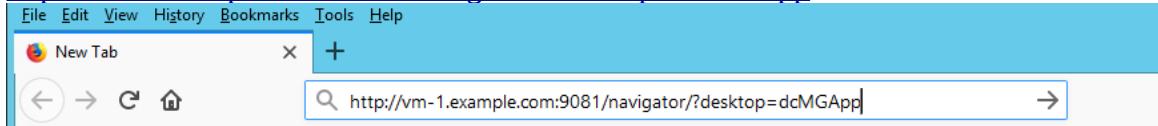
Confirmation
before releasing
batch: Show Hide

12) Click **Save and Close**

End of Exercise 5.1 – Creating IBM Content Navigator desktop for Datacap.

5.2 Exercise 5.2 – Configuration of additional users

- Open Firefox and enter the url for the newly created desktop:
<http://vm-1.example.com:9081/navigator/?desktop=dcMGAApp>



- Log in with User name: **admin** and password: **admin**
 We are using an account with administration privileges.
 Your end users can be restricted using Datacap security features so that they only can access the capabilities that are authorized to use. In this exercise, we will add another administration user so that it can be used for Datacap and FileNet P8 login. This will create a user experience like SSO does.

The Datacap view displays:

Queue ID	Batch	Job	Task	S
34	20180627.000005	Demo_Navigat orScan	Export FFs	J
33	20180627.000004	Demo_Navigat orScan	NScan FFs	h
28	20180626.000014	Demo_SingleTI	Verify FFs	h
27	20180626.000013	Demo_SingleTI	Export FFs	J
25	20180626.000011	Demo_SingleTI	Export FFs	a
24	20180626.000010	Demo_SingleTI	Export FFs	a
23	20180626.000009	Demo_SingleTI	Export FFs	a

- Click on the down arrow to expand the Navigation Pane and select “Datacap Admin Console”

- On the opening Administration console, click “Users” on the left
- Click “New User”. Use p8admin / Think4me as Name and password:

The screenshot shows the 'Datacap Admin Console' interface. On the left, there's a sidebar with links: Workflows, Groups, Users, Stations, Shortcuts, Panels, and Redaction Reasons. The main area has tabs: Workflows, Users, and *New User (which is active). Below these are buttons: Save and Close, Save, Reset, and Close. The 'User: New User' section has three tabs: General (selected), Permissions, and Privileges. Under 'General', there are fields for Name (p8admin), Description, Password (*****), and Retype Password (*****).

- Switch to the “Permissions” and “Privileges” tab and allow this user to have all permissions and privileges:

The screenshot shows two tabs: 'Permissions' and 'Privileges'. The 'Permissions' tab has a section titled 'Specify permissions to one or more applications and tasks' with a tree view of 'Applications and Tasks'. The 'Privileges' tab has a section titled 'Specify privileges to one or more components or functions' with a tree view of 'Component'.

- Click “Save and Close” and logout of Datacap Navigator.

End of Exercise 5.2.

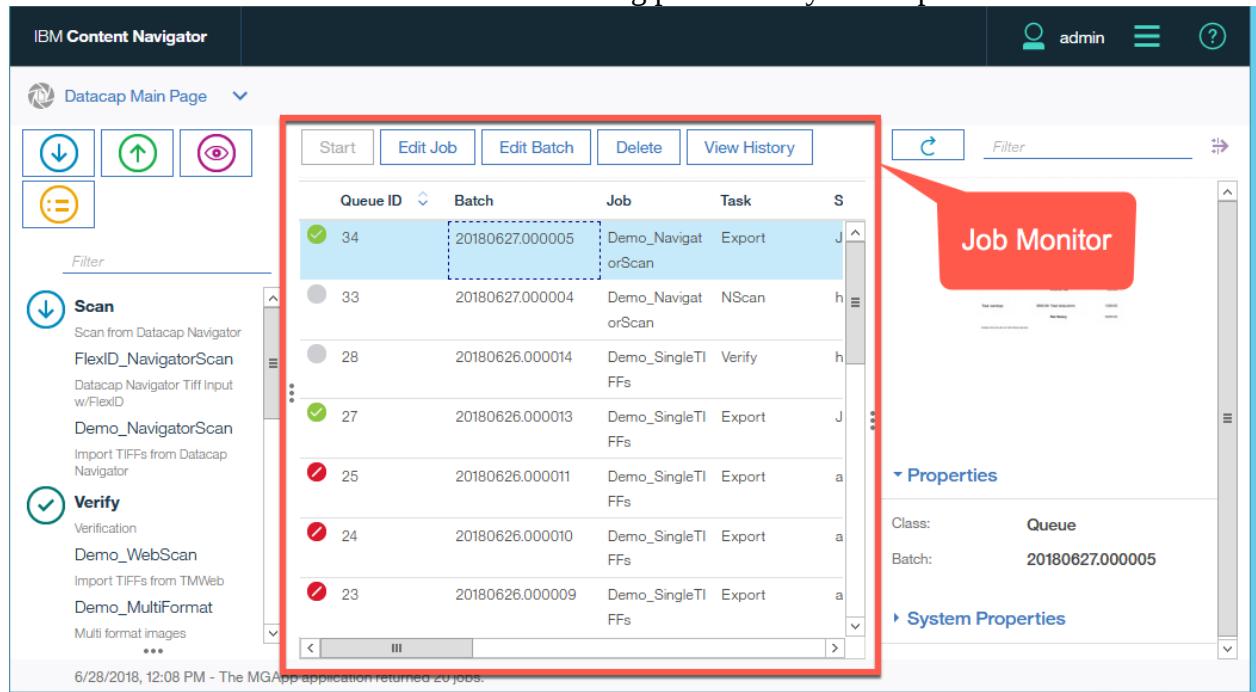
5.3 Exercise 5.3 – Overview of new Datacap Desktop

- Open Firefox and enter the url for the newly created desktop:
<http://vm-1.example.com:9081/navigator/?desktop=dcMGApp>
- Log in with User name: **p8admin** and password: **Think4me**
We are using an account with administration privileges.
Your end users can be restricted using Datacap security features as shown in Exercise 5.2 so that they only can access the capabilities that are authorized to use.

The Datacap view displays:

- Review the screen and its primary sections:
This page is configurable and has four primary sections. For a particular desktop you can configure which panels will display.

Job Monitor – A list of the batches that are being processed by Datacap.



The screenshot shows the Datacap Main Page interface. On the left, there's a sidebar with sections for Scan (Scan from Datacap Navigator, FlexID_NavigatorScan, Datacap Navigator Tiff Input w/FlexID, Demo_NavigatorScan) and Verify (Verification, Demo_WebScan, Import TIFFs from TMWeb, Demo_MultiFormat, Multi format images). The main area is titled "Job Monitor" and contains a table of jobs. The table has columns for Queue ID, Batch, Job, Task, and Status (S). The first row is highlighted with a dashed blue border. To the right of the table, there are "Properties" and "System Properties" sections. The properties section shows Class: Queue and Batch: 20180627.000005. The system properties section shows the same information. A red callout points to the "Job Monitor" title.

Queue ID	Batch	Job	Task	S
34	20180627.000005	Demo_NavigatorScan	Export	J
33	20180627.000004	Demo_NavigatorScan	NScan	h
28	20180626.000014	Demo_SingleTI	Verify FFs	h
27	20180626.000013	Demo_SingleTI	Export FFs	J
25	20180626.000011	Demo_SingleTI	Export FFs	a
24	20180626.000010	Demo_SingleTI	Export FFs	a
23	20180626.000009	Demo_SingleTI	Export FFs	a

6/28/2018, 12:08 PM - The MGApp application returned 20 jobs.

Quick Launch Panel – A single icon for each major type of task. This gives users a quick and easy list that launches tasks.

The screenshot shows the IBM Content Navigator interface with the 'Datacap Main Page' selected. A red box highlights the 'Quick Launch' panel on the left, which contains four icons: a blue downward arrow (Scan), a green upward arrow (Edit Job), a pink eye (View History), and a yellow gear (Properties). Below this is a list of tasks under 'Scan' and 'Verify'. The main area displays a table of jobs with columns for Queue ID, Batch, Job, Task, and Status. A specific job (Queue ID 34) is selected and highlighted with a dashed blue border. To the right of the table is a 'Properties' panel showing 'Class: Queue' and 'Batch: 20180627.000005'. A red callout points to the 'Properties' section of the 'Properties' panel.

Shortcut Panel – A list of all the Datacap shortcuts. This gives the user a list of all the tasks that they are authorized to run.

Detail Panel – Shows a thumbnail view and associated properties of the respective image when an item is selected in the Job Monitor.

This screenshot is similar to the previous one but focuses on the 'Detail Panel'. A red box highlights the 'Thumbnail view' in the top right corner, which shows a small preview of the selected job's output. Another red box highlights the 'Properties' section in the 'Properties' panel on the right, which now shows 'Class: Queue' and 'Batch: 20180627.000005'. A red callout points to the 'Properties' section of the 'Properties' panel.

- Click on the first item in the Job Monitor list.
 - Click on the blue triangle next to “System Properties”.
- Note: You can expand and collapse the panels by clicking on the grey dots at the edge of the panels. You can also grab the edge of the panels and drag to resize the width.

The screenshot shows a software interface for managing jobs and tasks. At the top, there are buttons for Start, Edit Job, Edit Batch, Delete, View History, a refresh icon, and a Filter input field. Below this is a table listing jobs and tasks:

Queue ID	Batch	Job	Task	Status
34	20180627.000005	Demo_NavigatorScan	Export	S
33	20180627.000004	Demo_NavigatorScan	NScan	h
28	20180626.000014	Demo_SingleTI	Verify FFs	h
27	20180626.000013	Demo_SingleTI	Export FFs	J
25	20180626.000011	Demo_SingleTI	Export FFs	a
24	20180626.000010	Demo_SingleTI	Export FFs	a
23	20180626.000009	Demo_SingleTI	Export FFs	a

To the right of the table are two sections: **Properties** and **System Properties**.

Properties:

- Class: Queue
- Batch: 20180627.000005

System Properties:

- Batch: 20180627.000005
- Queue ID: 34
- Job Name: Demo_NavigatorScan
- Task Name: Export
- Task Status: Job done
- Job Start Time: 6/27/2018, 3:09 PM
- Job Time: 2

End of Exercise 5.3.

5.4 Exercise 5.4 – RuleRunner Setup

5.4.1 Overview

In this exercise you are going to configure Rulerunner for background processing capability.

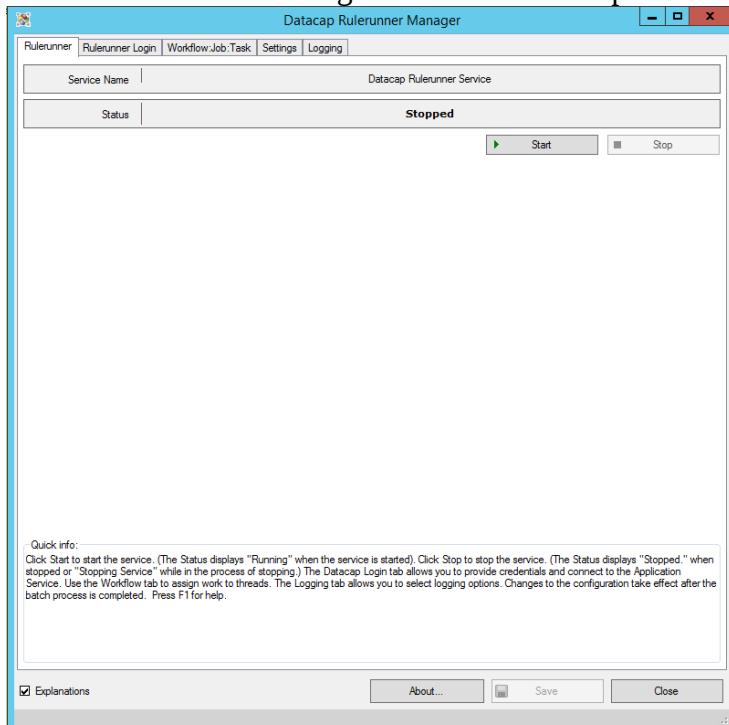
The Rulerunner service runs all tasks that do not require operator intervention, such as image cleaning, conversion, recognition, classification, and export to content repositories, such as FileNet Content Manager, IBM Content Manager, and other Content Management Interoperability Services (CMIS) compliant repositories.

Up to now you have manually processed tasks (Scan, Profile, Export) for your batches. With the Rulerunner service configured, tasks that do not require operator intervention can be processed in the background.

Rulerunner is normally run on a separate server for performance reasons. Multiple instances can be run on multiple servers and each instance can be configured to run multi-threaded for a multi-core processor. This helps complete the document processing faster and simultaneous processing results also in better resource usage.

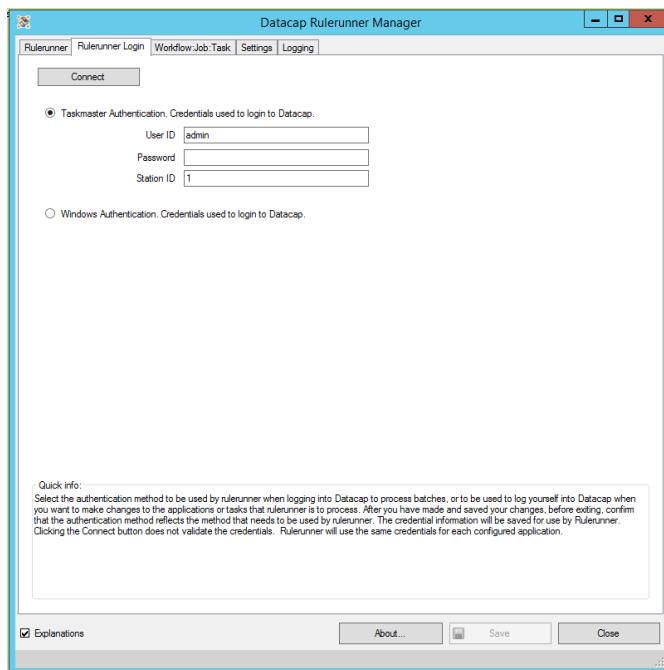
5.4.2 Start RuleRunner Configuration – Step by Step

1. From the Workstation start menu select **Datacap Rulerunner Manager**
2. The Rulerunner Manager interface comes up.

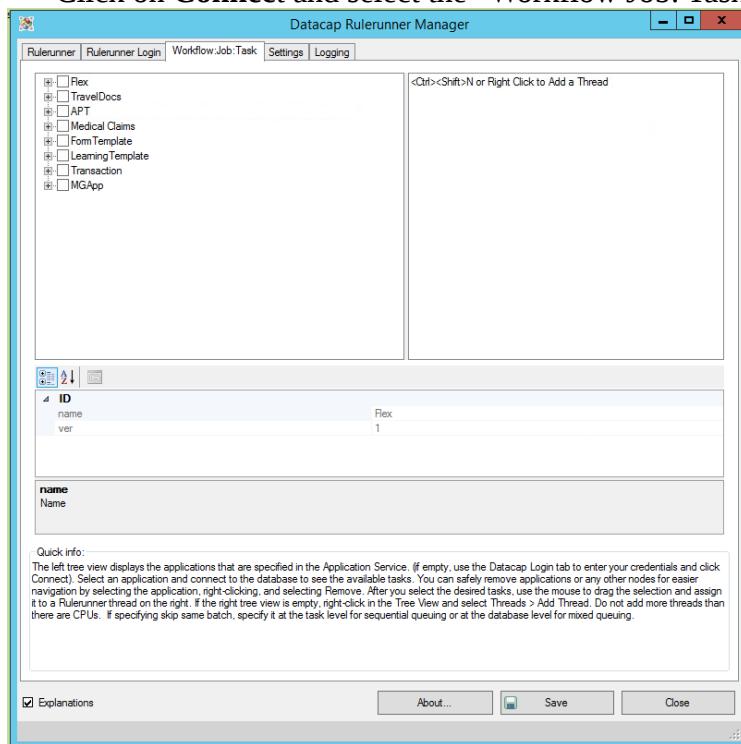


If your status is Running, click the stop button.

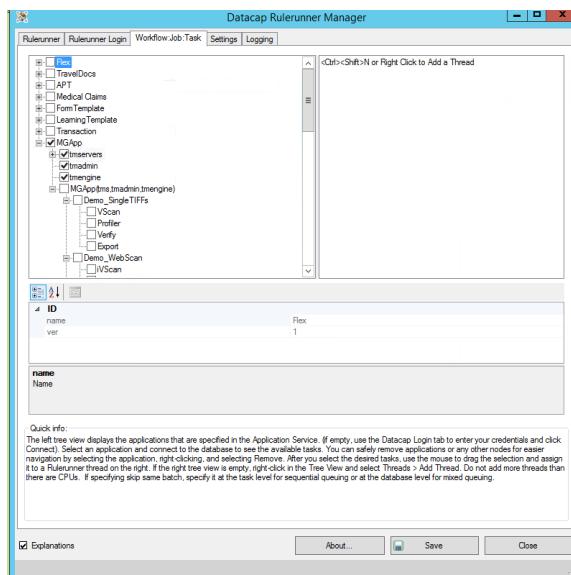
3. Click on the “Rulerunner Login” tab
4. At the login screen enter **admin** for user id and **admin** for password. Station ID should be “1”.



5. Click on **Connect** and select the “Workflow Job: Task” tab

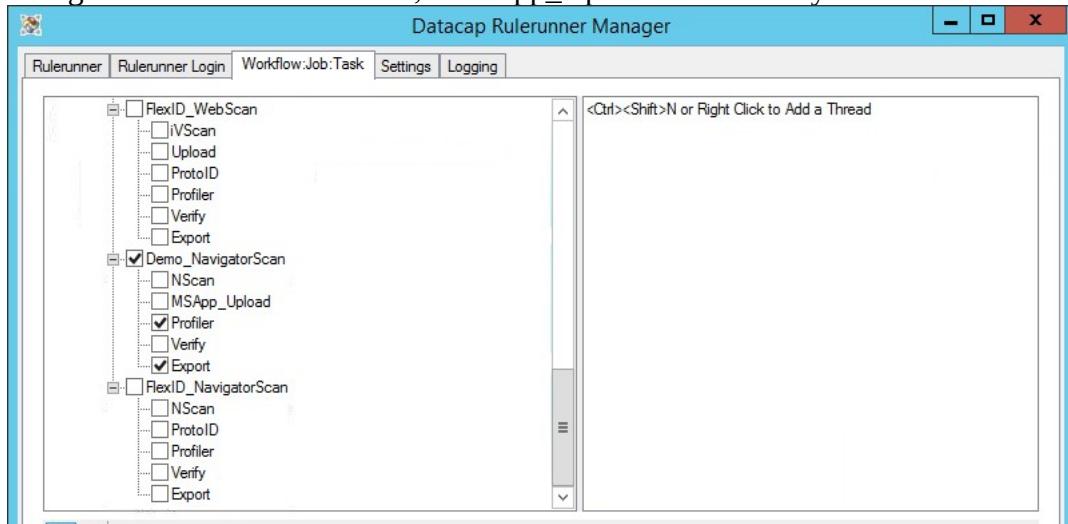


6. On left side are all the applications shown that are configured for Datacap. **Click** in the check box to the left of your application (MGApp). The tree will expand showing all the jobs created under your application.

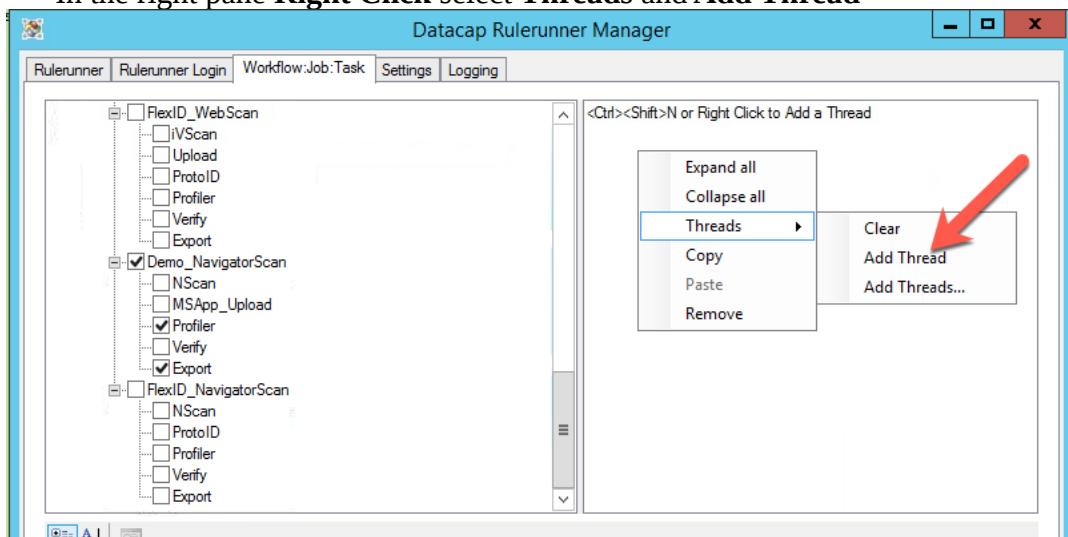


Scroll down until you see “Demo_NavigatorScan” job.

- Click on the **check box** to the left of “Demo_NavigatorScan” job. All tasks will have been selected by default. We only need to have the “Profiler” and “Export” tasks running in the background. Deselect “NScan”, “MSApp_Upload” and “Verify”. It should look like this:

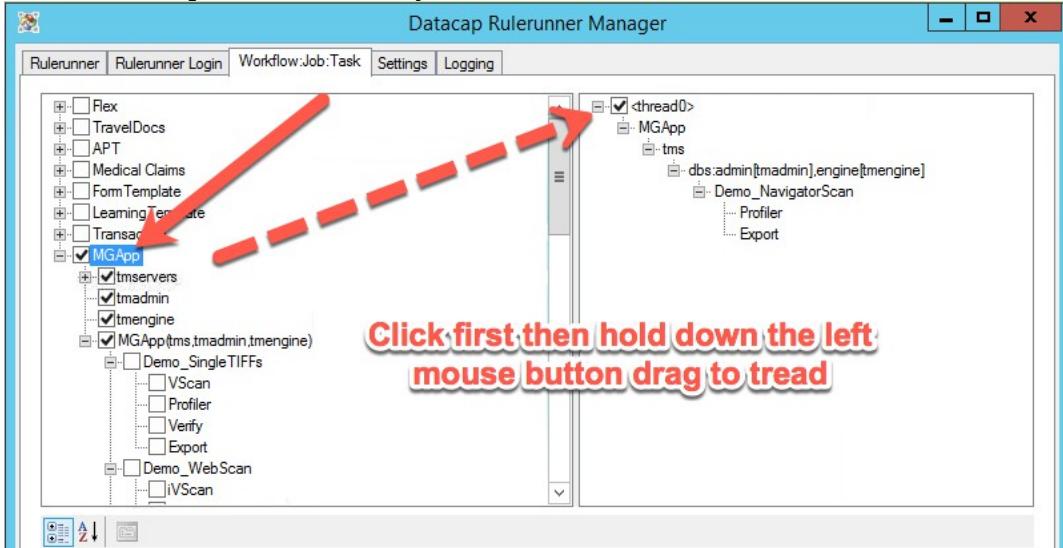


- In the right pane **Right Click** select **Threads** and **Add Thread**

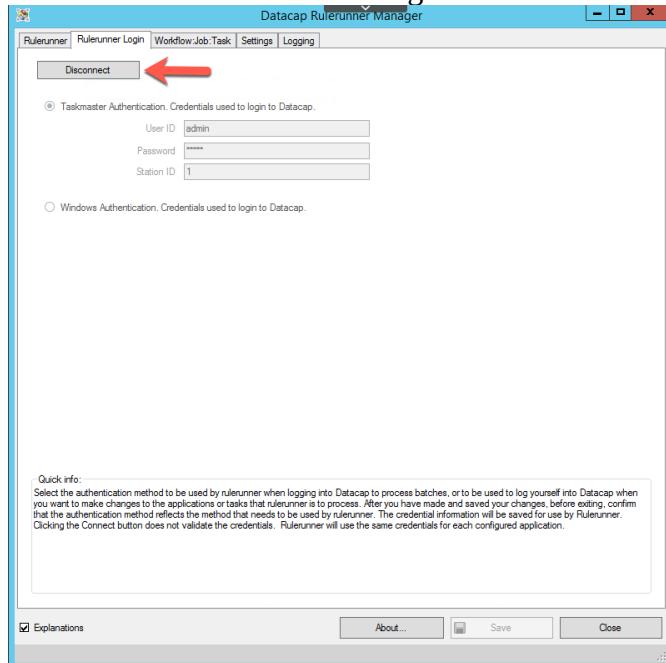


A new thread <thread0> is created.

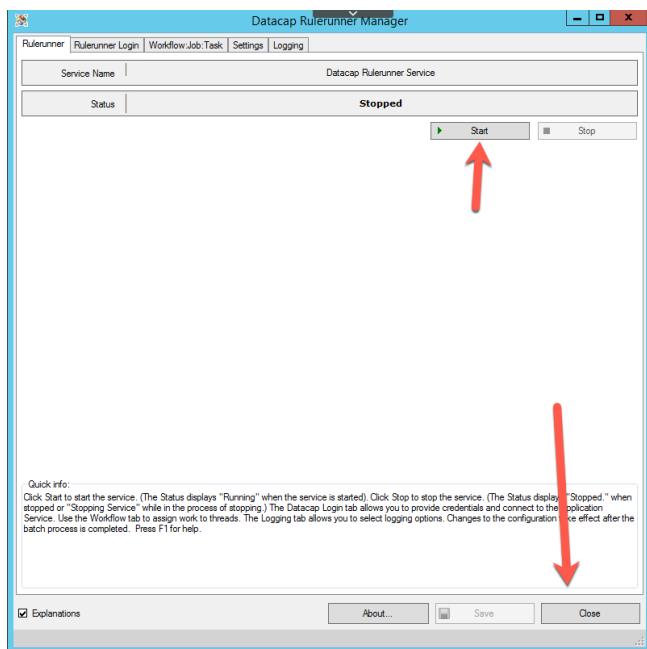
9. Scroll back up the left pane window till you see your MGApp. Click on the MGApp and drag the name from the left pane over to the new thread in right pane and release your mouse button. If completed successfully it should look like this:



10. Click **Save** button
11. Go back to “Rulerunner Login” tab and click **Disconnect**



12. Click on “Rulerunner” tab and click **Start** button after service has a status of “Running” click on **Close**



End of Exercise 5.4.

5.5 Exercise 5.5 – Scanning Documents

5.5.1 Overview

One of the primary functions of Datacap is scanning paper documents. Content Navigator supports the operation of scanners from the web browser. Scanners that use an industry TWAIN driver can be operated.

For this exercise, we don't have a scanner attached. Therefore, in this section we will use the import feature to simulate scanning. Datacap lets you select pre-scanned images from your computer's files in a manner similar to scanning documents.

5.5.2 Start Scan Task – Step by Step Instructions

- 1) Open Firefox and enter your Datacap Navigator desktop URL again: <http://vm-1.example.com:9081/navigator/?desktop=dcMGApp>.
- 2) Login as **p8admin** with password **Think4me**.
- 3) Click on the **Scan** icon in the Quick Launch menu.



The scan task screen displays.

The screenshot shows the IBM Content Navigator interface with the 'NScan' tab selected. On the left, there's a sidebar with sections for 'Input', 'Scanned' (highlighted with a purple box), 'Datacap Main Page', 'Job Monitor', and 'Verify'. The main area has three panels: 'Scanned Pages (0/0)' which says 'No images to display'; 'Batch Structure' which lists a single batch entry with ID 20180628.000000 and Type MGApp; and a 'Batch' callout pointing to the 'Batch Structure' panel. The top navigation bar includes 'admin' and a help icon.

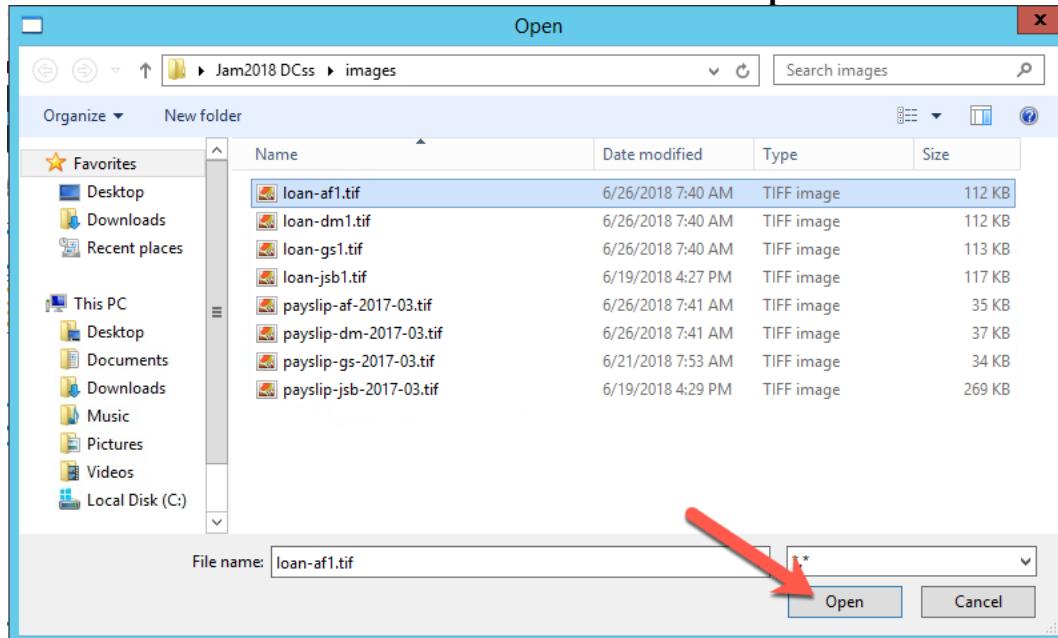
There are 3 sections:

- 1) Input Panel: Location of documents to be specified
- 2) Scanned Pages: Image Viewer
- 3) Batch Structure: The list of scanned pages

- 4) Click on the **Browse** button. (Note if necessary navigate to the folder “C:\Users\Administrator\Desktop\Jam2018 DCss\images\”)

Source: Import from Directory

- 5) Click on **loan-af1.tif** on the file list and then click on the **Open** button



This returns to the Scan Task screen which shows the selected folder name and file next to the Browse button.

- 6) Click on the **Scan** button.

C:\Users\Administrator\Desktop\Jam2018 DCss\images\loan-af1.tif

The image will be uploaded into the system and displayed on the screen. The “Batch Structure” shows a list of the pages that were scanned. The “Image Viewer“ will always display the last image.

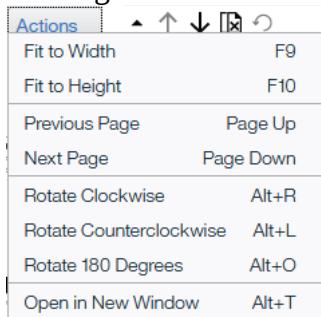
Troubleshooting:

It might be, that the buttons “Scan” and “Submit” are greyed out or that the preview of the scanned document is not shown. This is happening in case the browser does not support Java applets and if you have not configured Daeja Virtual viewer to be used in Datacap desktops. For this, please check, if you have followed exercise 5.1.2, step 8. If not, apply the changes, close the browser and repeat the steps.

You can click on pages on the batch structure list to view each page in a batch.

The screenshot shows the MGApp / Demo_NavigatorScan / NScan interface. At the top, there are buttons for Submit, Hold, and Cancel. Below that, a Source dropdown set to 'Import from Directory' and a Browse... button are shown, along with the path C:\Users\Administrator\Desktop\Jam2018 DCss\images\loan-af1.tif. To the right is a Scan dropdown. The main area has tabs for 'Scanned Pages (1/1)' and 'Batch Structure'. The 'Scanned Pages' tab shows a preview of the Uniform Residential Loan Application form, which includes fields for Borrower information, loan terms, property information, and a signature section. The 'Batch Structure' tab shows a list of batches with columns for ID, Type, and Actions. One batch is selected, showing ID 20180628.000002 of type MGApp, and another batch TM000001 of type Other.

You can zoom in and zoom out by clicking on the magnifying glass buttons. From the “Actions” button of the image viewer you can fit the image into your frame, manipulate the image or move forward and backward in the batch.



7) Click on the **Submit** button



This saves the batch and you are returned to the job monitor.

We have configured this desktop to automatically upload the images to the Datacap server. Note: This automatic upload can be turned off from the navigator desktop.

Hint:

If the button is greyed out, please refer to “Troubleshooting” of step 6”.

8) Notice that your batch is in the list. The batch is at the “Profile” task and is pending (your batch number and id may be different).

Queue ID	Batch	Job	Task	Status	Job Start	Job Time	Op
1 39	20180628.000002	Demo_Navigat orScan	Profiler	pending	6/28/2018, 1:47 PM	0	
✓ 38	20180628.000001	Demo_Navigat orScan	Export	Job done	6/28/2018, 1:35 PM	4	adn

We have set up Datacap Rulerunner in the previous exercise to automatically process this task in the background.

9) Click on the refresh button to see update to the job monitor.

The server processes the batch: runs OCR, validates data, and creates separate documents; each containing one or more pages.

Notice the status changes from pending to running as the background processes execute.

When the batch is ready, the Task to perform will change to “Verify” and the status will change to pending.

	39	20180628.000002	Demo_Navigat orScan	Verify	pending	6/28/2018, 1:47 PM	0
	20	20180628.000001	Demo_Navigat orScan	Format	running	6/28/2018, 1:47 PM	1

End of Exercise 5.5.

5.6 Exercise 5.5 – Verify a Batch

5.6.1 Overview

At this point Datacap has processed the scanned images. It did the following steps in background:

- Enhanced the images
- Identified the types of pages
- Assembled the pages into documents
- Read data from the images using Optical Character Recognition (OCR)
- Flagged images and data that require human review (Verify)

This exercise walks through the human review or “Verify” task.

Since we are reading data from paper documents the results may not be 100% accurate. For example, pages may be damaged, users can enter invalid information on paper or simply cross out or erase information on the paper.

As a result, the system checks the data and flags fields that need human review. To be conservative, the system may flag some fields that are actually OK. When you configure the system, you can set the threshold for the acceptable level of confidence.

Fields that are low confidence are displayed in yellow. Fields that have errors are displayed in red. The operator reviews each page to correct any problems. If a page has no problems the system can be configured to skip it, so that the user only reviews problems.

5.6.2 Start the Verify task – Step by Step instructions

- 1) Double click on your batch that is pending for “Verify”.

The screenshot shows the MGApp / Demo_NavigatorScan / Verify interface. At the top, there is a toolbar with buttons for Submit, Hold, Previous Page, Next Page, Previous Problem, Next Problem, Next Low Confidence, and Run Validations. To the right of the toolbar is the text "MGApp / Demo_NavigatorScan / Verify".

The interface is divided into three main sections:

- Image Viewer:** Displays a scanned document titled "Uniform Residential Loan Application". The document contains personal information like "Ariana Fujimoto", financial details like "Loan Amount: 340,000.00", and a居住地 "Habitat 5, McMurdo Station, Antarctica".
- Field Details:** A data entry panel where fields are mapped to the scanned document. For example, "Customer_Name" is mapped to "Ariana Fujimoto". Other fields include "Date" (set to "08/12/1968"), "Loan_Amount" (set to "340000.00"), and "Property_Address" (set to "Habitat 5, McMurdo Station, Antarctica").
- Batch Structure:** A tree view showing the structure of the scanned document. The root node is "20180628.000002", which has two children: "20180628.000002.01" (Document) and "TM000001" (Main_Page). Both nodes are marked as "OK".

The scan task screen displays. There are 3 sections:

- Image Viewer: Image Viewer
- Field Details: Data entry panel
- Batch Structure: The list of scanned document and pages

Observe that the system has lifted data from the scanned images. You may also see that some fields are highlighted yellow. This indicates that the system is not fully confident that the data is correct, therefore it is marked for you to verify. You can move to the next problem or entry with low confidence within a batch via the buttons at the top.

Submit	Hold	Previous Page	Next Page	Previous Problem	Next Problem	Next Low Confidence	Run Validations
------------------------	----------------------	-------------------------------	---------------------------	----------------------------------	------------------------------	-------------------------------------	---------------------------------

Above each field is a “snippet”. A snippet is a small cutout area of the image where the data is located. This lets you see the image data easily without looking at the image display.

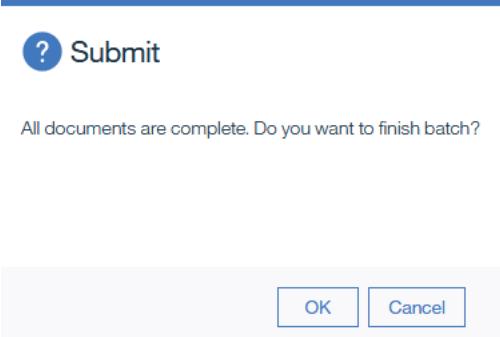
On the right is the list of documents and the pages inside of the documents. The system determined where each document started and what pages were contained in each document. Documents and pages are marked as “OK” or “Problem”. The operator is only required to look at the problem areas.

If your data in the fields are correct (no low confidence nor validation error) it does not need to be changed.

- 2) Click on **Submit** once you have verified the image.

Submit	Hold	Previous Page	Next Page	Previous Problem	Next Problem	Next Low Confidence	Run Validations
------------------------	----------------------	-------------------------------	---------------------------	----------------------------------	------------------------------	-------------------------------------	---------------------------------

- 3) Click OK to finish the batch



When the Job Monitor redisplays, the batch will now show that it is pending for the “Export” task.

Queue ID	Batch	Job	Task	Status	Job Start	Job Time
39	20180628.000002	Demo_Navigat orScan	Export	pending	6/28/2018, 1:47 PM	0

The “Export” task outputs the data to a Datacap database and stores the Document in FileNet.

When the Export is completed, the status will change to Job Done.

Queue ID	Batch	Job	Task	Status	Job Start	Job Time
39	20180628.000002	Demo_Navigat orScan	Export	Job done	6/28/2018, 1:47 PM	0

Note: You have to refresh your monitor to see Job Done.



End of Exercise 5.56

5.7 Exercise 5.6 – Viewing Results In Repository

5.7.1 Overview

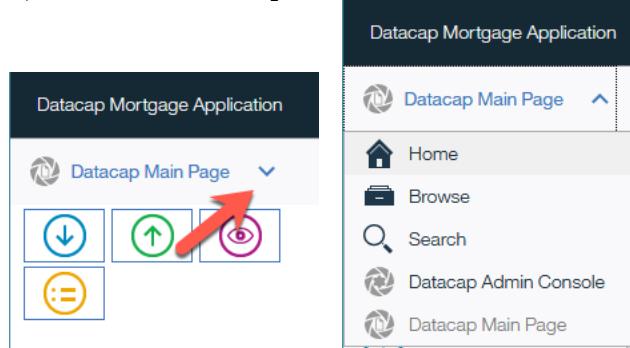
At this point Datacap has stored and cataloged the documents in a FileNet repository. It did the following steps in background:

- Created multiple page documents
- Stored the documents in a repository folder
- Set the document properties
- Updated Datacap databases for statistics on processing the batch

IBM repositories and Datacap both use Content Navigator as a common interface, therefore we can look at the documents without starting a different application.

5.7.2 Start the Verify Documents in Repository – Step by Step.

- 1) From the Datacap Navigator “Main Page” screen click on down arrow next to it.



- 2) Click on **Browse**. If a log in screen displays, log in as p8admin/Think4me.

A screenshot of a "Log In" dialog box. The title is "Log In" and the sub-instruction is "Enter a user name and password for Target.". There are two input fields: "User name:" and "Password:", each with a corresponding text input field below it. At the bottom are two buttons: "Log In" and "Cancel".

- 3) The interface is now showing us the repository. Click on the **Incoming Mortgage Application Documents** folder under “Target” in the left pane or double-click on the folder in the center pane.

The screenshot shows a file browser window titled "Datacap Mortgage Application". In the left sidebar, there is a tree view with "Target" expanded, showing "Incoming Mortgage Application". The main pane displays a table with one item: "Incoming Mortgage Application Documents" by "PBAdmin" modified on "6/19/2018, 3:50 PM". A "Properties" panel on the right shows "No item is selected." and "System Properties".

The file list displays.

This screenshot shows the same interface as above, but the "Incoming Mortgage Application Documents" folder is now selected. The main pane lists 20 items, including various PDF files (e.g., 20180628.000013.01, 20180628.000005.01, etc.) and a "Loan Application Form D01". The "Properties" panel on the right indicates "No item is selected." and "System Properties".

- 4) Click on the icon next to the document name. The document displays in the document viewer. Observer the thumbnail image and document properties for the document.

The screenshot shows a browser window titled "Datacap Mortgage Application - View" with the URL "vm-1.example.com:9081/navigator/viewer.jsp?desktop=dcMGApp". The page displays a "Uniform Residential Loan Application" form. The form includes fields for Borrower (Ariana Fujimoto), Co-Borrower, Mortgage Type (Conventional), Interest Rate (3.25%), No. of Months (17), Amortization Type (Fixed Rate), and Lender Case Number. It also includes sections for Property Address (Habitat 5, McMurdo Station, Antarctica), Purpose of Loan (Purchase), and Construction Type (Primary Residence). The "viewone" logo is visible at the bottom right of the viewer.

- 5) Log out and close the browser.

End of Exercise 5.7.