IBM

Course Exercises Guide

IBM Datacap 9.0.1: Datacap Studio

Course code F255 ERC 2.2

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Unit 1. Datacap Studio Introduction

Estimated time

01:00

Lessons

This unit contains the following lessons.

Unit dependencies

The activities in this unit must be done in the presented order.

Requirements

The activities in this unit assume that you have access to the student system configured for these activities.

Do this first

1. If you are prompted to log in to the system, use:

Type	User ID	Password
Operating system	Administrator	passw0rd

2. Start the Datacap Server.

    a. Click Start > **All Programs** > **IBM Datacap Services** > **Datacap Server Manager**.

    The Datacap Server Manager window is shown.

    b. Click the **Service** tab.

    c. Click **Start** to start the service if it is not already started. The Start operation is disabled if it is already started.

    d. Click **Close** to close the **Datacap Server Manager** window.

3. Start WebSphere Application Server.

    a. Double-click the **WebSphere Admin** folder on the Desktop.

    b. Double-click the **Start Server1.bat** script file.

    This action starts the IBM FileNet Content Manager and the Content Navigator.

System check

The activities in this unit assume that all system services are running when you begin an activity session. Perform a system check whenever you start an IBM FileNet Content Manager system or start working on a system that is in an unknown state.

1. Log in to the **Content Navigator Ping** page to verify that the IBM FileNet Content Management services are active.

   - **URL**: `http://ecmedu01:9080/navigator/Ping` or the browser shortcut: **ICN Ping Page**

   - **User name**: `p8admin`

   - **Password**: `IBMFileNetP8`

   This page displays the version information for Content Navigator and Operating system.

2. Log in to Datacap Desktop as the admin user.

   a. Click **Start** > **All Programs** > **IBM Datacap Clients** > **Datacap Desktop** or click the shortcut on the Windows desktop.

   b. Type the login credentials:

      > **User**: `admin`
      > **Password**: `admin`
      > **Station**: `1`

   c. Click **Start**.

   d. Verify that Datacap Desktop opens indicating that the server is active and connected.

3. See Appendix A for procedures to Start, Check, and Restart components on the Student system.

Lesson 1.1. Datacap Studio - Rulemanager

Overview

Why is this lesson important to you?

As a Datacap Solution/Application Builder, you build and deploy applications with the Datacap capture system.

To do these tasks effectively, you need to be familiar with the Datacap Studio interface.

Activities

Exercise 1: Explore the Datacap Studio - Rulemanager, on page 1-4

User accounts

Type	User ID	Password
Operating system	Administrator	passw0rd
Datacap	admin	admin

Note

Passwords are always case-sensitive.

Exercise 1: Explore the Datacap Studio - Rulemanager

This activity gives you the knowledge to become familiar with the application development capabilities in Datacap Studio.

Procedures

Procedure 1: Check the authentication mode

1. Click **Start** > **All Programs** > **IBM Datacap Services** > **Datacap Server Manager**.

2. In Datacap Server Manager, click the **Datacap** tab and verify that the **Authentication system** field has **TMA** selected.

3. Click the **Service** tab and verify that the server is running.

4. If the steps **2** and **3** are verified, skip to **Procedure 2**.
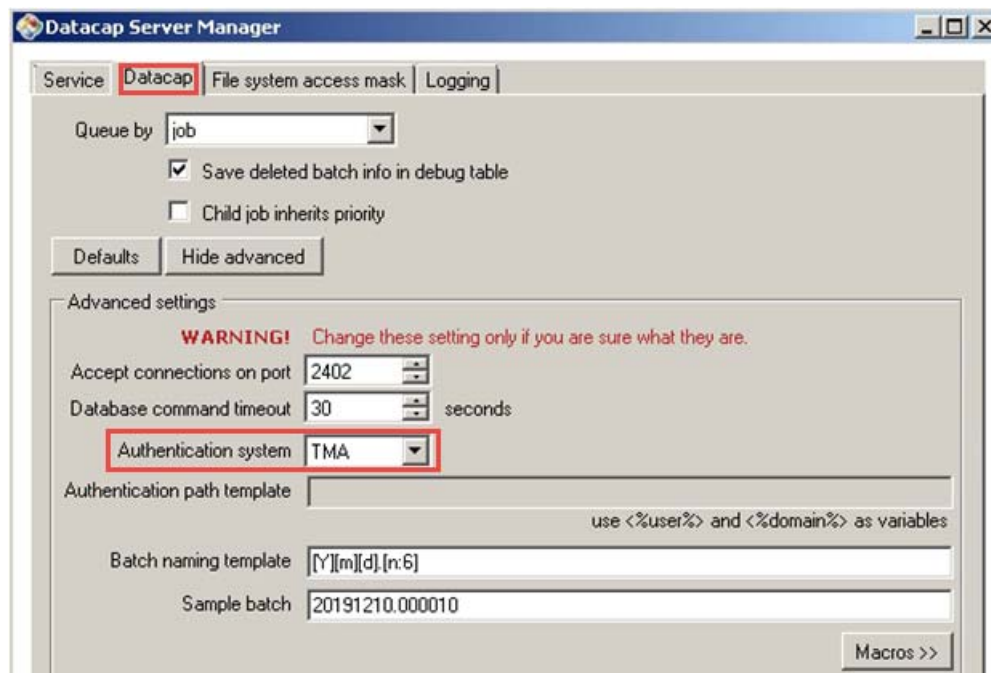
5. If **TMA** is not already selected, select the **TMA** mode from the list and click **Save** to save the changes.

6. If you are prompted with the Alert message that `the service is currently running`, click **Yes**.

7. Click the **Service** tab and restart the server.

8. Close the Datacap Server Manager.

Procedure 2: Login to Datacap Studio

1. Click **Start** > **All Programs** > **IBM Datacap Developer Tools** > **Datacap Studio**.

   You can also use the **Datacap Studio** shortcut on the Windows desktop.

2. Select the **ExpenseDemo** application.

   This application is a legacy application.

3. Click **Next** and type the following values.

   - **User ID**: admin
   - **Password**: admin
   - **Station**: 1

4. Click **Finish**.

Procedure 3: Review document hierarchy

1. In **Datacap Studio**, open the **Rulemanager** tab.

2. In the **Document hierarchy** tab, expand **Expenses** and check the nodes.

   There is one page type named **Other**. This page is the default page type that is assigned to each read page until the page is correctly identified.

   There are three document types: **Car**, **Air**, and **HR**. Each document type has at least one page and each page has a number of fields.

3. Expand each document and observe the following details.

   - **Car** has **Rental_Agreement** page.

   - **Air** has **Air_Receipt** page.

   - **HR** has **HR_Page** and **Donation_Receipt** pages.

4. Expand each page to reveal the fields that are defined on each page.

Procedure 4: Review rulesets

1. Check the **Rulesets** in the middle pane. There are two groups of rulesets:

   - Global rulesets
   - **ExpenseDemo** (they are application rulesets)

2. View the Global Rulesets.

   Global rulesets are gray because they are templates (building blocks). These rulesets are all Compiled (UI) rulesets identifiable by the icon 📄 representing them.

   a. Open Windows Explorer and browse to the C:\Datacap\RRS folder.

   b. Verify that for each ruleset that is defined under the Global rulesets, there is a corresponding ***<ruleset>*.Rul.dll** file and a ***<ruleset>*.Rul.dll.config** file.

      Example: **CreateDocuments.Rul.dll** and **CreateDocuments.Rul.dll.config**

3. View Application Rulesets.

All of the rules that are defined for the ExpenseDemo application are identifiable by the icon representing them. The rulesets are VScan, ImageFix, PageID, CreateDocs, and so on.

a. In Windows Explorer, browse to the `C:\Datacap\ExpenseDemo\dco_ExpenseDemo\rules` folder.

b. Verify that for each ruleset that is defined under the ExpenseDemo application rulesets, there is a corresponding ***<ruleset>*.rul** file.

The application rulesets does not have the **<ruleset>.Rul.dll** and **<ruleset>.Rul.dll.config** files.

4. In the **Rulesets** tab, expand **ExpenseDemo** and expand any one of the rulesets and notice that they are a hierarchical structure of rules, functions, and actions.

5. Check the rule mapping.

a. Expand the **VScan** ruleset and click the **VScan** rule.

b. Click the **Sync DCO view with Ruleset view** icon between the Ruleset and Document Hierarchy panes.

c. Notice that the **Open** node for the **Expenses** batch is shown.

The **VScan** rule is highlighted. This action determines where rules are used in the document hierarchy.

6. Check the rule mapping in the Properties pane.

a. Click the **Lock/Unlock ruleset (for editing)** icon in the toolbar of the **Rulesets** middle pane.

This action locks the **VScan** ruleset for editing.

b. Click the **VScan** rule.
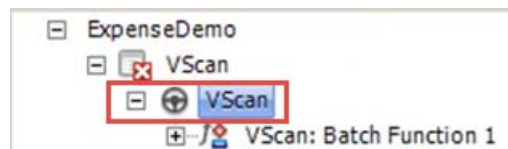
c. In the **Properties** tab on the right pane, click the **Run rule at start of** node.

A list of selectable options are displayed: **Any object**, **Batches**, **Documents**, **Pages**, **and Fields**.

d. Click the **Batches** option in the **Properties** pane.

e. Click the lock icon and click **Unlock ruleset (discard all changes since lock)** from the list to unlock the **VScan** ruleset without saving your change.

f. Click **Yes** when you are prompted with the **Unlocking ruleset** window.

7. Click **Exit** at the upper right corner to close Datacap Studio.

Procedure 5: Review task profiles and action libraries

1. Repeat procedure 2 to log in to Datacap Studio but at step 2 select the **FastForm** application.

2. Click the **Actions library** tab in the upper right pane.
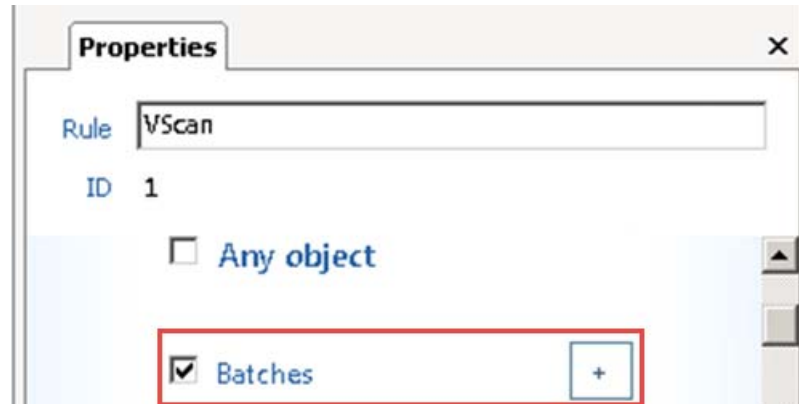
   Action libraries are a list of predefined actions that can be added to the application rulesets to customize task functions.

3. Scroll through the Action groups and expand a group to see that each group consists of a number of actions.

4. In the **Rulesets** tab on the middle pane, expand the **FastForm** > **Import Files** > **Scan** > **Import Files** > **Scan()** action.

   a. Click the **Autosync Ruleset view to Action Library view** icon on the left edge of the **Action library** pane (between the **Rulesets** and **Action library** panes).

   b. Notice that the **mvscan** actions library group opens in the **Actions library** pane to reveal the location of the **scan** action.
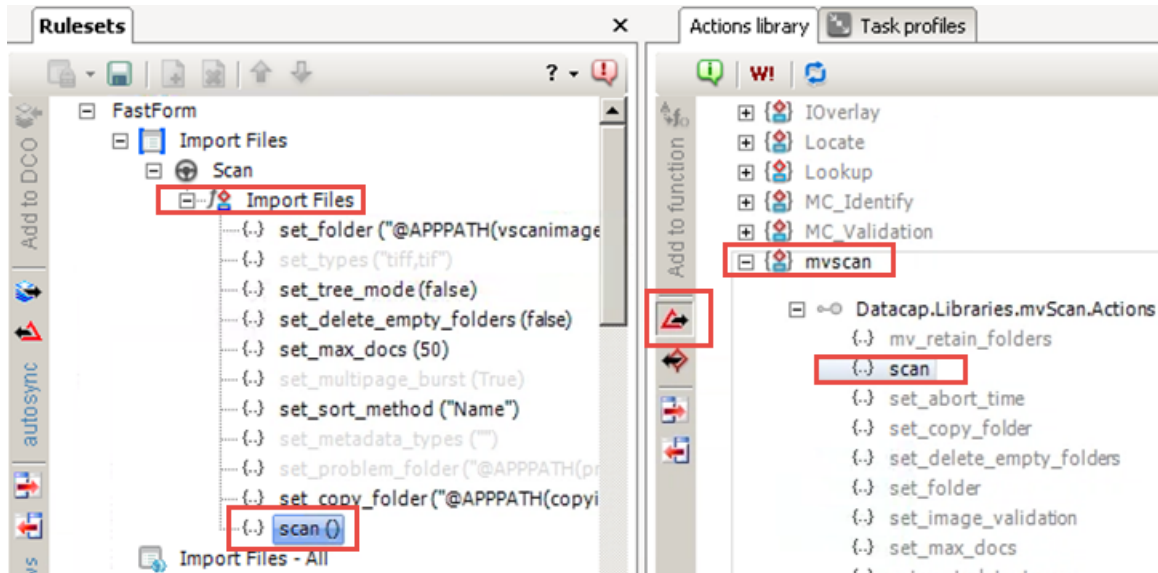
c.   If it is not visible, scroll down the **Action library** list.

5.   Click the **Task profiles** tab.

Task profiles determine the order in which rulesets are run.

d.   Expand each task and notice that the objects that are associated with each of the tasks are one or more rulesets.

6.   Look at properties through the Properties pane.

a.   In the **Rulesets** tab on the middle pane, expand the **FastForm** > **Import Files** > **Scan** > **Import Files**.

b.   Click the **set_max_docs** action.

Notice that the object Properties information and the action parameter are shown in the properties pane in the lower right corner.
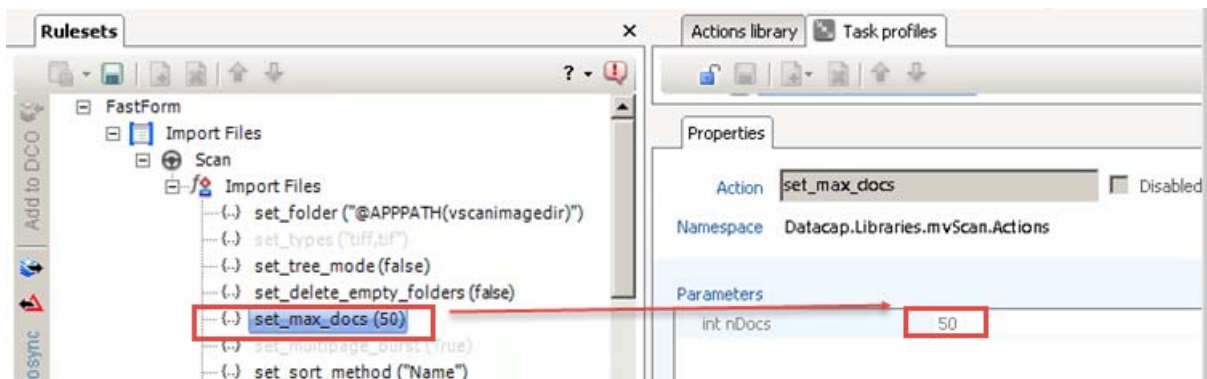
Procedure 6: View the properties through the Ruleset UI for a compiled ruleset.

1. In the **Rulesets** tab on the middle pane, select the **FastForm** > **Import Files** application ruleset.

2. Right-click and select **Settings** from the menu.

3. In the **Ruleset Import Files** window, notice that **Selected import file type** is set to **TIFF**.

Select import file type

☑ TIFF   ☐ Expand multipage tiff files

Maximum number of files to import is 50.

Maximum number of files to import

◉ 1   ○ 10   ○ 25   ◉ 50   ○ 100   ○ All

☐ Custom
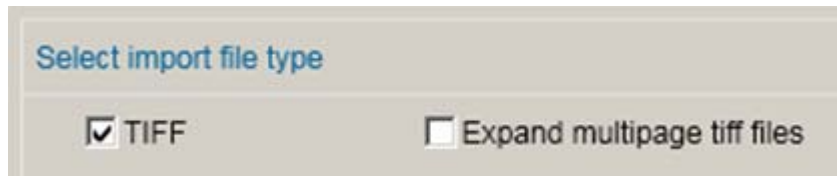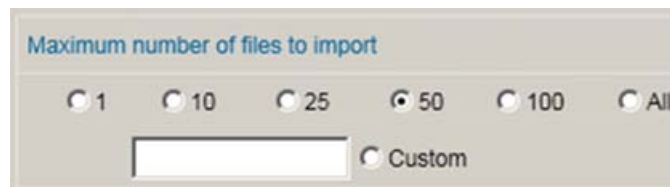
4. Click Close at the end of the page.

5. Notice the icon bars at the top of each of the main panes:

    When you hover over the icons, the help text provides details for these icons in each pane.

    a. Lock/Unlock

    b. **Save changes**

    c. **Remove object**

    d. **Add child object** on the Ruleset pane

    e. **Add new task profile** on the Task profiles pane

    f. Up and Down icons to order objects

6. Click **Exit** at the upper right corner to close Datacap Studio.

End of exercise

Lesson 1.2. Datacap Studio - Zones and Test views

Overview

Why is this lesson important to you?

As a Datacap Solution/Application Builder, you build and deploy applications with the Datacap capture system.

To do these tasks effectively, you need to be familiar with the Datacap Studio interface.

Activities

- Exercise 1: Explore the Datacap Studio - Zones and Test view, on page 1-11
- Exercise 2: Datacap Studio: Quiz, on page 1-13

User accounts

Type	User ID	Password
Operating system	Administrator	passw0rd
Datacap	admin	admin

Note

Passwords are always case-sensitive.

Exercise 1: Explore the Datacap Studio - Zones and Test view

This activity gives you the knowledge to become familiar with the application development capabilities in Datacap Studio.

Procedures

Procedure 1: Log in to Datacap Studio

1. Click **Start** > **All Programs** > **IBM Datacap Developer Tools** > **Datacap Studio**.

   You can also use the **Datacap Studio** shortcut on the Windows desktop.

2. Select the **ExpenseDemo** application.

   This application is a legacy application.

3. Click **Next** and type the following values.

   - **User ID**: admin
   - **Password**: admin
   - **Station**: 1

4. Click **Finish**.

Procedure 2: Review the Zones view

1. In Datacap Studio, click the **Zones** tab.

2. Notice that the **Document hierarchy** and the **Properties** panes that were described earlier on the **Rulemanager** view are also duplicated in the **Zones** view.

3. In the **Fingerprints** tab, expand **<Global>**.

4. Select **555[Other]** and check that an image is shown in the **Image View** pane.

5. With an image shown in the **Image View** pane, click the **Text** tab at the bottom of the image.

6. Notice that the text that is interpreted from the image is displayed in plain text format.

7. In **Properties** tab, notice that a selection of subtabs are shown at the bottom of the pane.

8. Right-click any subtab in the **Properties** section and select **Show tabs** to see the complete list of available subtabs.

   - You can select these subtabs from the list to show their contents.

   - The **Properties** tab is always visible.

- The following tabs are all selectable.

    - **BAR/P**
    - **ICR/C**
    - **ICR/P**
    - **OCR/A**
    - **OCR/S**
    - **OMR**
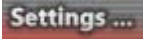
Procedure 3: Review the Test view

1. Select the **Test** tab.

2. Notice that the **Document hierarchy, Rulesets,** and **Properties** panes that were described earlier on the **Rulemanager** view are also duplicated on the **Test** view.

   The Test view has the ability to run batches in a controlled manner so that you can:

   - Walk through an application.
   - Debug an application by setting breakpoints by using the Breakpoints tab.
   - Stop and observe the state progress and data at strategic places during debugging.

Procedure 4: Review Settings

1. Click **Settings ...** on the toolbar at the upper right side of the window.

2. Click the **Application service** tab and notice the name and location of the main application management file: **datacap.xml**

3. Click **Cancel** to close the Settings window.

4. Click **Exit** at the upper right corner to close Datacap Studio.

End of exercise

Exercise 2: Datacap Studio: Quiz

For each of the following statements, indicate whether the statement is accurate by marking it True or False.

1. Datacap Studio is the Datacap Capture application development environment.

    True or False

2. Datacap Studio is the capture job processing environment.

    True or False

3. Datacap Studio provides direct access to the Application Wizard through an icon on the icon bar.

    True or False

4. Application Wizard gives you a head start on application development by generating a basic application framework, complete with the supporting folders.

    True or False

5. The Application Wizard is the capture job processing environment.

    True or False

6. The Rulemanager view of Datacap Studio shows the following default panes: Document hierarchy, Rulesets, Actions libraries, Task profiles, and Properties.

    True or False

7. The Rulemanager view of Datacap Studio shows the following default panes: Document hierarchy, Fingerprints, Image View, and Properties.

    True or False

8. The Zones view of Datacap Studio shows the following default panes: Document hierarchy, Fingerprints, Image View, and Properties.

    True or False

9. The order of Rulesets in the ruleset pane determines the order in which rules are done.

    True or False

10. The order of Rulesets in the Task profiles pane determines the order in which rulesets are done.

    True or False

11. Compiled (UI) Rulesets have a *<ruleset>*.Rul.dll and a <ruleset>.Rul.dll.config file.

    True or False

12. Conventional rulesets can be configured directly with the user interface in FastDoc.

    True or False

13. Compiled rulesets can be configured directly in FastDoc (Admin) with the developer interface.

    True or False

14. Global ruleset definitions are in the C:\Datacap\Global\Rule folder.

True or False

15. Global ruleset definitions are in the C:\Datacap\RRS folder.

     True or False

16. Application rulesets are in the C:\Datacap*application*\dco_*application*\Rule folder.

     True or False

17. The user interface for the Setting window for configuring Compiled rulesets parameters is stored in the <ruleset>.Rul.dll.config file

     True or False

End of exercise

Appendix 1. Answer keys to quizzes

This section shows the answer keys to the quizzes that you have done in the above lessons.

Lesson 1.1. Datacap Studio: Quiz

For each of the following statements, indicate whether the statement is accurate by marking it True or False.

1. Datacap Studio is the Datacap Capture application development environment.

   Answer = True

2. Datacap Studio is the capture job processing environment.

   Answer = False

3. Datacap Studio provides direct access to the Application Wizard through an icon on the icon bar.

   Answer = True

4. Application Wizard gives you a head start on application development by generating a basic application framework, complete with the supporting folders.

   Answer = True

5. The Application Wizard is the capture job processing environment.

   Answer = False

6. The Rulemanager view of Datacap Studio shows the following default panes: Document Hierarchy, Ruleset, Task profiles, Action libraries, and Properties.

   Answer = True

7. The Rulemanager view of Datacap Studio shows the following default panes: Document Hierarchy, Fingerprint, Image view, and Properties.

   Answer = False

8. The Zones view of Datacap Studio shows the following default panes: Document Hierarchy, Fingerprint, Image view, and Properties.

   Answer = True

9. The order of rulesets in the ruleset pane determines the order in which rules are done.

   Answer = False

10. The order of rulesets in the Task profiles pane determines the order in which rulesets are done.

    Answer = True

11. Compiled (UI) rulesets have a *<ruleset>*.Rul.dll and a <ruleset>.Rul.dll.config file.

    Answer = True

12. Conventional rulesets have a *UI interface for configuring ruleset properties*.

    Answer = False

13. Compiled rulesets can be configured directly in FastDoc with the user interface.

    Answer = True

14. Global ruleset definitions are in the C:\Datacap\Global\Rule folder.

   Answer = False

15. Global ruleset definitions are in the C:\Datacap\RRS folder.

   Answer = True

16. Application rulesets are in the C:\Datacap*<application>*\dco_*<application>*\Rule folder.

   Answer = True

17. The user interface for the Setting window for configuring Compiled rulesets parameters is stored in the <ruleset>.Rul.dll.config file

   Answer = True

End

Unit 2. Basic Learning Application

Estimated time

04:00

Lessons

This unit contains the following lessons.

Unit dependencies

The activities in this unit must be done in the presented order.

This unit builds on the knowledge from the Datacap Studio Introduction unit.

Requirements

The activities in this unit assume that you have access to the student system configured for these activities.

Do this first

1. If you are prompted to log in to the system, use:

Type	User ID	Password
Operating system	Administrator	passw0rd

2. Start the Datacap Server.

   a. Click Start > **All Programs** > **IBM Datacap Services** > **Datacap Server Manager**.

   The Datacap Server Manager window is shown.

   b. Click the **Service** tab.

   c. Click **Start** to start the service if it is not already started. The Start operation is disabled if it is already started.

    d. Click **Close** to close the **Datacap Server Manager** window.

3. Start WebSphere Application Server.

    a. Double-click the **WebSphere Admin** folder on the Desktop.

    b. Double-click the **Start Server1.bat** script file.

    This action starts the IBM FileNet Content Manager and the Content Navigator.

System check

The activities in this unit assume that all system services are running when you begin an activity session. Perform a system check whenever you start an IBM FileNet Content Manager system or start working on a system that is in an unknown state.

1. Log in to the **Content Navigator Ping** page to verify that the IBM FileNet Content Management services are active.

    ▪ **URL**: `http://ecmedu01:9080/navigator/Ping` or the browser shortcut: **ICN Ping Page**

    ▪ **User name**: `p8admin`

    ▪ **Password**: `IBMFileNetP8`

    This page displays the version information for Content Navigator and Operating system.

2. Log in to Datacap Desktop as the admin user.

    a. Click **Start** > **All Programs** > **IBM Datacap Clients** > **Datacap Desktop** or click the shortcut on the Windows desktop.

    b. Type the login credentials:

        User: `admin`
        Password: `admin`
        Station: `1`

    c. Click **Start**.

    d. Verify that Datacap Desktop opens indicating that the server is active and connected.

3. See Appendix A for procedures to Start, Check, and Restart components on the Student system.

Lesson 2.1. Create a Learning Template application

Overview

In the lesson, you learn about the Learning Template and why you would use it to create your application instead of a Form Template.

Why is this lesson important to you?

As a Datacap Solution/Application Builder, you build and deploy applications with the Datacap capture system and communicate the solution details to the solution architect, administrator, and business analysts.

This lesson gives you the ability to create the learning application by using the application wizard and to do the basic application configuration.

Activities

- Exercise 1: Create a Learning Template application, on page 2-4

User accounts

Type	User ID	Password
Operating system	Administrator	passw0rd
Datacap	admin	admin

Note

Passwords are always case-sensitive.

Exercise 1: Create a Learning Template application

Introduction

In this activity, you create a Learning Template-based Datacap application by using the FastDoc application. You then configure it to recognize and process one of the two types of documents that you configured. You scan a sample document and show how to find and verify the data fields in FastDoc. You expand the application in later exercises to recognize air ticket receipts and car rental agreements.

## Procedures

Procedure 1: Create an application

In this procedure, you create an application by using the Learning Template in Application Wizard.

Data to create an application

Item	Value
Wizard Mode	Create a new RRS application
Application Name	Expense
Datacap Folder	C:\Datacap
Destination	C:\Datacap
Application Template	Learning Template

1. Start FastDoc Admin interface and log in to the Local mode.

    a. Click **Start** > **All Programs** > **IBM Datacap Developer Tools** > **Datacap FastDoc (Admin)**.

       You can also click the Desktop shortcut.

    b. On the **Welcome to Datacap** page, select **Local** and click **Login**.

2. Create the application.

    a. Click the **Application Wizard** icon from the banner.

    b. In **Application Wizard**, click **Next**.

    c. Verify that the **Create a new RRS application** option is already selected and click **Next**.

    d. For the **Application name** field, type: `Expense`

    e. For the **Application template** field, select **Learning Template** from the list.
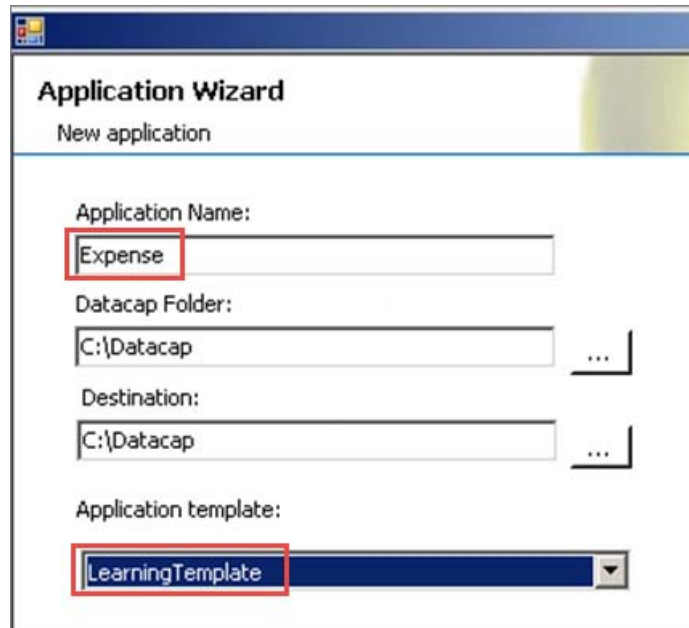
f. Click **Finish** and verify that no errors or warnings are shown on the **Summary** window.

Optionally, you can click the link in the Summary window to look at the logs.

g. Click **Close**.

3. Log out of FastDoc Local Mode.

a. Click logged in user **Administrator** [Administrator icon] icon, click **Logout** and close the FastDoc Window.

4. Check application paths for the new Expense application.

a. On the Windows desktop, Double-click the **Datacap Application Manager** icon.

b. On the left pane, scroll down and select the **Expense** application.

c. On the **Main** tab, make sure that none of the paths are pointing at the template folder. They should all be pointing at `C:\Datacap\Expense` and not `C:\Datacap\Template\Expense`.

d. If any paths are incorrect, then correct them (especially the Database connection strings).

e. Close the Datacap Application manager.

Procedure 2: Review Standard Files and Folders Created

1. In Windows Explorer, examine the following files.

Files in C:\Datacap

- `C:\Datacap\datacap.xml` – This file contains the list of applications and is updated with the newly created application. The wizard does not create the datacap.xml file. The Wizard adds only an entry to the file for the new application that you created.

Folders in C:\Datacap\Expense

- **batches** – This folder is empty for a new application. After the images are processed, that is, when the VScan task is run, this folder contains a subfolder for each batch that is processed. the batch folders hold scanned images, status file, and log file history. The application then processes the files from this folder during subsequent tasks. For example: PageID, Profiler, Verify, and Export.

- **dco_Expense** – Primary components of this folder include:

  - **rules** folder – This folder contains the rulesets that are defined for each task. In Datacap 9.0, there are both conventional and compiled rulesets, which are rulesets that have a .DLL file that is associated with them.

  - **Expense.ini** - This file contains the default settings for Expense application.

  - **Expense.xml** – This file contains the details of every task that is done on individual pages. (DCO structure definition, also called Batch Structure in FastDoc terminology.

  - **ImageFix.ini** – This file contains the default settings for image processing.

  - **<task>.set.xml** – There is a <task>.set.xml file for each task that is defined in the workflows. Examples: vscan.set.xml, profile.set.xml. These files contain the xml that is used by web-based configuration tools (tmweb and Datacap Navigator) for configuring task parameters on the setup panel for each defined task.

    In tmweb which is a Datacap web client, this file is used in the Administrator tab, under Workflow > *<job>* > *<task>* > Setup as shown in the following screen capture.
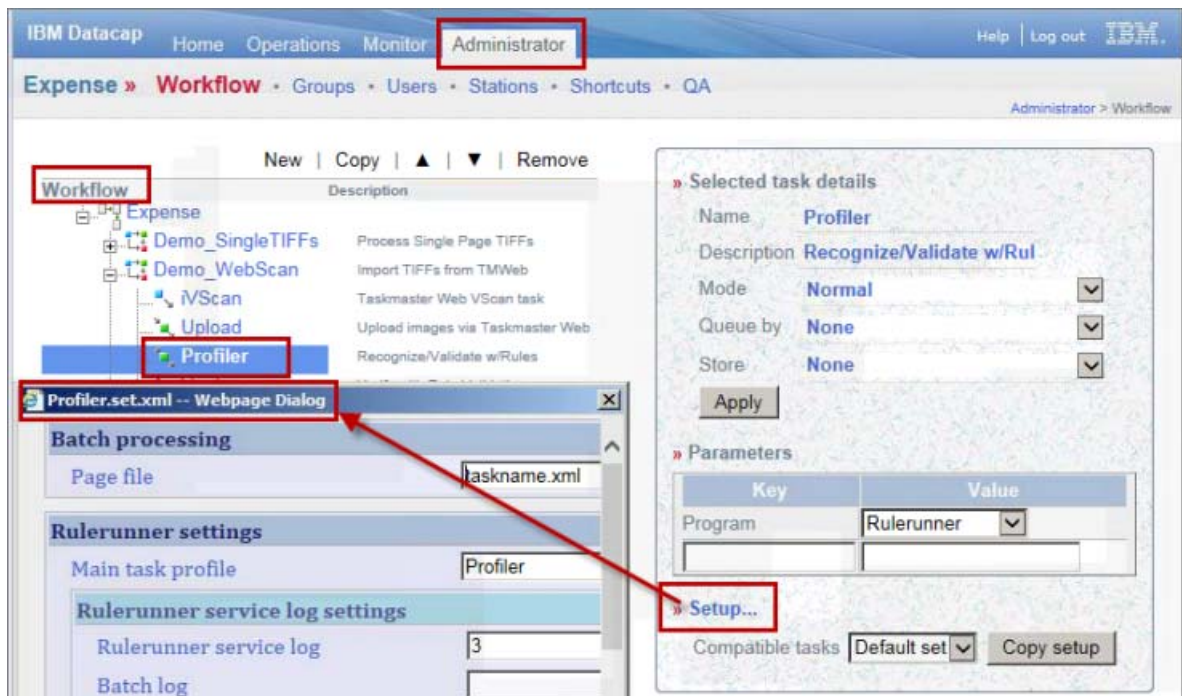
- In Datacap Navigator administrator desktop, this file is used in the Workflows > *<app>* > > Jobs tab> *<job>* > Tasks tab> *<task>* > Advanced tab, as shown in the following screen capture.
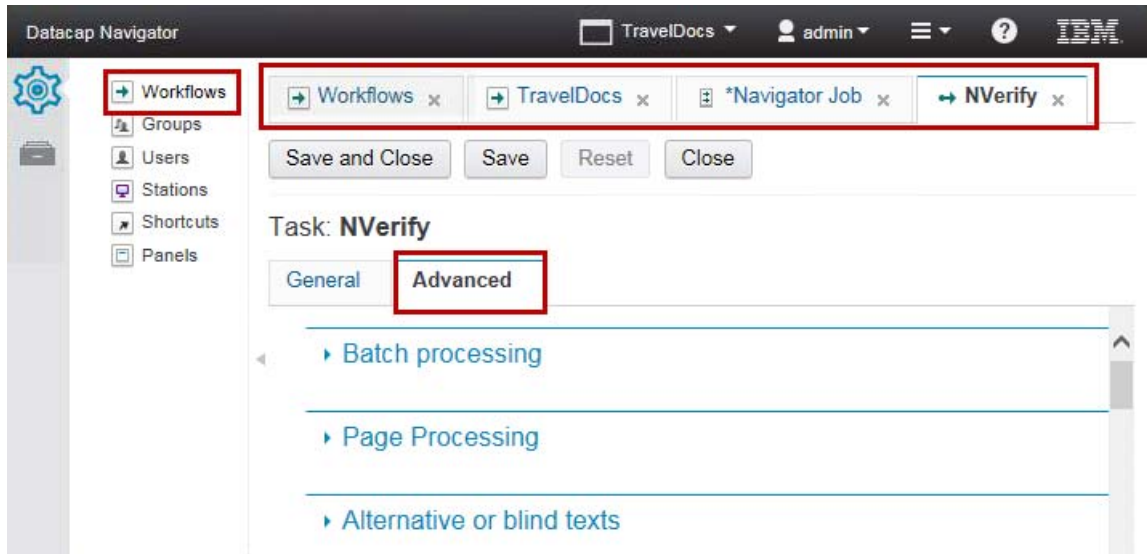
- **Fingerprint Maintenance Tool.exe** - Tool for managing fingerprints.
- **export** – This folder contains the exported files for when Text file export is enabled.
- **fingerprint** – This folder contains the default fingerprint file 555.tif. The scanned images are fingerprinted against this file during the PageID phase, and any newly generated fingerprint files are placed in this folder.
- **images** – This folder contains the images that the application processes. A new application has no images until you copy them to the images folder.

End of exercise

Lesson 2.2. Configuring a Learning Template application

Overview

In this lesson, you start refining the configuration for the basic Learning Template Expense application. You define the fields to extract for the two page classes and configure the application.

Why is this lesson important to you?

As a Datacap Solution/Application Builder, you build and deploy applications with the Datacap capture system and communicate solution details to the solution architect, administrator, and business analysts.

When creating new applications, it is good practice to use the provided templates as a starting point. The Learning Template is used when processing images that differ in format but contain the same content to extract for indexing.

Activities

-

User accounts

Type	User ID	Password
Operating System	Administrator	passw0rd
Datacap	admin	admin

Note

Passwords are always case-sensitive.

Exercise 1: Basic application configuration

Introduction

This activity gives you practice in configuring a Learning Template-based Datacap application.

You configure the Expense application to process two pages. On both of the pages, you capture similar data types that are named differently on the two page formats.

Each of the following four fields is generic for the two pages:

Expense application field types.

Generic Field Name	Rental_Agreement Page	Air_Receipt Page
Name	Customer Name	Passenger Information Psgr
Date	Pickup Date/Time:	Issue Date:
Total	Total Charges	Total:
Reference_Number	Rental Agreement Number	TICKET #:

Procedures

Procedure 1, "Configure application fields," on page 2-9

Procedure 2, "Set up image enhancement on the Learning Template," on page 2-11

Procedure 3, "Set up page recognition on the Learning Template," on page 2-12

Procedure 1: Configure application fields

1. Start FastDoc (Admin) interface and log in the Datacap Server mode.

   a. Click **Start** > **All Programs** > **IBM Datacap Developer Tools** > **Datacap FastDoc (Admin)** or click the shortcut on the Windows desktop.

   b. On the **Welcome to Datacap** page, select **Datacap Server**.

   c. For **Application**, select **Expense**.

   d. Enter the User(admin) and password (admin) information and click **Login**.

2. Configure Page Fields.

   a. Click the **Configure documents, pages and fields** icon.

   b. Examine the **Expense** default batch structure that resulted from building the application from the Learning Template.

      There are two document objects, **Document** and **Separator**, and a page called **Other**.

   c. Click the **Document** object to expand it and notice that there are four pages:

      - Main_Page
   - Trailing_Page
      - Attachment_Separator
      - Attachment

(!) Important

Never change the Main_Page name. You use it in the application to refer to two different page types: **Rental_Agreement** page and **Air_Receipt** page.

You only add field objects into the Main_Page object. This rule is because the Learning Template model of building an application uses generic objects to create and process any number of different page types.

3. Click **Main_Page** to expand it and notice that there are four fields: **Fingerprint_Class**, **Index_Field1**, **Add_New_Fingerprint**, and **Routing_Instructions**

4. Add fields for your Air Receipt page.

    a. Right-click **Index_Field1** and click **Remove** to delete it.

    b. Right-click **Routing_Instructions** and click **Remove** to delete it.

    c. Click **Save** on the toolbar near **Page Properties** at the top of the page.

    d. Click **Add Field** on the toolbar near **Page Properties** at the top of the page.

    e. Type `Name` in the **Field type** box and then click **Add**.

    f. Repeat the steps **4d** and **4e** to add the following fields:

        -`Date`
        -`Total`
        -`Reference_Number`

    g. Click **Save** and verify that fields are listed for the **Main_Page** on the left pane.
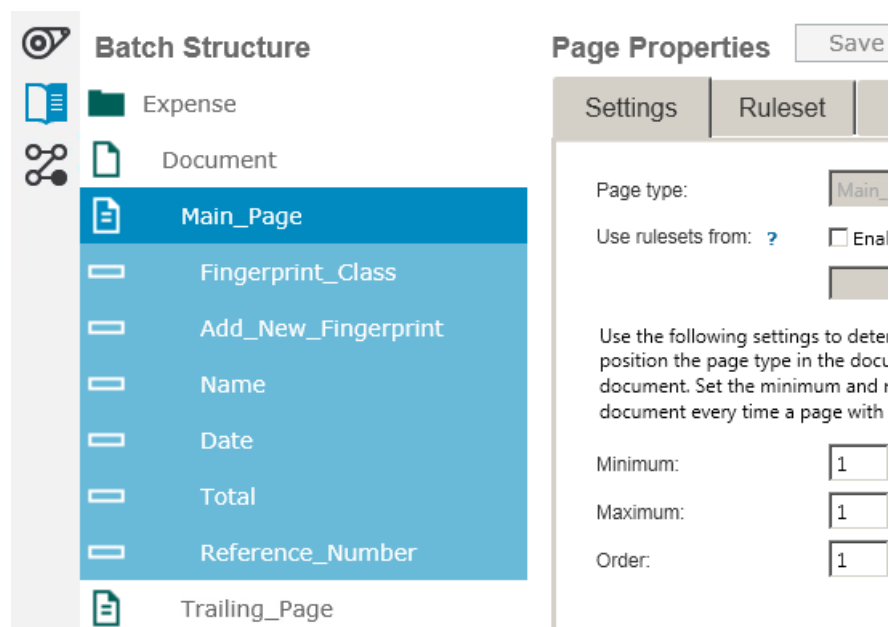
Procedure 2: Set up image enhancement on the Learning Template

1. In **Batch Structure**, click the **Main_Page** object.

2. In **Page Properties**, click the **Ruleset** tab.

3. For the **Ruleset** field, select the **Image Enhancement** from the list.

4. Open a sample image to test.

   a. In the **Image Operations** section, click **Open image file**.

   b. Browse to `C:\DC9-Lab Exercises\Expense` folder and select **car 1.tif** image.

   c. Click **Open**.

5. Adjust your view to improve the visibility of the images.

   a. Click the full screen icon in the upper right corner of the FastDoc window to give you maximum visibility of the before and after images.

   b. Click the Vertical dark gray bar between the **Ruleset** tab pane and the **Test** pane to temporarily hide the **Test** pane and give you more image view area.

   c. Use the mouse wheel to zoom in on the images.

   d. Click and drag the images so that you can view the most populated area of the image or the area where you are expecting to see a change occur.

Note

At a minimum, you must do **Deskew** always, especially if you are fingerprinting. In the Learning Template, fingerprinting is done automatically, so it is important to always deskew in a Learning Template-based application.

You must also do the test **line removal** and black **border removal** - and any other image enhancement options that make sense to try on your particular image types.

---

6. Leave the following three default options selected.

   - **Deskew**
   - **Remove Lines**
   - **Border Removal**

Attention

The Image Enhancement options.

The options that you select are going to affect all of the pages that this application process, so set options that are likely to work for all pages. If you click **Save** on the **Page Properties** menu, you overwrite the settings that are selected in the **Rule settings** option.

You can have multiple settings that are saved for your needs. Save a new set of settings with **Save Settings As**. Load any saved set by selecting it from the **Rule setting** list.

---

7. Review all Image Enhancement options.

    a. Use the cursor to hover over each of the options and observe:

        ▪ The help information that describes each option.

        ▪ The red **X** for removing an option.

        ▪ The Up and Down arrows for altering the position of the option. The options are processed in the order that they are arranged.

    b. To test other options, click the icon ▶ next to each option and see the enhancement parameters that can be used to clean up the images for better recognition results. These options are run when you process the image at run time and when you're testing.

    c. Select different options and observe the changes in the image on the right.

🛈 **Important**

Do not set Auto Rotate to true! The Nuance scan engine that is the preferred engine (since it does the best job) automatically uses Managed Rotation, which helps with reliability, and rotates images that require it.

---

8. When you finish experimenting, leave the default for rule settings.

9. Leave the FastDoc opened for the next procedure.

Procedure 3: Set up page recognition on the Learning Template

Main_Page is already selected in the Batch Structure and the Ruleset tab is selected in the Page Properties pane.

1. On the **Ruleset** tab, in the **Ruleset** field, select **Recognize Pages and Fields** from the list.

2. Verify that the following options are selected:

    ▪ **Read Page**
    ▪ **Read machine print on page**
    ▪ **Save results to a text file**


✎ **Note**

If you are doing fingerprinting and you have zoned your fields on the fingerprint for that page, there is no need to set up Page or Field Recognition for that type of page. Although, it doesn't do any harm to do so.

---

3. For this lab, you don't need to save the changes, since you are using the default settings.

4. Logout of Datacap Server Mode.

   a. Click the logged in user **admin** icon and click **Logout**.
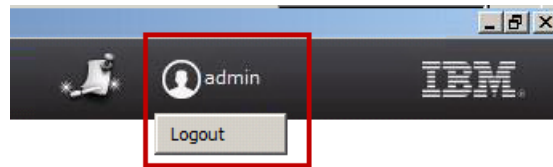
   b. Close the FastDoc Window.

End of exercise

Lesson 2.3. Create locate rules

Overview

Why is this lesson important to you?

As a Datacap Solution/Application Builder, you build and deploy applications with the Datacap capture system and communicate solution details to the solution architect, administrator, and business analysts.

When creating applications to process images that have inconsistent page layouts, you can save users time. You save them time by using locate rules to populate fields by using the click'n'key method when data positions move from one page to the next.

Activities

- Exercise 1: Locate fields by using keyword search, on page 2-15

User accounts

Type	User ID	Password
Operating System	Administrator	passw0rd
Datacap	admin	admin

Note

Passwords are always case-sensitive.

Exercise 1: Locate fields by using keyword search

Introduction

This activity gives you practice at configuring a locate ruleset to locate data by the keyword search method.

Note

You use Datacap Studio to enhance your application that you created in FastDoc in the previous lesson.

Procedures

Procedure 1: Prepare to add rules to the locate ruleset

1. Log in to Datacap Studio and open the Expense application.

   a. Click **Start** > **All Programs** > **IBM Datacap Developer Tools** > **Datacap Studio**.

      You can also use the **Datacap Studio** shortcut on the Windows desktop.

   b. Select the **Expense** application.

   c. Click **Next** and type the following values.

      - **User ID**: admin
      - **Password**: admin
      - **Station**: 1

   d. Click **Finish**.

2. Lock the Locate ruleset for editing.

   a. In the **Rulemanager** > **Rulesets** tab, expand the **Expense** node and click the **Locate** ruleset.

b. Click the **Lock/Unlock ruleset (for editing)** icon at the top of the pane to lock it.
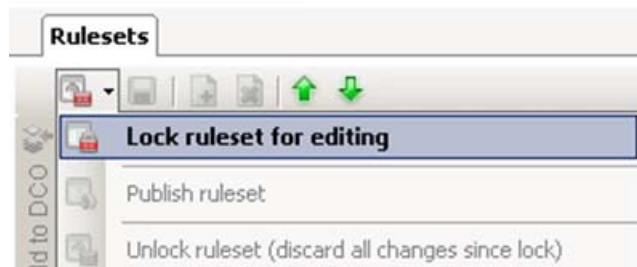
 Note

Expand the **Locate** ruleset and check the default rules that are available:

- Document Level Rule
- Page Level Rules
- Set Routing Instructions
- Populate Field by Zone
- Set Default for Add_New_Fingerprint

    The Default rules are there to accomplish some of the automatic processing that is built into the Learning Template. For example, to handle the processing of multi-page documents, to handle automatic batch routing, to zone fields when locate rules are not provided.

In this activity you add four rules:

- Field Name

- Field Date

- Field Total

- Field Reference Number

Procedure 2: Create the Field Name rule

1. Disable an action that is not used for this application.

    a. Expand **Locate** > **Set Routing Instructions** > **Function1**.

    b. Right-click the **AssignFieldDefault("None")** action and click **Disabled**.

    c. Verify that the action is grayed out.
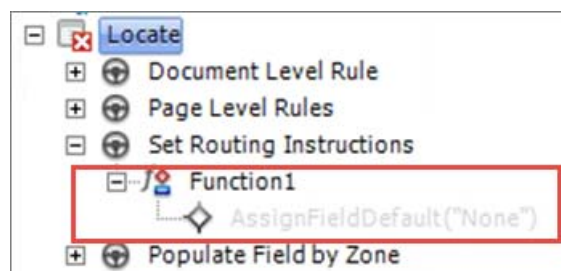
In Lesson 2-2, Exercise 1, Procedure 1, Step 4b, page 2-10, you removed an optional field that is called **Routing_Instructions**. In this procedure, the corresponding action in the ruleset must also be removed.

2. Add the Field Name Locate rule.

   a. Right-click the **Locate** ruleset and click **Add Rule**.

      Verify that **Rule1** is added under the **Locate** rule.

   b. In the **Rulesets** pane, click **Rule1**.

   c. In the **Properties** pane on the right, for the **Rule** field, change the name to: `Field Name`

3. Configure the populate zone field function.

   a. In the **Rulesets** pane, select **Field Name** > **Function1**.

   b. In the **Properties** pane, for the **Function** field, change the name to: `Find Name Zonal`

   c. In the **Actions library** pane on the right, scroll down to the **Zones** library.

   d. Expand it and scroll down to the **PopulateZNField** action.

   e. With the **Find Name Zonal** function selected in the **Rulesets** pane and the **PopulateZNField** selected in the **Actions library** pane, click **Add to Function**.


Hint

Add to Function is on the bar between the **Rulesets** pane and the **Actions library** pane.

---

   f. Notice that the **PopulateZNField()** action is added to the **Find Name Zonal** function.

4. Configure the Find Customer Name function.

   a. Right-click the **Field Name** rule and click Add Function.

   b. In the **Field Name** rule, click **Function 1** and in the **Properties** pane, change the name to: `Find Customer Name`

   c. In the **Actions library** pane, scroll to the **Locate** library.

   d. Expand it and scroll to the **WordFind** action.

   e. With the **Find Customer Name** function selected in the **Rulesets** pane, and **WordFind** selected in the **Actions library** pane, click **Add to Function**.

   f. Repeat Steps **4c** to **4e** to add more actions to the **Find Customer Name** function until you have the following actions from Locate action library in the listed order:

      - **WordFind**

      - **GoRightWord**

      - **GroupWordsRIGHT**

      - **UpdateField**

Hint

You can use the arrow icons on the **Rulesets** toolbar to position the actions in the correct order.

---

5. Set action properties.

    a. In the **Find Customer Name** function, click the **WordFind** action.

    b. In the **Properties** pane, set the **string StrParam** parameter to: `Customer Name:`

       Be sure to include the colon after **Customer Name**.

    c. Set the **GoRightWord** action parameter to: `1`

    d. Set the **GroupWordsRIGHT** action parameter to `2`.

6. Click the **Save changes** 💾 icon in the Ruleset toolbar.

7. Verify the completed rule.
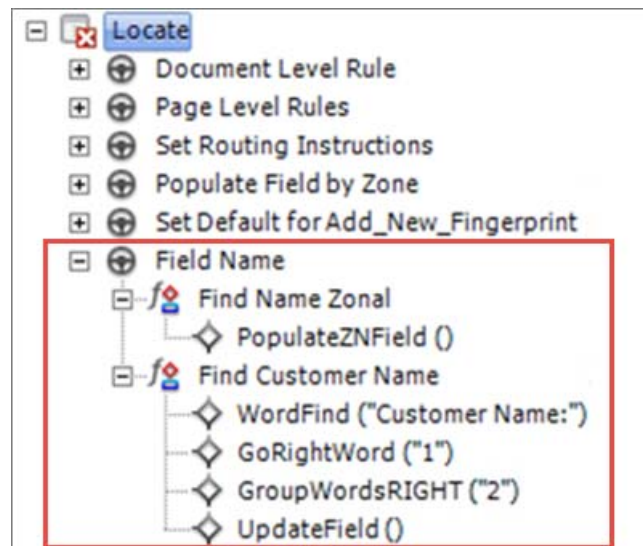
8. Collapse the **Field Name** rule.

Procedure 3: Create the Field Date rule

Use the steps that you practiced in Procedure 2 to create a rule for the Date field.

1. Add the Field Date rule to the Locate ruleset.

    a. Right-click the **Locate** ruleset and click **Add Rule**.

    b. In the **Rulesets** pane, click **Locate** > **Rule1** and in the **Properties** pane, change the name to: **Field Date**

2. Configure the populate zone field function.

    a. In the **Field Date** rule, select **Function1** and in the **Properties** pane, change the name to:
       `Find Date Zonal`

    b. Go to the **Zones** action library and add the **PopulateZNField** action.

3. Configure the Find Pickup Date function.

   a. Right-click the **Field Date** rule and click **Add Function**.

   b. In the **Field Date** rule, click **Function 1** and in the **Properties** pane, change its name to:
      `Find Pickup Date`

   c. Select the **Find Pickup Date** function and add the following actions from the **Locate** action library:

      - **WordFind**
      - **GoRightWord**
      - **UpdateField**

4. Set action properties.

   a. Set the **WordFind** action parameter to: `Pickup Date/Time:`

      Be sure to include the colon after **Pickup Date/Time:**

   b. Set the **GoRightWord** action parameter to: `1`

      This action checks if the word found is one word to the right of the words **Pickup Date/Time:** is a date.

5. Click the **Save changes** icon 💾 in the Ruleset toolbar.

6. Verify the completed rule.

7. Collapse the **Field Date** rule.
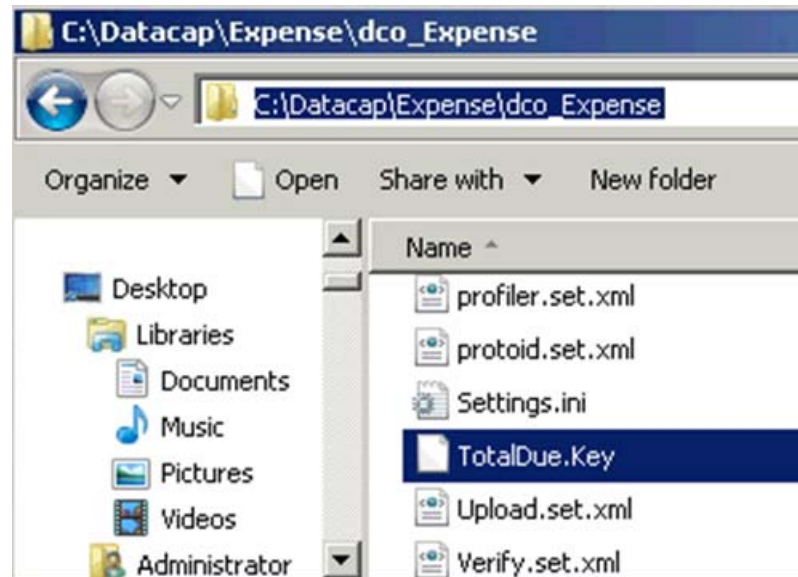
Procedure 4: Create the Field Total rule

📝 **Note**

In the Field Total rule, you use the **FindKeyList** action. This action requires a text file that contains the key text strings to search for.

1. In Windows Explorer, copy the **TotalDue.key** file from the `C:\Datacap\ExpenseDemo\dco_ExpenseDemo` folder to your `C:\Datacap\Expense\dco_Expense` folder.
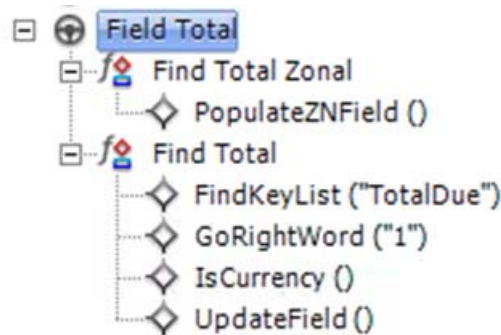
2. Add the Field Total Locate rule.

    a. Right-click the **Locate** ruleset and click **Add Rule**.

    b. Click **Rule1** and in the **Properties** pane, change its name to: `Field Total`

3. Configure the populate zone field function.

    a. In the **Field Total** rule, select **Function1** and in the **Properties** pane, change the name to: `Find Total Zonal`

    b. Go to the **Zones** action library and add the **PopulateZNField** action.

4. Configure the Field Total rule.

    a. Right-click the **Field Total** rule and click **Add Function**.

    b. In the **Field Total** rule, click **Function1** and in the **Properties** pane, change its name to: `Find Total`

    c. Select the **Find Total** function and add the following actions from the **Locate** action library:

        - **FindKeyList**
        - **GoRightWord**
        - **IsCurrency**
        - **UpdateField**

5. Set action parameters in the Properties pane.

    a. Set the **FindKeyList** action property to: `TotalDue`

📝 **Note**

TotalDue is the name of the file that you copied. The system assigns the **.key** extension and you do not have to enter it in the **FindKeyList** action property.

---

b.   Set the **GoRightWord** action property to: 1

6.   Click the **Save changes** icon in the **Ruleset** toolbar.

7.   Verify the completed rule.

8.   Collapse the **Field Total** rule.

Procedure 5: Create the field Reference Number rule

1.   Add the Field Reference Number Locate rule.

a.   Right-click the **Locate** ruleset and click **Add Rule**.

b.   Click **Rule1** and in the **Properties** pane, change the name to: Field Reference Number

2.   Configure the populate zone field function.

a.   In the **Field Reference Number** rule, select **Function1** and in the **Properties** pane, change the name to: Find Reference Number Zonal

b.   Go to the **Zones** action library and add the **PopulateZNField** action.

3.   Configure the Field Reference Number rule.

a.   Right-click the **Field Reference Number** rule and click **Add Function**.

b.   In the **Field Reference Number** rule, select **Function1** and in the **Properties** pane, change the name to: Find Rental Agreement

c.   Select the **Find Rental Agreement** function and add the following actions from the **Locate** action library:

-   **WordFind**
-   **GoRightWord**
-   **UpdateField**

d.   Set the **WordFind** action property to: Rental Agreement

e.   Set the **GoRightWord** action property to: 1

4.   Click the **Save changes** icon in the Ruleset toolbar.

5.   Verify the completed rule.
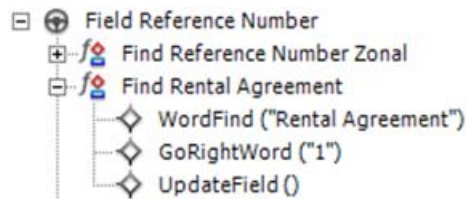
6. Leave the **Locate** Ruleset locked for the following procedure.

Procedure 6: Associate locate rules with batch structure fields

1. Map the Locate rules for each field to the Field structure objects.

   a. In the **Ruleset** pane, select each rule from the **Rule to map** column in the following table.

Rule to map	Field structure object
Locate > Field Name	Name
Locate > Field Date	Date
Locate > Field Total	Total
Locate > Field Reference Number	Reference_Number

   b. In the **Properties** pane, expand the **Run rule at the start of** node.

   c. Click the **Fields** check box.

   d. Click the plus ⊡ icon twice.

   e. Select **of type** from the option list and select the **Field structure object** from the table.

   f. Select **like** from the option list and select the **Field structure object** from the table.

2. Repeat step **1** for the all rules in the table.

3. Click the **Save changes** icon in the **Rulesets** toolbar.

4. Verify the completed **Rule** to **Field** mapping.
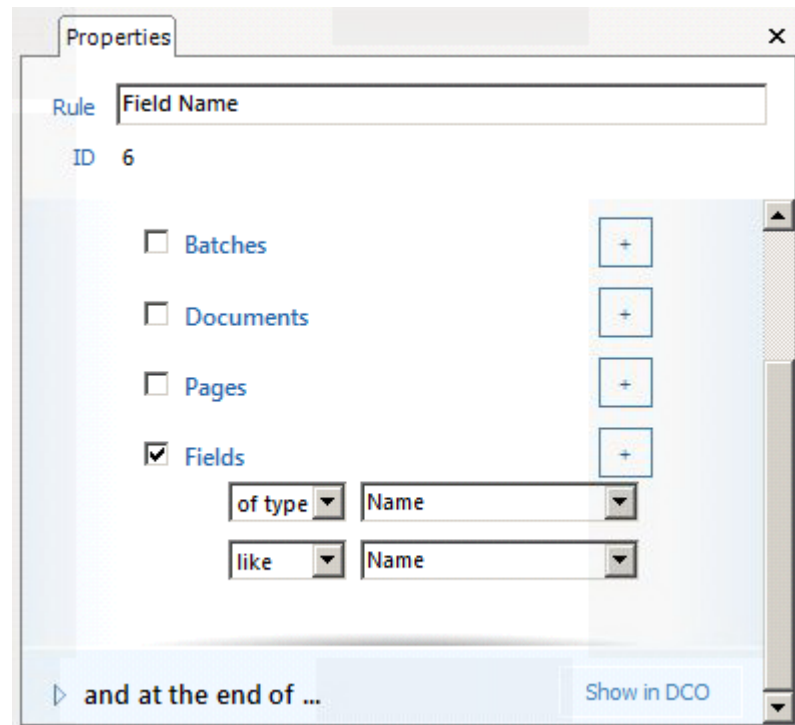
5. Click the down arrow next to the **Lock/Unlock ruleset (for editing)** icon at the toolbar and select **Publish ruleset**.

6. Click **Exit** to close the Datacap Studio window.

Procedure 7: Create the Rental_Agreement fingerprint

The Import Files Ruleset Source Folder parameter viewed from the FastDoc interface defines the default location for the VScan task to read images from. The same value is displayed in the **VScan source folder** field in Datacap Application Manager. For this application, the **Source folder** is set to `C:\Datacap\Expense\images\Input_SingleTIFFs`. In Datacap studio, the **Import Files** ruleset (Expense > Import Files > Scan > Import Files > set _folder action) shows see @APPPATH(vscanimagedir).

Before you begin, make sure that there is a Rental Agreement image in the location that is configured for the File Import ruleset to scan for images.

1. Get the correct image to create the Rental_Agreement Fingerprint.

   a. Copy the `car 1.tif` file from the `C:\DC9-Lab Exercises\Expense\All-Images\Car` folder to the `C:\Datacap\Expense\images\Input_SingleTIFFs` folder.

2. Login to Datacap Desktop as the admin user.

   a. Click **Start** > **All Programs** > **IBM Datacap Clients** > **Datacap Desktop** or click the shortcut on the Windows desktop.

    b.   Type the login credentials:

> **User**: `admin`
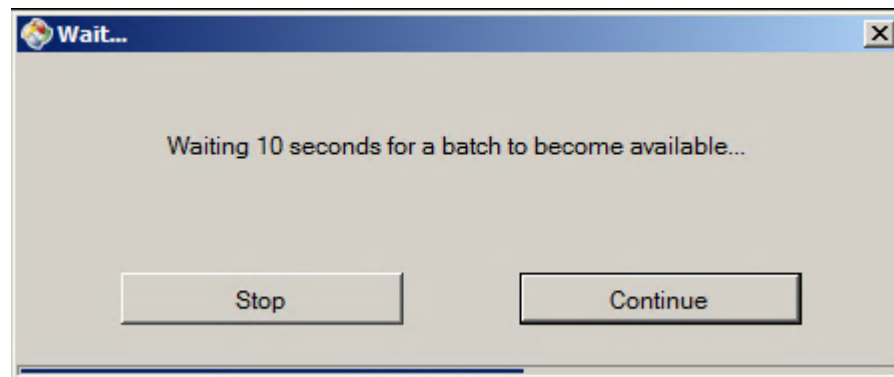> **Password**: `admin`
> **Station**: `1`

    c.   Click **Start**.

✎ Note

If you are prompted with the message `Waiting 10 Seconds for a batch to become available,` click **Stop**.

    d.   This is likely to happen each time you start Datacap Desktop. Click Stop each time you see this happen.

---

3.   Run a single document batch with Datacap Desktop.

    a.   On the left pane, select the **Expense** application from the **Application** list.

    b.   Click the **VScan** task shortcut and click **Demo_Single_TIFFs**.

    c.   When the processing is complete, click **OK** and click **Stop**.

    d.   If you don't see your batch appear in the monitor view at the next step, click the **All** shortcut at the top of the task shortcuts.

    e.   In the Job Monitor, double-click your batch, which is at the **Profiler** task with today's date.

    f.   When the processing is complete click **OK**.

4.   Check that the values are extracted in Verify task.

    a.   In the Job Monitor, double-click your batch, which has today's date is at the **Verify** task.

b. When the Verify panel opens, check that the correct values are extracted for each of the four index fields: **Name**, **Date**, **Total**, and **Reference_Number**

Note

When you complete the following lessons (Validation Rules), the values are going to look like the ones in the following screen capture.

The values for **Date** and **Reference_Number** are updated to remove the extra characters that you see in the current step.

5. If the extracted values are correct, skip to Step 6. If they are not correct, do Step 5.

a. Suspend the batch by clicking the icon at the upper left corner and select **Hold Batch** and close **Datacap Desktop**.

  b. Go back to **Datacap Studio**, check, and correct your locate rules.

  c. Run steps 2-4 again to create a batch and process it to the Verify step.

6. If the locate rules extract the values correctly, type:

   Fingerprint_Class: `Rental_Agreement`

  a. Click **Submit**.

  b. Click **OK** when you are prompted with the message: `All documents are complete. Finish batch?`

7. Before you run the **Export** task, verify the fingerprint folder.

  a. Open the Windows Explorer and navigate to the `C:\Datacap\Expense\fingerprint` folder.

  b. Notice that you see a new fingerprint `556.cco` and `556.tif`, but there is no `556.xml` file yet.

  c. Minimize the window to use again later.

8. Run the Export batch step to complete the fingerprint creation process.

  a. In the Job Monitor, if you do not see your batch, then click the **All** shortcut to refresh the monitor list.

  b. Double-click your batch, which is at the **Export** task with today's date.

  c. Click **OK** on the batch finished message.

9. Check the fingerprint.

  a. In Windows Explorer, check the fingerprint folder: `C:\Datacap\Expense\fingerprint`

  b. Verify that you now see a new fingerprint `556.xml` file.

  c. Double-click `556.xml` to open the XML file added by the **Export** task.

```
<?xml version="1.0"?>
- <S>
  - <P type="Main_Page">
      <V n="HostID"> </V>
      <V n="HostName">Rental_Agreement</V>
    - <F type="Name">
          <V n="Position">742,491,1001,522</V>
      </F>
    - <F type="Date">
          <V n="Position">476,1019,689,1051</V>
      </F>
    - <F type="Total">
          <V n="Position">2236,2295,2336,2327</V>
      </F>
    - <F type="Reference_Number">
          <V n="Position">539,320,893,357</V>
      </F>
    </P>
  </S>
```

Note

Notice the HostName of Rental _Agreement. This value is used to populate all subsequent pages that are identified by using this fingerprint. The Rental_Agreement value is used to populate the Fingerprint Class field of the Verify panel.

Notice that the location (position) of each value that is read from the page is shown.

10. Close the Internet Explorer window where the 556.xml is displayed and close the Datacap Desktop window.

Procedure 8: Delete any old batches in your system

To easily identify the new batches that you are going to create, it helps to clear the old batches.

1. Use tmweb to log in to the **Expense** application.

   a. Open Internet Explorer and click **tmweb** bookmark or **URL**: `http://ecmedu01/tmweb.net/`

   b. Log in to the **Expense** application by using the following values:

   - **User id**: `admin`
   - Password: `admin`
   - Station: `1`

2. Click **Monitor** and if there are processed or pending batches, delete them.

   a. Click the **Delete batches** link above the Monitor batches view.

   b. Click **OK** to acknowledge the message to delete all batches.

3. Logout and close the Internet Explorer window.

End of exercise

Lesson 2.4. Create validate rules

Overview

Why is this lesson important to you?

As a Datacap Solution/Application Builder, you build and deploy applications with the Datacap capture system and communicate solution details to the solution architect, administrator, and business analysts.

Because you are working with the Learning Template, it is important to run validation rules on all the fields of the page you are configuring when you make your first pass through the application.

To successfully capture documents, you must be an expert at programatically validating the captured data.

Activities

-

User accounts

Type	User ID	Password
Operating System	Administrator	passw0rd
Datacap	admin	admin

Note

Passwords are always case-sensitive.

Exercise 1: Configuring field validation rules

Introduction

This activity gives you practice in creating rules to validate the fields on the pages that make up your application.

When developing a Learning Template-based application, it is important to zone each field on a new page during the first pass through the validation process so that a fingerprint is created. You must also complete an export step since the zones you configure during the validation process aren't saved until the export process is complete.

Procedures

Procedure 1: Prepare to edit the Validate ruleset

1. Log in to Datacap Studio and open the Expense application.

   a. Click **Start** > **All Programs** > **IBM Datacap Developer Tools** > **Datacap Studio**.

      You can also use the **Datacap Studio** shortcut on the Windows desktop.

   b. Select the **Expense** application.

   c. Click **Next** and type the following values.

      - **User ID**: admin
      - **Password**: admin
      - **Station**: 1

   d. Click **Finish**.

2. Lock the Validate ruleset for editing.

   a. In the **Rulemanager** > **Rulesets** tab, expand the **Expense** node and click the **Validate** ruleset.

   b. Click the **Lock/Unlock ruleset (for editing)** icon at the top of the pane to lock it.

Procedure 2: Disable a function and an action the Validate ruleset

When you created the Expense application in Lesson 2.1 based on a template, the template adds many rulesets > rules > functions > actions. In this procedure, you disable a function and an action that are not required for your application so that the Validate ruleset runs correctly.

1. Expand the **Validate** > **Page Level Rule**, right-click **Function2**, and click **Disabled**.

2. Verify that **Function2** is grayed out to indicate that this function is disabled.
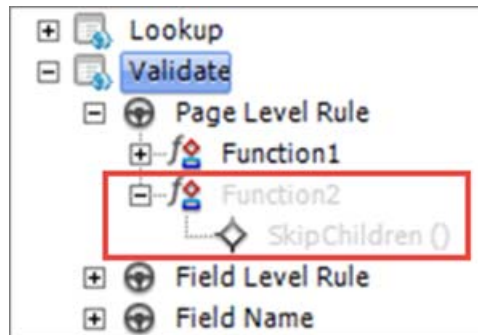
3. Expand the **Validate** > **Page Level Rule** > **Function1**, right-click **rrCompare("@P\Routing_Instructions", "None")**, and click **Disabled**.

4. Verify that the action is grayed out to indicate that this action is disabled.
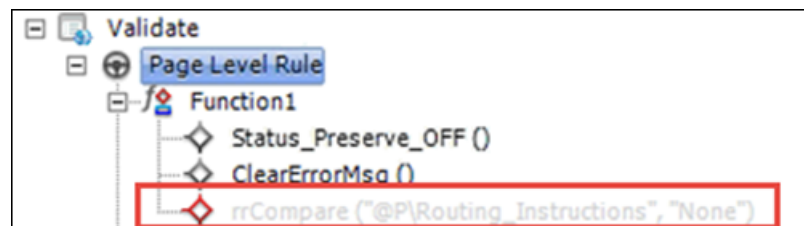
In Lesson 2-2, Exercise 1, Procedure 1, Step 4b, page 2-10, you removed an optional field that is called **Routing_Instructions**. In this procedure, the corresponding action in the ruleset must also be removed or disabled.

5. Click **Save** and collapse **Page Level Rule**.

Procedure 3: Create field validation rules

1. Add the Validate > Field Name rule.

    a. Right-click the **Validate** ruleset and click **Add Rule**.

    b. Click **Rule1** and in the **Properties** pane, change the name to: Field Name

    a. In the **Field Name** rule, select **Function1**.

    b. In the **Actions library** pane, scroll down to the **Validations** library.

    c. Expand it and scroll down to the **IsFieldLengthMin** action.

    d.   With **Function1** selected in the **Rulesets** pane and **IsFieldLengthMin** selected in the **Actions library** pane, click **Add to Function**.

    e.   Click the **IsFieldLengthMin** action.

    f.   In the **Properties** pane, set the **string StrParam** value to: 5

2.   Click **Save** and verify the completed rule.
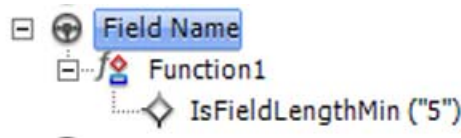
3.   Collapse the **Field Name** rule.

4.   Add the Validate > Field Date rule.

    a.   Right-click the **Validate** ruleset and click **Add Rule**.

    b.   Click **Rule1** and change the name to: `Field Date`

    c.   In the **Field Date** rule, click **Function1** and change its name to: `Pickup Date`

    d.   Add the following actions from the **Validations** library to the **Pickup Date** function.

       - **IsFieldLengthMin**
       - **TruncateFromEnd**
       - **IsFieldDate**
       - **IsFieldDateWithReformat**

       The actions should be arranged in the order as shown in the list. Use the green arrows at the top of the Rulesets pane to arrange them if necessary.

    e.   Enter the values exactly as shown in the following table and set action parameters.

       The system adds the quotations for the parameters.

Property Name	Value
IsFieldLengthMin	11
TruncateFromEnd	7
IsFieldDateWithReformat	mm/dd/yyyy

5.   Click **Save** and verify the completed rule.
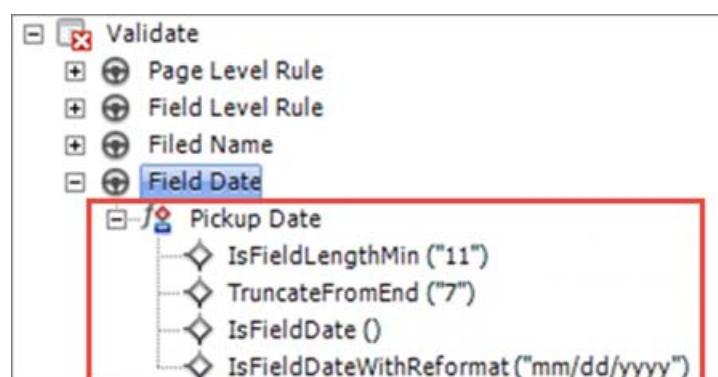
6. Add the Validate > Field Total rule.

   a. Add a rule and name it: `Field Total`

   b. In the **Field Total** rule, click **Function1** and change the name to: `Currency`

   c. Add the following actions from the **Validations** library to the function in the **Field Total** rule.

      - **AllowOnlyChars**
      - **IsFieldCurrency**

   d. Set the parameter for **AllowOnlyChars** to: `.0123456789`

      Ensure that the decimal point is included.

7. Click **Save** and verify the completed rule.

8. Add the Validate > Field Reference Number rule.

   a. Right-click the **Validate** ruleset and click **Add Rule**.

   b. Click **Rule1** and change the name to: `Field Reference Number`

   c. Click **Function1** in the **Field Reference Number** rule and change the name to: `Rental Agreement Number`

   d. Add the following actions from the **Validations** library to the **Rental Agreement Number** function.

      - **TruncateFromStart**
      - **AllowOnlyChars**
      - **IsFieldLengthMin**
      - **IsFieldLengthMax**

   e. Use the data in the following table and set action parameters.

| Property Name	Value
TruncateFromStart	9
AllowOnlyChars	0123456789
IsFieldLengthMin	9
IsFieldLengthMax	9

9. Click **Save** and verify the completed rule.
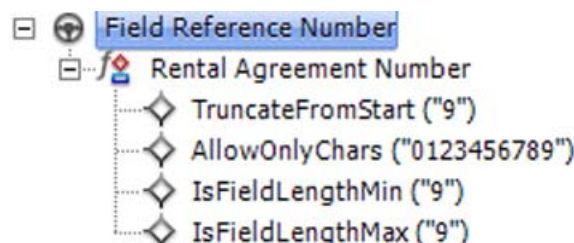
Procedure 4: Associate validate rules with document hierarchy fields

1. Map the Validate rules for each field to the field structure objects.

   a. In the **Ruleset** pane, select each rule from the **Rule to map** column in the following table.

Rule to map	Field structure object
Validate > Field Name	**Name**
Validate > Field Date	**Date**
Validate > Field Total	**Total**
validate > Field Reference Number	**Reference_Number**

   b. In the **Properties** pane, expand the **Run rule at the start of** node.

   c. Click the **Fields** check box.

   d. Click the plus [+] icon twice.

   e. Select **of type** from the option list and select the **Field structure object** from the table.

   f. Select **like** from the option list and select the **Field structure object** from the table.

2. Repeat step **1** for the all rules in the table.

3. Click the **Save changes** icon in the **Rulesets** toolbar.

4. Verify the completed **Rule** to **Field** mapping.
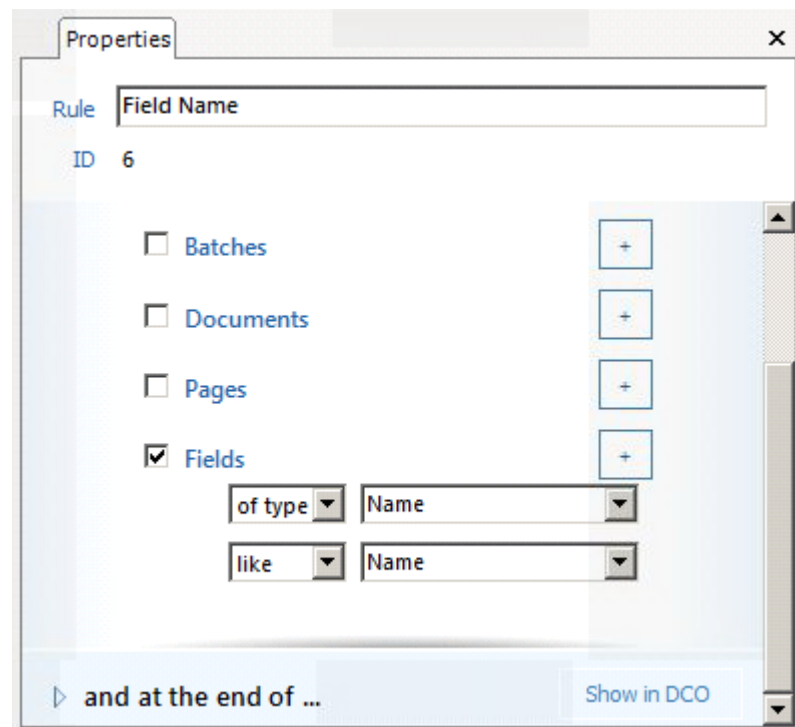
5. Click the down arrow next to the **Lock/Unlock ruleset (for editing)** icon in the toolbar and select **Publish ruleset**.

6. Click **Exit** in the upper right corner to close Datacap Studio.

Procedure 5: Run a batch and verify validation rules

1. Verify that the `C:\Datacap\Expense\images\Input_SingleTIFFs` folder contains the **car1.tif** file (a Rental Agreement image) from the last activity.

2. If the image is not there, then copy `C:\DC9-Lab Exercises\Expense\car 1.tif` to `C:\Datacap\Expense\images\Input_SingleTIFFs`

3. Log in to Datacap Desktop as the admin user.

   a. Click **Start** > **All Programs** > **IBM Datacap Clients** > **Datacap Desktop** or click the shortcut on the Windows desktop.

   b. Type the following values:

   > **User**: `admin`
   > **Password**: `admin`
   > **Station**: `1`

   c. Click **Start**.

4. If you are prompted with the message `Waiting 10 Seconds for a batch to become available`, click **Stop**.

5. Run a single document batch with Datacap Desktop.

   a. On the left pane, for **Applications**, select **Expense** from the list.

   b. Click the **VScan** task shortcut and click **Demo_Single_TIFFs**.

   c. When the processing is complete click **OK** and click **Stop**.

   d. Click the **Profiler** task shortcut.

   e. When the processing is complete click **OK** and click **Stop**.

6. Run the Verify task.

   a. Click the **Verify** task shortcut.

   b. If there are no errors, the page looks like the one on the following screen capture.

?	Name	Value
✔	Fingerprint_Class	Rental_Agreement
✔	Add_New_Fingerprint	No
✔	Name	MILLARD BRYAN
✔	Date	04/18/2010
✔	Total	260.05
✔	Reference_Number	703142974

Fingerprint_Class   Rental_Agreement

Note

When the Verify panel opens, there might be fields that are displayed with a pink or yellow background.

Pink background means that these fields failed the field validation tests.

Yellow background means that fields have not met the required confidence level.

Troubleshooting

Use the following tips to troubleshoot:

- If confidence errors are indicated, then check the value against the image to verify that it is correct.

- If it is correct, then ignore the warning.

- If it is incorrect, then type the correct value and click the **Run Validations**.

- If the extracted value is correct but errors are flagged, then:

- Click Next Problem to advance to the next flagged field. Make note of all the errors.

- Suspend the batch.

- Go back into Datacap Studio and check and correct the errors in the validation rules. Check your validation function and check the contents of the tm00000x.tif file for error messages.

- Run batch again.

  If there are still fields that the validation flags as potential errors and if those fields have the override option set, then you get a warning. "Validations failed. Override and continue?"

    c. When you have corrected all of the errors or you want to override the errors and continue, then click **Submit**.

---

    d. Click **Submit**.

    e. Click **OK** to acknowledge the message: `Validations failed. Override and continue?`

    f. Click **OK** to acknowledge the message: `All documents are complete. Finish batch?"`

    g. When the processing is complete click **OK** and click **Stop**.

7. Run the Export batch step.

    a. Click the **Export** shortcut.

    b. When the processing is complete click **OK** and click **Stop**.

8. Close the Datacap Desktop window.

Procedure 6: Review the test results

1. In Windows Explorer, navigate to `C:\Datacap\Expense\batches\date.00000n>` batch folder and open the folder for the latest batch.

2. Review the Profiler.xml file.

    a. Double-click the **Profiler.xml** file.

    b. If you are prompted, click **Yes** to allow scripts to run.

    c. Verify the following values:

- **Batch Type: Expense**
- **Document Type: Document**
- **Page Type: Main_Page**
- **ScanSrcPatch**: `C:\Datacap\Expense\images\Input_SingleTIFFs\car1.tif`
- **Fingerprint Created: No**
- **TemplateID: 556**

    d. Close the file by closing the browser tab.

3. Review the Verify.xml file.

    a. Double-click the **Verify.xml** file.

    b. If you are prompted, click **Yes** to allow scripts to run.

    c. The information in this file is not different from the content of Profiler.xml.

       Notice that the **Page Status** value = **0**.

4. In the **Verify.xml** file, click the DATAFILE: `tm000001.xml` link.

    d. If you are prompted, click **Yes** to allow scripts to run.

    e. Verify all of the values you entered for each field.

    f. Close the **DATAFILE** Internet Explorer tab.

5. Go to the default exports folder: `C:\\Datacap\Expense\export`

6. Open the text file for your batch and review the content of the exported file.

The `txt` file contains one record for each image processed. The record contains a comma-separated list of each variable that is extracted from the image.

```
┌─────────────────────────────────────────────────────────────────────────────┐
│ ▓ 20191211.000003.txt - Notepad                                    _ |□| ×   │
├─────────────────────────────────────────────────────────────────────────────┤
│ File  Edit  Format  View  Help                                               │
├─────────────────────────────────────────────────────────────────────────────┤
│ ,Rental_Agreement,No,MILLARD BRYAN,04/18/2010,260.05,703142974         ▲    │
│                                                                              │
│                                                                         ▼    │
└─────────────────────────────────────────────────────────────────────────────┘
```

End of exercise

Lesson 2.5. Extend the locate rules

Overview

Why is this lesson important to you?

As a Datacap Solution/Application Builder, you build and deploy applications with the Datacap capture system and communicate solution details to the solution architect, administrator, and business analysts.

To build Datacap applications, you need to be an expert in the use of the locate actions. Locate actions are an alternative and sometimes more explicit method of identifying fields on a page.

Activities

User accounts

Type	User ID	Password
Administrator for Server 8	Administrator	passw0rd
Datacap	admin	admin

Note

Passwords are always case-sensitive.

Exercise 1: Extend the locate rules for the Air_Receipt pages

Introduction

This activity gives you a practice for extending the Locate rules that are currently configured for the fields on the Rental_Agreement page type.

You add at least one new function to handle 3 of the 4 field names on the Air_Receipt page. Because you use a KeyFile for the Total field, you need only the one function to handle that field on both page types.

Procedures

## *Procedure 1: Prepare to extend the locate rules*

1. Log in to Datacap Studio (`admin`/`admin`) and open the **Expense** application.

2. In the **Rulesets** tab, select the **Locate** ruleset, and lock it for editing.

Procedure 2: Extend the Locate: Field Name rule

1. Add the Find Passenger function to the Locate > Field Name rule.

   a. Expand the **Locate** ruleset, right click the **Field Name** rule, and click **Add Function**.

   b. Click **Function1** and in the **Properties** pane, change the name to: `Find Passenger`

   c. Add the following actions from the **Locate** library to the **Find Passenger** function:

      - **WordFind**
      - **GoBelowWord**
      - **GroupWordsRIGHT**
      - **UpdateField**

   d. Use the data in the following table and set action parameters.

| Property Name	Value
WordFind	Passenger Information
GoBelowWord	1
GroupWordsRIGHT	2

2. Save and verify the completed rule.
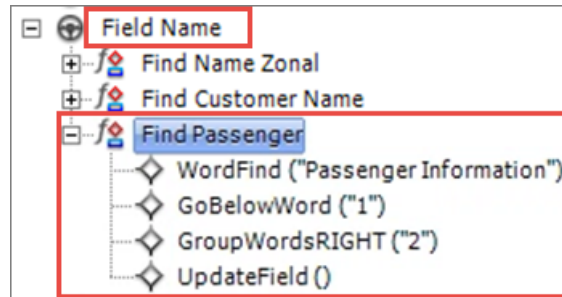
3. Add the Find Psgr function to the Field Name rule.

   An alternative key word to search for to locate the passenger name is **Psgr**.

   a. In the **Locate** ruleset, right-click the **Field Name** rule and click **Add Function**.

   b. Click **Function1** and change the name to: `Find Psgr`

   c. Add the following actions from the **Locate** action library to the **Find Psgr** function:

      - **WordFind**
      - **GoRightWord**
      - **GroupWordsRight**
      - **UpdateField**

   d. Use the data in the following table and set the action parameters. Ensure that **colon** (**:**) is added for the **Psgr**.

Property Name	Value
WordFind	Psgr:
GoRightWord	1
GroupWordsRIGHT	2

4. Save and verify that the completed Find Psgr function contains all the actions in the correct order.
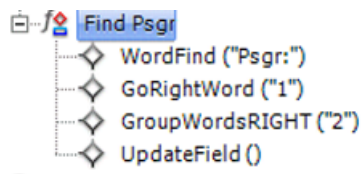
Procedure 3: Extend the Locate: Field Date rule

1. Add the Find Issue Date function to the Locate > Field Date rule.

   a. Right-click the **Field Date** rule and click **Add Function**.

   b. Click **Function1** and change the name to: `Find Issue Date`

c. Add the following actions from the **Locate** action library to the **Find Issue Date** function:

- **WordFind**
- **GoRightWord**
- **IsDateValue**
- **UpdateField**

The IsDateValue action checks if the word found one word to the right of the words **Find Issue Date** is a valid date.

d. Use the data in the following table and set action parameters. Be sure to enter the colon.

Property Name	Value
WordFind	Issue Date:
GoRightWord	1

2. Save and verify the completed rule.
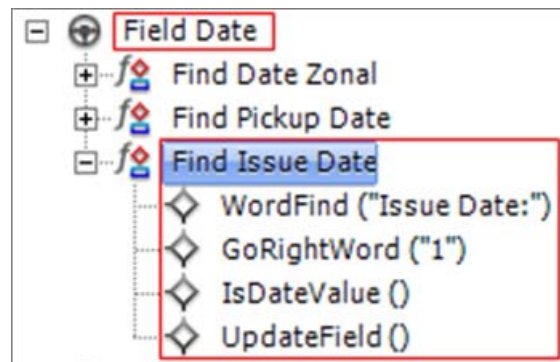
Procedure 4: Extend the Locate: Field Total rule

📝 **Note**

Because the current rule is using a key list, you need not extend this rule.

If you need to add another keyword or group of words to the key list, you edit the `C:\Datacap\Expense\dc0_Expense\TotalDue.key` file and add to the key list. The other alternatives to editing the `.key` file are create another `.key` file or create another custom locate function.

Procedure 5: Extend the Locate: Field Reference Number rule

1. Add the Find Ticket # function to the Locate >Field Reference Number rule.

a. Expand **Locate**, right- click **Field Reference Number** rule, and click **Add Function**.

b. Click **Function1** and change the name to: `Find Ticket #`

   c. Add the following actions to the **Find Ticket #** function:

- **WordFind**
- **GoRightWord**
- **IsNumber**
- **UpdateField**

   d. Use the data in the following table and set action parameters.

Property Name	Value
WordFind	TICKET #:
GoRightWord	1
IsNumber	100

2. Save and verify the completed rule.
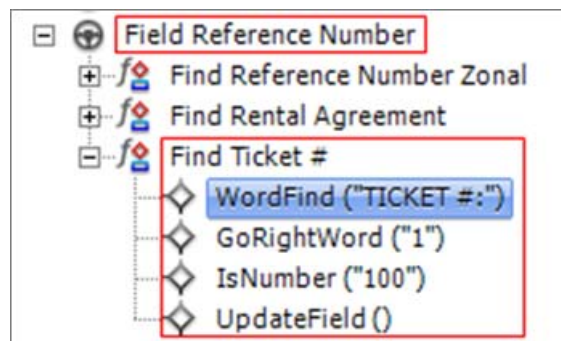
3. Publish the **Locate** ruleset and then exit Datacap Studio.

Procedure 6: Create the Air_Receipt fingerprint

1. Get the correct image to create the Air_Receipt fingerprint.

   a. Delete the **car1.tiff** (Rental Agreement image) file in the `C:\Datacap\Expense\images\Input_SingleTIFFs` folder.

   b. Copy the **air1_part2.tif** file from the `C:\DC9-Lab Exercises\Expense\` to the `C:\Datacap\Expense\images\Input_SingleTIFFs` folder.

2. Log in to Datacap Desktop as the admin user.

   a. Click **Start** > **All Programs** > **IBM Datacap Clients** > **Datacap Desktop** or click the shortcut on the Windows desktop.

   b. Type the following values:

      User: admin
      Password: admin
      Station: 1

   c. Click **Start**.

3. If you are prompted with the message `Waiting 10 Seconds for a batch to become available`, click **Stop**.

4. Run a single document batch with Datacap Desktop.

    a. On the left pane, for **Applications**, select **Expense** from the list.

    b. Click the **VScan** task shortcut and click **Demo_Single_TIFFs**.

    c. When the processing is complete click **OK** and click **Stop**.

    d. Click the **Profiler** task shortcut, when the processing is complete click **OK**, and click **Stop**.

5. Run the Verify task.

    a. Click the **Verify** task shortcut.

    b. When the Verify panel opens, check that the correct values are extracted for each of the four index fields: **Name**, **Date**, **Total**, and **Reference_Number**

?	Name	Value
✗	Fingerprint_Class	
✓	Add_New_Fingerprint	No
✓	Name	MILLARD BRYAN
✗	Date	11/04/09
✓	Total	221.20
✓	Reference_Number	162370821

Fingerprint_Class [   ]

Troubleshooting

If the extracted values are not correct, then:

- Suspend the batch.
- Go back into Datacap Studio and check and correct your locate rules.
- Run the batch again.

---

c. When the locate rules extract all for values correctly, for **Fingerprint_Class**, type:
    `Air_Receipt`

d. Click **Submit**.

e. Click **OK** to acknowledge the message: `Validations failed. Override and continue?`

f. Click **OK** to acknowledge the message: `All documents are complete. Finish batch?"`

g. When the processing is complete click **OK** and click **Stop**.

❗ Important

You must run the **Export** task to complete the Fingerprint creation.

---

6. Run the Export batch step.

   a. Click the **Export** shortcut.

   b. When the processing is complete click **OK** and click **Stop**.

7. Close the Datacap Desktop window.

8. Check the fingerprint.

   a. In Windows Explorer, navigate to the fingerprint folder: `C:\Datacap\Expense\fingerprint`

   b. Notice that you now see a new fingerprint, the **557.cco**, **557.tif**, and **557.xml** files.

   c. Double-click **557.xml** to open the XML file added by the Export task.

```xml
<?xml version="1.0"?>
- <S>
    - <P type="Main_Page">
        <V n="HostID"> </V>
        <V n="HostName">Air_Receipt</V>
      - <F type="Name">
          <V n="Position">208,300,534,334</V>
        </F>
      - <F type="Date">
          <V n="Position">848,2068,1048,2108</V>
        </F>
      - <F type="Total">
          <V n="Position">530,892,682,928</V>
        </F>
      - <F type="Reference_Number">
          <V n="Position">797,2024,1146,2060</V>
        </F>
    </P>
</S>
```

📝 Note

Notice the HostName of Air_Receipt This value is used to populate all subsequent pages that are identified by using this finger print. The Air_Receipt value is used to populate the Fingerprint Class field of the Verify panel.

Notice that the location (position) of each value that is read from the page is shown.

---

9. Close the Internet Explorer window where the 557.xml is displayed.

Procedure 7: Delete any old batches in your system

To easily identify the new batches that you are going to create, it helps to clear the old batches.

1. Use tmweb to log in to the **Expense** application.

   a. Open Internet Explorer and click **tmweb** bookmark or **URL**: `http://ecmedu01/tmweb.net/`

   b. Log in to the **Expense** application by using the following values:

      - **User id**: `admin`
      - Password: `admin`
      - Station: `1`

2. Click **Monitor** and if there are processed or pending batches, delete them.

   a. Click the **Delete batches** link above the Monitor batches view.

   b. Click **OK** to acknowledge the message to delete all batches.

3. Logout and close the Internet Explorer window.

End of exercise

Exercise 2: Create an Air_Receipt page fingerprint

Introduction

This activity gives you practice creating another fingerprint for the Air_Receipt Page.

Procedures

Procedure 1: Create the Air_Receipt fingerprint

The air3_part2.tif a different format of the Air Receipt page. In this exercise, you process this image. You see that it locates all of the fields even though they are in different positions but it does not identify the page as an Air_Receipt page. You manually identify the page as an Air_Receipt page and verify that the Learning Template automatically generates a new fingerprint to identify future versions of this new layout.

1. Change to the correct image to create the second Air_Receipt fingerprint.

   a. Delete the **air1_part2.tif** image in the `C:\Datacap\Expense\images\Input_SingleTIFFs` folder.

   b. Copy the **air3_part2.tif** file from the `C:\DC9-Lab Exercises\Expense\All-images\Air\` folder to the `C:\Datacap\Expense\images\Input_SingleTIFFs` folder.

2. Log in to Datacap Desktop as the admin user.

   a. Click **Start** > **All Programs** > **IBM Datacap Clients** > **Datacap Desktop** or click the shortcut on the Windows desktop.

   b. Type the following values:

   > **User**: admin
   > **Password**: admin
   > **Station**: 1

   c. Click **Start**.

3. If you are prompted with the message `Waiting 10 Seconds for a batch to become available`, click **Stop**.

4. Run a single document batch with Datacap Desktop.

   a. On the left pane, for **Applications**, select **Expense** from the list.

   b. Click the **VScan** task shortcut and click **Demo_Single_TIFFs**.

   c. When the processing is complete click **OK** and click **Stop**.

   d. Click the **Profiler** task shortcut, when the processing is complete click **OK**, and click **Stop**.

5. Run the Verify task.

   a. Click the **Verify** task shortcut.

   b. When the Verify panel opens, check that the correct values are extracted for each of the four index fields: **Name**, **Date**, **Total**, and **Reference_Number**

Troubleshooting

If the extracted values are not correct, then:

- Suspend the batch.
- Go back into Datacap Studio and check and correct your locate rules.
- Run the batch again.

    c. When the locate rules extract all for values correctly, for **Fingerprint_Class**, type:
        `Air_Receipt`

    d. Click **Submit**.

    e. Click **OK** to acknowledge the message: `Validations failed. Override and continue?`

    f. Click **OK** to acknowledge the message: `All documents are complete. Finish batch?"`

    g. When the processing is complete click **OK** and click **Stop**.

Important

You must run the **Export** task to complete the Fingerprint creation.

6. Run the Export batch step.

    a. Click the **Export** shortcut.

    b. When the processing is complete click **OK** and click **Stop**.

7. Close the Datacap Desktop window.

8. Check the fingerprint.

    a. In Windows Explorer, navigate to the fingerprint folder: `C:\Datacap\Expense\fingerprint`

    b. Notice that you now see a new fingerprint, the **558.cco**, **558.tif**, and **558.xml** files.

    c. Double-click **558.xml** to open the XML file added by the Export task.

    d. Also, double-click the **557.xml** file and notice that the only difference between the two files is that position of the zones are different.

📝 **Note**

Notice the Hostname of Air_Receipt. This value is used to populate all subsequent pages that are identified by using this finger print. The Air_Receipt value is used to populate the Fingerprint Class field of the Verify panel.

---
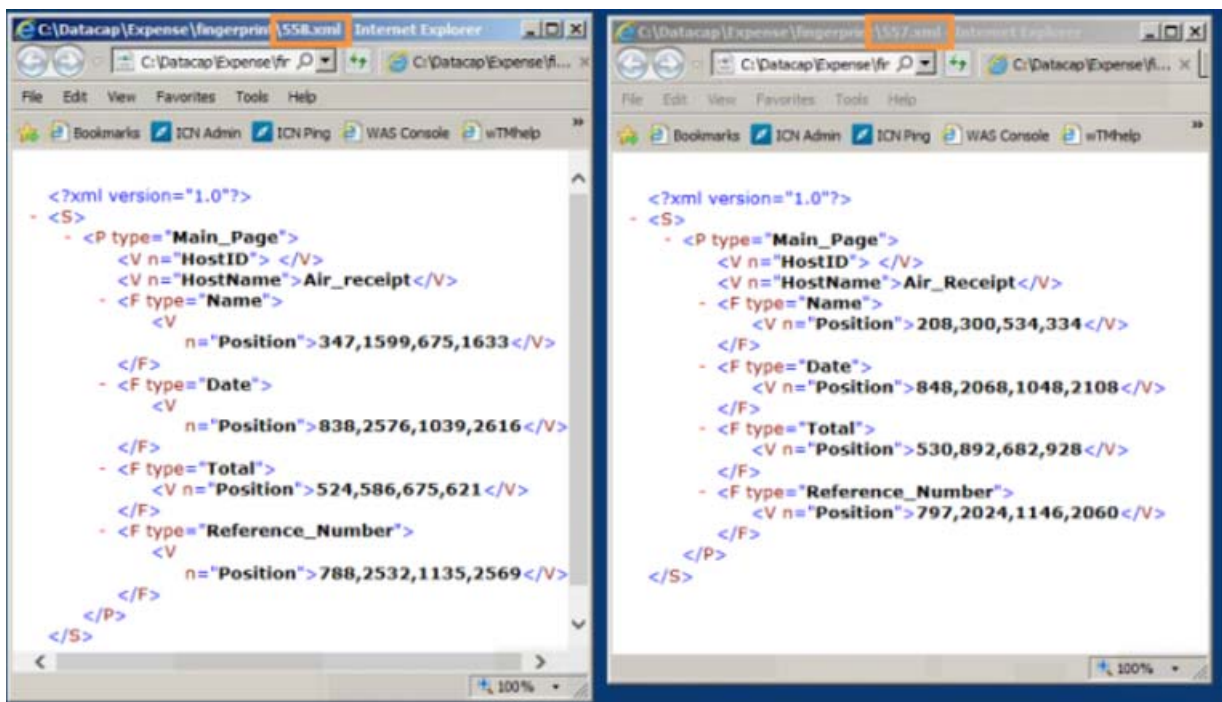
9. Close the Internet Explorer window where the **557.xml** and **558.xml** are displayed.

10. Close the Datacap Desktop window.

End of exercise

Lesson 2.6. Extend the validate rules

Overview

Why is this lesson important to you?

As a Datacap Solution/Application Builder, you build and deploy applications with the Datacap capture system and communicate solution details to the solution architect, administrator, and business analysts.

To build Datacap applications, you need to be an expert in the use of the locate actions. Locate actions are an alternative and sometimes more explicit method of identifying fields on a page.

Activities

User accounts

Type	User ID	Password
Operating System	Administrator	passw0rd
Datacap	admin	admin

Note

Passwords are always case-sensitive.

Exercise 1: Extend the validate rules for the Air_Receipt pages

Introduction

This activity gives you practice at extending the Validate rules that are currently only configured for the fields on the Rental_Agreement page type. You add new functions to handle the field names on the Air_Receipt page. You can use the same validation rule for the Name field on both page types.

Procedures

Procedure 1: Create an Issue Date Function for the Field Date rule

1. Log in to Datacap Studio (admin/admin) and open the **Expense** application.

2. Select the **Validate** ruleset and click the **Lock//Unlock ruleset (for editing)** icon on the ruleset toolbar.

3. Create an Issue Date function in the Validate >Field Date rule.

    a. Expand the **Validate** ruleset, right-click the **Field Date** rule and click **Add Function**.

    b. Click **Function1** and in the **Properties** pane, change the name to: Issue Date

    c. Use the green up arrow icon on the ruleset toolbar to move **Issue Date** function before **Pickup Date**.

    d. From the **Validations** action library and add **IsFieldLengthMin**, **IsFieldLengthMax**, and **IsFieldDate** actions.

    The IsFieldDate action checks if the value captured is in an acceptable date format.

    e. Select the **IsFieldLengthMin** action and set the **string StrParam** to: 8

    f. Select the **IsFieldLengthMax** action and set the **string StrParam** to: 8

4. Save and verify that the completed function contains the actions you added.
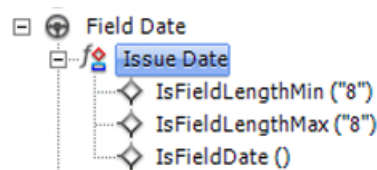
Procedure 2: Create a Ticket Number Function for the Field Reference Number rule

1. Create a Ticket Number function in the Validate > Field Reference Number rule.

   a. Right-click the **Validate** > **Field Reference Number** rule, and click **Add Function**.

   b. Click **Function1** and in the **Properties** pane, change the name to: `Ticket Number`

   c. Use the green up arrow icon on the ruleset toolbar to move **Ticket Number** function before the **Rental Agreement** function.

   d. Go to the **Validations** action library and add the following actions in the order as listed:

      - **IsThisFieldFilled**
      - **AllowOnlyChars**
      - **IsFieldLengthMin**
      - **IsFieldLengthMax**

2. Set the action parameters for the Ticket Number function.

   a. Set **AllowOnlyChars** action property to: `0123456789`

   b. Set the **IsFieldLengthMin** and **IsFieldLengthMax** actions both to: `14`

3. Save and verify that the completed function contains the actions you added.
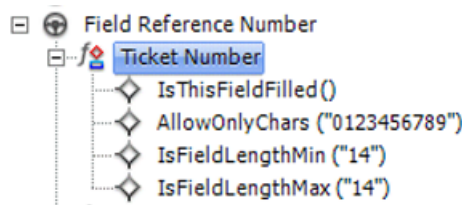
4. Save and publish all rulesets.

5. Click **Exit** in the Datacap Studio window to close it.

Procedure 3: Review the Output

1. In Windows Explorer, copy the following images from `C:\DC9-Lab Exercises\Expense\All-images\Air` to the `C:\Datacap\Expense\images\Input_SingleTIFFs` folder.

   - **air1_part2.tif**
   - **air3_part2.tif** (This image is already there)

2. Copy the following images from the `C:\DC9-Lab Exercises\Expense\All-images\Car` folder to the `C:\Datacap\Expense\images\Input_SingleTIFFs` folder.

   - **car 1.tif**
   - **car 2.tif**

3. Log in to Datacap Desktop and run the **VScan** and **Profiler** tasks.

4. Open the **Verify** task and verify that the data is populated in each field in the verify panel for images.

🔧 Troubleshooting

If the extracted values are not correct, suspend the batch by clicking the icon at the upper left corner and select **Hold Batch**.

- In Datacap Studio, check, and correct your locate rules.

- In Datacap Desktop, create a batch and process it to the Verify step.

If any of the images do not populate the Fingerprint_Class field, it is likely that the image is not recognizable as one of the recorded fingerprints. In this case, the field values were extracted by applying the locate rules and a new fingerprint is automatically created.

- If you see that the Fingerprint_Class field is not populated, it is going to create a new fingerprint. You can type the **Fingerprint_Class** name to determine the class for the new fingerprint.

5. After you get everything working, to test the validate rules, double-click the **Date** row.

6. Enter a string that is not in the Date format and click **Submit**.

7. Verify that you get a message that Validations failed.

8. Click **Cancel**.

9. Fix the date and complete the batch.

10. Close the Datacap Desktop window.

End of exercise

Lesson 2.7. Export to an IBM FileNet repository

Overview

Why is this lesson important to you?

As a Datacap Solution/Application Builder, you build and deploy applications with the Datacap capture system and communicate solution details to the solution architect, administrator, and business analysts.

To build a complete Datacap application, you must complete the cycle by exporting the final captured documents to the selected content store. In this lesson, you export to an IBM FileNet P8 repository.

Activities

- Exercise 1: Export Expense documents to an IBM FileNet repository, on page 2-54
- Exercise 2: Test Multi-page document capability, on page 2-62

User accounts

Type	User ID	Password
Operating System	Administrator	passw0rd
Datacap	admin	admin

Note

Passwords are always case-sensitive.

Exercise 1: Export Expense documents to an IBM FileNet repository

Introduction

This activity gives you practice in creating rules to export extracted data and document images content to an IBM FileNet Content Manager repository.

Procedures

Procedure 1: Configure export to an IBM FileNet repository

In this procedure, you configure the export task of the workflow for your application.

1. Log in to Datacap FastDoc (Admin) in the Datacap Server mode.

    a. Click **Start** > **All Programs** > **IBM Datacap Developer Tools** > **Datacap FastDoc (Admin)** or the shortcut on the Windows desktop.

    b. On the Welcome to Datacap window, select **Datacap Server** and for the **Application** field, select **Expense**.

    c. Type the following values:

        - **User**: `admin`
        - **Password**: `admin`
        - **Station**: `1`

    d. Click **Login**.

2. Open the Configure view.

    a. Click the **Configure Workflow** icon.

    b. Select the **DemoSingleTIFFs** job.

    c. Scroll to the **Export** column (last one).

3. Select the **Create TIFF or PDF** ruleset, drag it to the **Export** task, and place it before the **Export** ruleset.

4. Select the **Export to FileNet Content Manager** ruleset, drag it to the **Export** column, and place it after the **Export** ruleset.

d. Verify that the Export profile contains all the rulesets in the correct order.
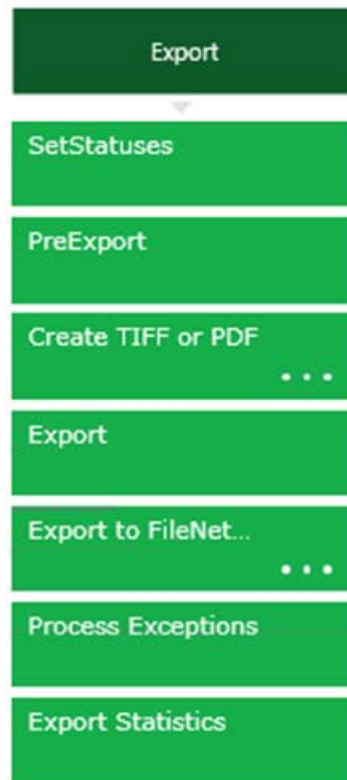
e. Click **Save** on the toolbar to save your changes.

5. Click the **Export to FileNet Content Manager** ruleset.

The window changes to the **Configure document, page, and field** view with the **Ruleset** tab and the **Export to FileNet Content Manager** ruleset selected.

6. Click the Vertical dark gray bar between the **Ruleset** tab pane and the **Test** pane to temporarily hide the test pane and give you more image view area.

7. Configure the batch level options for **Export to the FileNet Content Manager** repository.

a. Click the **Expense** batch in the **Batches Structure** pane on the left.

b. Enter the following parameters:

    - **FileNet Content Manager URL**: `http://ecmedu01:9080/wsi/FNCEWS40MTOM/`
    - **User ID**: `p8admin`
    - **Password**: `IBMFileNetP8`
    - **Storage object ID**: `DCExport`
    - **Parent folder**: `/Expenses/`

c. Click **Save** to save your changes.

8. Configure the document level options for Export to the FileNet Content Manager repository.

a. Click the **Expense** > **Document** in the **Batch Structure** pane.

   b. Enter the following parameters:

-   **Document Title**:

    `@BatchID+-+@D\Main_Page\Fingerprint_Class+-+@D\Main_Page\Name`

-   **Document class ID**: `Expenses`
-   **Document title extension**: `pdf`

   c. Click **Save** to save your changes.

9. Configure field values to write to the IBM FileNet Content Manager repository properties.

   a. Click **Main_Page** in the **Batch Structure** pane and click the **Name** field.

   b. Click the **Field Information** check box.

   c. Enter the symbolic name and property type from the following Table and click **Save**.

   d. Repeat steps 9a - 9c for each table entry.

Name of field in FastDoc	Symbolic name on the repository	Property type
Name	Employee_Name	String
Date	Date	Date and Time
Total	Total	Floating Point
Reference_Number	ReferenceNumber	String

10. Configure the Create TIFF or PDF ruleset.

If you want the output image to be a PDF file, you must add the **Convert the image to PDF** to the **Export** workflow. You already added this ruleset in earlier step of this procedure.

   a. Click the **Expense** batch in the **Batch Structure** pane.

   b. Select **Create TIFF or PDF** from the list in the **Ruleset** pane.

   c. Select the **Create PDF Images for Export** and the **Create a searchable PDF document (text and image)** options.

   d. Click **Save**, log out of FastDoc (Admin) and close window.

Procedure 2: Scan documents

1. In Windows Explorer, check the `C:\Datacap\Expense\images\Input_SingleTIFFs` folder.

2. Delete or add files so that you have only the **air 1_part2.tif** and the **car 1.tif** images in the folder.

3. If needed, copy the files from the `C:\DC9-Lab Exercises\Expense` folder.

4. Click the **Datacap Desktop** shortcut on the Windows desktop.

5. Log in with: `admin/admin`

6. If you are prompted with the message `Waiting 10 Seconds for a batch to become available`, click **Stop**.

7. Run a single document batch with Datacap Desktop.

    a. For **Applications**, select **Expense** from the list.

    b. Click the **VScan** task shortcut and select **Demo_Single_TIFFs** to start a batch that contains a Rental_Agreement page and an Air_Receipt page.

    c. When the processing is complete click **OK** and then click **Stop**.

8. Click the **Profiler** task shortcut and when the processing is complete click **OK** and click **Stop**.

9. Click the **All** shortcut and verify that your batch is at the **Verify** step.

10. Verify the batch.

    a. Click the **Verify** shortcut.

    b. Click the ![Next Problem icon] **Next Problem** icon to process the page.

    c. If any warnings are displayed, click **OK** to acknowledge the warning message.

    d. If you the batch is not submitted, click **Submit**.

   e. If prompted, click **Stop**.

11. Run the **Export** task.

![Troubleshooting icon] **Troubleshooting**

If you see any error, then the common problems are:

*   Mismatch between the Datacap Field Name and the Expenses Document class in the repository.

*   One of the property values is not initialized correctly.

*   One of the property data types is incorrect.

*   Password is not correct.

*   Incorrect repository information.

    a. Open the **export_rrs.log** file from the batches folder of your last batch. Search for the word **Error or Abort**. This search should point you to the field that is causing the problem.

b. Check that you typed the repository field names correctly on the **Export** tab of each data field.

- In FastDoc (Admin) and open the **Main_Page** defined fields and check that the names that you entered match the names that are defined in the **IBM FileNet Content Manager** Document class.

- Correct the symbolic name if necessary.

- Verify that the property type selected matches the document class property type.click Add Function

c. If you need to check the **Document** class property names:

- In Internet Explorer, click the **ACCE** bookmark or **URL**: `http://ecmedu01:9080/acce`

- Log in as: `p8admin/IBMFileNetP8`

- On the **P8Domain** tab, expand **Object Stores** on the left pane and click **DCExport**.

- In the **DCExport** tab, expand **Data Design** > **Classes** > **Document** and click **Expenses**.

- In the **Expenses** tab, click the **Property Definitions** subtab.
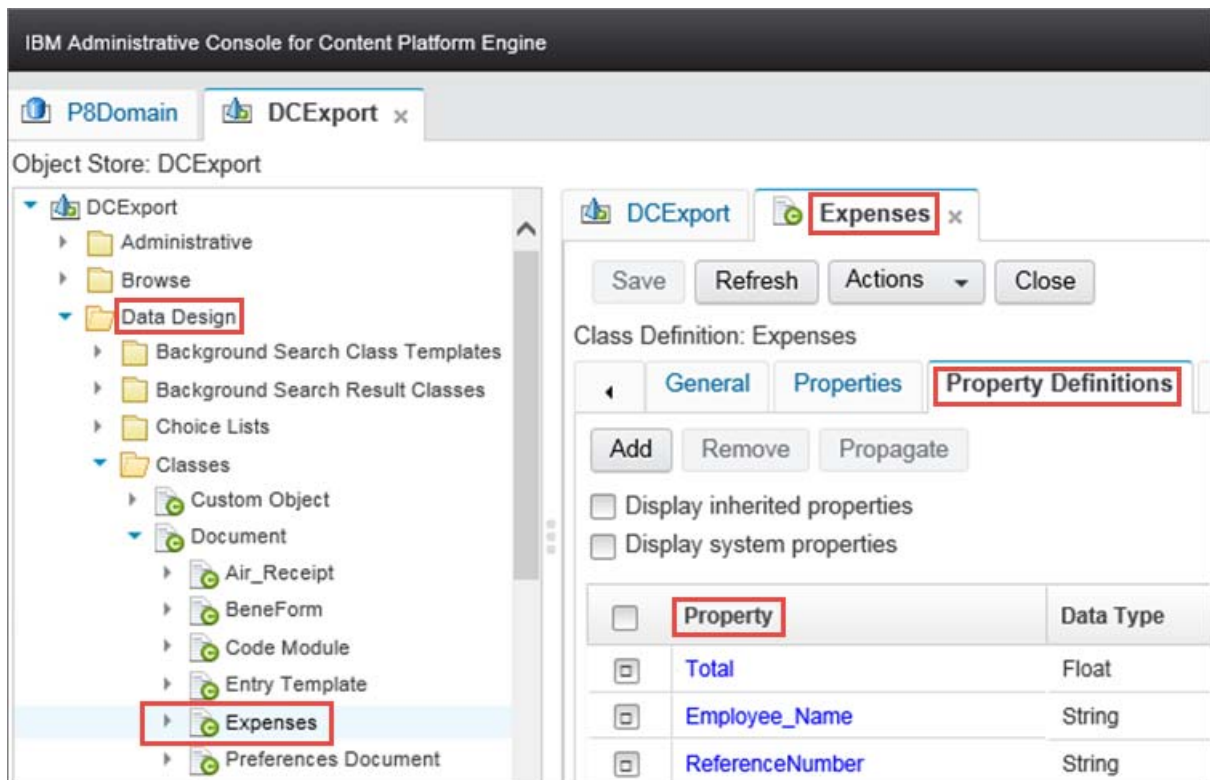
- In the **Property** column, click a property.

- In the **Property Definition** page, look up the values for **Symbolic name** and **Data type**.

  The Symbolic name that is entered in FastDoc must match the Symbolic Name on the server.

## *Procedure 3: Verify the export to the IBM FileNet repository*

1. In the Internet Explorer browser, open the Datacap Navigator for business users.

   a. Click the **DCN-Datacap** shortcut or enter the following URL:

      ```
      http://ecmedu01:9080/navigator/?desktop=datacap
      ```

   b. Enter the following values:

      User ID: `admin`
      Password: `admin`

   c. Click **Login**.

      The Datacap view opens.

 Note

On the student image, Datacap Navigator is configured to show the **Browse** and **Search** features. you can check the documents that are exported into the repositories directly in Datacap Navigator.

2. Click the **Open Browse View** icon on the left pane.
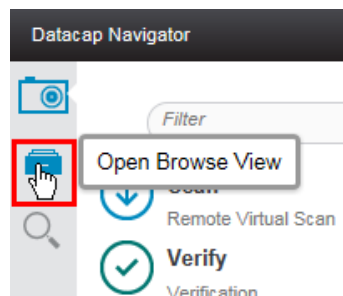
3. Login to the DCExport repository with the following credentials.

   - **User ID**: `P8Admin`
   - **Password**: `IBMFileNetP8`

4. Select the **DCExport** repository > **Expenses** folder from the left pane.

5. Verify that you have items that are listed with today's date, and with the name **MILLARD BRYAN** on the right pane.

   a. Single-click the document to see the properties in the rightmost pane.

   b. Verify that the properties contain values that were extracted from the scan image.

   c. Verify that the document in the IBM FileNet Content Manager repository shows a PDF icon.

   d. Expand the **System Properties** in the **Properties** pane on the right and check that the **MIME type** is **application/pdf**.
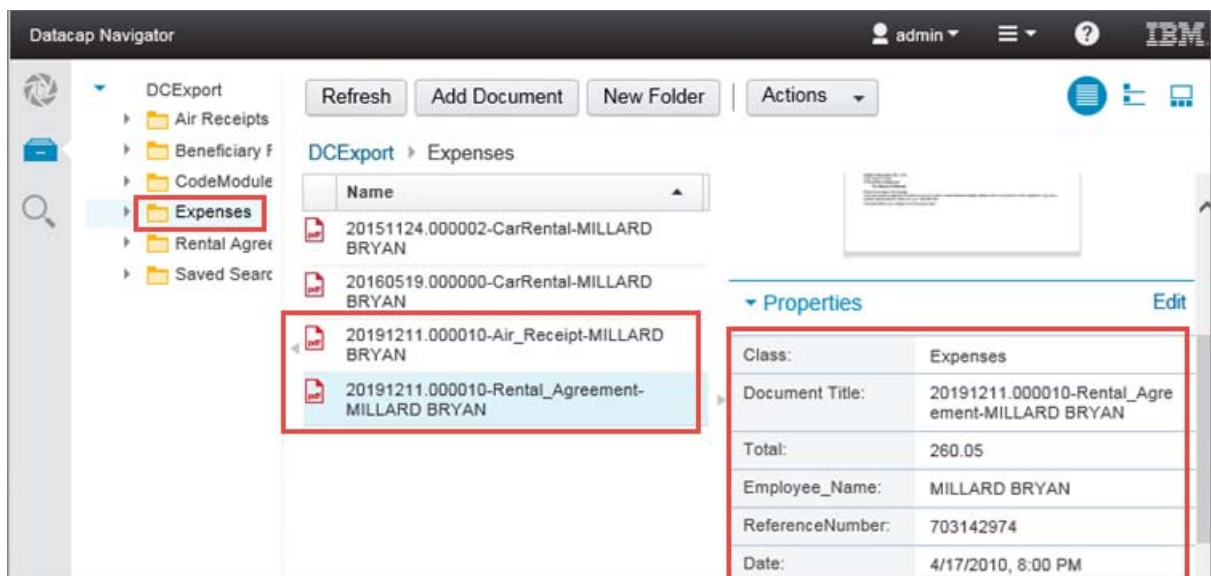
6. Optionally, double-click the document to open it and view the stored image in the viewer.

   a. Close the image.

🔧 Troubleshooting

If you double-click the document, it opens the document in the Viewer. If an error shows up for the Java update, click **Later**. Close the viewer to go back to the main page to see the properties.

---

7. Log out of Datacap Navigator and close the browser.
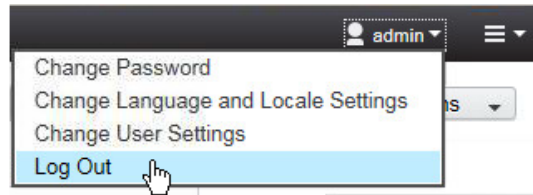
8. Log out of Datacap Desktop and close the window.

End of exercise

Exercise 2: Test Multi-page document capability

Introduction

This activity gives you practice at configuring Multi-page document batches that are processed with a Learning Template based application.
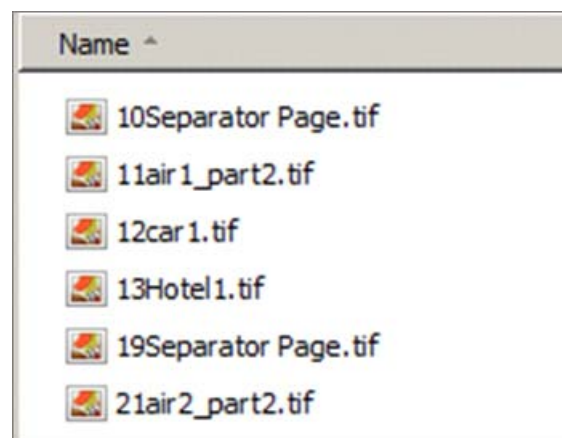
Procedures

Procedure 1: Build a multi-page document sample batch

The method for configuring a multi-page batch for a Learning Template based application, is to identify the beginning and end of a group pages that make up a document with a page separator page. With paper images, you simply slide a page separator page in between each document group of pages. Because you are using electronic pages for this exercise, you rename the pages so that they are arranged in the correct order.

1. In Windows Explorer, navigate to the `C:\Datacap\Expense\images\Input_SingleTIFFs` folder.

2. Verify that the following documents are in the folder.

   - **air 1_part2.tif**
   - **car 1.tif**

3. Copy the **air 2_part2.tif** file from the `C:\DC9-Lab Exercises\Expense\All-Images\Air` folder to the `C:\Datacap\Expense\images\Input_SingleTIFFs` folder.

4. Copy the **Hotel1.tif** file from the `C:\Datacap\TravelDocs\images` folder to the `C:\Datacap\Expense\images\Input_SingleTIFFs` folder.

5. Copy two copies of the **APT007.tif** file (the document separator page) from `C:\Datacap\APT\Images\Separator Page` folder to the `C:\Datacap\Expense\images\Input_SingleTIFFs` folder.

6. Use the data in the following table and rename the files in the `C:\Datacap\Expense\images\Input_SingleTIFFs` folder so that they are ordered correctly.

Original name	Ordered names
air 1_part2.tif	11air 1_part2.tif
air 2_part2.tif	21air 2_part2.tif
APT007.tif	10SeparatorPage.tif
APT007 (2).tif	19SeparatorPage.tif
car 1.tif	12car 1.tif
Hotel1.tif	13Hotel1.tif

b. When you are done with renaming, you have a Scan ready batch.

Procedure 2: Scan the multi-page Sample batch

1. Log in to Datacap Desktop as the admin user.

   a. Click **Start** > **All Programs** > **IBM Datacap Clients** > **Datacap Desktop** or the shortcut on the desktop.

   a. Click **Start** > **All Programs** > **IBM Datacap Clients** > **Datacap Desktop** or click the shortcut on the Windows desktop.

   b. Type the following values:

   > **User**: admin
   > **Password**: admin
   > **Station**: 1

   c. Click **Start**.

2. If you are prompted with the message `Waiting 10 Seconds for a batch to become available`, click **Stop**.

3. Run a multi-page batch with Datacap Desktop.

   a. For **Applications**, select **Expense** from the list.

b. Click the **VScan** task shortcut and select **Demo_Single_TIFFs** to start a batch that contains a multi-page structure.

c. When the processing is complete click **OK** and then click **Stop**.

4. Run the Profiler task.

a. Click the **Profiler** task shortcut.

b. When the processing is complete click **OK** and click **Stop**.

5. Click the **All** shortcut and verify that your batch is at the verify step.

6. Click the **Verify** shortcut and examine the results.

7. Look at the structure in the **Batch View** pane. Click each of the **Main_Page** pages.

In this case, the **Separator** pages were treated as normal document pages and the pages are in their document. You should be expecting to see the first document with three pages.

The separator pages should only be used to determine when a new page starts and then they should be discarded. They should not be part of the scanned batch.

At this point, the **Separator** page is not properly identified as a separator page.

8. Select the page for the first Document in **Batch View** on the right pane.

9. Check the image in the **Image View** on the leftmost pane and notice that the bar code looks corrupted.

10. Suspend the batch by clicking the icon at the upper left corner and select **Hold Batch** and minimize Datacap Desktop.

Procedure 3: Investigate the batch failure

1. Log in to Datacap FastDoc (Admin) in the Datacap Server mode.

a. Click **Start** > **All Programs** > **IBM Datacap Developer Tools** > **Datacap FastDoc (Admin)** or the shortcut on the Windows desktop.

b. On the Welcome to Datacap window, select **Datacap Server** and for the **Application** field, select **Expense**.

c. Type the following values:

- **User**: admin
- **Password**: admin
- **Station**: 1

d. Click **Login**.

2. Open the separator page.

a. On the left pane, click the **Configure documents, pages and fields** icon.

b. Click **Separator** > **Separator_Sheet** in the **Batch Structure** pane.

c. Click the **Ruleset** tab in the **Page Properties** pane.

3. Check image enhancement for the separator page.

a. Select the **Image Enhancement** ruleset.

    b.   Click the dark gray vertical bar between the **Ruleset** and **Test** panes to give yourself maximum viewing area for the Ruleset panel.

    c.   Click **Open image file** and navigate to the `C:\Datacap\Expense\images\Input_SingleTIFFs` folder.

    d.   Select **10Separator Page.tif** and click **Open**.

        The original image and enhanced image are displayed in side-by-side windows.

    e.   Zoom in as much as possible and position the images so that the **bar code** can be viewed clearly.

4.   Adjust parameters to restore the enhanced bar code.

    a.   Expand the **Remove Lines** panel to view the configurable parameters.

    b.   Increase the **Minimum length** parameter by `10` until the bar code looks correct.

💡 Hint

Minimum length of 70 should be enough.

---

    c.   Click **Save**.

Procedure 4: Rescan the test document

In this procedure, you rerun a multi-page document batch with Datacap Desktop.

1.   Open the minimized Datacap Desktop client and run the **VScan**, **Profiler**, and **Verify** tasks.

2.   Verify that in **Batch View**, the Separator pages are identified correctly.
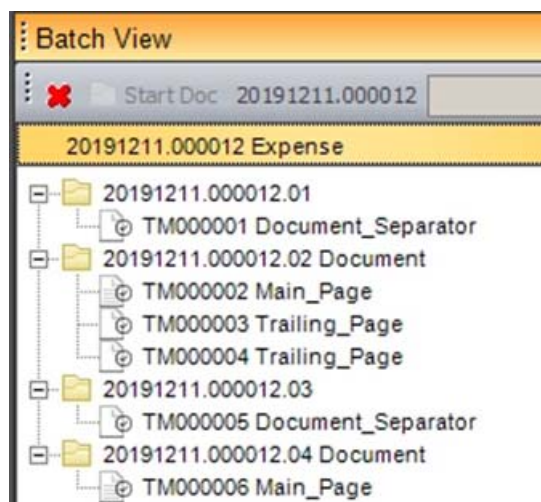
3.   Click **Submit**.

4.   Click **OK** when you prompted with the message: `the All documents are complete. Finish batch?`

5.   Click **OK** to complete the batch.

6.   Close the Datacap Desktop window.

7.   Log out of FastDoc and close the window.

End of exercise

Unit 3. Debug and Test

Estimated time

02:00

Lessons

This unit contains the following lessons.

Unit dependencies

The activities in this unit must be done in the presented order.

This unit builds on the knowledge from the Datacap Studio Introduction unit.

Requirements

The activities in this unit assume that you have access to the student system configured for these activities.

Do this first

1. If you are prompted to log in to the system, use:

Type	User ID	Password
Operating system	Administrator	passw0rd

2. Start the Datacap Server.

    a. Click Start > **All Programs** > **IBM Datacap Services** > **Datacap Server Manager**.

    The Datacap Server Manager window is shown.

    b. Click the **Service** tab.

    c. Click **Start** to start the service if it is not already started. The Start operation is disabled if it is already started.

    d. Click **Close** to close the **Datacap Server Manager** window.

3. Start WebSphere Application Server.

    a. Double-click the **WebSphere Admin** folder on the Desktop.

    b. Double-click the **Start Server1.bat** script file.

    This action starts the IBM FileNet Content Manager, and the Content Navigator.

System check

The activities in this unit assume that all system services are running when you begin an activity session. Perform a system check whenever you start an IBM FileNet Content Manager system or start working on a system that is in an unknown state.

1. Log in to the **Content Navigator Ping** page to verify that the IBM FileNet Content Management services are active.

   - **URL**: `http://ecmedu01:9080/navigator/Ping` or the browser shortcut: **ICN Ping Page**

   - **User name**: `p8admin`

   - **Password**: `IBMFileNetP8`

   This page displays the version information for Content Navigator and Operating system.

2. Log in to Datacap Desktop as the admin user.

   a. Click **Start** > **All Programs** > **IBM Datacap Clients** > **Datacap Desktop** or click the shortcut on the Windows desktop.

   b. Type the login credentials:

      User: `admin`
      Password: `admin`
      Station: `1`

   c. Click **Start**.

   d. Verify that Datacap Desktop opens indicating that the server is active and connected.

3. See Appendix A for procedures to Start, Check, and Restart components on the Student system.

Lesson 3.1. Application debugging

Overview

In the lesson, you learn about the Learning Template and why you would use it to create your application instead of a Form Template.

Why is this lesson important to you?

As a Datacap Solution/Application Builder, you build and deploy applications with the Datacap capture system. You also communicate solution details to the solution architect, administrator, and business analysts. As part of that process, you must be able to debug solutions.

You can run an application from Datacap Studio to monitor it during execution and determine whether the rules are running as you expect. You can use debugging tools like setting breakpoints, running your code 1 step at a time. You can look at the various logs that are available to you to enhance your debugging capabilities and results.

Activities

User accounts

Type	User ID	Password
Operating system	Administrator	passw0rd
Datacap	admin	admin

Note

Passwords are always case-sensitive.

Exercise 1: Configure and access logs for debugging

Introduction

In this activity, you learn where to locate Datacap logs and how to use them find error in your rules.

Procedures

Procedure 1: Clean up the existing batches before debugging

In this procedure, you log in to tmweb and for the Expense application, delete all batches.

1. In Internet Explorer, log in to tmweb.

    - **URL**: `http://ecmedu01/tmweb.net/`

       You can also use the **tmweb** browser shortcut on the **Favorites bar**.

    - **Application**: **Expense**

    - **User ID**: `admin`

    - **Password**: `admin`

    - **Station**: `1`

2. Click the **Monitor** tab and click the **Delete batches** link.

Items per page `15` ☑ Delete batches Filter... Refresh rate `--` ☑ Default

    e. Click **OK** to delete all batches.

3. In Windows Explorer, navigate to the `C:\Datacap\Expense\batches` folder and delete any remaining batches.

Procedure 2: Become familiar with Datacap 9.0 logs

1. Search for Datacap 9.0 help by entering the following search string in your web browser:
    `http://www.ibm.com/Search/?q=datacap+logging&v=17&en=utf&lang=en&cc=us`

2. This search should return many results. Become familiar with what is returned when you run that query. Focus on Datacap 9.0 results.

Procedure 3: Run the Expense application and examine the logs

In this procedure, you run the expense application and examine the various logs in the batch folder.

1. In Windows Explorer, open the `C:\Datacap\Expense\images\Input_SingleTIFFs` folder and delete all the existing files.

2. Copy the following files from the `C:\DC9-Lab Exercises\Expense\All-images\Air` folder to the `C:\Datacap\Expense\images\Input_SingleTIFFs` folder,

   - **air1_part2.tif**
   - **air3_part2.tif**

3. Copy the following files from the `C:\DC9-Lab Exercises\Expense\All-images\Car` folder to the `C:\Datacap\Expense\images\Input_SingleTIFFs` folder.

   - **car 1.tif**
   - **car 2.tif**

4. Log in to Datacap Desktop as the admin user.

   a. Click **Start** > **All Programs** > **IBM Datacap Clients** > **Datacap Desktop** or click the shortcut on the Windows desktop.

   b. Type the login credentials:

      - **User**: `admin`
      - **Password**: `admin`
      - **Station**: `1`

   c. Click **Start**.

5. If you are prompted with the message `Waiting 10 Seconds for a batch to become available`, click **Stop**.

6. Run a batch with Datacap Desktop.

   a. For **Applications**, select the **Expense** from the list.

   b. Click the **VScan** task shortcut and click **Demo_Single_TIFFs**.

   c. When the processing is complete click **OK** and click **Stop**.

   d. Click the **Profiler** task shortcut.

   e. When the processing is complete click **OK** and click **Stop**.

7. Run the Verify task.

   a. Click the **Verify** task shortcut.

   b. Click **Submit**.

   c. If any messages or warnings are displayed, click **OK** to acknowledge the message.

   d. Click **Stop**.

8. Run the **Export** task.

9. In Windows Explorer, navigate to the application batches folder where all the output from the batch processing is placed: `C:\Datacap\Expenses\batches\<batch name>`

10. Verify that the following runtime logs are created:

- scanfromdisk_singletiffs_rrs.log
- vscan_ddt.0.log
- profiler_rrs.log
- verify_rrs.log
- export_rrs.log

11. Examine the various logs and trace through the processing sequence.

    In Datacap Studio, the task profile for a task contains the rulesets that the task uses and the actions called by those rulesets. You can compare the action names in the log file.

Procedure 4: Empty the images folder, run a batch, and examine the logs

In this procedure, you remove all the images from the images folder from where the images are scanned, run the expense application and examine the logs in the batch folder.

1. In Windows Explorer, navigate to the `C:\Datacap\Expense\images\Input_SingleTIFFs` folder and delete all the images.

2. Log in to Datacap Desktop:

   - **User**: `admin`
   - **Password**: `admin`
   - **Station**: `1`

3. If you are prompted with the message `Waiting 10 Seconds for a batch to become available`, click **Stop**.

4. For **Applications**, select the **Expense** from the list.

5. Click the **VScan** task shortcut and click **Demo_Single_TIFFs**.

6. When the processing is complete click **OK** and click **Stop**.

7. In Windows Explorer, navigate to the batch folder and open the latest batch:
   `C:\Datacap\Expenses\batches\<batch name>`

8. Open the **scanfromdisk_singletiffs_rrs.log** file, scroll down to the end of the file and find the encountered problem.

Every running component generates an **rrs.log** file. Sometimes the batch aborts, so the best thing to do is to search for the word **abort** and move up from there to discover the problem.

End of exercise

Lesson 3.2. Datacap Studio Test tab

Overview

In this lesson, you learn how to use the Datacap Studio Test tab step through the task profiles and observe the status of variables as you go.

Why is this lesson important to you?

As a Datacap Solution/Application Builder, you build and deploy applications with the Datacap capture system and communicate solution details to the solution architect, administrator, and business analysts.

When creating new applications, you are often confronted with rules that do not behave as you expected. It is important that you know about the test tools that are available to help find errors in the rules that you create.

Activities

- [Exercise 1: Stepping a batch through a PageID task profile,](#) on page 3-8

User accounts

Type	User ID	Password
Windows Administrator	Administrator	passw0rd
Datacap	admin	admin

Note

Passwords are always case-sensitive.

Exercise 1: Stepping a batch through a PageID task profile

Introduction

This activity gives you practice at stepping a batch through the PageID Task Profile of the TravelDocs application. You run the VScan and PageID rulesets and step through the actions.

Procedures

Procedure 1: Scan a batch with Datacap Desktop

1. Double-click the **Datacap Desktop** icon on the Windows desktop and login with the following values:

    - **User**: admin
    - **Password**: admin
    - **Station**: 1

2. Click **Start** and if you are prompted with the message `Waiting 10 Seconds for a batch to become available`, click **Stop**.

3. For **Applications**, select **ExpenseDemo** from the list.

4. Scan a batch to analyze with Datacap Desktop.

    a. Click the **VScan** shortcut.

    b. Click the folder icon close to the **Scan from** field.

    c. Navigate to the `C:\Datacap\ExpenseDemo\images` folder.

    d. Select all the three images (press **Ctrl A**) and then click **Open**.

    e. For the **Scan multiple images** option, select **3** expected.

    f. Click **Scan**.

    g. Verify that the three images are listed, scroll down, and click **Submit** at the end of the page.

    h. Click **OK** when it prompts that the batch is completed and then click **Stop** for not processing next batch.

5. Close **Datacap Desktop**.

Procedure 2: Step Profiler task profile

1. Open the ExpenseDemo application in Datacap Studio.

    a. Double-click **Datacap Studio** on the desktop.

    b. Select the **ExpenseDemo** application and log in as **admin** (and password: **admin**).

2. Click the **Test** tab.

   a. Click the **Update view** icon on the upper right corner of the **Workflows** pane.

   b. Expand the **Profiler** batch task.

   c. Notice that your scanned batch is **pending** at the **Profiler** task.
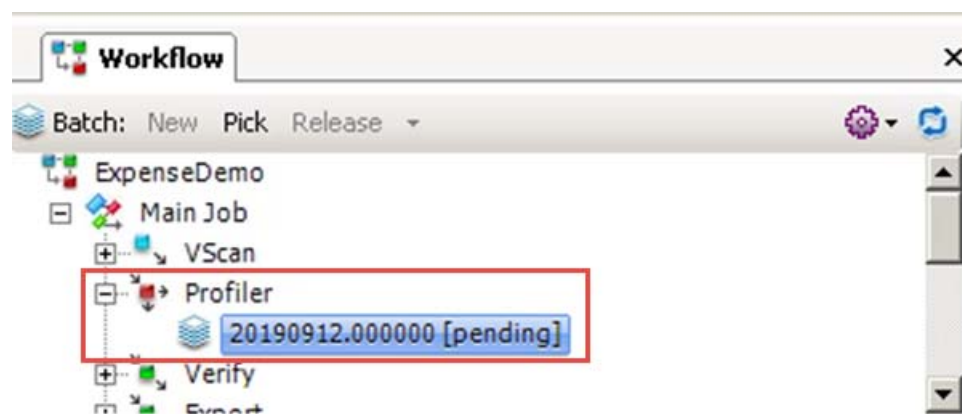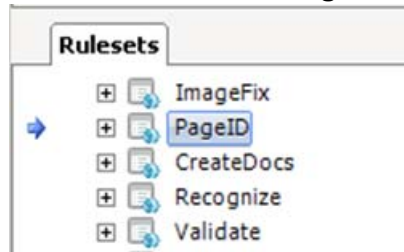
3. Double-click the batch under the pending task.

   a. Click the Step in icon on the toolbar.

   b. Notice that the **Profiler** task is running as shown in the **Workflow** and **Runtime batch hierarchy** tabs.
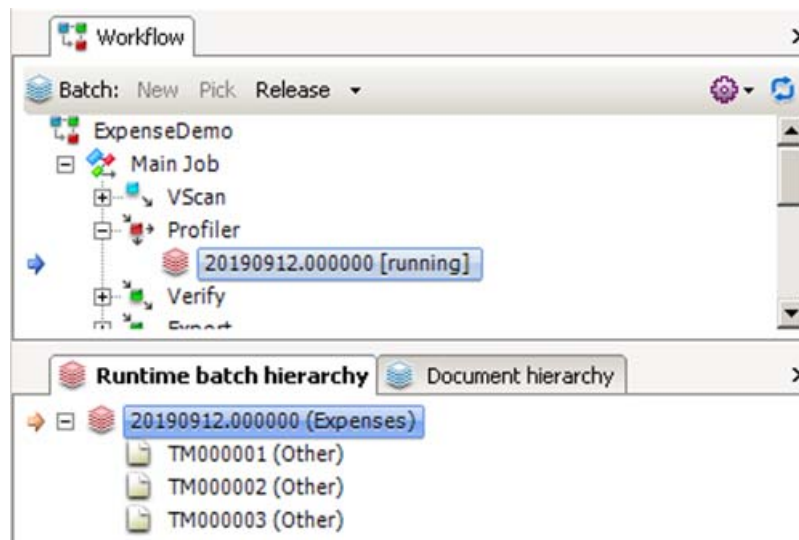
c. Notice that the running rules on the selected batch object are shown on the **Rulesets** tab.

The current ruleset is **PageID**.

4. Click the **Step in** ⟳ icon a couple of times, the execution remains at the batch level.

a. Continue clicking the **Step in** ⟳ icon until the **Runtime batch hierarchy** indicates the first page (TM000001)is selected.
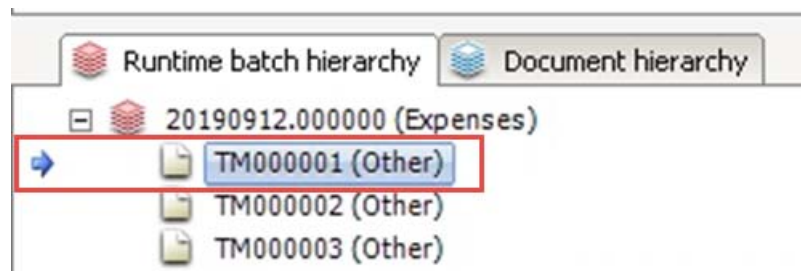
Datacap is now ready to run page level rules on each page in the runtime hierarchy, starting with page TM000001.
Notice that the image is shown in the **Image** tab of the middle pane.

b. Continue clicking the Step in ⟳ icon and observe the **Rulesets** tab.

When you click a few more times, because the **Page - Set Page Type** rule is assigned at the page level, Datacap expands this rule, then the **is this a Donation Receipt?** function and prepares to run the **ChLastDCOType ("HR_Page")** action.

.
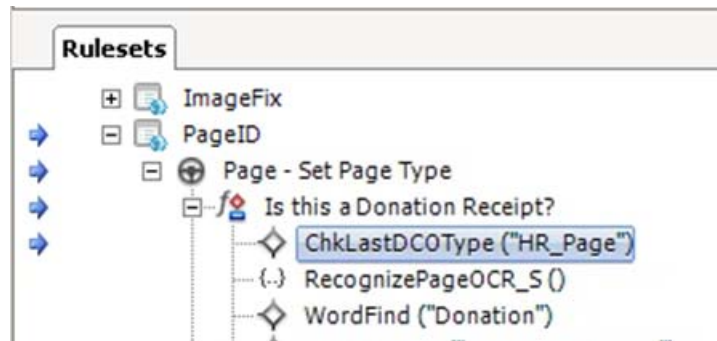
c. Continue clicking **Step in**.

After the **is this a Donation Receipt?** function is completed, it moves to the next function (**is this another Donation Receipt?**).

When the selected page is not the **Donation Receipt** type, it is indicated by a red circle with white dots and moves to the next function.

.
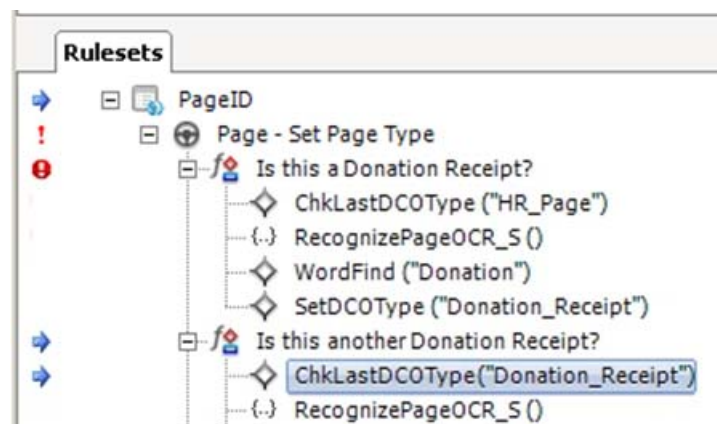
d. Continue click **Step in** one more time until it reaches the **ChLastDCOType** function.

5. On the **Ruleset** pane, right-click the **ChLastDCOType** function and select **Set breakpoint**.

.
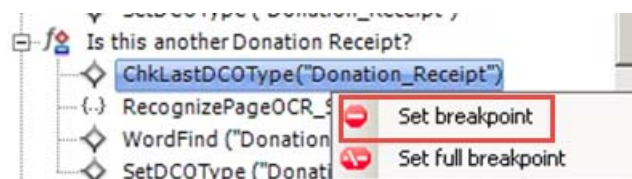
a. Notice the new entry on the **Breakpoint** tab in the lower right pane.
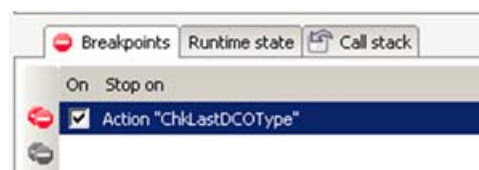
    b. Continue click **Step in** several times until the marker in the Rulesets reaches the last the function in the **Page - Set Page Type** rule.

    c. Notice that when the function identifies the page, a red tick mark is shown for this function.

    d. Continue click **Step in** several times until the marker in the **Runtime batch hierarchy** pane is advanced to the next page.

    e. Notice that on the **Runtime batch hierarchy** tab, the page is identified (**Rental_Agreement**).
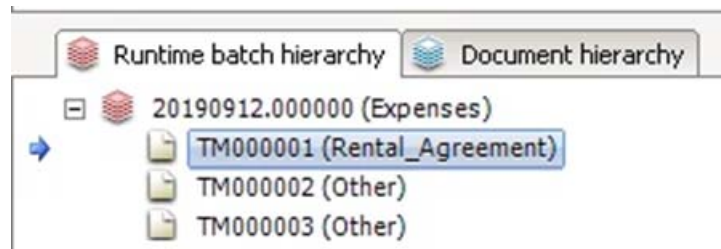

6. Click the **Step in** a few more times and watch the Ruleset pane as the progress pointers moves.

    a. Continue click **Step in** several times until the marker in the Runtime batch hierarchy pane is completes all three pages.
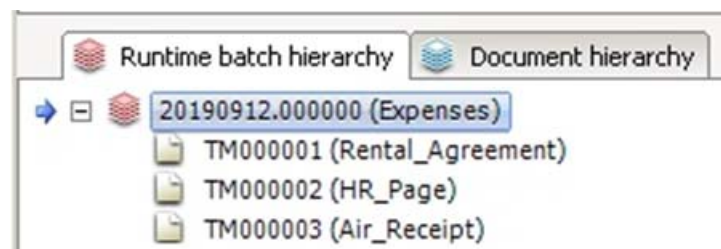
7. For the batch to progress to next task, click **Process rules for target object** icon on the toolbar.

    a. Wait for the process to complete and the **Release batch?** window comes up.

        On the **Runtime batch hierarchy** tab, the pointer is back at the batch level and the documents are created. Since the batch has left the page level processing, the image is no longer displayed on the image tab in the middle pane.
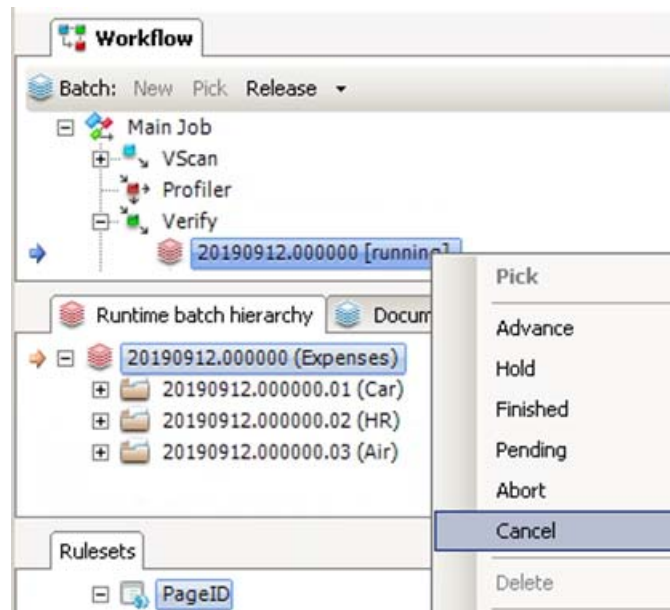When the last Ruleset of the **Profiler** task is completed, the **Release batch?** window is displayed.
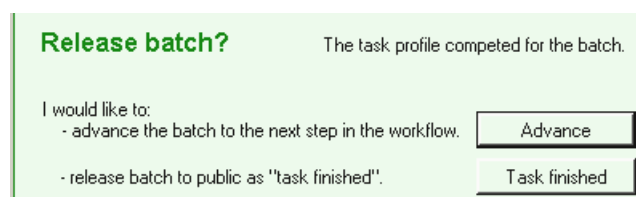
8. On the **Release batch?** window, click **Advance** to move to the next task.

9. On the **Workflow** tab, notice that the batch is now at **Verify** task.

Procedure 3: Shut down the test mode

1. On the **Workflow** pane, right-click the running batch in the **Verify** node and select **Cancel**.

2. Exit Datacap Studio.

End of exercise

Appendix A. System Check for Your Student System

Appendix overview

This appendix contains the following activities.

Activities

System Components

The server image is a Microsoft Server 2008 with an IBM FileNet P8 Platform 5.2.1, IBM Content Navigator, IBM Datacap 9.0.1 The server image also has Tivoli, DB2, WebSphere Application Server, Visual Studio, installed.

All files that are required for the student activities are on the image.

Start student system components

Procedures

Procedure 1: Start student system components

1. Start your Server 2008 system:

   a. Log in as `administrator` user (password: `passw0rd`)

2. Start the WebSphere hosted system components.

   There is a WebSphere Admin folder on the image desktop. This folder contains scripts to start stop and manage the WebSphere components. There are WebSphere instances but you use only Server 1 in this class.

   Start the WebSphere components by running the start script.

   a. From the image desktop, double-click the `WebSphere Admin Folder`.

   b. Double-click the Start Server1.bat script.

   c. A Windows command window opens while the script is running. Wait for the command window to close, which signifies that the WebSphere components are started.

      The start process can take several minutes.

   d. The Terminal window closes when the services started.

ⓘ **Information**

The following components are hosted on WebSphere Server1:

- DatacapEDSService
- FileNetEngine
- IBM Content Navigator

Procedure 2: Start Datacap Server

1. Click Start > All Programs > IBM Datacap Service > Datacap Server Manager.

   The Taskmaster Server Manager window is shown.

2. Click the Service tab.

3. Click the Start icon ▶ to start the The Datacap Taskmaster Server Service if it is not already started. The Start operation is disabled if it is already started.

4. Click Close to close the Taskmaster Server Manager window.

Check the WebSphere Application Server

Procedures

Procedure 1: Check the WebSphere Application Server

1. On your image desktop, double-click the WebSphere Admin folder if it is not already open.

2. Double-click the Administrative console server1 shortcut to go to the WebSphere login window at `https://ecmedu01:9043/ibm/console/logon.jsp`.

3. Log in as `p8admin` user with `IBMFileNetP8` as the password.

    If the WebSphere server is running, the page shows the Integrated Solution Console.

    a. Log out of the Integrated Solutions Console.

4. If an error page is shown instead, the WebSphere is not running. Start it as directed in the procedure Start student system components, on page A-2.

5. Leave the browser open for the next procedure.

Procedure 2: Check the Content Engine

1. In the Internet Explorer browser click `Bookmarks > P8 CPE-Ping or` enter the following URL: `http://ecmedu01:9080/FileNet/Engine`

    a. if prompted, log in as User: `p8admin` Password: `IBMFileNetP8`

    The Content Engine is running if you get the *Content Engine Startup Context (Ping Page)* page as shown in the following screen capture.

2. If an error page is shown instead, the Content Engine is not running. Start it as directed in the procedure Start student system components, on page A-2.

Procedure 3: Check the Process Engine

1. In the Internet Explorer browser click `Bookmarks > PE Server-Ping or` enter the following URL: `http://ecmedu01:9080/peengine/IOR/ping.`

2. Log in as `p8admin` with password `IBMFileNetP8`.

   The Process Engine is running if you get the *Process Engine Server Information (Ping Page)* page as shown in the following screen capture.

   .

Key	
Product Name	P8 Content Platform Engine - 5.2.1
Build Version	dap521.234 pe.jar:dap521.234, 10/06/2014 09:32:10
Operating System	Windows Server 2008 R2 6.1 amd64

3. If an error page is shown instead, the Process Engine is not running. Start it as directed in the procedure Start student system components, on page A-2.

Procedure 4: Check the Administration Console

1. In the Internet Explorer browser click the ACCE-CPE shortcut or enter the following URL: `http://ecmedu01:9080/acce`

2. Log in as `p8admin` with password `IBMFileNetP8`.

3. The Administrative Console for Content Platform Engine is running if the Browse page opens. The page shows a list of Object Stores.

4. If Administrative Console for Content Platform Engine does not open, start it as directed in the procedure Start student system components, on page A-2.

Procedure 5: Check the IBM Content Navigator

1. In the Internet Explorer browser click the ICN-ADMIN shortcut or enter the following URL: `http://ecmedu01:9080/navigator`

2. Log in as `p8admin` with password `IBMFileNetP8`.

3. The IBM Content Navigator is running if you get the IBM Content Navigator page.

4. If IBM Content Navigator does not open, start it as directed in the procedure Start student system components, on page A-2.

Procedure 6: Check the Datacap Components

1. Check Datacap Navigator.

   a. In Internet Explorer browser click the DCN-Datacap shortcut or enter the following URL: `http://ecmedu01:9080/navigator/?desktop=datacap`

      b. Log in as `admin` with password `admin`

      c. The Datacap Navigator is running if the Datacap Navigator page opens.

2. Check the tmweb client.

      a. In the Internet Explorer browser click the tmweb shortcut or enter the following URL:
          `http://ecmedu01/tmweb.net`

          Select the TravelDocs Application.

          User ID: `admin`

          Password: `admin`

          Station: 1

      b. Click Login.

      c. The tmweb page opens showing the Operations tab view.
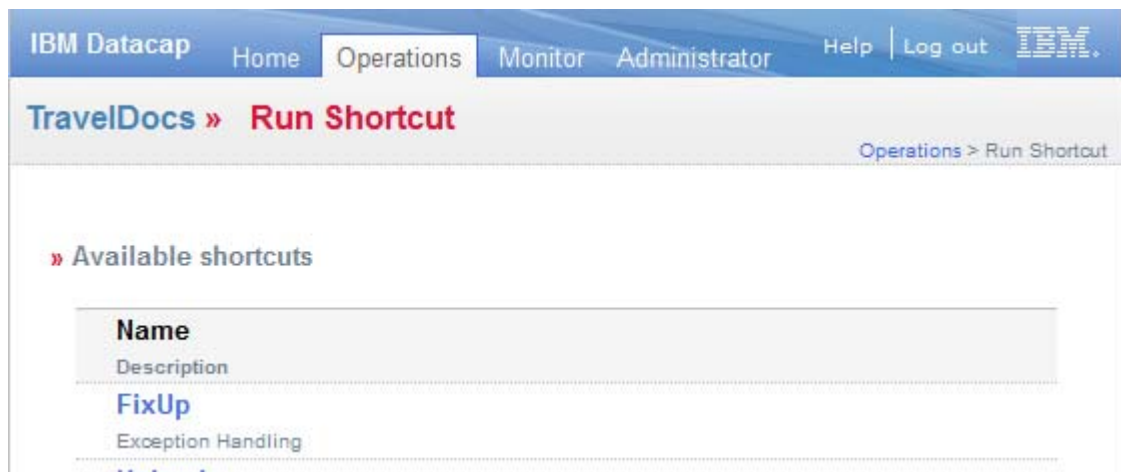
      d. If the login fails, it is possible that the Datacap Server Service was not started.

      e. Click log out and close the explorer window.

Restart the student system

Procedures

Procedure 1: Restart the student system (if needed)

If you need to reboot your student system, do the following steps.

1. Stop the WebSphere hosted system components.

   Stop the WebSphere components by running the stop script from the WebSphere Admin folder on the image desktop.

   a. On the desktop, double-click the `WebSphere Admin Folder`.

   b. Double-click the StopServer1.bat script.

   c. A Windows command window opens while the script is running. Wait for the command window to close.

   d. The Terminal window closes when the components are stopped.

2. Stop the Datacap Server service.

   a. Click Start > All Programs > IBM Datacap Service > Datacap Server Manager.

   b. The Taskmaster Server Manager window is shown.

   c. Click the Service tab.

   d. Click the Stop icon ■ to start the The Datacap Taskmaster Server Service if it is not already started.

   e. Click Close to close the Taskmaster Server Manager window.

3. Restart the windows server.

   a. Click Start > Restart.

   b. Do Procedure 1, "Start student system components," on page A-2

   c. Do Procedure 2, "Start Datacap Server," on page A-2

❗ Important

Perform the following procedures **only if** you need to manually start individual components. After starting your Server 2008 system, and running Procedure 1, the script should start all of the required components on your student system. If you need to check or start individual WebSphere components do the following procedure.

Procedure 2: Start the Content Engine (use only if required)

1. On your system desktop, double-click the WebSphere Admin folder.

2. Double-click the Administrative console server1 shortcut to go to the WebSphere login window at `https://ecmedu01:9043/ibm/console/logon.jsp`.

3. Log in as `p8admin` user with `IBMFileNetP8` as the password.

4. Expand the Applications > Application Types node in the left pane, and then click WebSphere enterprise applications.

   In the right pane, the Content Engine application is listed as `FileNetEngine`.

5. Check the status of the application. If a red X is shown in the Application Status column, the application is stopped.

6. If the FileNetEngine application is stopped, select the check box for `FileNetEngine` and click Start.

7. Log out of the console and close the browser.

Configure Datacap Rulerunner for TravelDocs

Procedures

Procedure 1: Stop and Connect

1. Open the Rulerunner Server Service properties.

    a. Double-click the Rulerunner Server Manager on the desktop.

    b. Click Stop if the Rulerunner is already started.

    c. Click the Rulerunner Login tab to display it.

    d. Select Taskmaster Authentication.

        Type:
        User ID: admin
        Password: admin
        Station ID: 1

    e. Click Save if you changed the User ID or Station ID. If you only entered the password the Save control will not be active.

        It is critical that these credentials are saved because they are used at runtime.

    f. Click Connect.

Procedure 2: Configure TravelDoc tasks

2. Configuring Rulerunner to run tasks.

    a. Click the Workflow:Job:Task tab to display it.

        The names of the applications from the datacap.xml file are displayed in the left pane. The right pane does not contain threads the first time you use Rulerunner Manager.

    b. If you don't see a list of application in the top left pane, click the full screen icon in the top right corner.

Note

This server image is used for multiple Datacap classes. You can see in the right pain that tasks have already been configured for Rulerunner to run the Navigator Job tasks for the TravelDocs application.

---

    c. If a thread did not already exist or if you want to create a new thread then right-click in the right pane, select Threads, then select Add Thread.

        A new thread is created in the right pane. For this exercise you use the existing thread.

    d. In the left pane, click the TravelDocs check box.

    e. The application tree expands with the Server, Administrator, and Engine databases selected.

f. Click the check boxes under the Main Job, Web Job and the Navigator Job for the PageID, Profiler, and Export tasks.

g. Click the Main Job text and drag it to the thread0 node in the right pane. Release the mouse key while the cursor is hovering over thread0.

h. Verify that PageID, Profiler, and Export tasks appear under thread0for the Main Job, Web Job and the Navigator Job.

i. Click Save (or CTRL+S) to save your changes.

j. If you see a warning that the file does not exist, click Yes acknowledge the warning and to save the configuration file.

k. Make sure that the thread0 check box in the right pane is selected.

3. Disconnect from the application

a. Click the Rulerunner Login tab.

b. Click Disconnect.

c. Close the Datacap Rulerunner Manager Window.

Enable Datacap Rulerunner logging

1. If Rulerunner is connected then do [Procedure 1, "Stop and Connect,"](#) on page A-8 to open and connect to Datacap Rulerunner Manager.

2. Configure Logging.

   a. Click the Settings tabs and click *Write to Debug. Log Queuing activity in debug table*.

   b. Click Save or CTRL+S to save your changes.

   c. Click the Logging tab.

   d. Click the Quick Log tab.

   e. Slide the Number of Messages slider to No.

   f. The Quick Log setting sets the ATM Rulerunner, and RRS log logging options.

3. Disconnect from the application

   a. Click the Rulerunner Login tab.

   b. Click Disconnect.

   c. Close the Datacap Rulerunner Manager Window.

Start the Datacap Rulerunner Manager Service

Procedure 1: Start the Rulerunner service

1. Double-click the Datacap Rulerunner Manager icon on the Desktop.

2. Click the Rulerunner tab.

3. Click Start.

4. Close the Datacap Rulerunner Manager window.

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