

Course Guide

IBM Datacap 9.0.1 Configuration & Administration

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Course description

IBM Datacap 9.0.1 Configuration & Administration

Duration: 4.5 days

Overview

This course shows you how to configure IBM Datacap and its components on a multi-system setup. You also learn about IBM Datacap Navigator configuration, system administration, and maintenance.

You work with a fully functioning IBM FileNet Content Manager system configured with IBM Content Navigator and IBM Datacap for students to practice the skills that are required to implement and configure data capture solutions.

Audience

- Administrators who are responsible for Datacap system configuration, administration, and maintenance
- Anyone who needs to know Datacap system configuration, administration, and maintenance

Prerequisites

- Recommended: Familiarity with data capturing concepts

Skills taught

Upon completion of this course, participants will be able to:

System & Component Configuration

- Configure Datacap Server Service and Web Access
- Setup Datacap Authentication modes and Encryption
- Create Datacap security users and groups
- Configure Datacap Server for LLLDAP User Authentication
- Setup the Datacap Server, Datacap Web Server, and client in a multiple system configuration
- Configure Rulerunner and Datacap Maintenance Manager
- Configure Datacap Web Services wTM
- Configure Datacap Dashboard and monitor system performance
- Configure Datacap Report Manager (optional)

Datacap Navigator Configuration

- Change the User Settings
- Enable Datacap Navigator Single Sign On
- Configure Users and Groups
- Enable Rescan for the Verify task
- Create a custom Panel for a task
- Implement External Datacap Services for Datacap Navigator
- Configure Transactional Capture
- Install Datacap Navigator as a plug-in
- Customize the Datacap Navigator desktops

System Administration

- Create shortcuts for Web Client tasks
- Configure store and queue by options
- Identify Disaster Recovery concepts
- Migrate Data from Access to DB2 database
- Configure Application Globalization

System Maintenance

- Synchronize Job Monitor and Batch Folders
- Create and configure a Maintenance Manager Application
- Configure Event Logs

Course Topics

Refer to the “Contents” section (TOC) for course content.

Curriculum relationship

This course is a combination of the following courses:

- F251 IBM Datacap 9.0.1: Introduction
- F256 IBM Datacap 9.0.1: Configuration
- F257 IBM Datacap 9.0.1: Datacap Navigator Configuration
- F258 IBM Datacap 9.0.1: Administration

Agenda



Note

The following lesson durations are estimates, and might not reflect every class experience.

Day 1

(00:15) Welcome

Unit 1. Datacap Introduction

(00:30) Lesson 1.1 Datacap overview

(00:30) Lesson 1.2 Datacap process

(00:30) Lesson 1.3 Role-based Datacap clients

(00:30) Lesson 1.4 Architecture configurations

(01:00) Lesson 1.5 Architecture components

(01:00) Lesson 1.6 Datacap Desktop

(01:00) Lesson 1.7 Application Design

(01:00) Lesson 1.8 Datacap Navigator Introduction

(01:00) Lesson 1.9 Datacap Web Client (tmweb) (optional)

Unit 2. System Configuration

(01:00) Lesson 1 - Datacap Single-system Configuration

Day 2

Unit 2. System Configuration

(01:00) Lesson 2 - Maintain Users and Groups, and Configure Security

(01:00) Lesson 3 - Authentication and Encryption

(01:00) Lesson 4 - Multi-system Configuration Considerations

Unit 3. Component Configuration

(01:00) Lesson 1 - Configure Rulerunner

(01:00) Lesson 2 - Configure Maintenance Manager

(01:00) Lesson 3 - Configure Datacap Web Services

(01:00) Lesson 4 - Configure Datacap Dashboard

Day 3

Unit 4. Datacap Navigator Configuration

- (00:30) Lesson 1 - Navigator Updates
- (01:00) Lesson 2 - Change Datacap Navigator User Settings
- (00:30) Lesson 3 - Configure Datacap Users and Groups
- (01:00) Lesson 4 - Enable Rescan for the Verify task
- (01:00) Lesson 5 - Create Custom Panels
- (01:00) Lesson 6 - Implement External Data Services
- (01:30) Lesson 7 - Transactional Capture

Day 4

Unit 4. Datacap Navigator Configuration

- (01:30) Lesson 8 - Install and Customize Datacap Navigator

Unit 5. Administration of Production System

- (01:15) Lesson 1 - Create Shortcuts to Web Clients
- (01:00) Lesson 2 - Virtual Stations and Queuing of Tasks
- (00:30) Lesson 3 - Disaster Recovery
- (01:15) Lesson 4 - Configure DB2 Server
- (01:00) Lesson 5 - Application Globalization

Day 5

Unit 6. Maintenance

- (01:00) Lesson 1 - System Maintenance
- (01:00) Lesson 2 - Maintenance Manager
- (01:00) Lesson 3 - Event Logs

Appendix. Component Configuration (Optional)

- (01:00) Appendix A1 - Configure Datacap Report Manager (optional)

Unit 1. Introduction to Datacap

Estimated time

07:00 hours

Overview

This unit introduces you to the business solution that IBM Datacap provides, the Datacap process, and the capabilities of Datacap.

This unit provides an overview of Datacap Architecture and Application Design.

You use Datacap Desktop (Windows based client), Datacap Navigator, and the Datacap web client (tmweb) to process a batch of input data.

How you will check your progress

- Successfully complete the activities in the Student Exercises book.

References

IBM Knowledge Center

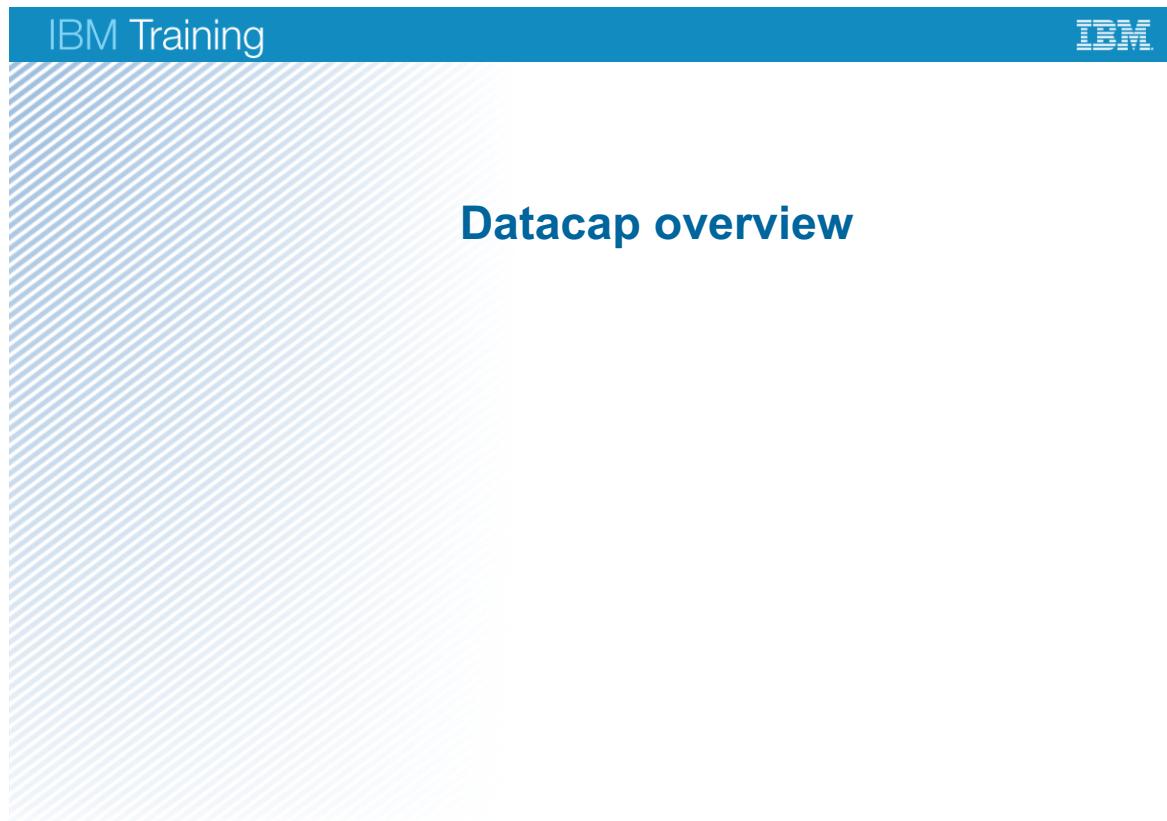
http://www.ibm.com/support/knowledgecenter/SSZRWV_9.0.1/com.ibm.datacaptoc.doc/datacap_9.0.1.htm

Unit Objectives

- Identify the business solution that IBM Datacap provides, the Datacap process, and the capabilities of Datacap.
- Work with the Datacap Navigator, Datacap Desktop (Windows based client), and the Datacap web client (tmweb) to process a batch of input data.
- Identify the components of Datacap (Architecture) and the things to consider for Application Design.

Figure 1-1. Unit Objectives

Lesson 1.1. Datacap overview



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Figure 1-2. Datacap overview

Lessons

- ▶ Datacap overview
 - Datacap process
 - Role-based Datacap clients
 - Architecture configurations
 - Architecture components
 - Datacap Desktop
 - Application design
 - Introduction to Datacap Navigator
 - Datacap web client (tmweb)

[Introduction to Datacap](#)

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Figure 1-3. Lessons

Why is this lesson important to you?

- This lesson provides an overview of the business solution that IBM Datacap provides, and its capabilities.

Figure 1-4. Why is this lesson important to you?

Content is critical to every business

Every Industry has important business documents that need to be captured.

 Financial Services <ul style="list-style-type: none"> • Account opening • Mortgage applications • Claims processing • Investment reports • Regulations 	 Government <ul style="list-style-type: none"> • Benefits management • Claims • Citizen Correspondence • Social services • Permits and license • Taxes 	 Industrial <ul style="list-style-type: none"> • Standard operating procedures • Engineering document management • Incidents and investigations
 Telecom <ul style="list-style-type: none"> • Cell phone contracts • E-billing and statement processing • Contact center/single view of the customer • Voice of the customer 	 Healthcare <ul style="list-style-type: none"> • Care plans • Critical pathway • Electronic health record • Doctor's notes • Medical claims 	 Horizontal <ul style="list-style-type: none"> • Accounts Payables • Invoice processing • Human resources • Project management • Contract management • Call center

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Figure 1-5. Content is critical to every business

The Paper Problem still exists



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Figure 1-6. The Paper Problem still exists

Reasons for still using paper are:

- **Historical**

The existing forms and documents are what the organization must deal with. The organization has no say in the decision of converting these hardcopy forms and documents to electronic formats. Sometimes, the number of existing forms and documents make it unrealistic to do so.

- **Legislation**

Legislation is not keeping pace with new technology and continues to require records to be on paper (which holds probative value).

- **Low-tech portability of paper**

Paper can be transported to customers anywhere, irrespective of such things as affordability, access to infrastructure, technical dependencies, or administrative boundaries. For example, paper can be sent to customers by mail.

Cost of shipping paper adds up



Figure 1-7. Cost of shipping paper adds up

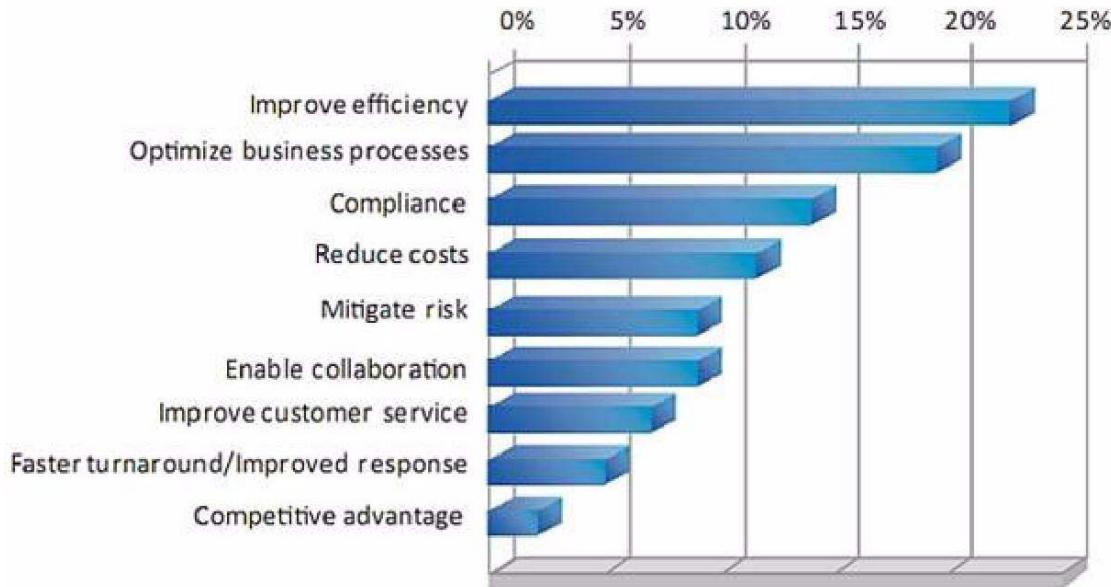
Business problems that can be solved with Datacap

- Datacap provides solution for a list of business challenges that the paper-based documents present:
 - Inefficient, time-consuming, and not flexible.
 - Expensive to ship the paper documents between various business locations.
 - Difficult to store them for the long term.
 - Hard to preserve them optimally for business, legal, disaster (flood and fire), security, and safety reasons.
 - Physical documents can be more easily lost, misfiled, or misclassified and never recovered.
 - Compliance is a concern - preserving the right documents and discarding documents that are no longer needed for the business.
 - Manually extracting the appropriate data from different type of business documents is expensive.

Figure 1-8. Business problems that can be solved with Datacap

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Business objectives



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Figure 1-9. Business objectives

The challenges that are discussed in previous charts align precisely with the business objectives that many organizations hope to achieve in Enterprise Content Manager systems. These systems include production imaging systems that help solve the paper problems and challenges.

The image shows a recent study that was conducted by the Association for Information and Image Management (AIIM) on business objectives in Enterprise Content Management systems.

Improved efficiency 23%

Optimize business processes 19%

Compliance 14%

Reduce costs 12%

Mitigate risk 9%

Enable collaboration 9%

Improve customer service 7%

Faster Turnaround/Improve response 5%

Competitive advantage 2%

Datacap solution for paper-based business problems

- IBM Datacap Capture can help automate a solution for the enterprise by:
 - Turning paper documents into electronic files.
 - Streamlined process - automating the extraction of appropriate data.
 - Indexing metadata to facilitate searching and quick access.
 - Verifying and saving documents with minimal user intervention.
 - Enabling data sharing across departments, division, and geographic regions.
 - Helping archival and lifecycle management (the scanned documents are exported to repositories).
 - Increasing productivity (accelerating the process and saving time).

Figure 1-10. Datacap solution for paper-based business problems

IBM Datacap was designed for enterprise-wide deployments in paper-intensive market segments, such as government, insurance, healthcare, financial services, and transportation, to name a few.

Increased productivity

By significantly reducing manual data entry and paper-based storage and retrieval of documents, knowledge workers can more quickly process and access documents. Quicker access to documents improves customer service case management, business transactions, and compliance.

Streamlined process

IBM Datacap eliminates a cumbersome paper process by enabling clients to automate previously labor-intensive aspects.

Reduced cost

IBM Datacap is designed to reduce the required data entry personnel by 50 % and sometimes more. Distributed scanning and verification enables clients to reduce or eliminate document shipping costs and distribute labor to areas with more affordable labor rates.

Increased accuracy: By eliminating the errors that tired or distracted human data entry operators historically make, IBM Datacap can save time. Time is saved tracking down and fixing faulty data or misplaced document images.

What is IBM Datacap?

- Advanced Document Imaging and capture software.
- Datacap automates capturing documents.
- Datacap automates the extraction of appropriate data.
 - Automation accelerates the process, and business can respond quickly to their customers and Business Partners.
- Datacap can handle different types of documents regardless of what business processes are involved.
 - Structured documents
 - Unstructured documents

Figure 1-11. What is IBM Datacap?

Structured documents

- All documents have a consistent format.
- Every document has the same data fields in the same place.
- Examples:
 - Tax forms
 - Beneficiary forms
 - Claims
 - Reimbursement forms

Auto Insurance Claim Form
Insurance Company A

Policy Holder Address :	Chris Joes, 13 Johan Street NY 987654
Driver Name :	Chris Joes
Policy Number :	46998813
Incident Number :	CL-4328941
Incident Date:	03/03/11
Incident Time:	14:15
Vehicle License :	2296RG
Vehicle Colour :	Black
Vehicle Manufacturer :	Toshiba
Vehicle Model :	Quaser
Year of Manufacture :	2009
Chassis Number (VIN) :	2C5BB4CRX82LP3489
Incident Description:	Incident occurred on Highway 69, NY. Damage occurred to rear of the vehicle. Damaged right tail light and bumper.
Was anyone injured in this incident which required medical attention?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
By signing the adjacent box and entering the current date, you agree the information above is accurate to the best of your knowledge. Signature:  M M D D Y Y Dated: 03 SEP 2011	

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Figure 1-12. Structured documents



Unstructured documents

- Documents can have different formats.
- The documents might have the same information, but the same data fields are at different locations in each document.
- Examples:
 - Loan package
 - Contracts
 - Invoices
 - Paystubs

B	S	Brilliant Repair Shop 90 Fixed Street Carson City, NV 89701 Phone: 775-555-6789	INVOICE	
			INVOICE # 03-8508 DATE: 02/15/10	
To:	Ship To:			
Busy Car Repair 100 Auto Road Salt Lake City, UT 84101 Phone: 801-555-1234	Busy Car Repair 100 Auto Road Salt Lake City, UT 84101 Phone: 801-555-1234			
Comments or special instructions:				
SALESPERSON	PO NUMBER	REORDERNUMBER	SHIPPED VIA	
198	0811012		FOB POINT	
			TERMS	
			2/10 Net 30	
QUANTITY	DESCRIPTION		UNIT PRICE	TOTAL
1	Left quarter panel		175.00	175.00
2	Taillights		50.00	100.00
80	Gaskets		.95	76.00
2	Front headlights		50.00	100.00
80	Bolts		.95	76.00
				SUBTOTAL 572.00
				SALES TAX 27.68
				SHIPPING & HANDLING
				TOTAL DUE 554.68
<small>Make all checks payable to Brilliant Repair Shop. If you have any questions concerning this invoice, contact (775) 555-6789.</small>				
<small>Thank you for your business!</small>				

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Figure 1-13. Unstructured documents

Review questions

1. True or False.
Datacap supports both structured and unstructured documents.
2. Which of the following descriptions apply to IBM Datacap? Select more than one option:
 - A. Automates capturing documents and the extraction of appropriate data.
 - B. Improves efficiency and optimizes business processes.
 - C. Supports compliance and Risk mitigation.
 - D. Reduces costs and speeds up the response.
 - E. Improves customer service.

Figure 1-14. Review questions

Review answers

1. True or False.

Datacap supports both structured and unstructured documents.

[The Answer is True.](#)

2. Which of the following descriptions apply to IBM Datacap? Select more than one option:

- A. Automates capturing documents and the extraction of appropriate data.
- B. Improves efficiency and optimizes business processes.
- C. Supports compliance and Risk mitigation.
- D. Reduces costs and speeds up the response.
- E. Improves customer service.

[The Answers are: A, B, C, D, and E](#)

Figure 1-15. Review answers

Lesson 1.2. Datacap process

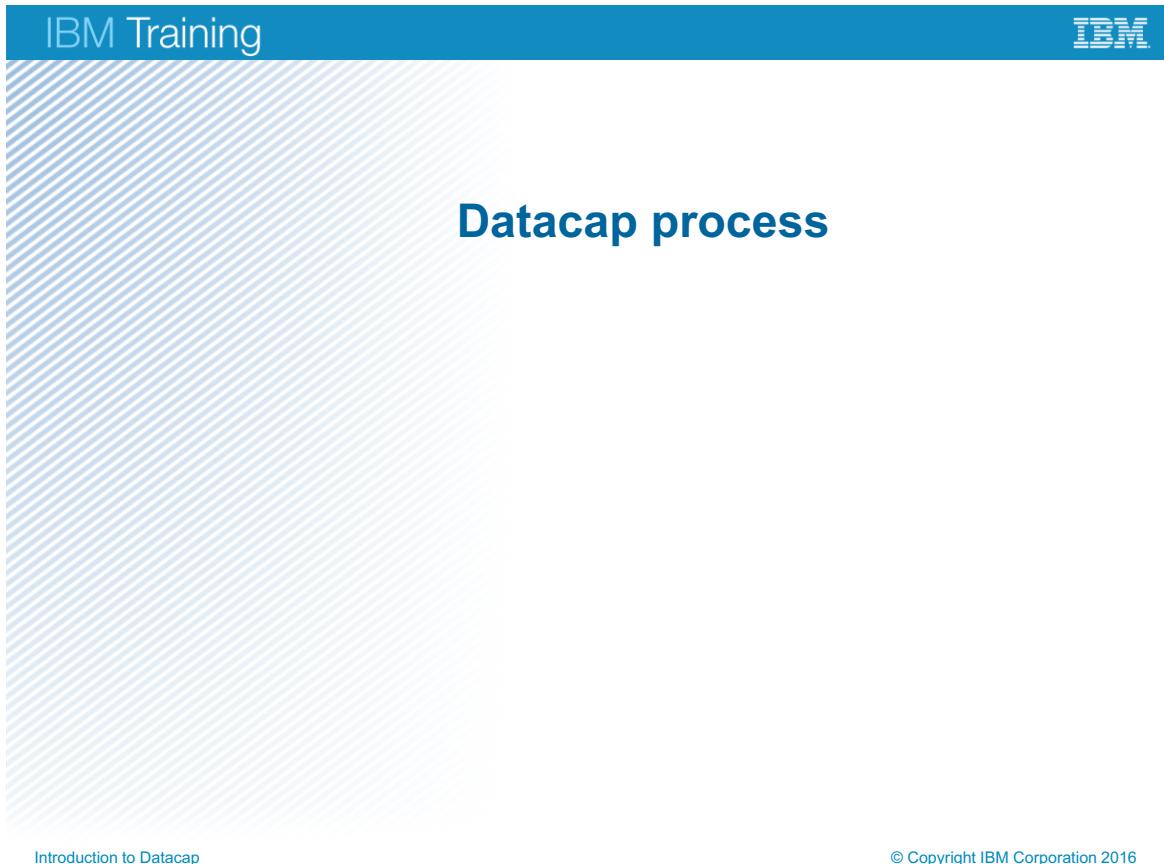


Figure 1-16. Datacap process

Lessons

- Datacap overview
- Datacap process
- Role-based Datacap clients
- Architecture configurations
- Architecture components
- Datacap Desktop
- Application design
- Introduction to Datacap Navigator
- Datacap web client (tmweb)

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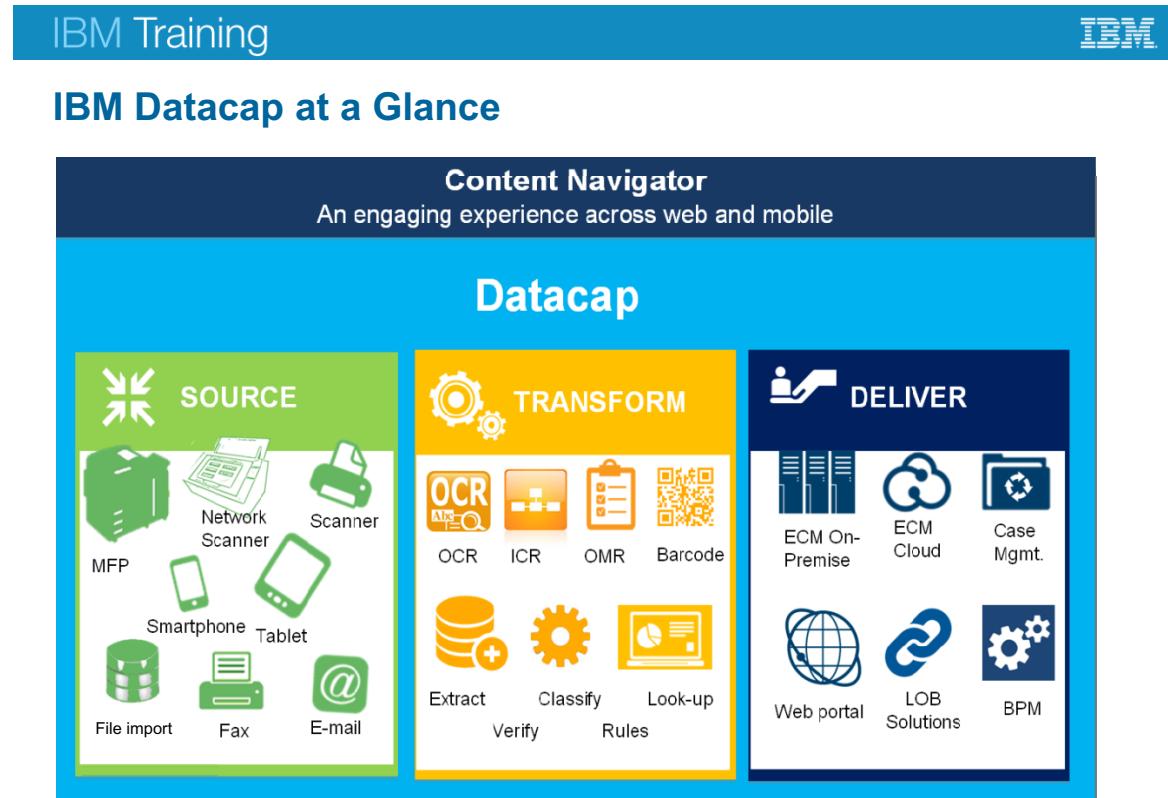
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Figure 1-17. Lessons

Why is this lesson important to you?

- This lesson provides an overview of Datacap process.

Figure 1-18. Why is this lesson important to you?



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Figure 1-19. IBM Datacap at a Glance

Stages of Datacap process

Source

- Documents that are captured from different channels.

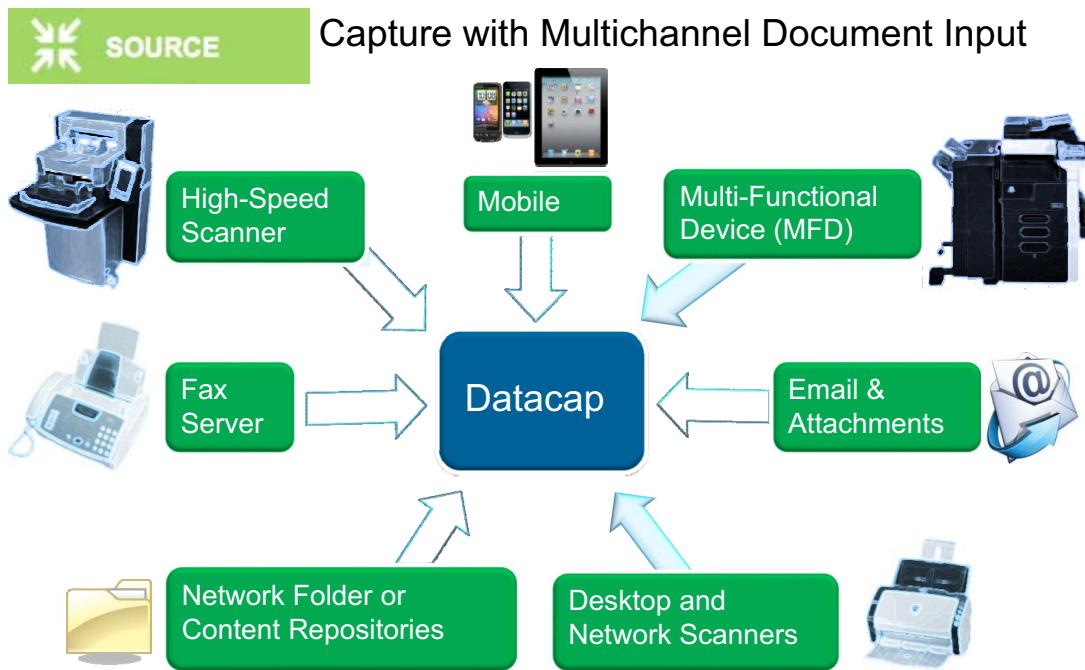
Transform

- Datacap classifies, recognizes, validates, and verifies the document content.

Deliver

- The capture documents can be exported to different back-end systems, and made available for various applications.

Source: Distributed Capture



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Figure 1-20. Source: Distributed Capture

The diagram shows different channels from which the source documents are captured.

Datacap supported file formats for the source

Input Channels	File Format	Notes
<ul style="list-style-type: none"> • Scanners • Multi-Functional Devices 	<ul style="list-style-type: none"> • TIFF, JPEG, PDF 	Color and grayscale are typically converted to single page bitonal TIFF.
<ul style="list-style-type: none"> • Mobile devices • Email attachments • Windows file system 	<ul style="list-style-type: none"> • TIFF, JPEG, PDF, PNG • HTML, RTF, TXT, DOC, DOCX, XLS, XLSX, ZIP, EML 	<ul style="list-style-type: none"> • JPEG2000 compression is not supported. • Password-protected PDF files and fillable PDF forms are not supported.
<ul style="list-style-type: none"> • FAX 	<ul style="list-style-type: none"> • G3, or G4 TIFF • Single-page or multi-page bitonal 	<ul style="list-style-type: none"> • For recognition and all tasks. • Fax documents are black and white.

Figure 1-21. Datacap supported file formats for the source

For more information, see “Software Product Compatibility Reports Datacap 9.0.1”

http://www.ibm.com/support/knowledgecenter/SSZRWV_9.0.1/com.ibm.dc.install.doc/sw_comp_reports.htm

Transform: Recognition, Classification, and Validation



- Machine print and hand print character recognition
- One and two dimensional barcode readings
- Check marks
- Automatic document classification
- Extraction of metadata
- Validation
- Flexible rules engine



Image Technology	Typical Accuracy
Barcode	99+%
OCR	98-99%
ICR	90%
IDR	85-90%

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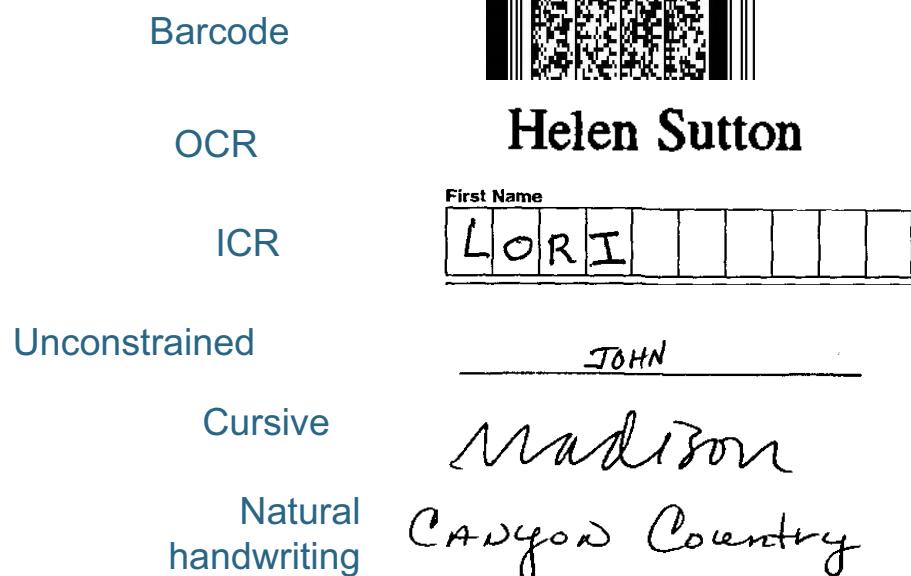
Figure 1-22. Transform: Recognition, Classification, and Validation

By using the Datacap rules engine, data capture can be tailored to fit the most demanding business requirements.

- The settings can be changed quickly when business needs change.

Automatic Recognition from Images

Data Capture Types - Automatic Recognition from Images



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Figure 1-23. Automatic Recognition from Images

OCR – Optical Character Recognition

- This technology is used to convert system-printed text in an image to editable text

ICR – Intelligent Character Recognition

- Recognize hand written characters

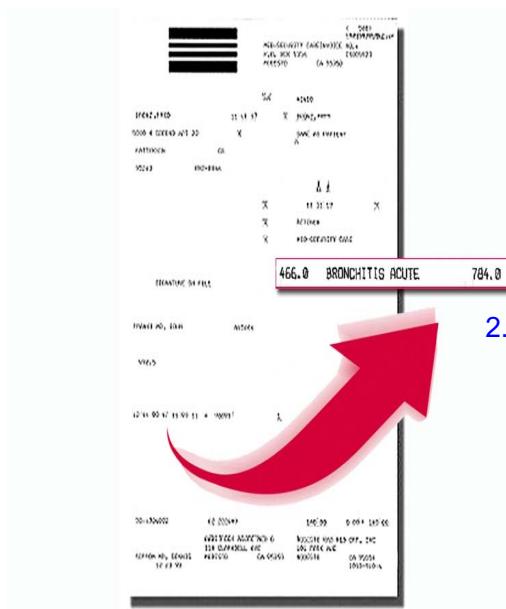
OMR – Optical Mark Recognition

- Recognize check boxes, radio buttons, and so on.

Barcode recognition

- The ability to recognize and interpret barcodes.

Automatic Data Extraction



1. Index the document image with searchable metadata in Enterprise Content Manager
 - Vendor name
 - Invoice number
 - Invoice date
 - SSN
 - Customer number
 - Provider ID
2. Populate Business Systems with Key Data
 - Banking Systems
 - Accounting System
 - ERP
 - CRM
 - Workflow
 - Adjudication
 - Order processing
 - Business Intelligence

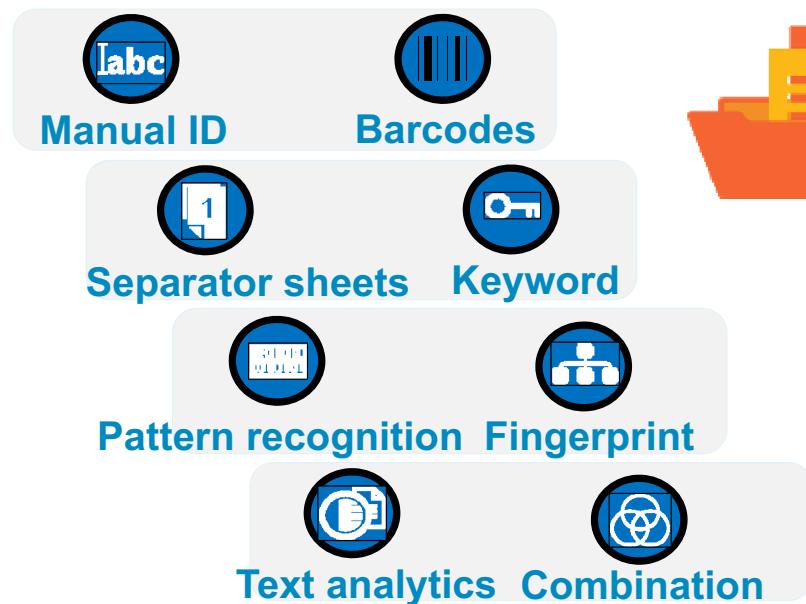
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Figure 1-24. Automatic Data Extraction

Datacap methods for page identification

Automatic Classification reduces the workload of manual processing.



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Figure 1-25. Datacap methods for page identification

The diagram shows various page identification methods.

Document classification is based on the page identification.

Page identification – Barcodes

- Identifies the current page based on the barcode values that are found in the image.
- One- and two-dimensional barcodes are used for page recognition.
- One-dimensional barcodes
 - Can be with or without numbers.
 - Example: Code 39 can store up to 43 alphanumeric characters.
- Two-dimensional (2D) barcodes
 - Coded with a matrix that represents information along the vertical and horizontal axes of the barcode.
 - Can store up to several kilobytes of data.



1234567890



Figure 1-26. Page identification – Barcodes

Page identification – Keywords

- Keyword identifies the current page based on the keywords that are found in the recognition text.
 - This identification technique requires recognition text and full page recognition enabled.
- Keyword text file
 - A list of words or phrases that are separated by new lines, in a file.
 - Word matching is case-sensitive.
 - The file must have a “.key” extension for the system to recognize it as a keyword file.
 - The file is used for matching.
- Examples of keywords:
 - Donation, invoice, receipt, ticket

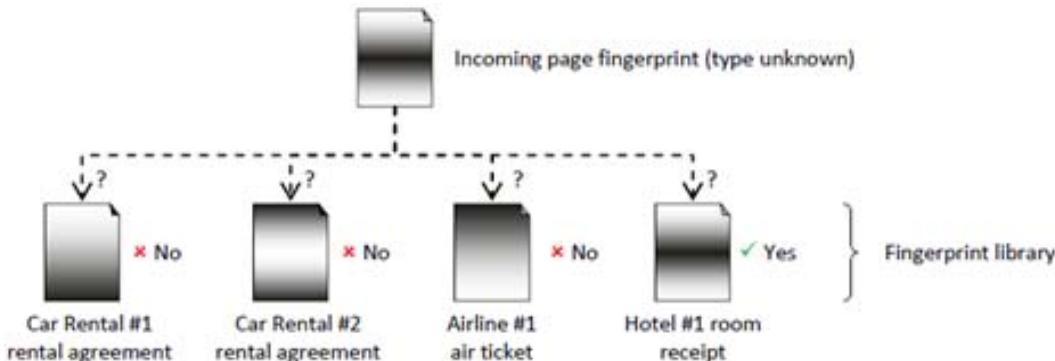
Figure 1-27. Page identification – Keywords

How do keywords work in page identification?

- The search first looks for the first word or phrase in the keyword file.
- Common substitutions are applied to search criteria to improve results.
- Starting from the location of the last find, if the word is found, the search stops.
- If no match is found, the next line from the keyword file is read and again the search starts from the result of a previous find.
- This process continues until a match is found or all of the lines in the keyword file are read.
- The location of the found word or phrase that matches an entry in the keyword file is remembered to be used by subsequent actions.

Page identification – Fingerprints

- Fingerprinting
 - Identifies the current page based on fingerprint matching.
 - Datacap generates a fingerprint that describes each incoming page.
- A fingerprint consists of an image file (.tif) and a recognition file (.cco).
- The CCO contains the location of all words and lines.
- Example: Compare dark and light zones to identify an incoming page.



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Figure 1-28. Page identification – Fingerprints

How does the Fingerprinting technique work?

- The fingerprint can include information about the relative densities of different regions of the page or the location of text on the page.
- Datacap compares an incoming page fingerprint to existing ones.
- If it matches an existing fingerprint, it is safe to assume that the incoming page is of the same class as the existing one.
 - The offset required to give the best match is also captured.
- If a match does not occur, it creates a fingerprint.
- Technique is adapted for structured and semi-structured documents with a fairly constant layout.

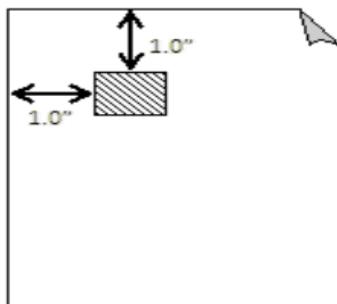
Example of page identification

In the example that is shown on the diagram, the incoming page matches the Hotel #1 room receipt.

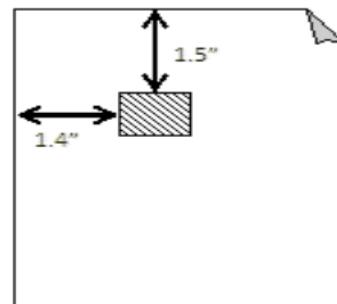
Datacap assigns it the type "Room_Receipt", and records the ID of the matching fingerprint in the runtime batch hierarchy.

Page identification – Pattern Recognition

- Pattern recognition
 - Identifies the current page based on geometric patterns such as:
 - Vendor logos.
 - Page registration marks.
 - Text-based patterns.
 - You can use Datacap pattern matching to identify pages and adjust misaligned or distorted images.



Fingerprint



Scanned page

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Figure 1-29. Page identification – Pattern Recognition

Text analytics – (Content Classification) You must enable full page recognition.

Other Page identification methods

- Manual ID
 - Manual page ID selection by the operator.
- Separator sheets
 - Identifiable separator sheets are physically placed in the batch so that they can be used to identify the following page.

Page identification – Text analytics

- Text analytics (Content Classification)
 - Identifies the current page by using the IBM Content Classification Knowledge Base.
 - Analyzes text to try to find matches.
- Enable Datacap applications to use the IBM Content Classification Knowledge Base for fingerprint matching.

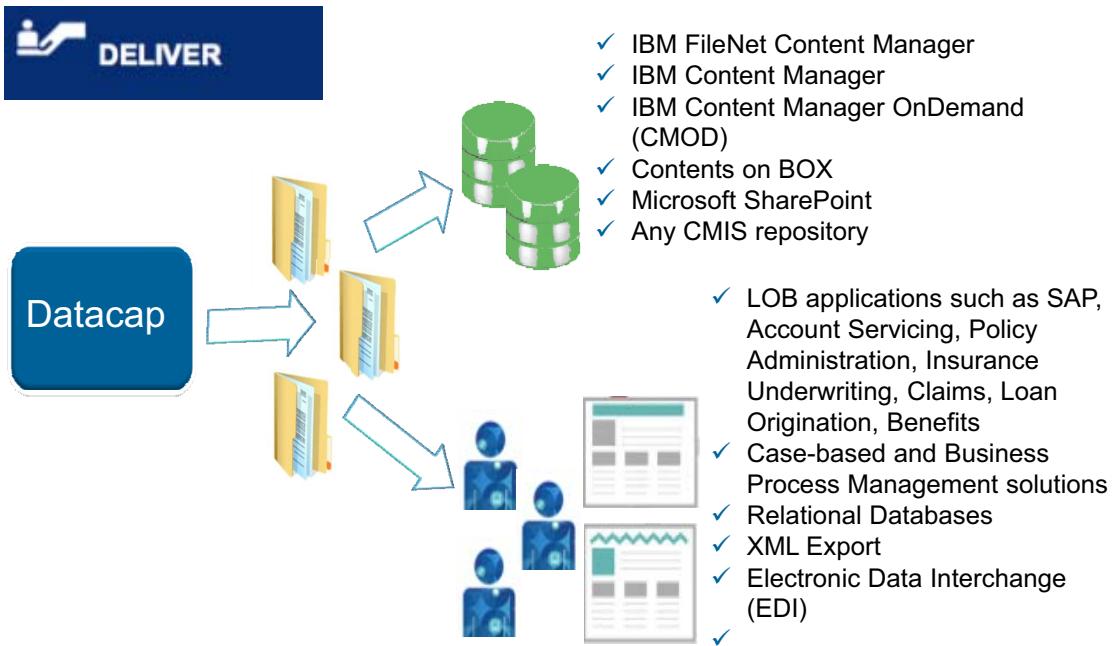
Figure 1-30. Page identification – Text analytics

Text analytics – (Content Classification) You must enable full page recognition.

Other Page identification methods

- Manual ID
 - Manual page ID selection by the operator.
- Separator sheets
 - Identifiable separator sheets are physically placed in the batch so that they can be used to identify the following page.

Deliver: Captured Documents and Data



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Figure 1-31. Deliver: Captured Documents and Data

Medical Claims Datacap application uses Electronic Data Interchange (EDI)

Datacap Capture process

- Organize the flow of tasks in the capture process from scan to export and exceptions in a workflow.
 - Split batches to group documents for exception or prioritized processing.
 - Control access to the system and tasks that use its security features.
 - Monitor progress of capture operations and fix problems in real time.
 - Report on capture operations and provide statistics on how well the system is doing.
 - Run unattended tasks in the background that uses the Rulerunner service
 - Provide a unified execution environment for background processing
 - Run multiple process threads to increase throughput.
 - Support flexible deployment scenarios.



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Figure 1-32. Datacap Capture process

Support flexible deployment scenarios

Example: Central mail room-type of operations and distributed imaging over the web, or at regional offices.

Rules and rulesets

- Rules
 - Rules are assigned to process specific objects (Example: Analyze and identify pages).
 - Entity that is tied to a Datacap Object (DCO Objects are: Batch, Document, Page, or Field).
 - An ordered set of functions that process an object.
 - Reusable and extensible.

- Ruleset
 - A ruleset consists of one or more rules.

Figure 1-33. Rules and rulesets

Data verification

- Define rules to recognize and validate image content.
 - Based on the validation results, you decide to route the data to an operator for manual verification.
- In the verification step, the operator corrects and validates the fields.
- The following user interfaces allow manual verification:
 - Datacap Navigator.
 - Datacap Desktop.
 - FastDoc.
- You can customize the verification (panels) interface.

Figure 1-34. Data verification

Review questions (1)

1. The Scanners and Multi-Functional Devices input channels support which of the following file types?
 - Select more than one option:
 - A. TIFF
 - B. JPEG
 - C. TXT
 - D. HTML
 - E. PDF
 - F. DOCX
 - G. ZIP

2. True or False.

Both one- and two-dimensional barcodes are used for page recognition.

Figure 1-35. Review questions (1)

Review answers (1)

1. The Scanners and Multi-Functional Devices input channels support which of the following file types?
 - Select more than one option:
 - A. TIFF
 - B. JPEG
 - C. TXT
 - D. HTML
 - E. PDF
 - F. DOCX
 - G. ZIP

The answers are : A, B, and E

2. True or False.

Both one- and two-dimensional barcodes are used for page recognition.

The Answer is: True

Figure 1-36. Review answers (1)

Review questions (2)

3. True or False.

Datacap captured documents and data can be exported to content repositories or can be used in applications.

4. Which of the following items are Datacap page identification methods?

Select more than one option:

- A. Keyword
- B. Batch Process
- C. Pattern recognition
- D. Fingerprint
- E. Document export
- F. Input channel

Figure 1-37. Review questions (2)

Review answers (2)

3. True or False.

Datacap captured documents and data can be exported to content repositories or can be used in applications.

The answer is: True.

4. Which of the following items are Datacap page identification methods?

Select more than one option:

- A. Keyword
- B. Batch Process
- C. Pattern recognition
- D. Fingerprint
- E. Document export
- F. Input channel

The Answers are: A, C, and D

Figure 1-38. Review answers (2)

Lesson 1.3. Role-based Datacap clients

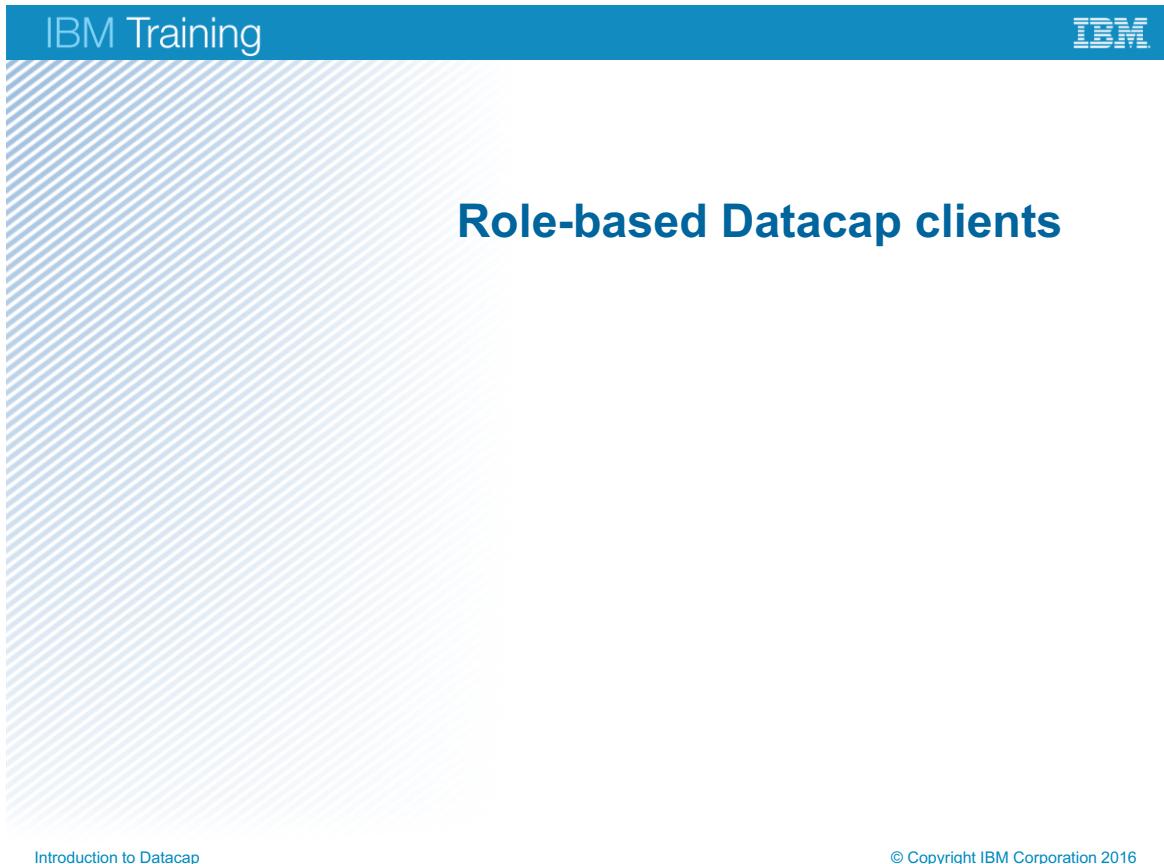


Figure 1-39. Role-based Datacap clients

Lessons

- Datacap overview
- Datacap process
- Role-based Datacap clients
 - Architecture configurations
 - Architecture components
 - Datacap Desktop
 - Application design
 - Introduction to Datacap Navigator
 - Datacap web client (tmweb)

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Figure 1-40. Lessons

Why is this lesson important to you?

- This lesson provides an overview of different Datacap clients for different business roles.

Figure 1-41. Why is this lesson important to you?

Role-based Datacap tools

- Business users
 - Datacap Navigator – Web client
 - Datacap Mobile
 - Datacap Desktop – Windows based client
 - Datacap FastDoc – Windows based client
- Business Analysts
 - FastDoc (for configuring applications)
- Developers
 - Datacap Studio (for configuring and developing applications)
- Administrators
 - Datacap Navigator (new in Datacap 9.0)
 - Server management tools

Figure 1-42. Role-based Datacap tools

More details and hands on labs for each tool in the list are provided in the following lessons.

Datacap Navigator

- Datacap client for scanning, uploading, manual classification, and administration of the workflow and users.

Datacap tmweb client

- Datacap client for scanning, uploading, manual classification, and administration of the workflow and users.
- tmweb is being phased out in favor of Datacap Navigator web client.

Datacap Desktop

- Datacap client for scanning, manual classification, user data correction, and manual background processing for testing background tasks.

Datacap FastDoc

- Uses application templates and prebuilt rulesets to quickly configure functional applications.
- Datacap client for scanning, manual classification, user data correction, and manual background processing for testing background tasks.

Datacap Studio

- A more robust development environment to customize FastDoc built applications or build custom applications from scratch.

IBM Training

Datacap Navigator – Web client

Distributed Web Capture with IBM Content Navigator
Scan, Monitor, Verify

Scan

Monitor

Verify

Introduction to Datacap

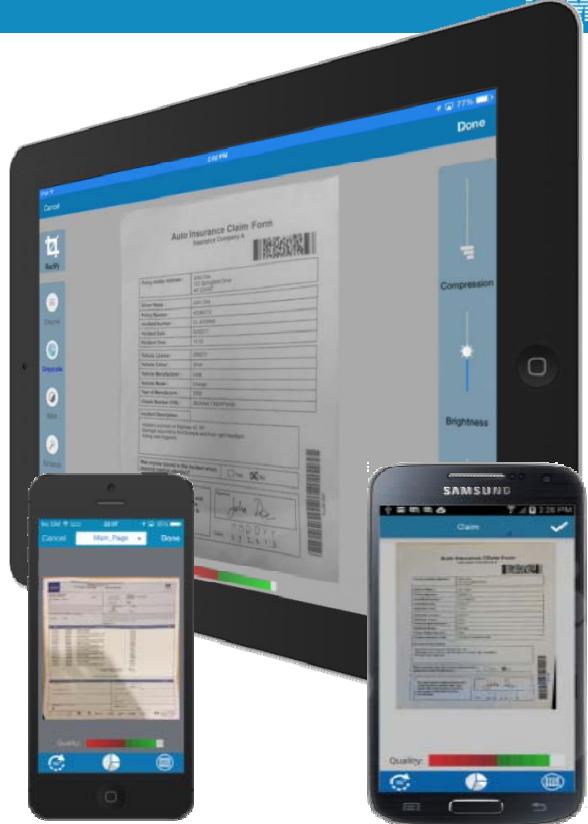
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Figure 1-43. Datacap Navigator – Web client

IBM Training

Datacap Mobile Capture

- Capture images
 - From mobile device directly into Datacap application.
 - Auto or manual mode.
- Rich on-device feature set
 - Automatic edge detection, deskew, and snap when quality thresholds met.
 - Crop, contrast/brightness, rotate, and reorder
- On-device classification
- Indexing (data entry)
 - On-device zonal OCR
 - On-device barcode recognition
- Submission of the document to the Datacap server.



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Figure 1-44. Datacap Mobile Capture

IBM Datacap Mobile app captures images into Datacap application at the point of origination. The app processes, and uploads documents to a Datacap server.

Capture Images

- Capturing in Auto mode:
 - Is the default configuration for Datacap Mobile.
 - Reduces the learning curve for the user, and to ensure the user gets the best possible results.
- Capturing in Manual mode
 - It is not possible to use automatic mode for all occasions.
 - Manual mode is suitable when there is no notion of a “page” with edges or minimum levels of quality for OCR.

Example: Photographic evidence of property damage.

 - Some content might need to be submitted as evidence along with a main document.

Example: Receipts.

Classification, or identification

It is the process of determining what pages we are working with and how they fit together into a document.

Indexing

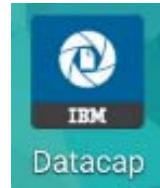
- It is the final step in preparing the document for submission to the Datacap server is to extract data from the images into designated fields.
- Datacap Mobile supports three types of indexing:
 - Manual
 - On-device OCR
 - On-device Barcode recognition
- Indexing can be done at all levels of document hierarchy. Only page level is exposed in the default app.
- Although indexing can be done on the server-side, Datacap Mobile allows it at the point of capture. The user can ensure that the indexing is done accurately and comprehensively to minimize any errors later in the business process.

Submission

Submit the document to the Datacap server for further processing.

IBM Datacap Mobile app

- Compatible platforms:
 - Apple iOS
 - Google Android
- Compatible software versions:
 - iOS 8.0.0 or later (iPhone or iPad)
 - Android 4.4 or later (Android smartphone or tablet devices)
 - A licensed version of IBM Datacap at version 9.0.0.1 or later
 - Mobile app is available on Apple App Store, iTunes and Google Play
- App developers can customize and extend the mobile app with the Datacap Mobile SDK APIs and documentation.



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Figure 1-45. IBM Datacap Mobile app

Help Path

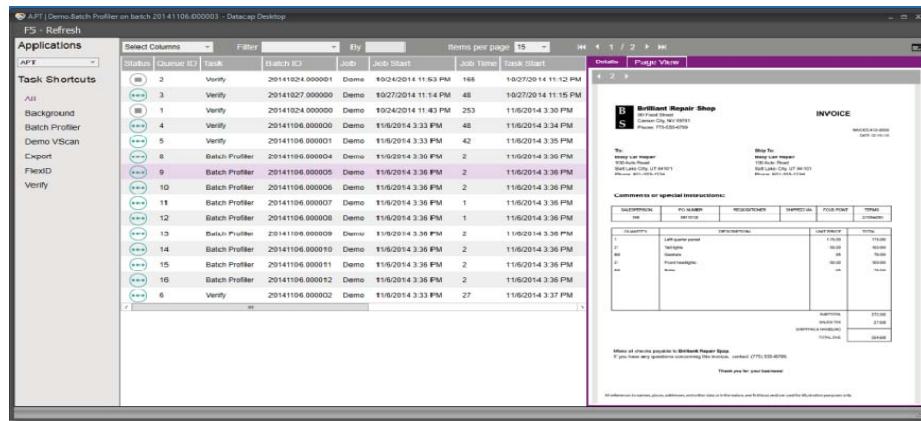
- Datacap 9.0.1>Installing and configuring in a client/server environment>Datacap installation and configuration in a client/server environment>Installation instructions for Datacap server>Datacap Mobile app configuration

http://www-01.ibm.com/support/knowledgecenter/SSZRWV_9.0.1/com.ibm.dc.install.doc/dcain447.htm?lang=en



Datacap Desktop – Windows based client

- Datacap Desktop
 - Scan (with high-speed scanners)
 - Customizable Verification Panel
 - Monitor tasks
 - Custom batch fields support
 - Full batch content display



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Figure 1-46. Datacap Desktop – Windows based client

Custom Verification Panel - Datacap Desktop provides an interface that you can customize for verifying and correcting information from scanned documents, or for manually entering information.



Datacap FastDoc – Windows based client

- Rapid applications development in a stand-alone environment.
 - Configure applications to scan, index, and manually run background tasks on documents quickly without using Datacap Studio.
- As a client (to scan and verify) to Datacap.

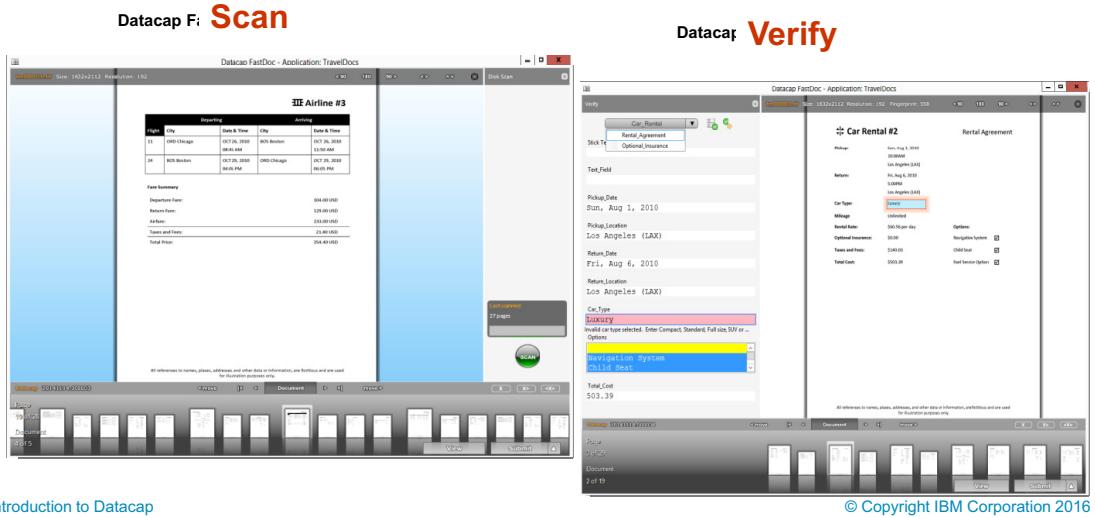


Figure 1-47. Datacap FastDoc – Windows based client

Rapid application development in FastDoc

Configure new Datacap applications quickly without using Datacap Studio.

You can configure applications to scan, index, and manually run background tasks on documents.

FastDoc as a Datacap client

FastDoc runs as a client that scans, auto indexes, and uploads batches of documents to Datacap Server.

Datacap Applications

- IBM Datacap installation includes a sample application:
 - [TravelDocs](#)
- The following applications are available as separately licensed:
 - [Datacap Accounts Payable](#)
 - [Datacap Medical Claims](#)
- Examples of Industry-specific applications that are created with Datacap:
 - [Loan Applications](#)
 - [Census forms](#)

Figure 1-48. Datacap Applications

IBM Training



Datacap Accounts Payable

- Capture and verify invoice data without manual data entry
- Captures all line items, even on multi-page invoices
- Learns new invoice types continuously
- Validation rules on dates, math, lookups, data types
- Aids three-way match with purchase order line item reconciliation
- SAP integration solution that is provided by Business Partners

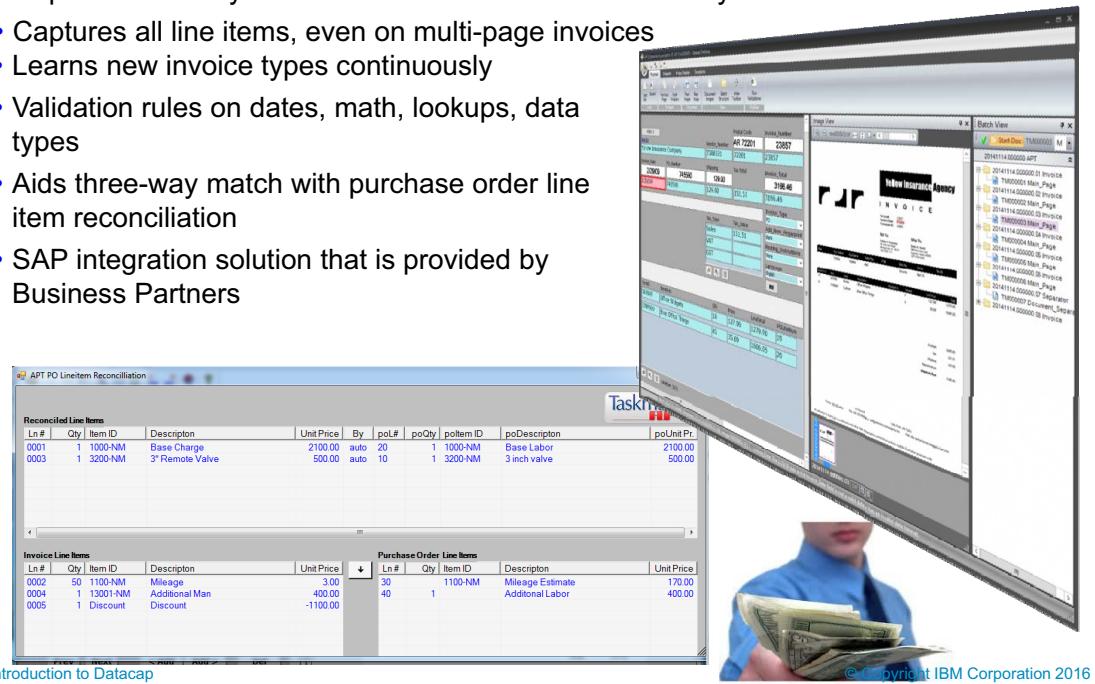
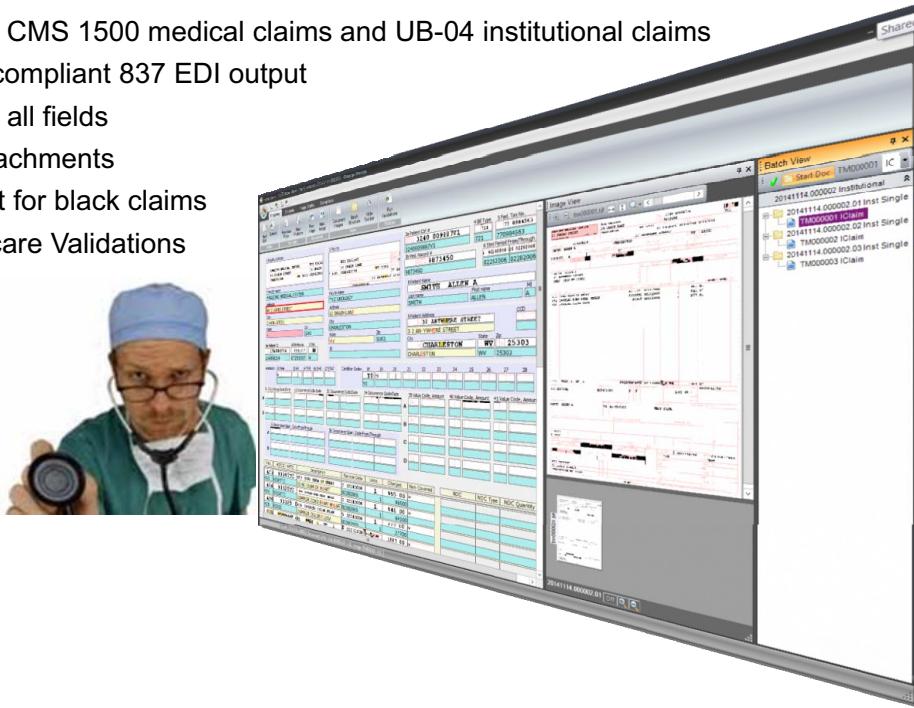


Figure 1-49. Datacap Accounts Payable

IBM Training 

Datacap Medical Claims

- Capture CMS 1500 medical claims and UB-04 institutional claims
- HIPAA-compliant 837 EDI output
- Capture all fields
- Plus attachments
- Support for black claims
- Healthcare Validations



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Figure 1-50. Datacap Medical Claims

Role-based Datacap clients

English, French, Spanish,
German, Dutch, Italian,
Portuguese, Swedish,
Russian, Hungarian, Polish,
Romanian, Czech, Slovak,
Turkish, Greek, Arabic,
Hebrew, Chinese, Japanese



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Figure 1-51. Role-based Datacap clients

For more information on “IBM Datacap 9.0.1 Language Support”, please see:

<http://www-01.ibm.com/support/docview.wss?uid=swg27044111>.

Review questions

1. Which one of the following items is not a Datacap client for business users to process a batch?
 - A. Datacap Navigator
 - B. Datacap Mobile
 - C. Datacap Desktop
 - D. Datacap FastDoc
 - E. Datacap Studio
2. True or False.
Datacap FastDoc can be used to rapidly configure the Datacap applications and as a client to scan and verify the documents.

Figure 1-52. Review questions

Review answers

1. Which one of the following items is not a Datacap client for business users to process a batch?
 - A. Datacap Navigator
 - B. Datacap Mobile
 - C. Datacap Desktop
 - D. Datacap FastDoc
 - E. Datacap Studio

The Answer is: E

2. True or False.

Datacap FastDoc can be used to rapidly configure the Datacap applications and as a client to scan and verify the documents.

The Answer is: True

Figure 1-53. Review answers

Lesson 1.4. Architecture configurations

Architecture configurations

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Figure 1-54. Architecture configurations

Lessons

- Datacap overview
- Datacap process
- Role-based Datacap clients
-  Architecture configurations
 - Architecture components
 - Datacap Desktop
 - Application design
 - Introduction to Datacap Navigator
 - Datacap web client (tmweb)

Figure 1-55. Lessons

Why is this lesson important to you?

- This lesson provides an overview of the configuration variations for a Datacap Capture system.

Figure 1-56. Why is this lesson important to you?

Architecture configurations

- Single system configuration – Components are all installed on the same system.
 - Used for providing product demonstrations, in a proof-of-concept environment, or during initial product evaluation.
- Client/server configuration – Components are installed on dedicated systems.
 - Supports up to hundreds of simultaneous users, and uses centralized application management and shared databases.
- Hybrid Solution – Components are installed on shared systems.
Examples:
 - Datacap web client (tmweb), Report Viewer, and Datacap Web Services (wTM) sharing one system.
 - Rulerunner service and Fingerprint service sharing one system.

Figure 1-57. Architecture configurations

Datacap Capture can be deployed in various configurations.

Single system architecture

At one end of the spectrum is the single-system configuration, where Datacap Capture components are installed on the same system. This configuration is typically used for providing product demonstrations, in a proof-of-concept environment, or during initial product evaluation.

Single-system installations can also be used for development systems and for training systems like the one used for this class.

Using a single system architecture, all of the Datacap Capture components can be on the same system. You can install Datacap with various content management systems, described in the introduction lesson, to provide direct access to data repository.

Client/server configuration

At the other end of the spectrum, is the client/server configuration, where the various Datacap Capture components are installed on dedicated systems. (web servers and database servers). Client/server configurations can support up to hundreds of simultaneous users and uses centralized application management and shared databases.

Hybrid Solutions

And spanning the center of the spectrum are various hybrid configurations in which two or more Datacap Capture components are installed on the same system. You might, for example, run Datacap Web (tmWeb), Report Viewer, Datacap web services on the same web server. You might also install and run the Datacap Rulerunner Service and the Fingerprint Service on another server. In any production environment, it is considered good practice Datacap Rulerunner service on a dedicated server because it is very CPU intensive.

Architecture configurations

- Server/Client and hybrid configurations that are classified geographically.
 - Centralized Deployment.
 - All Datacap services are done at a central site.
 - Distributed Deployment.
 - Services are distributed to two or more sites.

Examples

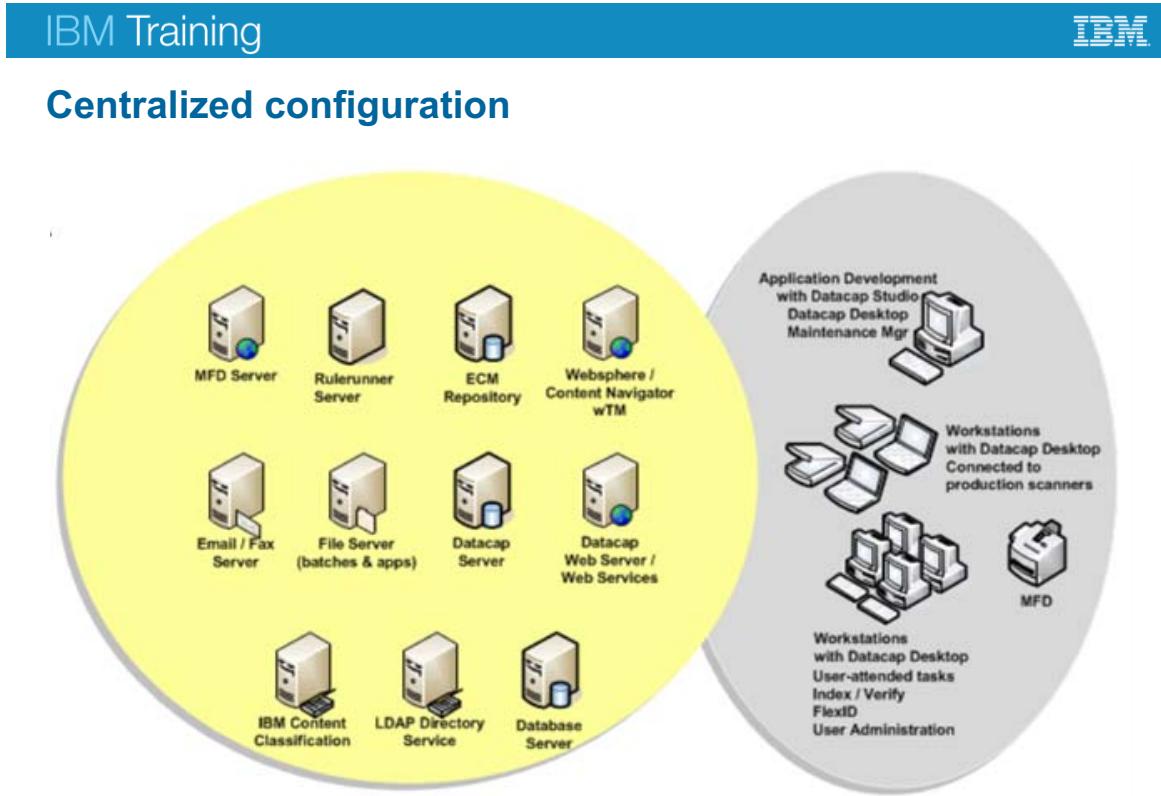
- Centralized capture
- Distributed Scanning with centralized Indexing
- Distributed capture with local indexing and central control.

Figure 1-58. Architecture configurations

The client/server and hybrid configurations can be further categorized geographically into more configurations:

Some configurations might include these examples:

- Centralized capture
 - All functions that are done at a central location, that is a one geographic location.
- Distributed Scanning with centralized Indexing
 - The scanning function is done at a remote site and that batches are uploaded to the central location for indexing and further processing.
- Distributed capture with local indexing and central control.
 - The scanning and indexing functions are done at remote locations and that is then uploaded to a central site for exporting to a repository, archiving, or further processing.



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Figure 1-59. Centralized configuration

Centralized Configuration

- This diagram represents a centralized configuration where all functions are done at a central site.
- The systems in the yellow area are in a server room.
- The workstations, production scanners, and MFD (Multi-Function Device) scanners are at user accessible stations or offices and cubicles.

Distributed configuration

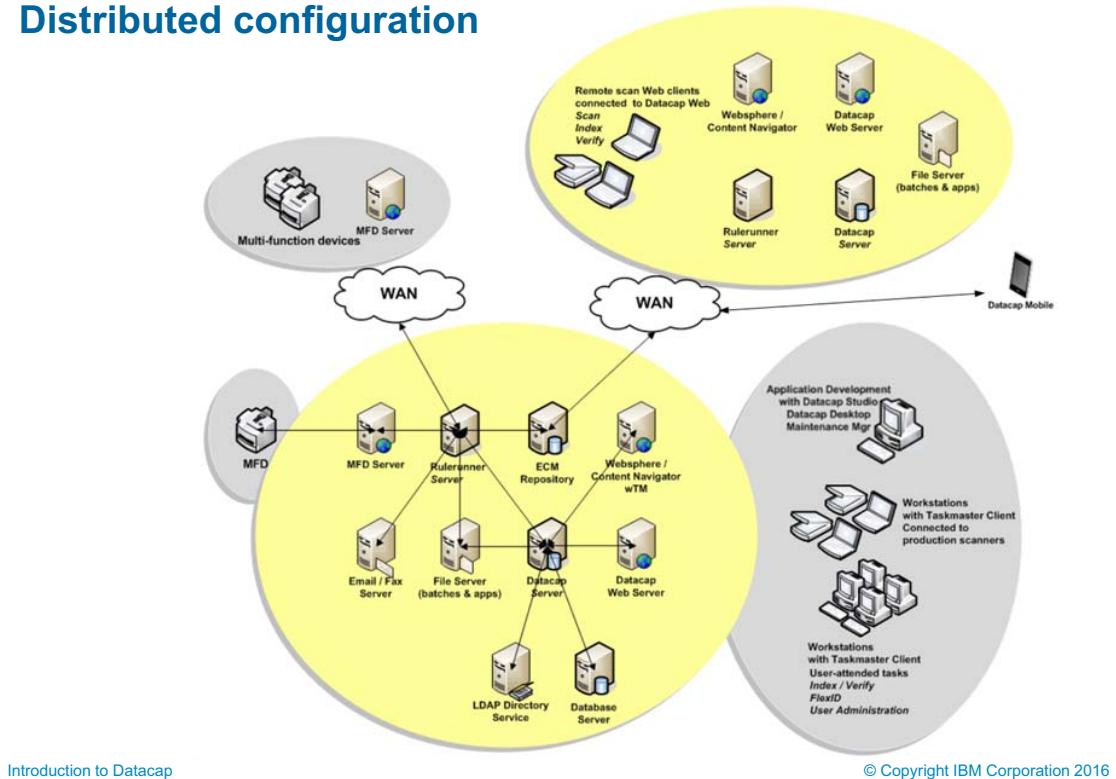
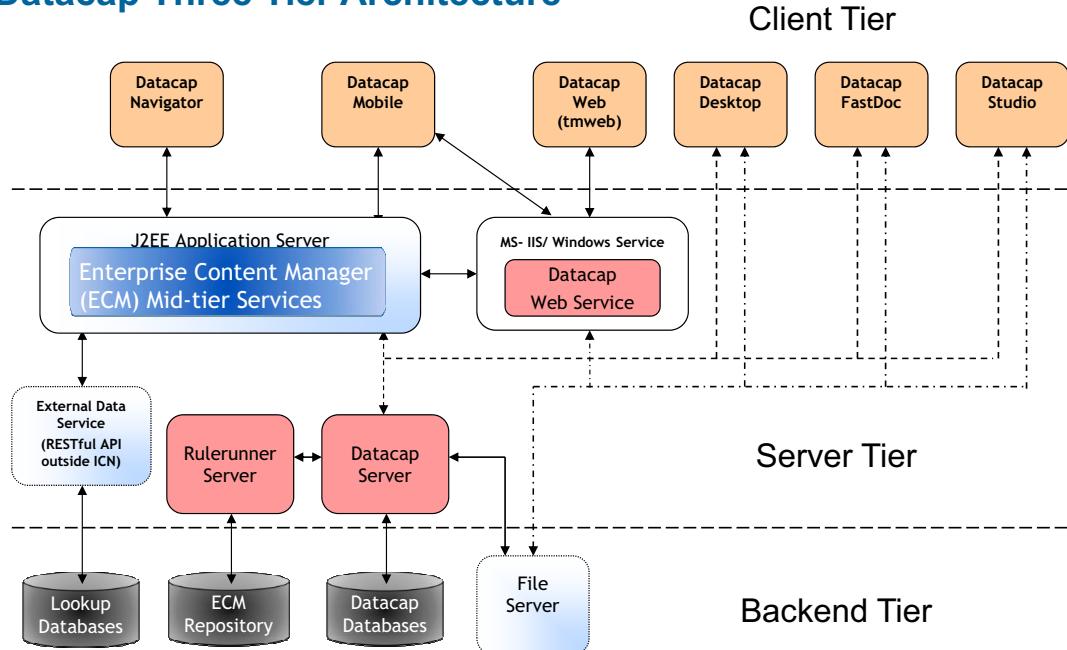


Figure 1-60. Distributed configuration

Distributed Configuration

- This diagram represents a distributed configuration where all functions can be done at the central site.
- A remote satellite site provides services for scanning and indexing but database, LDAP, and Enterprise Content Manager Repository services are provided by the main site.
- A third remote site that is scanning only station with multi-function devices and a multi-function server would upload the scanned batches to the main site for indexing and other processing.

Datacap Three Tier Architecture



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Figure 1-61. Datacap Three Tier Architecture

Datacap Three Tier Architecture

The Datacap components are designed to operate in a three tier configuration.

Client Tier

The client tier consists of all of the components that are hosted on workstations or mobile devices where humans interface to the Datacap system.

Server Tier

The server tier is where all the Datacap services are provided. This interface is used between the users and the backend storage devices. The main service components are:

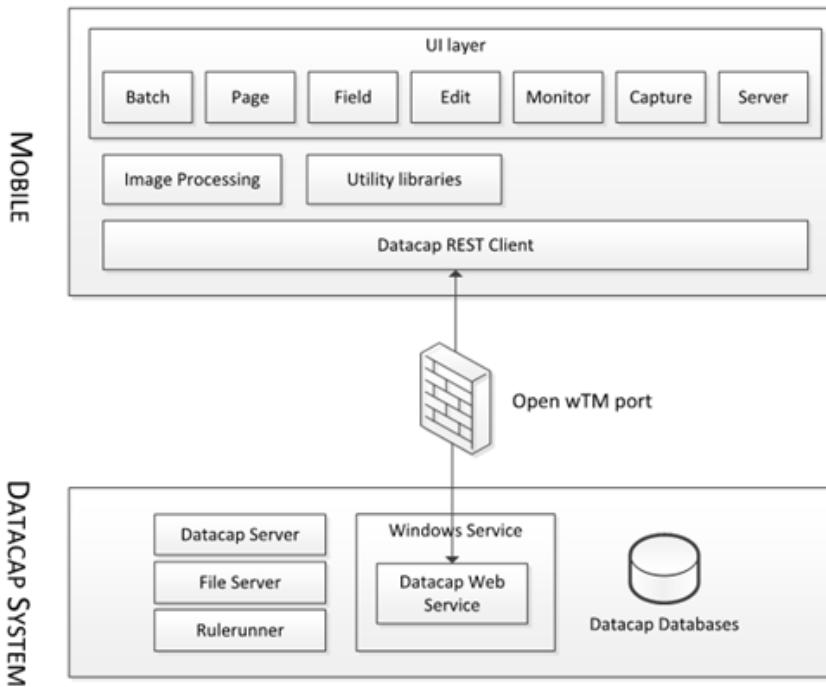
- Datacap Service – Authentication, batch task-queuing, database access, and file sharing.
- Rulerunner Service – Background task processing.
- Web Services – For web and mobile client connection. RESTful API services for external access to Datacap services and also used by IBM Content Navigator to provide Datacap Navigator and Mobile connectivity.

Backend Tier

The backend tier is where storage servers are configured.

- Datacap databases are:
 - Engine for task queueing batch monitoring,
 - Admin for Datacap authentication,
 - Fingerprint for fingerprint storage and management.
 - Lookup for validating or populating metadata fields.
- File Server
 - Storage of Datacap applications and other control code, libraries, and tools.
 - Storage of Fingerprint images and data.
 - Temporary storage of batch task information, images, and logs.
- ECM Repository
 - Permanent Storage of images and searchable metadata for Datacap export data.
- External databases and services.
 - Example: lookup databases

Mobile configuration



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Figure 1-62. Mobile configuration

Datacap mobile architecture with remote access

This illustration shows the components of Datacap components that are hosted in a mobile device and how the mobile device connects to the Datacap services.

Mobile

- IBM Content Navigator Mobile application with Datacap Document capture.
- Connects to the Datacap System through a firewall protected open Datacap Web Services (wTM) port.

Datacap Systems

- Datacap Web Services (IIS)
- Datacap Server
- File Server (applications and batches)
- Rulerunner Server
- Datacap Databases

Review questions (1)

1. True or False

Many production Datacap installations can be configured with a Single system configuration.

2. True or False

The most efficient and cost effective Datacap installations are client/server configurations where all software components are installed on dedicated servers.

3. True or False

Most production Datacap systems have some Datacap components that are installed on dedicated systems and some components on shared systems.

Figure 1-63. Review questions (1)

Review answers (1)

1. Many production Datacap installations can be configured with a Single system configuration.

The answer is: False

2. The most efficient and cost effective Datacap installations are client/server configurations where all Datacap software components are installed on dedicated servers.

The answer is: False

3. Most production Datacap systems have some Datacap components that are installed on dedicated systems and some components on shared systems.

The answer is: True

Figure 1-64. Review answers (1)

Review questions (2)

4. Consider the terms “Centralized Deployment” and “Distributed deployment”. Which of the following statements is correct.
- A. Centralized and Distributed refer to how Datacap components are deployed across servers in a Datacap configuration.
 - B. Centralized and Distributed refer to geographic location of Datacap services and tasks.

Figure 1-65. Review questions (2)

Review answers (2)

4. Consider the terms “Centralized Deployment” and “Distributed deployment”. Which of the following statements is correct.
- A. Centralized and Distributed refer to how Datacap components are deployed across servers in a Datacap configuration.
 - B. Centralized and Distributed refer to geographic location of Datacap services and tasks.

The answer is: B

Figure 1-66. Review answers (2)

Review questions (3)

5. Consider the scenario where all of the Datacap services are provided by servers that are in a single-server room. Scanning and verification tasks are done from a workstation or scanning stations throughout multiple buildings at the same physical address and all connected to the same LAN. What is the classification for this scenario?
 - A. Centralized
 - B. Decentralized
6. Consider the scenario where all of the Datacap servers are at one physical location. Scanning and verification tasks are done from the location and from remote locations that are connected over the internet. What is the classification for this scenario?
 - A. Centralized
 - B. Decentralized

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Figure 1-67. Review questions (3)

Review answers (3)

5. Consider the scenario where all of the Datacap services are provided by servers that are in a single-server room. Scanning and verification tasks are done from a workstation or scanning stations throughout multiple buildings at the same physical address and all connected to the same LAN. What is the classification for this scenario?
- A. Centralized or B. Decentralized
- The answer is: A
6. Consider the scenario where all of the Datacap servers are at one physical location. Scanning and verification tasks are done from the location and from remote locations that are connected over the internet. What is the classification for this scenario?
- A. Centralized or B. Decentralized
- The answer is: B

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Figure 1-68. Review answers (3)

Lesson 1.5. Architecture components



Figure 1-69. Architecture components

Lessons

- Datacap overview
 - Datacap process
 - Role-based Datacap clients
 - Architecture configurations
-  **Architecture components**
- Datacap Desktop
 - Application design
 - Introduction to Datacap Navigator
 - Datacap web client (tmweb)

[Introduction to Datacap](#)

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Figure 1-70. Lessons

Why is this lesson important to you?

- This lesson provides an overview of the Datacap system components.

Figure 1-71. Why is this lesson important to you?

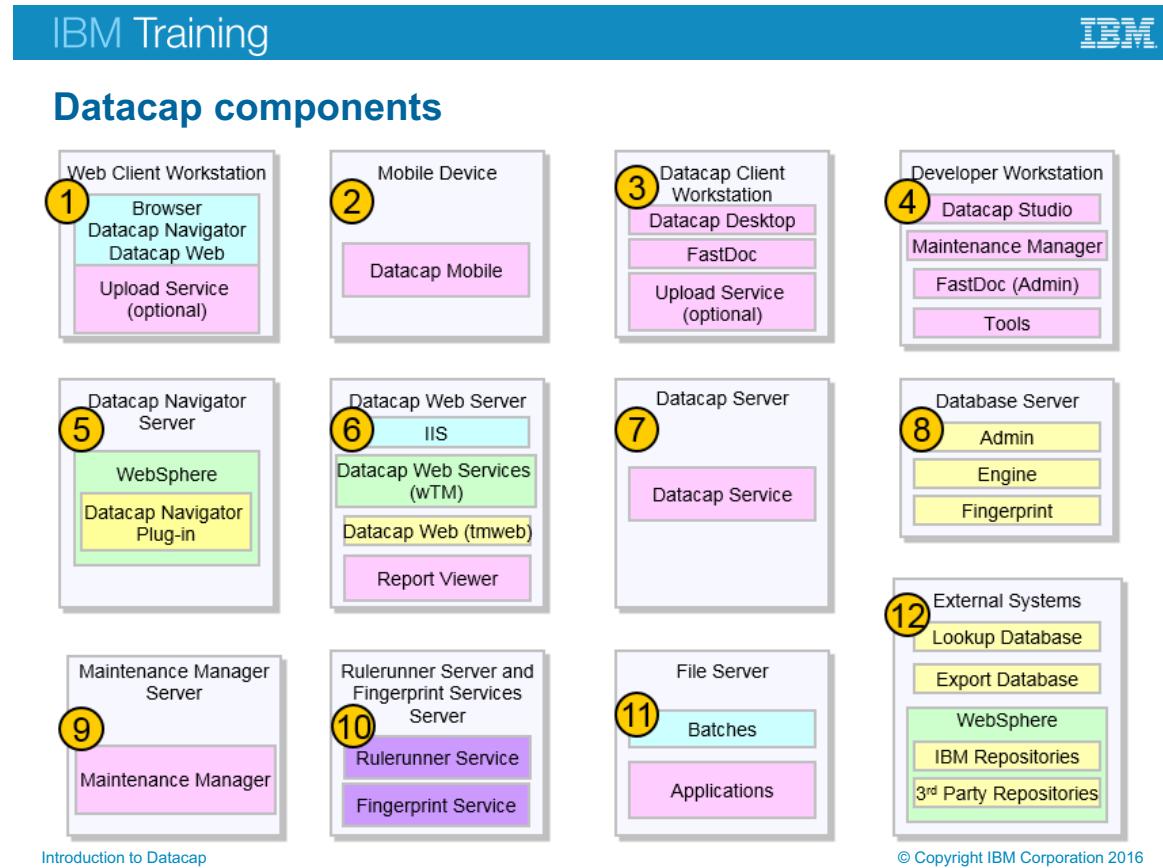


Figure 1-72. Datacap components

Datacap Components

This diagram represents one possible mapping of Datacap software components to physical server or workstation computers. There can be many other valid combinations.

1. Web Client Workstation with browser and Upload Service (optional). Datacap Navigator and Datacap Web (tmweb) clients that are run in the browser. This configuration is used for a remote user station or a remote scanning station.
2. Datacap Mobile is a iOS or Android-based Mobile device that is configured with apps that provide connectivity the Datacap system.
3. Datacap Client Workstations with Datacap Desktop, FastDoc, and Upload Service (optional). This configuration is for a local user or a local scanning station.
4. Developer Workstation with Datacap Studio, Maintenance Manager, FastDoc (Admin), and Tools. This configuration is for a business analyst, application developer, or system administrator.
5. IBM Navigator Server that is configured with the Datacap Navigator plug-in.

6. Datacap Web Server (IIS)

Note: Datacap Web Services wTM is shown here installed under IIS. It can also be installed directly as a windows service.

7. Datacap Server

8. Database Server (Admin, Engine, and Fingerprint)

9. Maintenance Manager Workstation (Maintenance Manager)

10. Rulerunner Server and Fingerprint Services Server

11. File server (Batches & Applications)

12. External Systems:

- a. Lookup Databases (Example: vendor, customer, and purchase order)
- b. Export database
- c. IBM Repositories
- d. Third Party Repositories

Components - Datacap Navigator and Datacap Web Client

- Used for remote business users for scanning, verification, administrative tasks, and application configuration.
- Browser-based client runs on available browser.
 - Datacap Web Client (tmweb).
 - Datacap Navigator.
- Communicates with Datacap Web servers for all services.
- Session cookies, require session affinity.
- ActiveX controls are used for scanning, image viewing, snippets, data entry fields, upload.
- Scan – supports TWAIN drivers.
- Multiple user interface layouts and functions support varying use cases.

Figure 1-73. Components - Datacap Navigator and Datacap Web Client

Datacap Navigator and Datacap Web Client

- These web clients provide functions similar to the Datacap client but does not require more software to be installed on the workstation.
- Multiple user interface layouts and functions support varying use cases.
 - Scan
 - Upload
 - Classification
 - Indexing
 - Verification
 - Multi-pass
 - Double blind
 - Push and pull
 - Administration

Datacap Web Client

- When you verify a batch by using the web client, verification rules are run on the web server. You can also configure an application workflow and run administrative tasks such as setting up Datacap groups and users.

Datacap Navigator

- Authentication is done through calls to Datacap Web Services.
- Is based on IBM Content Navigator technology and is installed, configured, and administered with IBM Content Navigator tools.
- Datacap Navigator communicates with the Datacap Server by using the Datacap Web Services APIs.
- For lookup and verification, Datacap Navigator uses the IBM Content Navigator External Data Services infrastructure.

Components – Datacap Client Workstation

- Used by business users to run tasks such as scanning and verification with one of the installed clients.
- When verifying a batch, verification rules are processed on the Datacap Client Workstation.
- Uses Taskmaster Server for queuing and security
- Accesses the file server to process images
- Accesses the fingerprint database and lookup databases through ODBC
- Scan supports ISIS drivers
- User windows based clients are Datacap Desktop, FastDoc.
- Browser hosted thin clients are Datacap web client (tmWeb), and Datacap Navigator.

Figure 1-74. Components – Datacap Client Workstation

Datacap client

The Datacap client component is a set of programs that provide user access to Datacap applications. The Datacap Desktop and FastDoc user interfaces are Datacap software components that run on Windows to run the user tasks, such as scanning and verification. When a user verifies a batch, the verification rules are run on the Datacap client workstation.

The Datacap Client Workstation component includes:

- Datacap Desktop for task processing and batch monitoring.
- Datacap FastDoc for offline and online task processing.
- Optional browser hosted Datacap web client (tmWeb), and Datacap Navigator.
- Optional Upload Service for automatically uploading scanned batches.

Components – Developer Workstation

- Used by application builders, developers, and administrators.
- Installed tools and applications:
 - Datacap Studio.
 - Datacap FastDoc.
 - Datacap Maintenance Manager
 - Application Manager
 - Datacap Report Viewer
 - Other Tools

Figure 1-75. Components – Developer Workstation

Datacap Studio

- Is the Datacap application development environment.
 - Configures rules, actions, fingerprints, document hierarchies, fields

Datacap FastDoc

- You can create applications on FastDoc to scan, index, and manually run background tasks on documents in a stand-alone environment or as a client to Datacap.

Datacap Maintenance Manager

- Provides application monitoring and notification capabilities.
- Monitor batches, send alerts, and do automate housekeeping tasks.
- Used to delete completed batch records and folders to free disk space.

Application Manager

- To manage multi-system distributed environments through a centralized set of key Datacap configuration settings that are stored in shared files.

Report Viewer

- Report Viewer is the reporting tool for real-time reports of Datacap activity. Report Viewer gets usage statistics and other data from the Engine database.

Other tools

- Application Wizard
- Database creation and copy utility.

Components – Datacap Navigator Server

- Datacap Navigator Server hosts web applications with IBM WebSphere Application Server.
- Datacap Navigator is based on IBM Content Navigator technology.
- Detailed configuration and functions information was already provided in the earlier Datacap navigator lesson.

Figure 1-76. Components – Datacap Navigator Server

Components – Datacap Web Server

- Datacap Web Server system hosts Datacap web applications with Microsoft IIS application server.
- Datacap web service components are:
 - Datacap Web Server (tmweb server).
 - Report Viewer Server (RV2 server).
 - Datacap Web Services (wTM - RESTful web service interface).
- Communications from IIS to back-end services is through the Datacap Server.

Figure 1-77. Components – Datacap Web Server

Datacap Web Server

- When scanning and verifying a batch with the web clients, the rules are run on the Datacap Web server.
- For tasks that do not require operator intervention, the application is configured to use the Rulerunner Service for background tasks.
- Validation rules are run on the Datacap Web server.
- The Datacap web service components are:
 - Datacap Web Clients that are serviced by Datacap Web Server are:
 - Datacap Web Client (tmweb).
 - Can do Datacap batch scanning and verifying, monitoring, administration, and configuration tasks.
 - Report Viewer Server (RV2 server).
 - Is the reporting tool that shows real-time reports of Datacap activity.
 - Gets usage statistics and other data from the Engine database.

- Provides a set of standard reports and the ability to customize existing reports and create new reports.
- The following standard reports for monitoring batch status, station activity, and problem batches are included with the Report Viewer software component.
- Can be collocated with Datacap Web server.
- RESTful web service interface for custom applications and services.

Components – Datacap Web Services

- Datacap Web Services are also called wTM.
- Windows service or Microsoft IIS-based web service.
- For interaction with Datacap through a simple REST API.
 - Create, process, and release a batch.
 - Get information about a batch.
 - Process documents outside of a Datacap batch.
- Datacap Web Services support HTTP and HTTPS protocols.

Figure 1-78. Components – Datacap Web Services

Help path

- Datacap 9.0.1>Reference>Datacap Web Services REST API methods
http://www.ibm.com/support/knowledgecenter/SSZRWV_9.0.1/com.ibm.dc.install.doc/dcdws031.htm

Components – Datacap Server

- Controls authentication, database access, and batch-queuing.
- Accesses the administration and engine databases.
 - All other components must access the databases through Datacap Server.
- Accesses the file system for thin clients.
 - Navigator and web services clients access application and document files through the Datacap server.
- Datacap Servers can be deployed in an active - active farm.
- Runs as a Windows service.

Figure 1-79. Components – Datacap Server

Help path

- Datacap 9.0.0 > Overview > Datacap software components

Datacap Server

- Datacap Server service runs as a Windows service and controls authentication, database access, and controls batch-queuing.
- The main application settings file (datacap.xml) is on the Datacap Server.
- Only the Datacap Server can access the administration and engine databases.
- All other components must access these databases through Datacap Server.
- Provides access to the application and document files for the Datacap Navigator and Web services clients.
- Load-balancing and farming Datacap servers.
- For high volume installations, servers can be configured in server farms where all servers in the farm are active (Active-active mode).
- You can use network load balancers to manage client requests across servers in a Datacap system.

- Load-balancing is a method for scaling a system horizontally by distributing the work across many computer nodes in a "farm".
- It also provides high availability by redirecting clients to a working node in case of failure.

Components – Datacap Database Server

- Supported Relational databases.
 - Oracle, Microsoft SQL Server, DB2, Microsoft Access
- Datacap databases.
 - Admin: Stores information about workflows, users, and groups.
 - Engine: Stores batch information and statistics.
 - Fingerprint: Stores page template data.
Note: Optionally, Admin, Engine, and Fingerprint can be tables in a single database.
 - Lookup: Stores indexed lookup list for vendors and clients.

Figure 1-80. Components – Datacap Database Server

Database Server

- One or more database servers house the Datacap databases.

Supported relational databases

The following relational databases are supported and can be used with Datacap.

- Oracle Versions 11j
- Microsoft SQL Server 2008 R2 or 2012
- DB2 10.5
- Microsoft Access
 - Is the default database that is used when a new application is created.
 - It should be used in test environments.
 - You can switch to using one of the other supported databases at any time.
 - You must switch to one of the more robust relational databases before going into production.

Four primary Datacap application databases are:

- Admin: Stores information about workflows, users, and groups.
- Engine: Stores batch information and statistics.
- Fingerprint: Stores page template data.
- Lookup: Stores indexed lookup list for vendors, clients, and products.

Components – Maintenance Manager Server

- Is a Datacap application.
- It automates administrative functions.
- It writes status messages to:
 - Internal log files.
 - Rulerunner log files.
- Uses logging actions to write information to the Maintenance Manager and windows log files.
- Sends emails that contain the internal log file.

Figure 1-81. Components – Maintenance Manager Server

Maintenance Manager

- Provides application monitoring and notification capabilities that can automate administrative functions such as resetting batches or archiving old batches.

Logging actions

Use the Logging actions to write information to the Maintenance Manager and Windows log files and to send emails that contain the internal log file.

During rule execution, Maintenance Manager writes status messages to an internal log file and the Rulerunner log file.

- The internal log file is maintained in memory and is used by theSendEmail action.
- The Rulerunner log file is stored in the application_name > batches > Maintenance Manager folder.
 - LogClear - Clears current Log.
 - LogConfigure - Configures features of aTM logging.
 - LogSendEmail - Sends email with log to comma-separated list of recipients.
 - LogWriteEventLog - Writes a message to the Event Log.

- LogWriteRecordSet - Outputs the results of ProcessRunSqlQuery to the error log.
- LogWriteSQLQuery - Outputs the constructed SQL query to the error log.

Components – Rulerunner Server

- Is a unified Windows service that runs background tasks that do not require operator interaction.
- Rulerunner tasks are configured in:
 - Application Manager, Rulerunner tab.
 - Rulerunner Manager, Workflow Job: Task tab.
- Scales vertically with multi-threading.
 - With Rulerunner Enterprise license, run as many threads as processors. Example: Quad processor four threads.
- Scales horizontally and does load-balance.
 - Add more servers
- Fingerprint Service.
 - Pattern matching service

Figure 1-82. Components – Rulerunner Server

Rulerunner task examples

The following tasks do not require operator intervention and therefore, can be run as background tasks under in the Rulerunner Server:

- Import – files, email*, fax*
- File format conversions
- Image enhancement and manipulation
- Classification
- Document assembly
- Recognition
- Export

Scaling to compensate for load

The background tasks that run in Rulerunner are where most of the heavy processing is done. There are two ways in which the Rulerunner load is distributed so that it does not become a bottleneck.

- Vertical scaling

- Is accomplished by configuring multiple Rulerunner threads in the Rulerunner Server.
 - The server must be a multi-processor system to effectively handle multiple threads.
 - You can achieve best performance by configuring as many threads as processors.
 - Example: four processor 4 threads
 - Maximum suggested processor to thread configuration is 150%.
 - Example: four processors 6 threads
 - Multi-threading does not require the purchase of more hardware.
 - Multi-threading does require an Enterprise Datacap license.
- Horizontal scaling
 - Is accomplished by configuring multiple identically configured servers in parallel in server farm.
 - The active – active server farm inherently distributed the load evenly across the available servers.

Fingerprint Service

In the component distribution sample that is used in this lesson, the fingerprint services are cohosted on the Rulerunner server. In other scenarios, the system load might require that the Fingerprint service is hosted on a dedicated fingerprint server.

- Pattern matching service – typically used when the number fingerprints is greater than 1000 fingerprints.

Components – File Server

- Stores work-in-progress batches
 - Images
 - Extracted data
 - Control files
- Stores configuration files that are used by all of the services
 - Application configuration files
 - Fingerprint patterns

Figure 1-83. Components – File Server

File server

- Applications are installed on the file server.
- Batches folder stores files that are generated during batch processing.

Components – External Systems

- External Databases.
 - Lookup Databases.
 - Export Databases.
- WebSphere for IBM services.
 - IBM Repository support.
 - IBM FileNet Content Manager.
 - IBM Content Manager.
 - IBM Content Navigator.
- CMIS compatible repositories.
(Content Management Interoperability Services).
- Other third party applications or services.

Figure 1-84. Components – External Systems

External Systems Server

There might be more than one external system server in the Datacap system.

External Databases

- Lookup Databases

There are a myriad of public lookup databases that can be accessed for example for company addresses, postal codes, telephone dial codes, services by company and more.

- Export Databases

It is possible that Datacap export documents might not go to a Content Management system; but instead the export documents are written to an external database.

WebSphere for IBM or third-party services

Is IBM's Web services server.

- IBM Repository support
 - IBM FileNet Content Manager & IBM Content Manager

The IBM available Content Manager systems

- IBM CMIS (Content Management Interoperability Services)
 - Is an open standard that CMIS Client uses to enable communication between Datacap applications and content management systems over the internet.
- IBM Content Navigator
 - IBM's web-based desktop that provides visibility into in the IBM Content Management systems, Case Manager system for automating business processes, IBM system configuration interfaces.
- Datacap Navigator
 - Is an IBM Content Navigator plug-in that provides web-based access and visibility into Datacap configuration, maintenance, and process interfaces.

Other third party applications or services might be:

- Hosted as applications installed directly on the External server or
- As web services that are implemented as WebSphere applications that provide connectivity to external system.

Datacap Folders for Services and Client Code

- Services folders
 - Taskmaster – Datacap Server Service
 - RRS – Repository for action libraries and global rulesets.
- Client Folders
 - DcDesktop - Datacap Desktop
 - DStudio – Datacap Studio Development tool for configuring and testing applications.
 - FastDoc – Rapid Application Development tool (RAD) and streamlined client.
 - tmweb.net – Datacap Web server component.
 - Tmweb.java – Datacap Navigator plug-in JAR file.
 - RV2 –Web application for report viewer.
 - wTM – Datacap Web Services REST API.

Figure 1-85. Datacap Folders for Services and Client Code

The default location for Datacap Capture installation on a Microsoft Windows system is in a folder that is named Datacap in the root of the C drive.

Datacap folder – Executive service.

- The subfolders of the Datacap folder are for:
 - Server Folders
 - Taskmaster folder
 - Taskmaster Server
 - Web Services when hosted as a windows service
 - Datacap Maintenance Manager (NENU)
 - Client Folders
 - Taskmaster folder
 - Web Services when hosting as a windows service
 - The DCDesktop folder
 - The FastDoc folder

- The tmweb.net and tmweb.java folders.
 - The wTM folder is the web service for IIS hosting
 - Utilities Folders
 - Taskmaster Folder
 - Datacap Maintenance Manager (NENU)
 - The support folder
 - Database copy utility
 - Database scripts, license Config
 - Web Server and Client setup utilities
 - Data structure folders
 - Applications
 - Each application has its own folder under the Datacap
- Examples:
- Built-in applications: APT, Flex, Medical Claims, TravelDocs
- Class applications: Expense8, ExpenseDemo, FastStart, FastForm

Other Datacap Folders

- Utility folders
 - Support – Utilities and scripts for database creation, migration, and web server and client configuration.
- Miscellaneous support folders
 - dcshared – Datacap shared .dll, class, and other data and configuration files.
 - FingerprintService – The fingerprint web service application files.
 - license – Program license agreements.

Figure 1-86. Other Datacap Folders

Datacap Folders for Various Code and Data

These folders are the repositories for the code and data for Datacap support utilities.

The default location for Datacap Capture installation on a Microsoft Windows system is in a folder that is named Datacap in the root of the C drive.

- Datacap folder – Executive service
- The subfolders of the Datacap folder are for:
 - Utilities process folders.
 - Data structure folders

The Datacap.xml file

- This file is the directory of all the applications in a Datacap environment.
- It contains:
 - The Datacap version number
 - The name and folder location of each application in the environment.

```

<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<datacap ver="9.0">
  <app name="FieldTest" ref="FieldTest"></app>
  <app name="MyFormApp" ref="C:\Datacap\MyFormApp"></app>
  <app name="MyCMISApp" ref="C:\Datacap\MyCMISApp"></app>
  <app name="Flex" ref="Flex"></app>
  <app name="Forms" ref="Forms"></app>
  <app name="Learning" ref="Learning"></app>
  <app name="TravelDocs" ref="TravelDocs"></app>
  <app name="APT" ref="APT"></app>
  <app name="Medical Claims" ref="Medical Claims"></app>
  <app name="FormTemplate" ref="Templates\FormTemplate"></app>
  <app name="LearningTemplate" ref="Templates\LearningTemplate"></app>
</datacap>

```

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Figure 1-87. The Datacap.xml file

Help path

- Datacap> Datacap 9.0.1 > Datacap application development > Creating a Datacap Maintenance Manager application > Updating the datacap.xml file on the Datacap server
- Datacap > Datacap 9.0.1 > Installing > Installing and configuring in a client/server environment > Datacap installation and configuration in a client/server environment > Complete the Datacap Web Client server configuration > Setting the location of the datacap.xml file

The screen capture shows a Sample datacap.xml file.

The datacap.xml file

- The datacap.xml file is in the Datacap root folder. It contains the Datacap version number and a tag that defines the name for each of the defined Datacap Capture applications.
- The version and exact build number are also shown in the C:\Datacap\version.txt file.

Important: The Datacap Application Service is case-sensitive. When you add or change entries in the datacap.xml file, make sure that the case matches the case of the UNC paths, folders, and file names.

- The ref attribute of the app node in datacap.xml uses a relative path if no folder is specified.

Review question (1)

In the table in the notes area, enter the number that corresponds to the Datacap component name from the following Datacap system architecture diagram.

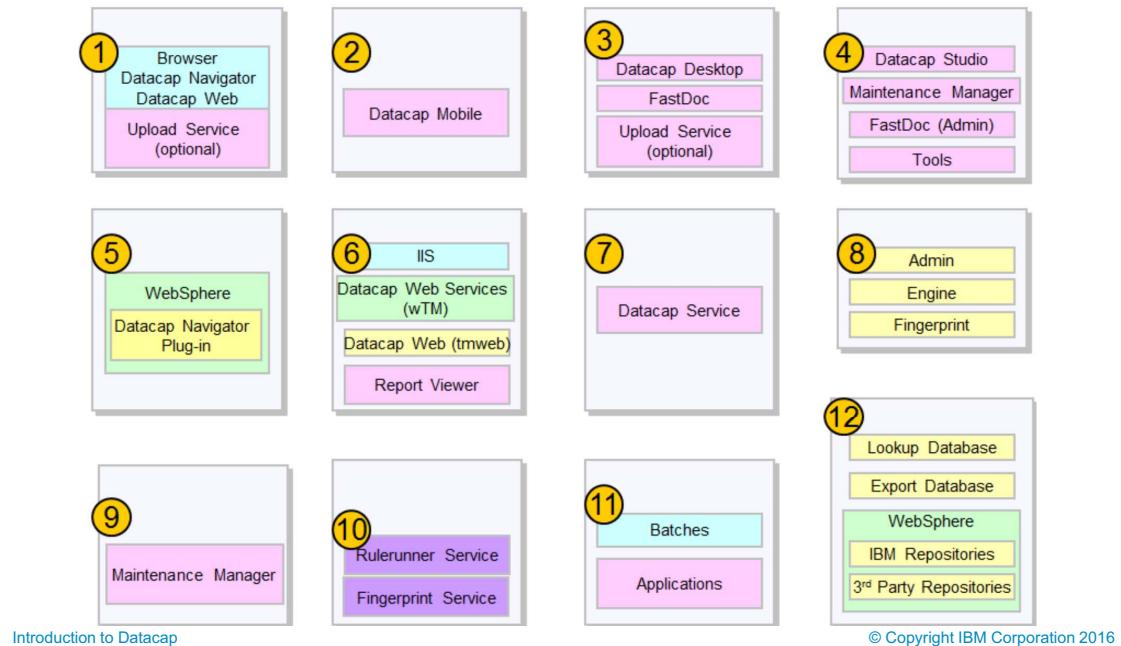


Figure 1-88. Review question (1)

Write your answers here:

Datacap component name Component Number

Developer Workstation

Web Client Workstation

Datacap Navigator Server

Datacap Web Server

Database Server

Maintenance Manager Server

Datacap Client Workstation

Mobile Device

File Server

Datacap Server

Rulerunner Server and Fingerprint Services Server

External Systems

Review answers (1)

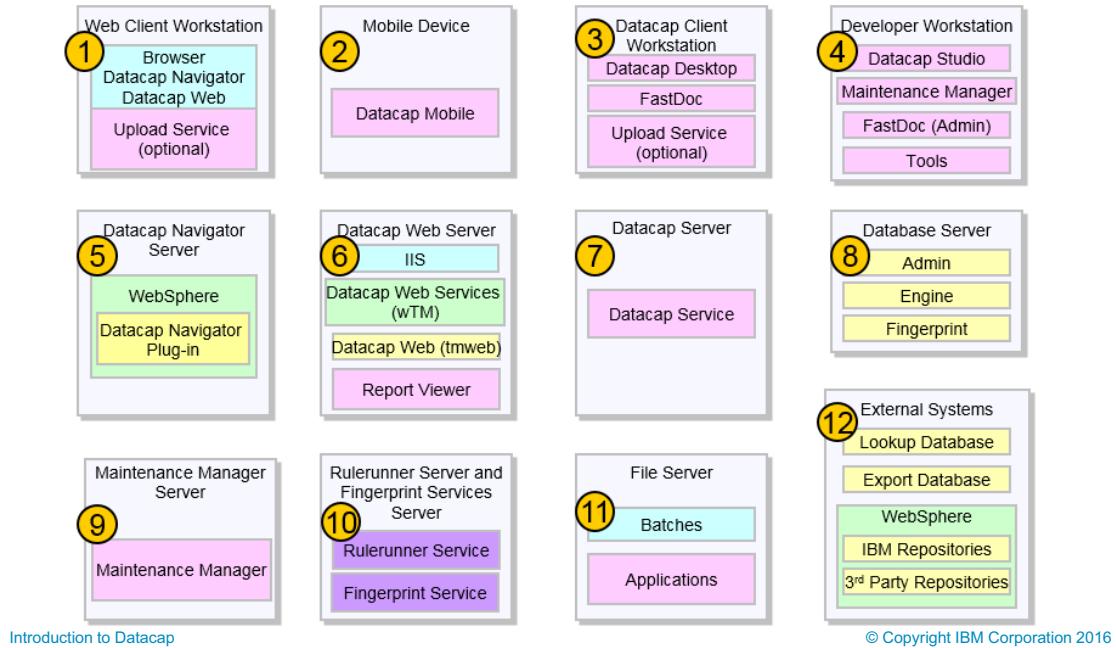
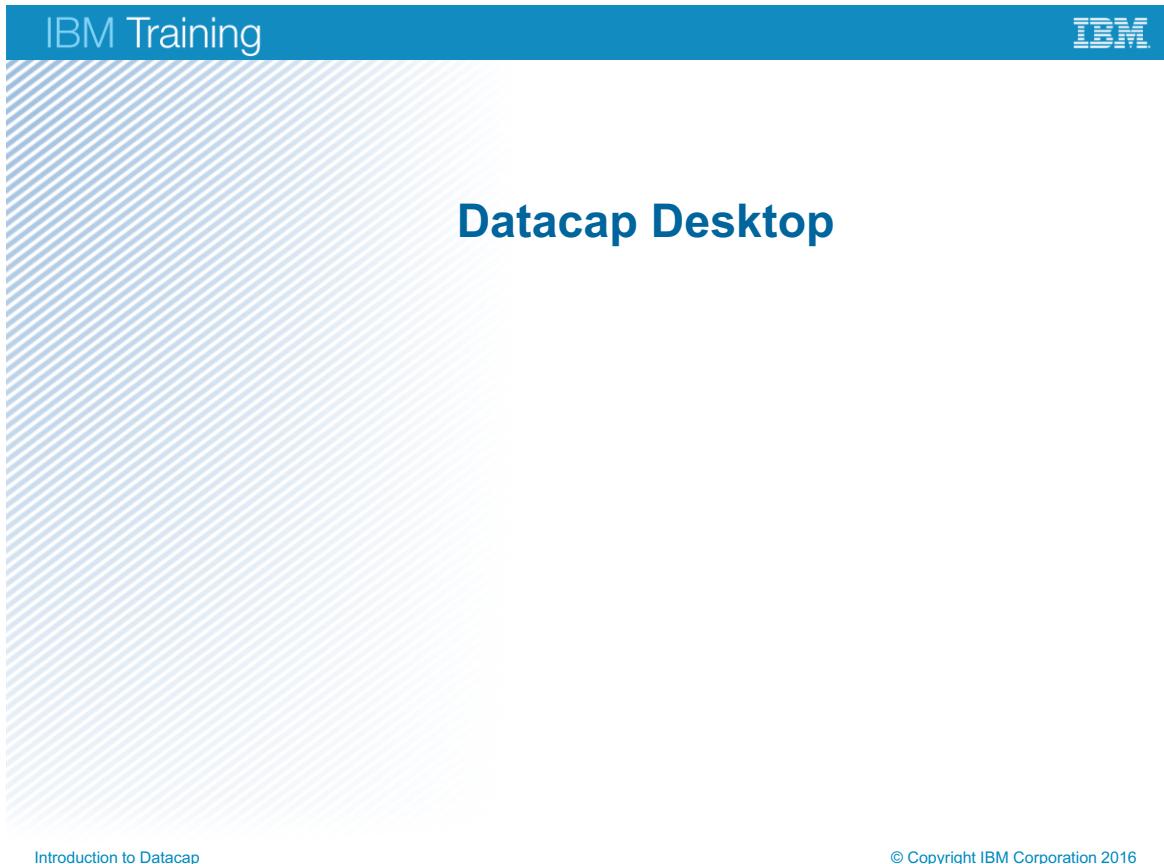


Figure 1-89. Review answers (1)

The answers are:

<u>Datacap component name</u>	<u>Component Number</u>
<u>Developer Workstation</u>	(4).
<u>Web Client Workstation</u>	(1).
<u>Datacap Navigator Server</u>	(5).
<u>Datacap Web Server</u>	(6).
<u>Database Server</u>	(8).
<u>Maintenance Manager Server</u>	(9).
<u>Datacap Client Workstation</u>	(3).
<u>Mobile Device</u>	(2).
<u>File Server</u>	(11).
<u>Datacap Server</u>	(7).
<u>Rulerunner Server Fingerprint Services Server</u>	(10).
<u>External Systems</u>	(12).

Lesson 1.6. Datacap Desktop



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Figure 1-90. Datacap Desktop

Lessons

- Datacap overview
 - Datacap process
 - Role-based Datacap clients
 - Architecture configurations
 - Architecture components
-  Datacap Desktop
- Application design
 - Introduction to Datacap Navigator
 - Datacap web client (tmweb)

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Figure 1-91. Lessons

Why is this lesson important to you?

- As a Datacap business analyst, you create applications that are processed with the Datacap Desktop Client.
- To do these tasks effectively, you must be familiar with the Datacap Desktop client.

Figure 1-92. Why is this lesson important to you?

Capabilities Overview

- Use Datacap Desktop client to do the following tasks:
 - Create batches, identify pages, create documents, and export batches.
- To use Datacap Desktop to complete a task:
 - Must specify Desktop as the program to use in setup page for the task.
- The Datacap Desktop:
 - Has a single login point for completing tasks.
 - Can select any application that is configured in the Datacap system for processing tasks.
 - Includes the Queue Monitor in which users with appropriate privileges can view or start pending tasks for the selected application.

Figure 1-93. Capabilities Overview

Create batches:

- Is the process of scanning batches of paper documents or accessing a folder of electronic documents and queuing them for further processing.

Identify pages:

- Identify a page by the layout or identifiable fields so that further processing can be done to extract and verify the data on the page.

Create Documents:

- Group pages into documents and create a document that represents the grouped pages.

Export batches

- Batches of processed documents are sent on the next step in the business process. The next step might be to export the documents to a repository where they are stored and can be searched, sorted, and categorized for ease of access. The next step might also be direct them to subsequent application for further processing.

Use Datacap Desktop with your Datacap applications

- Use Datacap Desktop to complete the following tasks:
 - VScan
 - Imports files from a file system.
 - Scan
 - Imports physical paper documents by scanning.
 - PageID
 - Identifies the page type of a scanned image.
 - Profiler
 - Creates documents, extracts and validates data and routes documents to the next step.
 - Verify/Fixup
 - A user can verify, and correct document and extracted data values.
 - Export
 - Exports batches to a specified location.

Figure 1-94. Use Datacap Desktop with your Datacap applications

VScan

- This task is for a virtual scan that imports files from a specified location, and is used mostly for demonstration purposes.

Scan

- In production environments, a scan task is configured to scan paper documents that use either TWAIN or ISIS scanners.

Profiler

- Locates and extracts data values from pages.
- Arranges identified pages into documents.
- Does confidence testing on all characters read from the page.
- Does validation on extracted field values.
- Optionally routes documents to the next task based on validation results.

The documents that are error-free can be routed directly to the Export task. The documents that have errors are routed to an operator to verify and correct potential error.

Verify/Fixup

- This task requires user input to correct any errors or integrity issues that a preceding task encounters.
- The batch does not continue to the next task until the Fixup task is completed.

Background

- This task completes all tasks that do not require user intervention, including PageID, Profiler, and Export, and automates the completion of pending batches.

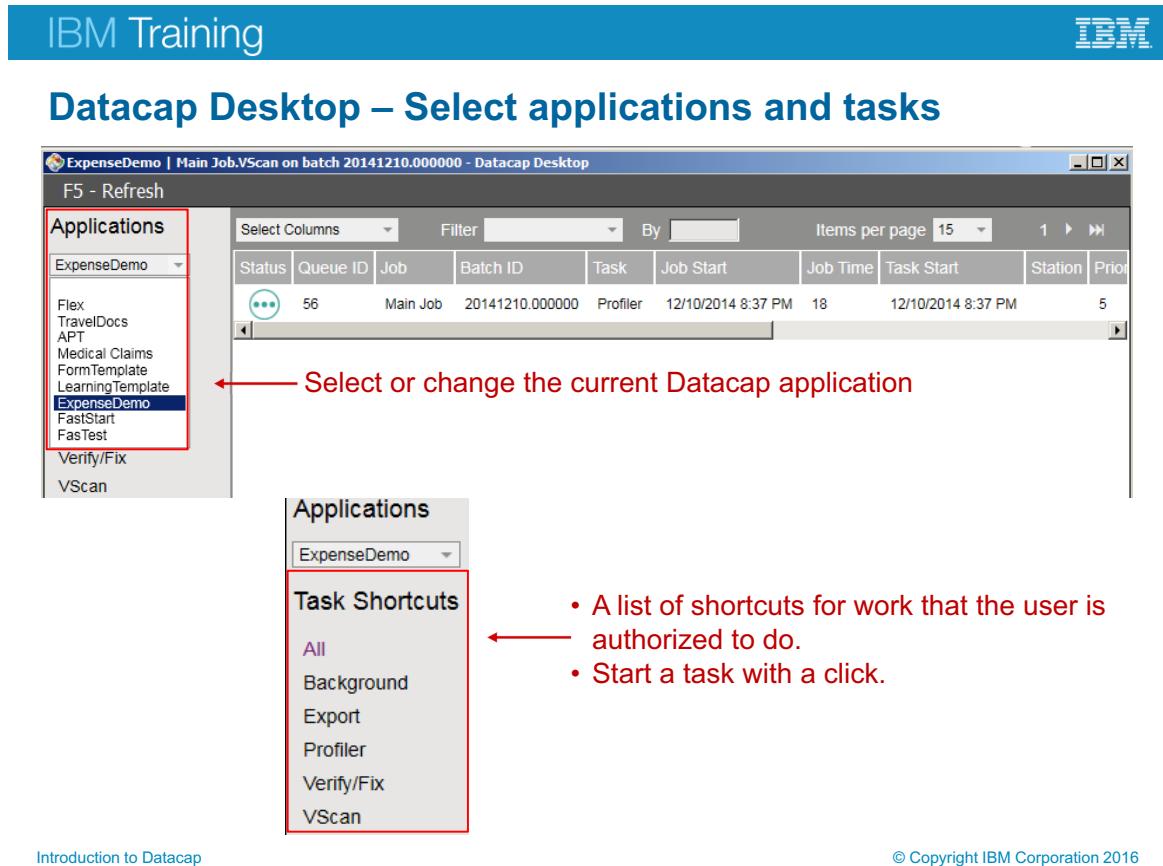


Figure 1-95. Datacap Desktop – Select applications and tasks

Desktop allows the users to switch between applications, and tasks with ease.

- Users can select an application or change to another application from the list.
- After selecting a particular application, a list of allowed shortcuts for work that the user is authorized to do is displayed below the application.
- When the user clicks a shortcut to start, what gets displayed in the view on the right pane depends on:
 - The user permissions
 - Application and Task Shortcut selections
 - The mode (manual, automatic, or manual for hold) of the task.
- Desktop tracks the last application and that shortcut that the user was working on, and activates them on the next launch.

Job Monitor view

- If user has Job Monitor view privilege, the "All" shortcut is listed.
- When the user selects "All", the Job Monitor view is shown in the right pane.
- The view lists the batches for all the allowed job-task combinations for the user.



Datacap Desktop - Monitor view

Adjustable column size and position

Task descriptions as hover text

Resizable

Collapse the preview pane

View details of the pages in the selected batch in preview pane

The screenshot shows the Datacap Desktop interface with the 'Monitor' view selected. On the left, there's a sidebar with 'Task Shortcuts' like Background, Batch Profiler, Demo VScan, and Export. Below that is a button labeled 'Export Data via Rules'. The main area is a table with columns: Status, Queue ID, Batch ID, Job, Task, Job Start, Task Time, Operator, Station, Priority, Pages, and Docs. A red arrow points to the 'Task' column header. A red box highlights the 'Details' tab in the preview pane. Another red box highlights the 'Page View' tab. A red arrow points to the preview pane itself, which displays detailed information about a selected batch. At the bottom right of the preview pane, there's a link to 'DCO File'.

Status	Queue ID	Batch ID	Job	Task	Job Start	Task Time	Operator	Station	Priority	Pages	Docs
...	2	20141112.000001	Demo	Verify	11/12/2014 10:00 AM	0			5	9	8
...	3	20141112.000002	Demo	Verify	11/12/2014 10:00 AM	0			5	9	8
hold	5	20141112.000004	Demo	VScan	11/12/2014 10:07 AM	3	admin	1	5	9	0
...	7	20141114.000001	Demo	Batch Profiler	11/14/2014 3:56 PM	0			5	9	0
...	8	20141114.000002	Demo	Batch Profiler	11/14/2014 3:56 PM	0			5	9	0
...	9	20141114.000003	Demo	Batch Profiler	11/14/2014 3:56 PM	0			5	9	0
...	4	20141112.000003	Demo	Verify	11/12/2014 10:00 AM	10	admin	1	5	9	8
...	1	20141112.000000	Demo	Export	11/12/2014 9:59 AM	0			5	9	8

Queue ID: 1
Batch ID: 20141112.000000
Job: Demo
Task: Export
Status: pending
Job Start: 11/12/2014 9:59 AM
Job Time: 236
Task Start: 11/14/2014 5:01 PM
Task Time: 0
Operator:
Station:
Priority: 5
Docs: 8
Pages: 9
DCO File: C:\Datacap\APT\batches\20141112.000000\Verify.xml

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Figure 1-96. Datacap Desktop - Monitor view

Batches in Monitor view

- The status of a batch is shown as an icon in the first column. The active task has a different color that is compared to the inactive tasks in the list.
- When you hover over a task, description for that task is shown.
- Double-click of a batch starts the associated task.

Task Preview

- Single click of a batch shows its details in the preview pane on the right.
- The preview has two tabs: Details and Page View.
 - Details View shows the batch details such as the number of pages and documents.
 - On the Page View, you can look at the pages in a batch without having to start a task.
- Preview pane is not shown when no batch is selected. You can resize and collapse the preview pane.

Column size and position

- Drag the individual column by header to change its relative position in the table. Click a column header to sort by that column.



Select columns and apply filter in the Monitor view

F5 - Refresh

Applications		Select Columns														
ExpenseDemo		<input checked="" type="checkbox"/> Queue ID	<input checked="" type="checkbox"/> Batch ID	<input checked="" type="checkbox"/> Job	<input checked="" type="checkbox"/> Task	<input checked="" type="checkbox"/> Status	<input checked="" type="checkbox"/> Job Start	<input checked="" type="checkbox"/> Job Time	<input checked="" type="checkbox"/> Task Start	<input type="checkbox"/> Task Time	<input type="checkbox"/> Operator	<input checked="" type="checkbox"/> Station	<input checked="" type="checkbox"/> Priority	<input checked="" type="checkbox"/> Docs	<input checked="" type="checkbox"/> Pages	<input checked="" type="checkbox"/> DCO File
Task Shortcuts																
All																
Background																
Export																
Profiler																
Verify/Fix																
VScan																

← You can select or clear the columns to display

Apply filter Specify # Page Navigator

Select Columns		Filter		Task		By		Verify		Items per page		15		Page Navigator	
Status	Queue ID	Batch ID	Job	Task	Job Start	Task Time	Operator	Station	Priority	Pages	Docs				
(•)	2	20141112.000001	Demo	Verify	11/12/2014 10:00 AM	0			5	9	8				
(■)	4	20141112.000003	Demo	Verify	11/12/2014 10:00 AM	10	admin	1	5	9	8				
(■)	3	20141112.000002	Demo	Verify	11/12/2014 10:00 AM	88	admin	1	5	9	8				

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Figure 1-97. Select columns and apply filter in the Monitor view

- You can select what columns to show or clear a column to hide.

- Apply Filter

Use “Filter-By” to view batches based on a criterion. For example, Task = Verify as shown in the screen capture to list only the Verify tasks.

- You can specify the number of items (rows) per page that you want to show.
- Use the page navigator to move through pages.

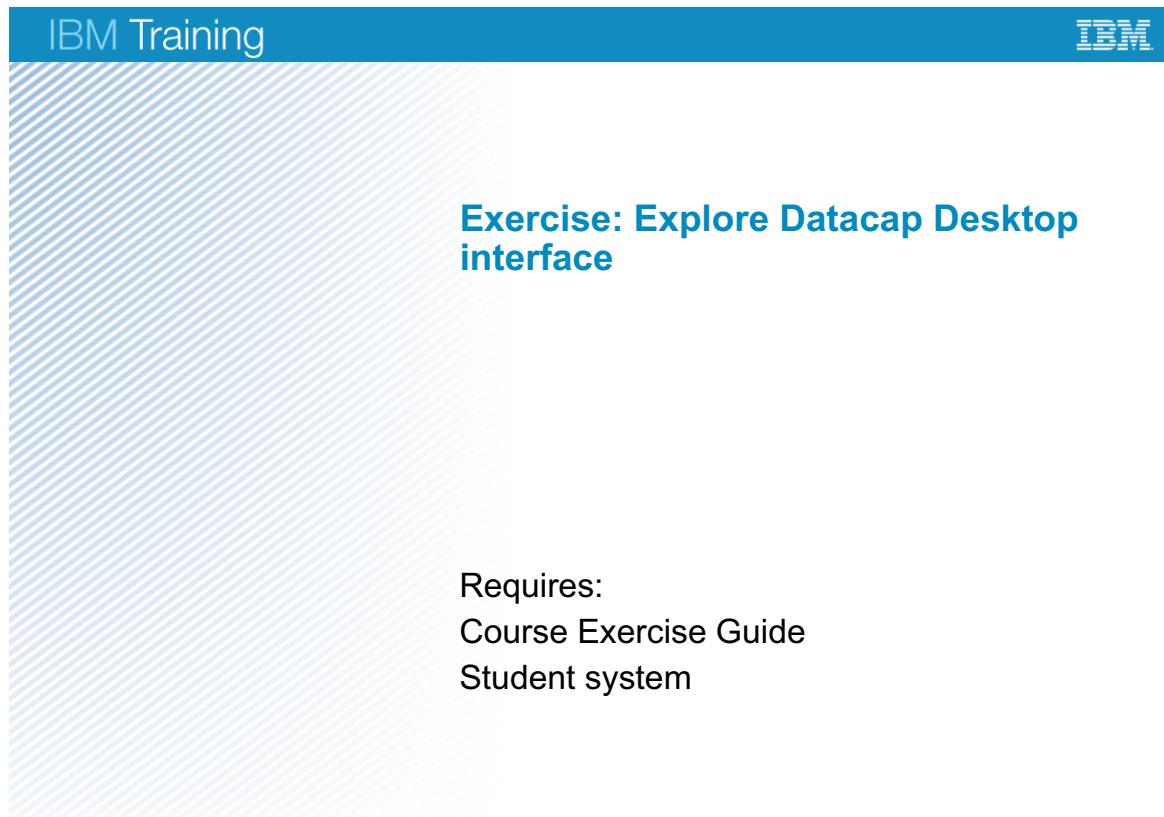


Figure 1-98. Exercise: Explore Datacap Desktop interface

Exercise objectives

- Explore Datacap Desktop interface.



Figure 1-99. Exercise objectives

Lesson 1.7. Application design

Application design

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Figure 1-100. Application design

Lessons

- Datacap overview
- Datacap process
- Role-based Datacap clients
- Architecture configurations
- Architecture components
- Datacap Desktop
-  Application design
 - Introduction to Datacap Navigator
 - Datacap web client (tmweb)

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Figure 1-101. Lessons

Why is this lesson important to you?

- As a Datacap business analyst, you build and deploy applications with the Datacap Capture system and communicate solution details to the solution architect, administrator, and users.
- To do these tasks effectively, you must be familiar with the design principles for the Datacap Application.

Figure 1-102. Why is this lesson important to you?

Scenario for the complete application

- Your company needs to enter data from expense documents and you want to automate the process with Datacap.
- The application processes four image types and assembles them into three document types.
 1. Car (Document type)
 - Rental_Agreement (Page type)
 2. Air (Document type)
 - Air_Receipt (Page type)
 3. HR (Document type)
 - HR_Page (Page type)
 - Donation_Receipt (Page type)

Figure 1-103. Scenario for the complete application

Scenario for the complete application

- Your company has numerous external sales, and technical support personnel who are continually traveling between customer sites. So, they have many car rental documents and airline ticket receipts. In addition, the project processes humanitarian relief fund expenses that are not related to travel with their expense reports.
- Your company authorizes three car rental companies, and three airlines for company travel expenses. In some locations, employees are allowed to use other car rental and airline companies. You are going to create a Datacap application that recognizes car rental agreements and air ticket receipts for the preferred vendors.
- Your application also can process unfamiliar documents when they are encountered. The application must be able to recognize name, date of service, and total cost of service charged.
- The final export data is stored as documents in the IBM FileNet Content Manager repository.
- The completed project (“ExpenseDemo”) that is based on this scenario is installed on your class image.
- You are going to scan and process a batch with this application in this lesson.

Steps to design and configure an application

- Do a complete end-to-end evaluation of the process to be automated.
- Analyze and define the requirements for the batch process.
- Analyze the data source.
- Implement a sandbox system.
- Configure the Datacap application.
- Test and adjust the application.

Figure 1-104. Steps to design and configure an application

Do a complete end-to-end evaluation

- Analyze the end-to-end business process that is associated with your corporate documents that need to be captured.
- Determine of what data is going to be captured so you know what to look for in the documents.
 - How are the images to be captured including resolution and color properties of the images.
 - How to locate and extract the data?
 - How to validate the data?
 - Where is the output to be sent?
 - Does it need any special format?
- Determine the steps people must do.
- At what point can the documents be removed from the system or archived?

Figure 1-105. Do a complete end-to-end evaluation

Analyze and define the requirements

- For your Expense Report claims, extract pertinent fields data and validate:
 - Employee names or numbers.
 - Service vendor names or codes.
 - Amount of the expense.
- Is there a need for extra documents and pieces of information later like:
 - Accident reports.
 - Damage quotations.
 - Baggage loss claims.

Figure 1-106. Analyze and define the requirements

Analyze the input documents

- What channels of input are supplying the images or other files?
- What resolution and color properties will the images have?
 - 200 DPI black and white unless otherwise specified.
- How can the images be classified (assign page types)
 - Fingerprints, regular expressions, graphical patterns (logos), Content Classification, and so on.
- How can the data elements be on each document.
 - Zone coordinates, regular expressions, locate actions.
 - Are all the required data elements on the documents?
- How can documents be separated in the stream of input images?
 - Separator sheets (barcodes), page types, manually.

Figure 1-107. Analyze the input documents

Implement a sandbox system

- Install full Datacap installation on an all-in-one system for the development sandbox.
- Configure the Datacap application – database, workflow, document hierarchy, rules.
- Configure the content repository or target system, and lookup databases if any, if not already done.
- Test the system end to end with one document type.
- Test the remaining document types and all functions.

Figure 1-108. Implement a sandbox system

Configure Datacap Application

- Configure Datacap to capture the documents and metadata that you expect. These tasks include:
 - Create a Datacap application.
 - Create the document hierarchy, the data fields, and zones.
 - Configure tasks, Rulesets, the lookups, database feeds.
 - Design screens and dialogs.
 - Configure functional security.
 - Configure export of the documents and the metadata.
 - Configure the reporting, activity monitoring, and notification.

Figure 1-109. Configure Datacap Application

Application development strategy

- Create new Application with Application Wizard
 - Application Wizard can be called from Datacap Studio and FastDoc.
 - Use the Application Wizard icon on the toolbar to create an application with one of the following methods:
 - Use Form or Learning template.
 - Copy an existing application.
- Do initial development in FastDoc
 - Configure Batch Structure
 - Configure Rulesets
 - Define fingerprints
 - Test profiles and rules
- Do advanced development in Datacap Studio
 - Configure conventional rulesets
 - Develop advanced custom rulesets



Figure 1-110. Application development strategy

Create new Application with Application Wizard

The Application Wizard Gives you a head start on application development by generating a basic application framework.

- Copy an application – What do you get with this option?
 - A copy of a completely functioning application as a starting point.
 - You can modify and customize it to meet the functional requirements for your new project.
- Create an RRS application – What do you get with this option?
 - An option of selecting one of two built-in application templates as a starting point for your new application.
 - A complete application folder structure.
 - A skeleton Document hierarchy (DCO), which you can expand to provide the document structure for your planned document batches.
 - A functional set of built-in compiled rulesets.
 - A set of workflow task profiles, preconfigured to run data capture tasks.
 - A custom mapping configuration to map rules from the rulesets to the DCO objects.

Note:

- a. You can create and save your own custom templates to use for future projects.
- b. When creating new DCO objects, you can configure them to inherit rulesets from existing objects of the same type.

Do initial development in FastDoc

FastDoc provides a quick and intuitive way to do the following basic application development steps.

- Add document hierarchy components.
 - Add documents
 - Add pages to a document
 - Add fields to pages
- Define fingerprints
 - Add an image that represents the page fingerprint.
 - Define fingerprint classes.
 - Define fingerprint types.
 - Define field zones for each field you want to extract from the page with zonal recognition.
- Configure Ruleset settings for UI compiled rulesets
 - Batch – Import files location and file type
 - Batch – Identify Pages
 - Batch – Create Documents
 - Batch – Convert Files To Images
 - Page – Image Enhancement
 - Page – Recognize Pages and Fields
 - Field – Recognize Pages and Fields
 - Field – Validate fields
- Test the profile and ruleset configuration.
 - Test that documents and fields are properly identified.
 - Test that field values are extracted correctly.

Do advanced development in Datacap Studio

- Configure conventional rulesets that do not have a UI, which enables them to be configured in FastDoc.
- Develop advanced custom rulesets for doing things that are not possible with the built-in compiled rulesets.

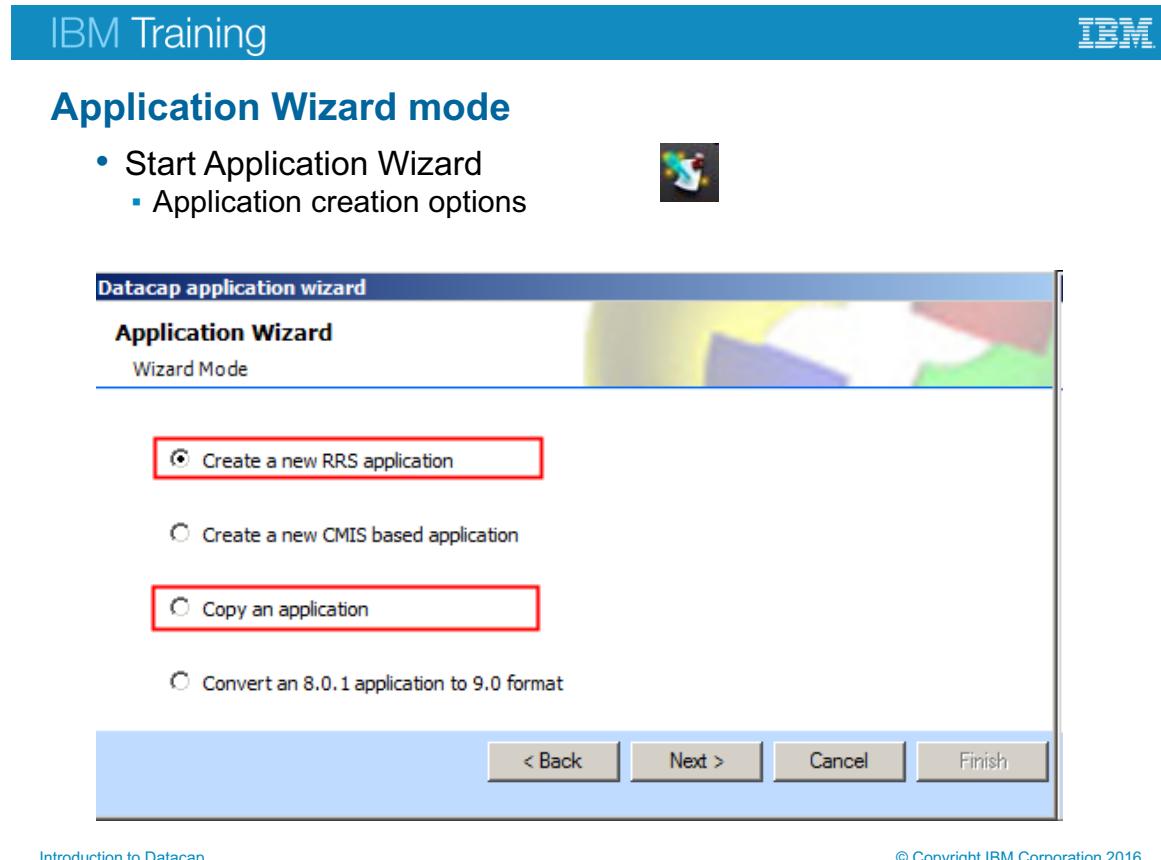


Figure 1-111. Application Wizard mode

Start Application Wizard

Start either Datacap Studio or FastDoc (Admin)

1. Click Start > All Programs > IBM Datacap Developer Tools > Datacap Studio and click close.
Click Start > All Programs > IBM Datacap Developer Tools > FastDoc (Admin) Click Local and click Login.
2. Click the Application Wizard icon on the toolbar of either interface and click Next.

Application creation options.

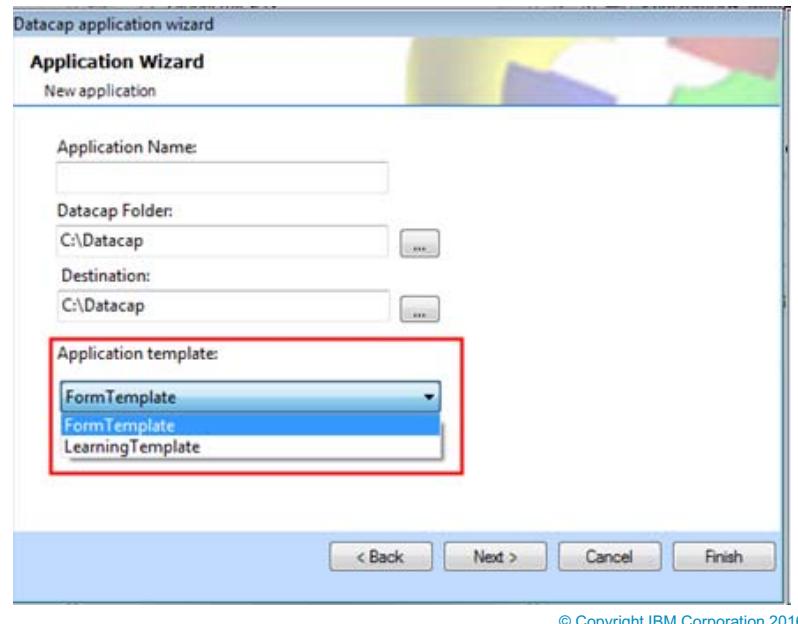
- Create an RRS application
 - Use this option to create a new allocation skeleton from one of the built-in application templates.
- Create a CMIS-based application
 - Use this option to create a new allocation skeleton from one of the built-in application templates.
 - Configured to use CMIS (Common Management information Service) connectors for backend services.

- Copy an application
 - Use this option if you already have an application that is very close to the configuration that you need for your new project.
- Convert an 8.0.1 application to 9.0 format
 - Use the option if you have an old application that was developed in Datacap 8.0.1 that needs to be brought up to Datacap 9.0 format.



Application Wizard New Application window

- Application Templates
 - Datacap currently released with two built-in templates
 - Form
 - Learning



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Figure 1-112. Application Wizard New Application window

Application Template options.

Forms Template

- Click Forms to use the application for structured images.
- When you know the types of data that you want to capture and where that data is on each image, select the Forms application.
- For example, a 1040EZ tax form and the types of data on the form, such as name and address, are in the same location on every 1040EZ form.
- The Forms application sets up a workflow that you can match against your fingerprints.

Learning Template

- Click Learning to use the application for unstructured images.
- Select the Learning application when you:
 - Know the types of data that you want to capture but
 - Do not know where that data is contained in the image (because the location of the data is different on each image).

- For example, if you want to capture the date, amount, and tax for expenses from different hotels, the receipt images from each hotel are unique.
- The location of the data that you want to capture differs for each hotel receipt image so the data cannot be identified with Datacap fingerprints.
- The Learning application template sets up a workflow where you can add rules, such as Locate rules, for Datacap to learn the different hotel receipt formats as they are encountered.

Test and adjust

- Before the system can be put into production, the following tasks and issues must be addressed:
 - Testing and adjustments under various load conditions.
 - Bottlenecks that occur between the various system components.
 - Identify bottlenecks with reporting tools.
 - Example: Datacap Report Viewer

Figure 1-113. Test and adjust

Before the system can be put in production, the following tasks and issues must be addressed:

- Testing and adjustments under various load conditions are required to get to the expected results.
- Bottlenecks that require a remedy might occur between the various system components.
- Datacap has reporting tools to help identify bottlenecks.
 - Example: Datacap Report Viewer

Datacap Report Viewer

- Use the Reporting actions to write information to the report tables in the Engine database for use by Datacap Report Viewer.
- The Reporting actions can query the active users on an application and set the database tables that contain the reports for processed batches and users.

Best Practices

- Transfer relevant information into workflows.
- Make the post export workflow drive the business process.
- Normalize the data as early as possible in the process.
- Integrate with your business systems early in the process.
- Standardize types of documents and the forms.
- What is the fastest entry point in the system?
 - Is it at a local level?
 - Is it at the central level?
 - Who is best placed to supply the data needed?

Figure 1-114. Best Practices

IBM Advanced Document Imaging PIE

Best of breed capabilities in a single offering

New release of PIE - 5.2.1

Now includes:

- Rulerunner Enterprise
- Fingerprinting service



A single highly integrated platform!

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Figure 1-115. IBM Advanced Document Imaging PIE

IBM Production Imaging Edition is a comprehensive solution for managing the entire Document imaging lifecycle. It:

- Helps organizations quickly and easily capture and extract key information from documents and convert it to images that are stored electronically
- Uses IBM FileNet Content Manager repository to improve manageability and flexibility
- Incorporates IBM Case Foundation components to help increase process performance and productivity
- Improves document usability with enterprise-wide document image viewing, annotation, and redaction

Product capabilities in Production Imaging Edition

- IBM Datacap for advanced Document capture
- IBM FileNet Content Manager for content management
- IBM Case Foundation components for business process management
- IBM Content Navigator and Daeja ViewONE Professional for image viewing, annotation, and redaction.

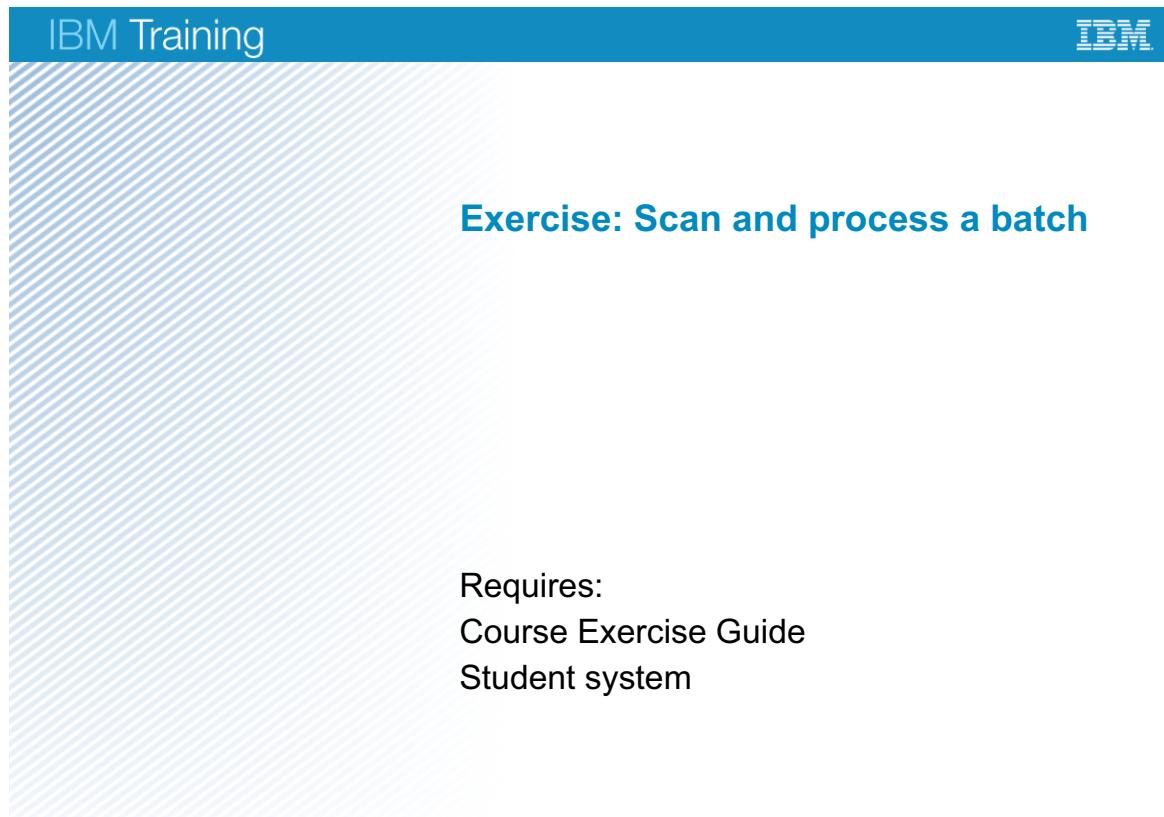


Figure 1-116. Exercise: Scan and process a batch

Exercise objectives

- Scan and process a batch.



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Figure 1-117. Exercise objectives

Lesson 1.8. Introduction to Datacap Navigator

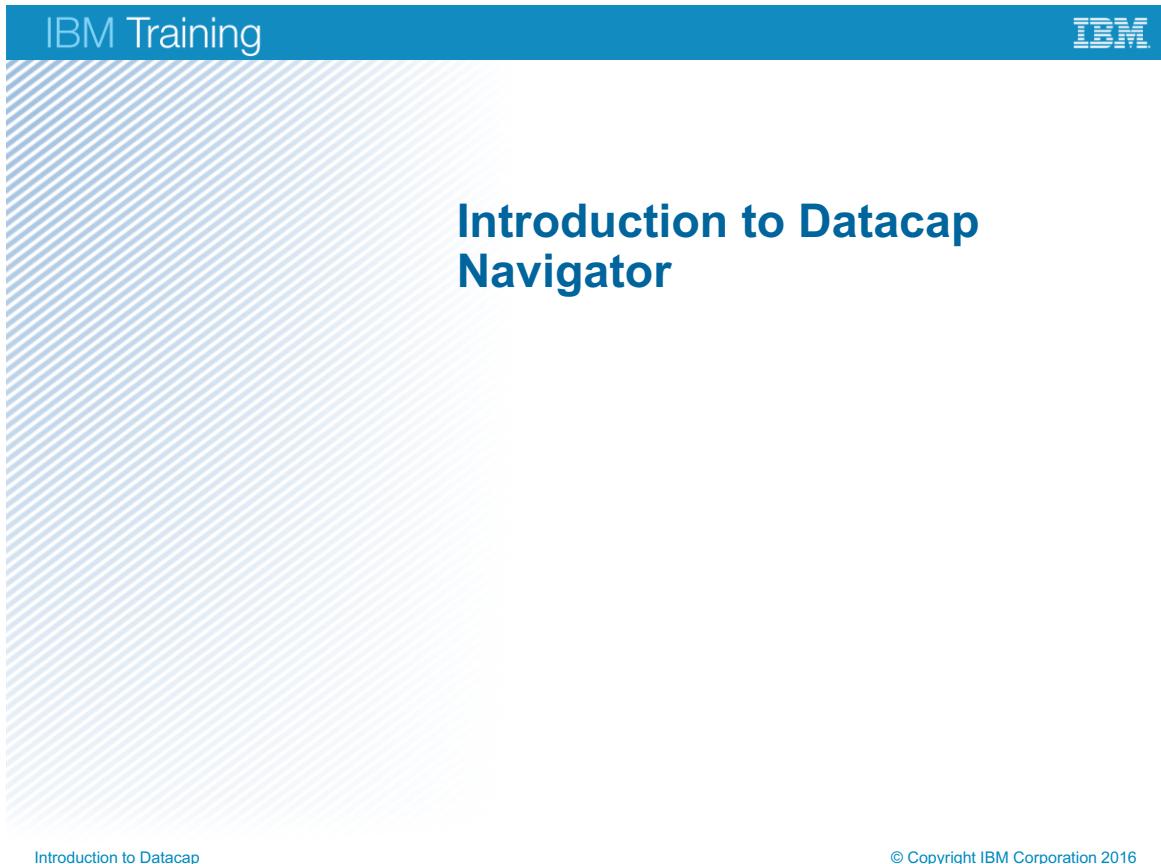


Figure 1-118. Introduction to Datacap Navigator

Lessons

- Datacap overview
 - Datacap process
 - Role-based Datacap clients
 - Architecture configurations
 - Architecture components
 - Datacap Desktop
 - Application design
-  [Introduction to Datacap Navigator](#)
- Datacap web client (tmweb)

[Introduction to Datacap](#)

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Figure 1-119. Lessons

Why is this lesson important to you?

- As a Datacap business analyst, you test your application workflow tasks in Datacap Navigator and Datacap Mobile.
- As a business user, you scan and process your batches in Datacap Navigator and Datacap Mobile.
- To do these tasks effectively, you must be familiar with the Datacap Navigator interface and with processing batches.
- For Datacap Administrators you also use the Datacap Web Client (tmweb) to configure applications workflows, tasks, users, groups, and task shortcuts.

Figure 1-120. Why is this lesson important to you?

What is Datacap Navigator?

- IBM Content Navigator is a web-based client and framework.
 - To work with content from content management repositories.
- Datacap includes a plug-in, which operates within Content Navigator.
- Datacap Navigator provides a web user interface that:
 - Supports both user and administrative features for Datacap.
 - Provides access to the Datacap Job Monitor and to run tasks.
 - Enables you to add users and groups.
 - Provides access to configure stations and workflows.

Figure 1-121. What is Datacap Navigator?

- Datacap is combined with other Enterprise Content Management capabilities into a single user interface framework in Content Navigator.

Views in Datacap Navigator

- In Datacap Navigator, there are two views (Feature).
 - Datacap View for the business users.
 - Datacap Administration View for administrators.
- You can configure and customize Datacap Navigator for different roles.
 - Business Users (To scan, verify, and monitor jobs)
 - Administrators (To configure and administer)
- You can add more features such as Browse or Search.
 - To browse folders or search for documents that are exported.
 - To scan the documents directly from the IBM Content Navigator.

Figure 1-122. Views in Datacap Navigator

- Completed Datacap documents can be exported to a repository for storage. These repositories can be accessed in Content Navigator.
- The Content Management capabilities in Content Navigator open the Datacap documents in Search or Browse Views.
- The topic “Configure Datacap Navigator for different roles” is presented in another course.

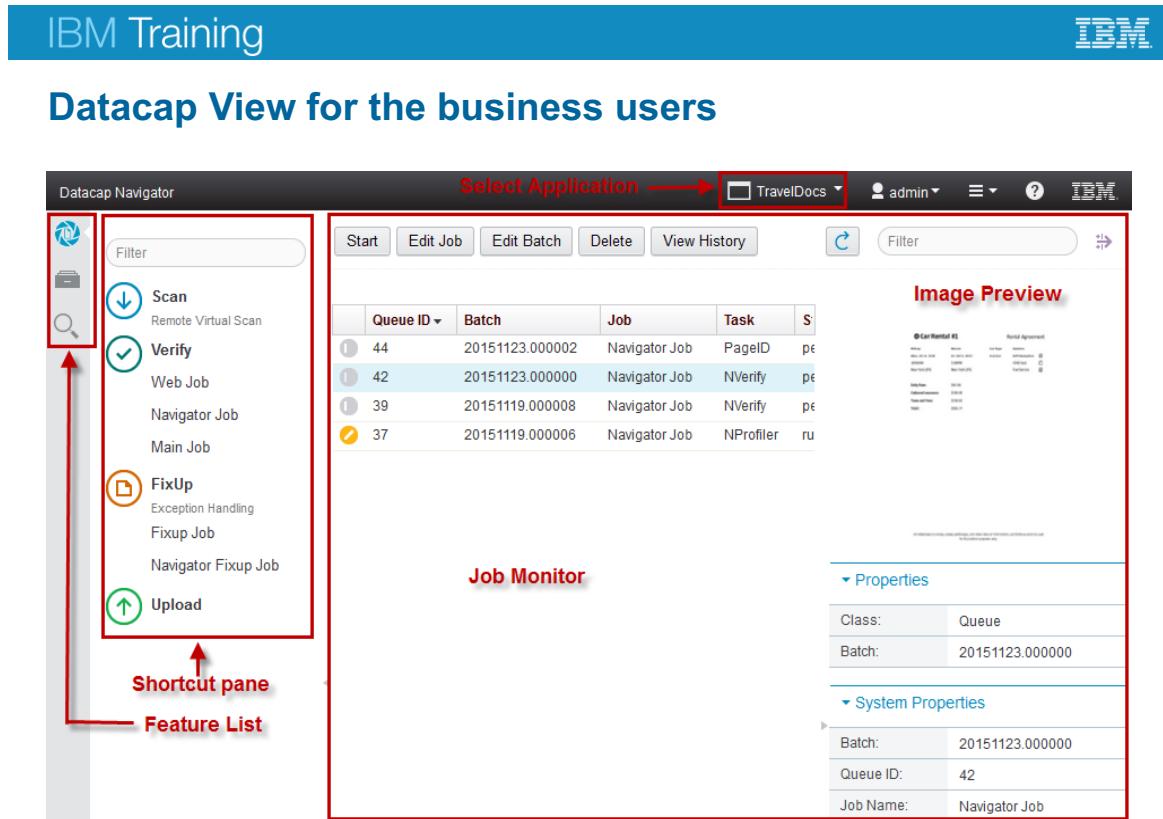


Figure 1-123. Datacap View for the business users

The Datacap view that is shown in the screen capture is for Datacap business users.

Feature List

- Datacap Navigator has two features by default (Datacap View and the Administrator View).
- You can optionally add Browse (folder cabinet icon) and Search (magnifying glass icon), which are part of IBM Content Navigator, as shown in the screen capture.
- Browse and Search views helps to view the documents that are exported from Datacap process to repositories.

Shortcut pane

- It contains a list of shortcuts for operations.
- The pane shows a list of all of the tasks that they are authorized to run.

Job Monitor

- The list of the batches that are in process and the completed ones.

Select Application

- The list of Datacap applications that are available are listed.

- Select an application and Job Monitor lists the batches for that application.
- You can monitor jobs for the batches that are processed in Datacap Desktop.

The screenshot shows the IBM Job Monitor interface. At the top, there is a toolbar with buttons for Refresh, Start, Edit Job, Edit Batch, Delete, and View History. To the right of the toolbar is a user menu (admin) and the IBM logo. Below the toolbar is a table titled 'Job List' with columns: Queue ID, Batch, Job, Task, Status, and Job Start. The table contains 15 rows of job data. To the right of the table is a 'Property panel' with sections for System Properties and Job Name. The System Properties section includes fields for Class (Batch), Batch (20141201.000007), and various timestamps. The Job Name section includes fields for Job Name (Main Job), Task Name (Verify), Task Status (pending), and Job Start Time (12/1/2014, 5:50 PM). Red arrows point from labels to specific elements: 'Toolbar' points to the toolbar buttons; 'Job List' points to the table of jobs; 'Filter' points to the filter search bar in the toolbar; and 'Property panel' points to the right-hand panel.

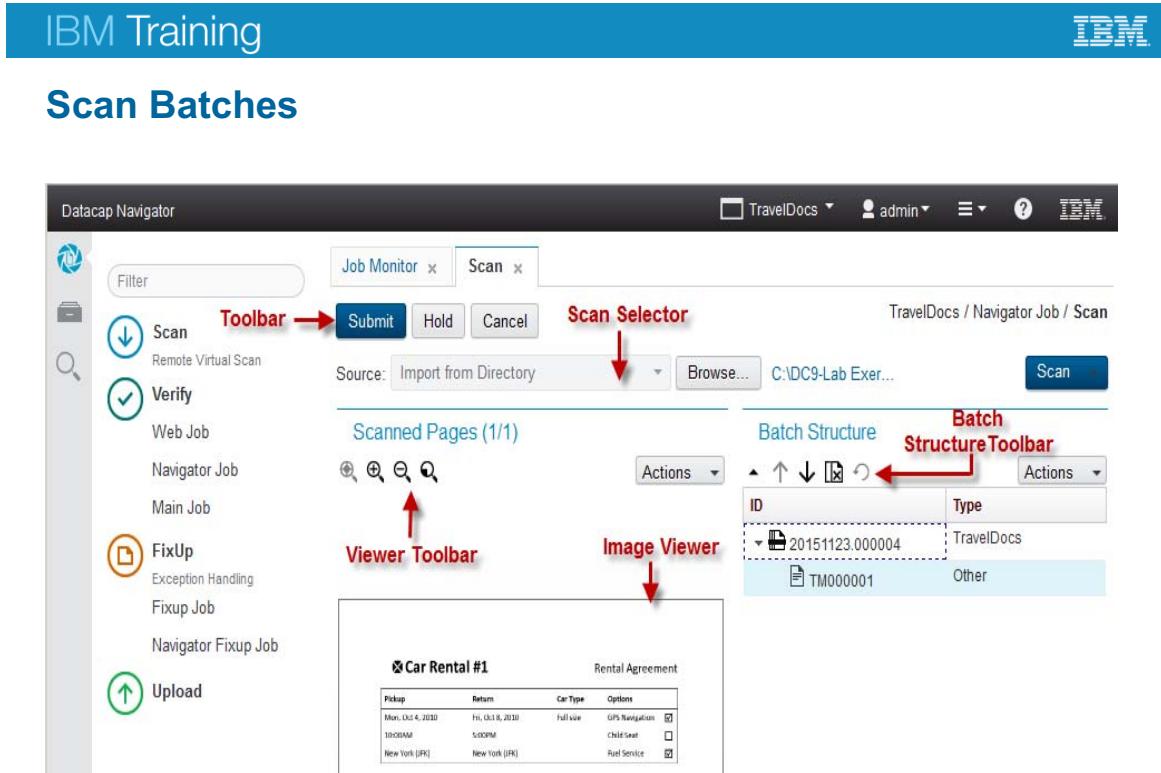
Queue ID	Batch	Job	Task	Status	Job Start
26	20141203.00001	Navigator Job	Scan	hold	12/3/2014, 3:23 P
25	20141203.00001	Navigator Job	Scan	running	12/3/2014, 3:21 P
24	20141203.00001	Navigator Job	Scan	hold	12/3/2014, 2:53 P
20	20141201.00001	Main Job	Verify	pending	12/1/2014, 5:50 P
12	20140904.00001	Navigator Job	NVerify	pending	9/4/2014, 11:53 A
11	20140904.00001	Navigator Job	NUpload	hold	9/4/2014, 8:45 AM
10	20140904.00001	Main Job	Verify	pending	9/4/2014, 8:35 AM
9	20140904.00001	Main Job	Verify	pending	9/4/2014, 8:34 AM
8	20140903.00001	Navigator Job	NVerify	hold	9/3/2014, 9:53 AM
7	20140901.00001	Navigator Job	Export	Job done	9/1/2014, 1:08 AM
6	20140901.00001	Navigator Job	NVerify	hold	9/1/2014, 1:00 AM
4	20140829.00001	Main Job	Verify	pending	8/29/2014, 3:35 P
3	20140829.00001	Main Job	Verify	pending	8/29/2014, 3:35 P
2	20140829.00001	Main Job	Verify	pending	8/29/2014, 1:44 P
1	20140829.00001	Main Job	Verify	hold	8/29/2014, 1:44 P

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Figure 1-124. Job Monitor

- Job list
 - List all or filtered jobs
- Toolbar
 - Start a job, Edit Job, Edit Batch, Delete Batches, View History
- Refresh
 - Refresh job list
- Filter
 - Easily filter with quick search
 - Support both client and server end filter in advanced filter
- Job information pane
 - Show batch cover page thumbnail
 - Show job properties



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Figure 1-125. Scan Batches

Help path

- Datacap > Datacap 9.0.1 > IBM Datacap V9.0.1 documentation > Accessibility features of Datacap Navigator
http://www.ibm.com/support/knowledgecenter/SSZRWV_9.0.1/com.ibm.datacaptoc.doc/dcnav002.htm
- Toolbar
 - Submit Batch, Hold Batch, Cancel Batch
- Scanner selector
 - Lists all available scanners.
 - You can browse to local directory to get stored images.
- Viewer toolbar
 - Zoom In/Out/Quarter, Fit to Width/Height, Previous/Next Page, Show viewer in dual monitor
- Batch structure toolbar
 - Delete one or all pages, Move Up/Down to reorder the pages

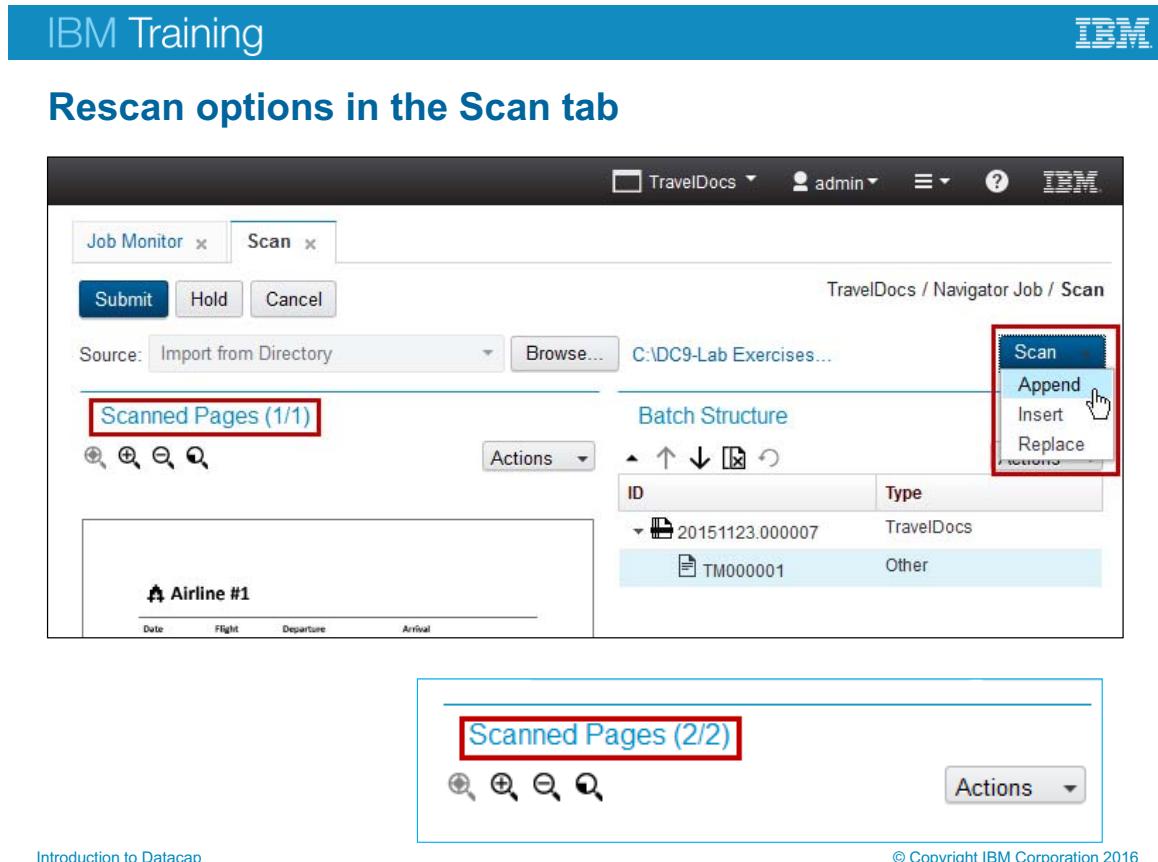


Figure 1-126. Rescan options in the Scan tab

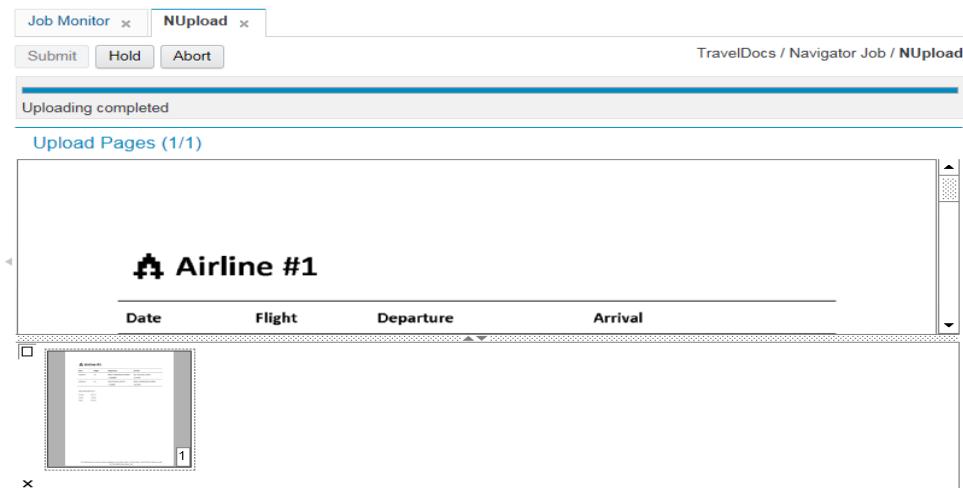
The first screen capture shows the options for rescan.

After you scan the first image, you can do a rescan: "Append", "Insert", or "Replace"

The screen capture at the end of the page shows that after an image is appended, "Scanned Pages" number changed from 1 to 2.

Upload Batches, Page ID, and Profiler tasks

- After you scan a batch in Datacap Navigator, the Upload task is run automatically.



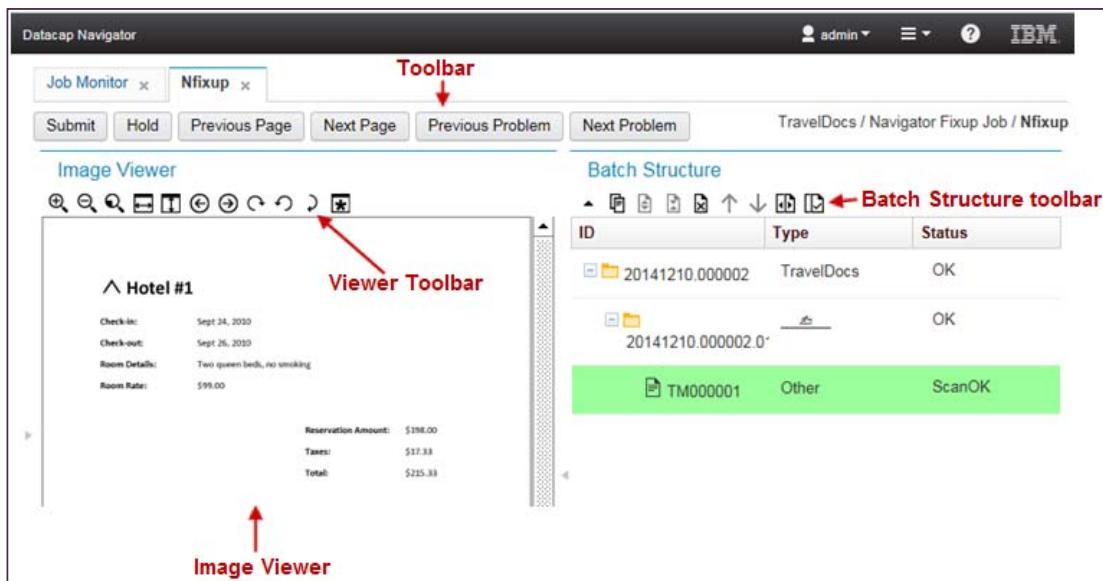
- Page ID and Profiler tasks also run automatically.

Figure 1-127. Upload Batches, Page ID, and Profiler tasks

You can also run the Upload task manually after scanning a batch in Datacap Navigator.

IBM Training

Classify Batches



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Figure 1-128. Classify Batches

Help path

- Datacap > Datacap 9.0.1 > IBM Datacap V9.0.1 documentation > Accessibility features of Datacap Navigator
- Toolbar
 - Submit Batch, Hold Batch, Previous/Next Page, Previous/Next Problem
- Batch structure toolbar
 - Drag pages to move across documents
 - Expand, Copy page, Split/Merge documents, Move up/down, Disassemble documents, Check integrity
- Image Viewer toolbar
 - Zoom In/Out/Quarter, Fit to Width/Height, Previous/Next Page, Rotate Clockwise/Counterclockwise/180 Degrees, Show viewer in dual monitor
- Full hot key support. For more details, see Help Path reference.

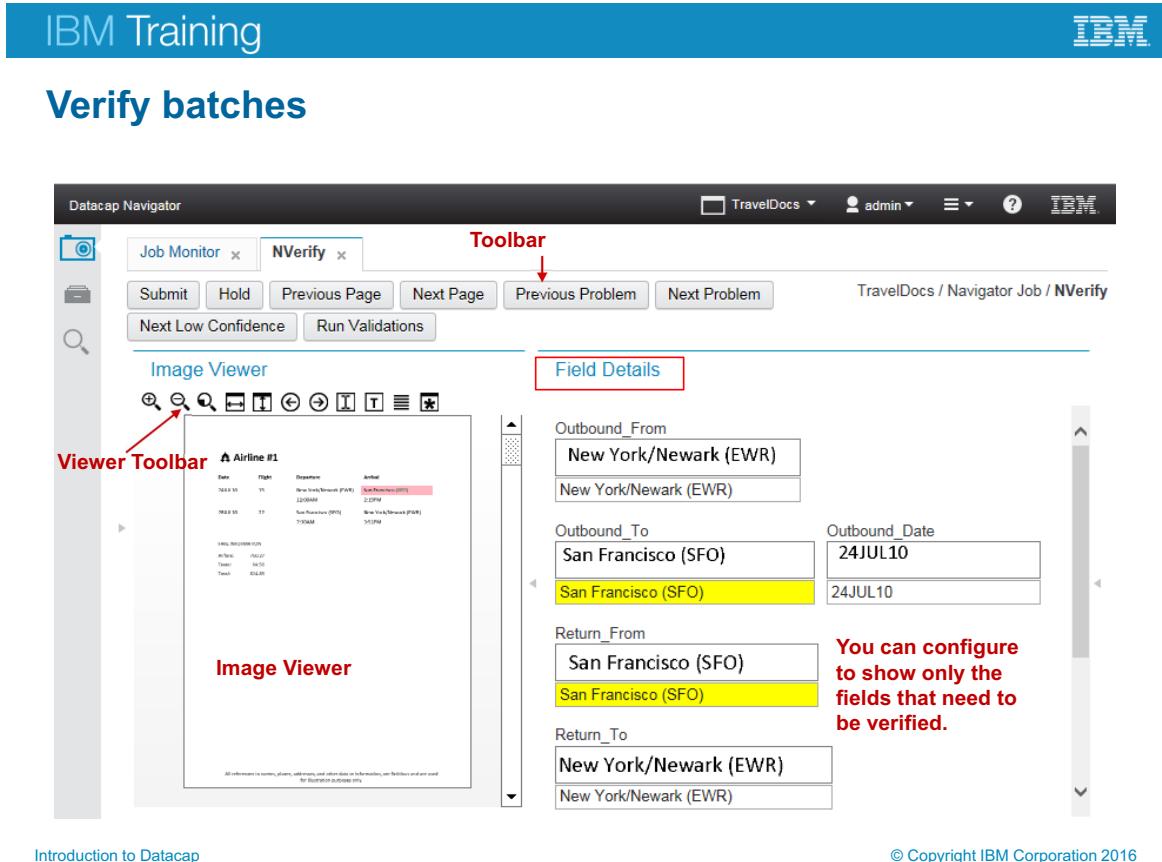


Figure 1-129. Verify batches

Help path

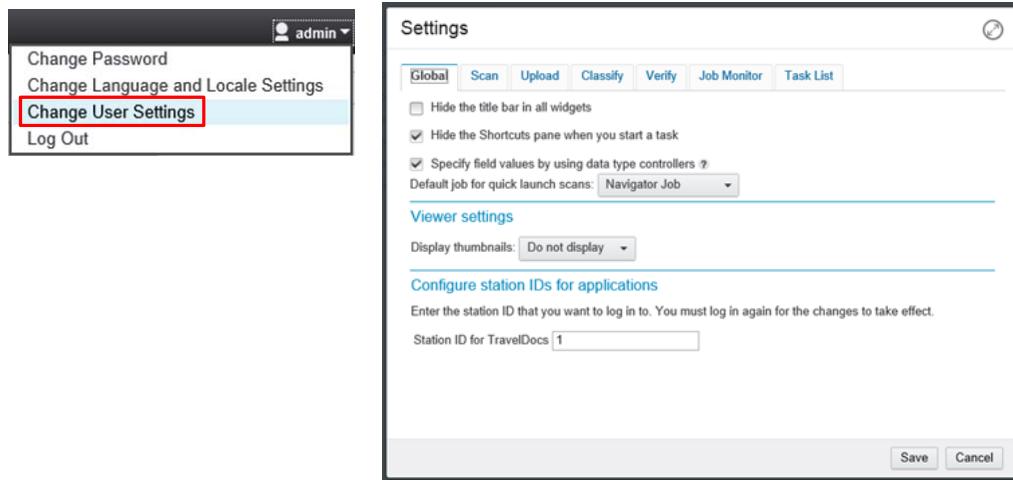
- Datacap > Datacap 9.0.1 > IBM Datacap V9.0.1 documentation > Accessibility features of Datacap Navigator
- Toolbar
 - Submit batch, Hold batch, Previous/Next Page, Previous/Next Problem, Next Low Confidence Field, Run Validation on current page
- Image Viewer toolbar
 - Highlight the area of the field that is selected on in Field Details panel.
 - Update the value for a field with clicking or drawing a rectangle on some words in the viewer. This method of identifying a field is also referred to as the click'n'key method.
 - Zoom In/Out/Quarter, Fit to Width/Height, Previous/Next Page, Show all fields, Show recognized words, Show recognized lines, Show viewer in dual monitor
- Field Details
 - Show both image snippet and value of the field
 - Yellow background: Low confidence fields

- Light pink background: fields that fail validation
- Browser side data type validation
- Support to look up data from database
- OMR – check box and radio buttons
- Batch structure toolbar
 - Expand, Split/Merge documents, Delete page, Move up/down, Disassemble documents, Check integrity
- Full hot key support. For more details, see Knowledge Center Help Path above.



User settings

- Start the User settings from the top bar.
- Each user can change the settings.
 - To tailor the experience to meet the individual needs.
 - To change the appearance and operation of the user interface.



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Figure 1-130. User settings

Some of the common options that you can configure in User Settings are:

- Hide shortcuts pane when you start a task.
- Show or hide thumbnails for preview
- Set the number of pages to scan for a batch
- What columns are available in the Job Monitor

Accessibility features of Datacap Navigator interface

- Datacap Navigator includes accessibility features.
- Features available for keyboard input and navigation:
 - Keyboard input
 - Keyboard focus
 - Keyboard navigation

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Figure 1-131. Accessibility features of Datacap Navigator interface

Help path

- Datacap > Datacap 9.0.1 > IBM Datacap V9.0.1 documentation > Accessibility features of Datacap Navigator
- Datacap > Datacap 9.0.1 > Installing > Installing and configuring in a client/server environment > Datacap installation command-line parameters > Commonly used Datacap Setup.exe parameters
http://www.ibm.com/support/knowledgecenter/api/content/nl/en-us/SSZRWV_9.0.1/com.ibm.dc.install.doc/deref003.htm

Keyboard input:

You can use the keyboard instead of a mouse to operate Datacap Navigator.

- To use any icon on the user interface, move to the icon and press the Enter key.
- To enter data:
 - Move to the input field, enter data, and press Enter or press the Tab key to exit the field.

Keyboard focus

The position of the keyboard focus is outlined or highlighted, indicating which area of the window is active and where your keystrokes affects.

Keyboard navigation

You can use the Tab key, Shift+Tab, and Arrow keys to move around the major elements of a page, view, or specialized section.

For certain elements, such as tree views or the calendar date picker, you can also use the Home, End, Page Up, and Page Down keys.

Exercise: Explore the Datacap Navigator interface and process a batch

Requires:
Course Exercise Guide
Student system

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Figure 1-132. Exercise: Explore the Datacap Navigator interface and process a batch

Exercise objectives

- Explore the Datacap Navigator Interface.
- Process a batch in Datacap Navigator.



Figure 1-133. Exercise objectives

Lesson 1.9. Datacap web client (tmweb)

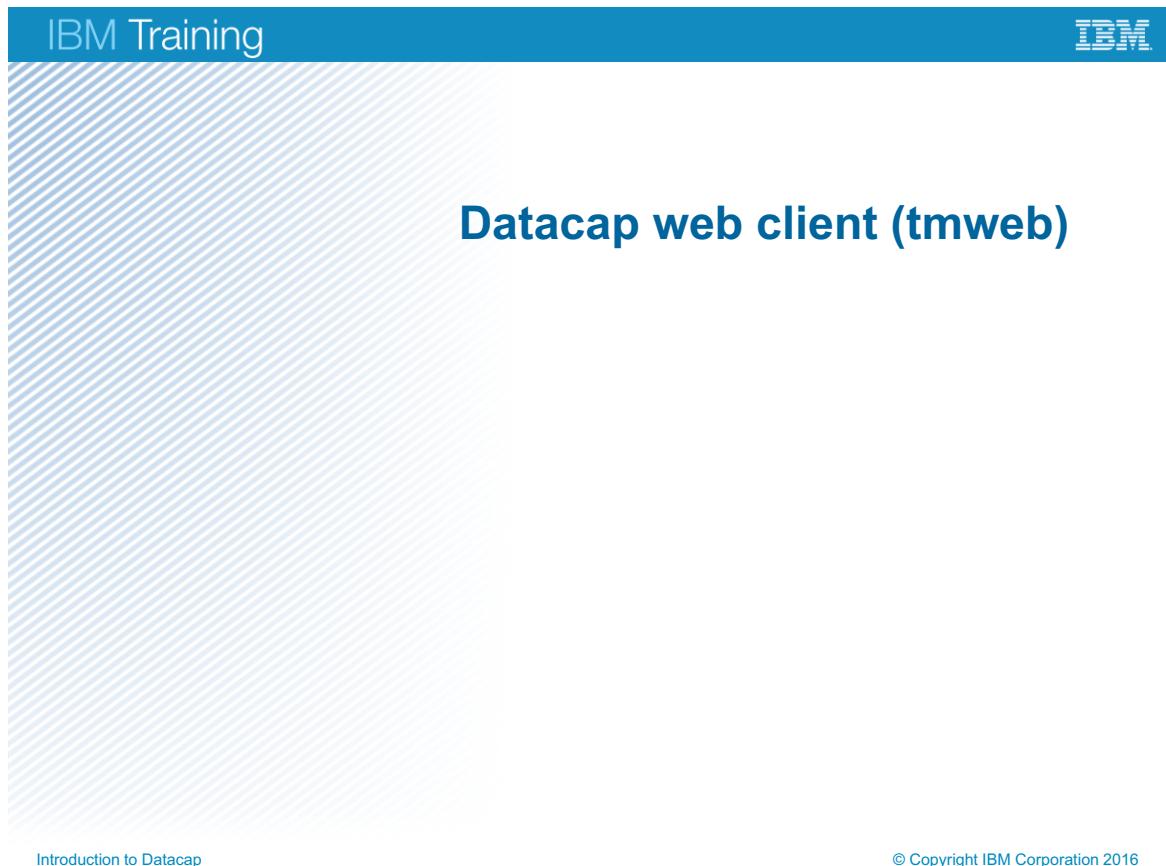


Figure 1-134. Datacap web client (tmweb)

Lessons

- Datacap overview
 - Datacap process
 - Role-based Datacap clients
 - Architecture configurations
 - Architecture components
 - Datacap Desktop
 - Application design
 - Introduction to Datacap Navigator
-  Datacap web client (tmweb)

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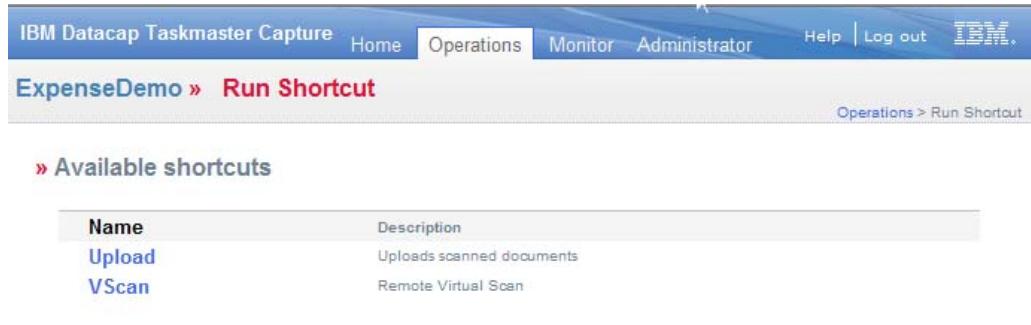
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Figure 1-135. Lessons

Why is this lesson important to you?

- As an administrator of an IBM Datacap capture system, you must be familiar with all configuration tasks for a functional IBM Datacap 9.0 system.
- As an application builder you must know how to use the capabilities of the Datacap Web client. Datacap Web is used for configure workflow jobs and tasks, application users and group, and task shortcuts. Datacap Web can also be used for running capture tasks from remote locations and monitoring active tasks.

Figure 1-136. Why is this lesson important to you?



The screenshot shows the IBM Training Datacap Web Client interface. At the top, there's a blue header bar with the IBM logo and the text "IBM Training". Below the header, the main title "Datacap Web Client" is displayed in a large, bold, dark blue font. Underneath the title, there's a bulleted list of features:

- Operations – Task Processing.
- Monitor – Job and Task progress and statistics.
- Administrator – Configuration

The main content area has a light gray background. At the top of this area, there's a navigation bar with links for "Home", "Operations", "Monitor", "Administrator", "Help", and "Log out". The "Operations" link is highlighted in blue. Below the navigation bar, the page title "ExpenseDemo » Run Shortcut" is shown in blue. To the right of the title, there's a breadcrumb trail "Operations > Run Shortcut".

In the center of the page, there's a section titled "» Available shortcuts" with a list of two items:

Name	Description
Upload	Uploads scanned documents
VScan	Remote Virtual Scan

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Figure 1-137. Datacap Web Client

Log in to Datacap Web Client

Use Internet Explorer to:

- Browse to <http://localhost/tmweb.net>.
- Log in using a valid user for the authentication mode that you selected.

Operations – Task Processing

The Operations tab displays shortcuts to the tasks in a Datacap application workflow that are configured to run through the Datacap Web client. You can start a task by clicking the name of the shortcut.

Tasks that are configured to run in Datacap Desktop, or by Rulerunner, do not appear on the Operations tab. You must complete these tasks in the program to which they are configured to run.

Monitor – Job and Task progress and statistics.

During the data capture process, documents go through a workflow that consists of several discrete tasks: scanning, upload (if scanned from a remote client), page identification, recognition, validation, verification, and export. Datacap uses a queuing mechanism to move batches of documents through the workflow. On the Job Monitor tab, you view the status of all batches.

To open the Job Monitor, click the Monitor tab in the Datacap Web Client.

Administrator – Configuration

On the Taskmaster Web Client Administrator tab, you configure your application and the application components.

All configuration that is done on the Administrator sub menus is stored in the Admin database. Default is C:\Datacap\<application>\<app name>Adm.mdb.

- Workflow tasks are stored in task table
- Users are stored in tmuser table
- Groups are stored in tmgroup table
- Stations are stored in the station table
- Shortcuts are stored in the Buttons table

Operations – Task Processing

- Use the Datacap Web Operations tab for manual tasks.
- Use Rulerunner for background tasks.
- Factors that determine which tasks are on the Operations menu:
 - Shortcuts that are defined on the Administrator > Shortcuts tab.
 - Tasks that are defined on the Administrator > Workflow tab for web operation.
 - User, Group, and Station permissions.
- Default Operations tasks that the Datacap Application wizard creates are:
 - Upload (Using uplbfcl.aspx)
 - VScan (Using scanc1.aspx)

Figure 1-138. Operations – Task Processing

You can run a batch through the entire workflow by using a combination of web components and Rulerunner.

Web Components can be configured on the operations menu to run tasks that require operator intervention.

Rulerunner is configured to run background tasks that do not require operator intervention.



Monitor – Job and Task Progress and Statistics

- Use the Datacap Web Monitor tab to monitor the status of the job queues.
 - Configure the Monitor tab view:
 - By using the following options.
- Items per page **15** ▾ Delete batches Filter... Refresh rate ▾ Default
- By selecting columns to view.
 - Select several of the column values to filter queued jobs.
 - View job details by clicking the Batch number link
 - Roll back Jobs to a previous task to reprocess tasks.
 - View the task history for the queued batches.

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Figure 1-139. Monitor – Job and Task Progress and Statistics

Configure the Monitor tab view.

- **Items per page** controls how many jobs are displayed
- **Delete batches** deletes all displayed batches (use the Batch, Job, Task, and Status fields to control which jobs are displayed, or use the Filter link)

Tip: To delete an individual batch, click the batch number and then click Delete.

Tip: The ability to delete batches is security driven so that only privileged users can delete.

- **Filter** provides finer control over which jobs are displayed
- **Refresh** refreshes the job list (or set the rate to refresh automatically)
- **Default** returns to the default view (all jobs)

Column View Links:

- Across the bottom of the screen, is a link for each column of batch data that is viewable. By clicking the column links, you activate or hide the batch data columns.

The following filters filter the Queued Jobs.

You select each filter by clicking Filter... and selecting the option on the top row as shown on the slide screen capture image.

- Batch
- Job
- Task
- Status
- Operator
- Station

View job details by clicking the Batch column link

Roll back Jobs to a previous task to reprocess tasks.

View the task history for the queued batches.

Administrator – Configuration

- Workflow
 - View and configure the application's workflows, jobs, and tasks.
- Groups
 - Configures user groups and allowed tasks for each group.
- Users
 - Configures users and allowed tasks for each user.
- Stations
 - Configures stations and allowed tasks for each station.
- Shortcuts
 - Configures the batch selection mode and the icons that are displayed in the Operations window.
- QA
 - Allows an administrator to create, configure, or delete quality assurance jobs that are based on groups and tasks.

Figure 1-140. Administrator – Configuration

Workflows – Job and Task Definition

- Configuring Jobs
 - Job details:
 - Name (Main Job, Web Job, Fixup Job)
 - Description
 - Priority
- Configuring Tasks
 - Task details:
 - Name (VScan, PageID, Profiler, Verify, Export, Fixup, iVScan, Upload)
 - Description
 - Mode
 - Queue by
 - Store

Figure 1-141. Workflows – Job and Task Definition

Mode:

- Batch Creation: Select this mode for use with VScan or if you are creating a task to scan hardcopy documents from DotScan.
Important: A job can contain only one Batch Creation task. If the job that you are modifying already includes a batch creation task, you must remove that task.
- Router: Select this mode if the task routes the batch to a different task or job when the criteria of a condition are met. One example of a condition is a document integrity failure that requires a supervisor's intervention.
- Normal: This mode is for all other tasks that are not used for Batch Creation or that do not require special handling.

Queue to:

You can specify whether to queue the batch to a stored user, a stored workstation, or both, when it reaches this task in the workflow. If queuing is not a requirement, select None.

Store:

When you select a Store attribute on a task, Taskmaster stores the user or station (or both) that is running the task when a batch is processed. Later in the workflow this stored value is used to

send the batch back to the same user or station (or to a different user or station) in a subsequent task. This control is typically used for one of the following use cases:

- Return documents to the original scan operator (or department) for verification.
- Force a different operator to do a second pass of verification on the document.

Workflows – Task Setup

- Parameters
 - Program Value:
 - For a task run exclusively from the tmweb, select an .aspx page.
 - For a task run from an application client, select the client. Datacap Desktop, FastDoc, Mobile Capture
 - For a task run exclusively in the background, select Rulerunner. PageID, Profiler, and Export are run in Rulerunner.
 - For a task run by Rulerunner, tmweb, or an application client, select Multiple.
- Setup
 - Use Setup to provide more Batch Processing, Rulerunner, Scanning and other options that are related to the task.
 - The parameters that are provided in the setup window depend on the Program Value that is selected.

Figure 1-142. Workflows – Task Setup

Program Value Menu Options

- Application Clients
 - Datacap Desktop
 - FastDoc
 - Mobile Capture
- Background
 - Rulerunner
- Datacap Web Pages
 - Scanl.aspx – Hardcopy remote scan with ISISScan or TWAINScan
 - VScanl.aspx – Virtual Scan of graphic images.
 - UpIBFcl.aspx – Upload batch images.
 - Pickup.aspx – Batch creation task for Datacap Web that involves different types of documents, such as graphics, bar codes, text, and forms.
 - ProtolD.aspx – Manual Page Identification and fixup.

- Restruct.aspx Manual identification of page type and reassembling documents.
- aIndex.aspx – Verification, manual page identification, and manual registration
- aVerify.aspx - Verify
- ImgEnter.aspx - Verify
- VeriFine.aspx - Verify

Add Users and Groups

- Adding users to an application.
 - Add Datacap users for TMA.
 - Password is only required with TMA authentication
 - To add users, you need User privilege.
- Adding groups to an application.
 - Add Datacap groups for TMA authentication.
 - To add groups, you need User groups privileges.
- Authentication systems that use LDAP and Active Directory are covered in the Datacap 9.0 System Configuration class.

Figure 1-143. Add Users and Groups

The internal authentication system is Task Master Authentication (TMA).

Adding users to an application

Defining users enables users to work on the Datacap system. They must have a user ID to authenticate with. The user-defined privileges, permissions, and group associations determine what the user is allowed to do.

- TMA is the only authentication system that uses the Datacap user for authentication. Therefore, it is the only system that requires a user for the Datacap user.

Adding groups to an application

Defining groups enables groups of users to be associated and to all have the same access credentials.

Add Users to Groups and Add Stations

- Add users to groups.
 - To create a group, you need User groups privilege.
 - To add a user to a group, you need User groups privilege and you must be a member of the group.
- Add stations to an application
 - Stations are not necessarily tied to a specific system.
 - Stations can be configured to allow multiple users to log in on one station.
 - Set Maximum to control the maximum number of users that are allowed.
 - Station configuration allows Permissions configuration.

Figure 1-144. Add Users to Groups and Add Stations

Adding users to groups

Any user can create a group provided they have the User groups privilege. When the group is created; only a user who is a member of the group and also has User groups privilege can modify it. The restriction of allowing only the member of a group to change a group is by design. There is a work-around method for an administrator who is not a group member. You can select the option to copy a group, and make your wanted changes. Then, delete the old group and rename the new group to have the original name.

Adding stations to an application

The Stations tab within Datacap Web provides you with the ability to create a station, and assign it a unique identifier. You can also define which applications, workflows, and job-task pairs can be run when a user logs in to Datacap with that station ID.

A station ID does not have a one-to-one correspondence with a physical workstation. You can enable the Datacap feature called virtual stations. Virtual stations are set up by setting the Maximum number greater than zero. When a virtual station is configured then different users them to log in on different physical workstations simultaneously.

When a virtual station is configured, multiple users can log in on different physical workstations with the same virtual station definition, simultaneously. When the Maximum number of virtual stations is set to zero, Datacap prevents multiple users from logging in with the same station ID.

Datacap Web sessions can timeout, and users can close their browser windows without logging out properly. When these occurrences happen, setting a Maximum number of virtual stations that are greater than zero allows users to log back in. Otherwise, system administrator support is requiring to log back in. When the Maximum number of virtual stations for a station ID is set to zero, the user's next attempt to log in fails. Also, if the Maximum number of virtual stations is reached the next login fails. In this situation, the system administrator must clear the virtual stations for that station ID to allow the user to log in again.

Set Privileges

- Privileges determine the valid user actions.
- Privileges are set at group or user level and are cumulative.
 - Total privilege = Group privilege + User privilege.
- Privileges are grouped into sets.
 - Job Monitor
 - Administrator
 - Station/Web monitor
 - ‘Run Task’ dialog
 - General settings dialog
 - Communications
 - Clients

Figure 1-145. Set Privileges

Set Privileges

Selecting privileges determines specific actions that the user or group that you are configuring can do. Privileges are arranged in sets.

The following are privilege sets:

Job Monitor

- This set configures the job monitoring actions a user can control.

Administrator

- This setting determines the system administrative functions a user can do.

Station/Web monitor

- This privilege allows access to the Station monitor and Web monitor view in the Datacap Web client.

‘Run Task’ dialog

- This setting allows access to the Report Viewer, Datacap Web, and Datacap Studio clients.

Set Permissions

- Permissions define what job tasks the user can run.
- Permissions can be selected for users, groups, and station configuration.
- Task permissions are grouped by job on user, group, and station property pages.
 - Main Job – Defines when tasks can run with DotScan and Rulerunner
 - Fixup Job – Defines when the Fixup job can run.
 - Web Job – Defines when a Web Client can run Jobs.

Figure 1-146. Set Permissions

Configure Shortcuts

- Shortcut Details
 - Name
 - Description
 - Mode
 - Prompt/Web select
 - Auto
 - Manual
 - Manual for Hold
- Permissions
 - Permissions selections map each Shortcut to tasks.

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Figure 1-147. Configure Shortcuts

Mode descriptions

For the Mode, select one of these values that determines the behavior of Datacap when a user clicks the shortcut on the Workflow tab:

- **Prompt/Web select:** Datacap opens the highest priority-pending job in the queue.
Tip: You can change the priority of a batch on the tmweb > Monitor view to control the order of batch processing.
- **Auto:** Same as Prompt/Web select.
- **Manual:** Datacap displays the job queue so that the operator can select a batch, which is either pending or on hold.
- **Manual for Hold:** If there are batches on hold, Datacap displays the job queue with the jobs that are on hold. If there are no jobs on hold, Datacap opens the highest priority-pending batch in the queue.

Review questions (1)

1. True or False.
tmweb is the Datacap Capture application development environment.
2. True or False
tmweb is one of the capture job processing environments.
3. True or False
tmweb provides direct access to the Application Wizard through an icon on the icon bar.
4. True or False
tmweb provides the capability to process document batches manually through every task of the capture process.

Figure 1-148. Review questions (1)

Review answers (1)

1. True or False.
tmweb is the Datacap Capture application development environment.
[The Answer is: False](#)
2. True or False
tmweb is one of the capture job processing environments.
[The Answer is: True](#)
3. True or False
tmweb provides direct access to the Application Wizard through an icon on the icon bar.
[The Answer is: False](#)
4. True or False
tmweb provides the capability to process document batches manually through every task of the capture process.
[The Answer is: False](#)

Figure 1-149. Review answers (1)

Review questions (2)

5. True or False

tmweb Client provides the capability to process document batches manually through some task of the capture process.

6. True or False

Taskmaster Administrator functions are done on the tmweb > Administrator tab subtabs.

7. True or False

Taskmaster Administrator functions are done on the tmweb > Configuration tab subtabs.

8. True or False

The tasks on the tmweb > Operations tab are configured on the tmweb > Administrator > Workflow tab and the tmweb > Administrator > Shortcut tabs.

Figure 1-150. Review questions (2)

Review answers (2)

5. True or False

tmweb Client provides the capability to process document batches manually through some task of the capture process.

The Answer is: [True](#)

6. True or False

Taskmaster Administrator functions are done on the tmweb > Administrator tab subtabs.

The Answer is: [True](#)

7. True or False

Taskmaster Administrator functions are done on the tmweb > Configuration tab subtabs.

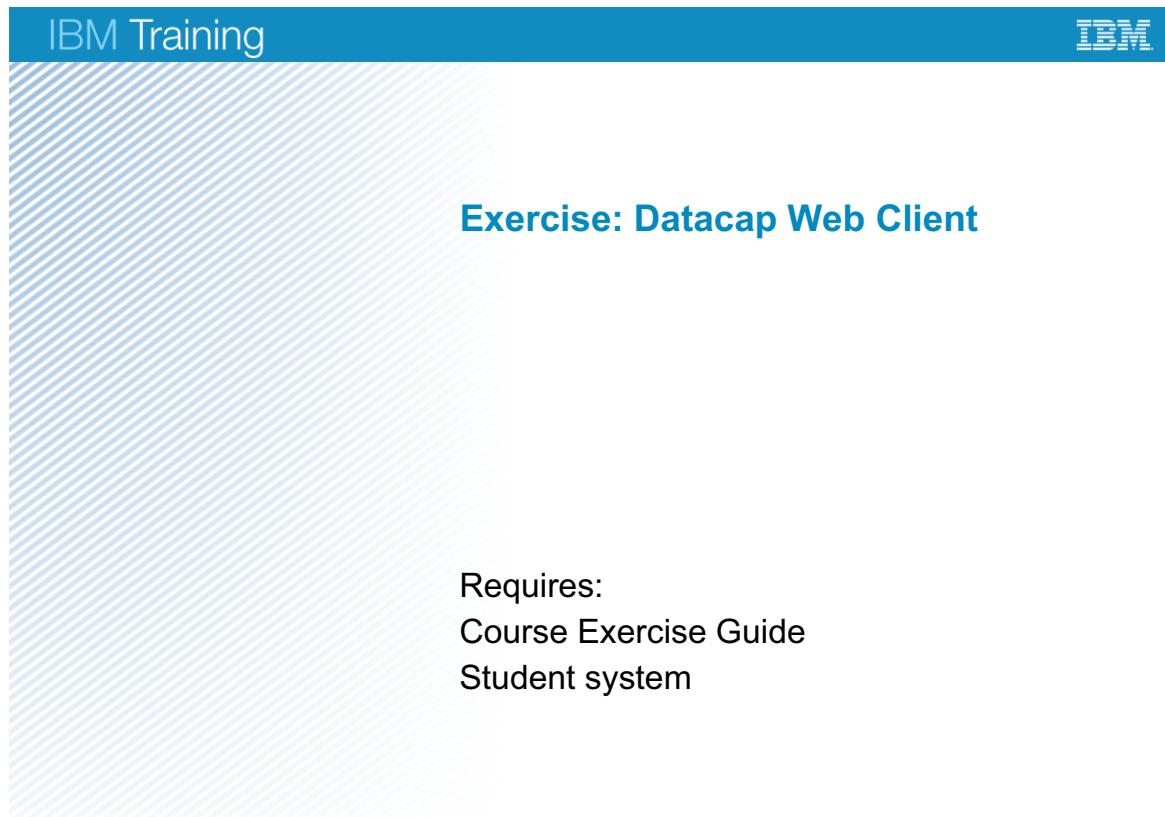
The Answer is: [False](#)

8. True or False

The tasks on the tmweb > Operations tab are configured on the tmweb > Administrator > Workflow tab and the tmweb > Administrator > Shortcut tabs.

The Answer is: [True](#)

Figure 1-151. Review answers (2)



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Figure 1-152. Exercise: Datacap Web Client

Exercise objectives

- Explore the Datacap Web Client interface



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Figure 1-153. Exercise objectives

Unit summary

- Identify the business solution that IBM Datacap provides, the Datacap process, and the capabilities of Datacap.
- Work with the Datacap Navigator, Datacap Desktop (Windows based client), and the Datacap web client (tmweb) to process a batch of input data.
- Identify the components of Datacap (Architecture) and the things to consider for Application Design.

Figure 1-154. Unit summary

Unit 2. System Configuration

Estimated time

04:00 hours

Overview

In this unit, you learn how to configure the basic functionality of the Datacap Server, Datacap Web Server, and Datacap Web Client on a single system configuration. You also learn how to setup Datacap on a multiple system configuration.

How you will check your progress

- Successfully complete the activities in the Student Workbook.

References

IBM Knowledge Center

http://www.ibm.com/support/knowledgecenter/SSZRWV_9.0.1/com.ibm.datacaptoc.doc/datacap_9.0.1.htm

Installing and configuring on one system

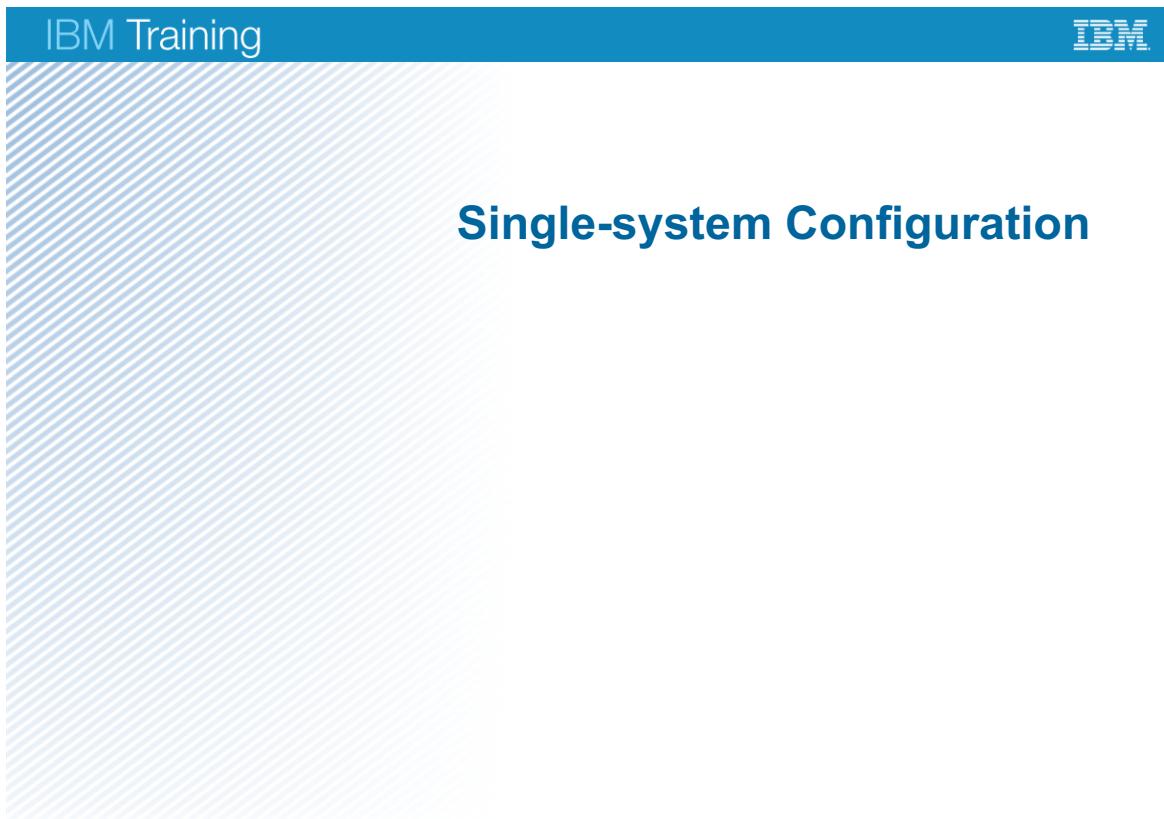
www.ibm.com/support/knowledgecenter/SSZRWV_9.0.1/com.ibm.dc.install.doc/dcain433.htm?lang=en

Unit objectives

- Configure a basic single-system Datacap configuration
- Define users and groups and configure security
- Select and configure one of the five supported authentication systems
- Configure a multi-system Datacap configuration
- Configure a multi-system Configuration Considerations

Figure 2-1. Unit objectives

Lesson 2.1. Single-system Configuration



System Configuration

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Figure 2-2. Single-system Configuration

Topics

▶ Single-system Configuration

- Maintain Users and Groups, and Configure Security
- Authentication and Encryption
- Multi-system Configuration Considerations

System Configuration

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Figure 2-3. Topics

Why is this lesson important to you?

- As an administrator of an IBM Datacap capture system, you must be familiar with all configuration tasks for a functional IBM Datacap system.
- In this lesson, you configure the Datacap components that are required for manual Document capture processing.

Figure 2-4. Why is this lesson important to you?

Datacap Configurations

- Datacap is designed to run on a multi-system configuration. (Normal installation configuration)
- Datacap also runs in a single-system configuration. This configuration can be used for:
 - Training installations
 - Development environments
 - Testing installations

Figure 2-5. Datacap Configurations

Configure a Single-system

- For a single-system installation, Windows 7 is the recommended platform.
- Minimal single-system configuration for demonstration purposes:
 - Datacap Server
 - Datacap Client
 - Datacap Web
 - Datacap Web Client
 - Datacap Rulerunner Service (single thread)

Figure 2-6. Configure a Single-system

Prerequisite System Components

- Microsoft Information Services
- Microsoft .NET 3.5.1 Framework
- Visual Studio for building verify panels.
- Windows Active Directory or LDAP Services
 - Usually a directory server is used but sometimes the built-in Datacap authentication is adequate.
- SQL Server 2008, Oracle database, or DB2
 - The default Microsoft access databases are suitable for demonstration and development purposes.

Optional component

- IBM System Dashboard for monitoring system performance

Figure 2-7. Prerequisite System Components

Help path

- Datacap 9.0.1>Preparing prerequisite software
- Datacap 9.0.1>Preparing prerequisite software>Prerequisites for installing Datacap>Microsoft Internet Information Services and Microsoft .NET Framework
- Datacap 9.0.1>Datacap application development>Datacap application development>Data verification>Field data verification>Options for data verification
- Datacap 9.0.1>Configuring Datacap databases
- Datacap 9.0.1>Administering your system>Monitoring system performance with IBM System Dashboard for Enterprise Content Management

Authentication

Usually a directory server is used for authentication but sometimes the built-in Datacap authentication is used.

Databases

The included Access databases are acceptable for demonstration and often development purposes. Microsoft SQL Server or Oracle databases are most often used in production installations.

Single system Configuration Checklist

- Assuming that prerequisites and full Datacap 9.0 installation is complete
- Export the encryption keys
- Configure and start the Datacap Server Service
- Configure Datacap Web
- Configure Internet Explorer
- Configure the Datacap Rulerunner Service to run tasks on a single thread

Figure 2-8. Single system Configuration Checklist

Export Encryption Keys

- Encryption keys are used for multi- and single-system configurations.
- Encryption keys protect passwords passes between systems.
- Generate a new key.
 - dcskey C:\Datacap\Taskmaster /gnk
- Export the encryption key
 - dcskey C:\Datacap\Taskmaster /e
 - Note: the key is exported to the dc_KTF.xml file.
- Import the encryption key
 - dcskey C:\Datacap\Taskmaster /i
 - Import is required for each user or service that logs in to a system.
- For a multi-system configuration:
 - Copy the key file C:\Datacap\Taskmaster\dc_KTF.xml to all systems.
 - Import keys for each user on each system.

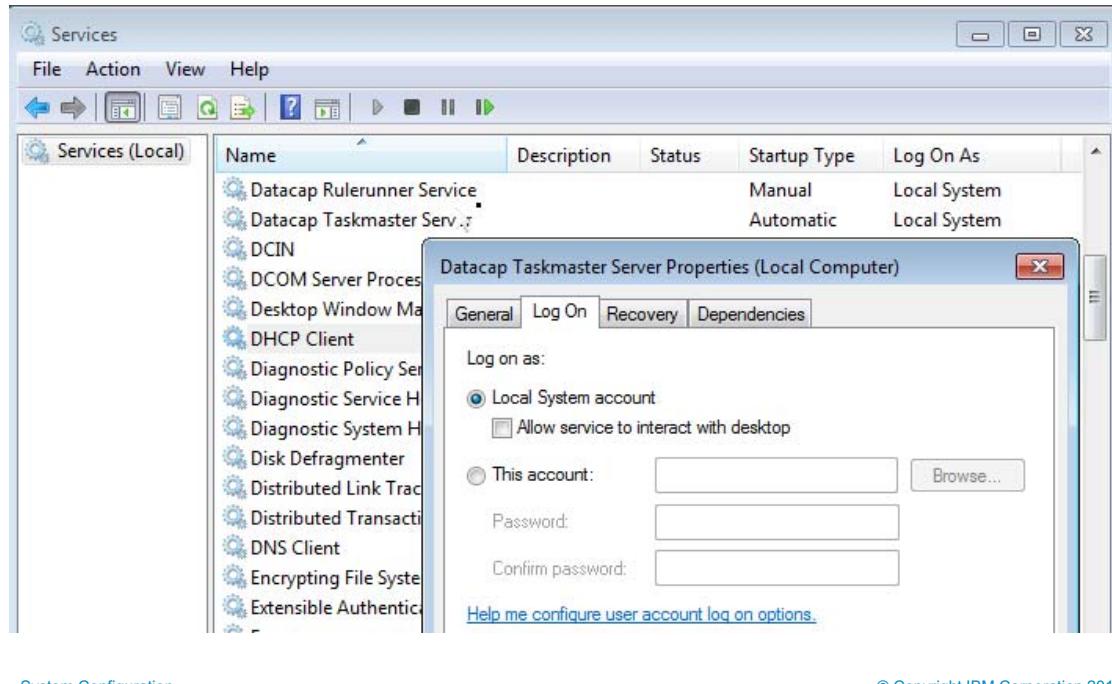
Figure 2-9. Export Encryption Keys

Help path

- Datacap 9.0.1>Installing and configuring on one system>Installing Datacap on one system>Exporting encryption keys

If the dc_ktf.xml file is in the folder with the Datacap executable that first uses encryption, it is automatically imported.

Configure Datacap Server Service



System Configuration

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Figure 2-10. Configure Datacap Server Service

Help path

- Datacap 9.0.1>Installing and configuring on one system>Installing Datacap on one system>Rulerunner Service (single thread)

Notes

- Datacap Server Service must be running before you can start an application or Datacap component.
- In a single system configuration, the Datacap Server Service uses the Local System account. The default account is the one you were logged in as while you were installing Datacap.
- In a client/server configuration, the Datacap Server Service uses the domain account that you set up for it. Permission requirements are discussed in Lesson 4.
- Set account for Datacap Server Service.
 - Start > Administrative Tools > Services
 - Datacap Taskmaster Service > Properties
 - On the General tab, select Startup type Automatic.
 - On the Log On tab

- For a Single-system, installation a local account is adequate.
- Select Local System account No credentials need to be provided. It uses the installers account information, which is typically Administrator.
- For a multi-system, it must be a domain account.
- Select This account and use user domain\lmservice for example.



Configure Datacap Web

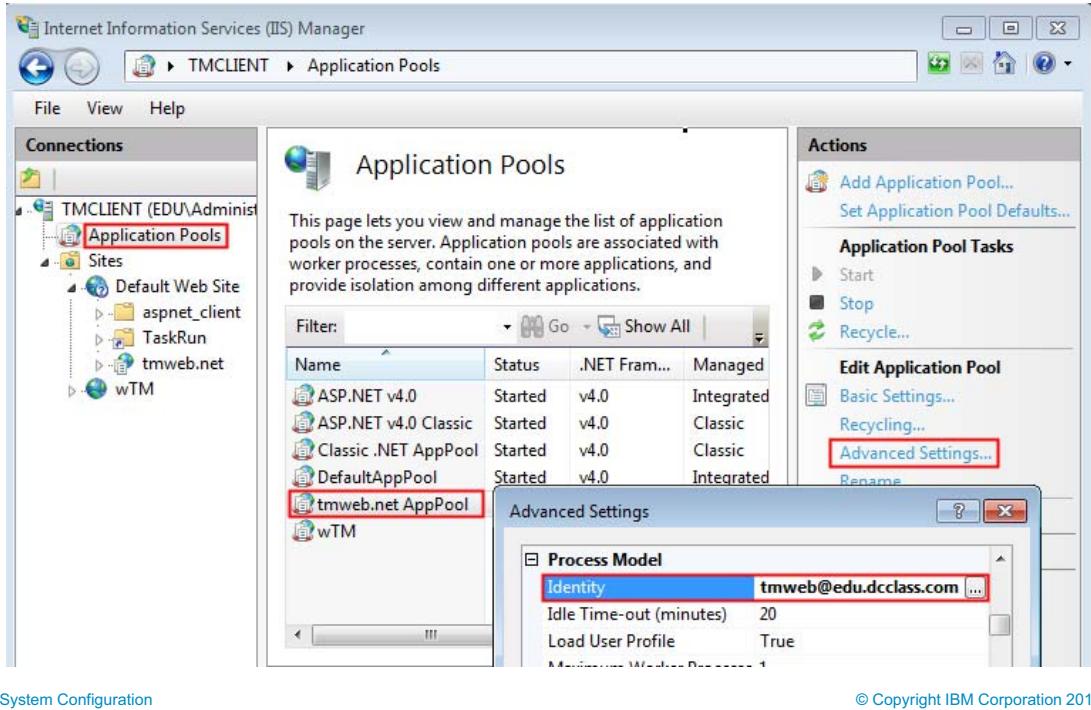


Figure 2-11. Configure Datacap Web

Help path

- Datacap 9.0.1>Installing and configuring on one system>Installing Datacap on one system>Datacap Web Client installation and configuration>Single system installation: Creating the Datacap Web Client site
- Datacap 9.0.1>Preparing prerequisite software>Prerequisites for installing Datacap>Verifying that IIS components are installed

Verify that all IIS components are found.

- Click > Start menu, select All Programs > IBM Datacap Web Datacap Web Server Configuration
- Verify that all components were found. If components were not found, then use the **Verify that IIS components are installed** link to the information center documentation to resolve the issue.
- Click OK and Exit

Configure Application Pools

- Click Start > Administrative Tools, > Internet Information Services (IIS) Manager.
- In the Connections pane, expand the computer node, Sites node, and the Default Web Site. The tmweb.net site is displayed. If it is not displayed, right-click the site and select Refresh.
- In the Application Pools pane, select the tmweb.net application pool then, in the Actions pane, in the Edit Application Pool section, click Advanced Settings.
- In the Process Model section, click the browse button to the right of Identity.
- In the Application Pool Identity window, change the Built-in account to Local System, then click OK.
- In the Process Model section, set Load User Profile to True.
- Click OK.

Set cookies unique name

- In the Connections pane, expand the Sites node, and expand the Default Web Site.
- Select the tmweb.net site, and in the middle pane, double-click Session State.
- Under Cookie Settings, change the Name to tmweb or another unique name; then, in the Actions pane, click Apply.
- Restart the Default Web Site
- In the Connections pane, select the Default Web Site; then, in the Actions pane, under Manage Web Site, click Restart.

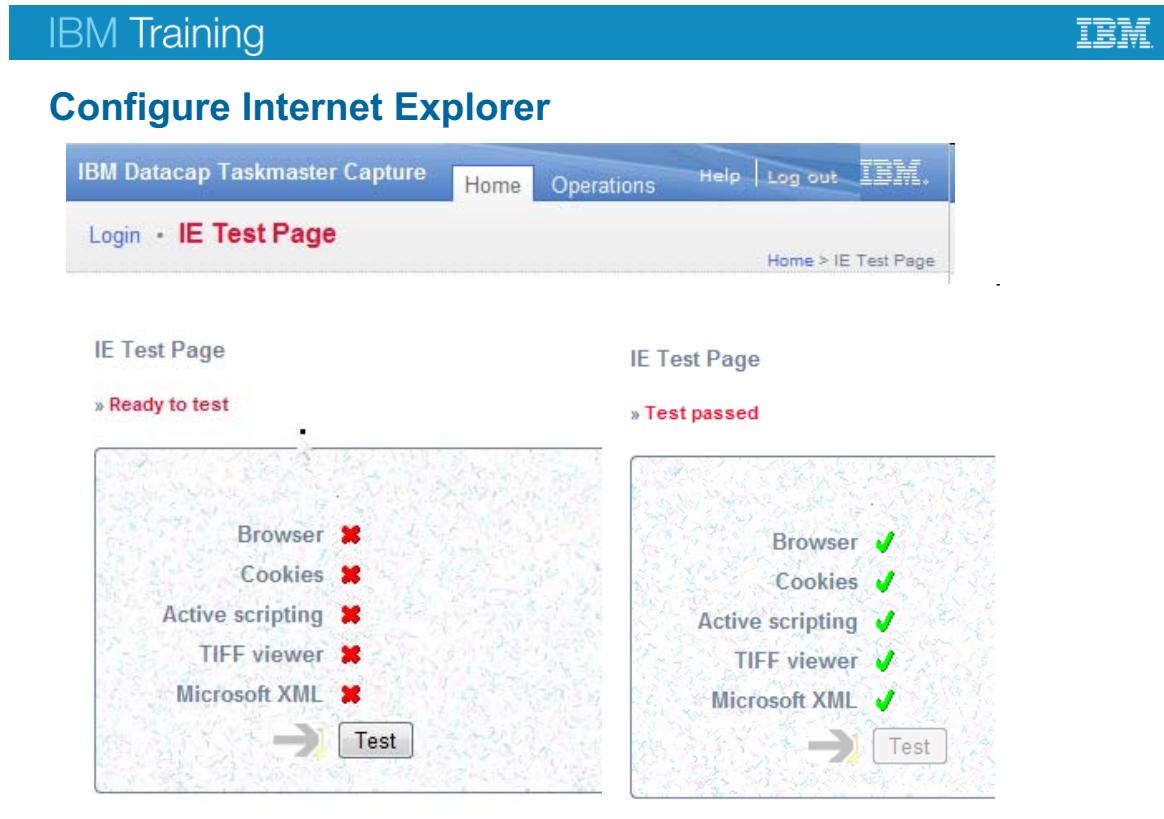


Figure 2-12. Configure Internet Explorer

Help path

- Datacap 9.0.1>Installing and configuring in a client/server environment>Datacap installation and configuration in a client/server environment>Configuring and testing the remote workstation>Testing Internet Explorer

Important – Configure for each tmweb.net user.

The following configuration must be done for every desktop user that needs to use tmweb.net to view or control Datacap configuration and monitor batch status.

Add Web server to the Internet Explorer trusted sites (<http://webservername>).

- Open Internet Explorer.
- On the Tools menu, select Internet Options. The Internet Options dialog opens.
- Click the Security tab to display it.
- Select Trusted sites, then click Sites. The Trusted Sites dialog opens.
- Enter the default server address (<http://webservername>) in the Add this website to the zone field, then click Add
- Close Trusted Sites window.

Enable ActiveX controls

- Click Custom Level
- Click Enable for the Download signed ActiveX controls.
- Click Enable for the Initialize and script ActiveX controls not marked as safe for scripting.
- Click OK. The Internet Options dialog is redisplayed.
- Click OK. The Internet Options dialog closes.

Run the tmweb IE test

Important: On a system that has a 64-bit operating system, you must use the 32-bit version of Internet Explorer to access Datacap Web.

From the Windows Start menu, select All Programs > IBM Datacap Web > Datacap Web Client Configuration.

- Ensure that http://webservername is the default URL that is displayed.
- Click Configure.
- Click OK, then click Exit.
- Start Internet Explorer and enter the URL for Datacap Web followed by the tmweb.net virtual directory and the test page: http://localhost/tmweb.net/ietest.aspx, then press <Enter>.
- Click Test. The red Xs change to green check marks when the test completes successfully.

Exercise: Datacap Single-system Configuration

System Configuration

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Figure 2-13. Exercise: Datacap Single-system Configuration

Exercise objectives

- Configure Datacap Server Service and Web Access



System Configuration

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Figure 2-14. Exercise objectives

Lesson 2.2. Maintain Users and Groups, and Configure Security

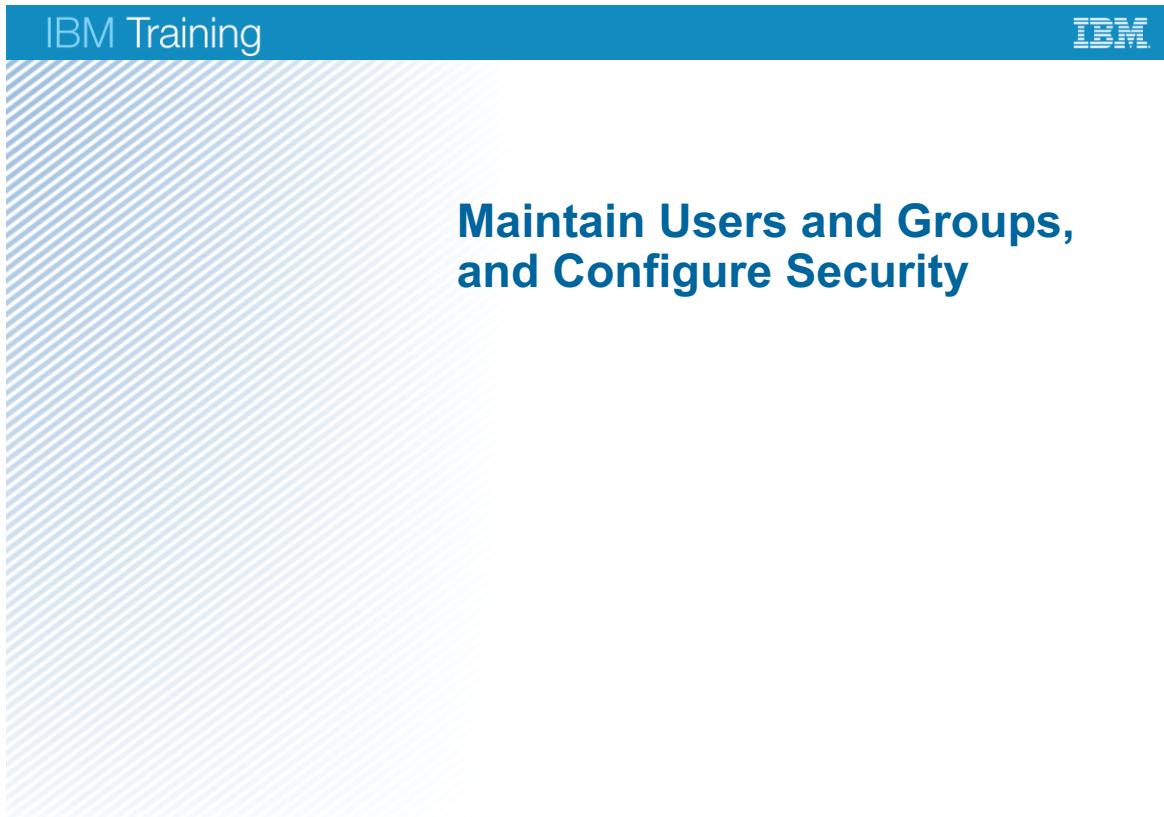


Figure 2-15. Maintain Users and Groups, and Configure Security

Topics

- Single-system Configuration
-  Maintain Users and Groups, and Configure Security
- Authentication and Encryption
- Multi-system Configuration Considerations

System Configuration

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Figure 2-16. Topics

Why is this lesson important to you?

- As an administrator of an IBM Datacap capture system, you must be familiar with all configuration tasks for a functional IBM Datacap 9.0.1 system.
- You must configure users and groups for each task of the document acquisition process.

System Configuration

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Figure 2-17. Why is this lesson important to you?

The screenshot shows the IBM Datacap Taskmaster Capture interface. At the top, there's a blue header bar with the text "IBM Training" on the left and the "IBM" logo on the right. Below the header, the title "Datacap Web Client" is displayed in a large, bold, blue font. The main content area has a white background. At the top of this area, there's a navigation bar with links for "Home", "Operations", "Monitor", "Administrator" (which is highlighted in red), "Help", and "Log out". Below the navigation bar, the URL "ExpenseDemo » Workflow • Groups" is shown. To the right of the URL, there's a link "Administrator > Groups". In the center of the page, there's a table with two columns: "ID" and "Description". The table contains three rows: "Everyone" (description: All Taskmaster users), "Scanners" (description: Scan operators), and "Indexers" (description: description here). At the bottom of the table, there are buttons for "New", "Copy", and "Remove". At the very bottom of the page, there's a footer with the text "Licensed Materials - Property of IBM Corp. (5725-C15) Copyright © 1994-2012 IBM Corporation." and "© Copyright IBM Corporation 2017".

Figure 2-18. Datacap Web Client

Help path

- Datacap 9.0.1>Administering your system>Datacap web clients administration

Log in to Datacap Web Client

Use Internet Explorer to:

- Browse to <http://localhost/tmweb.net>.
- Log in using a valid user for the authentication mode that you selected.

Operations – Task Processing

The Operations tab displays shortcuts to the tasks in a Datacap application workflow that are configured to run through the Datacap Web client. You can start a task by clicking the name of the shortcut.

Tasks that are configured to run in Datacap Desktop, or by Rulerunner, do not appear on the Operations tab. You must complete these tasks in the program to which they are configured to run.

Monitor – Job and Task progress and statistics.

During the data capture process, documents go through a workflow that consists of several discrete tasks: scanning, upload (if scanned from a remote client), page identification, recognition, validation, verification, and export. Datacap uses a queuing mechanism to move batches of documents through the workflow. On the Job Monitor tab, you view the status of all batches.

To open the Job Monitor, click the Monitor tab in the Datacap Web Client.

Administrator – Configuration

On the Datacap Web Client Administrator tab, you configure your application and the application components.

All configuration that is done on the Administrator sub menus is stored in the Admin database. Default is C:\Datacap\<application>\<app name>Adm.mdb.

- Workflow tasks are stored in task table
- Users are stored in tmuser table
- Groups are stored in tmgroup table
- Stations are stored in the station table
- Shortcuts are stored in the Buttons table

Add Users and Groups

- Adding users to an application
 - Add Datacap users for TMA.
 - Password is only required with TMA authentication
 - Add Datacap users for ADLDS, and LLLDAP authentication
 - LLLDAP also supports group authentication
 - Datacap users are not required for ADSI and LDAP authentication
 - To add users, you need User privilege
- Adding groups to an application.
 - Add Datacap groups for TMA, ADSI, and LDAP authentication
 - Adding Datacap groups is optional for ADLDS and LLLDAP
 - To add groups, you need User groups privileges

Figure 2-19. Add Users and Groups

Authentication systems are covered in more detail in the next lesson.

The internal authentication system is TMA.

The external or third-party authentication systems are ASDI, LDAP, ADLDS, and LLLDAP.

Adding users to an application

Defining users enables users to work on the Datacap system. They must have a user ID to authenticate with. The user-defined privileges, permissions, and group associations determine what the user is allowed to do.

- TMA is the only authentication system that uses the Datacap user for authentication. Therefore, it is the only system that requires a user for the Datacap user.
- ADLDS and LLLDAP do not support group authentication. It is necessary to define Datacap users for the application for each user that is defined in the external authentication system.
- ADSI and LDAP do support group authentication. Therefore, it is not necessary to define Datacap users for the application. Datacap users can be optionally defined whether you need to give a particular user special privilege or set permission different from the rest of its group.
- If you are defining Datacap users for an application, the Datacap user name must match exactly the user name in the external system.

Adding groups to an application

Defining groups enables groups of users to be associated and to all have the same access credentials.

- ADLDS does not support group authentication. It is not necessary to define Datacap groups for the application. Groups can be defined optionally to define privileges and permissions for groups of users but the groups are not used for authentication.
- LLLDAP supports user and group authentication. It is not necessary to define Datacap groups for the application. If you define groups, they define privileges and permissions for groups of users and group authentication can be done without having any users who are defined in the application.
- ADSI and LDAP do support group authentication. Therefore, it is necessary to define Datacap groups for the application for each ADSI or LDAP group.
- If you are defining Datacap groups for an application, the Datacap group name must match exactly the domain group name with the domain name added.

For Example for ADSI:

External group name = DCScanners

Internal Datacap group name = DCScanners.EDU.

For Example for LLLDAP:

External group name = DCScanners

Internal Datacap group name = DCScanners

Add Users to Groups and add Stations

- Add users to groups.
 - To create a group, you need User groups privilege.
 - To add a user to a group you need User groups privilege and you must be a member of the group.
- Add stations to an application
 - Stations are not necessarily tied to a specific system.
 - Stations can be configured to allow multiple users to log in on one station.
 - Set Maximum to control the maximum number of users that are allowed.
 - Station configuration allows Permissions configuration.

Figure 2-20. Add Users to Groups and add Stations

Adding users to groups

Any user can create a group provided they have the User groups privilege. When the group is created; only a user who is a member of the group and also has User groups privilege can modify it. The restriction of allowing only the member of a group to change a group is by design. There is a work-around method for an administrator who is not a group member. You can select the option to copy a group, and make your wanted changes. Then, delete the old group and rename the new group to have the original name.

Adding stations to an application

The Stations tab within Datacap Web provides you with the ability to create a station, and assign it a unique identifier. You can also define which applications, workflows, and job-task pairs can be run when a user logs in to Datacap with that station ID.

A station ID does not have a one-to-one correspondence with a physical workstation. You can enable the Datacap feature called virtual stations. Virtual stations are set up by setting the Maximum number greater than zero. When a virtual station is configured then different users them to log in on different physical workstations simultaneously.

When a virtual station is configured, Datacap assigns a unique substation identifier to each login and allows multiple logged in users up to the maximum specified. When the Maximum number of

virtual stations is set to zero, Datacap prevents multiple users from logging in with the same station ID.

Datacap Web sessions can timeout, and users can close their browser windows without logging out properly. When these occurrences happen, setting a Maximum number of virtual stations that is greater than zero allows users to log back in. Otherwise, system administrator support is requiring to log back in. When the Maximum number of virtual stations for a station ID is set to zero, the user's next attempt to log in fails. Also, if the Maximum number of virtual stations is reached the next login fails. In this situation, the system administrator must clear the virtual stations for that station ID to allow the user to log in again.

Set Privileges

- Privileges determine the valid user actions
- Privileges are set at group or user level and are cumulative
 - Total privilege = Group privilege + User privilege
- Privileges are grouped into sets
 - Job Monitor
 - Administrator
 - Station/Web monitor
 - Communications
 - Clients

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Figure 2-21. Set Privileges

Set Privileges

Selecting privileges determines specific actions that the user or group that you are configuring can do. Privileges are arranged in sets.

The following are privilege sets:

Job Monitor

- This set configures the job monitoring actions a user can control.

Administrator

- This set determines the system administrative functions a user can do

Station/Web monitor

- This privilege allows access to the Station monitor and Web monitor view in the Datacap Web client.

Communications

- The Communications > Remote administration option allows the user to do administration on remote systems.

Clients

This set allows access to the Report Viewer, Datacap Web, and Datacap Studio clients.

Privilege options that are no longer supported.

'Run Task' dialog

- This option is no longer valid and will be removed from the interface in a future release.

General settings dialog

- This option is no longer valid and will be removed from the interface in a future release.

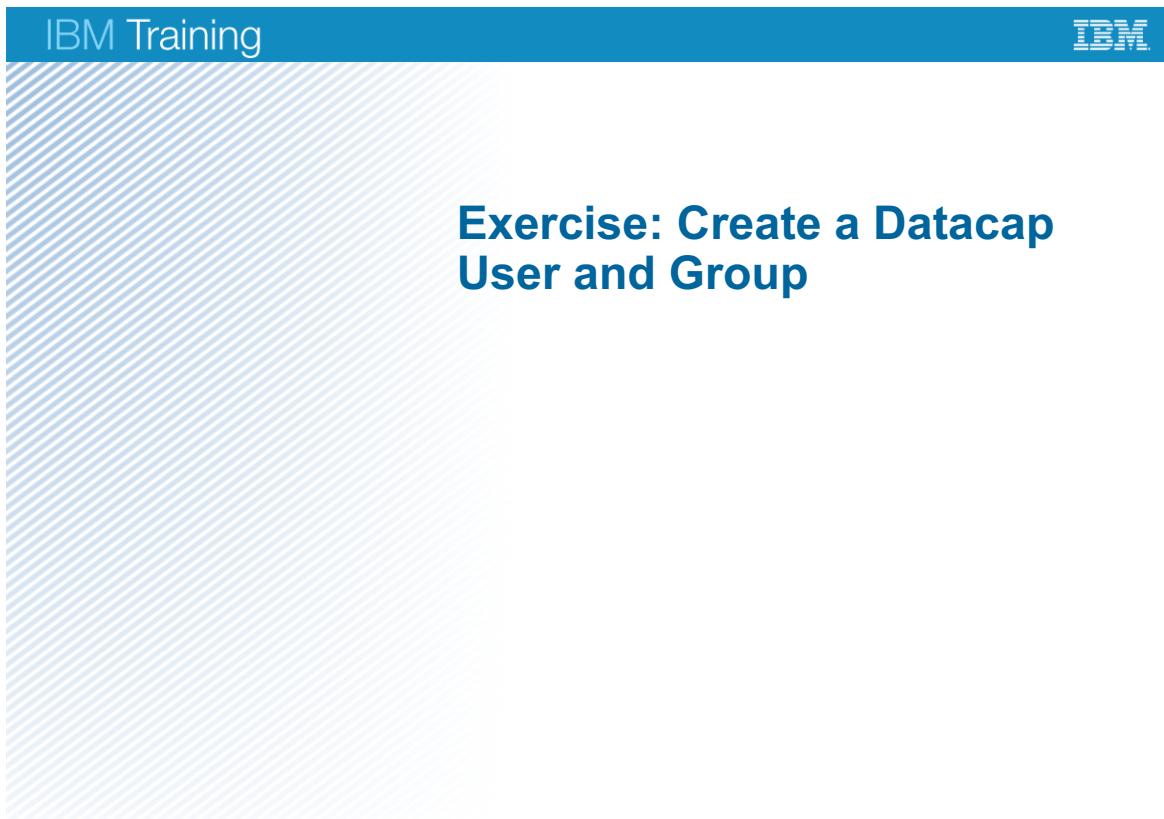
Set Permissions

- Permissions define what job tasks the user can run
- Permissions can be selected for users, groups, and station configuration
- Task permissions are in groups by job on user, group, and station property pages
 - Main Job – Defines what tasks can run with Datacap Desktop, FastDoc, and Rulerunner
 - Fixup Job – Defines when the Fixup job can run
 - Web Job – Defines what tasks the Web Client can run
 - Navigator Job – Defines what Tasks the Datacap Navigator Client can run

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Figure 2-22. Set Permissions



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Figure 2-23. Exercise: Create a Datacap User and Group

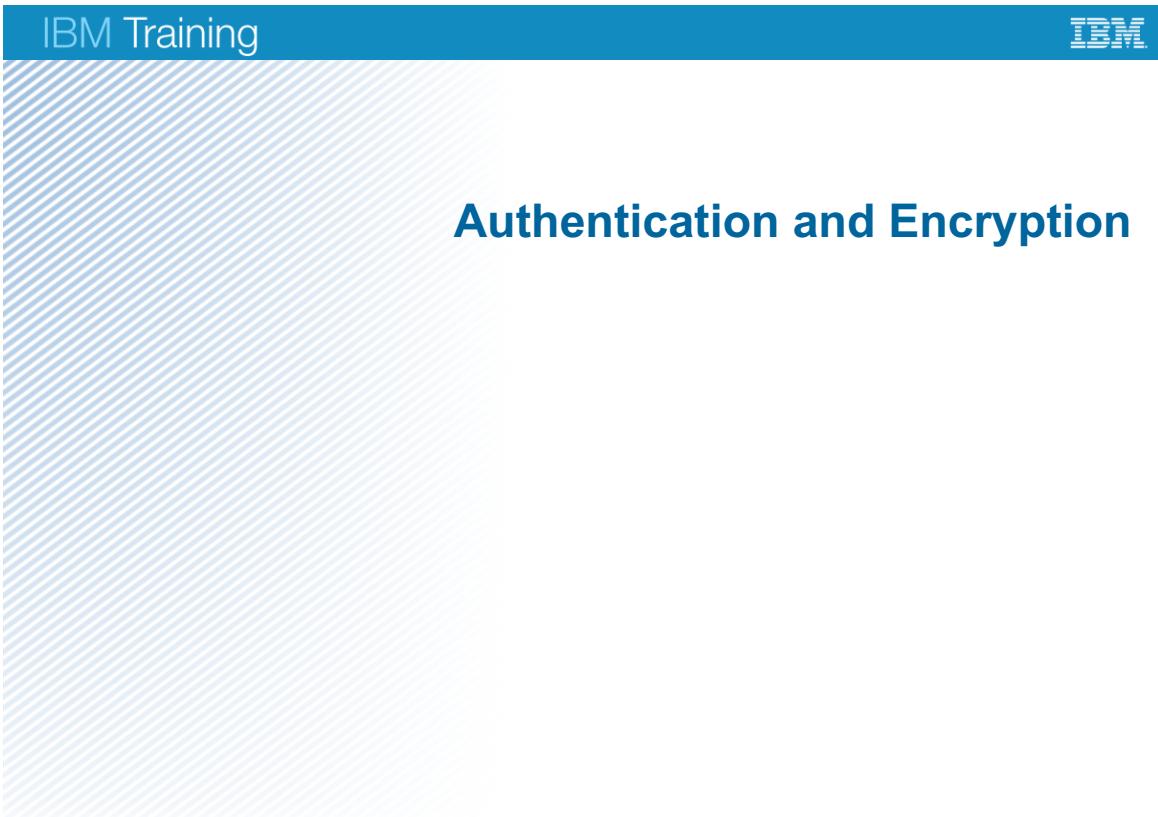
Exercise objectives

- Create a Datacap User and Group



Figure 2-24. Exercise objectives

Lesson 2.3. Authentication and Encryption



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Figure 2-25. Authentication and Encryption

Topics

- Single-system Configuration
- Maintain Users and Groups, and Configure Security
- ▶ Authentication and Encryption
- Multi-system Configuration Considerations

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Figure 2-26. Topics

Why is this lesson important to you?

- As an administrator of an IBM Datacap capture system, you must be familiar with all configuration tasks for a functional IBM Datacap 9.0 system.
- Datacap currently supports five user authentication methods. You must select the method that integrates best with your existing corporate security authentication method.

Figure 2-27. Why is this lesson important to you?

Five Authentication Systems

Datacap supports five authentication systems

- Datacap authentication (TMA)
- Windows Active Directory (ADSI)
- Windows Active Directory Lightweight Directory Services (ADLDS)
- Lightweight Directory Access Protocol (LDAP)
- Low-Level Lightweight Directory Access Protocol (LLLdap)

Figure 2-28. Five Authentication Systems

Help path

- Datacap 9.0.1>Installing and configuring in a client/server environment>Datacap installation and configuration in a client/server environment>Configuring authentication for Datacap

Internal authentication system

- **TMA** – Internal Datacap authentication supports user and group authentication.

External authentication systems

- **ADSI and ADLDS** – External Windows Active Directory authentication. ADSI supports user and group authentication. ADLDS does not support group authentication.
- **LDAP and LLLDAP** – External authentication systems other than Windows Active Directory. Select this option when you are using providers such as IBM Tivoli Access Manager or Sun Directory Server Enterprise Edition. LDAP and LLLDAP support user and group authentication.

Rules for External Authentication Systems

- Redefine users and groups in Datacap.
- The Datacap names must match the external system.
- Select TMA while defining credentials in Datacap.
- ADSI and LDAP require you to define only groups.
- AD LDS also requires you to define all users.
- LLLDAP group authentication requires you define only groups.
- Datacap users do not require passwords except for TMA.

Figure 2-29. Rules for External Authentication Systems

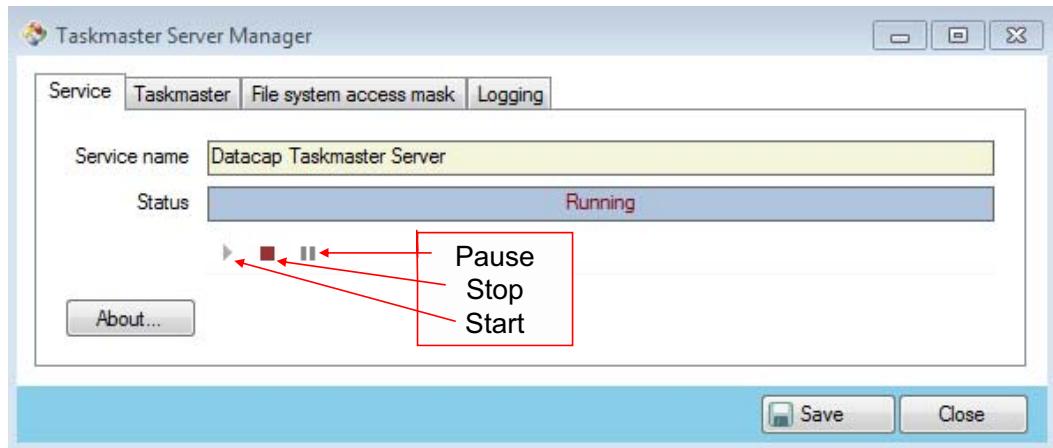
Rules

- For ADSI and LDAP groups that are defined in the external Active Directory or LDAP system must also be defined in Datacap.
- For ADLDS users and groups that are defined in the external Active Directory or LDAP system must also be defined in Datacap.
- For LLLDAP users and groups that are defined in the external Active Directory or LDAP system you can define users or groups in Datacap. That is, LLLDAP can do either user or group authentication.
- The user and group names that are defined in Datacap must match identically the names that are used in the external authentication system.
- Irrespective of the chosen authentication system, you must always select the TMA authentication before you define the users, groups, and stations in Datacap Server Manager. When the Datacap definitions are complete, then the chosen authentication system can be reselected in the Datacap Server Manager.
- ADSI and LDAP support group authentication. Therefore, it is not necessary to redefine all the users in Datacap if either of these authentication systems are used.

- AD LDS and LLLDAP support user authentication. Therefore, it is necessary to redefine all the users in Datacap if either of these authentication systems are used. AD LDS does not support group authentication.
- LLLDAP also supports group authentication. Therefore, it is only necessary to define the groups in Datacap for LLLDAP group authentication.
- Because the chosen external authentication system does the authentication, it is not necessary to define a password for the internal Datacap user. The internal Datacap user definitions determine the privileges and permissions but the chosen external authentication system does the user authentication.

Datacap Server Service Control

- Open the Datacap Server Manager.
- Start > All Programs > IBM Datacap Services> Datacap Server Manager



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Figure 2-30. Datacap Server Service Control

When you configure users, groups, and stations in the Datacap always use the following procedure:

1. Stop the Datacap Server Service in the Datacap Server Manager.
2. On the Datacap tab > Advanced Settings, select the TMA authentication system.
3. Start the Datacap Server Service in the Datacap Server Manager.
4. Open the IE browser, click the tmweb link, log in to the application that you are configuring.
5. Configure users, groups, and stations for the application.
6. Stop the Datacap Server Service in the Datacap Server Manager.
7. On the Datacap tab > Advanced Settings, select the preferred authentication system (ADSI, LDAP, LLDAP, or ADLDS).
8. Start the Datacap Server Service in the Datacap Server Manager.

Select Authentication System

- Select authentication system

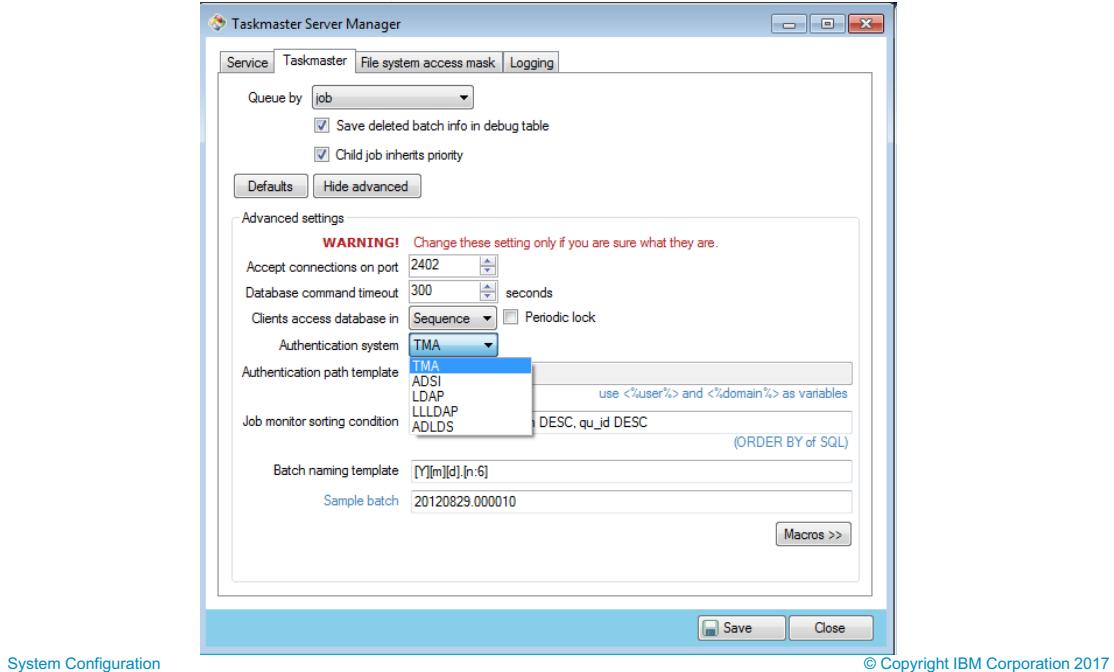


Figure 2-31. Select Authentication System

Help path

- Datacap 9.0.1>Installing and configuring in a client/server environment>Datacap installation and configuration in a client/server environment>Configuring authentication for Datacap

Authentication Path Templates

Authentication	Description
ADSI	Enter WinNT://<%domain%>/<%user%>
AD LDS	Enter %server%: %port%/uid=<%user%>, dc=%domain%, dc=Com
LLLDAP	Enter %server%: %port%/uid=<%user%>, dc=%domain%, dc=Com
LDAP	Enter LDAP://<%domain%>.com
LLLDAP group	Enter <Server>:<port>/BindUser:cn=<admin>, dc=<domain>, dc=com?BindPw:<password>?UserBaseDn:ou=people,cn=<admin>, dc=<domain>??UserSearchFilter: (&(objectClass=person) (cn=<%user%>)) ?UserShortNameAttr:cn?UserDisplayNameAttr:sn?GroupBaseDn:o=sample?GroupSearchFilter: (&(objectClass=groupOfNames)) ?GroupShortNameAttr:cn?GroupDisplayNameAttr:cn?GroupMembershipSearchFilter: (&(objectClass=groupOfNames) (member=<%user%>))

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Figure 2-32. [No title]

Help path

- Datacap 9.0.1>Installing and configuring in a client/server environment>Datacap installation and configuration in a client/server environment>Configuring authentication for Datacap>Configuring the Datacap Server service to use an external authentication system
- Datacap 9.0.1>Installing and configuring in a client/server environment>Datacap installation and configuration in a client/server environment>Configuring authentication for Datacap>LLLDAP group authentication

Important: For AD LDS and LLLDAP options only, you must enter actual values in the template path for %server%, %port%, and %domain%. The <%user%> variable entry must be retained as shown.

As an example, you might enter a template path:

server01:1099/uid=<%user%>,dc=domain02,dc=com

Authentication for ADSI and LDAP

- Windows Credentials that are used for authentication.
- In Active Directory Define Security Groups.
- Create Windows accounts for:
 - Datacap users.
 - Background services and processes.
 - Application pools.
- Add Datacap domain accounts to Active Directory Groups.

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Figure 2-33. Authentication for ADSI and LDAP

Help path

- Datacap 9.0.1>Installing and configuring in a client/server environment>Datacap installation and configuration in a client/server environment>Configuring authentication for Datacap>Active Directory ADSI and LDAP authentication systems

AD (ADSI) or LDAP authentication in Datacap

Active Directory (AD) is referred to as ADSI in Datacap. When either the ADSI or LDAP authentication system is used, the credentials from the Windows account in use are the credentials that are used for authentication.

When you are using the ADSI or LDAP authentication system, you must:

- In Active Directory, create appropriate security groups
- Create Windows accounts for Datacap users, background services and processes, and application pools.
 - Datacap users are people who log in to do work.
 - Background Services and Processes are Datacap Server Service and Fingerprint Service.
 - Application pools are applications that are hosted on the web applications on the web server (Datacap Web and Report Viewer).

- In Active Directory, add the Datacap related Windows accounts to the appropriate Active Directory security group or groups.

Datacap Groups and Stations

- Add Active Directory groups to Datacap application.
- Group name sample format:
 - Active Directory security group name (Dot) short domain name
Example: DCUsers.edu (GroupName.DomainNodeName)
- No groups for:
 - Datacap Server Service, Datacap Web, Report Viewer, Fingerprint Service application pools.
- It is not necessary to add Datacap users for your application.
- Station names for interactive Datacap users are not required to match system names.
- system names for Maintenance Manager, Rulerunner, wTM, and Datacap Web Client Upload Service are added as station names.

Figure 2-34. Datacap Groups and Stations

Help path

- Datacap 9.0.1>Installing and configuring in a client/server environment>Datacap installation and configuration in a client/server environment>Configuring authentication for Datacap>Active Directory ADSI and LDAP authentication systems

ADSI or LDAP Datacap groups and stations

For each ADSI or LDAP security groups you created, add corresponding groups to your Datacap application. Also, assign the appropriate Datacap permissions to each group. The Datacap Group name must be in the following format:

- Active Directory security group name
- A dot
- Short domain name (domain without top level)

For example, if the Active Directory security group name is DCUsers and the full domain name is edu.domain02.com, then the Datacap Group name must be: DCUsers.edu.

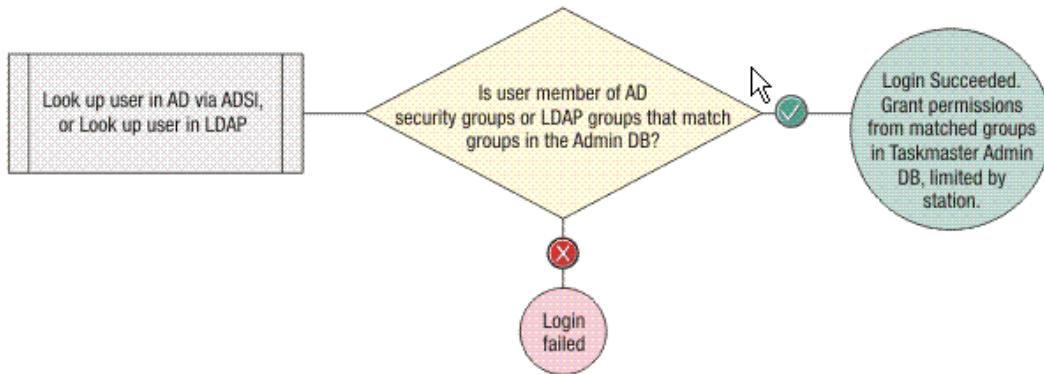
There is no need to create Datacap groups for Datacap Server Service, or the Datacap Web, Report Viewer, and Fingerprint Service application pools.

Add Datacap stations to your application with the appropriate permissions. Users that use interactive Datacap software components enter station names manually so the station names for these users do not have to match their system names.

For Maintenance Manager, Rulerunner, wTM, and Datacap Web Client Upload Service, the system names are provided automatically as the station name. These system names must be added to your Datacap application as station names. Station names are case-sensitive.

When you use ADSI or LDAP, authentication is performed at the group level and there is no need to add Datacap users to your Datacap applications.

Datacap Users for ADSI and LDAP



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Figure 2-35. Datacap Users for ADSI and LDAP

Help path

- Datacap 9.0.1>Installing and configuring in a client/server environment>Datacap installation and configuration in a client/server environment>Configuring authentication for Datacap>Active Directory ADSI and LDAP authentication systems

ADSI or LDAP Datacap users

The Windows account that the user, background service, or process that is used to log in to the computer is used for authentication.

- Users logging in to interactive Datacap software components either provide a user name or leave it blank. Datacap uses windows user name that you used to log in to the desktop. You must leave the password blank, and you must enter a station name.
- Background services or processes must leave user name, password, and station name blank. The Windows account information is used for authentication and the system name is used as the station name.

ADSI or LDAP Datacap Studio users

Users logging in to Datacap Studio must select the NT Authentication check box the first time that they start Datacap Studio.

ADSI or LDAP Maintenance Manager

The Windows Scheduler runs the Maintenance Manager application automatically. Maintenance Manager uses the Windows account that the application used and the computer name for authentication.

- Add a Datacap station to your application for Maintenance Manager that has the same name as the system name and assign appropriate permissions.
- In the Maintenance Manager application, set the authentication parameters:
 - SetUser as domain\username,
 - SetPassword do no use this action for ADSI and LDAP
- SetStation use a valid station ID or do not use this action and station defaults to host station name. Host station name must be defined as a station.
- In Windows Scheduler, set the account in Security Options to the Windows account used by Maintenance Manager to run with highest privileges.

ADSI or LDAP Rulerunner Service

The Datacap Rulerunner Service is a background service that supplies its credentials automatically.

- Add a Datacap station to your application for each Rulerunner Server and assign appropriate permissions. The station name in Datacap is case-sensitive and must match the system name as it is maintained in the Domain Controller.
- To set up Rulerunner credentials when you use either the ADSI or LDAP system; in each Rulerunner Manager, select the Windows Authentication option on the Rulerunner Login tab.

ADSI or LDAP Datacap Web Client Upload Service

The Datacap Web Client Upload Service is a Windows service that supplies its credentials automatically.

- Add a Datacap station for the Upload Service to the Datacap application and assign appropriate permissions.
- Set up the Upload Service to use a blank password: In Datacap Application Manager, select the application and add an Advanced values name-value pair on the Custom values tab for the blank password:
 - Value name – must be dc2run.User
 - Value – Leave this field blank.
- In the Datacap Web Client Upload configuration file, set the value of the <setting name="User" node to the domain and Windows account of the Datacap Upload Service user. (for example DOMAIN\UserID)
- In the Web Client Upload configuration file, set the value of the <setting name="Station" node to the Datacap Upload Service station.

ADSI or LDAP Application Pools

Datacap uses application pools for Datacap Web, Report Viewer, and the Fingerprint Service. When Datacap Web and Report Viewer are installed on the same web server, they must use the same Windows account. When the Fingerprint Service is also installed on the same web server, it

can use the same Windows account or a different one. The Windows account that is assigned to the application pool allows the application pool to function. When you assign the Windows account to the application pool, you provide the Windows credentials that the application pool uses.

There is no need to set up ADSI or LDAP groups, or Datacap users, stations, or groups for application pools.

ADSI or LDAP Datacap Web Services (wTM)

Datacap Web Services supplies its credentials automatically.

- Add a Datacap station to your application for wTM that is the same name as the system name and assign appropriate permissions.
- To set up wTM credentials when you use ADSI or LDAP: In Datacap Application Manager, select the application.
 - Add a General string name-value pair on the Custom values tab for the blank user name:
 - Value name – wTMUser
 - Value – Leave this field blank.
 - Add a General string name-value pair on the Custom values tab to hold the Datacap station name:
 - Value name – wTMStation
 - Value – Set to the Datacap station name.
 - Add an Advanced values name-value pair on the Custom values tab for the blank password:
 - Value name – wTMPassword
 - Value – Leave this field blank.

Authentication for ADLDS and LLLDAP

- ADLDS and LLLDAP user names and passwords are used for authentication.
- ADLDS users must be defined in Datacap.
- LLLDAP users or groups can be defined in Datacap.
- When defining users in Datacap, it is not necessary to define passwords. The passwords are defined in the AD or LDAP server.

Figure 2-36. Authentication for ADLDS and LLLDAP

Help path

- Datacap 9.0.1>Installing and configuring in a client/server environment>Datacap installation and configuration in a client/server environment>Configuring authentication for Datacap>ADLDS and LLLDAP authentication systems

ADLDS or LLLDAP authentication in Datacap

- When the ADLDS or LLLDAP authentication system is used, the user names and passwords that are entered on Datacap login windows are used for authentication. For background services, the service credentials that are passed to Datacap are used for authentication.
- You must create accounts in ADLDS or LLLDAP for Datacap users, background services, and processes. The user names and passwords of these accounts are what interactive users must enter on Datacap login windows. Background services and processes must also supply the credentials automatically.
- You must also set up the same user names into the Datacap application. Passwords are not necessary in the application.

Datacap Users, Groups, and Stations

- Add ADLDS or LLLDAP users to Datacap application.
- Adding groups to Datacap is optional.
 - Group Authentication is not supported. See qualifying note.
 - Groups can be defined for setting common Permissions and Privileges.
- No groups for:
 - application pools like wTM, tmweb, and Report Viewer.
- Station names for interactive Datacap users are not required to match system names.

Figure 2-37. Datacap Users, Groups, and Stations

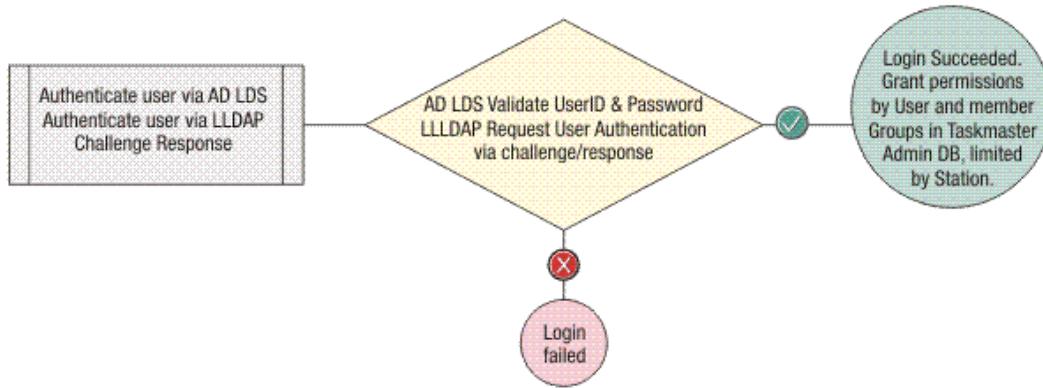
Help path

- Datacap 9.0.1>Installing and configuring in a client/server environment>Datacap installation and configuration in a client/server environment>Configuring authentication for Datacap>ADLDS and LLLDAP authentication systems

ADLDS or LLLDAP Datacap users, groups, stations

- Add Datacap users to your application with the same names and passwords that were set up in the ADLDS or LLLDAP authentication system. These credentials are the credentials the user or background service or process uses when they log in to Datacap.
- Datacap groups are optional. Add Datacap groups to your application when you want to manage permissions at the group level in addition to or instead of managing individual permissions. You can add groups to Datacap for: users, automatic users, and background services and processes. The Datacap Group name can be any name that you want. There is no need to create Datacap groups for Datacap Server Service, wTM, or application pools.
- When appropriate, add Datacap users to one or more Datacap group or groups.
- Add Datacap stations to your application with the appropriate permissions. Station names can be any name that you want.

Datacap Users for ADLDS and LLLDAP



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Figure 2-38. Datacap Users for ADLDS and LLLDAP

Help path

- Datacap 9.0.1>Installing and configuring in a client/server environment>Datacap installation and configuration in a client/server environment>Configuring authentication for Datacap>ADLDS and LLLDAP authentication systems

ADLDS or LLLDAP Maintenance Manager

The Windows Scheduler runs the Maintenance Manager application automatically, and the Maintenance Manager application supplies its credentials automatically. When a Maintenance Manager ruleset is added to a Datacap application, the rules supply credentials automatically.

- Add a Datacap user and password to your application for Maintenance Manager, or use an existing Datacap user with appropriate permissions. The user name and password must match a user name and password that is set up in the ADLDS or LLLDAP authentication system.
- Add a Datacap station to your application for Maintenance Manager and assign appropriate permissions, or use an existing Datacap station with appropriate permissions.
- To set up Maintenance Manager credentials when you use ADLDS or LLLDAP: In Datacap Application Manager, select the application.

- Add a General string name-value pair on the Custom values tab to hold the user name of the Maintenance Manager user as found in Datacap.
- Add an Advanced values name-value pair on the Custom values tab to hold the password for the Maintenance Manager Datacap user.
- Add one General string name-value pair on the Custom values tab to hold the Maintenance Manager station name as found in Datacap.
- In the Maintenance Manager application, use the SetUser action. Set the value to use the APPVAR smart parameter to retrieve the Maintenance Manager user name from Datacap Application Service.
- In the Maintenance Manager application, use the SetPassword action. Set the value to use the APPVAR smart parameter to retrieve the Maintenance Manager user password from Datacap Application Service.
- In the Maintenance Manager application, use the SetStation action. Set the value to use the APPVAR smart parameter to retrieve the Maintenance Manager station name from Datacap Application Service.
- In Windows Scheduler, set the account in Security Options to the Windows account used by Maintenance Manager to run with highest privileges.

ADLDS or LLLDAP Rulerunner Service

The Datacap Rulerunner Service is a background service that supplies its credentials automatically.

- Add at least one Datacap user for Rulerunner to the Datacap application, or use an existing Datacap user with appropriate permissions. The user name and password must match a user name and password that is set up in the ADLDS or LLLDAP authentication system. If one instance of Rulerunner is set up to process tasks from multiple applications, the same Datacap credentials must be added to all of the applications. If multiple instances of Rulerunner are set up, they can all use the same Datacap user.
- Add one Datacap station for each Rulerunner, or create one Datacap station for the Rulerunners to share, or use an existing Datacap station with appropriate permissions.
- To set up the credentials that Rulerunner uses when you use ADLDS or LLLDAP: In each Rulerunner Manager, select the Datacap Authentication option on the Rulerunner Login tab. Then, enter the Datacap user name, password, and station for this Rulerunner instance.

ADLDS or LLLDAP Datacap Web Client Upload Service

The Datacap Web Client Upload Service is a Windows service that supplies its credentials automatically.

- Add at least one Datacap user for the Upload Service to the Datacap application, or use an existing Datacap user with appropriate permissions. The user name and password must match a user name and password that is set up in the ADLDS or LLLDAP authentication system.
- Add at least one Datacap station for the Upload Service to the Datacap application, or use an existing Datacap station with appropriate permissions.
- To set up the credentials that the Upload Service uses when you use ADLDS or LLLDAP: In Datacap Application Manager, select the application and add an Advanced values name-value pair on the Custom values tab for the Datacap Upload Service user password.

- Value name – must be dc2run.User
- Value – Enter the password of the Datacap Upload Service user.
- In the Datacap Web Client Upload configuration file, set the value of the <setting name="User" node to the Datacap Upload Service user.
- In the Web Client Upload configuration file, set the value of the <setting name="Station" node to the Datacap Upload Service station.

ADLDS or LLLDAP Application Pools

- Datacap uses application pools for Datacap Web, Report Viewer, and the Fingerprint Service. When Datacap Web and Report Viewer are installed on the same web server, they must use the same Windows account. When the Fingerprint Service is also installed on the same web server, it can use the same Windows account or a different one. The Windows account that is assigned to the application pool allows the application pool to function. When you assign the Windows account to the application pool, you provide the Windows credentials that the application pool uses.
- There is no need to set up Datacap users, stations, or groups for application pools.

ADLDS or LLLDAP Datacap Web Services (wTM)

Datacap Web Services supplies its credentials automatically.

- Add a Datacap user for wTM to the Datacap application, or use an existing Datacap user with appropriate permissions. The user name and password must match a user name and password that is set up in the ADLDS or LLLDAP authentication system.
- Add a Datacap station for wTM to the Datacap application, or use an existing Datacap station with appropriate permissions.
- To set up the credentials that wTM uses when you use ADLDS or LLLDAP: In Datacap Application Manager, select the application.
 - Add a General string value name-value pair on the Custom values tab to hold the user name:
 - Value name – wTMUser
 - Value – Enter the user name for wTM
 - Add a General string value name-value pair on the Custom values tab to hold the station name:
 - Value name – wTMStation
 - Value – Enter the user name for wTM
 - Enter an Advanced values name-value pair on the Custom values tab to hold the password for the wTM user:
 - Value name – wTMPassword
 - Value – Enter the password for the wTM user

Encryption Considerations

- Encryption is used to enhance system security.
- What is encrypted?
 - All passwords are encrypted while passing between systems.
 - Database connection strings are encrypted.
- Encryption keys are updated for two reasons:
 - The security policy dictates a periodic update.
 - The system security is compromised.
- A consequence of updating the encryption keys.
 - Database connection strings are cleared and must be redefined.
- Disable database connection string encryption.
 - Edit C:\Datacap\Taskmaster\tabs.xml

Figure 2-39. Encryption Considerations

Encryption enhanced security

Datacap is a distributed system that communicates across the internet in some configurations.

In all configurations of IBM Datacap Capture, you must generate and use the security encryption keys. This requirement secures any passwords that are passed over or received from the network by the Datacap component.

What is Encrypted?

Encryption keys allow Datacap to encrypt and decrypt:

- Passwords that are used to access the Datacap Server Service, and to log in to databases.
- Database connection strings that are used to locate and access Datacap system databases.

Encryption keys are updated for two reasons.

The most likely reasons for updating the Encryption keys are:

- The security policy of the installation dictates that a particular time schedule for changing the encryption keys.

- The system security is compromised in some way and the encryption keys must be changed to restore optimum security.

A consequence of updating the encryption key.

The database connection strings are cleared and must be redefined. Redefining the connection strings causes them to be regenerated with the new keys, which, reestablishes the integrity of database connections. If updating database access strings is not a high security consideration or updating the strings is too much effort, then connection string encryption can be disabled.

Disable database connection string encryption.

Edit the file c:\datacap\Taskmaster\tabs.xml, and for each database connection string line remove the skn.res attribute.

Here are the database connection string lines in their default format from tabs.xml file:

```
<dsn tm skn.res="sknAdmDB" name="Administrator" name.res="lblAdminDB"
kxp="tmadmin:cs" tip.res="tipAdminDB"/>

<dsn tm skn.res="sknEngDB" name="Engine" name.res="lblEngineDB" kxp="tmengine:cs"
tip.res="tipEngineDB"/>

<dsn skn.res="sknLookupDB" name="Lookup database" name.res=".lblLookupDB"
kxp="lookupdb:cs" tip.res=".tipLookupDB"/>

<dsn skn.res="sknFPDB" name="Fingerprint database" name.res=".lblFPDB"
kxp="fingerprintconn:cs" tip.res=".tipFPDB"/>

<dsn skn.res="sknExpDB" name="Export database" name.res=".lblExportDB"
kxp="exportdb:cs" tip.res=".tipExportDB"/>

<dsn skn.res="sknCustDB" name="CS" name.res="lblICS" kxp=":cs"/>
```

Here are the database connection string lines after removing encryption:

```
<dsn tm name="Administrator" name.res="lblAdminDB" kxp="tmadmin:cs"
tip.res="tipAdminDB"/>

<dsn tm name="Engine" name.res="lblEngineDB" kxp="tmengine:cs" tip.res="tipEngineDB"/>

<dsn name="Lookup database" name.res=".lblLookupDB" kxp="lookupdb:cs"
tip.res=".tipLookupDB"/>

<dsn name="Fingerprint database" name.res=".lblFPDB" kxp="fingerprintconn:cs"
tip.res=".tipFPDB"/>

<dsn name="Export database" name.res=".lblExportDB" kxp="exportdb:cs"
tip.res=".tipExportDB"/>

<dsn name="CS" name.res="lblICS" kxp=":cs"/>
```

Note: You do not need to modify them all, modify the records for the databases that you want to leave unencrypted.

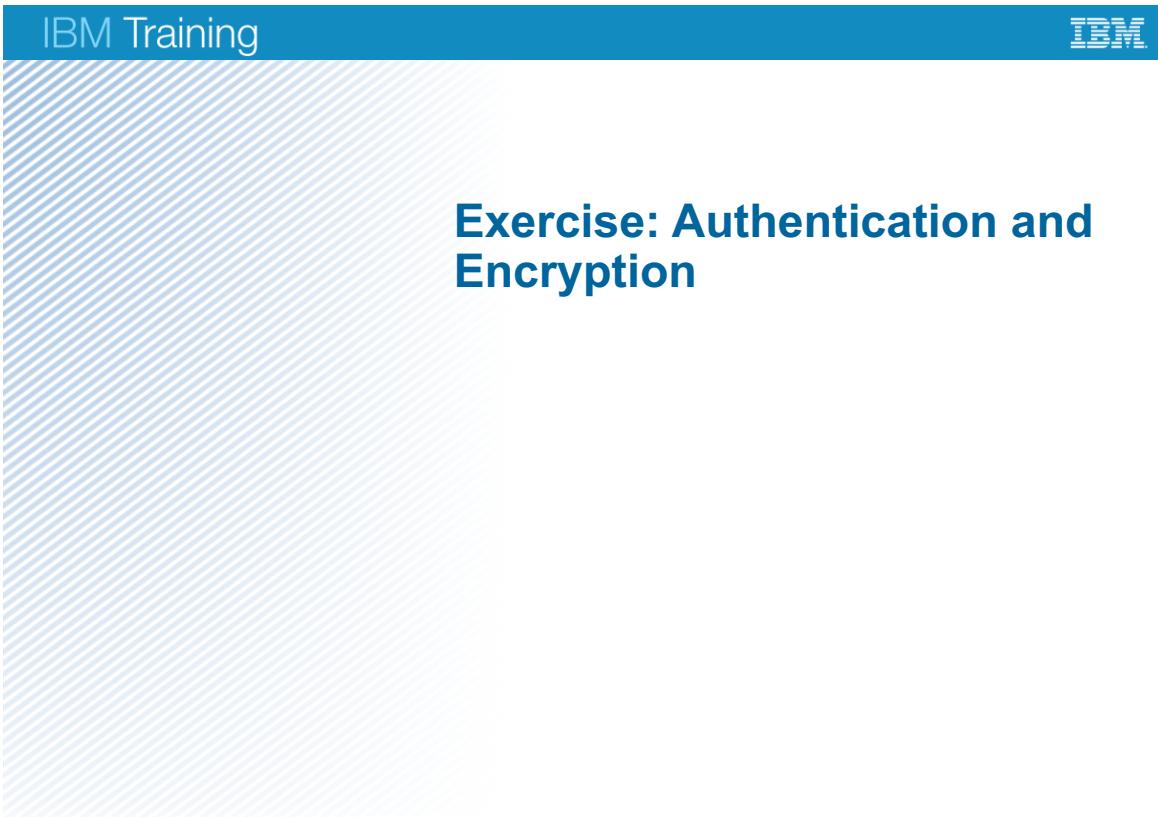


Figure 2-40. Exercise: Authentication and Encryption

Exercise objectives

- Configure Datacap Server for LLLDAP User Authentication



Figure 2-41. Exercise objectives

Lesson 2.4. Multi-system Configuration Considerations

Multi-system Configuration Considerations

System Configuration

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Figure 2-42. Multi-system Configuration Considerations

Topics

- Single-system Configuration
 - Maintain Users and Groups, and Configure Security
 - Authentication and Encryption
-  Multi-system Configuration Considerations

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Figure 2-43. Topics

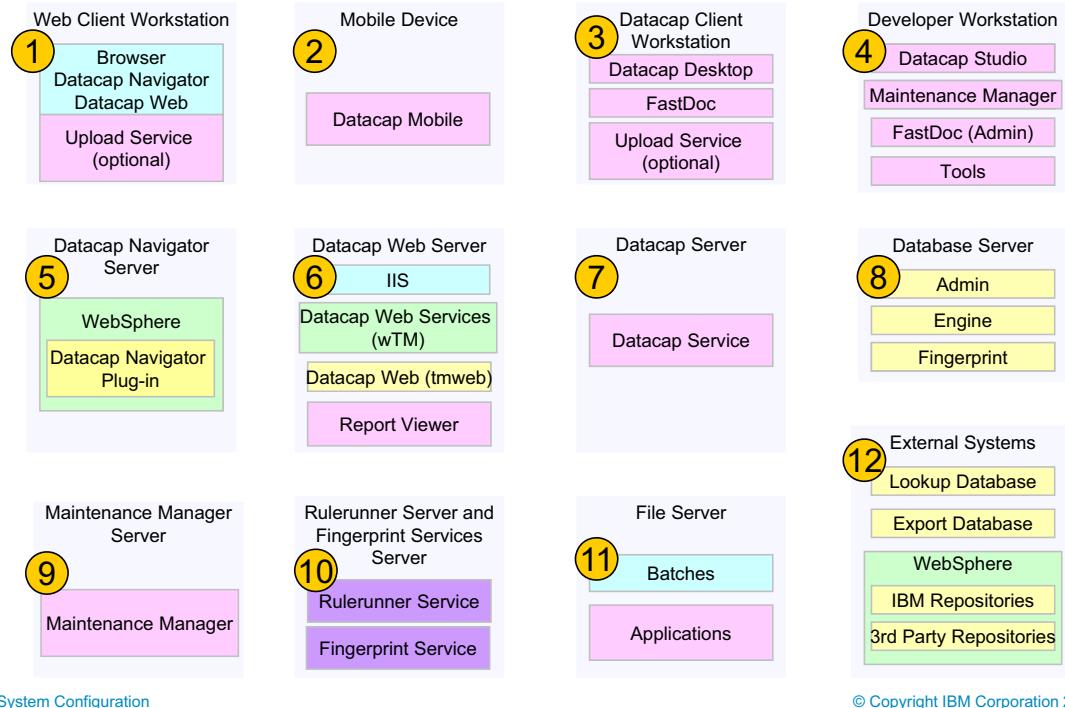
Why is this lesson important to you?

- As an administrator of an IBM Datacap capture system, you must be familiar with all configuration tasks for a functional IBM Datacap 9.0 system.
- In this lesson, you consider the complexities of configuring Datacap components for a multi-system configuration.

Figure 2-44. Why is this lesson important to you?



Multi-system Architecture



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Figure 2-45. Multi-system Architecture

Help path

- Datacap 9.0.1>Planning your Datacap system>Planning your system architecture

IBM Datacap Capture provides a flexible and scalable architecture for distributing tasks across systems according to the anticipated processing load.

Single-system

At one end of the spectrum is the single system configuration, where all Datacap software components are installed on the same system. This configuration is typically used for providing product demonstrations, in a proof of concept environment, or during initial product evaluation.

Multi-system

At the other end of the spectrum is the client/server configuration, where the Datacap software components are installed on dedicated systems. (web servers, database servers, and so on) This configuration can support hundreds of simultaneous users, and uses centralized application management and shared databases.

Hybrid

Spanning the center of the spectrum, are various hybrid configurations in which two or more Datacap software components are installed on the same system. For example, you might install

and run Datacap Web and Report Viewer on the same web server. You might also install and run the Datacap Rulerunner Service and the Fingerprint Service on another server.

Configure Datacap Server

- Define a domain/Windows account with administrative rights.
- Configure Datacap Server Services login.
- Share the Datacap folder C:\datacap.
- Set up security on C:\Datacap.
- Set up security for C:\Datacap\RRS folder.
- Set up security for C:\Datacap\<application> folder
- Set users to have Full Control of the batches folder.
- Set path to application manager file to \\<Server> \Datacap\datacap.xml
- Exporting encryption keys to use on other computers

Figure 2-46. Configure Datacap Server

Help path

Datacap 9.0.1>Installing and configuring in a client/server environment>Datacap installation and configuration in a client/server environment>Installation instructions for Datacap server>Client/server environment: Importing encryption keys to Datacap computers

Configure Datacap on the Server

You must enable the Datacap Server Service and grant the appropriate users permissions to folders that are shared across systems.

Define a domain/Windows account with administrative rights.

When you do the default IBM Datacap Capture installation and configuration, the Datacap Server Service uses the Local System account to log in to the Server.

In a client/server environment, create or ensure that a domain/Windows account exists for the Datacap Server Service. Datacap does not require that a unique Windows account is set up for the Datacap Server Service. The Datacap Server Service can use any Windows account if account can be set up with the appropriate sharing and security permissions. If you have multiple Datacap Servers, you can set up individual Windows accounts, or you can set up a single Windows account that is shared.

Configure Datacap Server Services login.

You must ensure that the domain account that the Datacap Server Service uses, is granted the Log On as a Service right on the Server. Optionally also, change the Service start behavior when the Server is restarted. These instructions apply to Windows 2008.

If you have multiple Datacap Servers, repeat this process for each server.

- Click Start > Administrative Tools > Services.
- Right-click Datacap Taskmaster Server and select Properties.
- Optionally set Datacap Server to start automatically.
- Click the Log On tab, then select This account.
- Locate or enter the domain name, user name, and password of the Windows account that the Datacap Server Service uses.

Share the Datacap folder C:\datacap and set sharing permissions.

You must share and set up the appropriate sharing permissions for the C:\Datacap folder when the operating system for the Server is Windows 2008.

- On the Server, go to and select Properties for the C:\Datacap folder.
- Click Advanced Sharing on the Sharing tab.
- Click “Share this Folder” and keep Datacap as the Share name.
- For Permissions.
- Set the NETWORK SERVICE and local IUSR accounts are set to allow Full Control.
- Set the domain/Windows user IDs of developers are set to allow Full Control.
- Set the domain/Windows user ID of Datacap Server Service is set to allow Full Control.
- Set the domain/Windows user ID of Datacap Web is set to allow Read.
- If the batches folders stay in the c:\Datacap\<application> folder set Datacap users to have Full Control of the batches folder.

Set up Security on C:\Datacap folder.

You must set up the appropriate security for the shared C:\Datacap folder when the Server operating system is Windows 2008.

- On the Server, go to and select Properties for the C:\Datacap folder.
- On the Security tab set permissions.
- Set the domain/Windows user IDs of developers are set to allow Full Control. These users can create new applications.
- Set the domain/Windows user IDs of developers are set to allow Read & Execute. These users can change existing applications.
- Set the domain/Windows user ID of Datacap Server Service is set to allow Write, Read, and Execute.
- Set the domain/Windows user ID of Datacap Web is set to allow Write, Read, and Execute.

Set up security for C:\Datacap\RRS folder.

You must set up the appropriate security permissions for the C:\Datacap\RRS folder on the Server when the operating system for the Server is Windows 2008.

- On the Server, go to and select Properties for the C:\Datacap\RRS folder.
- On the Security tab click Edit. When User Account Control (UAC) is on, the User Account Control window is displayed. Click Yes.
- For Permissions.
- Set the NETWORK SERVICE and local IUSR accounts are set to allow Write, Read, and Execute.

Exporting encryption keys to use on other computers.

In all configurations of IBM Datacap Capture, you must generate and use the security encryption keys. Encryption keys allow Datacap to encrypt and decrypt the passwords that are used to access the Datacap Server Service, and to log in to databases.

In a client/server configuration, you must generate encryption keys from the server on which the Datacap Server software component is installed. Then, export the encryption keys to all of the computers on which any Datacap component is installed. This requirement secures any passwords that are passed over or received from the network by the Datacap component.

To generate encryption keys and export them:

- Open a command prompt and go to the C:\Datacap\Taskmaster folder. In a client/server configuration, do this step on the computer on which the Datacap Server software component is installed.
- Run the key management program, dcskey.exe, inserting one or more of the following options in the command. For example, to export keys during a new Datacap installation, you would enter dcskey.exe e.
 - e - Exports the encryption keys from the local keystore to a dc_KTF.xml key transport file. You can use this file to import the keys to other computers. If no keys exist in the keystore, the e option generates new ones before the export. If keys exist in the keystore, the e option exports those keys.
 - gnk - Generates, but does not export, encryption keys in the local keystore. Use this option any time you need to replace existing keys with new keys. For example, you would run the command dcskey.exe gnk e to replace existing keys and export them. The newly exported keys must be imported onto all other Datacap computers in your configuration.

Configure Datacap Web Server

- Import encryption keys
- Create the Datacap website under IIS default website.
- Set the Datacap Web Application Pool Identity (IIS 7)
- Change the SSL setting in the Server.ini file

System Configuration

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Figure 2-47. Configure Datacap Web Server

Help path

- Datacap 9.0.1>Installing and configuring in a client/server environment>Datacap installation and configuration in a client/server environment>Client/server environment: Datacap Web Client installation and configuration

Datacap Web server allows users to do Datacap tasks from remote systems on which only the Internet Explorer browser is installed.

Import encryption keys

In a client/server configuration, you must import security encryption keys to the computer where you are installing and configuring each IBM Datacap Capture component. This requirement secures any passwords that are passed over the network between Datacap Capture servers and clients.

- Copy the C:\Datacap\Taskmaster\dc_KTF.xml key transport file from the Datacap Server to the same folder on the Datacap Web Server computer.

The encryption keys will be applied automatically to the keystore the next time you start or restart the Datacap component.

Create the Datacap website under IIS default website.

- The website was created in an earlier exercise.

Set the Datacap Web Application Pool Identity (IIS 7).

- From the Windows Start menu, select Control Panel > Administrative Tools > Internet Information Services Manager.
- In the Connections pane, expand the server node and select Application Pools.
- In the Application Pools pane, select tmweb.net AppPool then, in the Actions pane, in the Edit Application Pool section, click Advanced Settings.
- In the Process Model section, click browse to the right of Identity.
- In the Application Pool Identity window, select Custom account and click Set.
- In the Set Credentials window, enter the Datacap Web domain/Windows account information in the format: accountname@domainname, enter the account password twice, then click OK.
- In the Process Model section, set Load User Profile to True.
- Click OK.
- Confirm all of the following are started: WebServer, Application Pool, and Default Web Site.

Change the SSL setting in the Server.ini file.

If you are using Secure Socket Layer to encrypt communications between Datacap Web and the Datacap Web Clients, then special configuration is necessary.

This procedure provides instructions on how to change the value of the SSL setting in the Server.ini file that controls the SSL behavior of Datacap Web.

- On the WebServer, start Windows Explorer, go to and use a text editor such as Notepad to open the C:\Datacap\tmweb.net\server.ini file.
- Change the UseSSL=0 setting to UseSSL=1 then save the change and close the server.ini file.

Configure a Developer Workstation

- Required components
 - Datacap client
 - Datacap Studio
 - FastDoc
 - Maintenance Manager
- Create Developer and user accounts
- Import encryption keys
 - C:\Datacap\Taskmaster\dc_KTF.xml
- Optional – Install scanner

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Figure 2-48. Configure a Developer Workstation

Help path

- Datacap 9.0.1>Installing and configuring in a client/server environment>Datacap installation and configuration in a client/server environment>Installing the developer workstation software components

Create Domain Accounts

Create or ensure that a domain/Windows account exists for each Datacap developer. Datacap does not require that a unique Windows account is set up for each developer. A developer can use any Windows account if the account can be set up with the appropriate sharing and security permissions.

Import encryption keys

- Copy the C:\Datacap\Taskmaster\dc_KTF.xml key transport file from the Datacap Server to the same folder on the Datacap Web Server computer.

Install Scanner

- Install scanner by following manufacturers instructions.
- Make sure you can scan successfully with a scan product other than Datacap.

Configure Internet Explorer

- Each workstation that runs Datacap Web Client must configure internet explorer.
- Set the webserver name as a trusted site
 - Start explorer and configure `http://<WebServerName>` as a trusted site.
 - Tools > Internet Options > Security tab > Trusted Sites > Site
 - Clear the Required server verification option and enter the web server address `http://<WebServerName>`.
- Set security for Active X
 - On Security tab > Custom Level, enable these three options:
 - Download signed ActiveX controls.
 - Initialize and script ActiveX controls not marked as safe for scripting.
 - Include local directory path when uploading files to a server.

Configure a Remote User Workstation

- There are two ways to configure a remote workstation.
- Create a package for the user to install.
 - Create a package of three files and a web address.
 - Remote user:
 - Sets the Web Server name as a trusted site.
 - Enable the Include local directory path when uploading files to a server option.
 - Executes the WebClientConfig.exe file.
- Provide the user with manual configuration instructions.
- Run the Internet Explorer test.
 - <http://WebServerName/tmweb.net/ietest.aspx>

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Figure 2-49. Configure a Remote User Workstation

Help path

- Datacap 9.0.1>Installing and configuring in a client/server environment>Datacap installation and configuration in a client/server environment>Configuring and testing the remote workstation

You can configure a thin client workstation, that is, a remote workstation that uses Internet Explorer to access Datacap Web. You need to know the IP address or the server name of your Datacap Web server before you can configure a remote workstation. The remote station must use 32-bit IE.

There are two ways to configure a remote workstation.

Determine the way that you want to configure the remote workstation.

Configure Internet Explorer manually

Set the Web Server name as a trusted site.

Set security for ActiveX controls.

Enable Include local directory path.

Create a package for the user to install.

You can package the Datacap Web Client Configuration tool, and then send the package to the user at a remote site. The user runs the configuration tool to configure Internet Explorer.

- Edit C:\Datacap\support\WebConfiguration\WebClientConfig.exe.config file.
Locate <value>http://localhost/tmweb.net</value> and
Change to <value>http://<WebServerName>/tmweb.net</value>
- Provide the user with these resources:
 - WebClientConfig.exe.config
 - Datacap.Config.dll
 - WebClientConfig.exe
 - Web address for the Datacap Web Internet Explorer test page, such as:
http://<WebServerName>/tmweb.net/itest.aspx.

Configure Internet Explorer manually.

Provide the user with these instructions. This procedure is the manual procedure that was described **Configure a developer workstation** block.

Exercise: Multi-system Configuration

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Figure 2-50. Exercise: Multi-system Configuration

Exercise objectives

- Configure the Datacap Server
- Configure a Datacap Workstation
- Configure the Datacap Web Server



Figure 2-51. Exercise objectives

Unit summary

- Configure a basic single-system Datacap configuration
- Define users and groups and configure security
- Select and configure one of the five supported authentication systems
- Configure a multi-system Datacap configuration
- Configure a multi-system Configuration Considerations

Figure 2-52. Unit summary

Unit 3. Component Configuration

Estimated time

04:00 hours

Overview

This unit describes how to configure the following Datacap components: Rulerunner, Datacap Maintenance Manager (NENU), taskmaster web services (wTM), and Datacap Dashboard

How you will check your progress

- Successfully complete the activities in the Student Workbook.

References

IBM Knowledge Center

http://www.ibm.com/support/knowledgecenter/SSZRWV_9.0.1/com.ibm.datacaptoc.doc/datacap_9.0.1.htm

Unit objectives

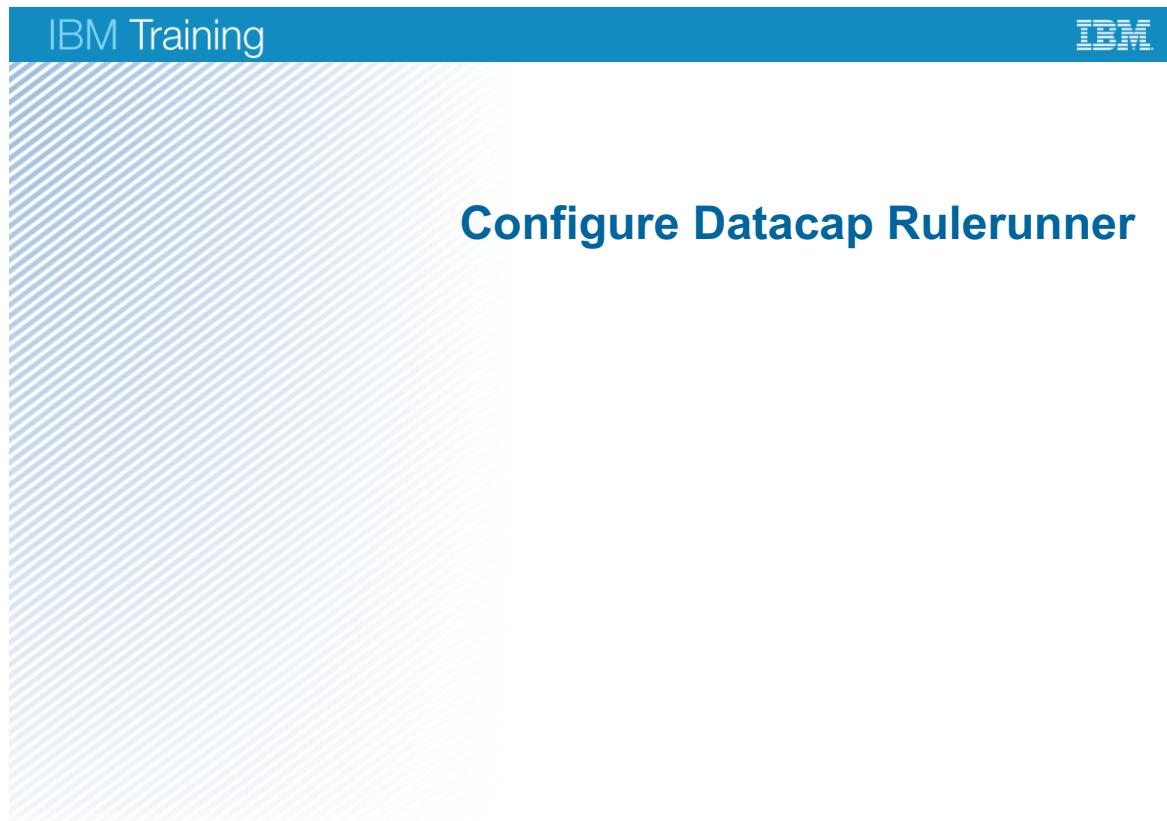
- Configure Datacap Rulerunner
- Configure Datacap Maintenance Manager (NENU)
- Configure Datacap Web Services(wTM)
- Configure Datacap Dashboard

Component Configuration

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Figure 3-1. Unit objectives

Lesson 3.1. Configure Datacap Rulerunner



Component Configuration

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Figure 3-2. Configure Datacap Rulerunner

Topics

- ▶ Configure Datacap Rulerunner
 - Configure Datacap Maintenance Manager
 - Configure Datacap Web Services
 - Configure Datacap Dashboard

Component Configuration

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Figure 3-3. Topics

Why is this lesson important to you?

- As an administrator of an IBM Datacap capture system, you must be familiar with all configuration tasks that are required to achieve a functional IBM Datacap 9.0 system.
- In this lesson, you configure the Datacap Rulerunner component, which provides background processing capability.

Figure 3-4. Why is this lesson important to you?

What is Rulerunner?

- A service that runs background tasks.
- Background tasks do not require operator intervention.
 - Background tasks are vScan, recognize, image pre-processing, validate, and export.
- Licensing.
 - The Standard license allows a single thread to be configured.
 - The Extended license allows multiple threads to be configured.
 - The number of threads depends on system resources.
- Advantages.
 - Complete document processing faster.
 - Simultaneous processing results in better resource usage.
- Authentication.
 - Internal TMA and external ADSI, LDAP, AD LDS, and LLLDAP systems are supported.
 - Use the same authentication system that other components used.

Figure 3-5. What is Rulerunner?

Help path

- Datacap 9.0.1>Installing and configuring in a client/server environment>Datacap installation and configuration in a client/server environment>Installing and configuring the Rulerunner Service>Overview of Rulerunner installation in a client/server environment

The advantages of running Datacap Rulerunner are:

- You can complete your document processing work faster. Faster turn-around of documents such as claims, contracts, tax returns, and invoices improves responsiveness and shortens capture cycle times.
- When Rulerunner runs multiple processes, more of the physical resources of each system are used which can reduce the total number of servers that are dedicated to the capture process.

Authentication

Rulerunner authenticates the same way the rest of the Datacap components authenticate. Instructions are provided for authenticating Rulerunner with either Datacap authentication or an external authentication system (ADSI, LDAP, AD LDS, LLLDAP).

Rulerunner Service Authentication

- The Rulerunner account:
 - Must be a domain account for the multi-system configuration
 - Does not need to be a unique account
 - Multiple instances of Rulerunner can use the same account
- Authentication System
 - Create the account or group in Datacap if one does not exist
 - Datacap user and group names must match the external system user name
 - For TMA, ADLDS, or LLLDAP define a Datacap user
 - For ADSI or LDAP, define a Datacap group
- Add a Datacap station for Rulerunner
 - A unique station is required for each Rulerunner server when using ADSI or LLLDAP

Figure 3-6. Rulerunner Service Authentication

Help path

- Datacap 9.0.1>Installing and configuring in a client/server environment>Datacap installation and configuration in a client/server environment>Installing and configuring the Rulerunner Service>Configuring Rulerunner authentication>Authenticating Rulerunner with Datacap authentication

Create a Rulerunner Account.

Create or ensure that a domain/Windows account exists for the Datacap Rulerunner Service. Datacap does not require that a unique Windows account for Rulerunner. Rulerunner can use any Windows account if the account can be set up with the appropriate sharing and security permissions. For example, all instances of Rulerunner can use the same account.

Authentication System

- If ADSI, LDAP, ADLDS, or LLLDAP authentication system is used then the Datacap user and group names must match the external system user name.
- If TMA, ADLDS, or LLLDAP authentication is used then you must define a Datacap user. For ADLDS and LLLDAP, the user name must match the external system user name.

- If ADSI or LDAP authentication is used, then, you need only to define a Datacap group to match the external system.

Add a Datacap station for Rulerunner.

- Add the required Datacap station to your application for the Datacap Rulerunner Service when using either the AD (ADSI) or LLLDAP external authentication system.

Note: Use the name of the Rulerunner Server as the station name. You must enter the Rulerunner Server name exactly as it is identified to the Domain Controller. (That is, if the system name identified in the Domain Controller is in all capital letters, be sure to enter the name here in all capitals).

- If you are setting up more than one Rulerunner Server, add a station definition for each Rulerunner Server.

Rulerunner Service Share, Permissions, & Security

- Set share permissions for the C:\datacap folder to Full Control
- Set security for the following folders to Full Control:
 - C:\datacap
 - C:\datacap\RRS
 - C:\datacap\applications

Component Configuration

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Figure 3-7. Rulerunner Service Share, Permissions, & Security

Share permissions for the C:\datacap folder

Share with the share name of Datacap.

Set the sharing permissions for the Rulerunner Services account to Full Control on the Properties > Share > Advanced Sharing window for the C:\datacap folder.

Set security for the C:\datacap folder

Set the security for the Rulerunner Services account to Full Control on the Properties > Security > Edit window for the C:\datacap folder.

Set security for the C:\datacap\RRS folder

Set the security for the Rulerunner Services account to Full Control on the Properties > Security > Edit window for the C:\datacap\RRS folder.

Set security for the C:\datacap\applications folder

Set the security for the Rulerunner Services account to Full Control on the Properties > Security > Edit window for the C:\datacap\applications folder.

Import Encryption Key and Set Datacap.xml Location

- Import encryption keys for the Rulerunner Server
 - If Rulerunner is on its own server, then import Encryption key from the Datacap server.
 - Copy the C:\Datacap\Taskmaster\dc_KTF.xml key transport file from the Datacap Server to the same folder on the Rulerunner Server.
 - Import the keys with dcskey /i
 - Repeat the encryption file import step for each Rulerunner server.
- Set the location of the Datacap.xml file
 - From the Windows Start menu, select All Programs > IBM DatacapServices > Datacap Application Manager > Service tab.
 - Ensure that the path reflects the correct location of the datacap.xml file.
Example: \\<Datacap Server Name>\Datacap\datacap.xml.

Figure 3-8. Import Encryption Key and Set Datacap.xml Location



Set DCOProcessor Permissions

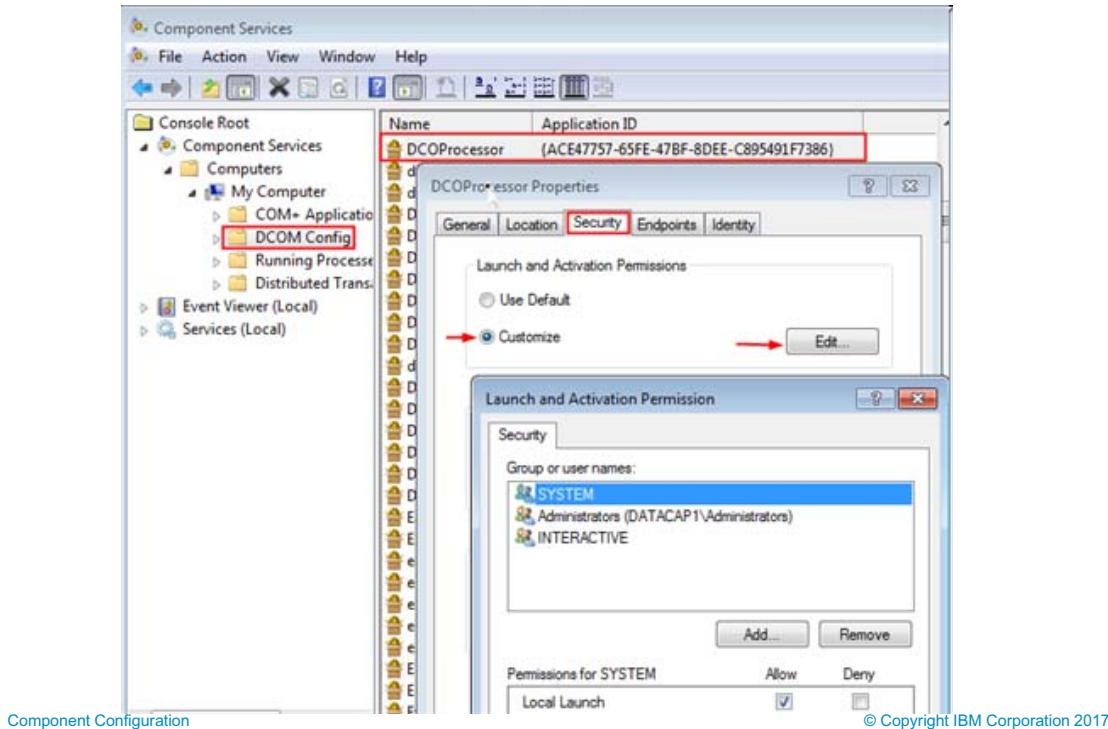


Figure 3-9. Set DCOProcessor Permissions

Help path

- Datacap 9.0.1>Installing and configuring in a client/server environment>Client/server installation checklist>Rulerunner installation and configuration>Configure Rulerunner account permissions

Set permissions to the Rulerunner account on the Rulerunner Server.

You must grant the Rulerunner domain/Windows account the appropriate permissions on the host Rulerunner Server, Component Services window, and the DCOM Config folder. If you are configuring multiple Rulerunner servers, then this procedure must be repeated for each server.

- From the Rulerunner Server Windows Start menu, select Administrative Tools > Component Services > Computers > My Computer > DCOM Config.
- In the middle pane, right-click the DCOProcessor application then. select Properties > Security tab.
- Under Launch and Activate Permissions, select Customize, then click Edit.
- Add the Rulerunner domain/Windows account and set Local Launch and Local Activation to Allow.
- Click OK twice.

- In the middle pane, locate and right-click the RRProcessor application then select Properties and click the Security tab.
- Under Launch and Activation Permissions, select Customize, then click Edit.
- Add the Rulerunner domain/Windows account and set Local Launch and Local Activation to Allow.
- Click OK twice.
- Close the Component Services window.



Set Security on the systemprofile\AppData

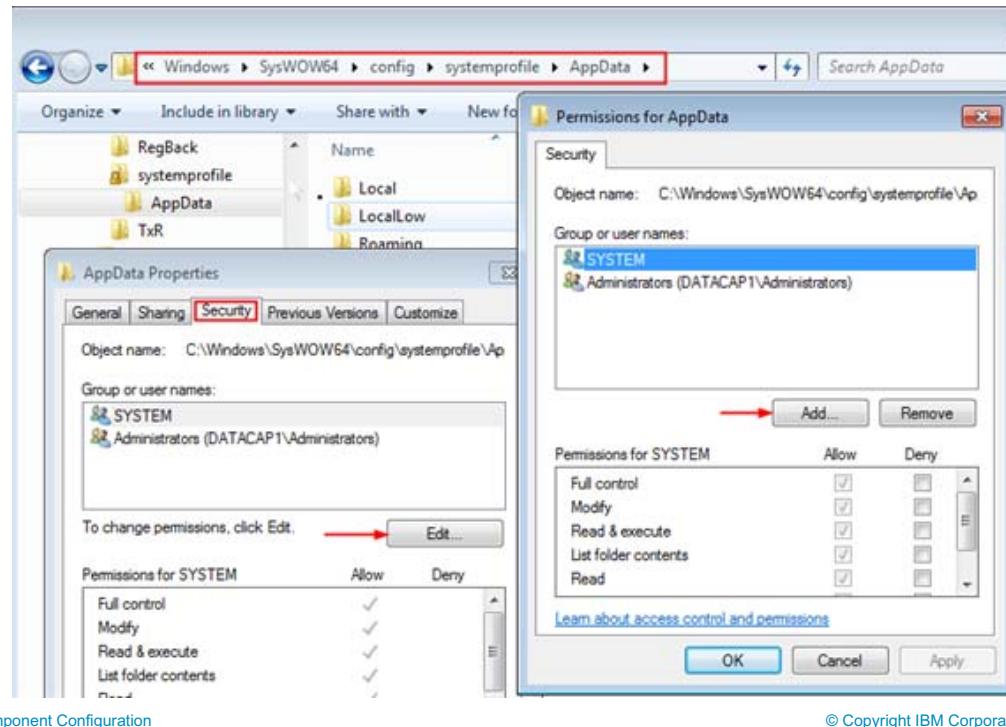


Figure 3-10. Set Security on the systemprofile\AppData

Help path

- Datacap 9.0.1>Installing and configuring in a client/server environment>Datacap installation and configuration in a client/server environment>Installing and configuring the Rulerunner Service>Installing and configuring the Rulerunner Service>Setting up security on the systemprofile\AppData folder for Rulerunner

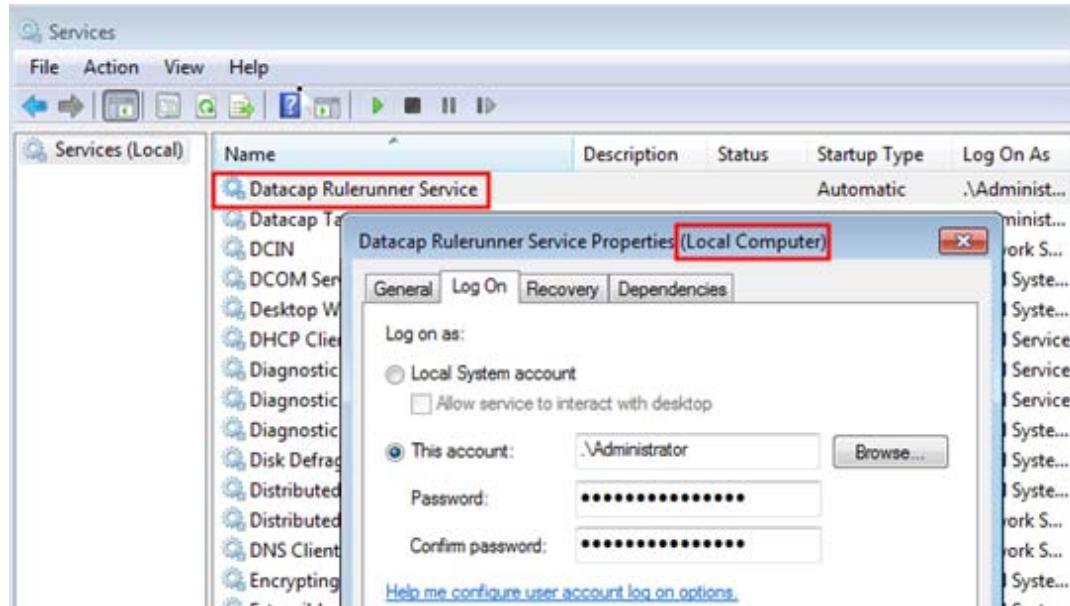
Set security on the systemprofile\AppData folder for Rulerunner

Set up the appropriate security permissions for Rulerunner on the c:\Windows\SysWOW64\config\systemprofile\AppData folder on the Rulerunner Server when the Rulerunner Server operating system is Windows 2008. If you are setting up multiple Rulerunner Servers, repeat these instructions on each Rulerunner Server.

- On the Rulerunner Server, go to the c:\Windows\SysWOW64\config\systemprofile\AppData folder, right-click, and select Properties > Security tab > Edit.
- Add or ensure that the domain/Windows user name of the Datacap Rulerunner Service is set to allow Modify.



Grant Log On as Service Right



Component Configuration

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Figure 3-11. Grant Log On as Service Right

Help path

- Datacap 9.0.1>Installing and configuring in a client/server environment>Datacap installation and configuration in a client/server environment>Installing and configuring the Rulerunner Service>Installing and configuring the Rulerunner Service>Granting Rulerunner the Log On as Service privilege

Grant Rulerunner Service the Log On as Service Right.

- Datacap Rulerunner Service must be running before the Document capture process can be completed.
- In a single system configuration, the Datacap Rulerunner Service authenticates with the Local System account.
- In a client/server configuration, the Datacap Server Service authenticates with the domain account that you set up for it.

The following instructions show how to ensure the **Local Computer** or **Domain** account used by Rulerunner is granted the Log On as a Service right on its Rulerunner Server. This right allows Datacap Rulerunner Service to run as a service.

If you have multiple Rulerunner Servers, repeat this process on each server.

- From the Rulerunner Server Windows Start menu > Administrative Tools > Services > Datacap Rulerunner Service.
- Right-click and select Properties and click the Log On tab.
- Select This account and click Browse.
- Select the domain/Windows account for Datacap Rulerunner Service, enter the account password twice, click Apply, and close all open windows.

Determine which Tasks to Process

- Determine which tasks to run in Rulerunner.
- Configure a thread for each processor of a multi-core server.
 - More threads can be configured but do not exceed 150% of the number of processors.
 - Example: For a quad core, six threads is the limit.
- vScan rules that are configured to run in Rulerunner should be single threaded if the images are processed from the same folder.
- Single thread export tasks under certain conditions.
 - See Notes.

Figure 3-12. Determine which Tasks to Process

Help path

- Datacap 9.0.1>Installing and configuring in a client/server environment>Client/server installation checklist>Rulerunner installation and configuration>Configure Rulerunner to run application tasks

Determine which Tasks to Process

- To determine which tasks to run in Rulerunner, the criteria are:
 - They should be rules-based.
 - Background tasks.
 - Tasks that do not require any human interaction.
- You can configure a thread for each processor of a multi-core server. More threads can be configured but do not exceed 150% of the number of processors. For a quad core, six threads is the limit.
- vScan rules that are configured to run in Rulerunner should be single threaded if the images are processed from the same folder.
- Single thread Export tasks under the following conditions:

- If exporting Text files to an Access database.
- If downstream system behavior is unpredictable, when multiple threads export files.
- If field values are updated in the DCO, and interlocking mechanisms might cause long delays.
- If fingerprints are being updated with locking mechanisms for preventing simultaneous updates.

Gather Information to Set Up Rulerunner

- Identify authentication system.
 - TMA, ADSI, LDAP, AD LDS, or LLLDAP.
- Determine the domain short name.
- Determine the DNS server names for:
 - The Rulerunner servers.
 - The Datacap server.
- Identify the number of processors on each Rulerunner server.
- For each Datacap application, get:
 - The UNC path.
 - The file names of the Admin and Engine databases.
 - The path to the application folder name.
 - The workflow folder on the Server.

Figure 3-13. Gather Information to Set Up Rulerunner

Identify authentication system

- Start the Datacap Server Service.
 - Start > All Programs > IBM Datacap Services > Datacap Server Services.
 - Click the Datacap tab.
 - Note the value of the Authentication system field.

Determine the domain short name

- On the DNS server
 - Click Start
 - Right-click Computer and select Properties
 - Note the first section of the domain name. Example: edu from edu.dcclass.com

Determine the DNS server names for:

- The Rulerunner servers and the Datacap server. For each server:
 - Click Start
 - Right-click Computer and select Properties

- Note the Computer name

Identify the number of processors on each Rulerunner server

- For the Rulerunner servers while the computer properties page is open.
 - Note the number of processors on the processor line in the System data block.

For each Datacap application:

Get the full UNC path for the databases.

Get the file names of the Admin and Engine databases.

- Start the Datacap Application Manager,
 - Start > All Programs > IBM Datacap Services > Datacap Application Manager.
 - Select the application.
 - Click the Datacap tab.
 - Note the value of the Administration and Engine databases.
 - UNC is \\TM SERVER\\Datacap\\TravelDocs
 - File names are: **TravelDocsADM.mdb** and **TravelDocsEng.mdb**

For each of your Datacap applications:

- Get the path to the application folder name.
- Get the workflow folder on the Server.
- Get these parameters also from the Datacap Application Manager.

The screenshot shows the 'IBM Datacap Taskmaster Capture' application. At the top, there's a blue header bar with the 'IBM Training' logo on the left and the 'IBM' logo on the right. Below the header, the main title 'Get Job and Task Names' is displayed. The interface has a navigation bar with links like 'Home', 'Operations', 'Monitor', 'Administrator', 'Help', and 'Log out'. Under 'Administrator', it says 'Administrator > Workflow'. The main content area is titled 'Workflow' and shows a tree structure for the 'TravelDocs' workflow. The tree includes nodes for 'Main Job', 'VScan', 'PageID', 'Profiler', 'Verify', 'Export', 'Fixup Job', 'FixUp', 'Web Job', 'IVScan', 'Upload', 'PageID', 'Profiler', 'Verify', and 'Export'. To the right of the tree, a detailed 'Selected workflow details' panel is open, showing the following information:

Name	TravelDocs
Description	
Program name	TDCO.Batch
Parameter	TravelDocs@C:\Datacap

An 'Apply' button is located at the bottom of this panel.

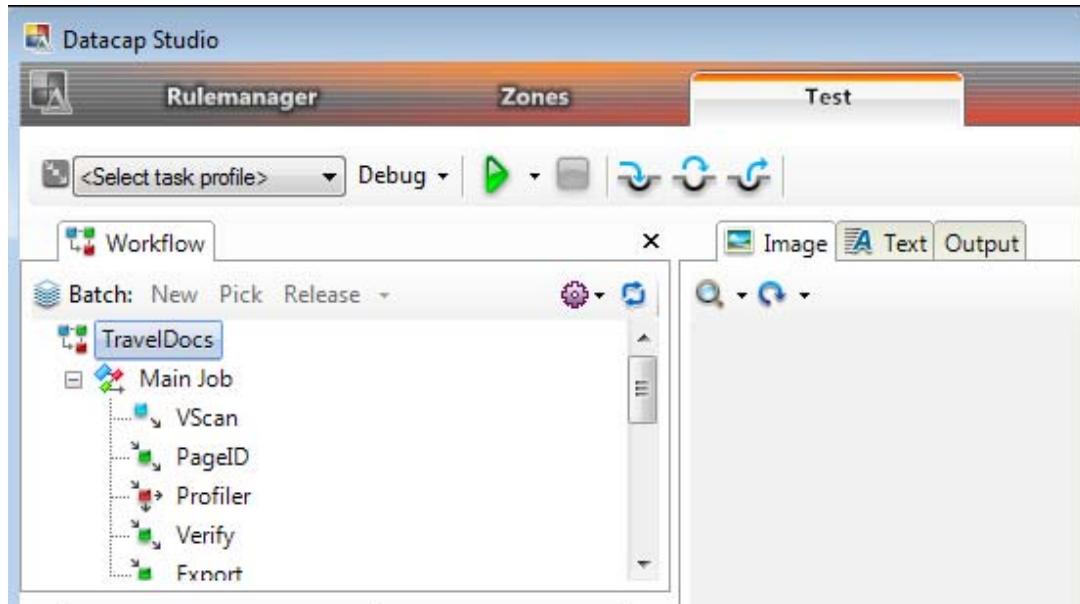
Figure 3-14. Get Job and Task Names

Gather information to set up Rulerunner

- For each of your Datacap applications, obtain the Workflow, Job, and Task name of each background task that you want Rulerunner to process.
 - To see these names, log in to your application with Datacap Web and select the Administrator tab.
 - Make a note of the workflow name.
 - Expand the workflow, and make a note of the Job Name.
 - Expand the job, and make a note of the Task Name.



Identify the Task Profile Names



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Figure 3-15. Identify the Task Profile Names

Gather information to set up Rulerunner

- Identify the Task profile name of each background task that you want Rulerunner to process. Normally, the Task Profile Name is the same as the Task Name.
 - To see these names, start Datacap Studio, log in to your application and select the Test tab.
 - On the Workflow tab, expand the job, and make a note of the Task Profile Name.

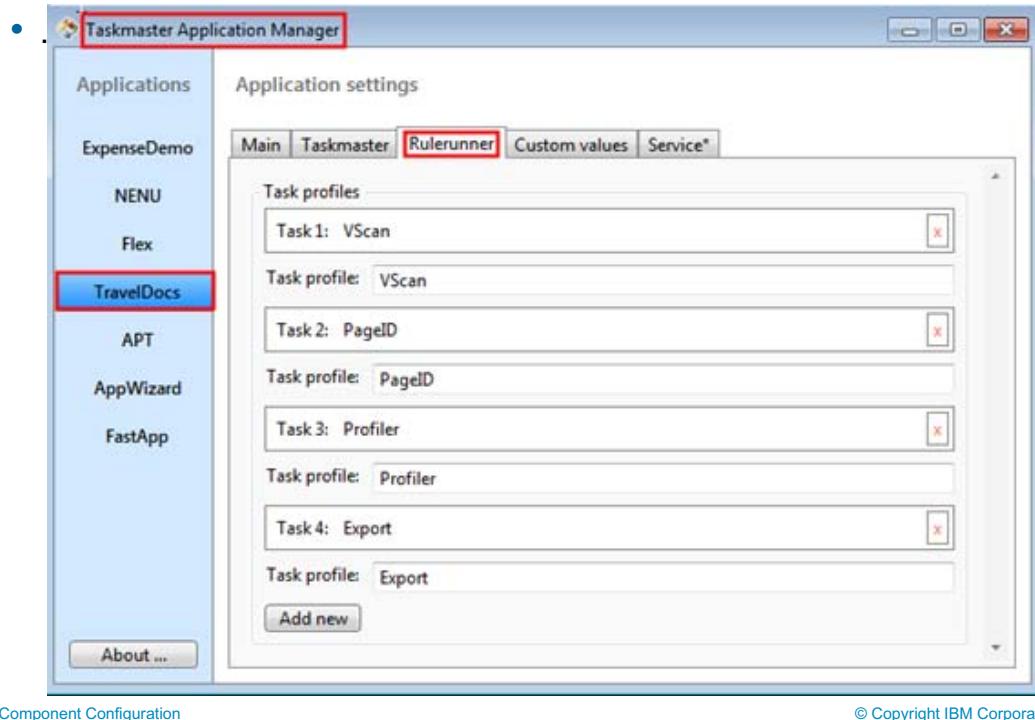
Gather Performance and Priority Information

- Analyze batch throughput times and take a note of peek and lull periods.
- Experiment by changing batch sizes and analyze throughput changes.
- Experiment with adjusting batch, job, and task priorities.
- Consider the number of threads that your license allows and the number of processors available on the Rulerunner servers.
- From the collected information you can determine how many Rulerunner threads you need to manage the work load.

Figure 3-16. Gather Performance and Priority Information



Configure the Task Profiles to Run in Rulerunner



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Figure 3-17. Configure the Task Profiles to Run in Rulerunner

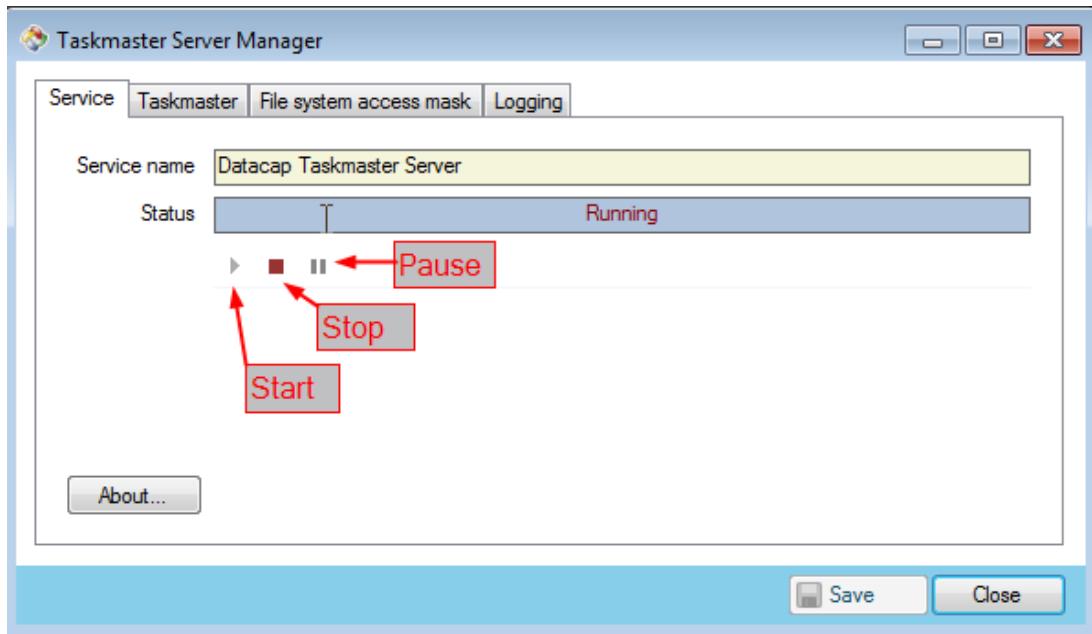
Help path

- Datacap 9.0.1>Installing and configuring in a client/server environment>Client/server installation checklist>Rulerunner installation and configuration>Configure Rulerunner to run application tasks

Configure the task profiles to run in Rulerunner.

- On the DevWorkstation Windows Start menu.
- Select All Programs > IBM Datacap Services > Datacap Application Manager.
- Select your application. Paths appear in the fields on the Main tab.
- Ensure that all of the paths are correct.
- The Rulerunner tab to display it. This tab should display only the task profiles that Rulerunner is to process.
- Click the red X to the right of the profile name to remove a task
- Click Add new To add a task profile. Then, enter the name of the task in the first field, and enter the name of the task profile in the second field, ensuring that the spelling and case are correct.

Stop and Restart the Datacap Server Service



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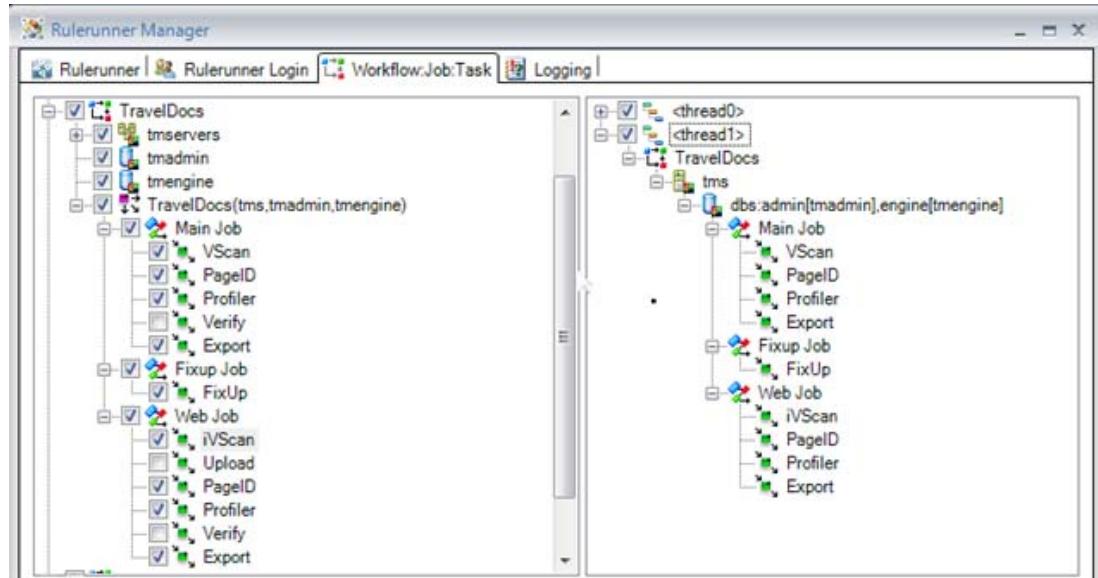
Figure 3-18. Stop and Restart the Datacap Server Service

Stop and Restart the Datacap Server Service

- On the Datacap server click Start.
- Select All Programs > IBM Datacap Services > Datacap Server Manager.



Configure Rulerunner to Run Tasks



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Figure 3-19. Configure Rulerunner to Run Tasks

Configure Rulerunner to Run Tasks

- On the Rulerunner Server Start menu.
- Select All Programs > IBM Datacap Services > Datacap Rulerunner Manager.
- Stop the Rulerunner if it is running.
- Click the Rulerunner Login tab.
- Select the Datacap Authentication option and enter:

User ID "admin", Password "admin", and Station ID of "1", then click Connect.

View the thread options

- In the left pane, click in the check box to the left of the application you want to work with. The application tree expands with the Server, Administrator, and Engine databases selected.
- Right-click in the right pane to display the menu items:
 - Expand all: Expands the details of all existing threads
 - Collapse all: Collapses the details of all existing threads

- Threads > Clear: Deletes all existing threads
- Threads > Add Thread: Adds a new, empty thread
- Threads > Add Threads: Adds multiple threads with a template.
- Copy: Makes a copy of the selected thread
- Paste: Creates a thread with the copied thread as a template
- Remove: Deletes the selected thread

Add and configure threads

See detailed options on Info center.

- Save your changes save the configuration file.

Set more configuration parameters

Priority:

- To set a batch processing task to a higher priority than a batch creation task, select the task in the right pane. The task ID and default Settings appear in the lower left.
- Change the value in the priority field.

Skip Same Batch:

- When the task is a batch creation task like VScan, increase the value for the skipsamebatch field.

Set Rulerunner settings and Advanced Settings

- Change the settings on the Rulerunner Settings tab.
- Change the settings on the Advanced Settings tabs.
- Click Save or CTRL+S to save your changes.

Set logging options

- Click the Logging tab to display it. When you select the Number of Messages setting on the Quick Log tab, the same level of logging is automatically applied to the ATM Log, Rulerunner Log, and the RRS Log tabs.
- Click the ATM Log tab and change the settings.
- Click the Rulerunner Log tab and change the settings.
- Click the RRS Log tab and change to the settings.
- Click Save to save your changes.

Restore login options to the runtime requirement

- When you complete your changes, click the Rulerunner Login tab to display it.
- Click Disconnect. Important: Complete the following steps to ensure that the authentication credentials for Rulerunner are set properly.
- When using:
- Windows authentication - Select the Windows Authentication option.

- Datacap authentication - Select the Datacap Authentication option, enter the user ID of the Rulerunner domain/Windows account, the Password, and the name of the Rulerunner Server as the Station ID.
- Click Save.
- Close the Rulerunner Manager window.

Configure Rulerunner to Run Your Application

- Process a batch with a Datacap Web, Datacap Desktop, or FastDoc.
- Start the Datacap Rulerunner Service.
- Monitor the batches as Rulerunner processed them.

Figure 3-20. Configure Rulerunner to Run Your Application

Process a batch with a Datacap Client

- From a Workstation, start your Datacap Client application. Use your admin user ID, password, and Station ID.
- Run your application or applications so that there are pending batches for the tasks that Rulerunner is configured to process.

Start the Datacap Rulerunner Service

- On the Rulerunner Server click Start menu, select: All Programs > IBM Datacap Services > Datacap Rulerunner Manager
- If the Status displayed is Stopped, continue with the next step. If the Status displayed is Running, skip to the last step.
- Click Start.

Monitor the batches as the Rulerunner processes them

- Monitor your batches with the Datacap Web Job Monitor to watch batches change status as Rulerunner processes them.

Sequence for Restarting Datacap Software

- If there is a need to restart Datacap in a multi-system configuration, Shut down in the following order:
 - Datacap Client software like Datacap Client, Datacap Web Client, Datacap Studio, and any of the other Datacap Clients.
 - Datacap Web and any Datacap web services, such as Report Viewer, wTM, and Fingerprint Service
 - Datacap Server Service
 - Databases
- Restart in the reverse order:
 - Databases
 - Datacap Server Service
 - Datacap Web and any Datacap web services, such as Report Viewer, wTM, and Fingerprint Service
 - Datacap Client software like Datacap Client, Datacap Web Client, Datacap Studio, and any of the other Datacap Clients.

Figure 3-21. Sequence for Restarting Datacap Software

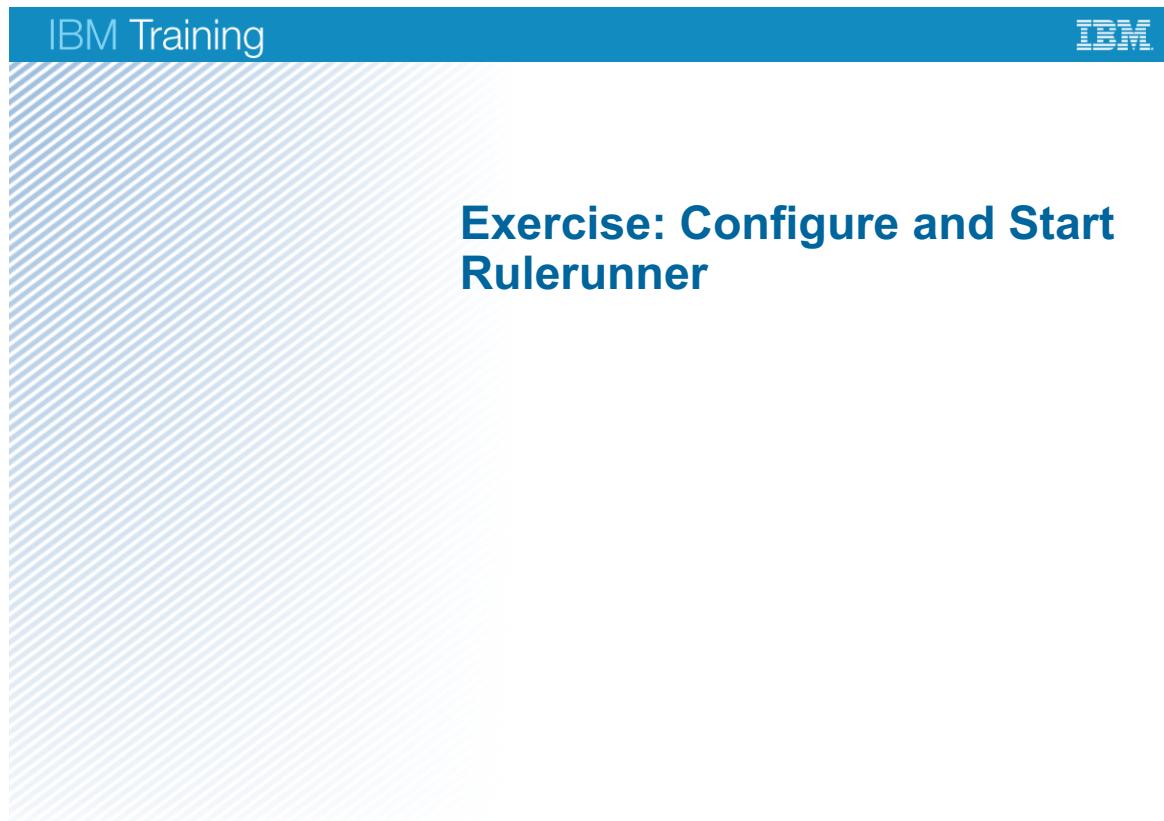


Figure 3-22. Exercise: Configure and Start Rulerunner

Exercise objectives

- Configure and Start Rulerunner



Figure 3-23. Exercise objectives

Lesson 3.2. Configure Datacap Maintenance Manager

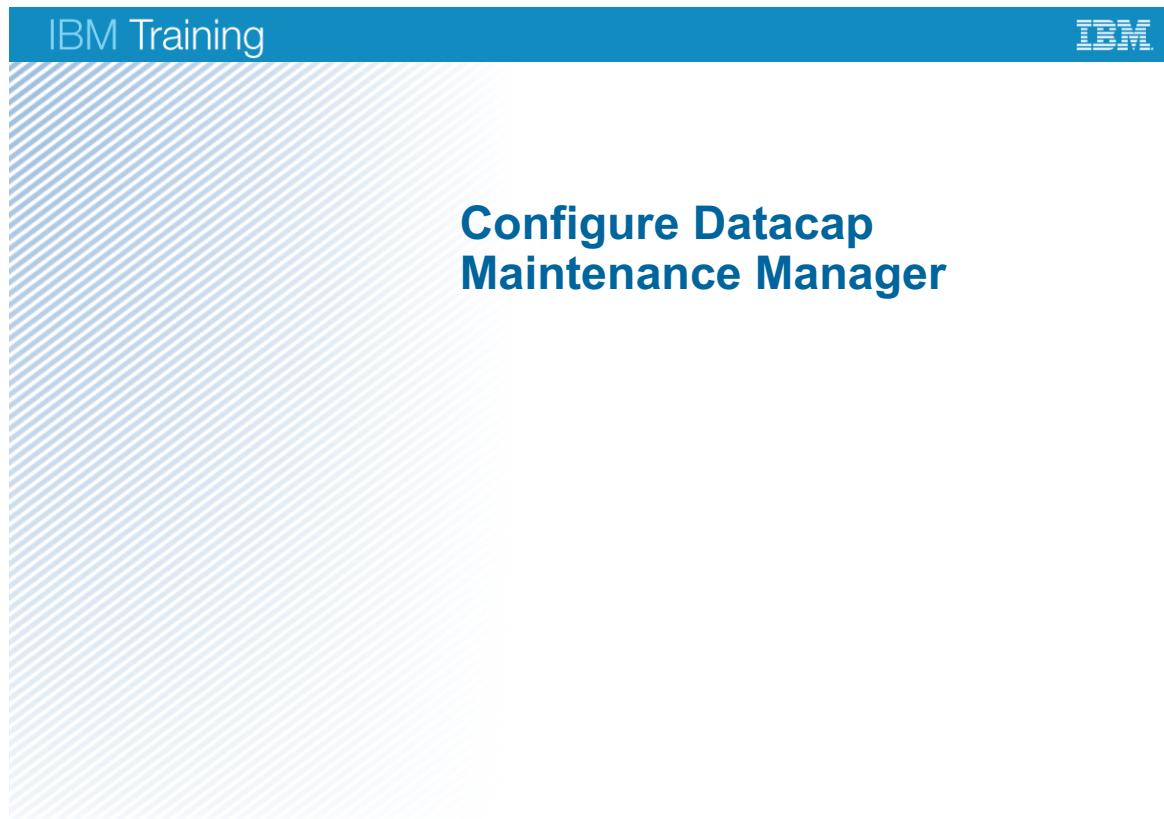


Figure 3-24. Configure Datacap Maintenance Manager

Topics

- Configure Datacap Rulerunner
- ▶ Configure Datacap Maintenance Manager
 - Configure Datacap Web Services
 - Configure Datacap Dashboard

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Figure 3-25. Topics

Why is this lesson important to you?

- As an administrator of an IBM Datacap capture system, you must be familiar with all configuration tasks that are required to achieve a functional IBM Datacap 9.0 system.
- In this lesson, you configure the Datacap Maintenance Manager component, which provides batch task cleanup capability.

Figure 3-26. Why is this lesson important to you?

What is Maintenance Manager?

- With Maintenance Manager you can set up:
 - Batch monitoring.
 - Status notification.
 - Automatic deletion of completed batches.
- Use Maintenance Manager to:
 - Identify batches that meet certain criteria.
 - Change the status or job queue order of batches.
 - Delete or archive batches that are complete.
 - Notify Administrator of processing errors.
- You can run Maintenance Manager:
 - Manually using Maintenance Manager.
 - Automatically at scheduled times with the Windows Task Scheduler.

Figure 3-27. What is Maintenance Manager?

Help path

- Datacap 9.0.1>Installing and configuring in a client/server environment>Datacap installation and configuration in a client/server environment>Install and configure Datacap Maintenance Manager

Maintenance Manager Components

- Maintenance Manager a configuration utility for:
 - Creating the required settings file.
 - Running Maintenance Manager rulesets manually.
- Maintenance Manager actions library
 - A library of actions to connect to a Datacap application.
 - Query the database for batch information.
 - Modify information in the database.
 - Move or delete batches.
 - Send notifications.
- You can use these actions in:
 - Rulesets in an existing Datacap application.
 - A new application specifically for batch monitoring.

Figure 3-28. Maintenance Manager Components

Prerequisites for Maintenance Manager installation

- An account with appropriate sharing and security permissions.
 - Window/domain account does not need to be unique.
 - On the Maintenance Manager system, add the Maintenance Manager account to be a group member of the Administrator or Backup Operators group.
- For a client/server environment, install Maintenance Manager on the Developer Workstation. It should include:
 - DotScan, and DotEdit.
 - Sample applications.
 - Separately licensed applications and connectors.
 - Datacap Studio.
 - FastDoc (Optional, not required)
 - Maintenance Manager
- Develop your custom Maintenance Manager application.
- Set up Windows Task Scheduler to run your Maintenance Manager application.

Figure 3-29. Prerequisites for Maintenance Manager installation

Set Datacap Folder Shared Permission & Security

- On the Datacap Server setup C:\Datacap folder share permission and security.
 - On sharing tab in Advanced Sharing window, set permissions to Full Control for the domain/Windows user ID for Maintenance Manager.
 - On the security tab, set the permission to Read & Execute for the domain/Windows user ID for Maintenance Manager
- On the Datacap Server setup C:\Datacap\RSS folder security.
 - On the security tab, set the permission to Read & Execute for the domain/Windows user ID for Maintenance Manager
- If the Datacap Server and the Maintenance Manager Web Server are not the same system, then import encryption key.

Figure 3-30. Set Datacap Folder Shared Permission & Security

Help paths

- Datacap 9.0.1>Installing and configuring in a client/server environment>Datacap installation and configuration in a client/server environment>Install and configure Datacap Maintenance Manager>Setting Datacap Maintenance Manager account permissions for sharing
- Datacap 9.0.1>Installing and configuring in a client/server environment>Datacap installation and configuration in a client/server environment>Install and configure Datacap Maintenance Manager>Importing encryption keys to Datacap

Import encryption keys if Maintenance Manager is on its own web server.

- Copy the C:\Datacap\Taskmaster\dc_KTF.xml key transport file from the Datacap Server to the same folder on the Datacap Web Server computer

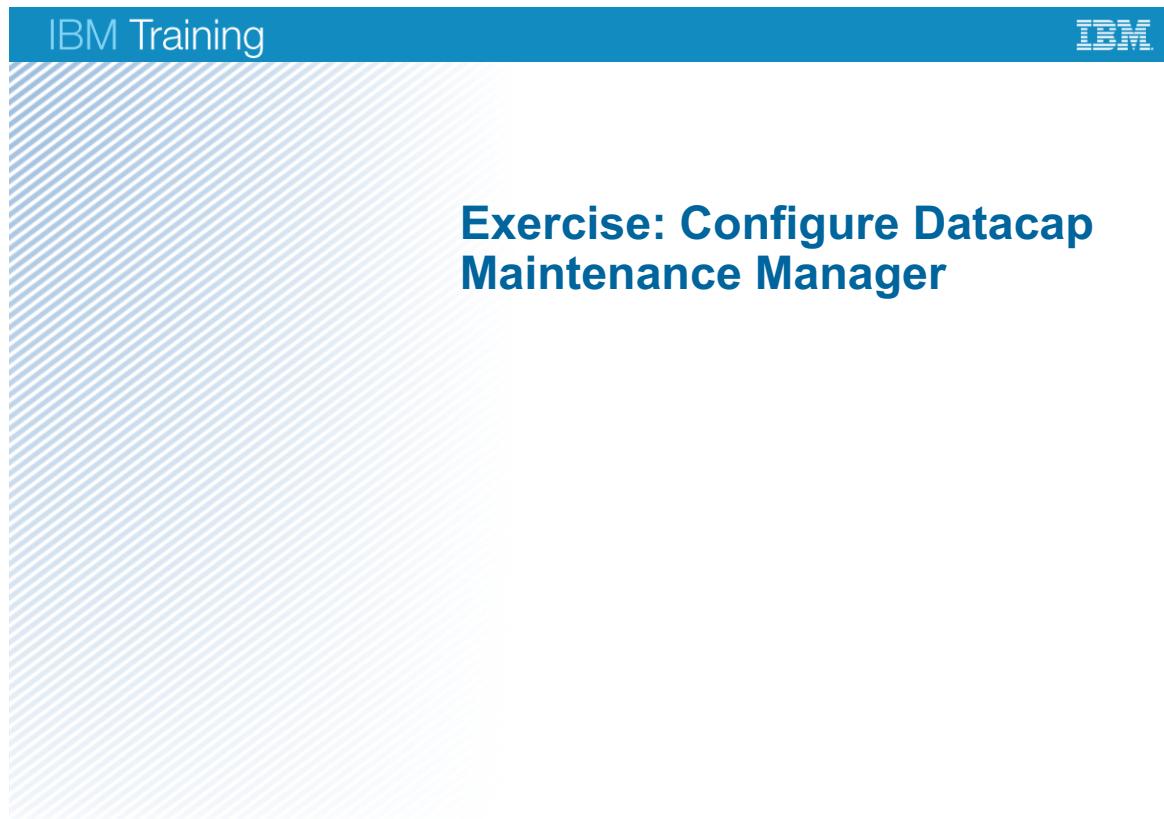


Figure 3-31. Exercise: Configure Datacap Maintenance Manager

Exercise objectives

- Configure and Start Datacap Maintenance Manager



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Figure 3-32. Exercise objectives

Lesson 3.3. Configure Datacap Web Services



Figure 3-33. Configure Datacap Web Services

Topics

- Configure Datacap Rulerunner
- Configure Datacap Maintenance Manager
- ▶ Configure Datacap Web Services
- Configure Datacap Dashboard

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Figure 3-34. Topics

Why is this lesson important to you?

- As an administrator of an IBM Datacap capture system, you must be familiar with all configuration tasks that are required to achieve a functional IBM Datacap 9.0 system.
- In this lesson, you configure the Datacap Web Services component. With wTM users can interact with Datacap through a simple, platform-independent, representational state transfer (REST) application programming interface (API).

Figure 3-35. Why is this lesson important to you?

What are Datacap Web Services (wTM)?

- The wTM is a platform independent API. It supports HTTP GET, POST, and PUT methods.
- wTM services are installed in a Microsoft Internet Services based web service.
- wTM can share a domain/windows account with Datacap Web and Report Viewer.
- The C:\Datacap\wTM\web.config file defines the names of the keys for retrieving the user, password, and station.
- This configuration varies based on authentication method.

Figure 3-36. What are Datacap Web Services (wTM)?

Help path

- Datacap 9.0.1>Installing and configuring in a client/server environment>Datacap Web Services installation steps

What are wTM Services?

The Datacap Web Services (wTM) software component of IBM Datacap Capture provides you with the ability to interact with Datacap through a simple, platform-independent, representational state transfer (REST), application programming interface (API).

The wTM API supports HTTP GET, POST, and PUT methods. With these methods you can create a batch, upload pages to the batch, set the page file name, and update page allow files. The API also supports release a batch to the next task to retrieve any file in the batch folder (including image files), and to retrieve batch information such as batch ID and batch status.

wTM is a Microsoft Internet Information Services (IIS) based web service that can be installed on a dedicated web server, or can be installed on a web server on which other Datacap web components are installed.

Create a domain/windows account for wTM.

Create or ensure a domain/Windows account exists for wTM. Datacap does not require that a unique Windows account is set up for wTM. wTM can use any Windows account if the account can be set up with the appropriate sharing and security permissions. When wTM is installed on the same WebServer as Datacap Web or Report Viewer, wTM can use the same Windows account or a different one.

Authenticating wTM

wTM uses settings in the C:\Datacap\wTM\web.config file to determine the names of the keys that are stored in the Datacap Application Manager from which to retrieve the Datacap user, password, and station. The web.config file contains these lines that identify the names of the keys:

```
<setting name="pathUser" serializeAs="String">
<value>values/gen/wTMUser</value>
</setting>
<setting name="pathPassword" serializeAs="String">
<value>values/adv/wTMPassword</value>
</setting>
<setting name="pathStation" serializeAs="String">
<value>values/gen/wTMStation</value>
</setting>
```

Configure wTM Services

- Set sharing and security for the Datacap and application folders.
- Import encryption keys if wTM is on its own web server.
- Configure wTM website and application advanced settings.
- Enable ISAPI extensions for wTM.
- Validate wTM installation
- Setting the location of the Datacap.xml file

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Figure 3-37. Configure wTM Services

Set sharing and security for the Datacap and application folders.

1. On the Server, Properties > Sharing tab for the c:\Datacap folder it should already be shared with the Share name of Datacap.
2. On the Permissions tab, add or ensure that the domain/Windows user ID of wTM is set to allow **Full Control**.
3. On the Server, Properties > security tab for the c:\Datacap folder, add, or ensure that the domain/Windows user ID of wTM is set to allow **Read**.
4. On the Server, Properties > security tab for the c:\Datacap\application folder, add, or ensure that the domain/Windows user ID of wTM is set to allow **Read**.

Import encryption keys if wTM is on its own web server.

- Copy the C:\Datacap\Taskmaster\dc_KTF.xml key transport file from the Datacap Server to the same folder on the Datacap Web Server computer.

Configure wTM website and application advanced settings.

1. From the WebServer Windows Start menu, select Administrative Tools > Internet Information Services (IIS) Manager.

2. In the Connections pane, expand the computer. Add a Web Site, and set the Site name to wTM. Set the Physical path to C:\Datacap\wTM. Select the IP address of the WebServer and assign a unique Port number. When Datacap Web and wTM are installed on the same WebServer, they be assigned different port numbers.
3. In the Connections pane, select Application Pools, wTM application pool, Advanced Settings, and check the following settings:
 - .NET version is set to v4.0.
 - Enable 32-Bit Applications is set to True.
 - Managed Pipeline Mode is set to Integrated.
 - Start Automatically is set to True.
4. In the Process Model section > Identity > Application Pool Identity window, set the Custom account to wTM domain/Windows account in the format: accountname@domainname.
5. In the Connections pane, select the Default Web Site; then, in the Actions pane, under Manage Web Site, click Restart.
6. Confirm all of the following are started: Web Server, Application Pool, and Default Web Site.

Enable ISAPI extensions for wTM.

1. WebServer's > Windows Start menu > Administrative Tools > Internet Information Services (IIS) Manager.
2. In the Connections pane > computer > wTM Web Site > Handler Mappings.
3. Enable svc-ISAPI-4.0_32bit.
4. In the Actions pane > Edit Feature Permissions > select Read, Script, and Execute.
5. In the Actions pane > Edit > Request Restrictions > Verbs > All verbs.

Validate wTM installation

You can validate your installation by viewing the wTM help pages.

1. Browse to URL:`http://<WebServerName or IP address>:<port number>/ServicewTM.svc/help`.
2. Click one of the links in the Method column to display detailed help about the REST request.

Set the location of the Datacap.xml file.

1. From the Windows Start menu, select All Programs > IBM Datacap Services > Datacap Application Manager > Service tab.
2. Ensure that the path reflects the correct location of the datacap.xml file, for example:
`\<Datacap Server Name>\Datacap\datacap.xml`.

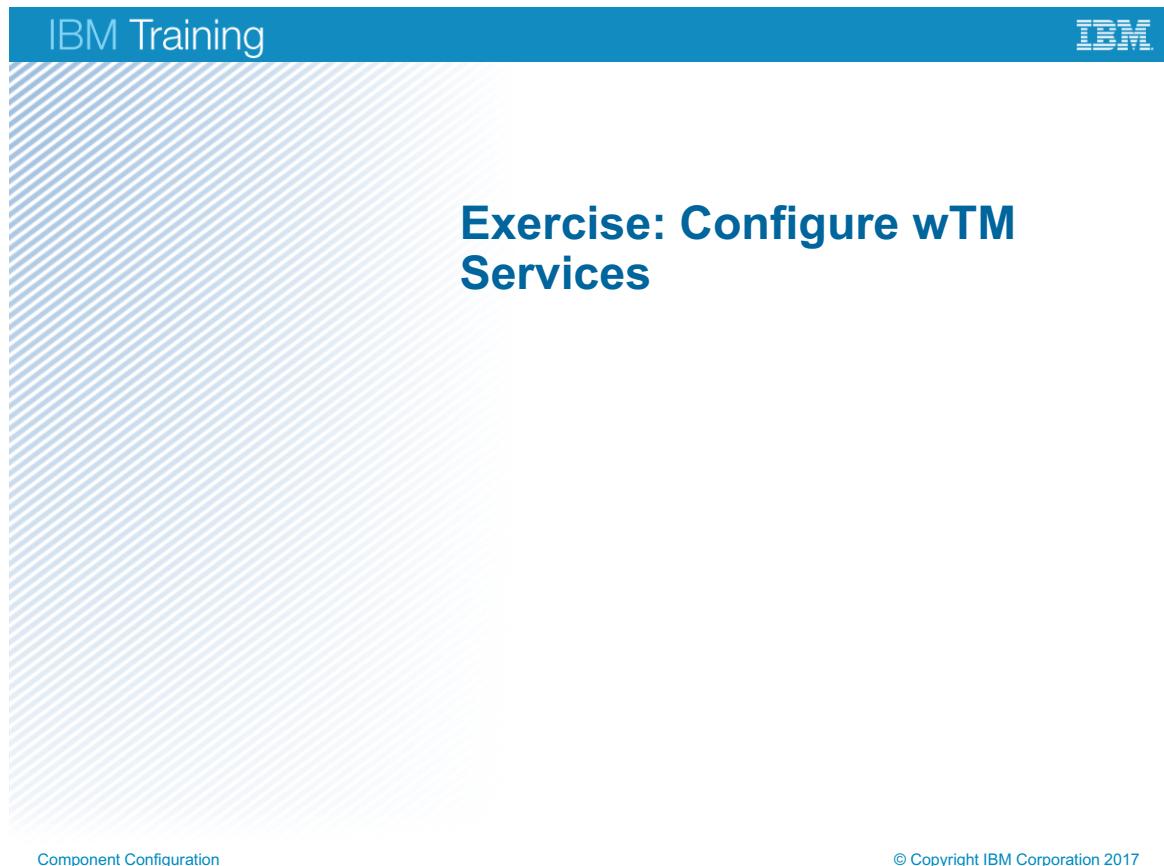


Figure 3-38. Exercise: Configure wTM Services

Exercise objectives

- Configure wTM Services



Figure 3-39. Exercise objectives

Lesson 3.4. Configure Datacap Dashboard

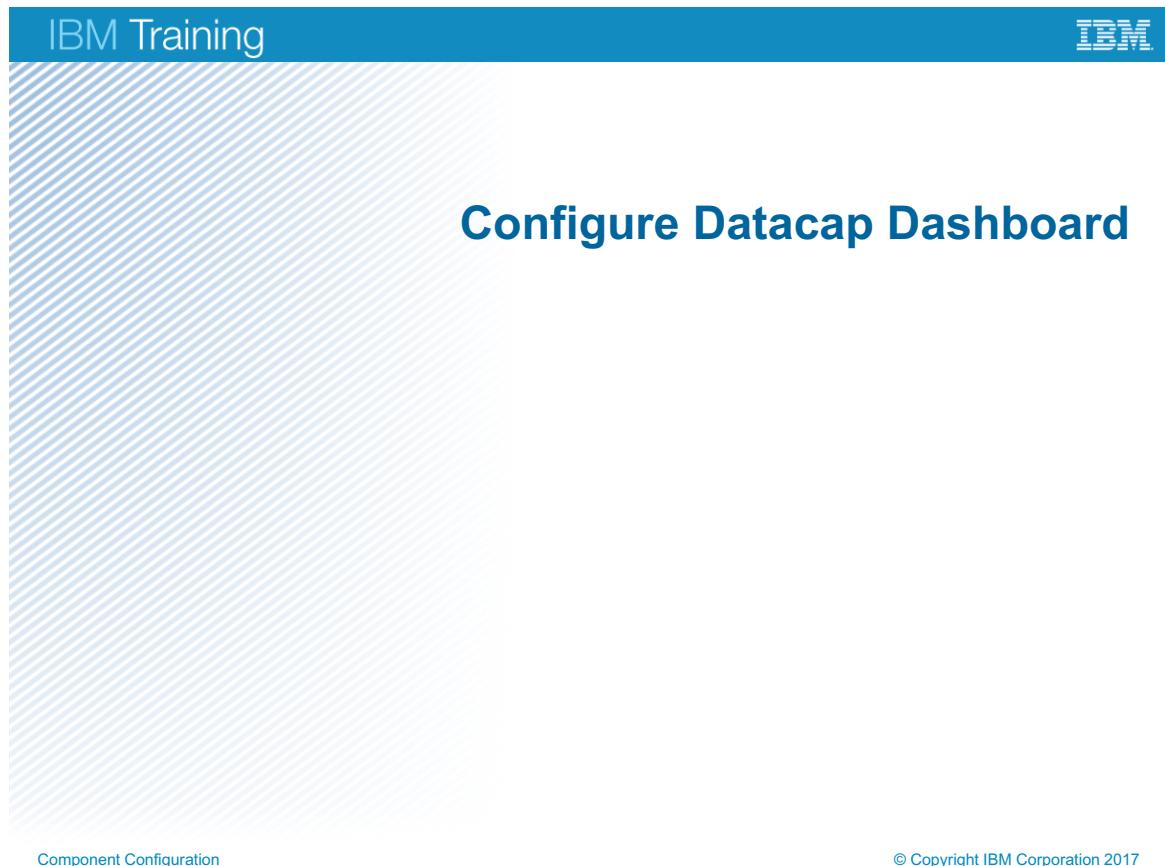


Figure 3-40. Configure Datacap Dashboard

Topics

- Configure Datacap Rulerunner
- Configure Datacap Maintenance Manager
- Configure Datacap Web Services
- ▶ Configure Datacap Dashboard

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Figure 3-41. Topics

Why is this lesson important to you?

- As a Business Analyst, you monitor the performance and efficiency of the Datacap Capture installation.
- To do this you must be familiar with the configuration and operation of the Datacap Dashboard.

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Figure 3-42. Why is this lesson important to you?

What is Datacap Dashboard?

- The Datacap Dashboard is:
 - An IBM Content Navigator (ICN) custom desktop
 - Used to monitor the Datacap system performance
 - Released with Datacap 9.0.1 in the JAR file
C:\Datacap\tmweb.java\DatacapWebPlugin.jar file
 - Installed by registering the Datacap Navigator plug-in in IBM Content Navigator
 - Configured by selecting the Datacap Dashboard Page Feature in IBM Content Navigator Admin, Layout tab

Figure 3-43. What is Datacap Dashboard?

Help Path:

Datacap 9.0.1>Monitoring your system>Monitoring your system with Datacap Navigator>Dashboard feature configuration

http://www.ibm.com/support/knowledgecenter/SSZRWV_9.0.1/com.ibm.dc.admin.doc/dchlp007.htm

Performance planning consideration

- Page classification and field recognition data collection and computation are resource intensive
- Data collection can cause Datacap tasks to run slower
- Measurements recorded indicate that export tasks can slow down when accuracy statistics collection is enabled
- Decide which application to monitor
- Decide which system should run data collection

Figure 3-44. Performance planning consideration

System requirements

- Relational Databases tables need to be properly sized
- Custom statistic data tables are required
 - rb_FieldAccuracyPct
 - rb_FieldAccuracyWeight
 - rb_ClassifyAccuracyPct
 - rb_ClassifyAccuracyWeight
- The Rulerunner system does more database I/O to write statistic data
- The Rulerunner system requires direct access to the Engine database
- Database client software is required on the Rulerunner system to access the database tables, except if a non-production Access database is in use.

Figure 3-45. System requirements

Installation and Configuration

- The Datacap Dashboard is a feature of IBM Datacap Navigator (DCN)
- IBM Datacap Navigator is an IBM Content Navigator (ICN) plug-in
- To install Dashboard means:
 - Install IBM Datacap 9.0.1 from installation media
 - Datacap WebPlugin.jar is located in C:\Datacap\itmweb.java
 - Registering IBM Datacap Navigator plug-in with IBM Content Navigator
 - Note: This procedure is covered in the F224 Datacap Configuration class
- Configuring the Dashboard feature in ICN
- Configuring application for accuracy data collection

Figure 3-46. Installation and Configuration

The screenshot shows the 'Datacap Advanced Desktop' configuration page in the ICN admin interface. The 'Layout' tab is selected (1). Under 'Desktop Features', the 'Datacap Dashboard Page' checkbox is checked (2). On the right, there's a 'Feature configuration' section (3) with fields for SLA JSON string and refresh interval.

Figure 3-47. Configure the Dashboard feature in ICN

Configuring the Dashboard feature in ICN

1. After IBM Datacap Navigator is Registered, Datacap Dashboard is available on two desktops:
 - The dcAll desktop.
 - The dcadmin desktop
2. Log in to IBM Content Navigator admin desktop.
<http://hostname:port/navigator/?desktop=admin>
3. Double click on the desktop with the Dashboard feature, for example, **dcAll** or **dcadmin**
4. Click the **Layout** (1) tab,
5. Click the **Datacap Dashboard Page** check box (2),
6. Cut and paste an SLA JSON into the **SLA JSON string** field if you have such values.
7. Modify the default **Refresh interval** if the default of 300 seconds or 5 minutes (3) is not adequate for your use.
8. Click “**Save and Close**” (4) to save your configuration changes.

Details on the SLA JSON string, an optional configuration

Use your favorite editor to create a JSON string consisting of these properties and applicable values and then cut and paste into the SLA JSON string field during the configuration;

```
{"SLA":  
  {  
    "businessName": "Company's name",  
    "appName": Datacap application name",  
    "batchesAbortedInPresetTime": 20,  
    "batchesPendingInPresetTime": 100,  
    "pageAccuracy": 97.9,  
    "fieldAccuracy": 96.5  
  }  
}
```

Notes:

BusinessName – example: IBM Corporation

appName – example: TravelDocs

batchesAbortedInPresetTime - The least acceptable amount of time in minutes that a batch should remain in the aborted status.

batchesPendingInPresetTime - The least acceptable amount of time in minutes that a batch should remain in the pending status.

pageAccuracy - The minimum acceptable page classification accuracy without alerting.

fieldAccuracy - The minimum acceptable field recognition accuracy without alerting.

Note: For both 3 & 4 a warning (!) is indicated on the display if within 10 percent of set value. For example, 88.1 but less than 97.9 receives a warning but less than 88.1 receives an alert. Alert (X) visual if worse than 10 percent off.

The least acceptable amount of time in minutes that a batch should remain in the aborted status. For both 1 and 2 if batches are found during the poll interval to have met this condition, an email if configured is sent with the batch information. The implementation is currently disabled.

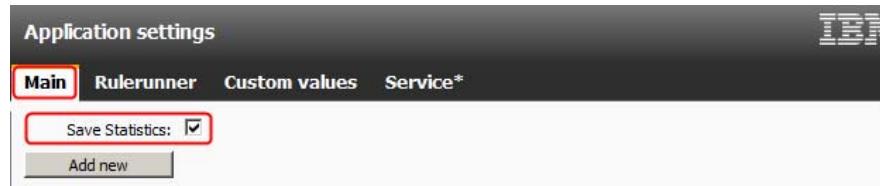
The least acceptable amount of time in minutes that a batch should remain in the pending status.

The minimum acceptable page classification accuracy without alerting. For both 3 & 4 a warning is indicated on the display if within 10 percent of set value. For example, 88.1 but less than 97.9 receives a warning but less than 88.1 receives an alert. Alert visual if worse than 10 percent off.

The minimum acceptable field recognition accuracy without alerting.

Configuring application for accuracy data collection

- Add statistic collection rulesets to the application.
 - Profile Statistics ruleset in the Profiler task profile.
 - Export Statistics ruleset in the Export task profile.
- Enable statistics collection in Application Manager.



- This option is recorded in dco_<app>.app

```

<k name="dco_TravelDocs">
  <k name="setupdco" v="TravelDocs.xml"/>
  <k name="rules" v="rules"/>
  <k name="imagefix" v="imagefix.ini"/>
  <k name="UseFPXML" v="True"/>
  ...
  <k name="SaveReportStatistics" v="True"/>
</k>

```

Figure 3-48. Configuring application for accuracy data collection

Add statistic collection rulesets to the application

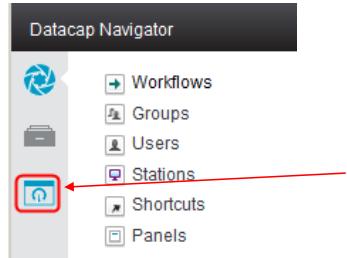
- For accuracy data, the application must be configured to compute and store reports statistics into the reportBatch and reportTotal ENGINE tables.
 - The Profile Statistics and Export Statistics rulesets collect and store the statistics required for the dashboard.
 - These rulesets are included with the sample and template applications in Datacap v9.0.1.
 - To add statistics collection to an existing application:
 - Add the Profile Statistics ruleset after page classification recognition is complete.
 - Add the Export Statistics after the operator verifies the page classification and recognition results.

Enable statistics collection in Application Manager.

Selecting the Save Statistics option in Application manager results in the SaveReportStatistics being set to true in the C:\Datacap\<applicationName>.app application file.

Using Datacap Dashboard

- Log in to the Dashboard enabled Desktop. Dcadmin



When the Dashboard is enabled, the Dashboard feature icon is visible

- Without any application configuration
 - The Dashboard will visualize Current Processes and Team Statistics data on in-progress workflow tasks.
- With configuration,
 - automated classification and recognition Accuracy data is also collected and visualized.
- It monitors and visualizes application data in three ways:

Figure 3-49. Using Datacap Dashboard

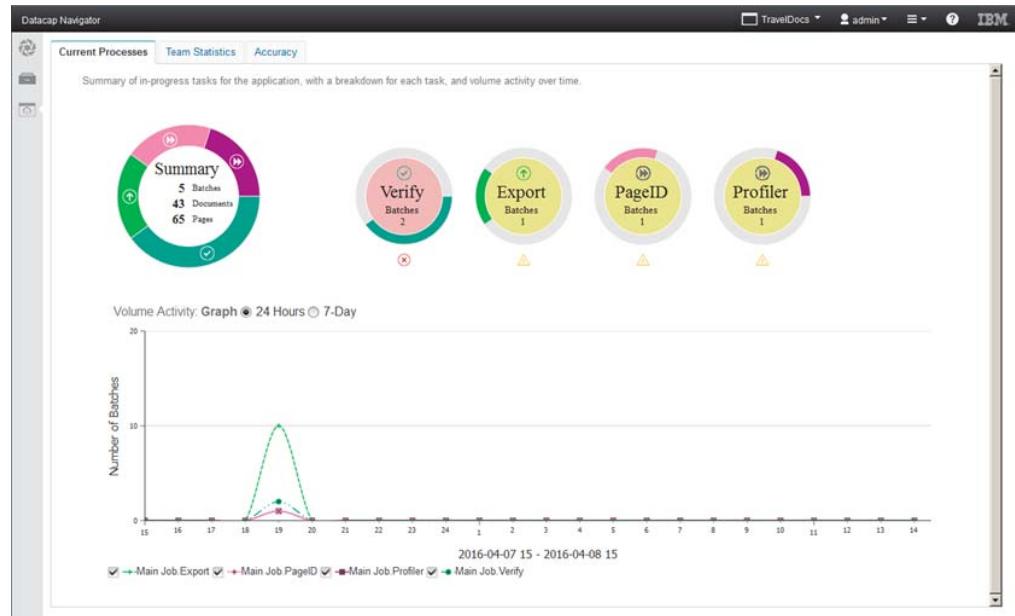
It monitors and visualizes application data in three ways:

1. Summary data – aggregates for the measured metric – displayed in donut charts with decorations.
2. Activity data over a duration – 24 hour and 7-day – displayed in graphs.
3. Visual alerting when set threshold is reached or has a statistical variant of noteworthiness.
 - Not all visual notifications are problematic
 - But all notifications deserve to be looked at.



Current Processes

- The Dashboard View



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Figure 3-50. Current Processes

Summary donut:

- Shows a record of sum at all of the active batches, documents and pages.

Verify, Export, PageID, and Profiler donut:

- Shows a count of the number of active batches at each task.

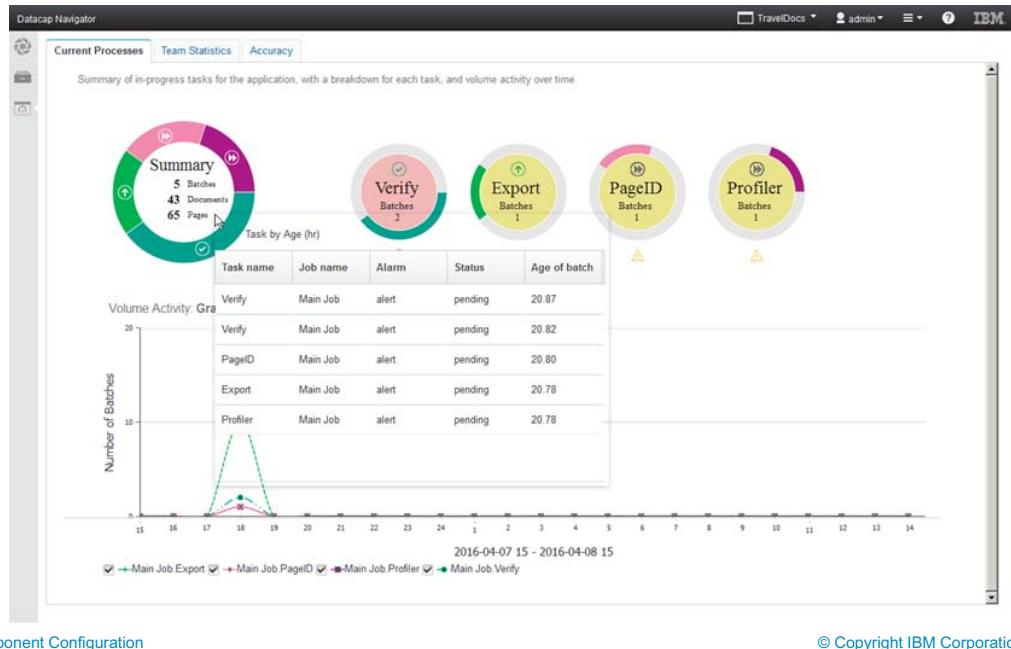
Volume Activity Graph

- Shows a graphic representation of the activity across a 24-hour or a 7-day period.



Current Processes with summary

- The Dashboard View



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Figure 3-51. Current Processes with summary

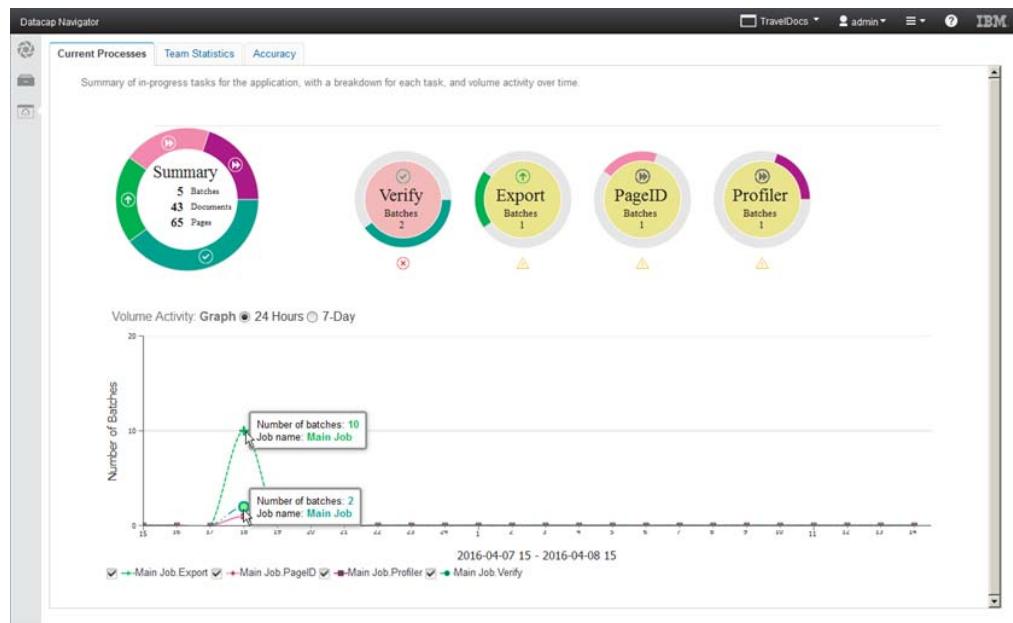
Click the inside of the Summary donut to see task by age data.

- One record in the data table for each active task.
- The “Age of batch” column shows the number of hours that each has been active. That is since it was scanned.



Current Processes showing activity detail data

- The Dashboard View



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Figure 3-52. Current Processes showing activity detail data

Graph information boxes

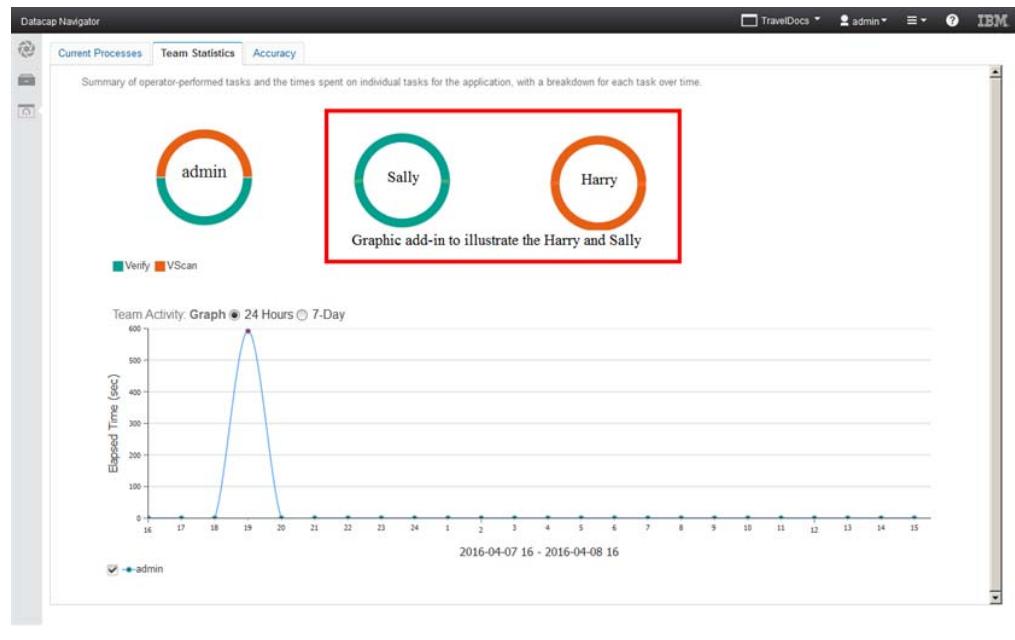
Hover over the peak point of each graph:

- The tallest graph represents the count of batches that are at the Job complete state, 10 batches.
- The next graph represents the Verify task with 2 active batches.
- The next graph represents the Export, PageID, and Profiler, which each have 1 batch.



Team Statistics (non-automated tasks)

- The Dashboard View



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Figure 3-53. Team Statistics (non-automated tasks)

Donut representation:

The batches represented on the team statistics view shows tasks that require human intervention. That is non-automatic tasks.

- In this sample all manual processing was done by the admin user.
- There is only one user donut.
- The color of the donut indicate the proportion of the Scan verses Verify task done by the admin user.

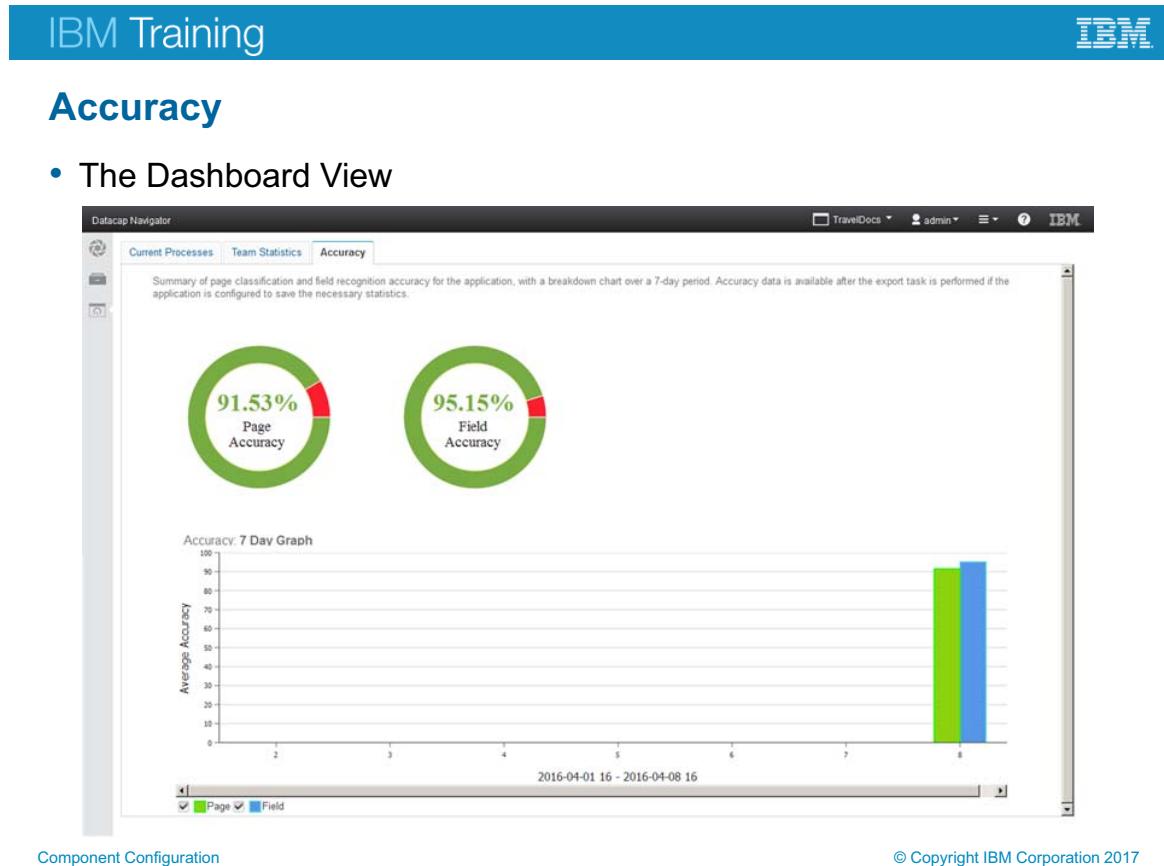
Scenario:

If one user Harry was doing all the scanning and one user Sally was doing all of the Verify tasks, then the result would be as follows.

- Two donuts. One for Harry and one for Sally.
- Harry's donut is orange.
- Sally's donut is green.

Graphic image

- There is a separate trace for each user.

*Figure 3-54. Accuracy*

Page Classification

- Total pages classified correctly divided by total pages processed.
- Pages whose type were set automatically, that are subsequently changed after Calculate Statistics ran (usually by an operator) are considered incorrect.
- However, pages originally classified as Other are always counted as correct

Field Recognition

- Total fields that were recognized correctly divided by total fields recognized.
- Fields that were recognized automatically, that are subsequently changed after Calculate Statistics (usually by a verify operator) are considered incorrect.

Donut chart color reflects overall accuracy

- Green for pass
- Red for fail.
- Inside color could change depending on SLA metrics

The Dashboard View – Accuracy, X-axis label explained

1. Start date for the graph view
2. Start hour in a 24-hour clock and it's the time on the Datacap Web Service system corresponding to when the request for data was made.
3. End date for the graph view
4. End hour in a 24-hour clock and it's the time on the Datacap Web Service system. Data point on the hour will be shown only after the poll or refresh interval covers the full hour shown. For example, if there is data in say 09:30 and the end hour is 10, the bar graph data will be shown when a poll has taken place at 10 or thereafter. Meaning activities that happen between the hour of 9-10 will be shown at the 10th hour.

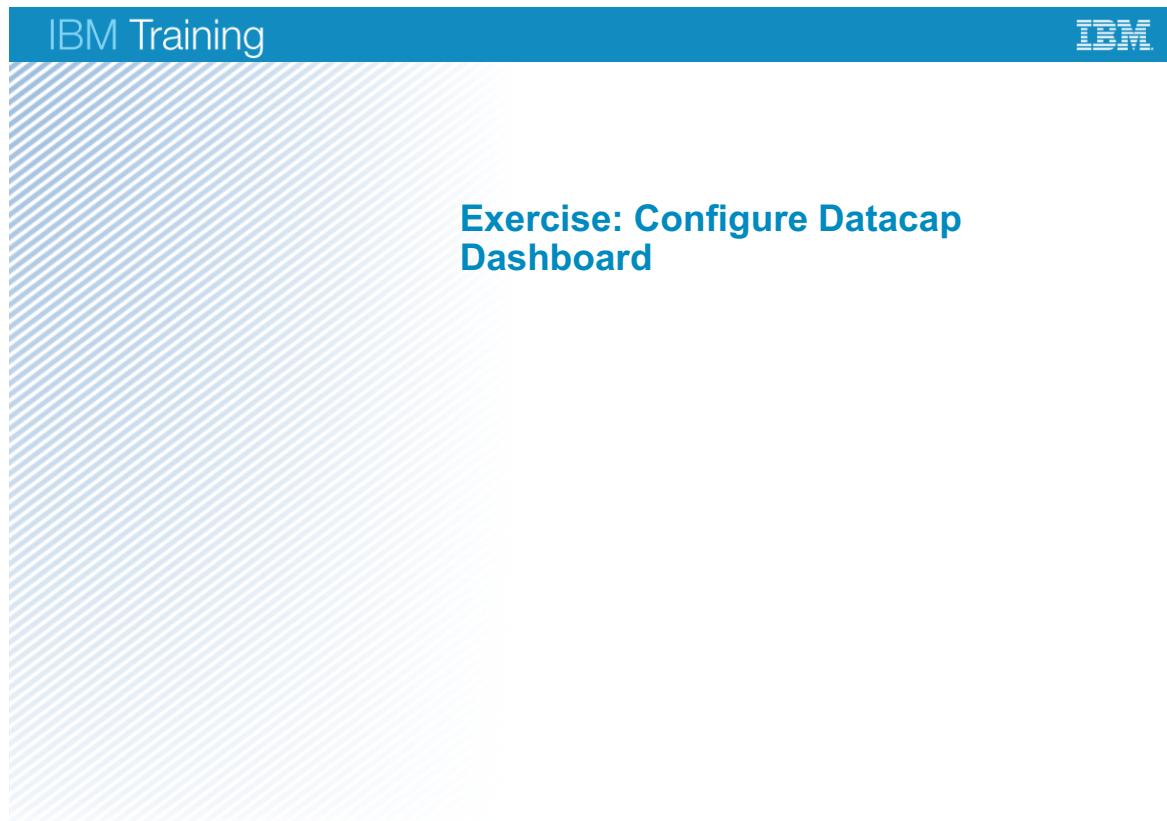


Figure 3-55. Exercise: Configure Datacap Dashboard

Exercise objectives

- Configure the Datacap Dashboard
- Monitor system performance with Datacap Dashboard



Figure 3-56. Exercise objectives

You already tested in the previous exercise if the image has Web access to the Box Web interface

1. If you have access you can proceed with the exercises as written
2. If the Web is not accessible, read through the exercises, and do any exercises that you can do on the student image. You will not have the OAUTH2 parameters for configuring the Box rulesets and will also not be able to process a batch by reading images from Box or writing documents back to Box.

Unit summary

- Configure Datacap Rulerunner
- Configure Datacap Maintenance Manager (NENU)
- Configure Datacap Web Services(wTM)
- Configure Datacap Dashboard

Component Configuration

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Figure 3-57. Unit summary

Unit 4. Datacap Navigator Configuration

Estimated time

08:00 hours

Overview

In this unit, you learn how to install Datacap navigator plugin and configure Datacap Navigator.

Objectives

- Navigator Updates
- Change Datacap Navigator User Settings
- Create users and groups
- Enable Rescan for the Verify task
- Create a custom panel for a task
- Implement external data services for Datacap Navigator
- Transactional Capture
- Install Datacap Navigator as a plug-in
- Customize the Datacap Navigator desktops

How you will check your progress

- Successfully complete the activities in the Student Workbook.

References

- Installing and configuring Datacap Navigator
https://www.ibm.com/support/knowledgecenter/SSZRWV_9.0.1/com.ibm.dc.install.doc/dcnvi001.htm
- Administering Datacap Navigator
https://www.ibm.com/support/knowledgecenter/SSZRWV_9.0.1/com.ibm.dc.admin.doc/dcnav00.htm

Unit Objectives

- Enable Datacap Navigator Single Sign On
- Change Datacap Navigator User Settings
- Create users and groups
- Enable Rescan for the Verify task
- Create a custom panel for a task
- Implement external data services for Datacap Navigator
- Transactional Capture
- Install Datacap Navigator as a plug-in
- Customize the Datacap Navigator desktops

Figure 4-1. Unit Objectives

Lesson 4.1. Navigator Updates

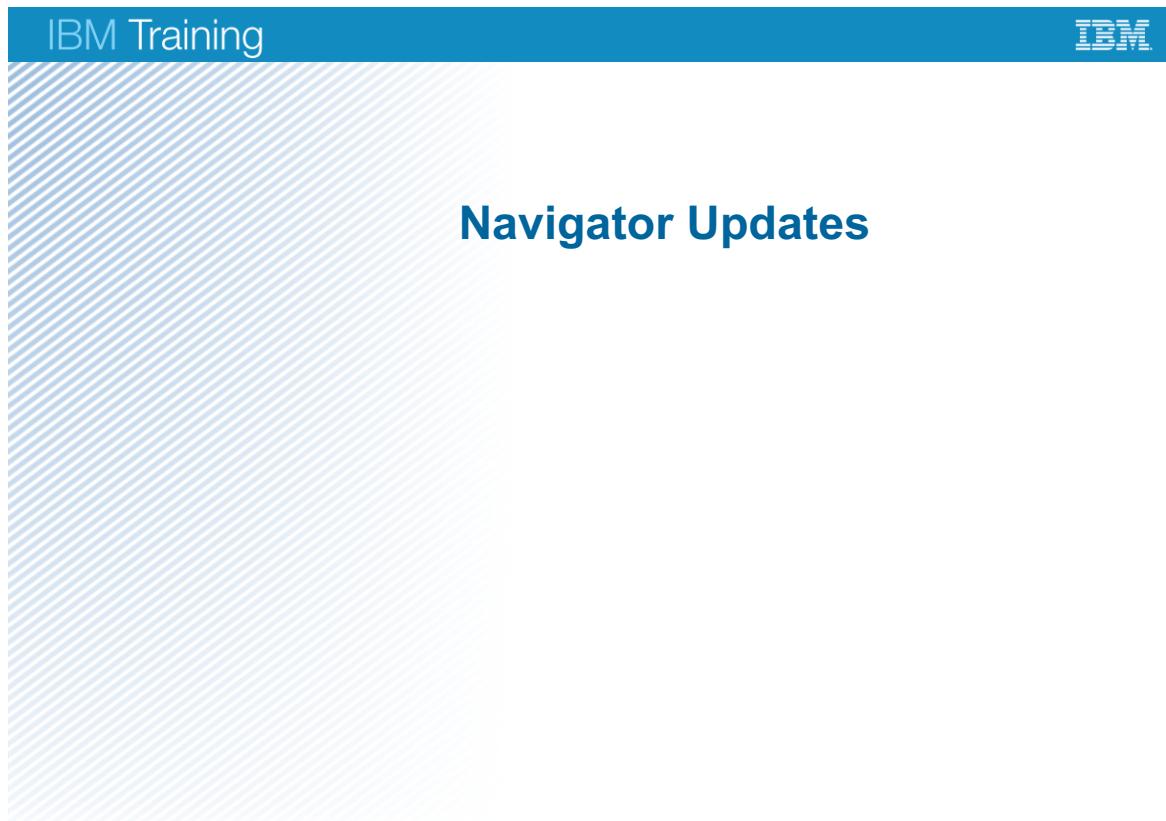


Figure 4-2. Navigator Updates

Topics

▶ Navigator Updates

- Change Datacap Navigator User Settings
- Configure Users and Groups
- Enable Rescan for the Verify task
- Create Custom Panels
- Implement External Data Services
- Transactional Capture
- Install and Customize Datacap Navigator

Figure 4-3. Topics

Why is this lesson important to you?

- This lesson provides an overview of the updates to IBM Datacap Navigator 9.0.1.

Figure 4-4. Why is this lesson important to you?

Datacap Navigator 9.0.1 Update topics

- Access Datacap Navigator Single Sign On enabled (SSO)
- Configure scan without ActiveX
- Configure image viewing with Daeja ViewOne
- Run an APT application in Datacap Navigator
- Transactional Capture in IBM Content Navigator
- Customize Job Monitor and control fields in verification via EDS
- Datacap Desktop and TMWeb operations in Datacap Navigator

Figure 4-5. Datacap Navigator 9.0.1 Update topics

Single Sign On (SSO)

- SSO is only supported for IBM WebSphere Application Server.
- Two Types of SSO are supported.
 - (SSO) between ICN repositories with container-manager authentication.
 - ISAM SSO with IBM Security Access Manager

Access Datacap Navigator Single Sign On enabled (SSO)

- Configure for container-managed authentication:
 1. WebSphere Configurationsystem
 2. Configure TMS with LLLDAP authentication typesystem
 3. Enable SSO for Datacap repositorysystem
- Configuration for IBM Security Access Manager:
 1. Install IBM Content Navigator with ISAM SSO enabledsystem
 2. Configure TMS with LLLDAP authentication typesystem
 3. Enable SSO for Datacap repositorysystem

[Datacap Navigator Configuration](#)

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Figure 4-6. Access Datacap Navigator Single Sign On enabled (SSO)

Help Path:

- **Configuring single sign-on (SSO) for Datacap Navigator**
http://www.ibm.com/support/knowledgecenter/SSZRWV_9.0.1/com.ibm.dc.install.doc/dcain446.htm?lang=en
- **IBM Security Access Manager for Web on WebSphere Application Server (FileNet P8)**
<http://www.ibm.com/support/docview.wss?uid=swg27042202>

WebSphere Configuration

Configuring SSL for IBM Content Manager Enable SSL on the application server for each instance of IBM® Content Navigator to access the Datacap repositories.

Steps to configure SSL for Box

1. Log into the WebSphere Application Server Admin console where IBM Content Navigator is deployed.
2. Go to the appropriate **Signer certificates** control option.
 - a. For cluster configuration, navigate to **Security > SSL certificate and Key management > Key stores and certificates > CellDefaultTrustStore > Signer certificates**.

- b. For stand-alone configuration, navigate to **Security > SSL certificate and Key management > Key stores and certificates > NodeDefaultTrustStore > Signer certificates.**
- 3. Click **Retrieve from port.**
- 4. Specify the Box host name URL. For example, in the **Host** field, enter ecmdev.app.box.com, and in the **Port** field, enter 443.
- 5. Provide an alias name. For example, boxecm.
- 6. Click **Retrieve signer information.**
- 7. Save the certificate and save your changes.
- 8. Re-start all instances of the IBM Content Navigator server.

If your version of WebSphere is not up to date with the POODLE vulnerability fix, also complete the following steps:

1. Go to **Servers > Server Types > WebSphere application servers.**
2. For each IBM Content Navigator server, click the *server name* > **Java and Process Management > Process definition > Java Virtual Machine.**
3. For **generic JVM arguments**, add the argument -Dhttps.protocols=TLSv1,TLSv1.1,TLSv1.2.
4. Save your changes.
5. Re-start all instances of the IBM Content Navigator server.

Configure TMS with LLLDAP authentication type

1. Open Datacap Server Manager.
2. Select the Service tab and click stop.
3. Select Datacap tab and select LLLDAP for Authentication system.
4. The Authentication path template should be set to:
`ecmedu01:389/BindUser:cn=P8Admin,o=sample?BindPw:IBMFFileNetP8?UserBaseDn:o=sample?UserSearchFilter:(&(objectClass=person)(cn=<%user%>))?UserShortNameAttr:cn?UserDisplayNameAttr:sn?GroupBaseDn:o=sample?GroupSearchFilter:(&(objectClass=groupOfNames))?GroupShortNameAttr:cn?GroupDisplayNameAttr:cn?GroupMembershipSearchFilter:(&(objectClass=groupOfNames)(member=<%user%>))`
5. Click Save
6. Click the Service tab and Click Start

Enable SSO for Datacap repository.

1. Open the Firefox browser.
2. Click the ICN Admin bookmark and log in as p8admin/IBMFFileNetP8
3. Click Repositories in the navigation pane.
4. Double-click TravelDocs.
5. Edit a field on the General tab. For example: retype the Display name: TravelDocs.
6. Click connect and log in as susan/class

7. Click the configuration Parameters tab.
8. Click the Single sign-on: Enable option.
9. Click Save and Close.
10. Log out and close the Firefox window.

Install IBM Content Navigator with ISAM SSO enabled

To use this option, the ISAM module must be included when IBM Content navigator is installed.

Get additional details from this link: <http://www.ibm.com/support/docview.wss?uid=swg27042202>

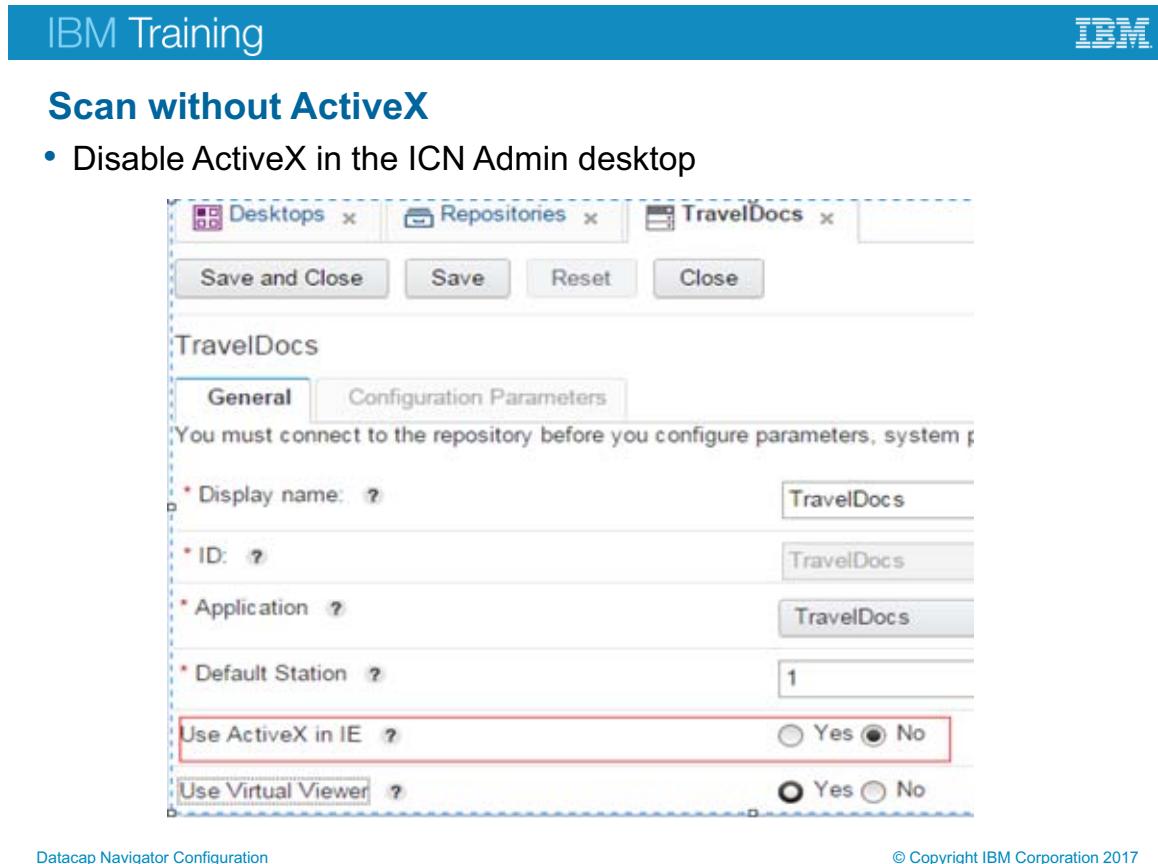


Figure 4-7. Scan without ActiveX

Web TWAIN scanning configuration

You can specify whether to use ActiveX or Web TWAIN for scanning and document import in Internet Explorer. Specify ActiveX or Web TWAIN for Internet Explorer in the Repositories area of the IBM Content Navigator administration client.

- ActiveX is no longer required.
- The Web TWAIN service can drive scanners and import files from the local file system.
- Users do not need to install and enable ActiveX on their client machines.
- Users are automatically prompted to install Web TWAIN the first time they try to scan.
- Navigator supports Web TWAIN for scanning on Internet Explorer, Firefox, and Chrome.
- ActiveX is only available on Internet Explorer and ActiveX is the default for IE.
- Administrators can enable Web TWAIN service in IE on the repository level in the ICN admin tool.
- The Web TWAIN service must be installed on the client machine as a Windows service.
- ActiveX provides better performance. IE only.
- TWAIN provides better security.

The screenshot shows the 'TravelDocs' configuration page in the IBM Content Navigator. At the top, there are tabs for 'Desktops', 'Repositories', and 'TravelDocs'. Below the tabs are buttons for 'Save and Close', 'Save', 'Reset', and 'Close'. The main section is titled 'TravelDocs' and contains two tabs: 'General' (selected) and 'Configuration Parameters'. A note says: 'You must connect to the repository before you configure parameters, system properties, folders, and so on.' Under the 'General' tab, there are several fields: 'Display name' (TravelDocs), 'ID' (TravelDocs), 'Datacap wTM URI' (http://9.125.73.165:808/ServicewTM.svc), 'Application' (TravelDocs), 'Default Station' (1), 'Use ActiveX in IE' (radio buttons for Yes and No), and 'Use Virtual Viewer' (radio buttons for Yes and No, which is selected and highlighted with a red border). At the bottom is a 'Connect...' button.

Figure 4-8. View images Daeja ViewOne

IBM Daeja™ ViewONE Virtual document viewer

You can view documents with IBM Daeja ViewONE Virtual, a server-based viewer that does not require Java on the client. Support for IBM Daeja ViewONE Professional is maintained. Specify which document viewer to use for a Datacap application in the Repositories area of the IBM Content Navigator administration client.

With Daeja ViewOne Java is not required in the browser.

- Administrator can enable virtual viewer on the repository level in the ICN admin tool.
- Available in IE, Firefox, and Chrome
- Chrome 45+ does not support Java.
- Known limitations (work in progress, should be available by Q2, 2016)
 - “Zoom Area” and “Zoom Quarter” actions
 - Click-and-key with single click
 - Show/hide thumbnails via double-click

Run an APT application in Datacap Navigator

- Line item grid data is available in verification
 - Support large volume of lines: 2K lines can be loaded within seconds
 - Shown as a grid on Desktop
 - Find Details and Calculate Blank actions are available
 - Users can insert/append new lines
 - Users can delete one or more items at a time
- Purchase Order Line Reconciliation POLR
 - Matches the line items from invoices to line items in purchase orders
 - Filter supported
- Sticky Fingerprint is available in verification.
 - Process multiple unknown invoices for a known vendor in a single batch.

Figure 4-9. Run an APT application in Datacap Navigator

Sticky Fingerprint is available in verification to process multiple unknown invoices for a known vendor in a single batch.

1. Lookup Vendor.
2. Populate the data fields by using click-and-key and Find Details.
3. Validate current page data to ensure that the invoice data passes all validations.
4. When moving to the next invoice in the batch for the same vendor, Sticky button is available. Click to locate and populate the fields automatically.

Transactional Capture in IBM Content Navigator

There are three default functions:

- Add a local document.
 - Scan an image save it directly to a repository. Optionally, manually provide metadata allowed by the Document Class that is selected.
- Add document information
 - Manually provide metadata allowed by the Document Class that is selected. (No image is saved)
- Link to an external document
 - Provide a hyperlink to an external Document. Optionally, manually provide metadata allowed by the Document Class that is selected.

Note: There is a complete lesson on the Transactional Capture topic later in this unit.

Figure 4-10. Transactional Capture in IBM Content Navigator

Help path:

<http://www.ibm.com/support/docview.wss?uid=swg27046892>

Enhancements to Datacap Navigator

Transactional Capture enhancements

- Files in formats other than TIFF can be imported.
- Automatic data capture populates the field entry panel with field data from scanned documents.
- Repository files can be Added to a Batch.

Other 9.0.1 Datacap Navigator Enhancements

- These enhancements fall into four categories:
 - Scan
 - Verification
 - Batch Structure
 - Task Layout Setting

Note: These enhancements topics are covered in the Datacap Navigator Configuration class.

Figure 4-11. Other 9.0.1 Datacap Navigator Enhancements

This list of enhancements document some of the changes that you will observe as you use the Datacap navigator interface.

- Rescan in verify and classify
- Multiple file selection in browse dialog
- More file formats supported when importing
- Insert, Append, and Replace in Scan page
- Multi-pass Verification
- More Variables Supported
 - Runtime Fields Support
- Show Field and Page Error Messages
- Image Rotation
- Undo Action
- Enable/Disable Actions Individually
- Toolbar Layout Changes

- Add a Comment to a Page
- Variable Column Configuration
- Multiple Selection Support
- Task Layout settings

EDS Enhancements

- Customize views with External Data Services:
- Job Monitor Customization via EDS
 - Change cell values, styles, column names, and enable cells to show Dojo widgets:
- More EDS properties supported in verification:
 - customValidationError: Description of an invalid reason.
 - hidden: true or false to determine whether to show this field.
 - displayMode: “readonly” or “readwrite” to determine whether to be read-only.

Figure 4-12. EDS Enhancements

Help path:

IBM Datacap 9.0.1>Administering your system>Datacap web clients administration>Administering Datacap Navigator>Customizing Job Monitor

http://www.ibm.com/support/knowledgecenter/SSZRWV_9.0.1/com.ibm.dc.admin.doc/dcnv006.htm

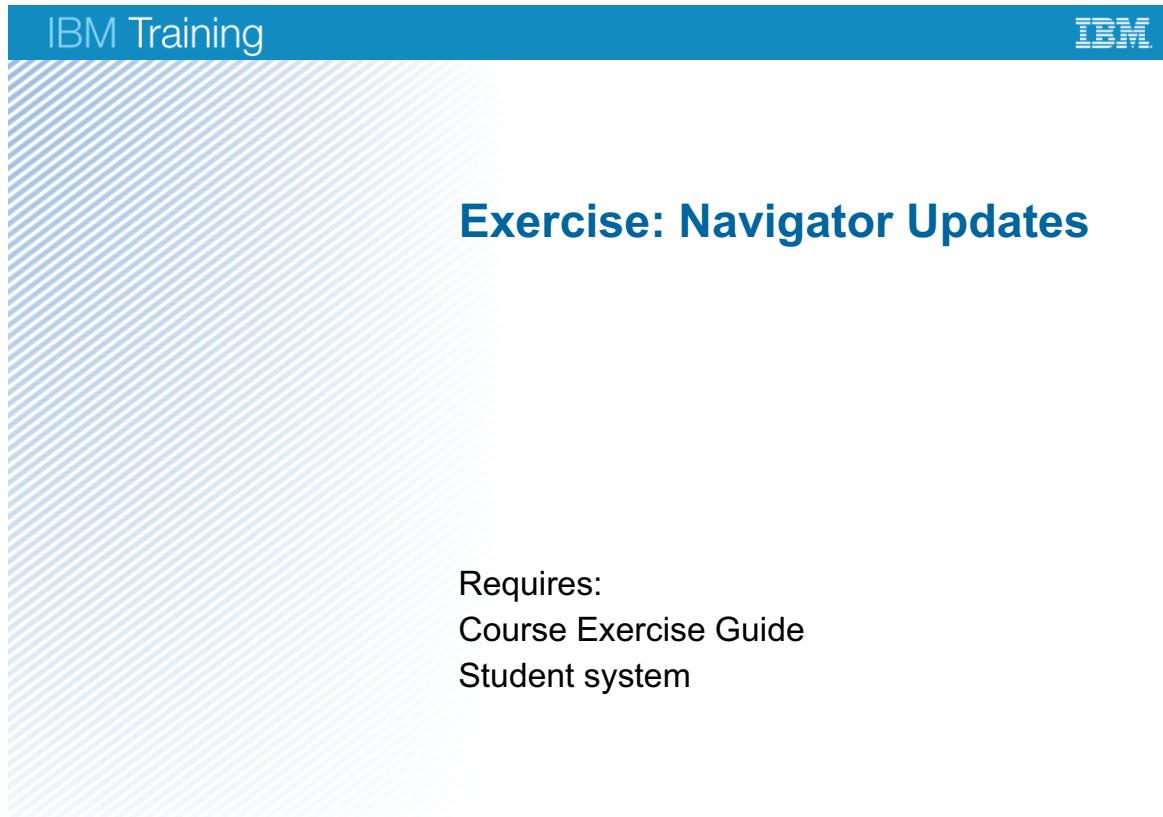


Figure 4-13. Exercise: Navigator Updates

Exercise objectives

- Enable Datacap Navigator Single Sign On (SSO)



Figure 4-14. Exercise objectives

Lesson 4.2. Change Datacap Navigator User Settings

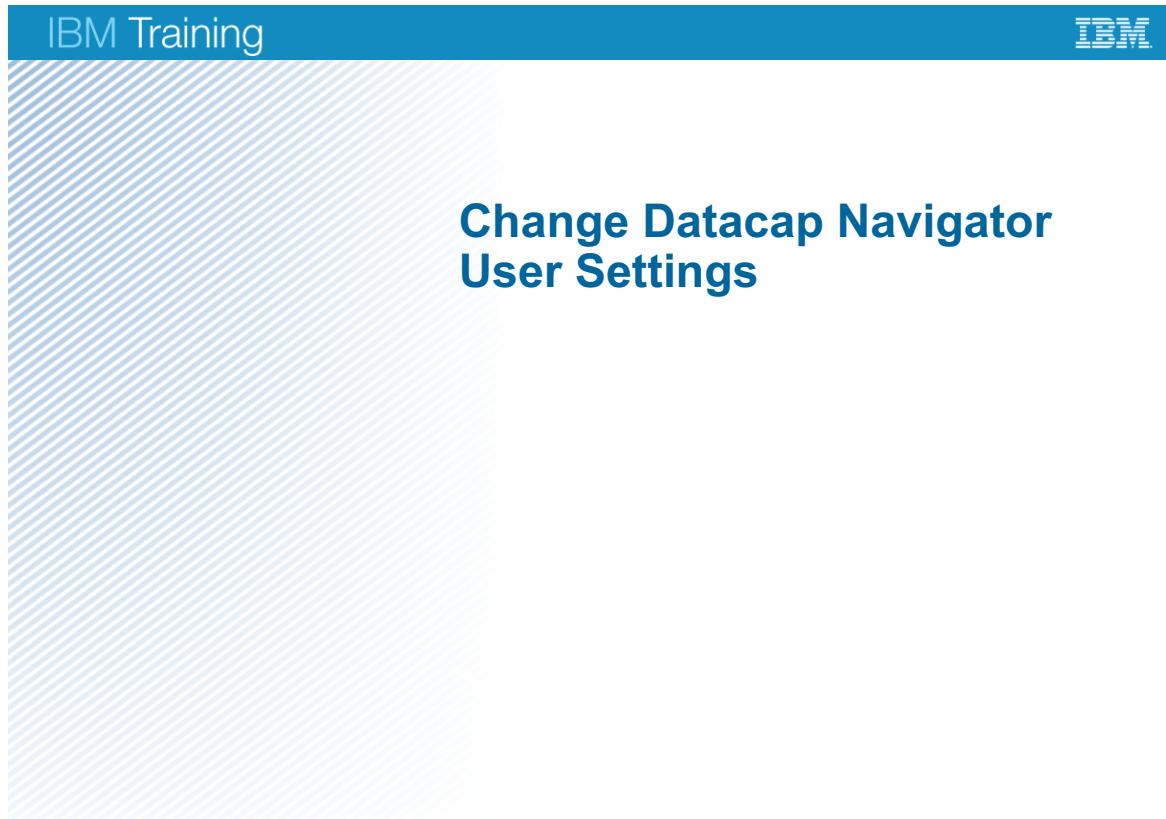


Figure 4-15. Change Datacap Navigator User Settings

Topics

- Navigator Updates
- Change Datacap Navigator User Settings
- Configure Users and Groups
- Enable Rescan for the Verify task
- Create Custom Panels
- Implement External Data Services
- Transactional Capture
- Install and Customize Datacap Navigator

Figure 4-16. Topics

Why is this lesson important to you?

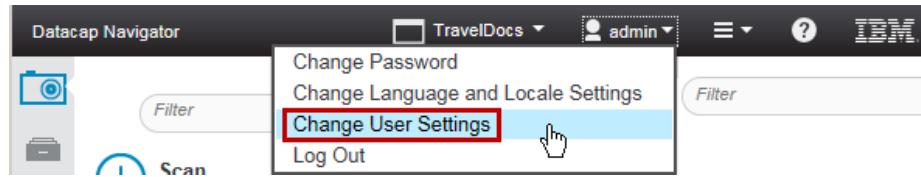
- As a Datacap business user, you process capture workflows in the Datacap Navigator Client.
- As a Datacap administrator, you configure User Settings in the Datacap Navigator Client.
- To do these tasks effectively, you must be familiar with the Datacap Navigator User Settings.

Figure 4-17. Why is this lesson important to you?



Datacap Navigator User Settings

- In User Settings, each user can change the following items:
 - Tailor the experience to meet the individual needs.
 - Change the appearance and operation of the user interface.
- Start the User Settings from the Datacap Navigator banner.
 - Click the User ID, and select the User Settings from the list.



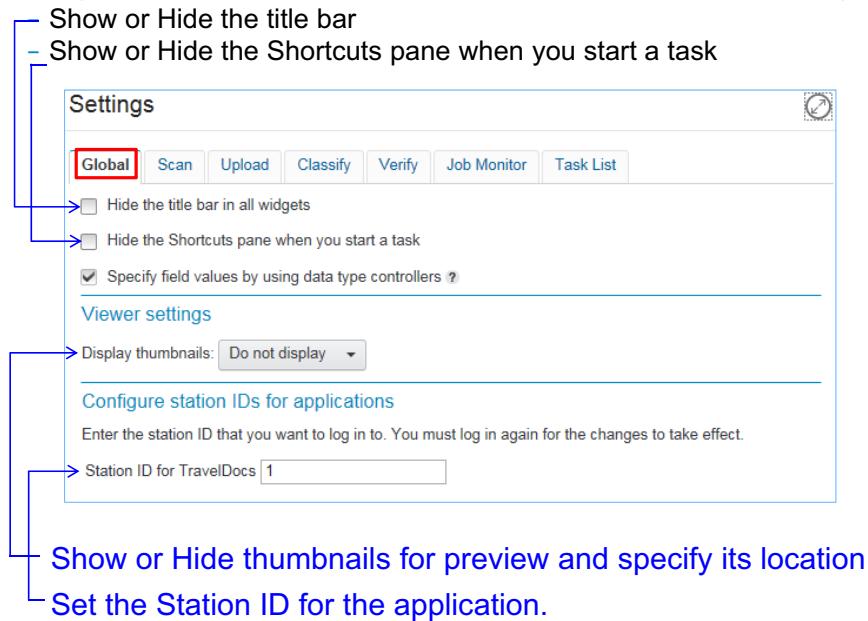
Datacap Navigator Configuration

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Figure 4-18. Datacap Navigator User Settings

Datacap Navigator User Settings – Global tab

- Changes in the Global tab affect the entire Datacap Navigator client:



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Figure 4-19. Datacap Navigator User Settings – Global tab

The screen capture shows the options available in the “Global” tab of the Settings page.



User Settings – Scan tab - General

Temporary directory for scanned images

Automatically start the next pending batch

Set the number of pages to scan for a batch

Settings

Global Scan Upload Classify Verify Job Monitor Task List

General Layout

Temporary directory for scanned images: c:\datacap\scan

Automatically start the next pending batch after the current batch is submitted

Multiple page scans

Scan all pages starting with the file that is selected in the local file system

Scan only this number of pages: 1

Configure scanner

Show scanner settings

Suppress scanner warnings

Configure scan tasks

Create a new batch immediately

Check for pending batches first

Show or hide the scanner settings and warnings

Create a batch immediately or check the pending batches first

Datacap Navigator Configuration

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Figure 4-20. User Settings – Scan tab - General

The screen capture shows the options available in the “Scan” tab > “General” subtab of the Settings page.



User Settings – Scan tab – Layout

- Change the layout of the widgets for the Scan page.
 - Start Panel
 - Image Viewer
 - Batch Structure
- Select the option whether to apply to one task or all Scan tasks.
- Drag the widgets to move them.

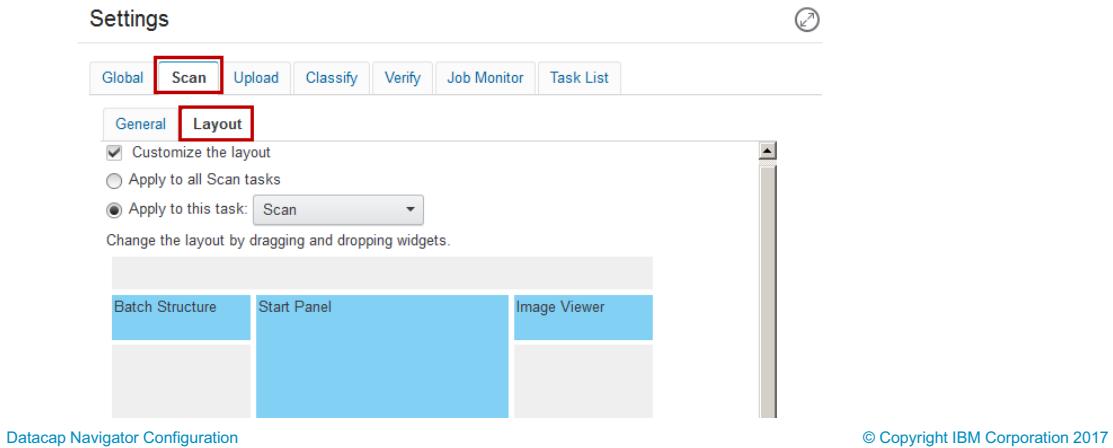


Figure 4-21. User Settings – Scan tab – Layout

Help path:

IBM Datacap 9.0.1>Administering your system>Datacap web clients administration>Administering Datacap Navigator>Setting Datacap Navigator default page layouts

http://www.ibm.com/support/knowledgecenter/SSZRWV_9.0.1/com.ibm.dc.admin.doc/dcnv005.htm

The screen capture shows the options available in the “Scan” tab > “Layout” subtab of the Settings page.

The Classify and Verify pages contain widgets such as the image viewer, start panel, field details, and batch structure.

Datacap Navigator users can override the default layout by changing the user settings.

1. From any Datacap Navigator view, click the user ID drop-down menu and select Change User Settings.
2. On the Settings window, click the Classify, Verify, or Scan tab. Then, click the Layout tab and rearrange the widgets.

The screenshot shows the 'User Settings – Upload and Classify tab' page. At the top, there's a blue header bar with 'IBM Training' on the left and the IBM logo on the right. Below the header, the title 'User Settings – Upload and Classify tab' is centered.

Upload Tab Settings:

- A section titled 'Automatically submit a batch after uploading' is shown with a checkbox labeled 'Automatically submit the batch after uploading?' which is checked.
- Below it, another checkbox 'Automatically start the next pending batch after the current batch is submitted' is shown, which is unchecked.
- Configuration options include 'Override upload task settings', 'Time delay between image upload (ms): 300', and 'Maximum upload size (KB): 0'.

Classify Tab Settings:

- A section titled 'Automatically start the next pending batch' is shown with a checkbox 'Automatically start the next pending batch after the current batch is submitted' which is unchecked.

At the bottom of the page, there are navigation links 'Datacap Navigator Configuration' and '© Copyright IBM Corporation 2017'.

Figure 4-22. User Settings – Upload and Classify tab

The screen capture shows the options available in the “Upload” and “Classify” tabs of the Settings page.

Other options in the “Upload” tab of the User Settings:

- Override the Upload task setting with the following user settings:
 - Time delay between image upload
 - Maximum upload size

Options in the “Classify” tab > Layout subtab of the User Settings:

- Change the layout by dragging the following widgets to place them:
 - Image Viewer
 - Batch Structure

The screenshot shows the 'User Settings – Verify tab' page. At the top, there is a blue header bar with the text 'IBM Training' on the left and the 'IBM' logo on the right. Below the header, the title 'User Settings – Verify tab' is displayed in bold blue text. Underneath the title, a bulleted list states: 'The “Verify” tab has General and Layout subtabs.' A 'Settings' section follows, featuring a horizontal navigation bar with tabs: Global, Scan, Upload, Classify, Verify (which is highlighted with a red border), Job Monitor, and Task List. Below this, a subtab navigation bar shows 'General' (highlighted with a blue border) and 'Layout'. The 'General' subtab contains several configuration options with checkboxes:

- Show snippet
- Show only fields that have errors
- Automatically override a validation failure
- Automatically submit a page when there are no more problems
- Automatically start the next pending batch after the current batch is submitted

Below these options is a 'Number of pages to load:' label followed by a dropdown menu set to '1'.

Datacap Navigator Configuration

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Figure 4-23. User Settings – Verify tab

The screen capture shows the options available in the “Verify” tab of the Settings page.

Options in the “Verify” tab > General subtab of the User Settings:

- Show or hide the image snippet above the field value
- Show only fields that have errors
- Automatically override a validation failure
- Automatically submit a page when there are no more problems.
- Automatically start the next pending batch after the current batch is submitted.
- Set the number of pages to load.

Options in the “Verify” tab > Layout subtab of the User Settings:

- Change the layout by dragging the following widgets to place them:

Field Details, Image Viewer, and Batch Structure



User Settings – Job Monitor tab

- Specify which Job attributes to show in Job Monitor and their order.

Settings

Job Monitor (highlighted with a red box)

Specify which columns and their order to show on the page.

Add or Remove

Available Columns	Selected Columns
Task	Queue ID
Task Start	Batch
Job Stop	Job
Batch Directory	Status
Page File	Job Start
Operator Skip	Job Time
Station Skip	Operator
Priority	Station
Documents	Pages

Number of jobs to retrieve from the server at one time:

Refresh interval (in seconds):

Default display of the job information pane:

Restore Defaults

Datacap Navigator Configuration © Copyright IBM Corporation 2017

← Rearrange the order (blue arrow pointing to the up and down arrows in the Selected Columns section)

Figure 4-24. User Settings – Job Monitor tab

The screen capture shows the options in the “Job Monitor” tab of the User Settings:

- Specify which Job attributes to show in Job Monitor page of the Datacap Navigator.
 - Use the arrows to add or remove the Job attributes from the “Selected Columns”.
- Arrange the order of the Job attributes to show in Job Monitor page.
 - Use the up and down arrows to change the order in the “Selected Columns”.
- Enter the number of Jobs to retrieve from the server at one time.
- Set the Refresh interval in seconds.
- Expand the Job information pane when item is selected.



User Settings – Task List tab

- Specify which Job attributes to show in Task List and their order.

Settings

Task List

Specify which columns and their order to show on the page.

Name contains **Add or Remove**

Available Columns	Selected Columns
Task Start	Queue ID
Job Stop	Batch
Batch Directory	Job
Page File	Task
Operator Skip	Status
Station Skip	Job Start
Priority	Job Time
	Operator
	Station

Number of jobs to retrieve from the server at one time:

Refresh interval (in seconds):

Default display of the job information pane:

Restore Defaults

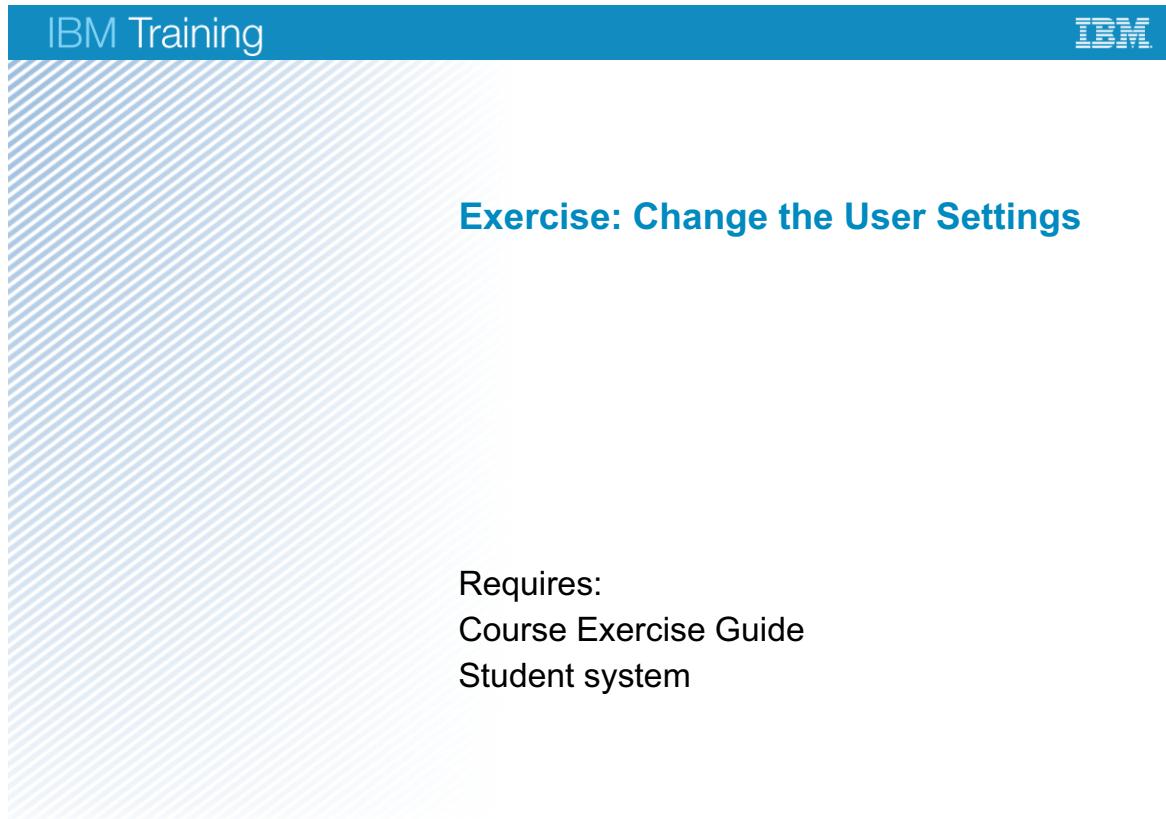
Datacap Navigator Configuration © Copyright IBM Corporation 2017

← Rearrange the order

Figure 4-25. User Settings – Task List tab

The screen capture shows the options in the “Task List” tab of the User Settings:

- Specify which Job attributes to show in Task List.
 - Use the arrows to add or remove the Job attributes from the “Selected Columns”.
- Arrange the order of the Job attributes to show in Task List.
 - Use the up and down arrows to change the order in the “Selected Columns”.
- Enter the number of Jobs to retrieve from the server at one time.
- Set the Refresh interval in seconds.
- Expand the Job information pane when item is selected.



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Figure 4-26. Exercise: Change the User Settings

Exercise objectives

- Change the User Settings



Figure 4-27. Exercise objectives

Lesson 4.3. Configure Users and Groups

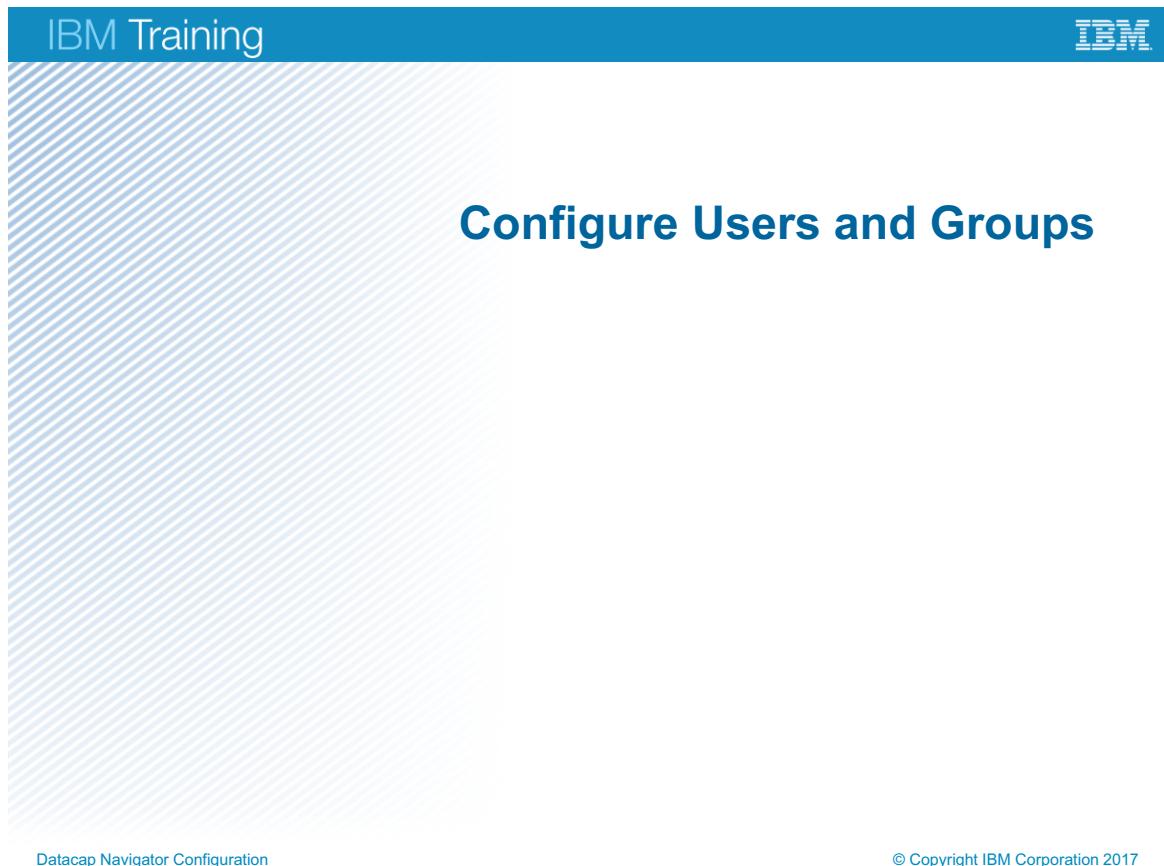


Figure 4-28. Configure Users and Groups

Topics

- Navigator Updates
- Change Datacap Navigator User Settings
-  Configure Users and Groups
 - Enable Rescan for the Verify task
 - Create Custom Panels
 - Implement External Data Services
 - Transactional Capture
 - Install and Customize Datacap Navigator

Figure 4-29. Topics

Why is this lesson important to you?

- As an administrator of an IBM Datacap capture system, you must be familiar with all configuration tasks for a functional IBM Datacap 9.0 system.
- You must configure security users and groups for Datacap system. You also create a Datacap Navigator Job, and tasks.

Figure 4-30. Why is this lesson important to you?

Views in Datacap Navigator

- In Datacap Navigator, there are two views (Features)
 - Datacap View for the business users
 - Datacap Administration View for administrators



- Datacap Navigator client can contain:
 - Only the Datacap main view or Administration view, or both views
 - Datacap plug-in installation creates all the clients
- You can add more features such as Browse or Search
 - To browse folders or search for documents that are exported

Figure 4-31. Views in Datacap Navigator

- The screen capture shows the features in Datacap Navigator.
- Completed Datacap documents can be exported to a repository for storage. These repositories can be accessed in Datacap Navigator.
- You can open the Datacap documents in Search or Browse Views because of the Content Management capabilities of IBM Content Navigator.

Datacap Administration View

- In the Administration View, you can configure the following items:
 - Workflows
 - Groups
 - Users
 - Stations
 - Shortcuts
 - Panels

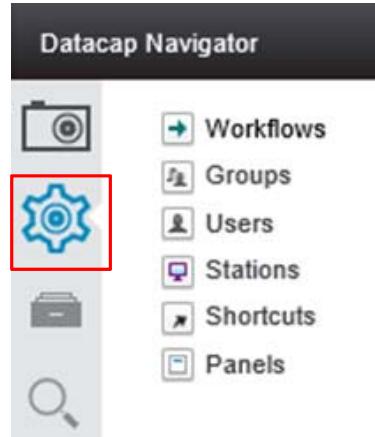


Figure 4-32. Datacap Administration View

The screen capture shows the Administration View in Datacap Navigator.



Datacap Administration View - Workflows

- You create or modify Jobs and tasks for the Datacap Navigator.

Jobs for a workflow

Tasks for a Job

Job: Navigator Job

Task: Scan

The screenshot illustrates the Datacap Administration View - Workflows interface. It shows three main levels of configuration:

- Workflow Level:** A window titled "Workflow: TravelDocs" with tabs for "General" and "Jobs". The "Jobs" tab is selected, highlighted with a red box. A list of jobs is displayed, including "Main Job", "Fixup Job", "Web Job", "Navigator Fixup Job", and "Navigator Job". The "Navigator Job" entry has a detailed description: "Navigator Job for new client".
- Job Level:** A window titled "Job: Navigator Job" with tabs for "General" and "Tasks". The "Tasks" tab is selected, highlighted with a red box. A list of tasks is shown, each with a name, description, mode, program, and queue. The tasks listed are "Scan", "NUpload", "PageID", "NProfiler", "Verify", and "Export".
- Task Level:** A window titled "Task: Scan" with tabs for "General" and "Advanced". The "General" tab is selected, highlighted with a red box. It contains four expandable sections: "Batch processing", "Rulerunner settings", "Custom web panels", and "Start batch panel".

Annotations with blue arrows and text labels ("Jobs for a workflow", "Tasks for a Job", "Job: Navigator Job", "Task: Scan") point to specific parts of the interface to identify the levels of configuration.

Figure 4-33. Datacap Administration View - Workflows

Workflow

Datacap applications can include one or more workflows.

- Consists of a series of tasks
- Defines a way to process documents
- Is associated with only one DCO

Jobs

Application Wizard creates a standard workflow that contains the following job types:

- Main Job**

It processes a batch of documents through each of the processing steps such as input documents, identify pages, verify, and export.

- Fixup Job**

It is used only when there are document integrity problems.

It displays the batch to an operator for corrective action.

- Web Job**

It is like the Main Job, but it defines the workflow for jobs that are initiated exclusively from the Datacap Web Client.

It supports remote scanning and allows users to upload new batches to the server.

- **Navigator Job**

It is like the Web Job, but it defines the workflow for jobs that are initiated from Datacap Navigator.

Tasks

- A job consists of one or more tasks.
- To process a batch of documents, you must run the batch through each task in the selected job.
 - Some tasks run without operator intervention. Example: Export
 - Some other tasks require an operator. Example: Verify
- The job type that you select determines tasks in the workflow.
- The workflow for Navigator Job includes the following tasks:
Scan, NUpload, PageID, NProfiler, NVerify, and Export

Datacap Administration View – Groups and Users

- You create or modify the users in the Users section:
 - Set Permissions to tasks in an application.
Example: Scan, NUpload, Export
 - Specify privileges to components.
Example: View Job Monitor, Delete batches
- You create or modify the groups in the Groups section:
 - Set Permissions
 - Specify the privileges
 - Assign Users to a group

[Datacap Navigator Configuration](#)

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Figure 4-34. Datacap Administration View – Groups and Users

Help path:

- IBM Datacap 9.0.1 > Administering your system > Datacap web clients administration > Users, groups, and stations administration

http://www.ibm.com/support/knowledgecenter/SSZRWV_9.0.1/com.ibm.dc.admin.doc/dcaad001.htm

If your environment has multiple Datacap servers, the privileges and permissions that are assigned to users, groups, and stations for an application are effective only on the Datacap server where you configure.

All Datacap Server Services that connect to the application must be restarted.

Datacap Administration View – Stations and Shortcuts

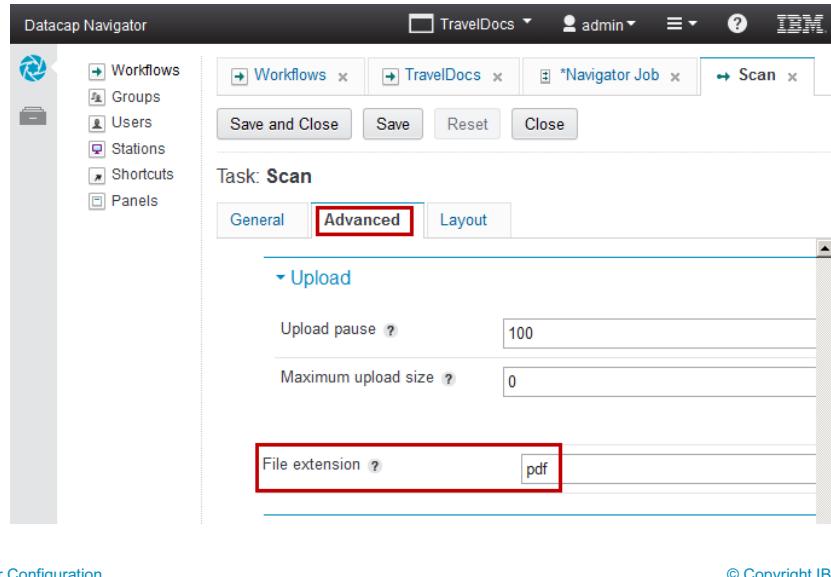
- You can do the following items in the Stations feature:
 - Create or modify Stations
 - Specify Permissions
- You can do the following items in the Shortcuts feature:
 - Create or modify Shortcuts
 - Specify Permissions

Figure 4-35. Datacap Administration View – Stations and Shortcuts



Datacap Navigator – Configure to scan the PDF documents

- Configure to scan the PDF documents in IBM Datacap Navigator administration view:
 - Set the File extension to PDF on the Advanced tab for the Scan task.



Datacap Navigator Configuration

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Figure 4-36. Datacap Navigator – Configure to scan the PDF documents

Use Case Scenario

- An insurance company has an IBM Datacap application and is using Datacap Navigator as the client. Insurance agents can scan documents using a scanner attached to their workstation as well as upload them from disk as long as they are in PDF format. Scanning works well, however, users report being unable to scan PDF documents from disk and instead receive the following error message: "There are no files with extension tif in the selected directory."
- What configuration should the administrator check to make sure users can 'scan' PDF documents from disk?
- In IBM Datacap Navigator administration view, make sure the File extension, on the Advanced tab in the Scan task, is set to PDF.

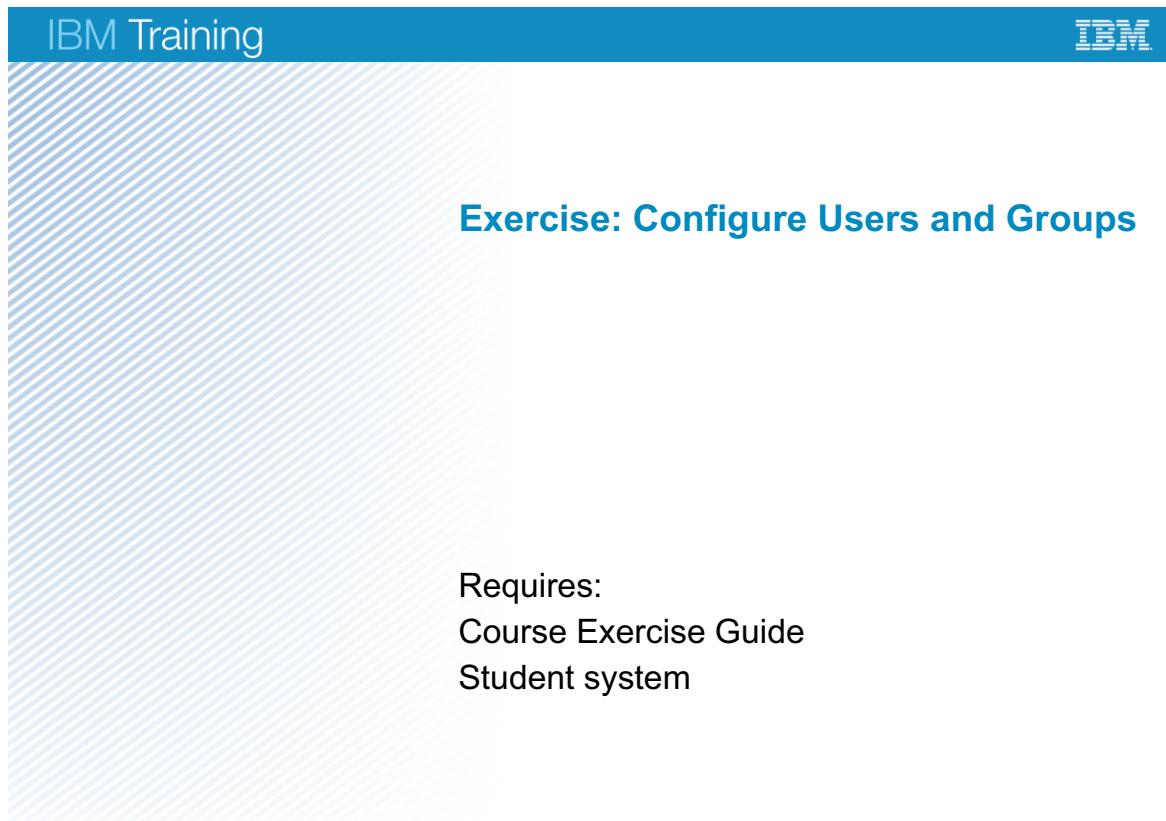


Figure 4-37. Exercise: Configure Users and Groups

Exercise objectives

- Create Users and Groups



Figure 4-38. Exercise objectives

Lesson 4.4. Enable Rescan for the Verify task

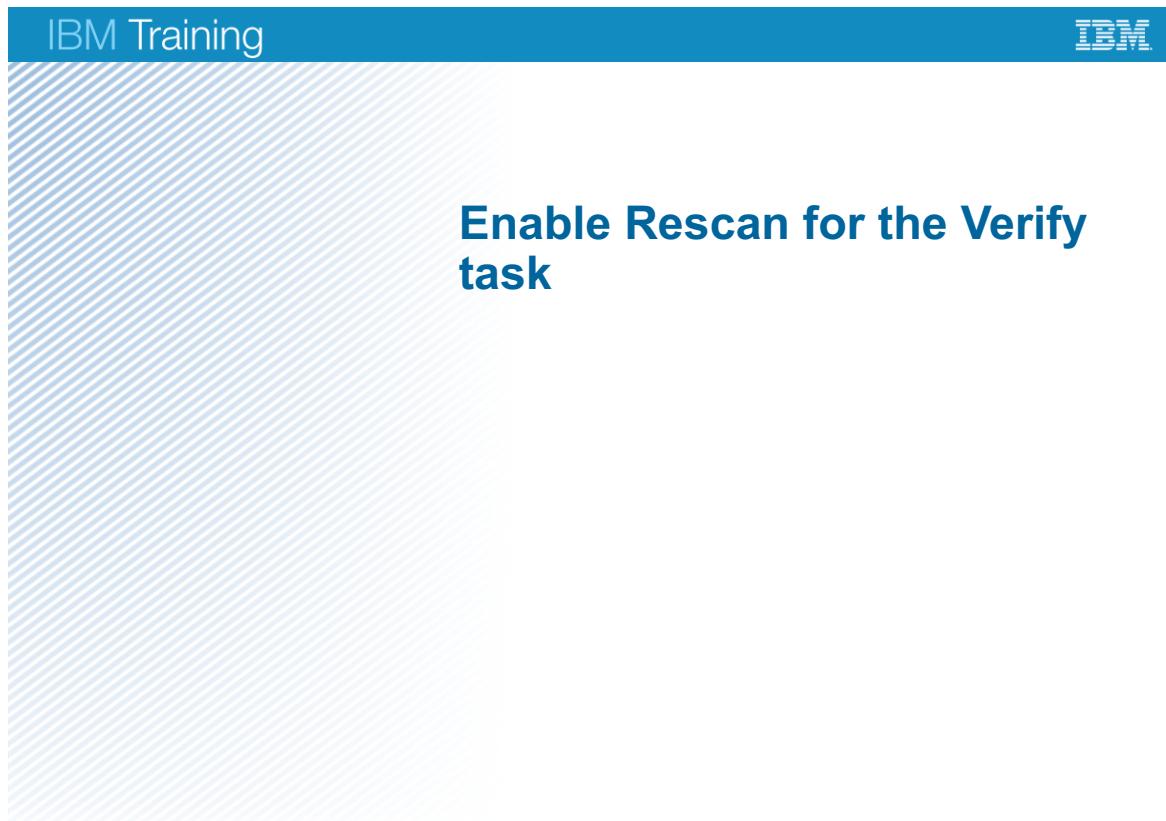


Figure 4-39. Enable Rescan for the Verify task

Topics

- Navigator Updates
- Change Datacap Navigator User Settings
- Configure Users and Groups
-  Enable Rescan for the Verify task
- Create Custom Panels
- Implement External Data Services
- Transactional Capture
- Install and Customize Datacap Navigator

Figure 4-40. Topics

Why is this lesson important to you?

- As an administrator of an IBM Datacap capture system, you must be familiar with all configuration tasks for a functional IBM Datacap 9.0 system.
- You enable Rescan for the NVerify and Nfixup tasks.

Figure 4-41. Why is this lesson important to you?



Verify Task - Default view

- You can rescan documents in the NVerify task.
 - By default, the Rescan option is not visible on the task page.
 - Enable it in the Datacap admin tool.

The screenshot shows the Datacap Navigator Configuration interface with the following details:

- Top Bar:** TravelDocs, admin, IBM logo.
- Tabs:** Job Monitor (selected), NVerify.
- Toolbar:** Submit, Hold, Previous Page, Next Page, Previous Problem, Next Problem, Next Low Confidence, Run Validations.
- Image Viewer:** Displays a document titled "Car Rental #1" with fields for Pickup (Mon, Oct 14, 2019, 10:00AM) and Return (Fri, Oct 18, 2019, 5:00PM). It also shows "Rental Agreement" and "Options" (Full size, GPS Navigation checked, Child Seat unchecked).
- Field Details:** Shows a "Text_Field" entry with two empty text boxes.
- Batch Structure:** A hierarchical tree view of files:
 - ID: 20151021.000000 (Type: TravelID...)
 - 20151021.000000.01 (Type: Car_Re...)
 - TM000001 (Type: Rental_...)

Datacap Navigator Configuration

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Figure 4-42. Verify Task - Default view

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Verify Task - with Rescan enabled

- After you enable the rescan, the NVerify task page shows the Rescan option.
 - You can Insert, Replace, or Append.

ID	Type
20151110.000000	TravelDocs
20151110.000000.01	Car_Rental
TM000001	Rental_Agr...
TM000002	Other

Figure 4-43. Verify Task - with Rescan enabled



Enable the Rescan in Datacap Navigator

- In the Datacap Navigator Administration view:
 - Open the Workflows > TravelDocs > Navigator Job > NVerify task.
 - Go to "Batch processing" section in the "Advanced" tab.
 - Select the "Allow Rescan" option.

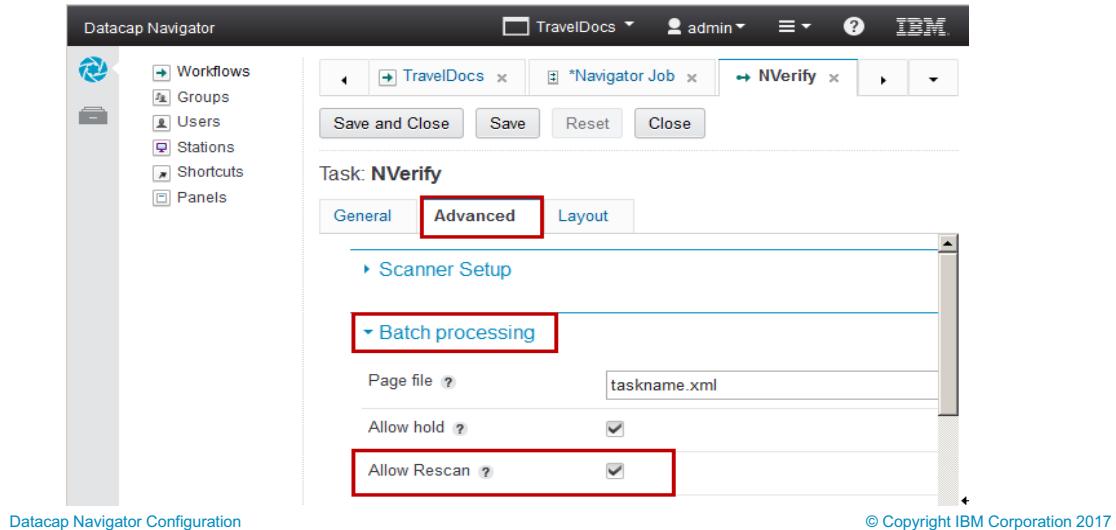


Figure 4-44. Enable the Rescan in Datacap Navigator



Enable the Rescan in tmweb client

- In the tmweb client:
 - Open the Administrator tab > Workflow tab.
 - Expand TravelDocs > Navigator Job and select the NVerify task.
 - Go to Setup > "Batch processing" and select the "Allow Rescan" option.

The screenshot shows the IBM Datacap Administrator interface. On the left, there's a tree view under 'Workflow' for 'TravelDocs' containing 'Main Job', 'Fixup Job', 'Web Job', 'Navigator Fixup Job', and 'Navigator Job'. Under 'Navigator Job', the 'NVerify' task is selected and highlighted in blue. To the right, a detailed configuration window for 'Selected task details' is open, showing the task name as 'NVerify' and mode as 'Normal'. Below this, a 'Batch processing' dialog box is displayed, which includes a table with a single row:

Page file	taskname.xml
Allow hold	<input checked="" type="checkbox"/>
Allow Rescan	<input checked="" type="checkbox"/>

A red box highlights the 'Allow Rescan' checkbox in the 'Batch processing' dialog. The bottom right corner of the dialog has a copyright notice: © Copyright IBM Corporation 2017.

Figure 4-45. Enable the Rescan in tmweb client

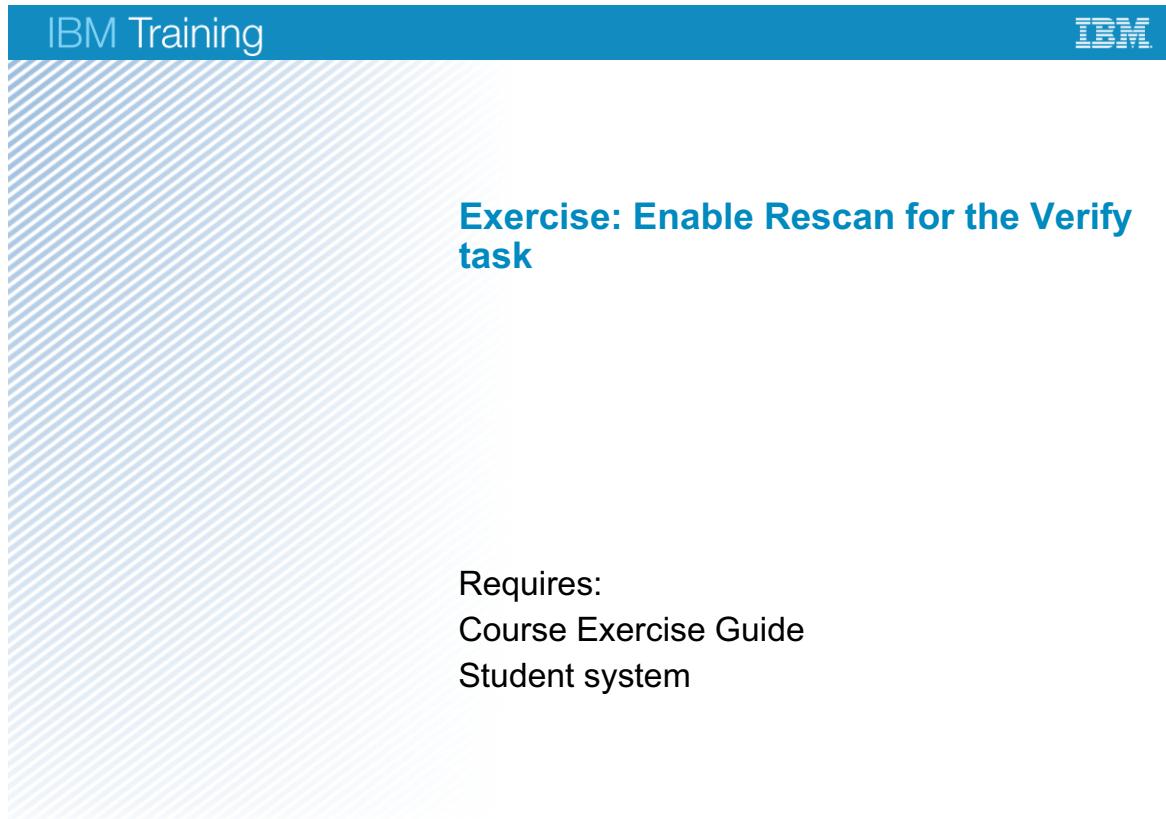


Figure 4-46. Exercise: Enable Rescan for the Verify task

Exercise objectives

- Enable Rescan for the Verify task.



Figure 4-47. Exercise objectives

Lesson 4.5. Create Custom Panels

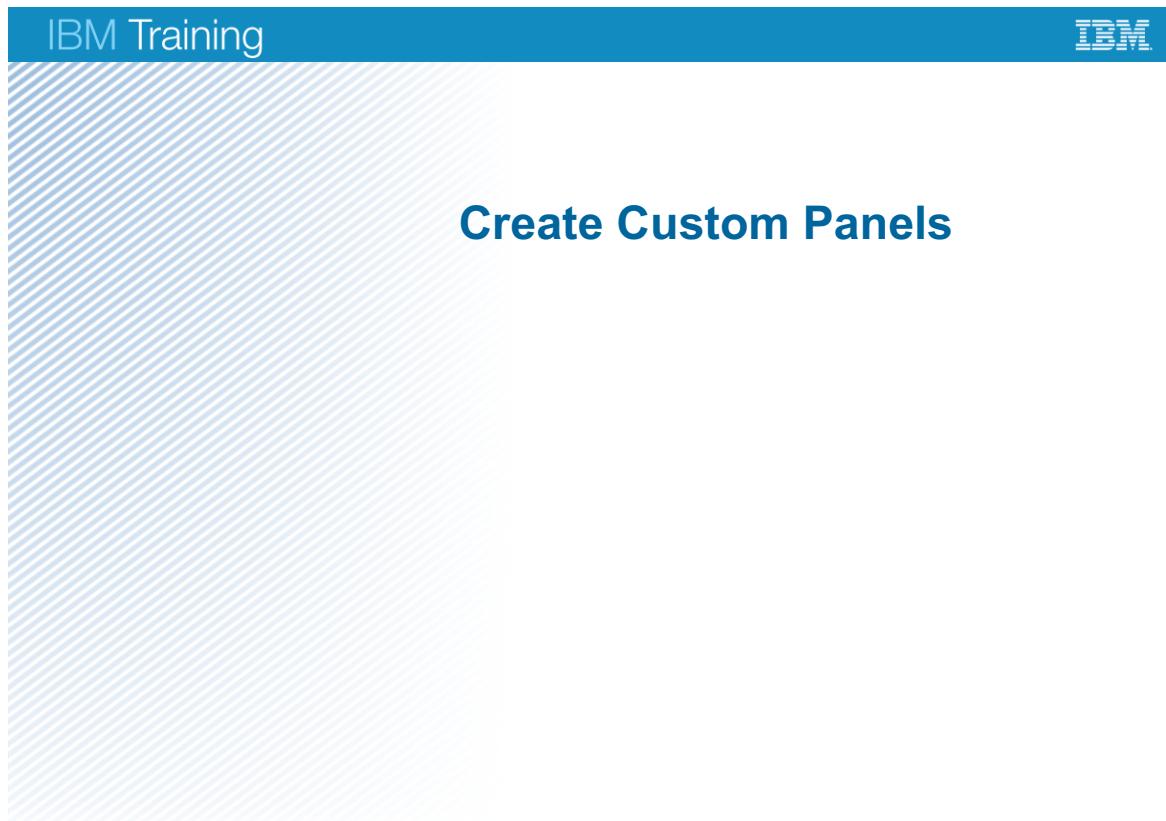


Figure 4-48. Create Custom Panels

Topics

- Navigator Updates
- Change Datacap Navigator User Settings
- Configure Users and Groups
- Enable Rescan for the Verify task
- Create Custom Panels
 - Implement External Data Services
 - Transactional Capture
 - Install and Customize Datacap Navigator

Figure 4-49. Topics

Why is this lesson important to you?

- As an administrator of an IBM Datacap capture system, you must be familiar with all configuration tasks for a functional IBM Datacap 9.0 system.
- You must create custom panes and associate it with a task.

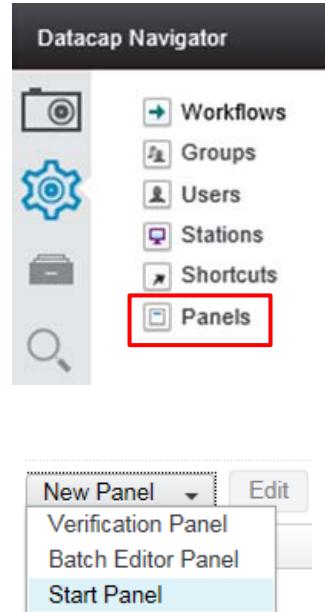
Figure 4-50. Why is this lesson important to you?



Datacap Administration View – Custom Panels

- Use the Panels feature in the Datacap Navigator Administration view to create or modify panels.

- You can create or modify the following type of panels:
 - Verification
 - Batch Editor
 - Start



Datacap Navigator Configuration

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Figure 4-51. Datacap Administration View – Custom Panels

What are Custom Panels?

- A panel is a user interface for data entry.
 - Example: the “Start Batch” panel on the Scan task, and the “Field Details” panel in the Verify task.
- The system dynamically generates these panels.
 - Does not require any extra setup.
- Optionally, you can create custom panels to change the:
 - Layout of the fields and appearance.
 - Behavior of the panel (Example: set a property as required).

Figure 4-52. What are Custom Panels?



Designing Custom Panels

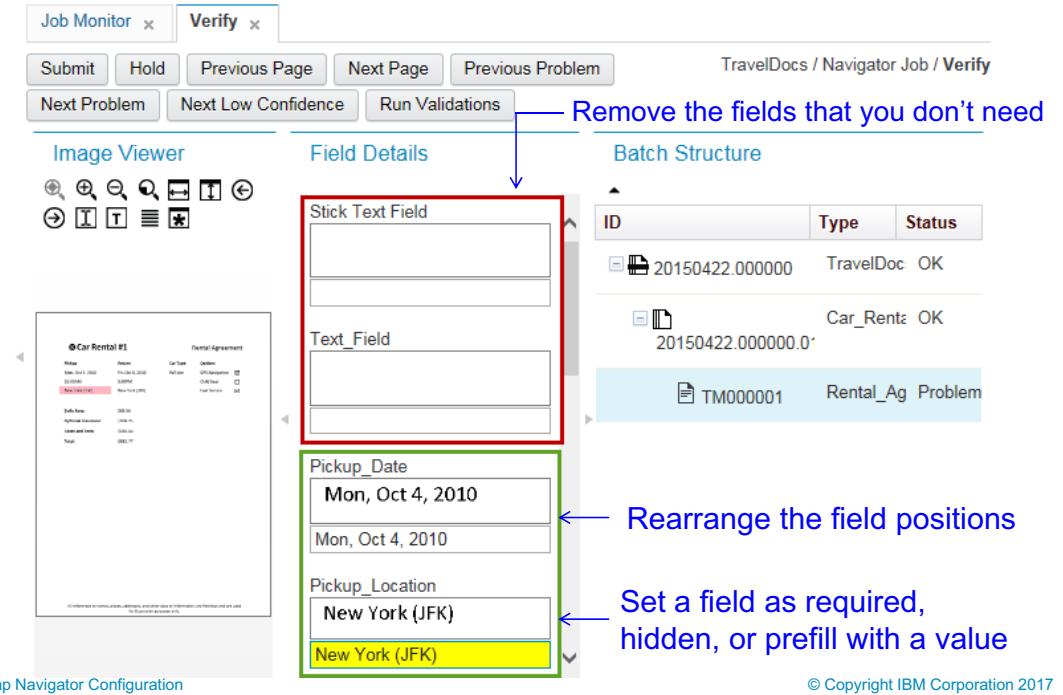


Figure 4-53. Designing Custom Panels

The screen capture shows a default “Field Details Panel” in the “Verify” task.

Following items are some of the changes that you can add to your custom panel:

- Remove unused system generated fields.
- Rearrange the layout of the fields.
- You can modify the behavior of a field to be “required”, “hidden”, or “prefill a value”.

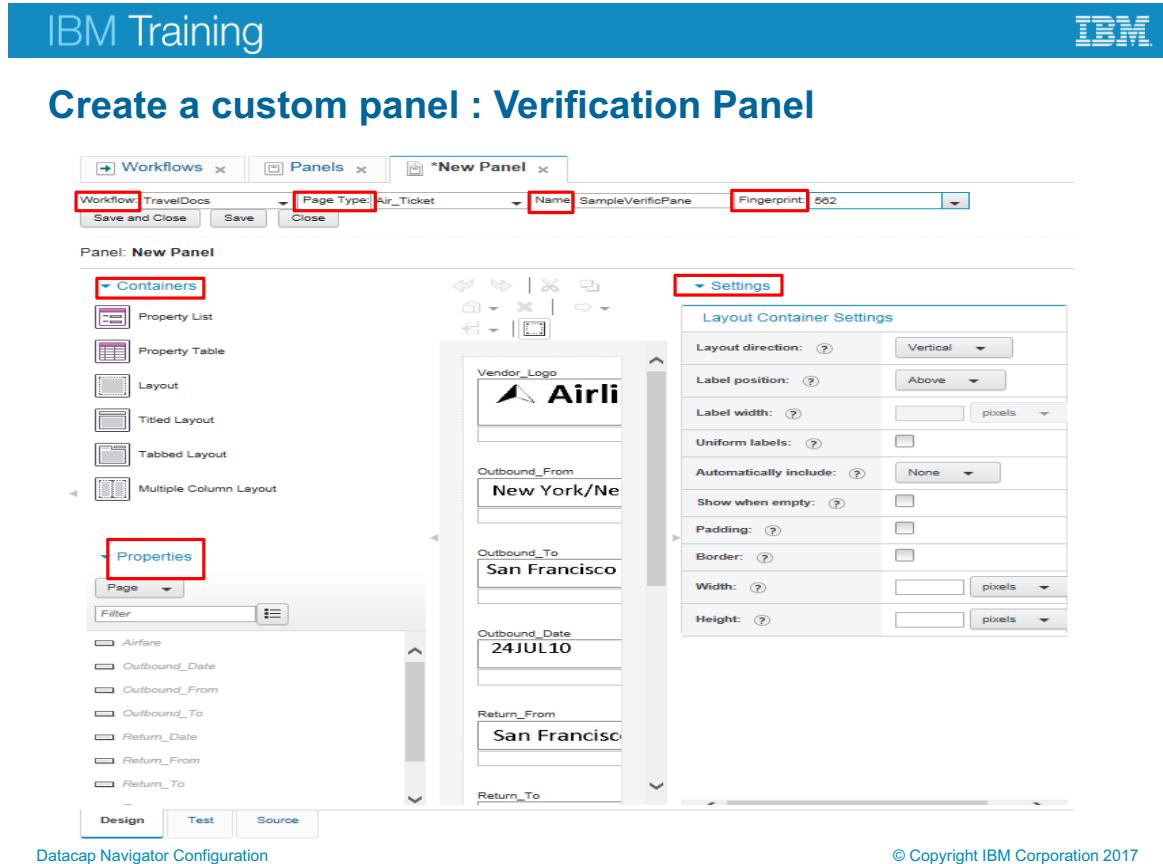


Figure 4-54. Create a custom panel : Verification Panel

The screen capture shows the “Verification Panel”. To create a new one enter the following values:

- Workflow
- Page Type – for which page type you are creating this panel.
- Name – For your custom panel
 - Fingerprint - to use for the image snippet in the panel area
- Containers – Example: Titled, Tabbed layout, or Multi Column layout
- Properties - Fields that are in your page type
- Drag the containers and properties to the panel area, and configure in “Settings” panel.

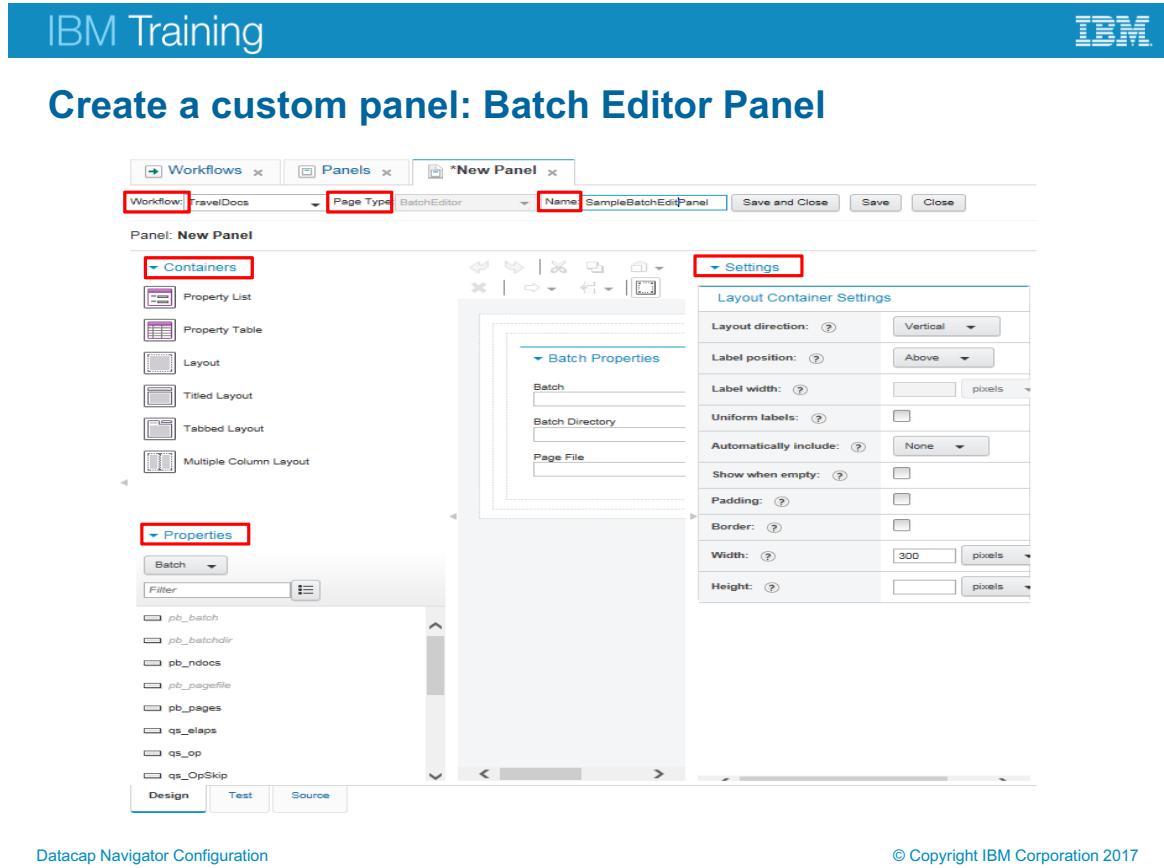


Figure 4-55. Create a custom panel: Batch Editor Panel

The screen capture shows the “Batch Editor Panel”. To create a new one enter the following values:

- Workflow
- Name – For your custom panel
- Containers – Example: Titled, Tabbed layout
- Properties - Batch attributes and extra fields, and batch level fields of your workflow
- Drag the containers and properties to the panel area, and configure in “Settings” panel

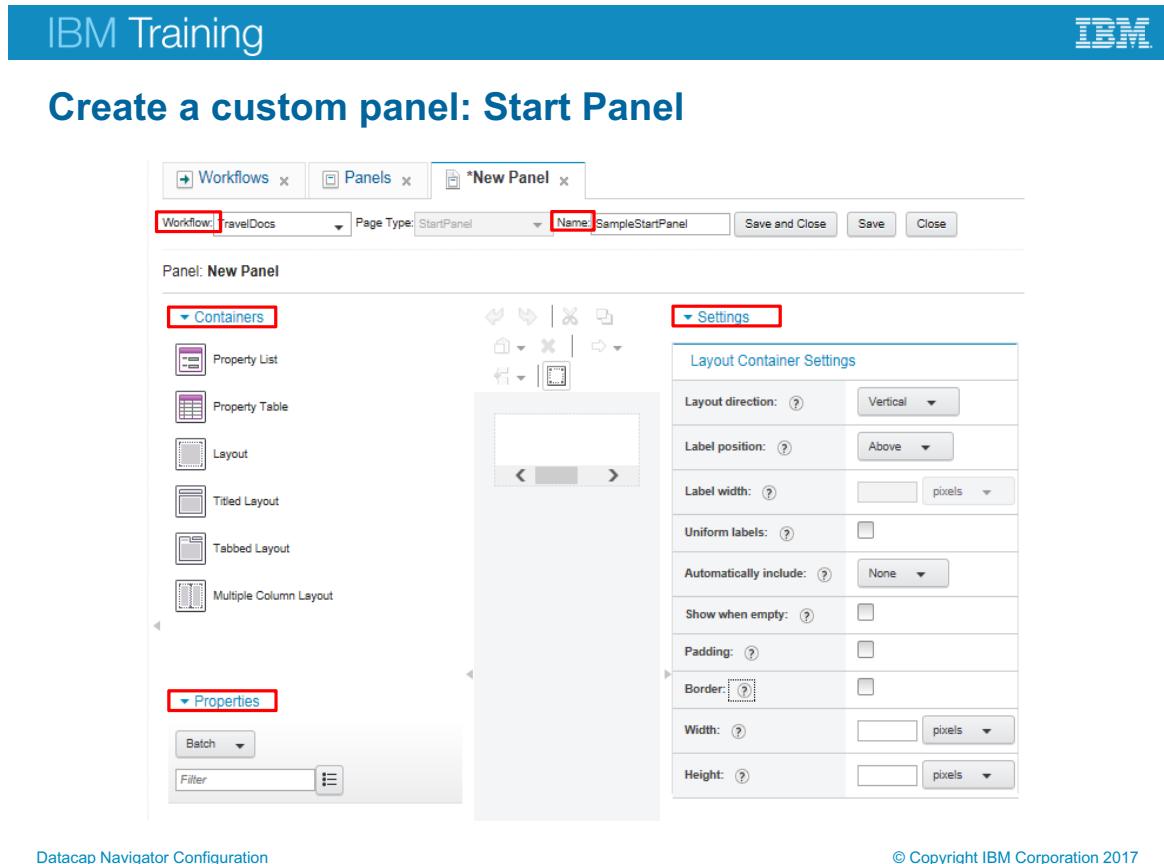


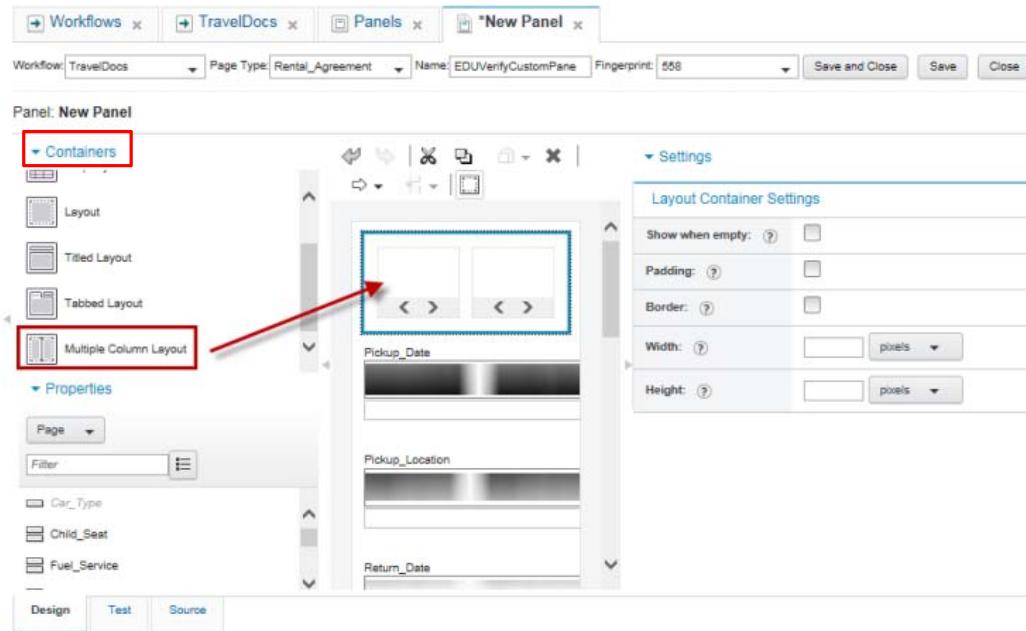
Figure 4-56. Create a custom panel: Start Panel

The screen capture shows the “Start Panel”. To create a new one enter the following values:

- Workflow
- Name – For your custom panel
- Containers – Example: Titled, Tabbed layout
- Properties - Extra fields and batch level fields of your workflow
- Drag the containers and properties to the panel area, and configure in “Settings” panel



Use Containers for the fields in Custom Panels



Datacap Navigator Configuration

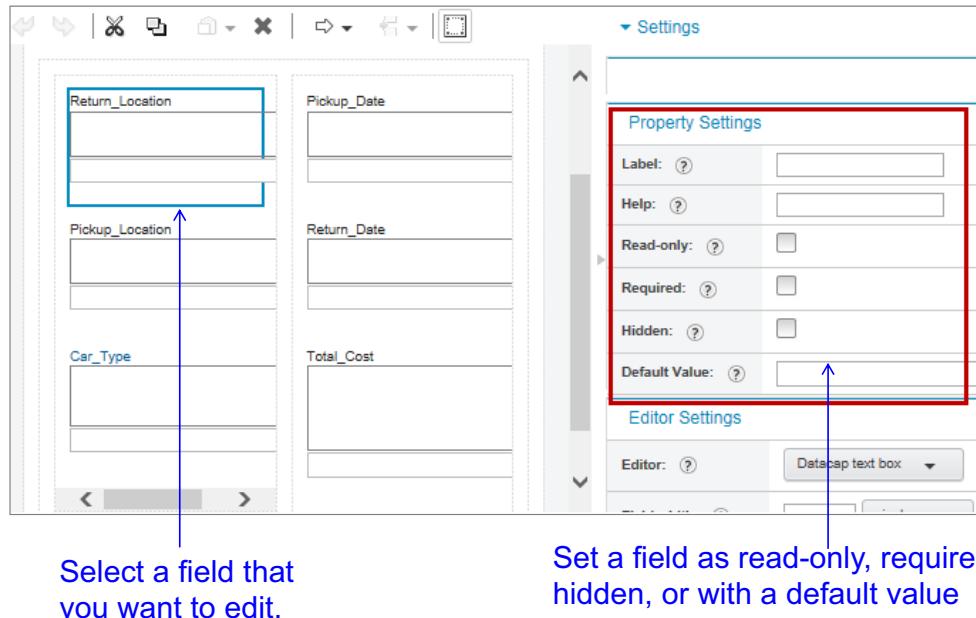
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Figure 4-57. Use Containers for the fields in Custom Panels

The screen capture shows how you can drag a container to a custom panel.

Use containers to work with the layout of the fields.

Change the behavior for the fields in Custom Panels



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Figure 4-58. Change the behavior for the fields in Custom Panels

The screen capture shows how you can change the behavior of a field in a custom panel.



Assign a custom panel to a task

Task: Verify

General **Advanced**

- ▶ Image enter
- ▼ Custom web panels

Use custom web panels ? ← Enable the option

Bind TYPE to ascx panel ? + -

Panel for:	Rental_Agreement	:	EDUVerifyCustomPanel
------------	------------------	---	----------------------

↑ Page type ↑ Custom panel name

- ▶ DCO tree view

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Figure 4-59. Assign a custom panel to a task

The screen capture shows how to assign a custom panel to a task. You configure this setting in the Advanced tab of the task > Custom web panels section.

- Enable the option to use custom web panels.
- Provide the page type and the name of the custom panel.

Modify the custom panel – Edit the Panel data file

- The panel designer supports the layout of fields that are designed in Datacap Studio.
 - You can further modify the custom panel that you created in the designer to add other User Interface elements.
 - Example: Add a logo image to your custom panel.
- The system generates a file to store the data for each panel.
 - Panel data files are stored within their corresponding Datacap application folder.
 - Each panel file is stored with the panel name as the file name.
 - To modify a panel, you edit this file.

Figure 4-60. Modify the custom panel – Edit the Panel data file

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Sample edit to the panel data file

The screen capture shows a sample edit to the panel data file.

```

1 {"fp_id": "558", "panel_ind": "7", "panel_name": "EDUVerifyCustomPanel", "page_type": "Rental_Agreement", "html_markup": "<img src=\"http://ecmedu01:9080/navigator/DCNImages/DCNIBMLogo.png\" /><div data-dojo-type=\\"pxx/widget/Layout\\><div data-dojo-type=\\"pxx/widget/MultiColumnContainer\\><div data-dojo-type=\\"pxx/widget/Layout\\><div data-dojo-type=\\"pxx/widget/Property\\><div data-dojo-props=\\"bind Editor\\\"></div><div data-dojo-props=\\"bind Editor\\\"></div><div data-dojo-props=\\"bind or\\\"></div><div data-dojo-props=\\"bind or\\\"></div><div data-dojo-props=\\"bind or\\\"></div></div></div></div><div data-dojo-type=\\"pxx/widget/Property\\><div data-dojo-props=\\"bind Editor\\\"></div><div data-dojo-props=\\"bind or\\\"></div><div data-dojo-props=\\"bind or\\\"></div><div data-dojo-props=\\"bind or\\\"></div></div></div></div>"}

```

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Figure 4-61. Sample edit to the panel data file

The screen capture shows a sample edit to the panel data file.

- This file contains the html_markup value that the panel designer generates and it is a standard Dojo widget template.
- You modify it to add an element into the panel.
- In this example, a URL of the image file, that displays an IBM logo image on top of the panel, is added. (high-lighted in green)

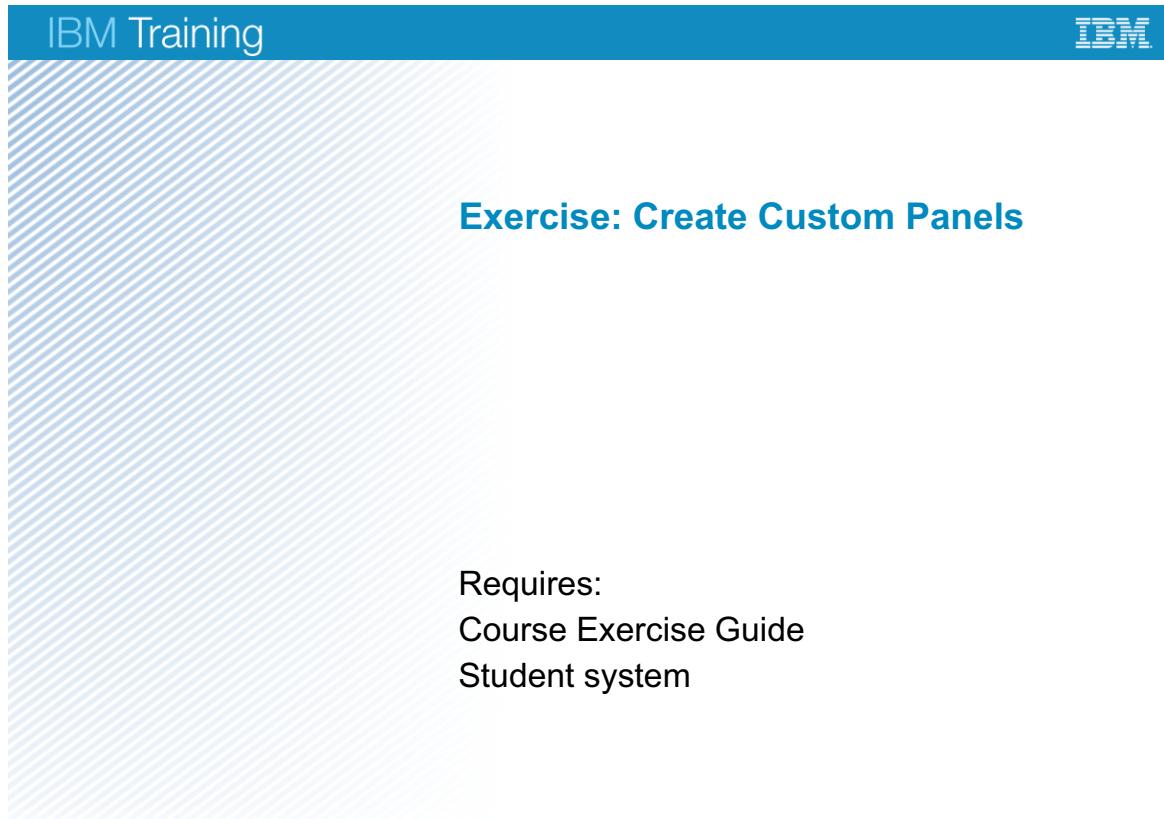


Figure 4-62. Exercise: Create Custom Panels

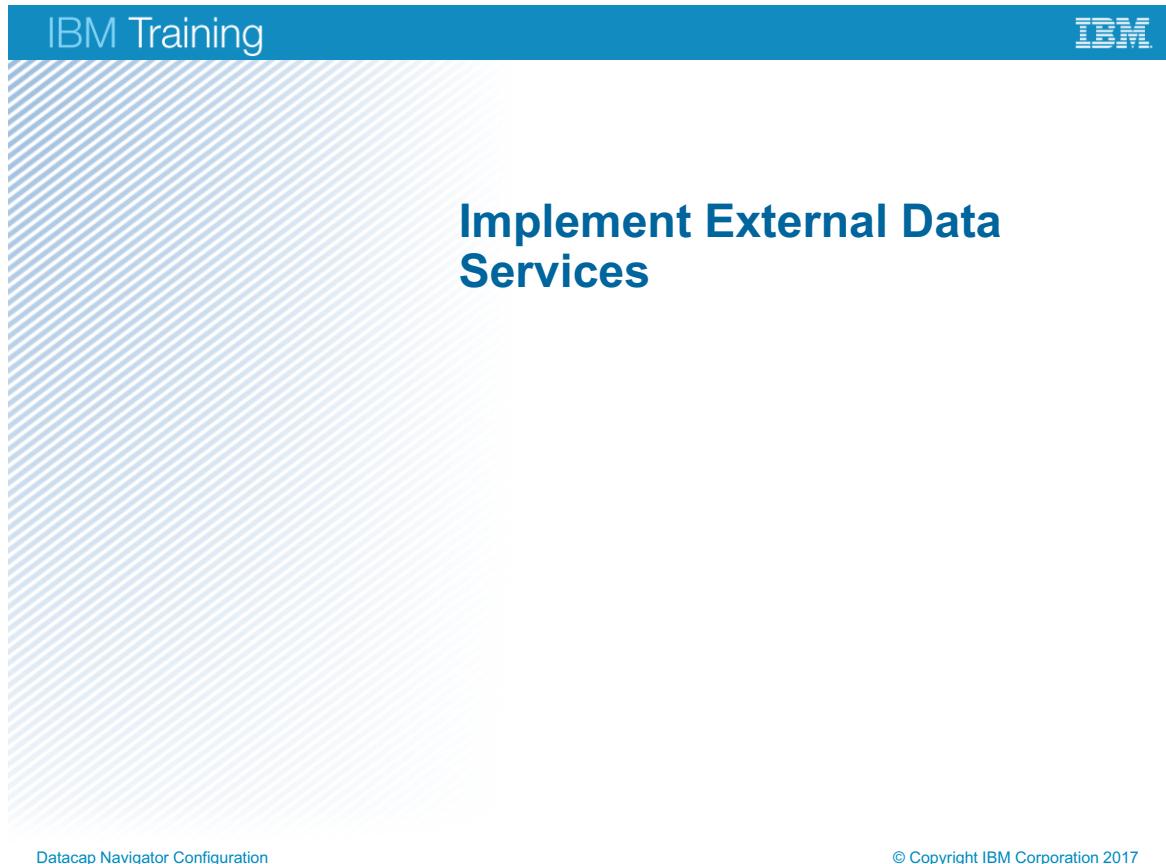
Exercise objectives

- Create a custom Panel for a task.
- Modify the custom panel in the panel data file (optional)



Figure 4-63. Exercise objectives

Lesson 4.6. Implement External Data Services



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Figure 4-64. Implement External Data Services

Topics

- Navigator Updates
- Change Datacap Navigator User Settings
- Configure Users and Groups
- Enable Rescan for the Verify task
- Create Custom Panels
- Implement External Data Services
 - Transactional Capture
 - Install and Customize Datacap Navigator

Figure 4-65. Topics

Why is this lesson important to you?

- You want to configure your application to look up choice list values from the external source. You also want to set the field status, and do data validation for the data fields.
- You want to customize the cells and columns in Job Monitor.
- As a Datacap Administrator, you configure an external data service (EDS) for the Datacap Navigator to complete these tasks.

Figure 4-66. Why is this lesson important to you?

What are External Data Services (EDS)?

- In IBM Content Navigator, the external data service (EDS) is
 - A plug-in to modify fields behavior.
 - Based on Representational State Transfer (REST) protocol.
 - Designed as a quick and easy starting point for your customization, without the need to implement a plug-in.
- You can also create your own plug-in based on the EDS REST protocol to:
 - Get data from an external source (Example: a file or database table).
 - Customize field properties.
 - Manage property behavior.
- One of the main advantages in IBM Content Navigator is the ability to extend the system.
 - No need to modify the source code to customize the user interface properties and values.

Figure 4-67. What are External Data Services (EDS)?

An advantage to using an external data service is that you do not need to modify the IBM Content Navigator source code to customize the user interface properties and values.

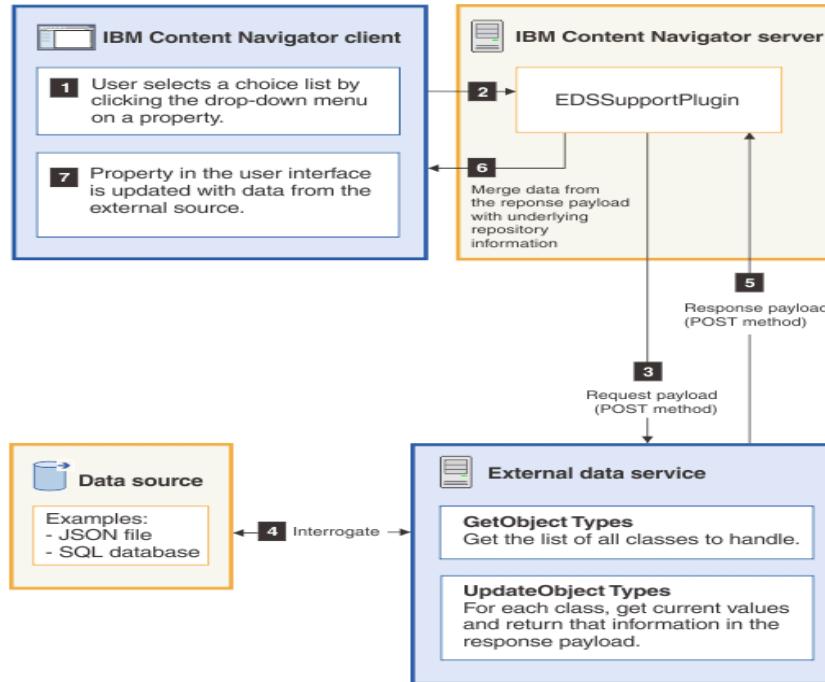
Therefore, upgrades and other major changes to IBM Content Navigator do not affect the property data from an external data service. The data and external data service are located separately from IBM Content Navigator source code.

Request or Response filters

- In IBM Content Navigator, when a service call is run:
 - A request is sent to the service and the response is sent back from the service to the client tier.
 - The requests and responses are in a standard JSON format.
- Request or Response filter
 - Stands between the client and the service, and modifies the responses and requests as needed.
- In IBM Content Navigator, the external data service (EDS) is
 - An implementation of the request and response filters.

Figure 4-68. Request or Response filters

External Data Services architecture



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Figure 4-69. External Data Services architecture

The diagram shows how an external data service submits and returns requests. When an external data service is implemented for a certain action or property, the service is started when a business user interacts with that item in the web client. The following diagram shows how an external data service submits and returns requests.

1. User selects a choice list by clicking the menu on a property.
2. IBM Navigator client sends the request to the server > EDS plug-in.
3. The request payload is sent to the External Data Service.
4. Which gets the data from the source.
5. The Response payload is sent back to the server > EDS plug-in.
6. The data from the response payload is merged with underlying repository information.
7. The Property in the user interface is updated with the data from the external source.

What happens to the data when EDS is implemented?

- Continue to store and maintain the data only in the original, authoritative data source.
 - When an EDS is implemented, only the existing data is integrated with IBM Content Navigator field values and other field properties.
- Access the data without having to move or copy that data to a separate repository.
 - The source remains in the original data store.
- The external data source must remain available to Content Navigator.
 - So that the external data can be accessed whenever the business user starts the service through the web client.

Figure 4-70. What happens to the data when EDS is implemented?

When to use the sample EDS?

- Use EDS to do the following tasks:
 - Look up the choice list values for a data field or dependent field.
 - Set minimum and maximum values.
 - Prefill property values
 - Set property status, such as read-only, required, or hidden.
 - Implement property validation and error checking.
 - Customize the Job Monitor cells and columns

Figure 4-71. When to use the sample EDS?

Help path:

IBM Datacap 9.0.1>Administering your system>Datacap web clients administration>Administering Datacap Navigator>External data services for Datacap Navigator

http://www.ibm.com/support/knowledgecenter/SSZRWV_9.0.1/com.ibm.dc.admin.doc/dcnv004.htm

You can use an external data service to customize the following field properties and property behaviors:

Look up the choice list values for a data field or dependent field

- Create choice lists by using existing data that is managed in a different content repository or data source than the one that is connected to IBM Content Navigator.
- For example, you can use values in a file that is located and managed in an external server or repository.

Specify property dependencies

- Define dependencies between properties.
- For example, you might specify a dependency between a geographic region choice list property and an office branch choice list property. So that when a user chooses a geographic

region, the subsequent choice list that depends on the selected geographic region contains only the office branches that pertain to that geographic region.

Set minimum and maximum values

- Specify an integer, float, or date to define the maximum or minimum value for a property.
- Restriction: You cannot reset the minimum value or maximum value to be less restrictive than the minimum value or maximum value that is specified in the repository that you are using.
- For example, if the minimum value in the repository is 100, the service can set the value to 150, but not to 50.

Prefill properties

- Specify prefilled properties and default values.
- For example, you can prefill fields with custom default values that are based on a particular class ID, authenticated user, or the parent folder.

Set read-only status

- You might create a property that requires a particular value.
- To prevent users from entering a different value that might cause an error, you can specify the correct default value and make that property read-only.

Set required status

- Set a property to be a required field.
- When you use this attribute on a property, an asterisk appears in the user interface to indicate that the field is required.
- Users cannot proceed from the page or dialog box unless the field contains a value.

Set hidden status

- Hide a property from the user interface.
- For example, you might create a choice list that dynamically determines subsequent text input fields to present in a form.
- To hide a property that does not apply in a particular situation, you can use the hidden attribute.

Implement property validation and error checking

Show a custom message when users enter values into a property field.

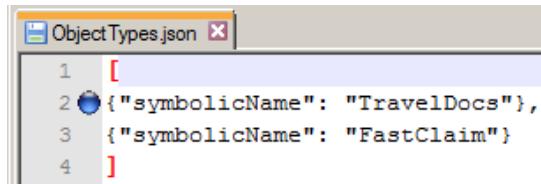
IBM Content Navigator sample EDS implementation

- The sample EDS service is a simple web application that contains two Java servlet classes.
 - GetObjectTypesServlet
 - Provides an HTTP GET service to determine the list of object types that this EDS implementation supports.
 - UpdateObjectTypeServlet
 - Provides the HTTP POST service to obtain external data and dynamically change, validate, and enrich metadata in real time.
- The rest of the files are JavaScript Object Notation (JSON) files
 - Store the property behavior definition and data list for the EDS implementation.
 - ObjectTypes.json is the key file that describes which classes in the repository that works with the EDS service.
 - You must edit the JSON files and configure your system for EDS to work in your system.

Figure 4-72. IBM Content Navigator sample EDS implementation

ObjectTypes.json file

- A key file that describes which classes in the repository that works with the EDS service.
- You must edit this JSON file to include the property data files.
- Example: TravelDocs



```
ObjectTypes.json
1 [ 
2 {"symbolicName": "TravelDocs"}, 
3 {"symbolicName": "FastClaim"} 
4 ]
```

Figure 4-73. ObjectTypes.json file

Configure data validation for a field

Default property behavior:
If this field does not have a value, no error is shown.

Total_Cost

EDS implementation
The JSON file specifies that a value is required for this field.

```
TravelDocs_PropertyData.json
1 [ {
2   "symbolicName": "Total_Cost",
3   "required": true
4 }
5 ]
```

Behavior after data validation is implemented for “value Required”.
An error is shown if the field is empty.
The property also has an asterisks symbol to indicate that the value is required.

Figure 4-74. Configure data validation for a field

Create choice lists with External Data Service (EDS)

- The choice lists are pre-configured so that users avoid any errors from typing the data.
 - One of the main features of EDS is to provide values for choice lists.
 - The choice lists can be
 - Hierarchical
 - Dependent

Field Details

Text_Field	
Pickup_Date	Mon, Oct 4, 2010
	Mon, Oct 4, 2010
* Pickup_Location	
New York (JFK)	
New York (JFK)	▼
New York (JFK)	
Los Angeles (LAX)	
Chicago (ORD)	
Orlando (MCO)	

Figure 4-75. Create choice lists with External Data Service (EDS)

JSON format for the choice lists

- Each object class must have a corresponding JSON file with the same object name.
- Within each JSON file, square brackets [] surround a list of object properties to represent an array.
- Within the array, curly braces {} surround each property with its attributes.
- Within each property, arrays of attributes are provided for that property such as choice items.

```

1  [
2  {
3      "symbolicName": "Pickup_Location",
4      "initialValue": "NewYork",
5      "choiceList": [
6          {
7              "displayName": "Pickup_Location",
8              "choices": [
9                  {
10                     "displayName": "New York (JFK)",
11                     "value": "New York (JFK)"
12                 },
13                 {
14                     "displayName": "Los Angeles (LAX)",
15                     "value": "Los Angeles (LAX)"
16                 },
17                 {
18                     "displayName": "Chicago (ORD)",
19                     "value": "Chicago (ORD)"
20                 },
21                 {
22                     "displayName": "Orlando (MCO)",
23                     "value": "Orlando (MCO)"
24                 }
25             ],
26             "hasDependentProperties": false,
27         }
28     ]
29 }
30 ]

```

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Figure 4-76. JSON format for the choice lists

The screen capture shows an example of a JSON file for an object class (“TravelDocs”, Datacap application name). The file contains fields that are specific for the application.

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Customize the Job Monitor

- You can customize the Job Monitor page using EDS.

Queue ID	Batch	Job	Task	Status	Job Start	Job Time	Operator
17	20151105.000003	Navigator Job	Scan	hold	11/5/2015, 7:22 PM	<div style="width: 100%;">100%</div>	admin
16	20151105.000002	Navigator Job	Scan	running	11/5/2015, 7:18 PM	<div style="width: 0%;">0%</div>	admin
15	20151105.000001	Navigator Job	Scan	hold	11/5/2015, 7:03 PM	<div style="width: 100%;">100%</div>	admin
14	20151105.000000	Navigator Job	Scan	aborted	11/5/2015, 6:56 PM	<div style="width: 0%;">0%</div>	admin
12	20151102.000000	Navigator Job	NVerify	running	11/2/2015, 8:40 PM	<div style="width: 0%;">0%</div>	admin

Change the value or style for a cell.

Show a Dojo widget in a cell.
Example: Progress bar

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Figure 4-77. Customize the Job Monitor

Help path:

IBM Datacap 9.0.1>Administering your system>Datacap web clients administration>Administering Datacap Navigator>Customizing Job Monitor

http://www.ibm.com/support/knowledgecenter/SSZRWV_9.0.1/com.ibm.dc.admin.doc/dcnv006.htm

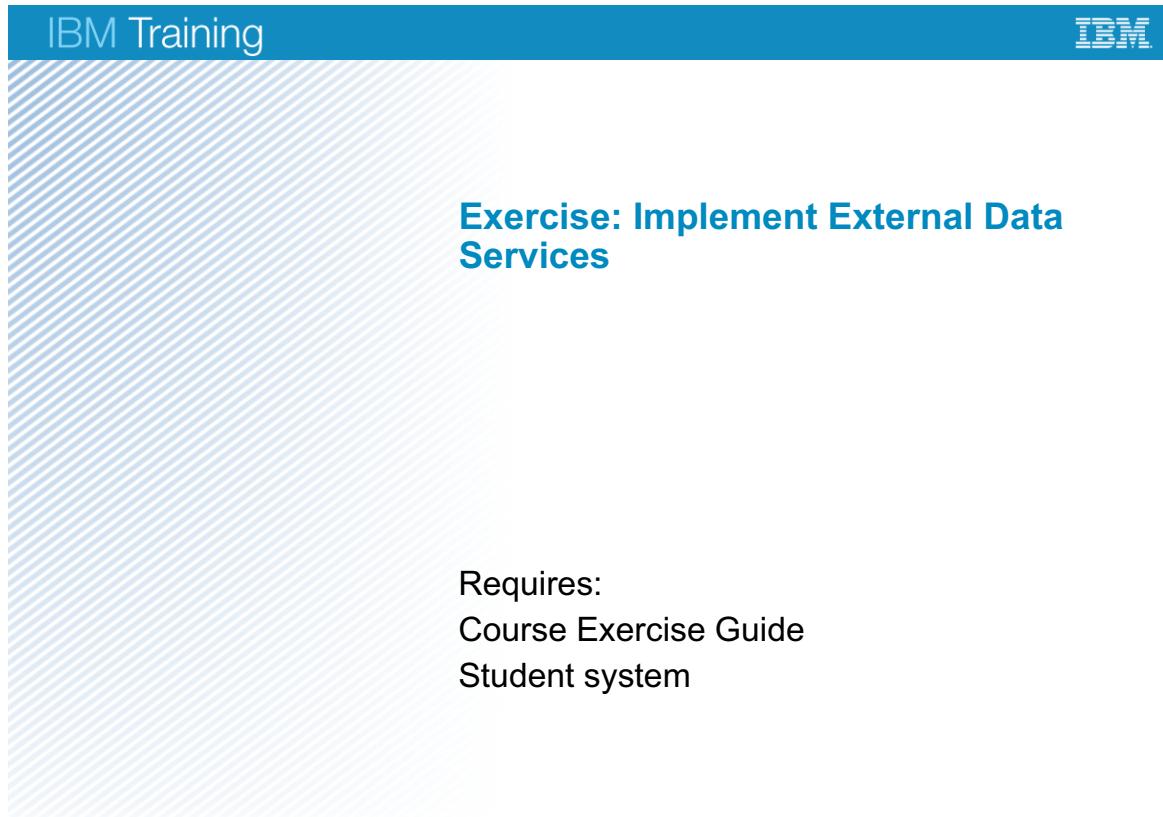
You can customize the Job Monitor page using EDS.

- Add data columns from external data lookups.
- Modify the properties of a cell or column in Job Monitor.
- Show Dojo widgets in cells
- Examples of customization:

Change the value or style for a cell.

Change the column name.

Show a "Progress bar" in a cell using a Dojo widget.



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Figure 4-78. Exercise: Implement External Data Services

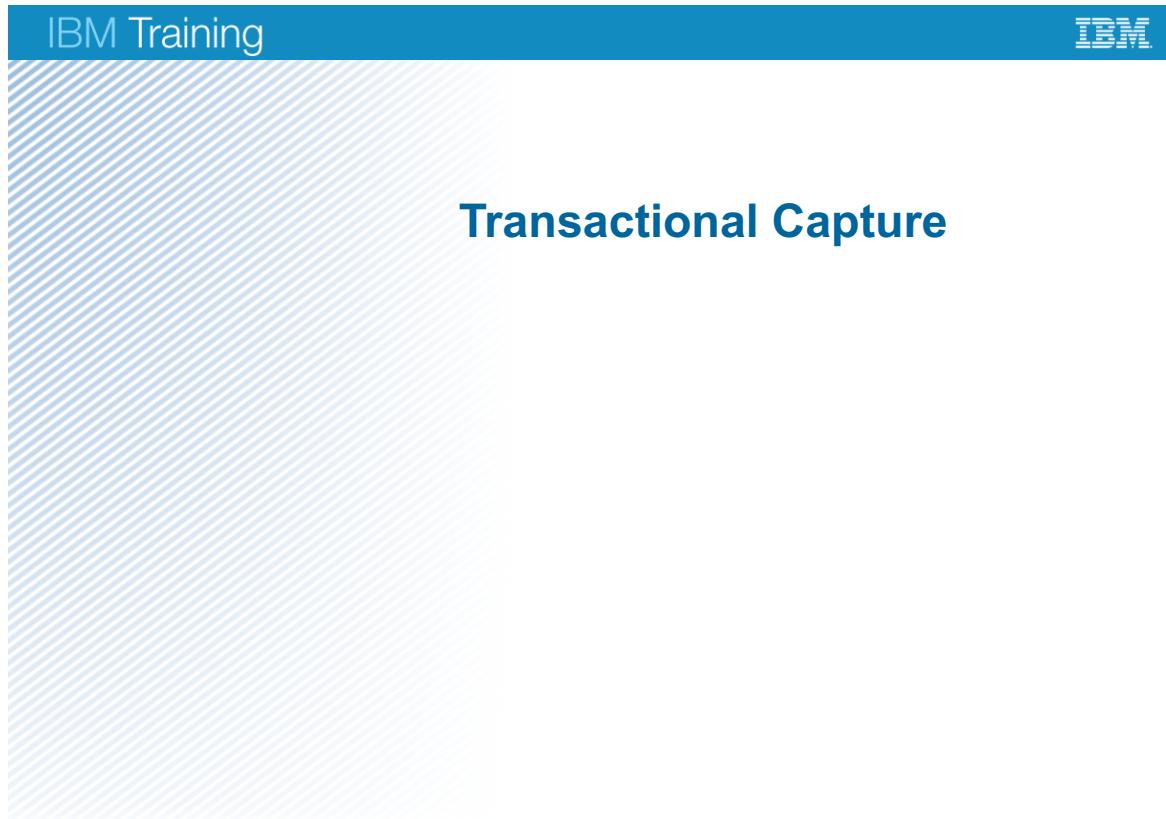
Exercise objectives

- Register IBM Content Navigator EDS plug-in.
- Customize the Datacap Navigator Job Monitor page.
- Configure data validation for a field.
- Create Choice Lists with Sample EDS.



Figure 4-79. Exercise objectives

Lesson 4.7. Transactional Capture



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Figure 4-80. Transactional Capture

Topics

- Navigator Updates
 - Change Datacap Navigator User Settings
 - Configure Users and Groups
 - Enable Rescan for the Verify task
 - Create Custom Panels
 - Implement External Data Services
-  Transactional Capture
- Install and Customize Datacap Navigator

Figure 4-81. Topics

Why is this lesson important to you?

- As a Datacap system administrator, you install, configure, and customize Datacap Navigator.
- You can also configure Transaction Capture to do direct scan from IBM Content Navigator.

Figure 4-82. Why is this lesson important to you?

Objectives

- Configure transactional capture.
 - Add Documents from Scanner
 - Capture Document Properties
 - Add to Batch

Figure 4-83. Objectives

Add Documents from Scanner

- Scan documents directly into IBM Case Manager and IBM Content Navigator (ICN) repositories with the specified document class and properties.

Capture Document Properties

- Populate document properties automatically by capturing data from images with Datacap task profile defined in the application.

Add to Batch

- Select one or more documents from the ICN repository or the case, and add them to a new batch on Datacap Server.

Default Add Document Functionality

- There are three default functions:
- Add a local document.
 - Scan an image save it directly to a repository. Optionally, manually provide metadata allowed by the Document Class that is selected.
- Add document information
 - Manually provide metadata allowed by the Document Class that is selected. (No image is saved)
- Link to an external document
 - Provide a hyperlink to an external. Document. Optionally, manually provide metadata allowed by the Document Class that is selected.

Figure 4-84. Default Add Document Functionality

Transactional Capture Functionality

- With Datacap Transactional Capture, users can:
 - Add Documents from Scanner
 - Scan documents directly into IBM Case Manager and IBM Content Navigator repositories with the specified document class and properties.
 - Capture Document Properties
 - Populate document properties automatically by capturing data from images via Datacap task profile defined in the application.
 - Add to Batch
 - Select one or more documents from the ICN repository or the case, and add them to a new batch on Datacap Server.

Figure 4-85. Transactional Capture Functionality

Pre-requisite components

- Install the Datacap product, including Datacap Server, Datacap Web Services (wTM), and Datacap Studio (at least).
- Install the Web TWAIN service on the client machine
- Deploy the Datacap Navigator plug-in in the IBM Content Navigator

Figure 4-86. Pre-requisite components

Configure a Datacap application document

- Configure a document type.
 - Document type has the same symbolic name as the document class defined in the IBM Content Navigator repository.
- Configure a page type.
 - Page fields have the same symbolic names as the properties under the document class in the IBM Content Navigator repository.

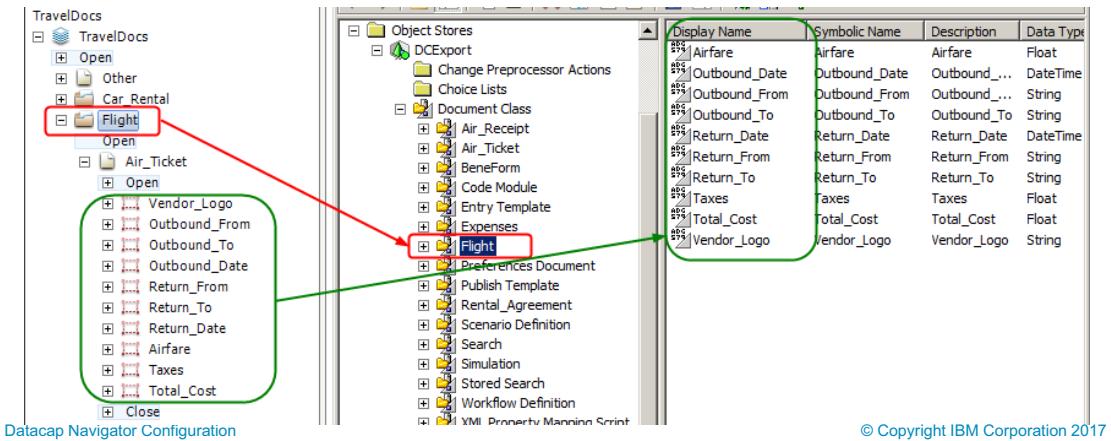


Figure 4-87. Configure a Datacap application document

Help Path:

<http://www.ibm.com/support/docview.wss?uid=swg27046892>

Create an application or modify an existing application to enable the automatic extraction of metadata from the images and save them as document properties on the repository.

If your DCO is already created, than define a Document Class with the same logical name as the DCO document type. Make sure that the symbolic names for the Document Class properties exactly match the DCO page field names.

Configure the TransactionCaptureOCR

- Create a task profile.
 - Name it “TransactionCaptureOCR”.
 - Configure rulesets to capture data from the image.

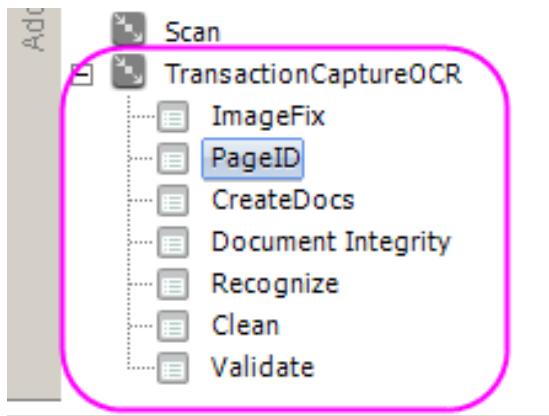


Figure 4-88. Configure the TransactionCaptureOCR

Create a task profile that matches the combination of the PageID task profile plus the Profiler task except for the router ruleset. This example is based on the TravelDocs application.

Direct scan from IBM Content Navigator and Case Manager

- New IBM Content Navigator widget
 - Scans and imports TIFF image files.
 - Adds a menu action or button to the IBM Case Manager and Browse user interface.
- Documents are stored directly in case and repository folders.
- Manage pages in filmstrip view:
 - move, delete, insert, and zoom

Figure 4-89. Direct scan from IBM Content Navigator and Case Manager



Make two Datacap Navigator interface changes

- Content list toolbar
 - Default
 - Customized
- Switch the Add Document widget.
 - The Alternate widget provides the “Document from scanner” option.



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Figure 4-90. Make two Datacap Navigator interface changes

This lesson describes changes to the Content list toolbar.

- The widget associated with the Add Document toll bar option is exchanged for the new widget that includes the “Document from Scanner” option.
- The Scan Document control bypasses the what do you want to save option and takes you directly to the “Document from scanner”
- The New Add Document option still allows you to select “Local document”, “Information about document”, “Link to an external document”, in addition to the new “Document from scanner” option.



IBM Content Navigator Menus

- The IBM Content Navigator includes default menus.
 - You can copy a menu and customize it.
 - A custom menu must be associated with a desktop.
 - Customize the "Default content list toolbar"
 - To include the direct scan option in Content Navigator.

The screenshot shows a configuration interface for 'Content List' menus. At the top, there are buttons for 'Edit', 'Copy' (which is highlighted with a red box), 'Delete', 'Refresh', and 'Close'. Below this is a table with columns: Name, ID, Type, and Description. A single row is visible, showing 'Default content list toolbar' in the Name column, 'DefaultContentListToolbar' in the ID column, 'Content list toolbar' in the Type column, and a detailed description in the Description column. The 'Copy' button and the 'Content List' title bar are also highlighted with red boxes.

Name	ID	Type	Description
Default content list toolbar	DefaultContentListToolbar	Content list toolbar	Displayed above the list of documents and folders in search results and when browsing for content on the repository.

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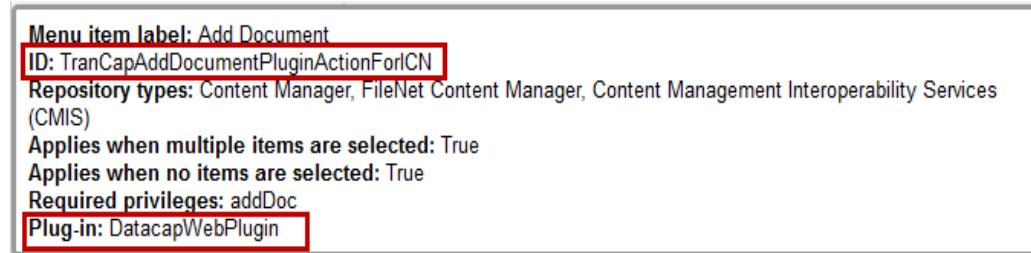
Figure 4-91. IBM Content Navigator Menus

The IBM Content Navigator includes default menus.

- In the Administration desktop, You can copy a menu and customize it to include or remove menu items for the menus.
- The custom menu that you create must be associated with the Content Navigator desktop to use the menu.
- For this exercise, you customize the "Default content list toolbar" to include the direct scan option in Content Navigator.

Add Document menu item with Scan option

- "Add Document" menu item that is part of the DatacapWebPlugin is required for the direct scan.



- The menu item provides the "Document from scanner" option in the "Add Document" wizard.

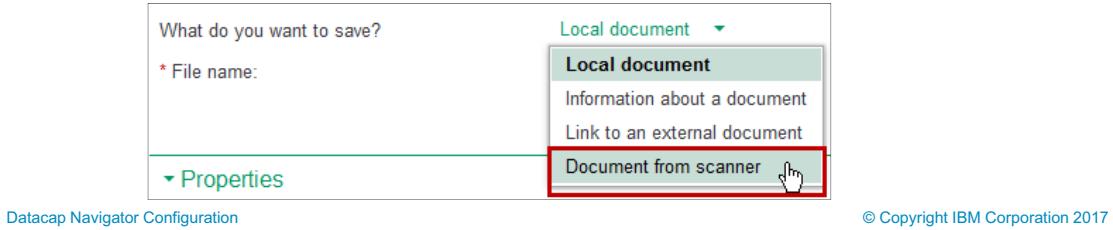


Figure 4-92. Add Document menu item with Scan option

Two different “Add Document” menu items with different IDs are available in IBM Content Navigator.

1. The “Add Document” item with “ID: Import”

This menu item is native to IBM Content Navigator and does not have an option for direct scan.

2. The “Add Document” item with “ID: TranCapAddDocumentPluginActionForICN”

This menu item is added to IBM Content Navigator by registering the DatacapWebPlugin, and this menu has an option for direct scan.

Assign the new menu to a desktop

- Assign the new menu to a Content Navigator desktop.
 - Replace the default Content list toolbar menu with the new one.
 - The menu can be used after associating it with a desktop.

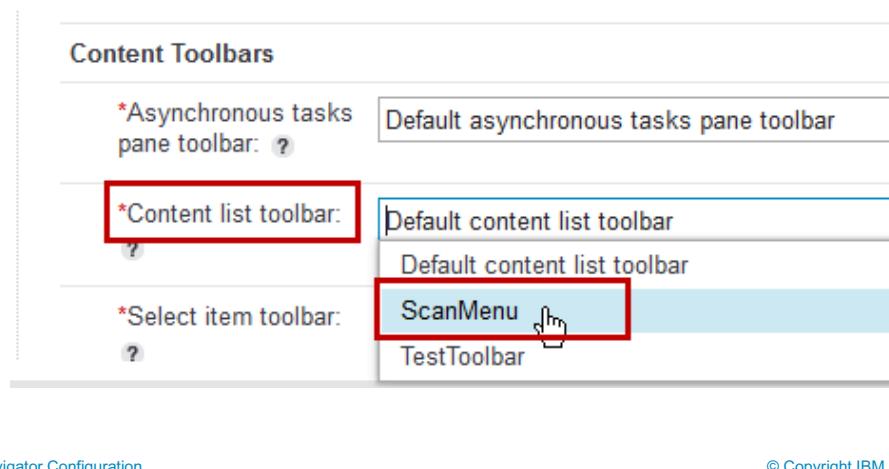


Figure 4-93. Assign the new menu to a desktop

Assign the new menu.

- You replace the existing default Content list toolbar menu for this desktop with the new one.
- Your custom menu becomes available only after associating it with the Content Navigator desktop.



Add Document and Scan Document menu items

- Add Document menu item.
 - The menu item is added to the toolbar in the Browse view.
 - A FileNet Content Manager repository is used as an example.
- You can also configure "Scan Document" menu item.

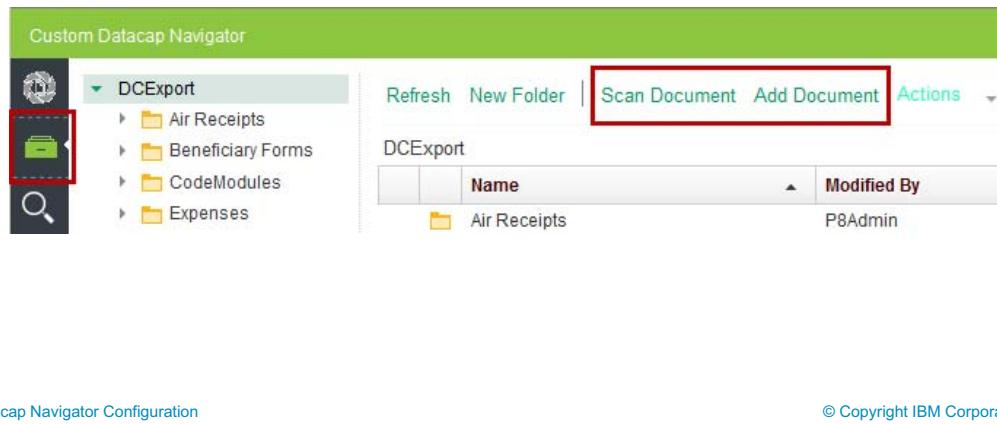


Figure 4-94. Add Document and Scan Document menu items

Add Document and Scan Document menu items

- The menu item that you configured is added to the toolbar in the Browse view.
- A FileNet Content Manager repository is used as an example.
- You can also configure "Scan Document" menu item for your desktop.

Work with the Add Document wizard for scanning

- In the Browse view, click the “Add Document” menu item.
 - In the “What do you want to save” section, select "Document from scanner" option.
 - This option shows the Scanner section to scan a document.

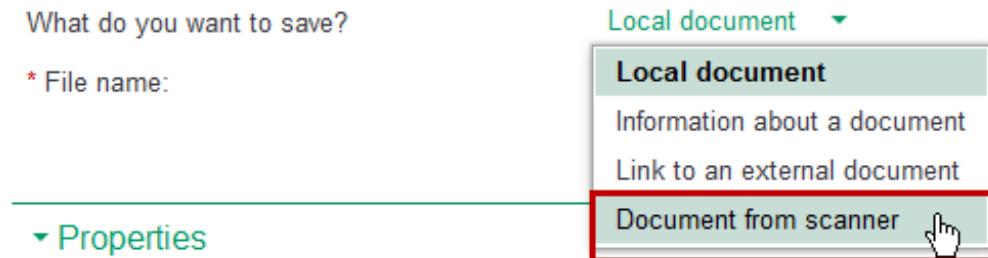


Figure 4-95. Work with the Add Document wizard for scanning



Scan the document

- In the Scan section of the “Add Document” wizard, you scan the documents from a directory.
 - Append, Insert, or Replace images.

The screenshot shows the 'Scan' section of the 'Add Document' wizard. The 'Save in:' field is set to 'Expenses'. The 'Scanner:' dropdown shows 'Import from Directory' with a 'Browse...' button highlighted. A context menu is open over the 'Scan' button, with 'Insert' selected. On the left, there's a preview area showing a scanned document page.

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Figure 4-96. Scan the document

In the upcoming 9.0.1 version, this feature will enhanced to



Automatic property population

- In the Datacap 9.0.1 version, the scan feature is enhanced:
 - To capture data and populate the properties of a document class.

Properties

Capture Actions

- Capture Current Page
- Capture Whole Document**

Class: Flight

Document Title:	MyScannedDoc.tif
Vendor_Logo:	
Outbound_From:	New York/Newark (EWK)
Outbound_To:	San Francisco (SFO)
Outbound_Date:	7/24/2010, 12:00 AM
Return_From:	San Francisco (SFO)
Return_To:	New York/Newark (EWK)
Return_Date:	7/28/2010, 12:00 AM

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Figure 4-97. Automatic property population

In the Datacap 9.0.1 version, the Transactional Capture features are enhanced. The scan feature is enhanced to capture data and populate the properties of a document class automatically before uploading to the repository.

Add to Batch

- Documents that are in a repository can be sent to a batch:
 - First modify the Default document context menu.
- Create a custom menu to activate Add to Batch option.
 - In to ICN Admin, copy the Default document context menu.
 - Add the “Add to Batch” option to the menu.
 - Add it after the “Check In” option.
- Activate the custom menu to the Datacap desktop.
 - Desktop > Datacap > Menus > Context Menus
 - For Document context menu, select your “Add to Batches” menu.

Figure 4-98. Add to Batch

In the Datacap 9.0.1 version, the scan feature is enhanced to allow documents that are uploaded a repository to be sent to a batch for processing.

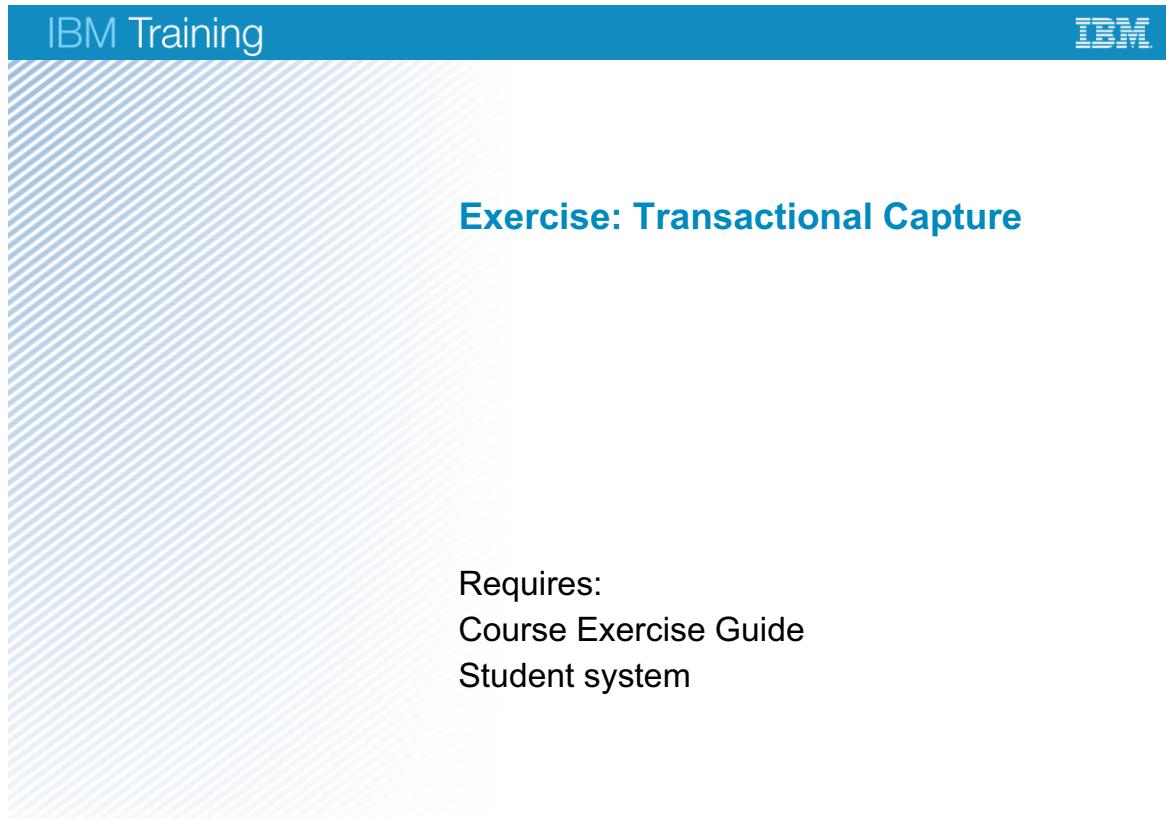


Figure 4-99. Exercise: Transactional Capture

Exercise objectives

- Configure Transactional Capture
- Configure the Datacap application profile
- Test the Transactional Capture configuration
 - Add Documents from Scanner
 - Capture Document Properties
 - Add to Batch



Figure 4-100. Exercise objectives

Lesson 4.8. Install and Customize Datacap Navigator

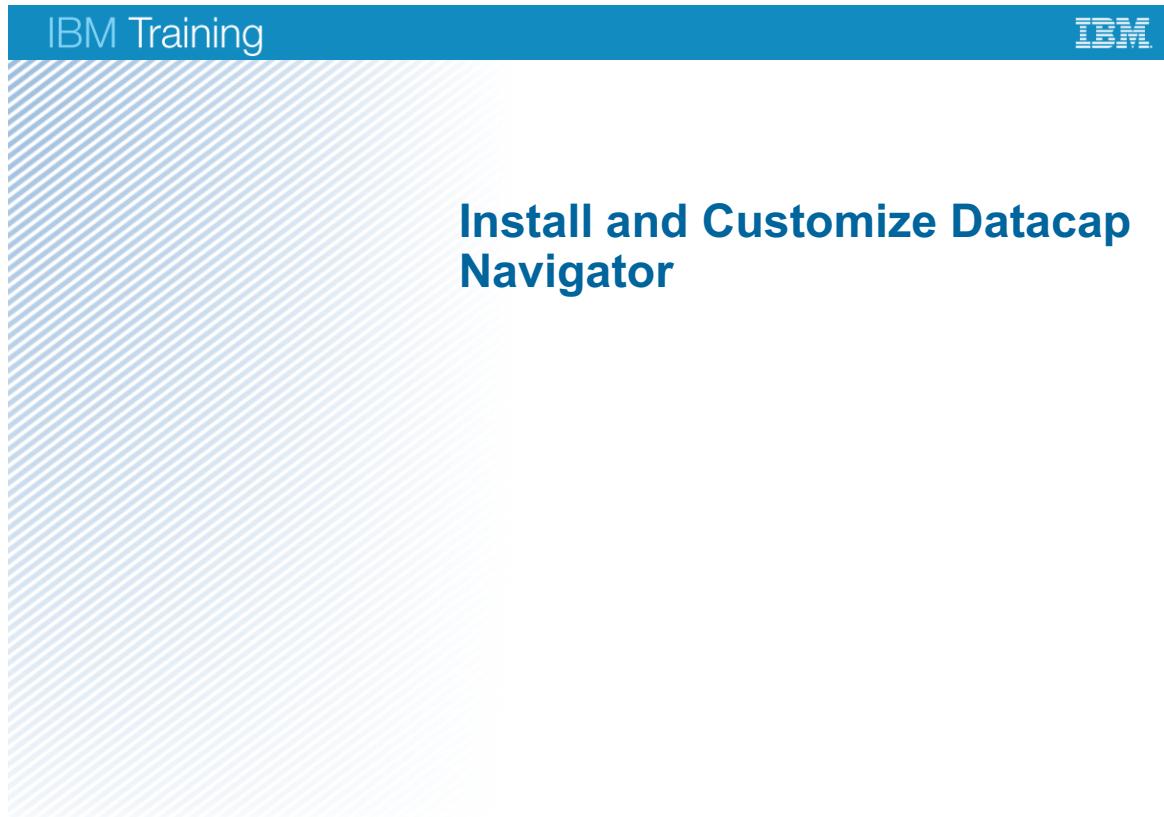


Figure 4-101. Install and Customize Datacap Navigator

Topics

- Navigator Updates
 - Change Datacap Navigator User Settings
 - Configure Users and Groups
 - Enable Rescan for the Verify task
 - Create Custom Panels
 - Implement External Data Services
 - Transactional Capture
-  Install and Customize Datacap Navigator

Figure 4-102. Topics

Why is this lesson important to you?

- As a Datacap system administrator, you install, configure, and customize Datacap Navigator.
- To do these tasks effectively, you must be familiar with the options available to customize the Datacap.

Figure 4-103. Why is this lesson important to you?

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Install Datacap Navigator as a plug-in

Plug-in: Datacap Navigator

A plug-in can be either a JAR file or a compiled class file.

Important: The IBM Content Navigator web application server must be able to access the plug-in file on the local file system or through a URL.

<input checked="" type="radio"/> JAR file path: ?	C:\Datacap\tmweb.java\DatacapWebPlugin.jar	Load
<input type="radio"/> Class file path: ?	<input type="text"/>	Load
Class name: ?	<input type="text"/>	
Name:	Datacap Navigator	
Version:	Datacap 9.0_Im900.003.188	
Repository types:	Datacap Application	
Actions:	Delete, Refresh, Edit Batch, Edit Job, View History, Property, Start, Scan, Upload, Classify, Verify, Change User Settings, Previous Page, Run Validations, Next Page, Hold, Next Problem, Previous Problem, Submit, Abort, Cancel, Scan, Check Integrity, Next Low Confidence, Monitor, Task List, Select Pending, Add Document, Scan Document, Scan Document	
Open Actions:	None	
Viewers:	None	
Features:	Datacap Main Page, Datacap Admin Console	
Layouts:	None	
Default Application ?	TravelDocs	
Default Datacap wTM URI ?	http://ecmedu01:85/ServicewTM.svc	
<input type="button" value="Generate Default Desktops"/>		

[Datacap Navigator Configuration](#) © Copyright IBM Corporation 2017

Figure 4-104. Install Datacap Navigator as a plug-in

The screen capture shows the registration page for the Datacap Navigator plug-in.

Datacap Navigator plug-in JAR file

- When the plug-in is installed, it integrates with IBM Content Navigator.
- The IBM Content Navigator web application server must be able to access the plug-in file.
 - Enter the fully qualified path for the JAR file, if it is on your local file system.
The default path is: C:\Datacap\tmweb.java\DatacapWebPlugin.jar
 - Enter the URL of the plug-in JAR file, if it is on a remote server.
- After you load the plug-in, information about the plug-in is shown.

Datacap Application Name

Enter a default Datacap Application name (Example: “TravelDocs”).

When you access the Datacap Navigator application, you are authenticated against this application repository.

Datacap wTM URI

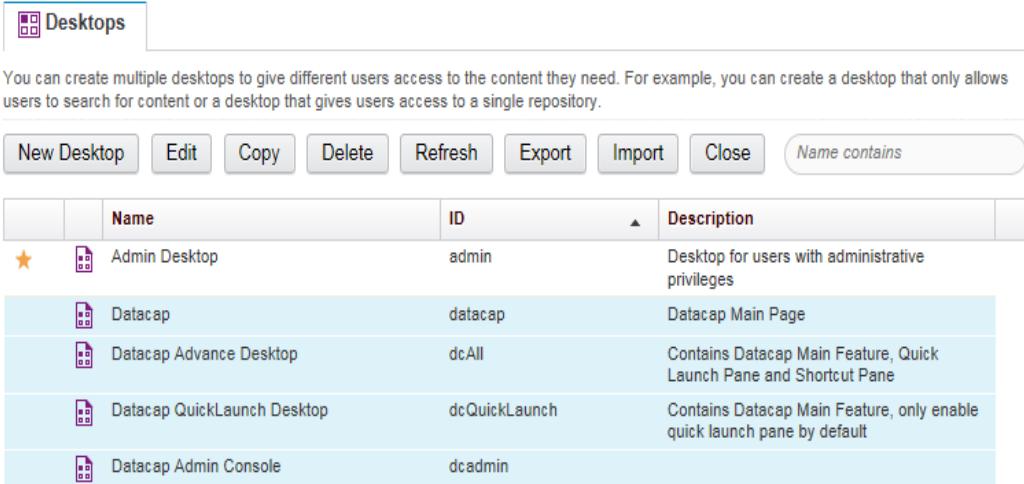
Enter the URL of Datacap wTM (Example: “http://ecmedu01:85/ServicewTM.svc”).

Datacap Navigator desktops are created after you complete the registration of the plug-in.

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Default Datacap Navigator Desktops created

- The plug-in installation creates four Datacap specific desktops in IBM Content Navigator:



	Name	ID	Description
★	Admin Desktop	admin	Desktop for users with administrative privileges
	Datacap	datacap	Datacap Main Page
	Datacap Advance Desktop	dcAll	Contains Datacap Main Feature, Quick Launch Pane and Shortcut Pane
	Datacap QuickLaunch Desktop	dcQuickLaunch	Contains Datacap Main Feature, only enable quick launch pane by default
	Datacap Admin Console	dcaadmin	

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Figure 4-105. Default Datacap Navigator Desktops created

The screen capture shows a list of Datacap Navigator desktops that the plug-in creates.

The Datacap Navigator plug-in installation creates the following four Datacap specific desktops in IBM Content Navigator:

1. “Datacap” that is the main page for the business users.
2. “Datacap Admin Console” for the administrators.
3. “Datacap Quick Launch Desktop” that contains Datacap Main feature and the quick launch pane.
4. “Datacap Advanced Desktop” that contains Datacap Main feature, quick launch pane, and shortcut pane.

You can customize the default desktops to add features and to include more Datacap Application repositories. In this course, you mainly use 1 and 2 desktops.

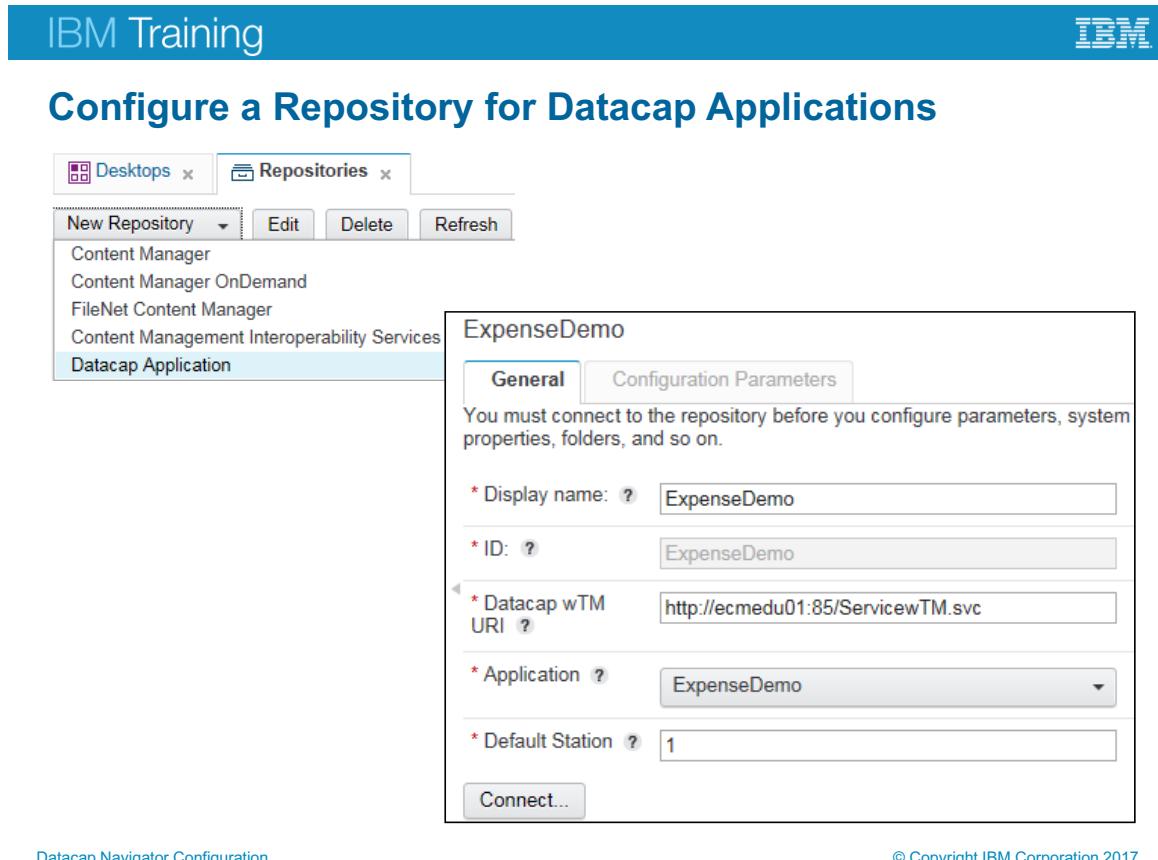


Figure 4-106. Configure a Repository for Datacap Applications

The screen capture shows the Datacap Application repository setup (“General” tab) in the Content Navigator admin page.

Steps to configure a repository for Datacap applications

1. In IBM Content Navigator Administration desktop, Select “Repositories” in the navigation pane.
2. In “Repositories” tab, select “New Repository” > “Datacap Application” from the list. This step sets the type of repository.
3. In “New Repository” tab, enter values for the following fields:
 - **Display name:** Specify the repository name to display to the users in the web client.
 - **ID:** This field is automatically populated based on the display name.
 - **Datacap wTm URI:** <http://ecmedu01:85/ServicewTM.svc>
 - **Application:** Expense Demo
 - **Default Station:** 1
4. Click Connect.

ExpenseDemo

General **Configuration Parameters**

You can override the default behavior of this repository by setting the configuration parameters.

Select job attributes to include when listing jobs of this repository.

Name contains

Available Columns	Selected Columns
Task Start	Queue ID
Job Stop	Batch
Batch Directory	Job
Page File	Task
Operator Skip	Status
Station Skip	Job Start
Priority	Job Time
	Operator
	Station
	Documents
	Pages

Add or remove a column

Change the order

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Figure 4-107. Configuration parameters for a repository

The screen capture shows the Datacap Application repository setup (“Configuration Parameters” tab) in the Content Navigator admin page.

Configuration parameters for a repository

In the “Configuration Parameters” tab, you can customize the Job Attributes. The values in the “Selected Columns” pane are shown for the list of jobs of this repository in the Job Monitor.

1. Add or remove a column to show in Datacap Navigator client Job Monitor:
 - In the IBM Content Navigator Administration desktop > “New Repository” tab > “Configuration Parameters” subtab, you can select what columns to display.
 - Move the items from the “Available Columns” pane to the “Selected Columns” pane to add a column.
 - Move the items from the “Selected Columns” pane to the “Available Columns” pane to remove a column.
2. Use the Up and Down arrows to change the order of the columns in the “Selected Columns” pane.

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Default repository for authentication to Datacap Navigator

Desktop: **Datacap**

* General * Repositories * Layout Appearance *

* Name:

* ID:

Description:

Authentication

* Repository: **Default repository**

◀ Limit access to specific users and groups Enable Disable

Figure 4-108. Default repository for authentication to Datacap Navigator

The screen capture shows the Datacap Navigator desktop setup (“General” tab) in the Content Navigator admin page.

Default repository for authentication to Datacap Navigator

In IBM Content Navigator Administration desktop, when you installed the plug-in, you specified a Datacap application name. As part of the installation, a repository (Datacap type) is configured and used as a default repository.

This default repository is used to authenticate to the Datacap Navigator client.

IBM Training 

Add a Datacap Repository to Datacap Navigator desktop

Desktop: Datacap

General **Repositories** Layout Appearance Menus Workflows Mobile

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

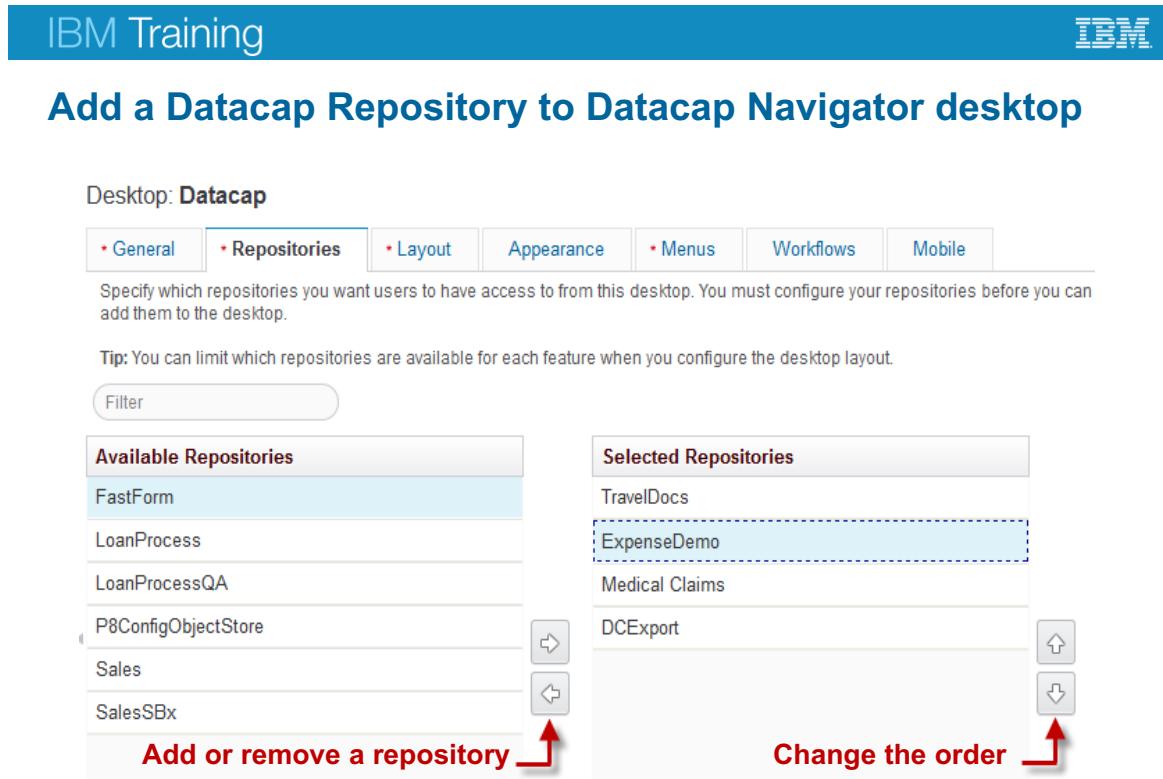
Tip: You can limit which repositories are available for each feature when you configure the desktop layout.

Filter

Available Repositories	Selected Repositories
FastForm	TravelDocs
LoanProcess	ExpenseDemo
LoanProcessQA	Medical Claims
P8ConfigObjectStore	DCExport
Sales	
SalesSBx	

Add or remove a repository  

Change the order  



Datacap Navigator Configuration

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Figure 4-109. Add a Datacap Repository to Datacap Navigator desktop

The screen capture shows the Datacap Navigator desktop setup (“Repositories” tab) in the Content Navigator admin page.

Add a Datacap Repository to Datacap Navigator desktop

1. In IBM Content Navigator Administration desktop, select the desktop that you want to edit.
2. In the “Repositories” tab of the Datacap Navigator desktop, Add or remove a repository:
 - Move the items from the “Available Repositories” pane to the “Selected Repositories” pane to add a repository.
 - Move the items from the “Selected Repositories” pane to the “Available Repositories” pane to remove a repository.
3. Use the Up and Down arrows to change the order of the columns in the “Selected Columns” pane.

IBM Training

Add Browse and Search Features to Datacap Navigator

Desktop: Datacap

* General * Repositories * Layout Appearance Menus Workflows Mobile

▼ Desktop Features

Specify which features users can access from this desktop. Additionally, you can customize the behavior of each feature that is included in the desktop.

* Layout: ecm.widget.layout.NavigatorMainLayout

* Displayed features:

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

Feature configuration

* Default repository: DCExport

Repositories:

	Repository Name
<input type="checkbox"/>	TravelDocs
<input type="checkbox"/>	ExpenseDemo
<input type="checkbox"/>	Medical Claims
<input checked="" type="checkbox"/>	DCExport

Tree view: Show Hide

Datacap Navigator Configuration

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Figure 4-110. Add Browse and Search Features to Datacap Navigator

The screen capture shows the Datacap Navigator desktop setup (“Layout” tab) in the Content Navigator admin page.

Configure the Browse and Search tabs in Datacap Navigator

- In IBM Content Navigator Administration desktop, select the desktop that you want to edit.
- In the “Layout” tab of the Datacap Navigator desktop, select the Browse feature:
 - Select a Default repository. Example: DCExport (FileNet Content Manager repository).
 - For the “Repositories” field, select the repositories Example: DCExport (FileNet Content Manager repository).

Note: If you select the “Datacap Application” type repositories for Browse or search, it will through an error. They are not configured for document management.

- Repeat the steps for the Search feature.

IBM Training

Change the name and theme for Datacap Navigator

Desktop: **Datacap**

* General * Repositories * Layout **Appearance** * Menus

You can customize the appearance of the desktop by changing the login page and banner.

Application name: ? → Custom Datacap Navigator

Theme: ? →

IBM	<input checked="" type="radio"/>
Custom ?	<input checked="" type="radio"/>
malachite	<input type="radio"/>
azurite	<input type="radio"/>
cordierite	<input type="radio"/>
malachite	<input type="radio"/>
obsidian	<input type="radio"/>
quartz	<input type="radio"/>

End user help URL: ?

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Figure 4-111. Change the name and theme for Datacap Navigator

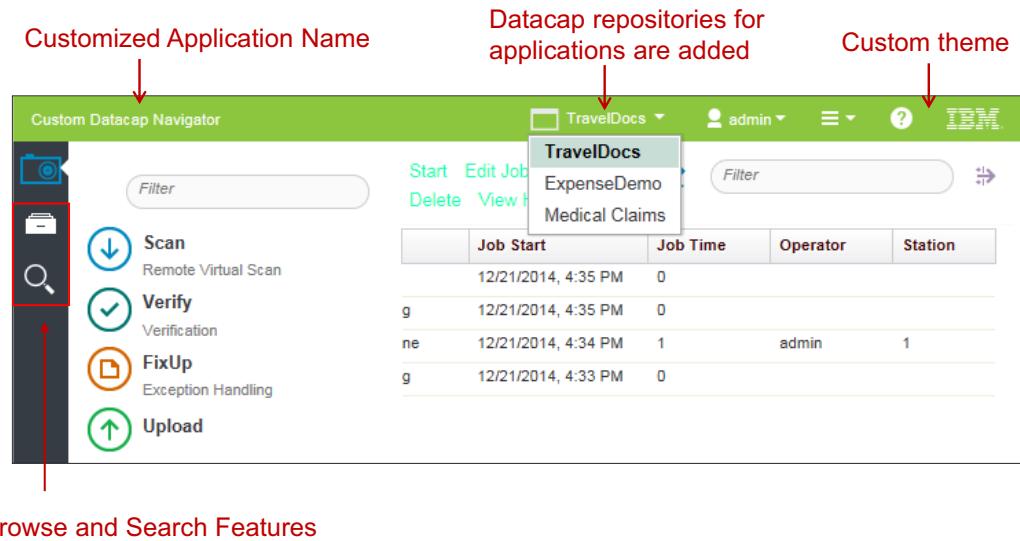
The screen capture shows the Datacap Navigator desktop setup (“Appearance” tab) in the Content Navigator admin page.

Change the name and theme for Datacap Navigator

1. In IBM Content Navigator Administration desktop, select the desktop that you want to edit.
2. In the “Appearance” tab of the Datacap Navigator desktop:
 - Enter a customized Application Name to show it on the banner of the Datacap Navigator.
 - For the Theme field, select the “Custom” option and then select a theme. Example: Malachite.
3. Save the changes.



Customized Datacap Navigator desktop



[Datacap Navigator Configuration](#)

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Figure 4-112. Customized Datacap Navigator desktop

The screen capture shows an example of a customized Datacap Navigator desktop.

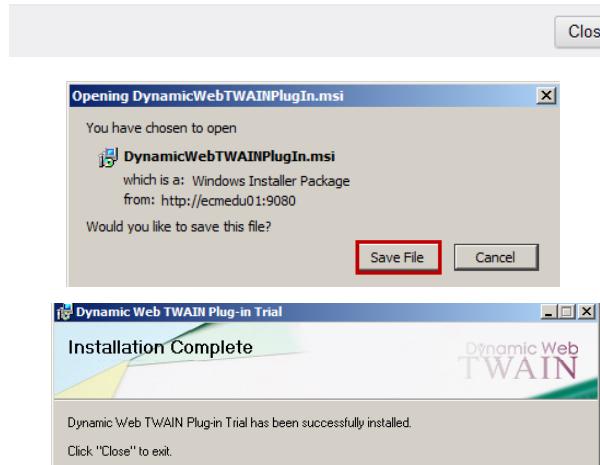
- The banner has green color to reflect the “malachite” custom theme that you selected.
- The application name on the banner has a custom name that you provided.
- All the “Datacap Application” type repositories that you configured are listed on the banner. You can select an application to work on.
- “Browse” and “Search” Content Management features of the IBM Content Navigator are included in your custom Datacap Navigator desktop.



Configure the Datacap Navigator for scanning

i Information

To scan, download and run the [DynamicWebTWAINHTML5Edition.exe](#) program.
You need to do this only one time.



Datacap Navigator Configuration

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Figure 4-113. Configure the Datacap Navigator for scanning

Help path

IBM Datacap 9.0.1>Installing and configuring in a client/server environment>Datacap installation and configuration in a client/server environment>Installing and configuring Datacap Navigator>Configuring Internet Explorer for TWAIN scanning in Datacap Navigator

http://www.ibm.com/support/knowledgecenter/SSZRWV_9.0.1/com.ibm.dc.install.doc/dcnvi007.htm?lang=en

The screen capture shows the Datacap Navigator configuration for scanning.

One time configuration for the Datacap Navigator for scanning

- You can enable Web TWAIN scanning and document import in Google Chrome and Mozilla Firefox browsers by installing Web TWAIN.
- You are prompted to download and install a service component the first time when you attempt to scan in Datacap Navigator.
- By default, Microsoft Internet Explorer uses ActiveX for TWAIN scanning and document import. ActiveX is configured manually or by running the Web Client Configuration Tool. Web TWAIN scanning is more secure than using ActiveX.

- You can configure Internet Explorer versions 10 and 11 to use Web TWAIN scanning instead of ActiveX for TWAIN scanning.

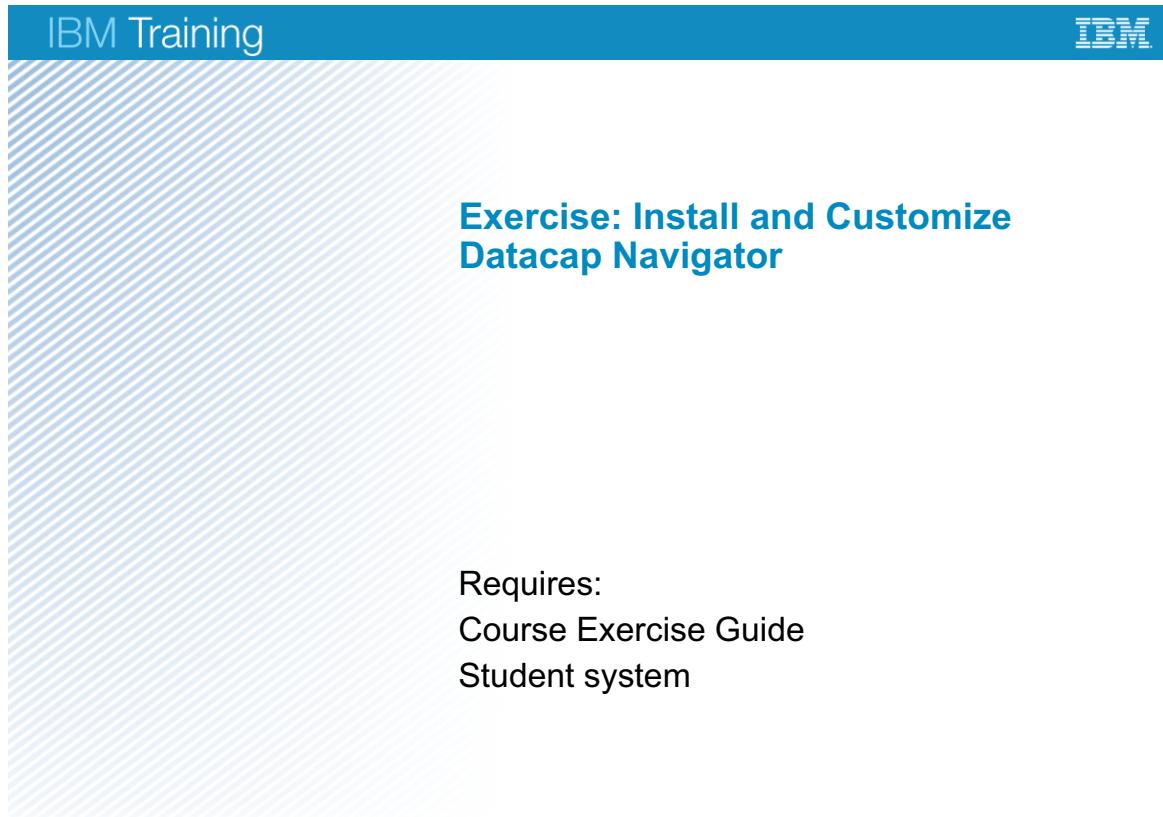


Figure 4-114. Exercise: Install and Customize Datacap Navigator

Exercise objectives

- Install Datacap Navigator as a plug-in.
- Customize the Datacap Navigator desktops.



Figure 4-115. Exercise objectives

Unit summary

- Enable Datacap Navigator Single Sign On
- Change Datacap Navigator User Settings
- Create users and groups
- Enable Rescan for the Verify task
- Create a custom panel for a task
- Implement external data services for Datacap Navigator
- Transactional Capture
- Install Datacap Navigator as a plug-in
- Customize the Datacap Navigator desktops

Figure 4-116. Unit summary

Unit 5. Administration of Production System

Estimated time

05:00 hours

Overview

In this unit, you learn about the concepts of virtual stations and queuing tasks. You also learn how to create shortcuts to run tasks from the Web Client tmweb, disaster recovery and migrate Datacap application databases between other database platforms.

Objectives

- Add Shortcuts to Web Client
- Understand Virtual Stations and Queuing of Tasks
- Plan for Disaster Recovery
- Convert and Migrate Datacap Databases.
- Configure Globalization

How you will check your progress

- Successfully complete the activities in the Student Workbook.

References

- Knowledge Center
http://www.ibm.com/support/knowledgecenter/SSZRWV_9.0.1/com.ibm.dc.install.doc/dcpov007.htm
- Redbooks: Implementing Document Imaging and Capture Solutions with IBM Datacap
<http://www.redbooks.ibm.com/abstracts/sg247969.html?Open>

Unit objectives

- Understand Virtual Stations and Queuing of Tasks
- Add Shortcuts to Web Client
- Plan for Disaster Recovery
- Convert and Migrate Datacap Databases.
- Configure Globalization

Figure 5-1. Unit objectives

Lesson 5.1. Create Shortcuts to Web Clients



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Figure 5-2. Create Shortcuts to Web Clients

Topics

- ▶ Create Shortcuts to Web Clients
 - Virtual Stations and Queuing of Tasks
 - Disaster Recovery
 - Configure DB2 Server
 - Application Globalization

Figure 5-3. Topics

Why is this lesson important to you?

- As an administrator of an IBM Datacap capture system, you must be familiar with all configuration tasks for a functional IBM Datacap 9.0 system.
- You must configure shortcuts on the Web client Administrator > Shortcuts menu. These shortcuts define workstation and Web client executable tasks for an application.

Figure 5-4. Why is this lesson important to you?

Shortcuts for Datacap Web Client

- The Shortcuts tab defines the shortcuts that are displayed on the Operations > Run Shortcut tab.
- Shortcuts are configured on the Taskmaster Web client > Administrator > Shortcuts page.
- A Shortcut can select one or more tasks in the Workflow tab.
- Selected shortcut details pane if where you set the shortcuts options.
- Not all Shortcuts on Administrator > Shortcuts tab are available on the Operations >Run Shortcut tab.
- The conditions that filter the Operations > Run Shortcut list are:
 - The permissions that are assigned to the logged in user.
 - The permissions that are assigned to the selected station.
 - The Web Job > Task must have the Program Key set to a valid .aspx web page for the task. See Notes for valid .aspx pages.

Figure 5-5. Shortcuts for Datacap Web Client

Run Shortcut filter examples:

- For user scott to run the iVscan task and the Upload task from a web client:
 - The scott users must have the iVScan task and the Upload task check boxes that are checked in the user Permission section.
 - The **Web Job iVscan task** must have the Program key under Parameters set to **VScanc1.aspx**.
 - The **Web Job Upload task** must have the Program key under Parameters set to **UpIBFcl.aspx**.
- Note:** In general, for a web client task, the Program key must be set to a valid .aspx for processing the task.

Web Client .aspx pages

Function and web page

Remote Scanning - Scancl.aspx

Virtual Scanning - VScancl.aspx

Image upload - UpIBFcl.aspx

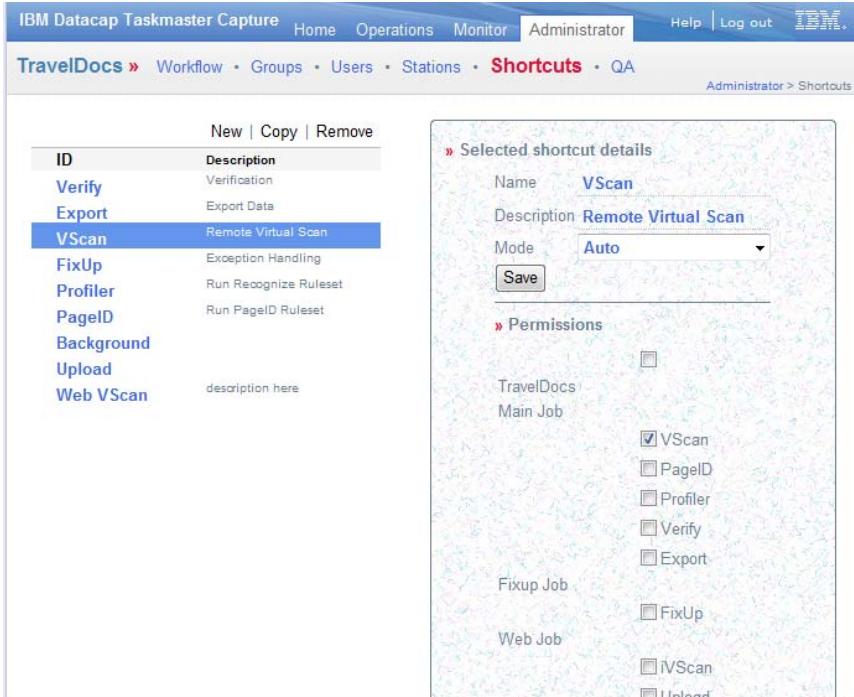
Verification - verifine.aspx aVerify.aspx imgEnter.aspx

Verification manual page ID and manual registration- alndex.aspx

Manual page ID and fixup - ProtolD.aspx

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Shortcuts for Datacap Web Client Tab



ID	Description
Verify	Verification
Export	Export Data
VScan	Remote Virtual Scan
FixUp	Exception Handling
Profiler	Run Recognize Ruleset
PageID	Run PageID Ruleset
Background	
Upload	
Web VScan	description here

Selected shortcut details

Name: **VScan**
 Description: **Remote Virtual Scan**
 Mode: **Auto**

Permissions

TravelDocs Main Job	<input type="checkbox"/>	<input checked="" type="checkbox"/> VScan
	<input type="checkbox"/>	<input type="checkbox"/> PageID
	<input type="checkbox"/>	<input type="checkbox"/> Profiler
	<input type="checkbox"/>	<input type="checkbox"/> Verify
	<input type="checkbox"/>	<input type="checkbox"/> Export
Fixup Job	<input type="checkbox"/>	<input type="checkbox"/> FixUp
Web Job	<input type="checkbox"/>	<input type="checkbox"/> iVScan
	<input type="checkbox"/>	<input type="checkbox"/> Upload

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Figure 5-6. Shortcuts for Datacap Web Client Tab

Selected Shortcut Details

- Name
 - Displays the shortcut name.
- Description
 - Displays the shortcut description that is shown on the Operations tab.
- Mode
 - Prompt/Web select: Opens the pending job with the highest priority.
 - Auto: Same as Prompt/Web select.
 - Manual: Display the job queue so the operator can select a batch.
 - Manual for Hold: Display batches on hold first; otherwise, open the batch with the highest pending priority.
- Permissions
 - Select the tasks that apply to this shortcut

Figure 5-7. Selected Shortcut Details

Selected Shortcut Details

Used to change the settings for the selected shortcut. Click Save after you change settings.

Name

Displays the shortcut name.

Description

Displays the shortcut description that is shown on the Operations tab. Enter a description that tells an operator about the task that is associated with the shortcut.

Mode

The Mode determines the Datacap behavior when an operator runs the shortcut:

- Prompt/Web select: Datacap opens the highest priority job in the queue that is in the pending state. Datacap does not open any job on hold, even if there are no pending batches.
- Auto: Same as Prompt/Web select.
- Manual: Datacap displays the job queue so the operator can select a batch (either pending or on hold).

- Manual for Hold: If there are batches on hold, Datacap displays the job queue with the jobs that are on hold. If there are no jobs on hold, Datacap opens the highest priority batch in the queue that is in the pending state.

The Mode setting does not apply to batch creation tasks (such as Scan or VScan).

Permissions

This section shows all of the jobs and tasks that are defined on the Workflow tab. Select the tasks that apply to this shortcut.

When an operator runs the shortcut, Datacap checks the job queue for batches that are ready for processing by any of the selected tasks. For example, the application has a Main Job and a Web Job, each with a Verify task. When you select both of the Verify tasks (one in the Main Job and one in the Web Job), the operator can verify batches that are started from either job.

Task Shortcut Configuration

- Application tasks are configured on the TMWeb > Administrator > Workflow Tab.
- Main Job configuration
- Fixup Job configuration
- Web Job configuration
- Selected task detail configuration
 - Parameters configuration
 - Setup Configuration

Figure 5-8. Task Shortcut Configuration

Main Job

- The Main Job defines tasks that run thick clients on workstations that have Datacap Workstation components installed.
- Typical tasks and thick clients
 - VScan – Datacap Desktop
 - PageID - Rulerunner
 - Profiler - Rulerunner
 - Verify – Datacap Desktop
 - Export - Rulerunner

Figure 5-9. Main Job

Fixup Job

- The FixUp task is for processing the image to make it more readable before the capture process continues.
- Typical task and thick client
 - Fixup - Multiple

Figure 5-10. Fixup Job

Web Job

- The Web Job defines tasks that can be run with a web browser on a web client that has no Datacap Workstation components installed.
- Except for the iVScan, Upload, and Verify task the processing is done on the Rulerunner server.
- Typical tasks and thick clients
 - iVScan - VScanc1.aspx
 - Upload - UpIBFcl.aspx
 - PageID - Rulerunner
 - Profiler - Rulerunner
 - Verify - VeriFine.aspx or aVerify.aspx
 - Export - Rulerunner

Figure 5-11. Web Job

Selected Task Details Window

» Selected task details

Name	iVScan
Description	Taskmaster Web VScan
Mode	Batch creation
Queue by	None
Store	Station ID

Apply

» Parameters

Key	Value
Program	VScanc1.aspx

» Setup...

Compatible tasks: Default set ▾ Copy setup

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Figure 5-12. Selected Task Details Window

Selected Task Details Window Options Description

- In the selected task details window you can change the setting for the selected task.
- Name: VScan, PageId, Profiler, Verify, Export
- Description: Any suitable description
- Mode: Normal – Used for most tasks
 - Batch creation – Used for Scan tasks
 - Router – Used when sub tasks are required like Fix up
- Queue by: Refer to the “Virtual stations and queuing of tasks” lesson.
- Store: Refer to the “Virtual stations and queuing of tasks” lesson.

Figure 5-13. Selected Task Details Window Options Description

Selected Task Details

Select a task to open the Selected task details pane and change the settings for the selected task. Click Apply after you change settings.

Name

Displays the task name.

Description

Displays the task description.

Mode

Each task must be linked to a mode. The mode specifies the behavior of the task. The mode list displays the modes that are available for selection and includes:

- Batch Creation: Select this mode for use with VScan, or if you are creating a task to scan hardcopy documents in Datacap desktop or in Taskmaster Web or Datacap Navigator web interfaces.
- Important: A job can contain only one Batch Creation task. If the job that you are modifying already includes a batch creation task, you must remove that task.

- Router: Select this mode if the task routes the batch to a different task or job when the criteria of a condition are met. One example of a condition is a document integrity failure that requires a supervisor intervention. When you select this mode, Datacap automatically inserts a Return Conditions key under the Parameters section.
- Normal: This mode is for all other tasks that are not used for Batch Creation or that do not require special handling.

Selected Task Details Parameters

- Thick client program options
- Multiple
 - Select this program if the task can be run in the background by Rulerunner, in the Taskmaster Web client, or in an application client. (Datacap Desktop, or FastDoc).
- Datacap Desktop
 - Select this program if you use Datacap Desktop exclusively to run this task.
- Rulerunner
 - Select this program if Rulerunner is used exclusively to run background tasks.
- FastDoc
 - Select this program if you use FastDoc exclusively to run this task.

Figure 5-14. Selected Task Details Parameters

Selected Task Details

Select a task to open the Selected task details pane and change the settings for the selected task. Click Apply after you change settings.

Name

Displays the task name.

Description

Displays the task description.

Mode

Each task must be linked to a mode. The mode specifies the behavior of the task. The mode list displays the modes that are available for selection and includes:

- Batch Creation: Select this mode for use with VScan, or if you are creating a task to scan hardcopy documents in Datacap desktop or in Taskmaster Web or Datacap Navigator web interfaces.
- Important: A job can contain only one Batch Creation task. If the job that you are modifying already includes a batch creation task, you must remove that task.

- Router: Select this mode if the task routes the batch to a different task or job when the criteria of a condition are met. One example of a condition is a document integrity failure that requires a supervisor intervention. When you select this mode, Datacap automatically inserts a Return Conditions key under the Parameters section.
- Normal: This mode is for all other tasks that are not used for Batch Creation or that do not require special handling.

Datacap Web Components

Function	Web Page
Remote Scanning	Scanc1.aspx
Virtual Scanning	VScanc1.aspx
Image upload	UpIBFcl.aspx
Verification	verifine.aspx aVerify.aspx imgEnter.aspx
Verification, manual page ID, and manual registration	aIndex.aspx
Manual page ID and fixup	ProtID.aspx
Application administration Job monitoring	Standard tmweb.net interface Standard tmweb.net interface

Figure 5-15. Datacap Web Components

Setup Configuration

- Different setup layouts are used for different Tasks.
 - The task name selects the .xml file that is used to display the setup layout.
 - Verify -> C:\Datacap\<app>\dco<app>\Verify.set.xml
- Implement a start panel for the VScan task.
 - In the Setup page scroll to the Scan or Disk Scan panel.
 - Select the Show the Start Batch Panel check box.
 - The start panel displays a data entry field for each batch level field that you defined in the document hierarchy.
- In the Datacap Desktop section, name the verify panel.
 - In the Setup page scroll to the Datacap Desktop panel.
 - Define a Panel name for each DCO type.

Figure 5-16. Setup Configuration

Review questions

1. What would you expect to see as the Program Key for each of the Web Job tasks?

- a. iVScan _____
- b. Upload _____
- c. Profiler _____
- d. Verify _____
- e. Export _____



Figure 5-17. Review questions

Review answers

1. What would you expect to see as the Program Key for each of the Web Job tasks?



- a. iVScan VScanc1.aspx.
- b. Upload UpIBFcl.aspx.
- c. Profiler Rulerunner.
- d. Verify Multiple.
- e. Export Rulerunner.

Figure 5-18. Review answers

Review questions

2. Which tasks would you expect to see on the Operations task list:

Options : None, VScan, Web Scan, Upload, and Verify/Fix

- a. If you log in to ExpenseDemo as erin with station 1 selected?

Answer =

- b. If you log in to ExpenseDemo as susan with station 1 selected?

Answer =

- c. If you log in to ExpenseDemo as sam with station 1 selected?

Answer =

- d. If you log in to ExpenseDemo as vinny with station 1 selected?

Answer =

- e. If you log in to ExpenseDemo as susan from station 4 selected?

Answer =



Figure 5-19. Review questions

Review answers

2. Which tasks would you expect to see on the Operations task list:

Options : None, VScan, Web Scan, Upload, and Verify/Fix

- a. If you log in to ExpenseDemo as erin with station 1 selected?

Answer = None

- b. If you log in to ExpenseDemo as susan with station 1 selected?

Answer = VScan, Web Scan, Upload, and Verify/Fix

- c. If you log in to ExpenseDemo as sam with station 1 selected?

Answer = VScan, Web Scan, and Upload

- d. If you log in to ExpenseDemo as vinny with station 1 selected?

Answer = Verify/Fix

- e. If you log in to ExpenseDemo as susan from station 4 selected?

Answer = VScan, Web Scan, and Upload



Figure 5-20. Review answers

Exercise: Create Shortcuts to Web Clients

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Figure 5-21. Exercise: Create Shortcuts to Web Clients

Exercise introduction

- Configure Web Client Shortcuts.
- Knowledge Checkpoint: Configure Web Client Shortcuts: Quiz



Figure 5-22. Exercise introduction

Lesson 5.2. Virtual Stations and Queuing of Tasks

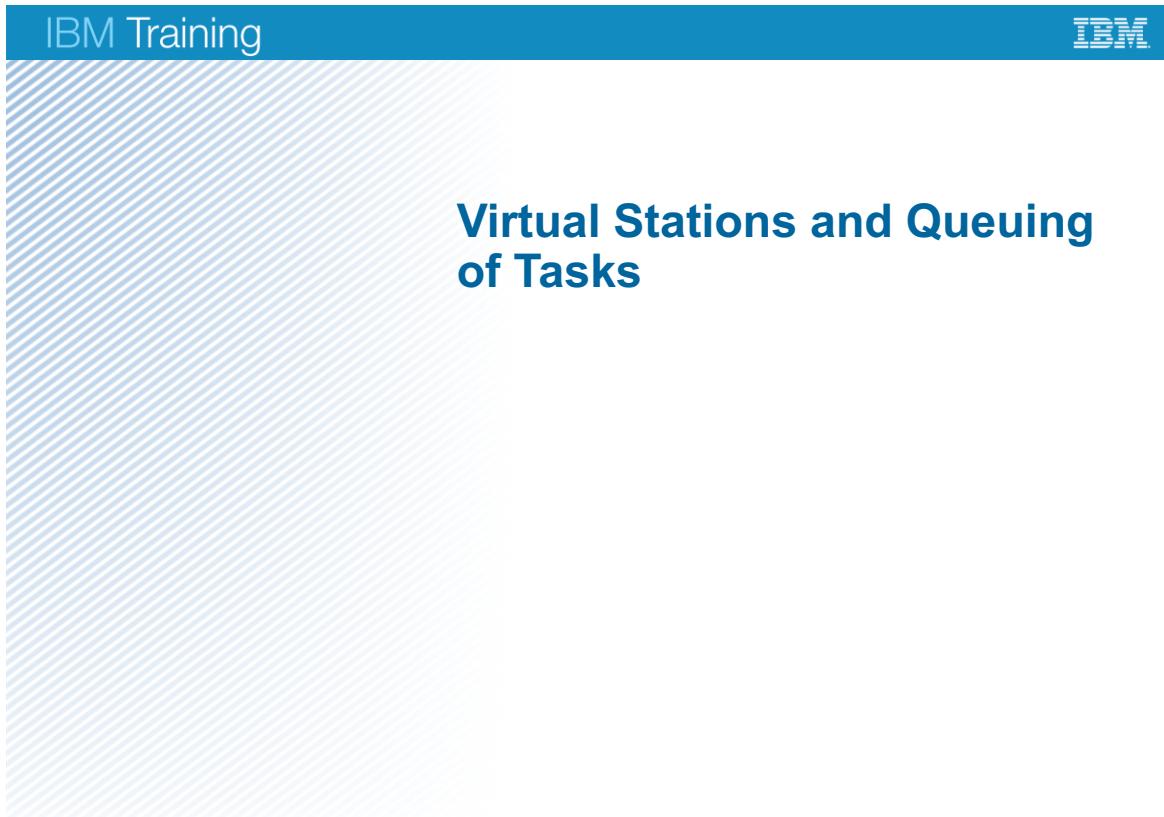


Figure 5-23. Virtual Stations and Queuing of Tasks

Topics

- Create Shortcuts to Web Clients
- ▶ Virtual Stations and Queuing of Tasks
 - Disaster Recovery
 - Configure DB2 Server
 - Application Globalization

Figure 5-24. Topics

Why is this lesson important to you?

- As an administrator of an IBM Datacap capture system, you must be familiar with all configuration tasks for a functional IBM Datacap 9.0 system.
- You need to know how to use the user ID and the station ID to determine how jobs are queued for processing as they move through the job tasks.

Figure 5-25. Why is this lesson important to you?

Understand Queuing of Batches

- Queuing definition.
 - Queuing is the ability to control which users or stations can open and process a batch through a task.
- The use of queuing is optional.
- The parameters that control queuing are:
 - Queue by
 - Store
- Queue by sets the combination of user ID and station ID that can open a batch.
- Store sets the user ID and station ID required by a later task.
- These parameters are set on the Datacap Web Workflow tab.

Figure 5-26. Understand Queuing of Batches

Queue by Field Options

- None
- Station
- User
- Other Station
- Other User
- Station and User
- Station and Other User
- User and Other Station
- Other Station and Other User

Figure 5-27. Queue by Field Options

None: Any user on any station can open the batch (default setting).

Station: Only the station that stored the batch can open the batch.

User: Only the user that stored the batch can open the batch.

Other Station: The station that stored the batch cannot open the batch.

Other User: The user that stored the batch cannot open the batch.

Station and User: Only the same station and the same user that stored the batch can open the batch.

Station and Other User: Only a different user on the station that stored the batch can open the batch.

User and Other Station: Only the same user on a different station can open the batch.

Other Station and Other User: Only a different user on a different station can open the batch.

Store Field Options

- Ensure that the option you choose for the Store field provides the information that the task require that occurs later in the workflow.
- Store field options are:
 - None: No user ID or station ID is stored (default setting).
 - Station ID: Stores the station ID with the batch.
 - User ID: Stores the user ID with the batch.
 - Station ID and user ID: Stores the station ID and the user ID with the batch.

Figure 5-28. Store Field Options

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Datacap Web Interface

The screenshot shows the IBM Datacap Taskmaster Capture interface. In the top navigation bar, 'TravelDocs' is selected under 'Workflow'. The main content area displays a tree view of the workflow structure:

- Workflow** (selected)
 - TravelDocs**
 - Main Job**
 - VScan** (selected)
 - PageID**
 - Profiler**
 - Verify**
 - Export**
 - Fixup Job**
 - Web Job**

Below the tree view is a toolbar with buttons: New | Copy | ▲ | ▼ | Remove.

To the right, a detailed configuration panel is open for the selected 'VScan' task:

 - Selected task details**
 - Name: VScan
 - Description: Run VScan Rules
 - Mode: Batch creation
 - Queue by: None (highlighted with a red box)
 - Store: None (highlighted with a red box)
 - Parameters**

Key	Value
Program	DotScan
 - Setup...**
 - Compatible tasks: Default set | Copy setup

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Figure 5-29. Datacap Web Interface

Review introduction

An application is configured with Store and Queue by options in the job tasks as follows:

1. At the VScan step, set Store to Station ID and User ID.
2. At the PageID step, set Queue by to Station
3. At the Profiler step, set Queue by to User And Other Station.
4. At the Verify step, set Queue by to Other User Other Station.
5. The susan user processes the VScan step while logged in to station 1.

Assume that users erin and susan both have permission to process any job step for the test application.

For each question, indicate the correct answer or the best answer. If the user and station combination is allowed to process the step, then choose **Pass** otherwise choose **Fail**.



Figure 5-30. Review introduction

Review questions

1. Which combination of user and station are allowed to process the PageID step.
 - a. User susan and station 2. Pass or Fail
 - b. User erin and station 2. Pass or Fail
 - c. User erin and station 1. Pass or Fail

2. Which combination of user and station are allowed to process the Profiler step.
 - a. User erin and station 1. Pass or Fail
 - b. User erin and station 2. Pass or Fail
 - c. User susan and station 2. Pass or Fail

3. Which combination of user and station are allowed to process the Verify step.

User erin and station 1. Pass or Fail

User susan and station 2. Pass or Fail

User erin and station 2. Pass or Fail



Figure 5-31. Review questions

Review answers

1. Which combination of user and station are allowed to process the PageID step.

- a. User susan and station 2. Pass or Fail **Answer = Fail**
- b. User erin and station 2. Pass or Fail **Answer = Fail**
- c. User erin and station 1. Pass or Fail **Answer = Pass**



2. Which combination of user and station are allowed to process the Profiler step.

- a. User erin and station 1. Pass or Fail **Answer = Fail**
- b. User erin and station 2. Pass or Fail **Answer = Fail**
- c. User susan and station 2. Pass or Fail **Answer = Pass**

3. Which combination of user and station are allowed to process the Verify step.

- User erin and station 1. Pass or Fail **Answer = Fail**
- User susan and station 2. Pass or Fail **Answer = Fail**
- User erin and station 2. Pass or Fail **Answer = Pass**

Figure 5-32. Review answers

Review questions

4. Which combination of User and station are allowed to process the Export step.
- a. User erin and station 1. Pass or Fail
 - b. User susan and station 2. Pass or Fail
 - c. User erin and station 2. Pass or Fail



Figure 5-33. Review questions

Review answers

4. Which combination of User and station are allowed to process the Export step.
- a. User erin and station 1. Pass or Fail **Answer = Pass**
 - b. User susan and station 2. Pass or Fail **Answer = Pass**
 - c. User erin and station 2. Pass or Fail **Answer = Pass**



Figure 5-34. Review answers

Exercise: Virtual Stations and Queuing of Tasks

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Figure 5-35. Exercise: Virtual Stations and Queuing of Tasks

Exercise introduction

- Knowledge Checkpoint: Control Queuing Tasks in a Workflow
- Optional: Control Queuing Tasks in a Workflow



Figure 5-36. Exercise introduction

Lesson 5.3. Disaster Recovery



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Figure 5-37. Disaster Recovery

Topics

- Create Shortcuts to Web Clients
- Virtual Stations and Queuing of Tasks
- Disaster Recovery
 - Configure DB2 Server
 - Application Globalization

Figure 5-38. Topics

Why is this lesson important to you?

- As an administrator of an IBM Datacap capture system, you must be familiar with all configuration tasks for a functional IBM Datacap 9.0 system.
- You are required to make sure that a regular backup is made of both production and development systems. This action makes sure that if a failure occurs, you have a recovery point to revert to.

Figure 5-39. Why is this lesson important to you?

Backup and Restore Strategy

- Back up both production and development systems.
- Do full mirror backup of each server that is in the system.
- The site backup policy determines backup Frequency.
- When all servers are backed up, they need only to be backed up again after service pack application or other configuration change. (site policy determines frequency)
- Back up practice to make sure that there is no system activity during backup.
 - Close connected clients if possible.
 - Stop all services.
 - Shut down the Datacap Server Service.
- System downtime is the best time to do backups.

Figure 5-40. Backup and Restore Strategy

Backup and Restore for Stateless Servers

- Stateless servers are:
 - Rulerunner servers.
 - Fingerprint servers.
 - Web servers.
- Stateless servers:
 - Provide services but data is held elsewhere.
 - Web servers can temporarily hold scanned batches until they are uploaded to the file share.
- For Web servers Backup, make sure that the scanned batches are uploaded and purged before starting the backup.

Figure 5-41. Backup and Restore for Stateless Servers

Backup and Restore the Datacap Server

- Datacap Server provided services:
 - User Authentication
 - Workflow and queuing
 - File services for Taskmaster Web.
 - Storage in two databases of user details and batch job status.
- Datacap Server backup
 - Back up as described for stateless servers.
 - Use procedure that is described for the backup and restore strategy slide.

Figure 5-42. Backup and Restore the Datacap Server

Backup the Database Server

- Databases that are most rapidly updated in real time are
 - Administration database
 - Engine database
 - Fingerprint database
- For mission critical environments databases, The use of mirrored image is preferred.
- More detailed database backup information is available in the database vendor documents, websites and other publications.

Figure 5-43. Backup the Database Server

Backup the File Share

- The file share holds all batch data and the IBM Datacap application project files.
- Continuously mirroring this drive makes sure that a fully up-to-date version of the batches.
- If paired with database mirroring of the Engine database, the status of the batches is also preserved.

Figure 5-44. Backup the File Share

Review questions

1. For each of the server types listed, indicate which fit the description of a Stateless server.
 - a. True or False: Rulerunner Servers are **stateless**?
 - b. True or False: Fingerprint Servers are **stateless**?
 - c. True or False: Datacap Server are **stateless**?
 - d. True or False: Database Servers are **stateless**?
 - e. True or False: File Server are **stateless**?
 - f. True or False Web Servers are **stateless after scan batches are uploaded**?



Figure 5-45. Review questions

Review answers

1. For each of the server types listed, indicate which fit the description of a Stateless server.

- a. True or False: Rulerunner Servers are **stateless**.

The answer is True

- b. True or False: Fingerprint Servers are **stateless**.

The answer is True

- c. True or False: Datacap Server are **stateless**.

The answer is False

- d. True or False: Database Servers are **stateless**.

The answer is False

- e. True or False: File Server are **stateless**.

The answer is False

- f. True or False Web Servers are **stateless**.

The answer is True (after scan batches are uploaded)



Figure 5-46. Review answers

Review questions

2. How often must Datacap servers with volatile data be backed up.
 - a. True or False: Datacap servers must be backed up at a period that the corporate backup strategy determines.
 - b. True or False: Datacap servers must be backed up every month.
 - c. True or False: Datacap servers must be backed up every week.
 - d. True or False: Datacap servers must be backed up every day.
 - e. True or False: Datacap servers must be backed up when the volume of data capture activity warrants a backup of the volatile data to prevent data loss.



Figure 5-47. Review questions

Review answers

2. How often must Datacap servers with volatile data be backed up.

- a. True or False: Datacap servers must be backed up at a period that the corporate backup strategy determines.

The answer is True

- b. True or False: Datacap servers must be backed up every month.

The answer is False

- c. True or False: Datacap servers must be backed up every week.

The answer is False

- d. True or False: Datacap servers must be backed up every day.

The answer is False

- e. True or False: Datacap servers must be backed up when the volume of data capture activity warrants a backup of the volatile data to prevent data loss.

The answer is False



Figure 5-48. Review answers

Review questions

3. Which of the following statements are accurate for a valid backup practice for a Datacap Capture system? There is more than one correct answer.
- a. True or False: All servers in the system must be backed up at least weekly and while system activity is at a minimum.
 - b. True or False: All Stateless servers must be backed up weekly and Data servers (non-stateless) every day at least system performance.
 - c. True or False: Stateless servers must be backed up one time and thereafter only when system configuration changes occur or service packs are applied.
 - d. True or False: Servers that hold volatile data (non-stateless) must be backed up in accordance the corporate backup strategy document.
 - e. True or False: Before a backup of the Web server, make sure that remote scanned batches are uploaded and purged.



Figure 5-49. Review questions

Review answers

3. Which of the following statements are accurate for a valid backup practice for a Datacap Capture system? There is more than one correct answer.
- a. True or False: All servers in the system must be backed up at least weekly and while system activity is at a minimum.
The answer is False
 - b. True or False: All Stateless servers must be backed up weekly and Data servers (non-stateless) every day at least system performance.
The answer is False
 - c. True or False: Stateless servers must be backed up one time and thereafter only when system configuration changes occur or service packs are applied.
The answer is True
 - d. True or False: Servers that hold volatile data (non-stateless) must be backed up in accordance the corporate backup strategy document.
The answer is True
 - e. True or False: Before a backup of the Web server, make sure that remote scanned batches are uploaded and purged.
The answer is True



Figure 5-50. Review answers

Lesson 5.4. Configure DB2 Server



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Figure 5-51. Configure DB2 Server

Topics

- Create Shortcuts to Web Clients
- Virtual Stations and Queuing of Tasks
- Disaster Recovery
- ▶ Configure DB2 Server
- Application Globalization

Figure 5-52. Topics

Why is this lesson important to you?

- As an administrator of an IBM Datacap capture system, you must be familiar with all configuration tasks for a functional IBM Datacap 9.0 system.
- In this lesson, you configure the DB2 Server database and migrate the contents of default Admin, Engine, and Fingerprint Access databases to the DB2 database.

Figure 5-53. Why is this lesson important to you?

Supported Databases

- Sample Application Templates use Access databases.
- Microsoft SQL Server
- Oracle
- Datacap databases that can be converted are:
 - Administration database
 - Definitions for workflows, jobs, and tasks
 - Also, user, group, and station security information.
 - Engine database
 - Historical processing information for each batch
 - Fingerprint database
 - Fingerprints to identification and align them to
 - Lookup database
 - Lookup lists.
 - Application-specific databases

Figure 5-54. Supported Databases

Database Conversion Prerequisites

- A database administrator requires the right to create and modify a database.
- For SQL Server, for isolated test environment you can use Microsoft SQL Server Express.
- For Oracle, Oracle client must be installed on:
 - The database server.
 - Workstations with clients that require fingerprint database access.
 - These clients include:
 - Datacap Desktop
 - FastDoc
 - Rulerunner
 - Taskmaster Web
 - Datacap Navigator

Figure 5-55. Database Conversion Prerequisites

Define the Database Structure

- SQL Scripts define the structure for Datacap databases.
- Script location for C:\Datacap\support\DBScript for:
 - DB2
 - Oracle
 - Microsoft SQL Server
- Procedure
 - Refer to notes for the procedure and specific script names.

Figure 5-56. Define the Database Structure

Database Creation Scripts

DB2

DB2_Adm_Base.sql
DB2_Eng_Base.sql
DB2_FP_Base.sql

Oracle

Oracle_Adm_Base.sql
Oracle_Eng_Base.sql
Oracle_FP_Base.sql

Microsoft SQL Server

SQL_Adm_Base.sql
SQL_Eng_Base.sql
SQL_FP_Base.sql

Define the Database in SQL Server.

1. Start SQL Server Management Studio and log on to the server as an administrator.
2. In SQL Server Management Studio, right-click the Databases object and choose New Database.
3. In the Database name field, type *<app name>* Adm and click OK.

Import the Database Structure for SQL Server.

1. Select the *<app name>* Adm database and click File Open.
2. Select the file SQL_Adm_Base.sql and click Open.
3. Click Execute.
4. Repeat procedures for Eng_Base and FP_Base

Migrate the Application & Databases

- Start Application Copy Tool.
 - Start > All Programs > IBM Datacap Developer Tools > Datacap Application Copy Tool.
- Specify Source Copy from options for:
 - Application Name
 - Application Databases.
- Specify the Destination Copy to options
 - Clear the Application files options.
 - Paste the connection string that is created by Datacap Application Manager.
 - For Administration, Fingerprint and Engine database.
 - Click Clear Engine Database check box.
 - See notes for copying the connection string.
- Click OK

Figure 5-57. Migrate the Application & Databases

In the Application Copy Tool, do not use the String that is generated by the tool. Use this sample string that is generated by Datacap Application Manager.

Sample Connection String for BD2 connections

Provider=IBMDADB2;Hostname=ecmedu01;Data Source=Xtreme Sample Database
2008;Database=DCTDDB2;User ID=*****;Password=*****;



Configuring the Application to use the Database

- Open Datacap Application Manager.
- Select the application that you are migrating.

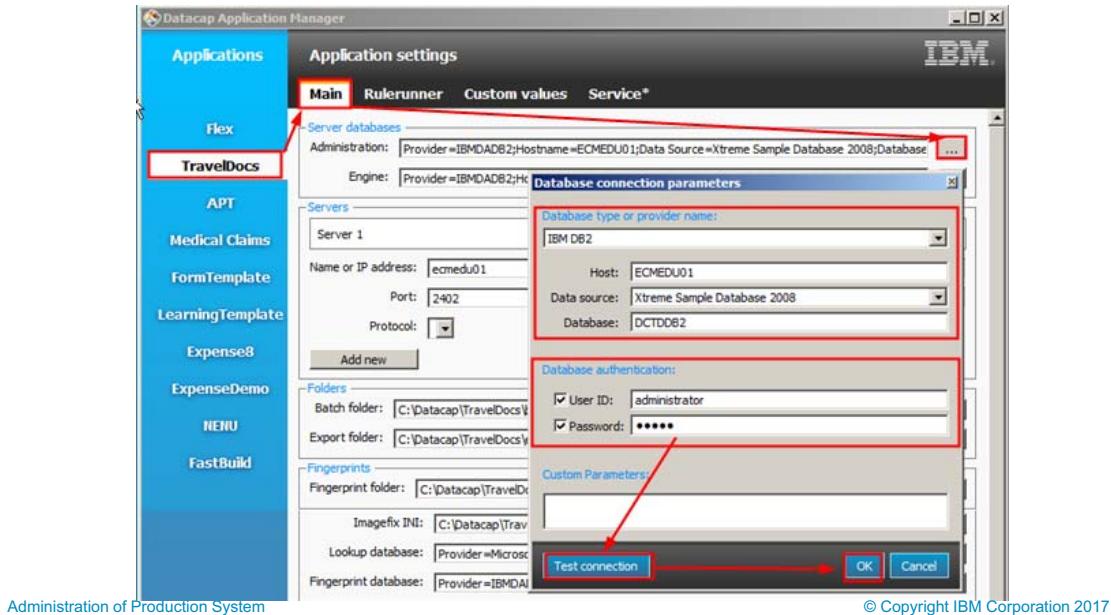


Figure 5-58. Configuring the Application to use the Database

Procedure to Configuring the Application to use the Database.

1. Open Start > All Programs > IBM Datacap Services > Datacap Application Manager.
2. Select an IBM Datacap Capture application. For example, select TravelDocs.
3. Click the Main tab.
4. In the Administration field, click [...] to go to the database.
5. In the Database Type field, select the database to which you want to configure the application, IBM DB2.
 - a. In the Host field type, the DB2 Server name ecmedu01
 - b. In the Data Source field select Xtreme Sample Database 2008
 - c. In the Database field, enter the name of the application database that you created in DB2, for example DCDTDB2
6. Under Database authentication, select the authentication option:
 - a. Click the user check box and type a user name that has authority to connect to the database, Example Administrator.
 - b. Click the Password check box and type the password for the selected user.

7. Click Test connection to verify that you can connect to the database.
8. Click Close to close the Test window.
9. Click OK to complete the connection process.
10. Repeat these steps for the Engine database. In the Database field, enter the name of the Datacap Engine database. For example, type TravelDocsEng.
11. Close the Datacap Application Manager.

Verifying the Database Connection.

- Verify the database by processing a document batch for the migrated application.

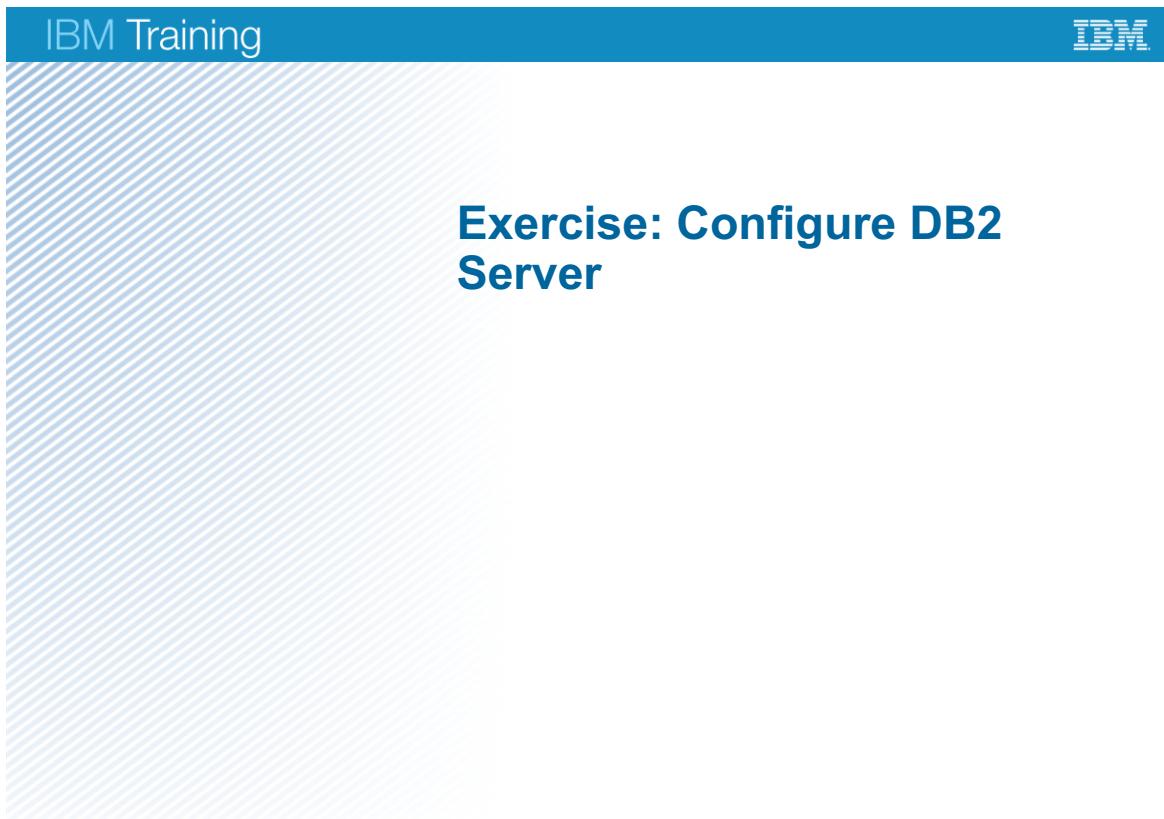


Figure 5-59. Exercise: Configure DB2 Server

Exercise introduction

- Convert Access Database to DB2 Database Installation



Figure 5-60. Exercise introduction

Lesson 5.5. Application Globalization

Application Globalization

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Figure 5-61. Application Globalization

Topics

- Create Shortcuts to Web Clients
- Virtual Stations and Queuing of Tasks
- Disaster Recovery
- Configure DB2 Server
- Application Globalization

Figure 5-62. Topics

Why is this lesson important to you?

- This lesson provides an overview of how a developer can configure application globalization for different languages so the critical UI objects are displayed with localized names.

Figure 5-63. Why is this lesson important to you?

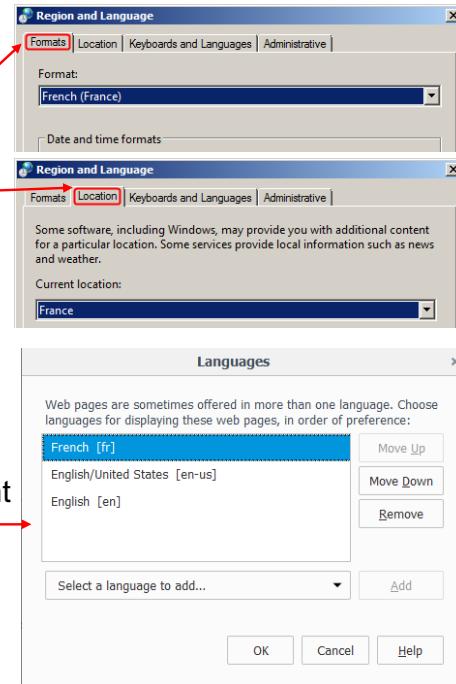
Application globalization (What and Where)

- What is it?
 - The ability for developers to translate application strings and object names for UI element into multiple languages.
 - Users access application UIs in multiple locales / languages.
- What is translated?
 - Label variables for various names objects, if translations are provided.
 - Setup DCO Objects:
 - Document, Page, Field names.
 - Workflow objects:
 - Workflow, Job, Task, and Shortcut names
- Where are the translations visible?
 - Datacap Navigator client
 - Datacap Desktop client
 - UIs: scan, verify, classify; start batch

Figure 5-64. Application globalization (What and Where)

Levels of globalization

- Thick clients like Desktop, FastDoc, Datacap Server Manager, and so on.
 - Follow the language/locale settings set for windows in Control Panel > Clock, Language, and Region widget.

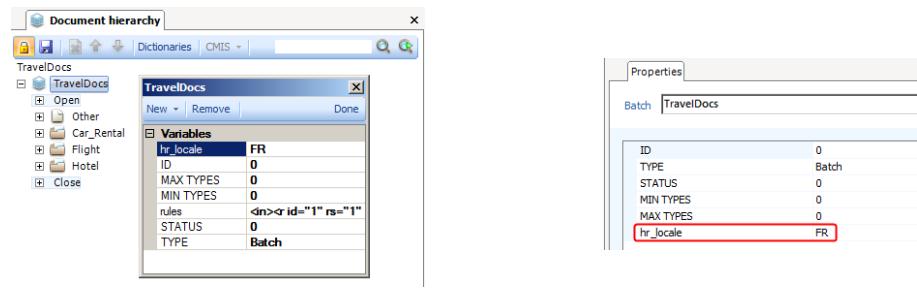


- Thin Clients like Datacap Navigator, tmweb.
 - Follow the setting in the browser settings.
 - For Firefox go to Tools > Options > Content > Languages.
 - For Internet Explorer go to Tools > Internet Options > General > Languages.

Figure 5-65. Levels of globalization

Application level globalization

- Within the Application.
 - Globalization can be applied at every level independently.
 - Achieved by setting an hr_locale variable at one or more levels of the DCO.
 - Set DCO object globalization at: batch, document, page, or field level.
 - See the Example in the notes.
- Set top level to effect all DCO levels objects in two possible ways.
 - Set an hr_locale variable:
 - For the whole application in Datacap Application Manager or
 - On the Batch object in Datacap Studio.
 - On lower level objects to override the top level.



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Figure 5-66. Application level globalization

- If you want the entire application to work in a single locale,
 - Then set the variable once at the batch level and all objects will run in that locale.
 - This has the same effect as setting the hr_locale variable in the application manager... it will cause the hr_locale to be automatically set at the batch level at run time.
 - You can always override the global setting by setting another hr_locale variable at a lower level.
- If you need different objects in an application to work in different locales,
 - Then you can set the hr_locale at the top node that should run in that locale.
 - All other nodes under it will automatically also use that locale.

Example: Different locale settings at different DCO object levels.

Assume hr_locale is set on these objects:

Batch <- hr_locale = en-US

Doc1

 Page1 <- hr_locale = fr-FR

 FieldA

 FieldB <- hr_locale = de_DE

 Doc2 <- hr_locale = ru-RU

 Page2

 FieldC

 Doc3

 Page3

 FieldD

Then these are the locales the objects will run in:

en-US: Batch, Doc1, Doc3, Page3, FieldD

fr-FR: Page1, FieldA

de-DE: FieldB

ru-RU: Doc2, Page2, FieldC

Procedure to set object level globalization variables.

Set Object level globalization variables in Datacap Studio.

1. Lock the DCO structure.
2. Right-click the object, batch, document, page, or field.
3. Select Manage variables...
4. Click New and type variable name, hr_locale.
5. Set the value to en, en-US, fr, fr-FR, de, de-DE, or some other valid local value.
6. The variable can be seen in the panel in the lower right corner of the Datacap Studio window.

Application globalization (How)

- How the developer configures globalization
 - Translate elements to a text resource file for each language.
 - Sample search order within a language set using English as an example:
 - dco\en-US\resources.json.
 - dco\en\resources.json.
 - dco\resources.json.
 - fall back to untranslated strings (Use names embedded in the interfaces).
 - Set Validation error messages via actions in the runner library:
 - MessageID and
 - MessageIDParameter
 - Replace, use of Message variables actions:
 - Message.
 - PilotMessageSet.

Figure 5-67. Application globalization (How)

Application globalization is easy for the developer. There is a single file that gets created for each language or locale. These locale resource files are expected in the application DCO sub folders C:\Datacap\dco_<application_Name>\Language or locale. Example en-us, en, de, fr and so on.

Globalization looks in a series of locations based on the locale setting to find the applicable translations for the client UIs. To be clear the search would never attempt to cross languages, the search would always remain within the language specified on the Format tab in the Windows Language settings view.

Sample English Search order Sample French Search order Generic Description of search order

en-US fr-FR Localized Language

en fr Base Language

Default (in root folder) Default (in root folder) Default (in root folder)

Language embedded in the interface. Language embedded in the interface. Language embedded in the interface.

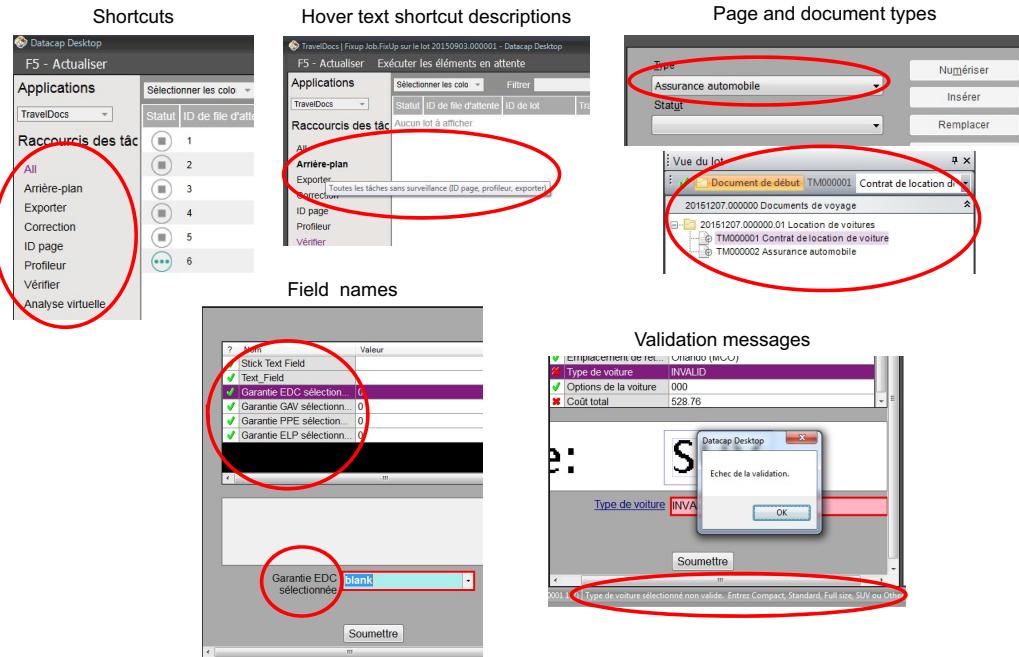
Validation error messages require additional work.

Use application validation actions to set the messages rrunner > MessageID and MessageIDParameter actions.

Discontinue using PilotMessageSet actions.



Datacap Desktop Translations



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Figure 5-68. Datacap Desktop Translations

The strings translated on the Datacap Desktop interface are:

- Shortcuts.
- Hover text shortcut descriptions.
- Page and document types.
- Field names.
- Validation messages.

These fields are all marked in the screen capture images by the red circular or elliptical shapes.

Compare the default English resource.json file for the document types against the French resource.json file.

English

```
// document types
"doctype.Car_Rental":"Car rental",
"doctype.Flight":"Airline flight",
"doctype.Hotel":"Hotel bill",
```

French

```
"doctype.Car_Rental":"Location de voitures",
"doctype.Flight":"Vol de compagnie aérienne",
"doctype.Hotel":"Facture d'hôtel",
```

Compare the default English resource.json file for the page types against the French resource.json file.

English

```
// page types
"pagetype.Rental_Agreement":"Car rental agreement",
"pagetype.Optional_Insurance":"Car insurance",
"pagetype.Room_Receipt":"Hotel room charges",
"pagetype.Meals":"Meal charges",
"pagetype.Other_Charges":"Miscellaneous hotel charges",
"pagetype.Air_Ticket":"Airline ticket",
```

French

```
"pagetype.Rental_Agreement":"Contrat de location de voiture",
"pagetype.Optional_Insurance":"Assurance automobile",
"pagetype.Room_Receipt":"Frais de chambre d'hôtel",
"pagetype.Meals":"Frais de repas",
"pagetype.Other_Charges":"Frais d'hôtel divers",
"pagetype.Air_Ticket":"Billet d'avion",
```

In the Validation messages screen message window is translated by the product translation. The other translation is done by the Application globalization.



Datacap Navigator Translations

Shortcuts and descriptions	Job and task names	Page and document types

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Figure 5-69. Datacap Navigator Translations

The strings translated on the Datacap Desktop interface are:

- Shortcuts and Descriptions
- Job and Task names
- Page and document types
- Field names
- Validation messages

These fields are all marked in the screen capture images by the red circular or elliptical shapes.

Compare the default English resource.json file for the some field types against the French resource.json file.

English

```
// fields (includes batch-level fields)  
"field.Pickup_Date":"Car pick-up date",  
"field.Pickup_Location":"Car pick-up location",  
"field.Return_Date":"Car return date",  
"field.Return_Location":"Car return location",  
"field.Car_Type":"Car type",  
"field.Options":"Car options",  
"field.Total_Cost":"Total cost",
```

French

```
// fields (includes batch-level fields)  
"field.Pickup_Date":"Date d'enlèvement de la voiture",  
"field.Pickup_Location":"Emplacement d'enlèvement de la voiture",  
"field.Return_Date":"Date de retour de la voiture",  
"field.Return_Location":"Emplacement de retour de la voiture",  
"field.Car_Type":"Type de voiture",  
"field.Options":"Options de la voiture",  
"field.Total_Cost":"Coût total",
```

Resources.json translation keys

- A resources translation object consists of a key and a value.
 - The key precedes the colon.
 - The value follows the colon.
 - Both are surrounded by quotes.
 - The key is a concatenation of the Object type and the object name separated by a period.
- Example: key = "workflow.TravelDocs" value = " Travel Documents"

Resources.json file – key(type.name):value(translated)

```
{
  // comments
  "workflow.TravelDocs":"Travel Documents",
  "job.Main Job":"Main Job",
  "jobdescription.Main Job":"VScan process",
  "shortcut.Verify":"Verify",
  "shortcutdescription.Verify":"Verify with validations",
  "task.VScan":"Virtual Scan",
  "doctype.Car_Rental":"Car rental",
  "pagetype.Rental_Agreement":"Car rental agreement",
  "field.Pickup_Date":"Car pick-up date",
  "message.M001":"Invalid car type selected. Enter {0}, {1}, {2}, {3} or {4}."
}
```

Figure 5-70. Resources.json translation keys

Validation ruleset and message

- To use selection list to populate a field with a validation error there must be:
 - A validation rule that has:
 - A MessageID action and
 - Multiple MessageParameter Actions.
 - A corresponding message

Validation rule using MessageID

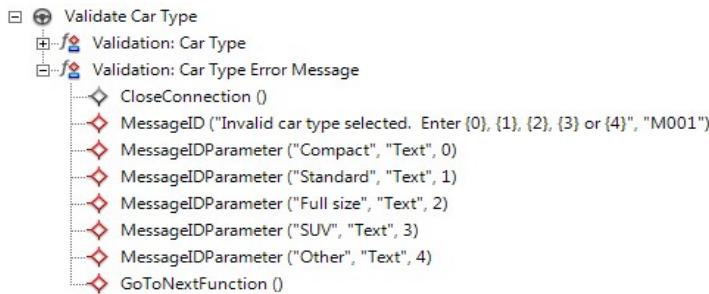


Figure 5-71. Validation ruleset and message

Resource.json

Sample Message

```
// messages (ID such as 'M001' must match those set in MessageIDParameter action)
// To use this message, replace PilotMessage_Set action with MessageID action
// Translator: the strings "Compact" "Standard" "Full size" "SUV" and "Other" should NOT be
// translated
```

English

"message.M001":"Invalid car type selected. Enter {0}, {1}, {2}, {3} or {4}."

French

"message.M001":"Type de voiture sélectionné non valide. Entrez {0}, {1}, {2}, {3} ou {4}."

MessageIDParameter - 2nd parameter type is one of {"job", "task", "shortcut", "field", "workflow", "appname", "pagetype", "doctype", "text", "variable"}.

If this item is translated, the client will substitute the translated value when displaying the message.

Review questions

1. True or False: Application developers can configure their own application globalization that is driven by the system locale setting.
2. True or False: All Datacap client interfaces respond to the locale settings.
3. What are valid locations for application globalization locale translation file?
 - A. C:\Program File\Datacap\local\.
 - B. C:\Datacap\dco_<app>.
 - C. C:\Datacap\dco__<app>\locale.
 - D. C:\Datacap\clients\locale.
4. True or False: All application globalization even for warning or error messages is configured by only creating a custom local/language Resource.json file?



Figure 5-72. Review questions

Review answers

1. True or False: Application developers can configure their own application globalization that is driven by the system locale setting. [The Answer is True.](#)

2. True or False: All Datacap client interfaces respond to the locale settings. [The Answer is False](#)

3. What are valid locations for application globalization locale translation file?
 - A. C:\Program File\Datacap\local\.
 - B. [C:\Datacap\dco <app>](#).
 - C. [C:\Datacap\dco <app>\locale](#).
 - D. C:\Datacap\clients\locale.

[The answer is B and C.](#)

4. True or False: All application globalization even for warning or error messages is configured by only creating a custom local/language Resource.json file? [The Answer is False.](#)
[\(Messages also require action edits in the ruleset\)](#)



Figure 5-73. Review answers

Exercise: Application Globalization

Requires:
Course Exercise Guide
Student system

Figure 5-74. Exercise: Application Globalization

Exercise objectives

- Configure Globalization



Figure 5-75. Exercise objectives

Unit summary

- Understand Virtual Stations and Queuing of Tasks
- Add Shortcuts to Web Client
- Plan for Disaster Recovery
- Convert and Migrate Datacap Databases.
- Configure Globalization

Figure 5-76. Unit summary

Unit 6. Maintenance

Estimated time

03:00 hours

Overview

This unit shows the maintenance aspects of the system. You learn the difference between Routine, Preventive, and Corrective Maintenance. You also learn about performing maintenance tasks automatically with NENU and you learn about all the available logging capabilities.

Objectives

- Perform Routine, Preventive, and Corrective Maintenance
- Configure NENU to periodically do batch cleanup
- Locate Event Logs

How you will check your progress

- Successfully complete the activities in the Student Workbook.

References

- Knowledge Center
http://www.ibm.com/support/knowledgecenter/SSZRWV_9.0.1/com.ibm.dc.install.doc/dcpov007.htm
- Redbooks: Implementing Document Imaging and Capture Solutions with IBM Datacap
<http://www.redbooks.ibm.com/abstracts/sg247969.html?Open>

Unit Objectives

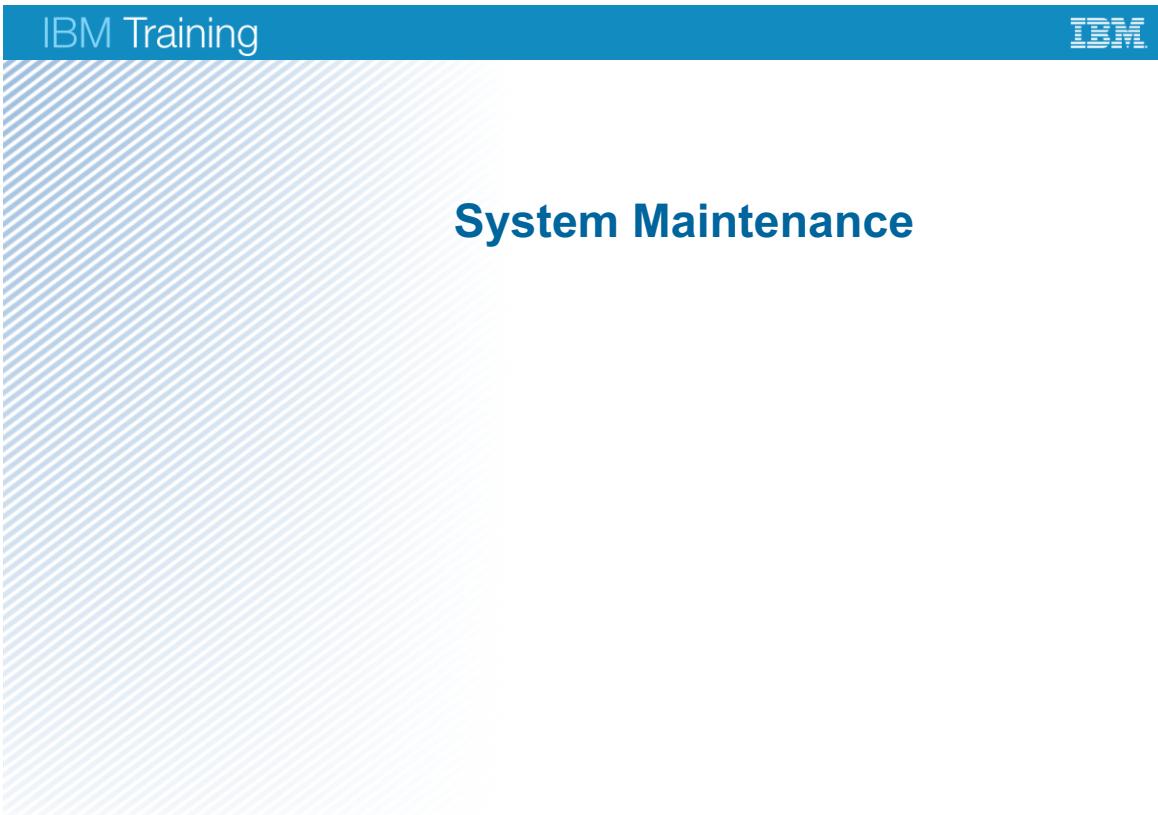
- Perform Routine, Preventive, and Corrective Maintenance
- Configure NENU to periodically do batch cleanup
- Locate Event Logs

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Figure 6-1. Unit Objectives

Lesson 6.1. System Maintenance



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Figure 6-2. System Maintenance

Topics

- ▶ System Maintenance
 - Maintenance Manager
 - Event Logs

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Figure 6-3. Topics

Why is this lesson important to you?

- As an administrator of an IBM Datacap capture system, you must be familiar with all configuration tasks for a functional IBM Datacap 9.0 system.
- You must be able to implement Routine maintenance procedures to ensure smooth operation of the data capture system.

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Figure 6-4. Why is this lesson important to you?

Routine Maintenance

- Monitor system performance to ensure consistent throughput.
- Monitor component throughput.
- Check load-sharing across duplicate resources to maximize throughput.
- Check logs to make sure that no errors occur.
- Make sure that Service Level Agreements (SLAs) that stipulate throughput expectations are met.
- Producing periodic reports, daily, weekly, monthly, year end.
- Use Report Viewer to produce reports.

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Figure 6-5. Routine Maintenance

Routine maintenance is any task that is done on some time schedule. It might be daily, weekly, monthly, or some other period. Practically, higher frequency tasks like daily tasks are more often referred to as routine tasks.

Preventive Maintenance

- Release resources.
- Delete processed batches to ensure that the disk resources are recycled.
- Flush event logs to make sure that they do not grow too large.
- Schedule service to mechanical devices like, scanners, printers, filters fans, air conditioners.

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Figure 6-6. Preventive Maintenance

Preventive maintenance is done less frequently than routine maintenance and is done to prevent performance degradation or catastrophic failure.

Corrective Maintenance

- Analyze errors that system operators reported and take corrective action.
- Analyze errors that are detected in error logs and take corrective action.
- Reassign scanners when mechanical failures occur.
- Configure Maintenance Manager to detect and handle exceptions.

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Figure 6-7. Corrective Maintenance

Corrective maintenance might result from routine and preventive maintenance to correct specific failures that occur.

Review introduction

Each topic that is listed fall into one of three Maintenance categories. Select the Maintenance category that describes the topic best.



Options are:

- **Routine Maintenance**
- **Preventive Maintenance**
- **Corrective Maintenance.**

Figure 6-8. Review introduction

Review questions

1. Is release resources Routine, Preventive, or Corrective?
2. Is monitor system performance to ensure consistent throughput, Routine, Preventive, or Corrective?
3. Is monitor component throughput, Routine, Preventive, or Corrective?
4. Analyze errors that are reported by System Operators and take corrective action. Is this action Routine, Preventive, or Corrective?
5. Is deleting processed batches to ensure that the disk resources are recycled, Routine, Preventive, or Corrective?



Figure 6-9. Review questions

Review answers

1. Is release resources Routine, Preventive, or Corrective?
The answer is Preventative
2. Is monitor system performance to ensure consistent throughput, Routine, Preventive, or Corrective?
The answer is Routine
3. Is monitor component throughput, Routine, Preventive, or Corrective?
The answer is Routine
4. Analyze errors that are reported by System Operators and take corrective action. Is this action Routine, Preventive, or Corrective?
The answer is Corrective
5. Is deleting processed batches to ensure that the disk resources are recycled, Routine, Preventive, or Corrective?
The answer is Preventative



Figure 6-10. Review answers

Review questions

6. Is checking load-sharing across duplicate resources to maximize throughput, Routine, Preventive, or Corrective?
7. Is flushing event logs to make sure that they do not grow too large, Routine, Preventive, or Corrective?
8. Is check logs to make sure that errors are not occurring, Routine, Preventive, or Corrective?
9. Is analyze errors that are detected in error logs and taking corrective action, Routine, Preventive, or Corrective?
10. Is making sure that Service Level Agreements (SLAs) that stipulate throughput expectations are met, Routine, Preventive, or Corrective?



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Figure 6-11. Review questions

Review answers

6. Is checking load-sharing across duplicate resources to maximize throughput, Routine, Preventive, or Corrective?
The answer is Routine
7. Is flushing event logs to make sure that they do not grow too large, Routine, Preventive, or Corrective?
The answer is Preventative
8. Is check logs to make sure that errors are not occurring, Routine, Preventive, or Corrective?
The answer is Routine
9. Is analyze errors that are detected in error logs and taking corrective action, Routine, Preventive, or Corrective?
The answer is Corrective
10. Is making sure that Service Level Agreements (SLAs) that stipulate throughput expectations are met, Routine, Preventive, or Corrective?
The answer is Routine



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Figure 6-12. Review answers

Review questions

11. Is Producing periodic reports, daily, weekly, monthly, year end, Routine, Preventive, or Corrective?
12. Is Configuring Maintenance Manager to detect and handle exceptions, Routine, Preventive, or Corrective?
13. Is using Report Viewer to produce reports, Routine, Preventive, or Corrective?
14. Is Scheduling service to mechanical devices like, scanners, printers, filters fans, or air conditioners, and releasing resources; Routine, Preventive, or Corrective?
15. Is reassigning scanners when mechanical failures occur, Routine, Preventive, or Corrective?



Figure 6-13. Review questions

Review answers

11. Is Producing periodic reports, daily, weekly, monthly, year end, Routine, Preventive, or Corrective?

The answer is Routine



12. Is Configuring Maintenance Manager to detect and handle exceptions, Routine, Preventive, or Corrective?

The answer is Corrective

13. Is using Report Viewer to produce reports, Routine, Preventive, or Corrective?

The answer is Routine

14. Is Scheduling service to mechanical devices like, scanners, printers, filters fans, or air conditioners, and releasing resources; Routine, Preventive, or Corrective?

The answer is Preventative

15. Is reassigning scanners when mechanical failures occur, Routine, Preventive, or Corrective?

The Answer is Corrective

Figure 6-14. Review answers

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Exercise: System Maintenance

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Figure 6-15. Exercise: System Maintenance

Exercise introduction

- Synchronize Job Monitor and Batch Folders



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Figure 6-16. Exercise introduction

Lesson 6.2. Maintenance Manager



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Figure 6-17. Maintenance Manager

Topics

- System Maintenance
- Maintenance Manager
- Event Logs

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Figure 6-18. Topics

Why is this lesson important to you?

- As an administrator of an IBM Datacap capture system, you must be familiar with all configuration tasks for a functional IBM Datacap 9.0 system.
- You must be able Configure and Maintenance Manager monitor the status of batches and do the appropriate cleanup activities to automate maintenance procedures.

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Figure 6-19. Why is this lesson important to you?

What can Maintenance Manager do?

- The Maintenance Manager component automates recurring, system health, and house cleaning tasks:
 - Batch monitoring.
 - Status notification.
 - Automatic deletion of completed batches.
- Maintenance Manager is a versatile tool.
- Tasks are scheduled with the Microsoft Windows Scheduler.
- Maintenance Manager can execute any Datacap Studio created ruleset.
 - Maintenance Manager rulesets can be part of any application.
 - Maintenance Manager rulesets can be defined in a custom Maintenance Manager application.

Figure 6-20. What can Maintenance Manager do?

Maintenance Manager Uses

- Use it to do selections in the application Engine database and run actions on the selected batches:
 - Monitor batches, notify statuses, and automatically delete completed batches.
 - Identify batches that meet certain criteria (batches that abort, for example).
 - Change the status of batches and their order in the queue.
 - Delete batches or move them to another location for archive.
 - Capture data snapshots to a database that are reported with Report Viewer.
 - Send email notifications (of error conditions or a batch abort conditions, for example).
 - Populate an external database with data gleaned from batches, such as details of what field data was modified in verification.

Figure 6-21. Maintenance Manager Uses

Maintenance Manager Run Methods

1. Manually using the Maintenance Manager.
2. Automatically using the Windows Task Scheduler, either at scheduled times or when triggered by a system event.
3. Automatically as a task of an application workflow.

Figure 6-22. Maintenance Manager Run Methods

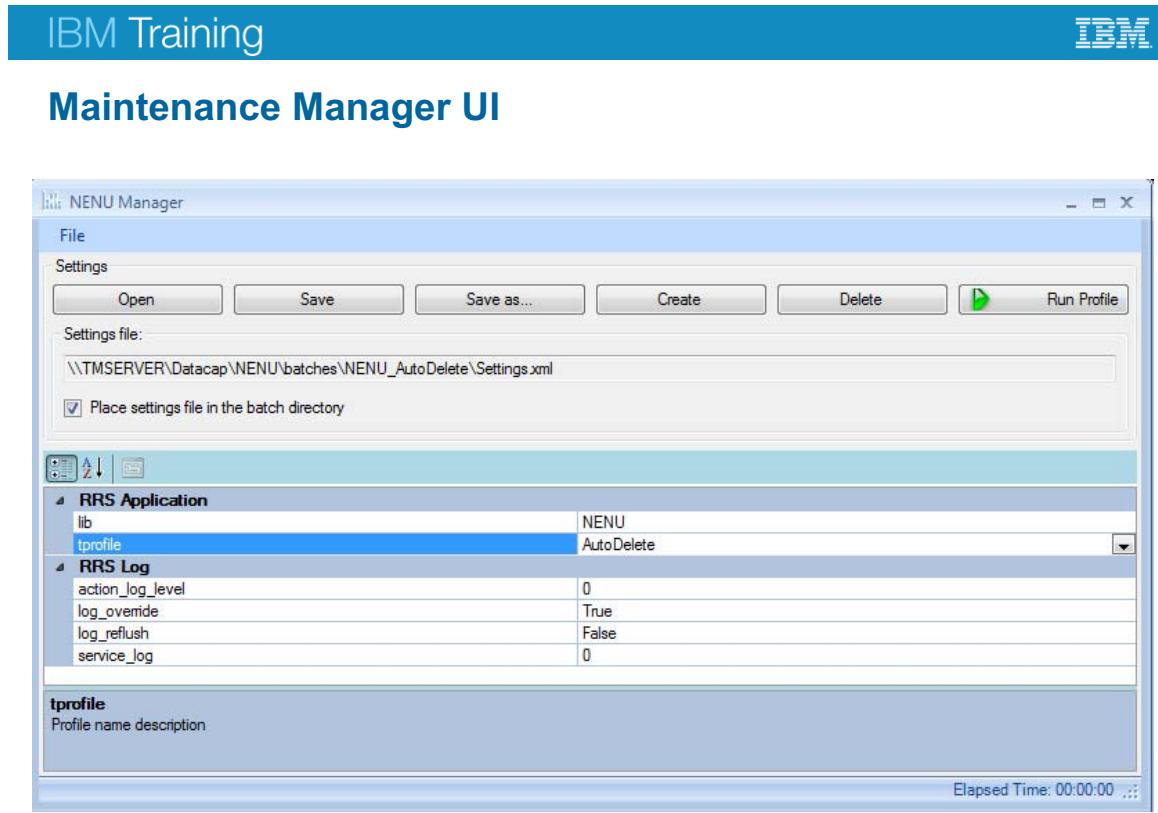


Figure 6-23. Maintenance Manager UI

Maintenance Manager Interface

Settings

Actions

- Open: Open a Settings file
- Save: Save Settings back to an already defined Settings file.
- Save as ...: Save a copy of the Settings file to another location.
- Create: Create a Settings file.
- Delete: Delete the currently selected Settings file.
- Run Profile: Run the Ruleset that the RRS Applications options define.

Settings file:

- The Settings file, by default is named Settings.xml and can be places anywhere in the file system.
- Place settings file in the batch directory: If you select this check box, then the Settings file is placed in the batches folder of the application that the lib parameter selects.

Example

\TMSERVER\Datacap\<Application>\batches\<Application>\<Profile>\Settings.xml

RRS Application

- lib: The Application that you select from the selection list of all Applications that are defined in the datacap.xml file.
- tprofile: The Task Profile that you select from the list of all Profiles that are defined in the Application that you selected.

RRS Log

- action_log_level: Select the logging level for action messages; 0 provides maximum information; 2 provides minimum information.
- log_override: Select True to create a log file; False to append to the existing log file.
- log_reflush: Select False to ensure that all messages are written to the log even in the case of an exception; runs slower but easier to debug.
- service_log: Select the logging level for service messages; 0 provides minimum information; 5 provides maximum information.

{Important} Selecting False for the log_reflush option seems counter-intuitive to force messages to be continually flushed to the log file. In the Datacap 9.0 release, this phenomenon is because of a code error. The correct selection should be True to flush the buffer to the log file.

Procedure for Creating a Maintenance Manager App

1. Start the Datacap server.
2. Start Datacap Studio.
3. Start application wizard and create an application that is named Maintenance Manager.
4. Log in to the Maintenance Manager application.
5. Delete all Rulesets in the ruleset tab
6. Create a Maintenance Manager ruleset.
7. Create a Maintenance Manager profile.
8. Add the Maintenance Manager ruleset to the Maintenance Manager profile.
9. Add actions to the rule/function for the Maintenance Manager ruleset.
10. Add the Maintenance Manager rule to the DCO.

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Figure 6-24. Procedure for Creating a Maintenance Manager App

Create a Maintenance Manager application that is a repository for Maintenance Manager rulesets that can be run either manually or automatically.

Maintenance Manager Action Categories

- Application Setup
 - Gets connections to the Administration and Engine databases for the specified IBM Datacap Capture Application.
- Query Setup
 - Builds the query string that is run against the application databases that you connected to in application setup.
- Batch processing
 - Runs the SQL query and does actions on the selected database records and optionally, the corresponding batches.
- Logging
 - Writes information to the Maintenance Manager and Windows log files and sends emails that contain the internal log file.
- Reporting
 - Writes information to the report tables in the Engine database for use by Datacap Report Viewer.

Figure 6-25. Maintenance Manager Action Categories

Application setup

There are special considerations about the available Authentication Systems.

The SetupOpenApplication Action requires that user credentials are defined before the SetupOpenApplication Action is processed. The credentials that are required are:

- SetUser: The User ID sets this Action.
- SetPassword: The password for the specified user.

It is best not to store User or Password values in the application without encryption. You should use Smart parameters, which are encrypted.

Example: SetPassword("@APPVAR(values/adv/mypassword)")

- SetStation: The Station ID to authenticate with.
 - The Station ID defaults to the computer name of the system that processes the Ruleset, if the Station ID is not set with the SetStation Action. The Station ID can be overwritten to use any defined Station ID that has the correct privileges set.
 - Add a Datacap station to your Application for Maintenance Manager that has the same name as the machine name and assign appropriate permissions.

TMA Authentication for Maintenance Manager

In the Maintenance Manager application, set the authentication parameters:

- For Authentication Maintenance Manager uses the Datacap User ID that the application set with the SetUser Action.
SetUser as user name (This user must be defined in the Application Admin database).
- The password is set with the SetPassword Action. Use the Smart parameters to encrypt the password.
- Allow the Station ID to default to the computer name or override it with the SetStation Action.

ADSI or LDAP Authentication for Maintenance Manager

In the Maintenance Manager application, set the authentication parameters:

- For Authentication Maintenance Manager uses the Windows User ID that the application set with the SetUser Action and defaults to the computer name for the Station ID.
SetUser: Set as domain\username.
- The password must not be defined with the SetPassword Action. Also, DO NOT user SetPassword with a blank password value.
- When you use the Windows Scheduler, set the account in Security Options to the Windows account used by Maintenance Manager to run with highest privileges.

Procedure to AutoDelete Batches

- Locate batches:
 - Based on time criteria.
For example, more than five days ago.
 - Based on process status
For example, completed successfully or aborted.
- Possible actions:
 - Delete batches from the batches folder of the application.
 - Delete the records that are related to the deleted batches from the Engine database of the application.Or
 - Move them to an archive folder.
 - Move related records to a separate archive database.
- Report actions:
 - Generate a log file that documents the results of the process.
 - Optionally, send an email to document the action that is taken.

Figure 6-26. Procedure to AutoDelete Batches

Exercise: Maintenance Manager

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Figure 6-27. Exercise: Maintenance Manager

Exercise introduction

- Create a NENU Manager Application
- Configure an Auto Start Schedule



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Figure 6-28. Exercise introduction

Lesson 6.3. Event Logs

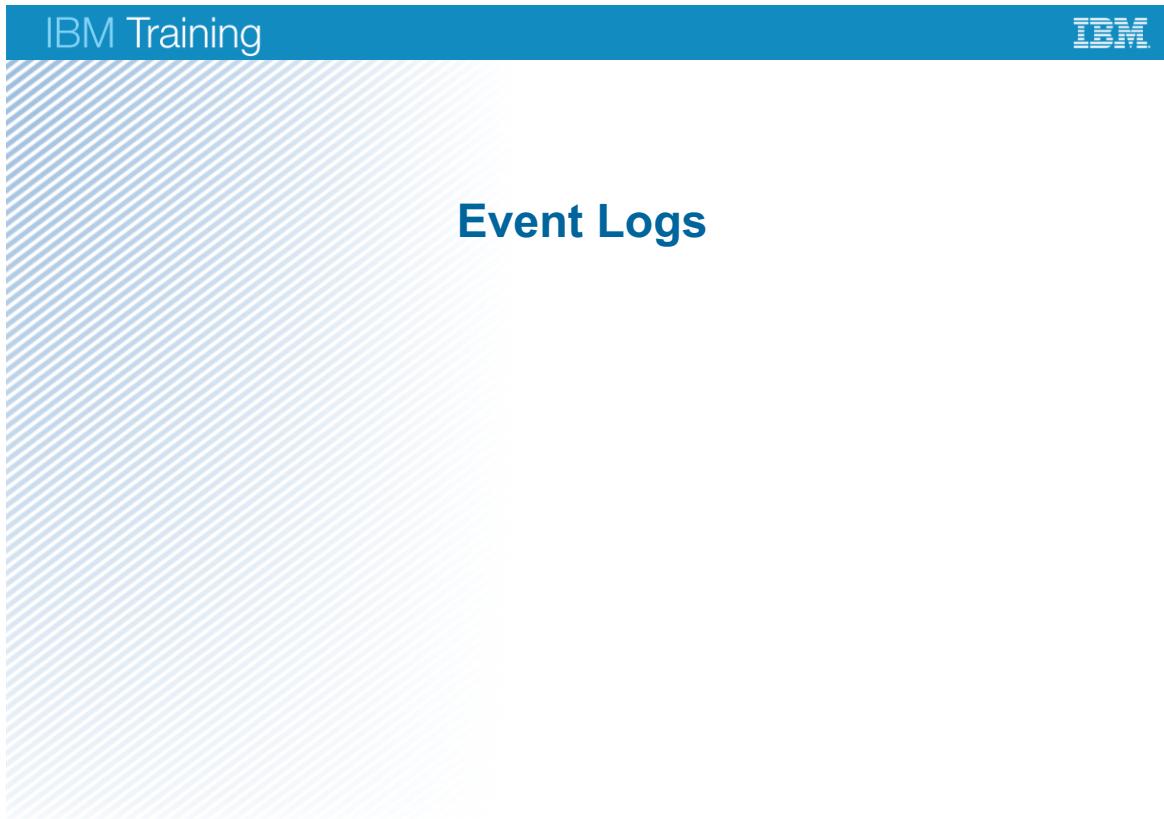


Figure 6-29. Event Logs

Topics

- System Maintenance
- Maintenance Manager



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Figure 6-30. Topics

Why is this lesson important to you?

- As an administrator of an IBM Datacap capture system, you must be familiar with all configuration tasks for a functional IBM Datacap 9.0 system.
- You must be able configure event logs. You must know where to locate them and how to interpret them for system performance and maintenance purposes.

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Figure 6-31. Why is this lesson important to you?

Introduction to Logging

- Datacap has an abundance of logging capability.
- All log content is controllable.
- Verbose log content can be helpful when testing a new installation or application.
- Excessive log content can be confusing and overwhelming. Maximum settings are not always best.
- Excessive log content uses system resources and degrades performance.
- Know where to locate log files.
- Know what each file is used for.
- Know where to control the log file content.
- When testing is over, set log content to minimum settings.

Figure 6-32. Introduction to Logging

Identify Logs

- Datacap Server Manager log file. (tms.log.0.log)
- Rulerunner Manager log files
 - Rulerunner – ATM log. (rulerunner_thread_x_atm.n.log)
 - Rulerunner thread log file. (rulerunner0.log)
 - Task level RRS log files. <task>_rrs.log
 - wrrs-<logid>.log
- Application Wizard log file (apwiz_new.log or apwiz_copy.log)
- Fingerprint Maintenance Tool (FMT.log)
- Maintenance Manager (nenu_rrs.log)

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Figure 6-33. Identify Logs

Log file Locations

Datacap Manager Service log file

This log records the actions that the Datacap Server Manager performs. This log is the most likely place to find messages about authentication progress or errors.

- C:\Datacap\tms.log.0.log

Rulerunner Manager log files

- C:\Datacap\rulerunner0.log
- C:\Datacap\rulerunner_thread_x_atm.n.log
- C:\Datacap\<appname>\batches\<batch>\<task>_rrs.log C:\Datacap\DSStudio\dstudio.log
- C:\Datacap\RRS\Logs\wrrs-xxxxxx.log

Application Wizard log file

These two logs record the selections that are made when a new application is created or an application is copied with the Application Wizard.

- C:\Datacap\<appname>\apwiz_new.log or apwiz_copy.log

Fingerprint Maintenance Tool

This log contains processing details that identify the Fingerprint Maintenance Tool changes.

- C:\Datacap\<appname>\dco_<appname>\FMT.log

Maintenance Manager (nenu_rrs.log)

This log contains processing details from Maintenance Manager either from Maintenance Manager or as a process scheduled by the Windows Scheduler.

- C:\Datacap\NENU\batches\NENU_NENU\nenu_rrs.log

C:\Datacap\Flex\dco_Flex\FlexManager.log



Control Log Content - Datacap Server Manager

- Start Datacap Server Manager.
 - Start > All Programs > IBM Datacap Services > Datacap Server Manager

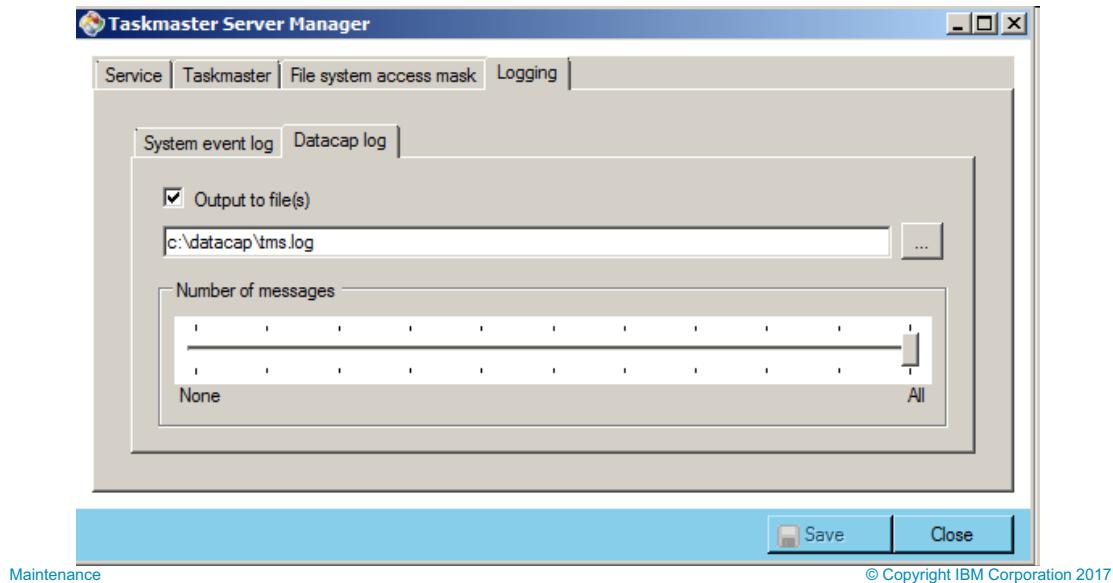


Figure 6-34. Control Log Content - Datacap Server Manager

Datacap Server Manager log

System Event Log

- Controls the level of messages that are written to the Windows System Event log and are viewed with the Windows Event viewer in the System log.
- Message level settings are
 - Critical only.
 - Serious and critical.
 - Info, critical, and serious.

Datacap Log

- Control whether any logging is required with the Output to file check box.
- Define the location and name of the tms.log file. The system appends a 0.log to the file name defined here.
- Define the logging that is recorded with the Number of messages slider.
- View the tms.log events with notepad.

- To clear the log, you must stop the server on the Service tab and then delete the file. When the service is restarted, a new log file is created.

Control Log Content - Rulerunner Manager Quick Log

- Start Rulerunner Manager.
 - Start > All Programs > IBM Datacap Services > Datacap Rulerunner Manager
- With Quick Log you can adjust all RRS logs simultaneously.
 - ATM Log
 - Rulerunner Log
 - RRS Log
- Individual logs also adjustable independently.

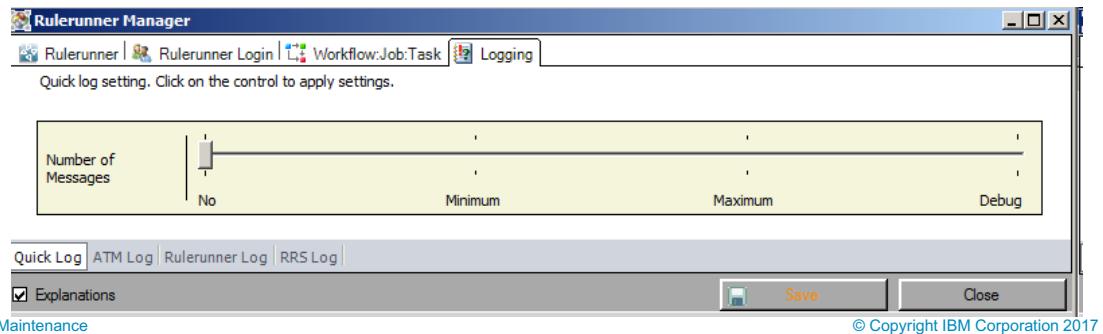


Figure 6-35. Control Log Content - Rulerunner Manager Quick Log

Number of Messages (slider)

Controls the level of detail that is written to each of the logs.

- No - Only serious errors are written to the Windows Application Event Log.
- Minimum - Writes warnings and errors in log files.
- Maximum - All logs contain almost all of the available information, including information messages, warnings, and errors.
- Debug - Full logging is enabled, including the flush buffer.

Control individual logs independently from:

- ATM log tab
- Rulerunner log tab
- RRS log tab



Control Log Contents - Maintenance Manager Log

- Start Maintenance Manager
 - Start > All Programs > IBM Datacap Services > Maintenance Manager
- Maintenance Manager RRS Log settings.

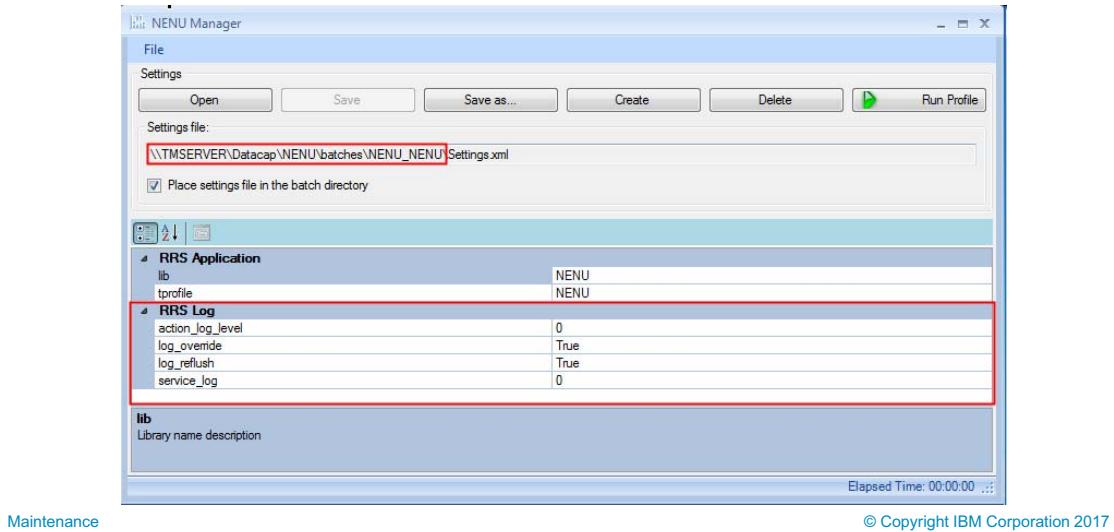


Figure 6-36. Control Log Contents - Maintenance Manager Log

RRS Application Settings for Maintenance Manager

- lib: Select the application that contains the Maintenance Manager task profile.
- tprofile: Select the name of the Maintenance Manager task profile.

RRS Log Settings for Maintenance Manager

- action_log_level: Select the logging level for action messages; 0 provides maximum information; 2 provides minimum information.
- log_override: Select True to create a log file; False to append to the existing log file.
- log_reflush: Select False to ensure that all messages are written to the log even in the case of an exception; runs slower but easier to debug.
- service_log: Select the logging level for service messages; 0 provides minimum information; 5 provides maximum information.

{Important} Selecting False for the log_reflush option seems counter-intuitive to force messages to be continually flushed to the log file. In the Datacap 9.0 release, this phenomenon is because of a code error. The correct selection should be True to flush the buffer to the log file.

Log file location

The log file is in the same folder as the settings file but saved with a file name of nenu_rrs.log

Example: \\TMSERVER\\Datacap\\NENU\\batches\\NENU_<profile>\\nenu_rrs.log

Maintenance Manager Actions for Logging

- During rule execution, Maintenance Manager actions write status messages to:
 - An internal log file that the SendEmail action uses.
 - The Rulerunner log file, which is stored in the application_name > batches > NENU folder.
- Use these actions to write information to:
 - The Maintenance Manager
 - Windows log files.
 - Send emails that contain the internal log file.
- Maintenance Manager Actions
 - LogClear
 - LogConfigure
 - LogSendEmail
 - LogWriteEventLog
 - LogWriteRecordSet
 - LogWriteSQLQuery

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Figure 6-37. Maintenance Manager Actions for Logging

Logging

Use these actions to write information to the Maintenance Manager and Windows log files and to send emails that contain the internal log file. During rule execution, Maintenance Manager writes status messages to an internal log file and to the Rulerunner log file:

- The internal log file is maintained in memory for the SendEmail action.
- The Rulerunner log file is stored in the application_name > batches > NENU folder.

Action

- LogClear: Clears the internal log file, but does not affect the Rulerunner log file.
- LogConfigure: Sets the severity level at which to activate logging and enables the logging features.
- LogSendEmail: Sends an email with the internal log file to one or more email recipients.
- LogWriteEventLog: Writes an information, warning, or error message to the Datacap section of the Windows Event log file.
- LogWriteRecordSet: Writes the returned recordset to the Maintenance Manager log file.

- `LogWriteSQLQuery`: Writes the result of previous calls to the Query Set actions to the Maintenance Manager log file.

Maintain Event Logs

- Increase logging volume while debugging.
- Reduce volume for normal operational conditions.
- Periodically flush logs to free space.

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Figure 6-38. Maintain Event Logs

Datacap Logs

- There are two kinds Datacap log files.
 - Rulerunner Service RRS log files
 - The RRS log provides detailed information about actions as they run.
 - There is a separate log file for each task in the batches folder. (<application>/batches/<date>.<number>/<task>_rrs.log).
 - Task log files
 - The task log documents internal calls and is mostly useful to the Datacap support team.

Figure 6-39. Datacap Logs

View Event Logs

- Datacap Studio Output Pane.
 - In Datacap Studio Debug mode, the task log files are also written to the Output pane.
 - C:\Datacap\<appname>\batches\<batch>\<task>_rrs.log
- Examining the Rulerunner log.
 - C:\Datacaprulerunner0.log
- View Rulerunner Processing logs.
 - C:\Datacap\Application\Batches\<task>_rrs.log
- Connector Action log files (for Export task).
 - C:\Datacap\Application\batches\export_rrs.log
- Microsoft Application Event.
 - Microsoft Event Viewer

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Figure 6-40. View Event Logs

Log File Locations

- C:\Datacap\tms.log.0.log
- C:\Datacap\rulerunner0.log
- C:\Datacap\rulerunner_thread_x_atm.n.log
- C:\Datacap\RRS\Logs\wrrs-xxxxxx.log
- C:\Datacap\<appname>\batches\<batch>\<task>_rrs.log
- C:\Datacap\<appname>\apwiz_new.log
- C:\Datacap\<appname>\fingerprint_rrs.log
- C:\Datacap\<appname>\dco_<appname>\FMT.log
- C:\Datacap\NENU\batches\NENU_<taskProfile>\nenu_rrs.log

Figure 6-41. Log File Locations

Exercise: Event Logs

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Figure 6-42. Exercise: Event Logs

Exercise introduction

- Configure Rulerunner for ExpenseDemo
- Use Quick Log Settings to Analyze Event Log Content



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Figure 6-43. Exercise introduction

Unit summary

- Perform Routine, Preventive, and Corrective Maintenance
- Configure NENU to periodically do batch cleanup
- Locate Event Logs

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Figure 6-44. Unit summary

Appendix A. Report Viewer

Estimated time

01:00 hour

Overview

This unit describes how to configure Report viewer.

How you will check your progress

- Successfully complete the activities in the Student Workbook.

References

IBM Knowledge Center

http://www.ibm.com/support/knowledgecenter/SSZRWV_9.0.1/com.ibm.datacaptoc.doc/datacap_9.0.1.htm

IBM Training

IBM

Unit objectives

- Configure Datacap Report Manager

Report Viewer

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Figure A-1. Unit objectives

Lesson A.1. Configure Report Viewer



Figure A-2. Configure Report Viewer



Topics

- ▶ Configure Report Viewer

Report Viewer

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Figure A-3. Topics

Why is this lesson important to you?

- As an administrator of an IBM Datacap capture system, you must be familiar with all configuration tasks that are required to achieve a functional IBM Datacap 9.0 system.
- In this lesson, you configure the Datacap Report Viewer component, which provides system report capability.

Report Viewer

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Figure A-4. Why is this lesson important to you?



What is Report Viewer?

- Report Viewer is a web application.
- Report Viewer displays real-time reports for Datacap applications.
- It has a complete range of standard reports.
 - See the standard report list at the info center location in the notes.
- Report Viewer is able to create custom reports

Report Viewer

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Figure A-5. What is Report Viewer?

Help path

- Datacap 9.0.1>Installing and configuring in a client/server environment>Datacap installation and configuration in a client/server environment>Datacap Report Viewer installation and configuration

IBM Datacap Report Viewer

Report Viewer is a web application that displays real-time reports of activity that is related to your Datacap applications. Datacap Report Viewer provides you with a set of standard reports and the ability to customize existing reports and create new reports.

Prerequisites for Report Viewer Installation

- An account with appropriate sharing and security permissions.
 - Account needs not to be unique for Report Viewer.
 - Account needs administrator rights on the Web Server system.
- Microsoft Internet Information Services (IIS).
- Appropriate sharing permission and security setup for the Datacap Server shared C:\Datacap folder

Figure A-6. Prerequisites for Report Viewer Installation

Set Datacap Folder Shared Permission & Security

- On the Datacap Server, set up C:\Datacap folder share permission and security.
 - On sharing tab in Advanced Sharing window, set permissions to Read for the domain/Windows user ID for Report Viewer.
 - On the security tab, set the permission to Read & Execute for the domain/Windows user ID for Report Viewer
- If the Datacap Server and the Report Viewer Web Server are not the same system, then import encryption key.

Figure A-7. Set Datacap Folder Shared Permission & Security

Import encryption keys if Report Viewer is on its own web server.

- Copy the C:\Datacap\Taskmaster\dc_KTF.xml key transport file from the Datacap Server to the same folder on the Datacap Web Server computer

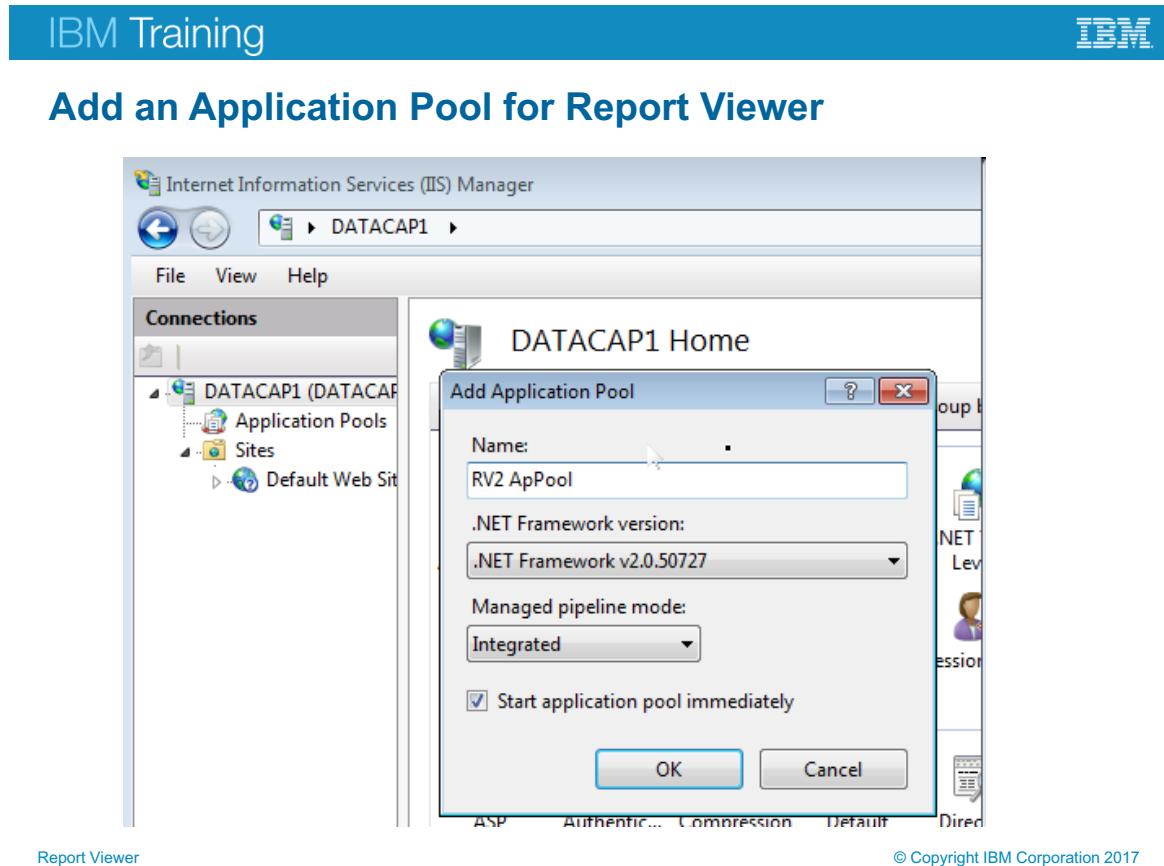


Figure A-8. Add an Application Pool for Report Viewer

Help path

- Datacap 9.0.1>Installing and configuring in a client/server environment>Datacap installation and configuration in a client/server environment>Datacap Report Viewer installation and configuration>Installing and configuring Datacap Report Viewer on a web server>Adding an application pool for Report Viewer

Add an Application Pool for Report Viewer.

- Start > Select Administrative Tools > Internet Information Services (IIS) Manager.
- In the Connections pane, expand the computer, right-click Application Pools, and select Add Application Pool.
- Set the Name to Report Viewer AppPool.
- Set the .NET Framework version to .NET Framework v4.0.30319.
- Set the Managed pipeline mode to Integrated.
- Select the Start application pool immediately option, then click OK.

ADSI or LDAP Authentication with Report Viewer

- Set the EnableLDAP option:
- Edit C:\Datacap\RV2\web.config
- Change "false" to "true":
 - <add key="EnableLDAP" value="true"/>
- User ID or password that is typed on the login window are ignored.
- The desktop user credentials are used to log in to Report Viewer.

Report Viewer

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Figure A-9. ADSI or LDAP Authentication with Report Viewer

Help Path:

- Datacap 9.0.1>Installing and configuring in a client/server environment>Datacap installation and configuration in a client/server environment>Datacap Report Viewer installation and configuration>Installing and configuring Datacap Report Viewer on a web server>Installing Datacap Report Viewer on the web server>Enabling ADSI or LDAP authentication with Report Viewer

How to use ADSI or LDAP authentication with Report Viewer?

- Datacap Server Manager offers multiple authentication systems for login.
- When using ADSI or LDAP authentication, password authentication is not done.
- Login is based on membership within certain AD/LDAP groups and their inclusion within the Datacap Administrator's Groups tab.
- In addition to any configuration within Datacap Server Manager, Report Viewer has its own requirement when using ADSI or LDAP authentication.

Solution

Report Viewer has an EnableLDAP setting specific for ADSI and LDAP authentication.

If left to the default of false, then login to Report Viewer requires that the operator enters a non-blank password even though password authentication is not done.

Any login attempt with a password fails and the user ID generally include the domain name for example, DOMAIN\username.

Set the EnableLDAP option:

- Stop the Report Viewer. This action can be enforced at server side by stopping IIS or the application pool for Report Viewer.
- Log in to the Report Viewer web server.
- Backup \Datacap\RV2\web.config. Use copy and paste.
- Edit web.config with Notepad.
- Locate the following line:
 - <add key="EnableLDAP" value="....."/>
- Change "false" to "true":
 - <add key="EnableLDAP" value="true"/>
- Save changes.

TMA, ADLDS or LLLDAP Authentication

- Set the EnableLDAP option:
- Edit C:\Datacap\RV2\web.config
- Change to "false" :
 - <add key="EnableLDAP" value="False"/>
- User ID or password that is typed on the login window are used for authentication.

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Figure A-10. TMA, ADLDS or LLLDAP Authentication

How to use TMA, ADLDS, or LLLDAP authentication with Report Viewer?

- Datacap Server Manager offers multiple authentication systems for login.
- When using **TMA, ADLDS, or LLLDAP** authentication, password authentication is done.
- Login is based on membership within certain AD/LDAP groups and their inclusion within the Datacap Administrator's Groups tab.

Solution

If the EnableLDAP left to the default of false, then login to Report Viewer requires that the operator enters a non-blank password even though password authentication is not done.

Any login attempt without a password that is specified fails and the user ID generally includes the domain name for example, DOMAIN\username.

Set the EnableLDAP option:

- Stop the Report Viewer. This action can be enforced at server side by stopping IIS or the application pool for Report Viewer.
- Log in to the Report Viewer web server.
- Backup \Datacap\RV2\web.config. Use copy and paste.

- Edit web.config with Notepad.
- Locate the following line:
 - <add key="EnableLDAP" value="....." />
- Change the value to "false":
 - <add key="EnableLDAP" value="false" />
- Save changes.

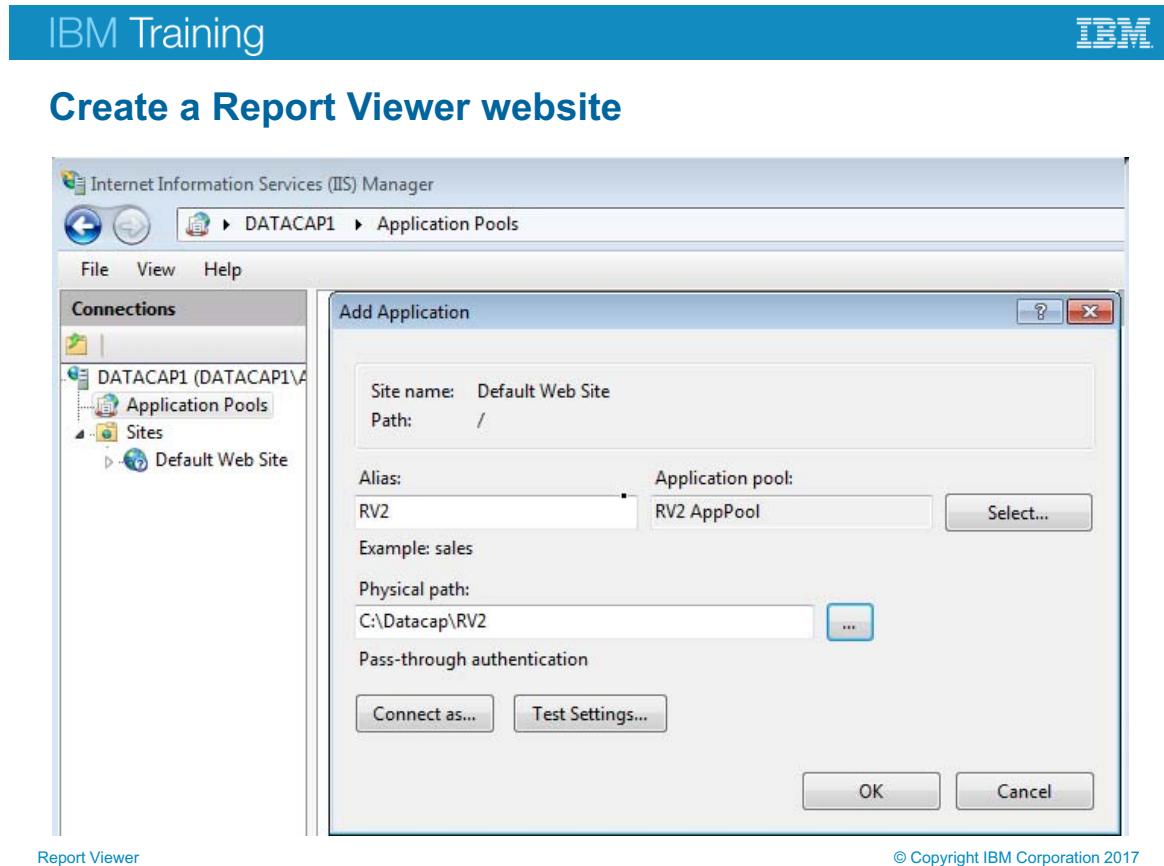


Figure A-11. Create a Report Viewer website

Help path

- Datacap 9.0.1>Installing and configuring in a client/server environment>Datacap installation and configuration in a client/server environment>Datacap Report Viewer installation and configuration>Installing and configuring Datacap Report Viewer on a web server>Client/server environment: Setting up the Datacap Report Viewer website

Create a Report Viewer website.

- Click Start > Select Administrative Tools > Internet Information Services (IIS) Manager.
- In the Connections pane, expand the computer, and Sites nodes. Right-click the Default Web Site and select Add Application.
- Set the Alias to Report Viewer.
- Click Select and select the Report Viewer App Pool that you added, then click OK.
- Set the Physical path by entering or browsing to the installation folder for Report Viewer. The default location is C:\Datacap\RV2.
- Click OK to close the Add Application dialog.

Configure Actions Advanced settings

- In the Connections pane, select Application Pools.
- In the Application Pools pane, select the Report Viewer App Pool then, in the Actions pane, in the Edit Application Pool section, click Advanced Settings.
- Ensure that the Microsoft .NET version is set to v4.0.
- Ensure that Enable 32-Bit Applications is set to True.
- In the Process Model section, click browse to the right of Identity.
- In the Application Pool Identity window, select Custom account and click Set.
- In the Set Credentials window, enter the Report Viewer domain/Windows account information (the same account that you added to the WebServer Administrators Group) in the format: accountname@domainname, enter the account password twice, then click OK
- In the Process Model section, set Load User Profile to True.
- Click OK.

Change the Cookie settings Name.

- In the Connections pane, expand the computer, Sites, and the Default Web Site nodes, select the Report Viewer site, and in the middle pane, double-click Session State.
- Under Cookie Settings, change the Name to Report Viewer or another unique name; then, in the Actions pane, click Apply.

Restart the Default Web Site.

- In the Connections pane, select the Default Web Site; then, in the Actions pane, under Manage Web Site, click Restart.
- Confirm all of the following are started: Web Server, Application Pool, and Default Web Site.

Configure the Location of the Datacap.xml File

- Open Datacap Application Manager on the Report Viewer Web Server
 - Start > All Programs > IBM Datacap Services > Datacap Application Manager
 - On the services tab, set the location of the datacap.xml file
 - \\<ServerName>\Datacap\datacap.xml
- Start the Datacap Server Service
- Add the Report Viewer Server Web Server address to the trusted sites.
 - Internet Explorer > Internet Options > Security > Trusted sites > Sites
 - Type http://WebServerName
- Access the Report Viewer web application
 - Use Internet Explorer to browse to http://WebServer/RV2/Login.aspx

Figure A-12. Configure the Location of the Datacap.xml File

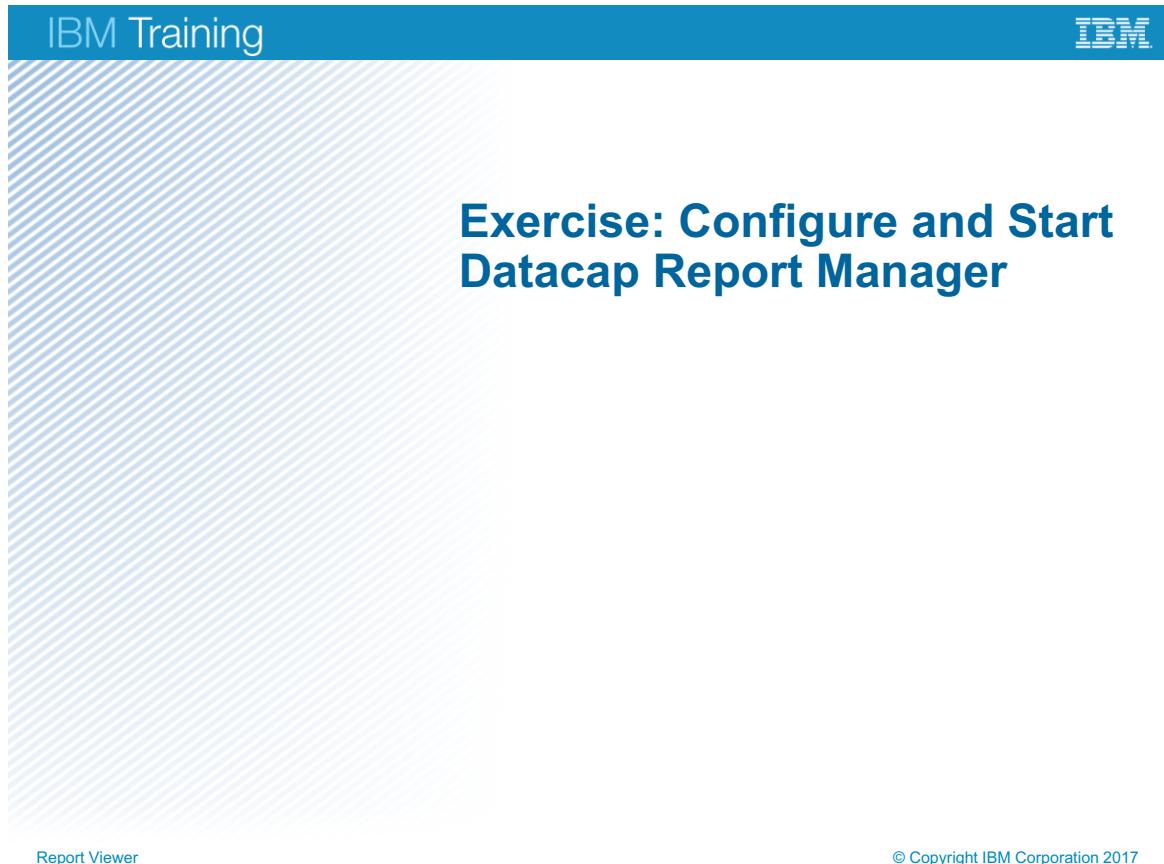
Configure the reports.xml File

- The List of available report types comes from reports.xml
 - C:\Datacap\RV2\reports.xml
- There is one entry for each report type.
 - Sample entry:
 - <k name="report" v="MyCustomReport" key="tmengine:cs" dbtype="0" />
 - name="report" for means report is displayed.
 - name="disable" means that report is not displayed.
 - dbtype="0" for Access database.
 - dbtype="1" for SQL database.
 - dbtype="2" for Oracle database.
- If the report is for a specific application, add the app attribute.
 - Example: app="TravelDocs"

Figure A-13. Configure the reports.xml File

Help Path

- Datacap 9.0.1>Installing and configuring in a client/server environment>Datacap installation and configuration in a client/server environment>Datacap Report Viewer installation and configuration>Installing and configuring Datacap Report Viewer on a web server>Setting the location of the datacap.xml file



Report Viewer

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Figure A-14. Exercise: Configure and Start Datacap Report Manager

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Exercise objectives

- Configure and Start Datacap Report Manager



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Figure A-15. Exercise objectives



Unit summary

- Configure Datacap Report Manager

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Figure A-16. Unit summary



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