

Best Practices - IBM Case Manager, IBM DataCap, IBM FileNet Content Manager

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Agenda

- IBM Case Manager best practices
- IBM DataCap best practices
- IBM FileNet Content Manager best practices

IBM Case Manager

The content-centric solution platform

A platform for building, deploying, hosting, and managing content-centric workflow solutions across the enterprise.



Value to IT

Delivering business outcomes

When put to work, business content is a competitive advantage.



Value to Enterprise

The system of engagement to activate business content

A flexible user experience, optimized for agile business solutions.



Value to Line of Business

System Topology: Recommended ICM environments

- **Development Environment**
 - ICM development profile; Typically has a non-enterprise LDAP
 - Solution development – solution changes should be made only in the dev. env.
 - **Best practice: Assign each critical solution its own Project Area**
- **Test Environment**
 - ICM development profile; Typically has a non-enterprise LDAP
 - **Best practice: Non-business users validate solution – do NOT edit solution here, go back to Development Environment**
- **UAT or Pre-production Environment**
 - ICM production profile; Enterprise LDAP
 - Business users validate solution for production readiness
 - **Best practice: Configuration should be as close to production as possible (clustering, integration)**
- **Production Environment**
 - ICM production profile
 - Solutions are deployed for actual production use; Solution should be problem-free
 - **Best practice: Deploy solutions to different target environments as appropriate for efficient management and Sizing**

Best practice: dedicated TEST and UAT testing environments allow for the decoupling of the schedules of DEV and PROD-related activities

Best Practices - Solution Security

- Security Wizard – new in ICM 5.2

http://www-01.ibm.com/support/knowledgecenter/SSCTJ4_5.2.0/com.ibm.casemgmt.design.doc/acmdc001.htm

- New tool in ICM 5.2
- Accessible in the ICM administration client
- Provides a case management solution-oriented view of the security configuration
- Makes security configuration of solutions
 - Simpler
 - Easier to review
 - More consistent
 - Transferable across ICM environments

- Security Manifest

- Various content- and workflow-related permissions are organized into logical settings appropriate for a case management environment
- developerWorks: ICM 5.2 Security Model Considerations and Best Practices

https://www.ibm.com/developerworks/community/groups/service/html/communityview?communityUid=e8206aad-10e2-4c49-b00c-fee572815374#fullpageWidgetId=Wf2c4e43b120c_4ac7_80ae_2695b8e6d46d&file=e7f217f2-62bc-400d-88b8-8104f1908a81

- Knowledge Center documentation

http://www-01.ibm.com/support/knowledgecenter/SSCTJ4_5.2.0/com.ibm.casemgmt.design.doc/acmsc000.htm

Best Practices - Solution Deployment

- DeveloperWorks: IBM Case Manager 5.2 Solution Deployment Guide
https://www.ibm.com/developerworks/community/blogs/e8206aad-10e2-4c49-b00c-fee572815374/entry/ibm_case_manager_5_2_solution_deployment_guide?lang=en&acss=danl_705_web
- Tech note: How do I troubleshoot deployment or security related issues in IBM Case Manager 5.2?
http://www-01.ibm.com/support/docview.wss?uid=swg21648669&acss=danl_705_web
- Log and traces
 - Target object store has logs in the solution folder
 - Detailed Deployment log
 - Error Deployment log
- Java application server logs (e.g. SystemOut.log) for CPE, Case Manager servers
- Depending on where you attempted to deploy:
- ICM administration client logs
- ICM configuration tool log
- Possible tracing options to enable:
 - Case Manager server WebSphere admin console: com.ibm.casemgmt.api
 - CPE subsystem tracing: EJB, Error
 - CPE Process service tracing in vwtool: API RPC, API RPC IN, Exception
- **Best practice for editing existing solutions**
 - **Follow solution editing guidelines to prevent deployment errors and problems after deployment**
 - **Redeployment restrictions for modifying a solution**
http://www-01.ibm.com/support/knowledgecenter/SSCTJ4_5.2.1/com.ibm.casemgmt.design.doc/acmdc024.htm

IBM Case Manager Log and Configuration files - IBM Case Manager configuration tool

- Installation log file
 - <ICM_install_dir>/logs/IBM_Case_Manager_5.2.1.0_InstallLog.txt
- Configuration files
 - <ICM_install_dir>/configure/configmgr.ini
 - <ICM_install_dir>/configure/configmgr_cl.ini
 - <ICM_install_dir>/configure/configuration/cmlogging.properties (to configure primary logging)
- Runtime log files
 - Primary log files:
 - <ICM_install_dir>/logs/.metadata/.log
 - <ICM_install_dir>/logs/IBM_Case_Manager_5.2.1.0_CMCT*.log
 - The most recent one is named IBM_Case_Manager_5.2.1.0_CMCT0.log
 - Debug-level tracing
 - Enabled by default in the GUI
 - Use the -debug switch at the command prompt
 - Scripts and logs for each task:
 - <ICM_install_dir>/configure/tmp/*.tcl
 - <ICM_install_dir>/configure/tmp/*.log
- Other logs to look at:
 - Java application server logs
 - WebSphere® Application Server SystemOut.log
 - Oracle® WebLogic Server AdminServer.log file (AdminServer is the default server name)

IBM Case Manager Log and Configuration files - IBM Case Manager administration client

- Installation log file
 - <ICM_install_dir>/logs/IBM_Case_Manager_5.2.0.0_InstallLog.txt
- Version file
 - <ICM_install_dir>/version.txt
- Runtime log files
 - Application server logs :
 - IBM WebSphere® Application Server SystemOut.log
 - Oracle® WebLogic Server AdminServer.log file (AdminServer is the default server name)
- Debugging
 - Browser tools (Fiddler, Firebug)
 - IBM Content Navigator debug-level logging – output goes into java app server logs
- Other log files to look at
 - Solution deployment logs in the solution folder in the target object store

IBM Case Manager Log and Configuration files - IBM Case Manager Builder

- Installation log file
 - <ICM_install_dir>/logs/IBM_Case_Manager_5.2.0.0_InstallLog.txt
- Version file
 - <ICM_install_dir>/version.txt
- Runtime log files
 - Application server logs (SystemOut.log, AdminServer.log)
- Debugging: two options
 - WebSphere admin console > Logging and Tracing > server > Change log detail levels;
 - WebSphere diagnostic tracing (a.k.a Case Builder debug-level server tracing):
 - http://www-01.ibm.com/support/knowledgecenter/SSCTJ4_5.2.0/com.ibm.casemgmt.design.doc/acmta004.htm?lang=en
 - Output goes into java app server logs
 - Must be logged into Case Builder to see components in WebSphere admin console
 - Case Builder CBE logs – rare scenarios
 - http://www-01.ibm.com/support/knowledgecenter/SSCTJ4_5.2.0/com.ibm.casemgmt.design.doc/acmta035.htm?lang=en
 - Output goes into CBE log files (icmcbexxx.log); XML format, large output files
 - Mostly the same info as WebSphere diagnostic trace, try that option first
 - Browser tools (Fiddler, Firebug)
 - IBM Content Navigator debug-level logging -- **not applicable**, CB is not registered in ICN
- Other log files to look at
 - Solution deployment logs

IBM Case Manager Log and Configuration files - IBM Case Manager Client

- Installation log file
 - <ICM_install_dir>/logs/IBM_Case_Manager_5.2.0.0_InstallLog.txt
- Version file
 - <ICM_install_dir>/version.txt
- Application server logs (SystemOut.log, AdminServer.log)
- Debugging –
 - Discussed previously under Tools
- Browser tools (Fiddler, Firebug)
- IBM Content Navigator debug-level logging – output goes into java app server logs
 - –"icmErrorStackTrace=true" parameter
 - –"debug=true parameter"

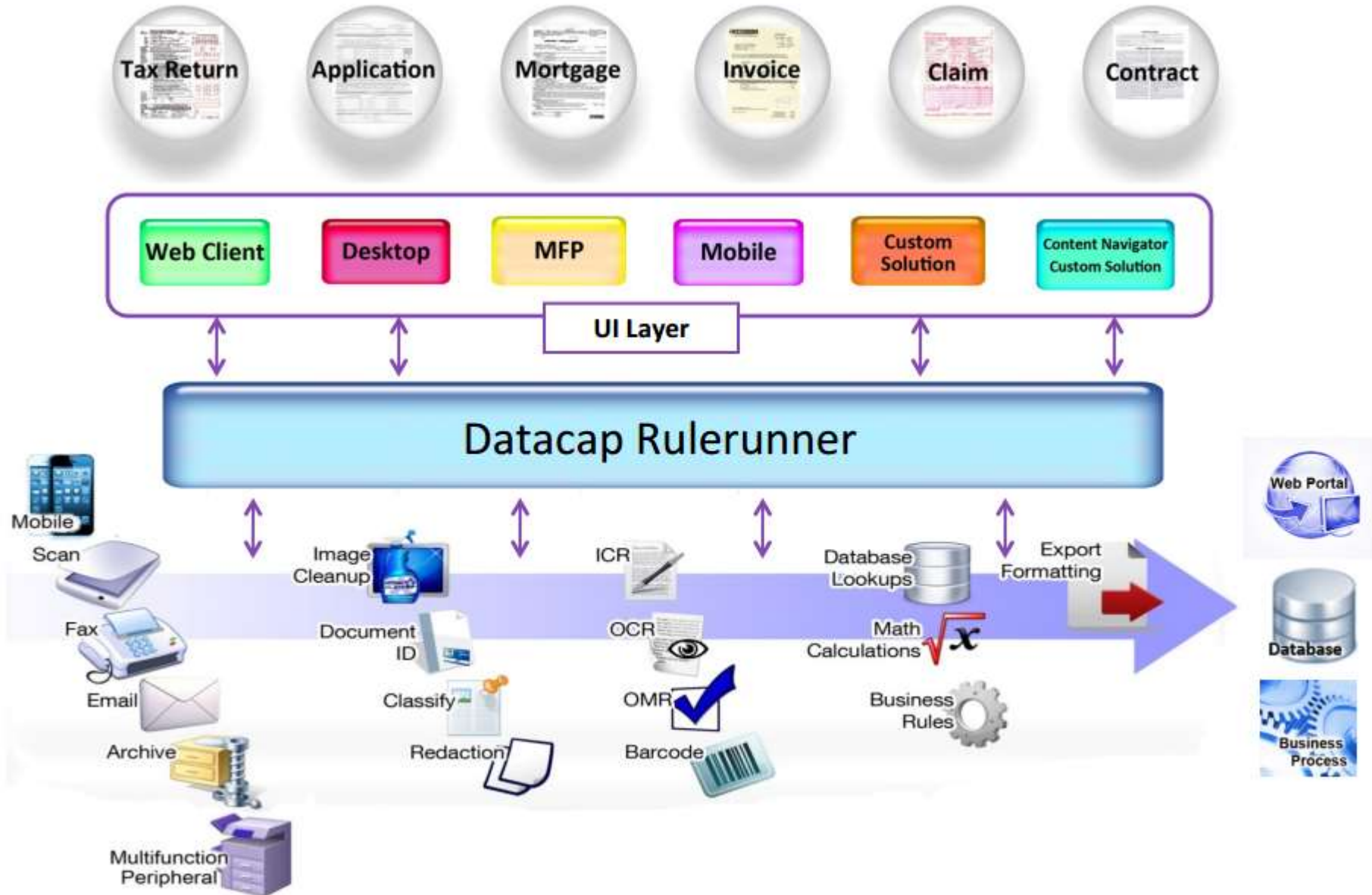
IBM Case Manager Log and Configuration files - Additional Links About Logging

- Case Manager Troubleshooting technote
<http://www.ibm.com/support/docview.wss?uid=swg21648669>
- MustGather: Collecting Data for the IBM Case Manager installation program v5.2.0.x issues
<http://www-01.ibm.com/support/docview.wss?uid=swg21640026>
- MustGather: Collecting Data for IBM Case Manager Java/REST API v5.2.0.x issues
<http://www-01.ibm.com/support/docview.wss?uid=swg21640051>
- Process Engine REST API tracing on the ICM server
http://www-01.ibm.com/support/knowledgecenter/SSCTJ4_5.2.0/com.ibm.casemgmt.installing.doc/acmlg001.htm
- CPE Subsystem Tracing
http://www-01.ibm.com/support/knowledgecenter/SSNW2F_5.2.0/com.ibm.p8.ce.admin.tasks.doc/p8pcc070.htm?lang=en
 - The ICM server generates its own p8_server_trace.log and p8_server_error.log files too
- CPE Process Tracing
http://www-01.ibm.com/support/knowledgecenter/SSNW2F_5.2.0/com.ibm.p8.pe.vw.doc/bpfv1049.htm?lang=en
 - vwtool can run on any CPE client
- Tech note with step-by-step instructions:
<http://www-01.ibm.com/support/docview.wss?uid=swg21678454>

Ping Pages

- **IBM Case Manager build number:**
<http://<CM-server name or IP>:<port number>/CaseManager/CASEREST/v1/info> CPE build number (CPE Startup Context, or Ping Page):
[http://\[CPE server name\]:\[CPE port\]/FileNet/Engine](http://[CPE server name]:[CPE port]/FileNet/Engine)
- **CPE System Health:**
[http://\[CPE server name\]:\[CPE port\]/P8CE/Health](http://[CPE server name]:[CPE port]/P8CE/Health)
- **Process service build number (Process Service ping page):**
[http://\[CPE server name\]:\[CPE port\]/peengine/IOR/ping](http://[CPE server name]:[CPE port]/peengine/IOR/ping)
- **Thread information**
[http://\[CPE server name\]:\[CPE port\]/peengine/IOR/ping?systeminfo=true](http://[CPE server name]:[CPE port]/peengine/IOR/ping?systeminfo=true)
- **ACCE version:**
[http://\[CPE server name\]:\[CPE port\]/acce](http://[CPE server name]:[CPE port]/acce)
Log into ACCE, click on the Tools (gear icon next to the user name) menu, and choose About.
- **ICN ping page (shows ICN build number):**
[http://\[ICN server name\]:\[ICN port\]/navigator/Ping](http://[ICN server name]:[ICN port]/navigator/Ping)
- **Workplace XT build number:**
[http://\[Workplace XT server name\]:Workplace XT port\]/WorkplaceXT](http://[Workplace XT server name]:Workplace XT port]/WorkplaceXT)
Do not log in. Right-click the page on the white space anywhere, and choose View Source. The Workplace XT build information is towards the top of the HTMLcode.
- **IBM Forms test URLs:**
[http://\[IBM Forms server name\]:8085/translator](http://[IBM Forms server name]:8085/translator)
[http://\[IBM Forms server name\]:8085/translator/Translate?Action=toolbelt](http://[IBM Forms server name]:8085/translator/Translate?Action=toolbelt)

IBM DataCap



Form Design – Best Practices

- Font
 - Use 10-14 size fonts for better capture
- Barcodes
 - Use 1D and 2D barcodes wherever possible; used to identify documents with > 90% accuracy.
 - Barcodes attached at extreme angles are difficult to capture.
- Resolution
 - General rule is to use 200 to 300 dpi; At least 300 dpi for OCR/A
- Layout
 - Constrained Text boxes for better recognition of hand written text
 - Encourage Use of Clear well formed Uppercase characters (by means of instructions)
 - Ensure that OMR checkboxes are of adequate sizes
- Scanners
 - Use color forms, provided, color dropouts happen
 - Poor quality of scanning can result in poor quality recognition
 - Regular maintenance of scanners ensures better quality
- Separator Sheets
 - Use light colored paper for separator sheets.
 - Use different colors for document and attachment separators
 - Repeated photocopying of Original separator sheet causes degradation and would become eventually unreadable.

Application Development - Best Practices 1/4

- Testing an application
 - Test by using prescanned images
 - Use VScan, until the application is complete
 - Use scanner, once you are satisfied with the results using VScan
 - Enable logging in Testing and Production systems
- Capturing Data
 - Define output requirements from the start.
 - Define the Hierarchy, namely Pages, Document structure, Min, Max, Order criteria, etc
 - Define the Fields to be captured per page, and their types
 - Define whether the form requires OCR, ICR, OMR etc.
 - Do not decide what data to extract, half way through building the application
 - OCR Data can be captured using one of the following methods
 - Zone – An Area of the form marking the location of the data
 - Keyword – Using a Keyword to capture the adjacent text
 - Regular expression – Using regular expressions to capture data in a particular format like Zip etc
 - Operator input – which requires text to be entered manually

Application Development - Best Practices 2/4

- Smart Parameters
 - Avoid Hardcoding Paths.
 - Use Smart Parameters
 - @APPPATH - reads path from the application service
 - This would help in easy porting of applications between machines
 - Use the rr_ actions from the Rulerunner library to work with smart parameters
 - Smart Parameters can be defined at each hierarchy using the @ symbol, namely @B,@D,@P,@F etc
- New Applications
 - Use Application Wizard to create a copy of the foundation and demo applications (APT, Flex, Mclaims) etc, before making changes to the copy
 - This leaves the foundation applications intact
 - This also gives a good start, than building applications from the scratch
- Actions
 - Never modify an action in RRX files in the RRS folder. These would get overwritten, when fixpacks gets installed
 - Instead, copy the files into the rules folder and make changes
 - Give a different name to the actions in the new rrx files, as it would be ambiguous because, one may not know, as to which action got loaded from which library
- Scripting
 - The actions provided out of the box, sometimes may not be sufficient, and would require customization using scripting.
 - DataCap is flexible to allow adding Additional custom functionality using scripting
 - Custom actions can be coded as a vbscript action or as a .Net action

Application Development - Best Practices 3/4

- OMR – Pixel Threshold Method
 - RecogOMRThreshold takes two parameters
 - Threshold - % of black pixels
 - Background - % of pixels that is scanner noise and/or checkbox outline
 - Start with a initial value of (20,15), meaning a tick mark which has 20% black pixels.
 - Run a batch and look at the data file to get the Density String based on the (20,15) value.
 - Tune it based on the Density String
 - Corresponds to three OMR zones with Density String FBG
 - Percentage black pixels = character's ASCII code value – 48
 - The three percentages are
 - F → 70-48=22%, B → 66-48=18%, G → 71-48=23%
 - Check the Original page image to see if the corresponding check boxes were selected or not
 - This gives a clue that the threshold and background can be set between a range of 18 to 23

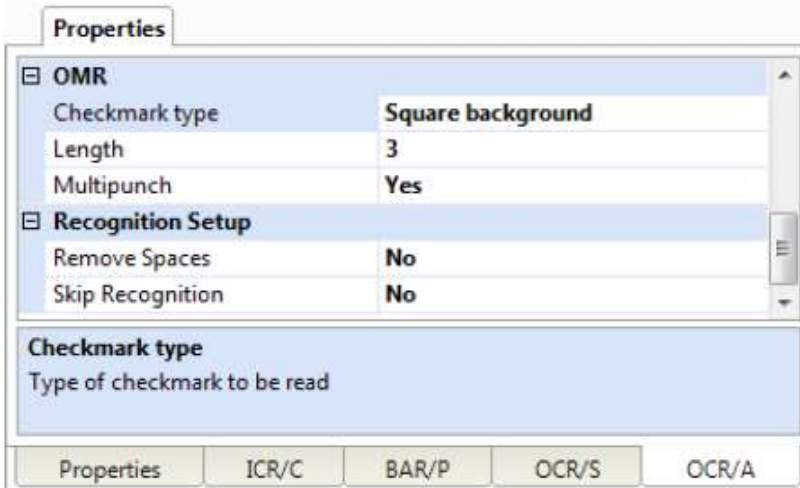
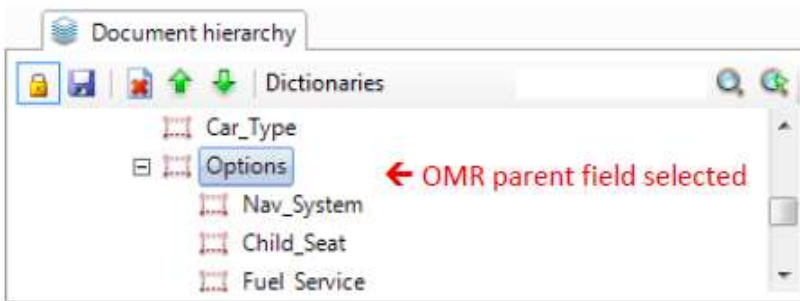
```

<F id="options">
  <V n="TYPE">options</V>
  <V n="Position">1171,327,1518,622</V>
  <V n="STATUS">0</V>
  <V n="DensityString">FBG</V>
  <C cn="10" cr="1440,405,1490,418">49</C>
  <C cn="10" cr="1440,475,1490,525">48</C>
  <C cn="10" cr="1440,541,1490,591">49</C>
</F>...
  
```

Checkbox	Percentage filled
<input checked="" type="checkbox"/>	22%
<input type="checkbox"/>	18%
<input checked="" type="checkbox"/>	23%

Application Development - Best Practices 4/4

- OMR – OCR/A checkbox recognition
 - The OCR/A checkbox recognition uses the RecognizeFieldOCR_A action to determine whether the zone represent a selected or non-selected checkbox
 - This action must be included in a rule and associated with the OMR field.

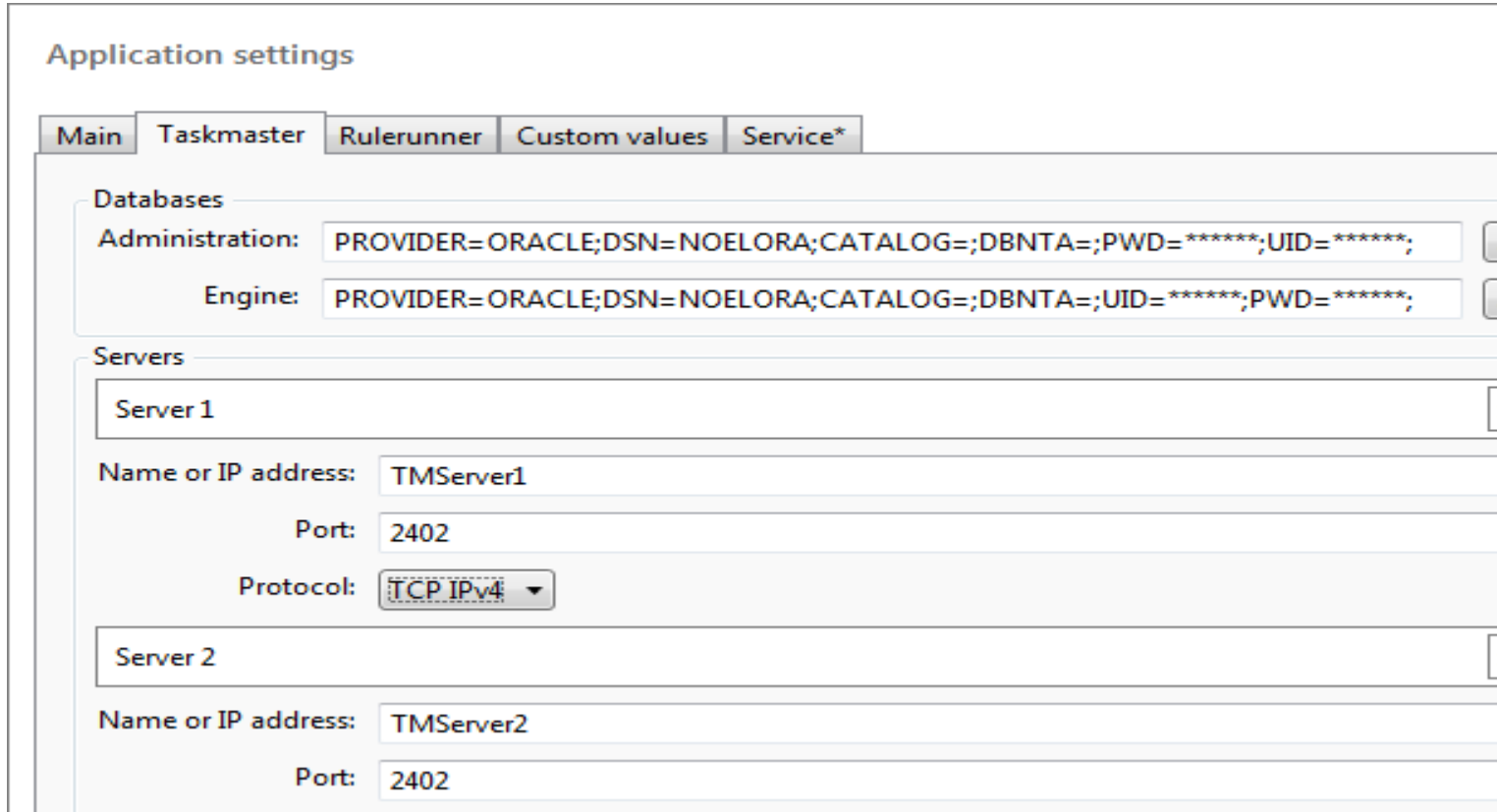


← OCR/A OMR settings for selected field

DataCap Scaling

- For High Availability (HA) and load balancing
 - Static load distribution
- Simultaneous batch creation, production operation
- Any Admin DB changes should be made from a single server, may require restart of other server
- Supported Microsoft SQL Server or Oracle, not Microsoft Access
- Manual load balance by configuring primary TM Server differently for different components
- Active-Active supported since TM8.1, Add servers to App Manager Taskmaster tab
 - Servers configured per application (XML .app file)
- HA – fail over
 - Clients (TMWeb, Dstudio, DotScan, DotEdit, Rulerunner Server, NENU, and RV2) connect to first server at login, fail over to alternate
 - In case of TM Server failure
 - Interactive users must re-login; Rulerunner Server automatically fails over after current task
- Static load distribution for scalability
 - Manually load balance instances of Taskmaster components, point to different versions of .app file with different servers first in list
 - Auto load balancing with appliance or MS NLB is possible but not supported at present
 - Advanced Rulerunner Server configuration to roam across servers by manually configuring server names in .app file

DataCap Scaling - example



```
1040ez.app: <app name="1040ez" ver="11" modder="developerID" dt="08/22/12 12:03:04.701 ">
  <k name="tmservers">
    <k name="tms" ip="TMServer1" port="2402" retry="3" protocol="300"/>
    <k name="tms" ip=" TMServer2" port="2402" retry="3" protocol="300"/>
    <k name="tms2" ip=" TMServer2" port="2402" retry="3" protocol="300"/>
  </k>
  ....
```

← App file w/ explicit server name tms2

FileNet Content Manager

Designing of System - Top down approach

1. Define the ECM strategy.
2. Define the requirements.
3. Create a functional design document from the requirements.
4. Design the systems architecture.
5. Design the P8 Content Manager repository.
6. Design the document security model.
7. Build applications and user interfaces.
8. Create the system and application testing plan.
9. Create a deployment plan.
10. Plan for administration and maintenance.

FileNet Content Manager

▪ Deploying the System

- Architecture
 - Data Organization
 - GCD, Object Stores/Storage Scaling
 - Management Tools (ACCE, Configuration Manager, Deployment Manager, Consistency Checker, FEM, System Dashboard!)
 - Scalability, Performance
 - Horizontal, Vertical, Clustering
 - Load & Performance Testing – Must!
 - ObjectStore/Storage Scaling
- Capacity – TechLine + experience

▪ Administration and Maintenance

- Administrators – FileNet! Off course, - OS, Database, Application Server, Network, etc.
- Monitoring the environment – Resource Utilization

▪ Upgrade and Migration

- In-Place Or Parallel
- Iterative Process:
 - Planning, Practicing, Documenting

Thank you

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Appendix

Maintenance and Best Practices - Deleting Cases

When you need to delete a case make sure you follow these tasks in order.

Main tasks:

- 1) Process the case tasks
- 2) Delete the case work items using Process Administrator
- 3) Remove the document's reference to the case object and move or delete documents
- 4) Delete the case folder.

Tools Required:

- ▮ Administration Console for Content Platform Engine (ACCE)
- ▮ Process Administrator (PA)

Maintenance and Best Practices - Deleting Cases

Process the case tasks

1. Open the Target Object Store in ACCE and go to the case.
2. Click the folder and select the Tasks tab.

The screenshot shows the Administration Console for Content Platform Engine. The breadcrumb path is CMTOS > 00000010000... > Folder: 000000100006. The 'Tasks' tab is highlighted with a red box. Below the tabs are buttons for 'New', 'Delete', 'Promote', and 'Demote'. A table lists various case tasks with their names, types, and states.

	Name	Type	State
<input type="checkbox"/>	Wire Transfer	Wire Transfer	Waiting Precondition
<input type="checkbox"/>	Identity Resolution	Identity Resolution	Complete
<input type="checkbox"/>	Welcome Package	Welcome Package	Waiting Precondition
<input type="checkbox"/>	Account Transfer	Account Transfer	Waiting Precondition
<input type="checkbox"/>	Deposit	Deposit	Waiting Precondition
<input type="checkbox"/>	Open Account	Open Account	Working

Maintenance and Best Practices - Deleting Cases

Remove the dormant tasks

3.Delete all tasks that are in the Waiting or Ready state.

Folder: 000000100006

General Properties Annotations Security Policy Security Retention **Tasks**

New **Delete** Promote Demote

<input type="checkbox"/>	Name	Type	State
<input checked="" type="checkbox"/>	Wire Transfer	Wire Transfer	Waiting Precondition
<input type="checkbox"/>	Identity Resolution	Identity Resolution	Complete
<input checked="" type="checkbox"/>	Welcome Package	Welcome Package	Waiting Precondition
<input checked="" type="checkbox"/>	Account Transfer	Account Transfer	Waiting Precondition
<input checked="" type="checkbox"/>	Deposit	Deposit	Waiting Precondition
<input type="checkbox"/>	Open Account	Open Account	Working

Maintenance and Best Practices - Deleting Cases

Record the ID value of active tasks

4. Find the ID property for all Task in a Working or Failed state and note its value.

The screenshot shows two overlapping windows from the IBM Analytics interface. The background window displays a folder named '000000100006' with a 'Tasks' tab selected. A table lists tasks, with 'Open Account' highlighted. The foreground window shows the 'Properties' tab for the 'Open Account' task, with the 'ID' property value highlighted.

Name	Type	State
Identity Resolution	Identity Resolution	Complete
Open Account	Open Account	Working

Property Name	Property Value
Date Last Modified	September 18, 2013 at 8:10:55 AM Pacific Daylight
ID	{34C62968-8D18-4414-9892-92948CC45065}
Name	Open Account

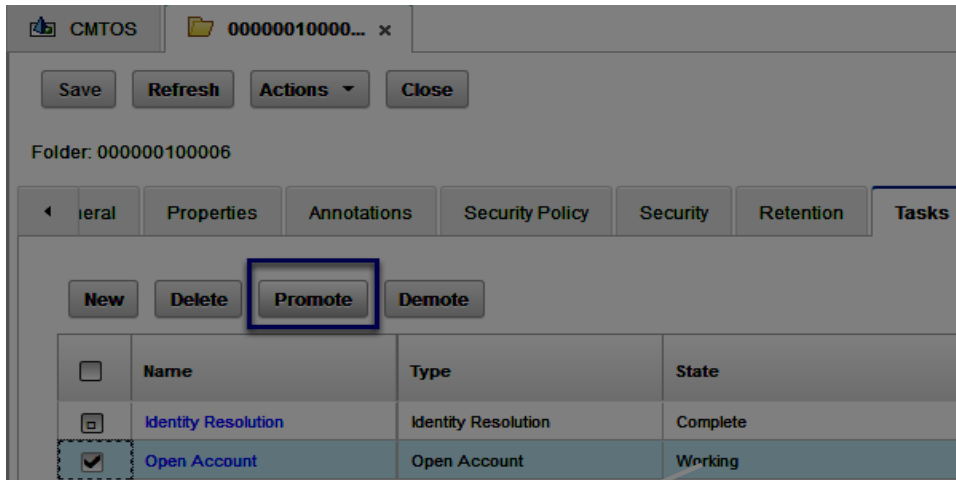
Annotations in the image:

- 'Open Properties' points to the 'Properties' tab in the foreground window.
- 'Click the task' points to the 'Open Account' row in the background table.
- 'Record the ID value' points to the 'ID' property value in the foreground table.

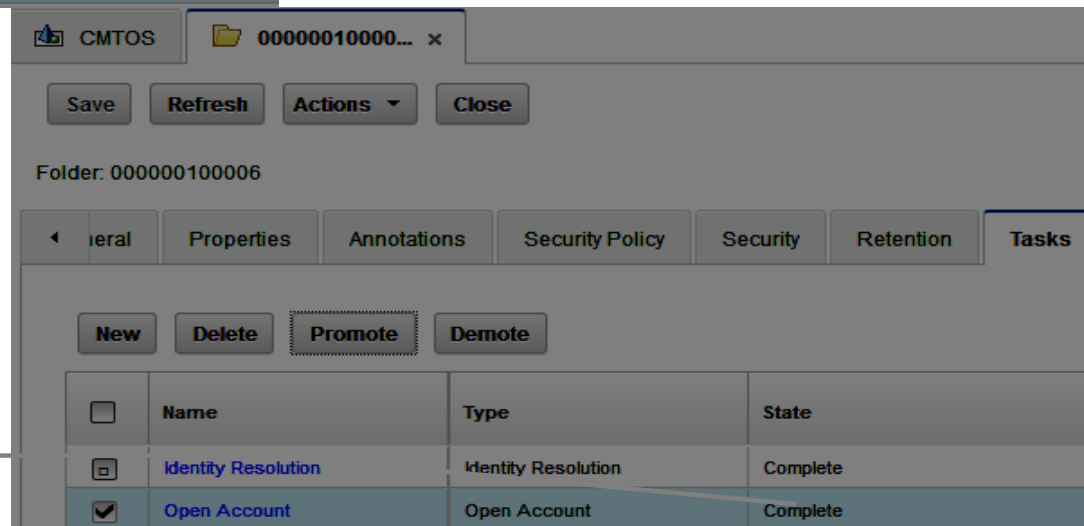
Maintenance and Best Practices - Deleting Cases

Promote the active tasks

5. Promote all of the Failed and Working state tasks.



Before Promote

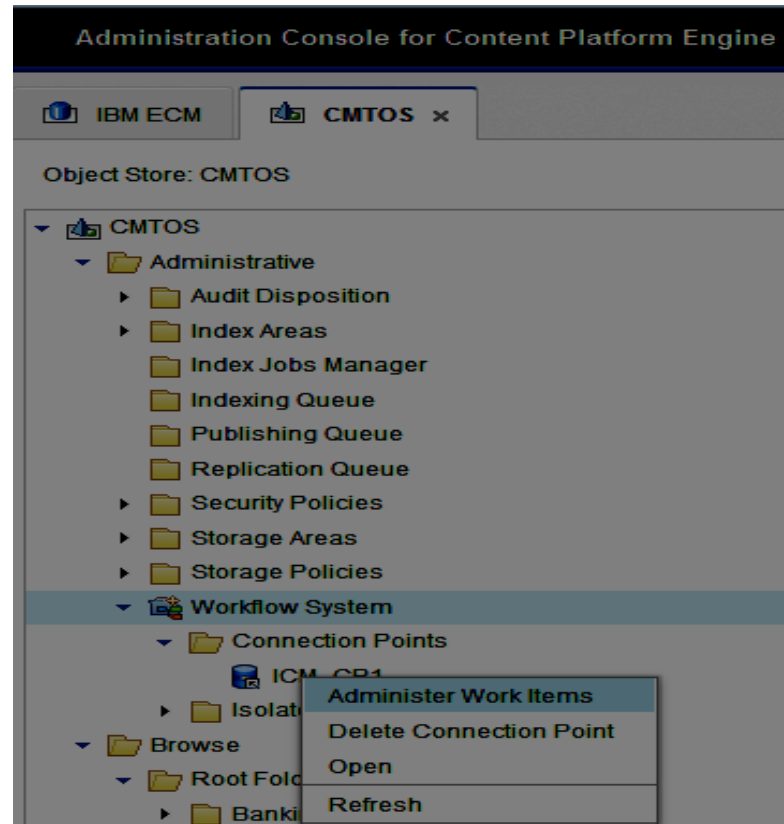


After

Maintenance and Best Practices - Deleting Cases

Delete the case work items using Process Administrator

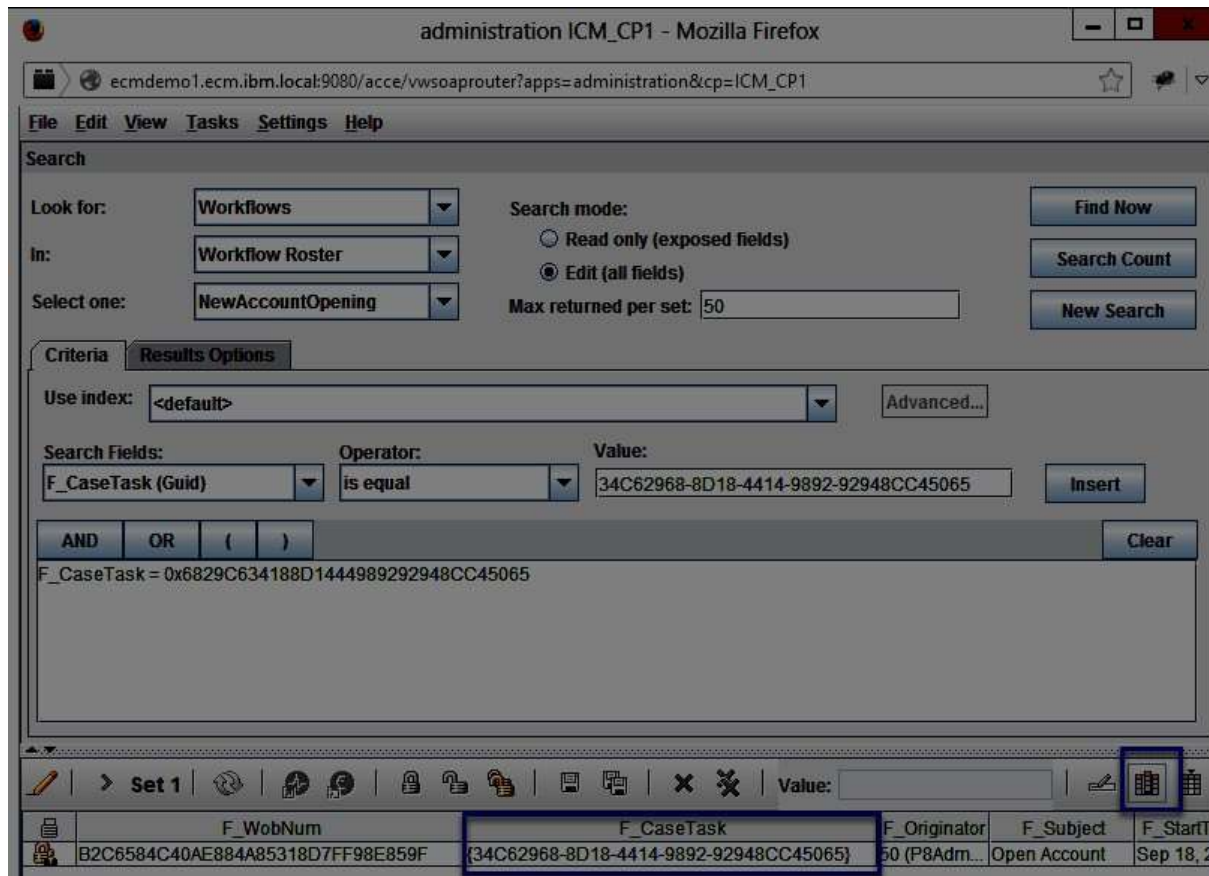
6. Open Process Administrator on the Target Object Store connection point.



Maintenance and Best Practices - Deleting Cases

Find the case work items using Process Administrator

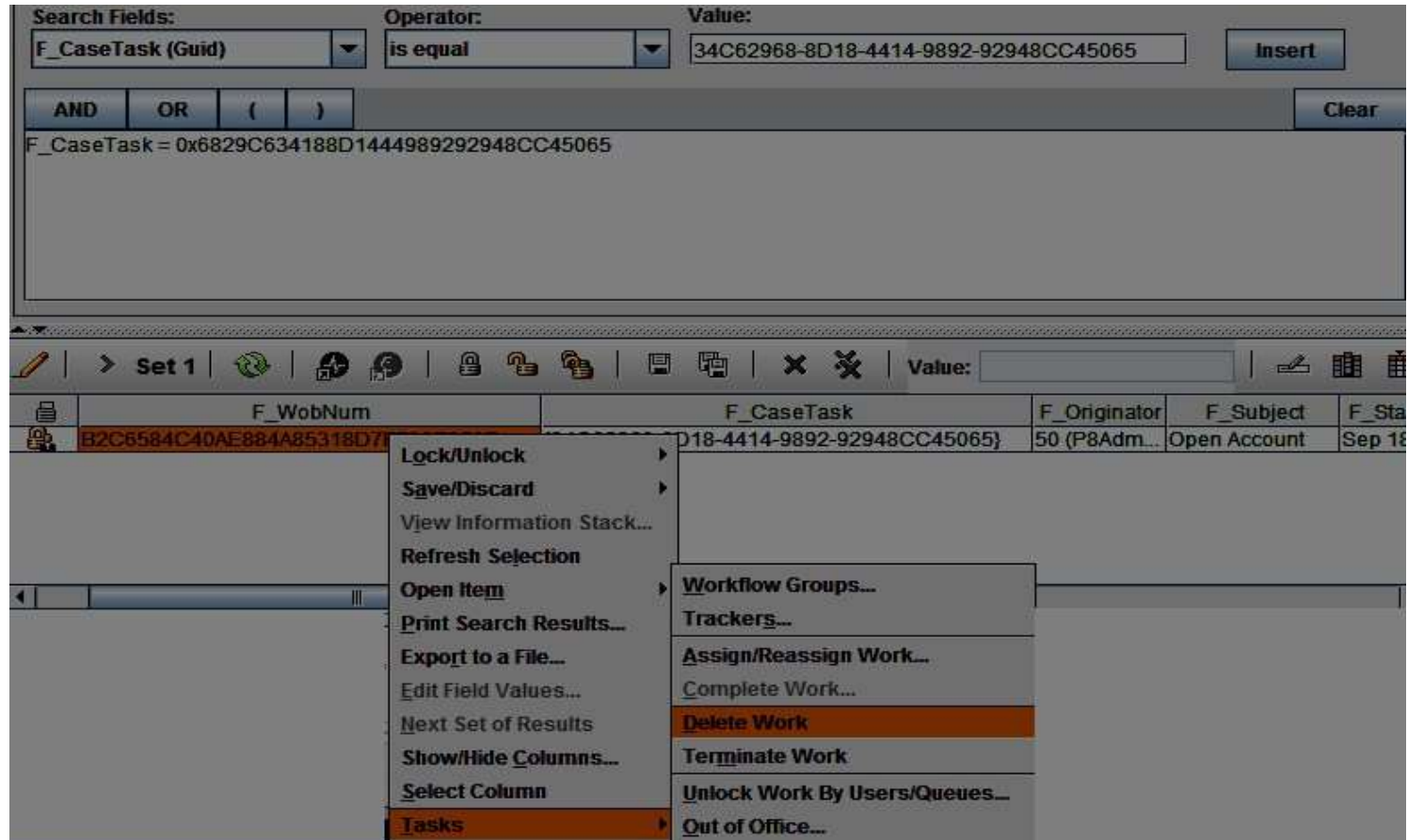
7. Under **Look for:** select Workflows, For **In:** choose Workflow Roster, For **Select one:** <pick the name of the solution>
8. In the Search mode field, select Edit (all fields).
9. Under Search Fields select F_CaseTask(Guid) and enter the ID in the Value box.



Maintenance and Best Practices - Deleting Cases

Delete the case work items

10. Right-click the workflow and then click **Tasks > Delete Work**.
11. Click OK to confirm that you want to delete the work item or items.



Maintenance and Best Practices - Deleting Cases

Remove the supporting document's reference to the Associated Case object

To be able to reuse documents from deleted cases, you must remove the reference to the Associated Case object in the document property before you delete the case.

12. Back in ACCE, select to the task sequence folder:

Year > Month > Day > number > task_sequence. Ex. 2013 > 09 > 18 > 0032 > 000000100006

13. Click the supporting document link on the Contents tab. Ex. Account Application.

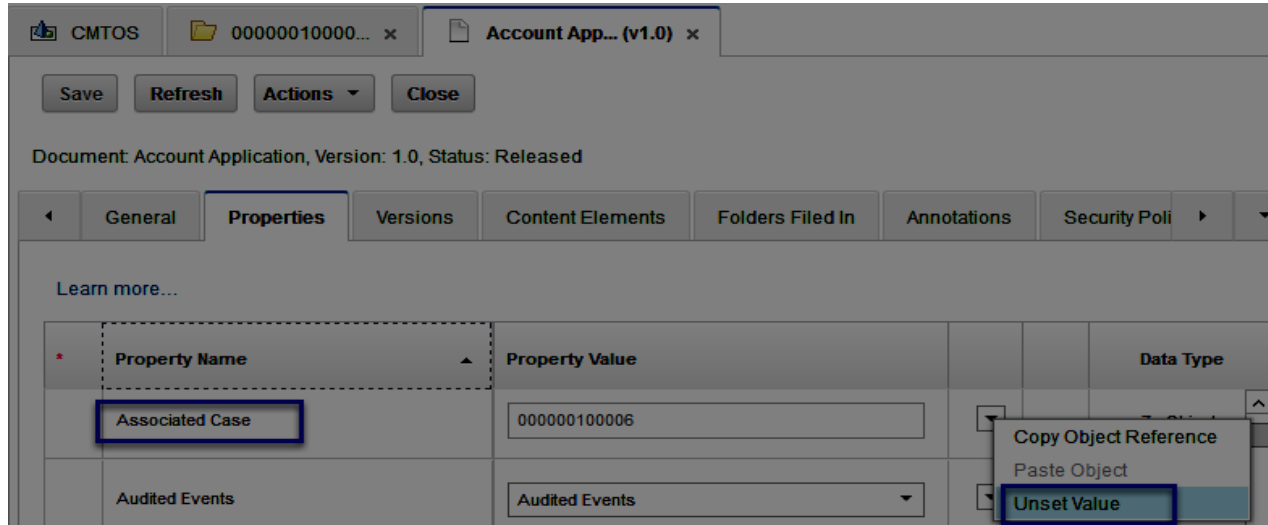
Folder: 000000100006

Containment Name	Document Name	Date Created	Created By
{233FCC30-B81E-44CB-B3DA-CDC258374848}	Account Application	September 18, 2013 at 8:10:51 AM Pacific Daylight Time	P8Admin

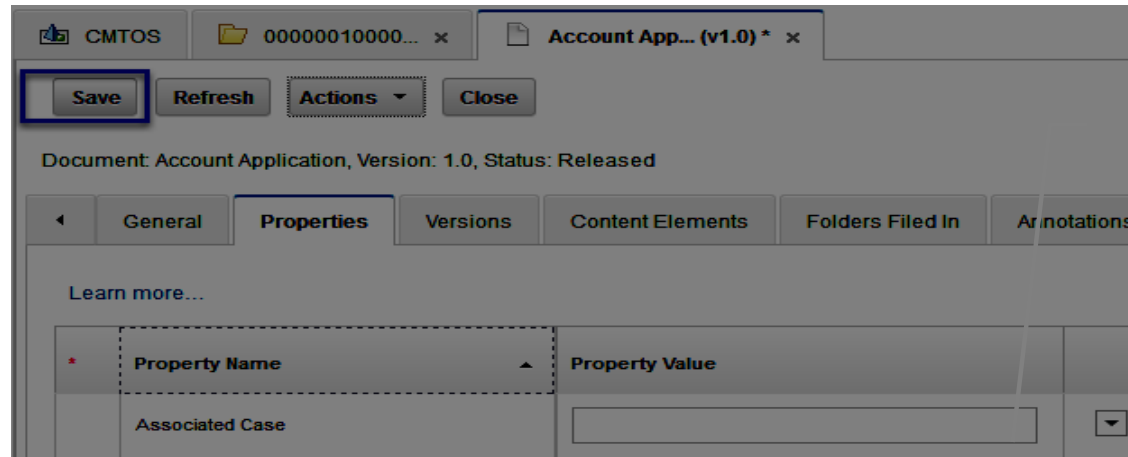
Maintenance and Best Practices - Deleting Cases

14. Select the document's Properties tab.

15. Click the arrow next to the Associated Case property value and select Unset Value.



16. Save.



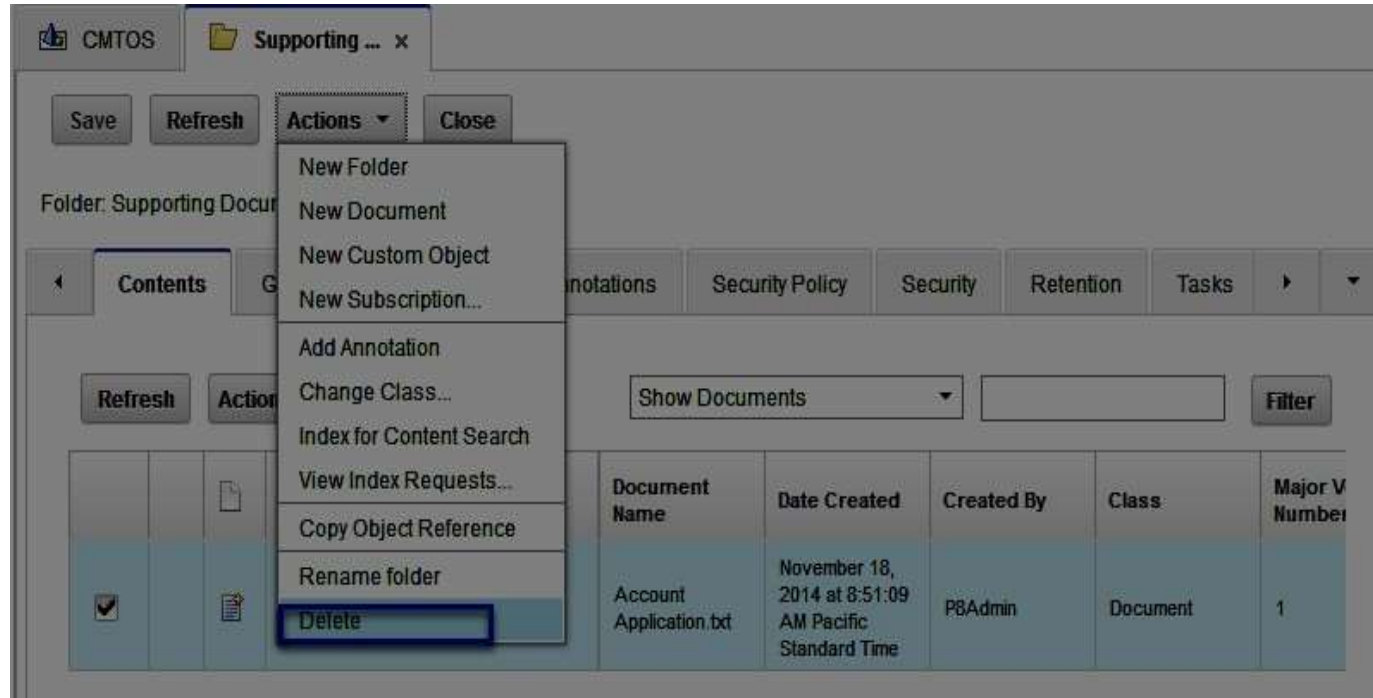
Case folder is removed

Maintenance and Best Practices - Deleting Cases

Handle supporting documents.

17. Move or delete the supporting documents.

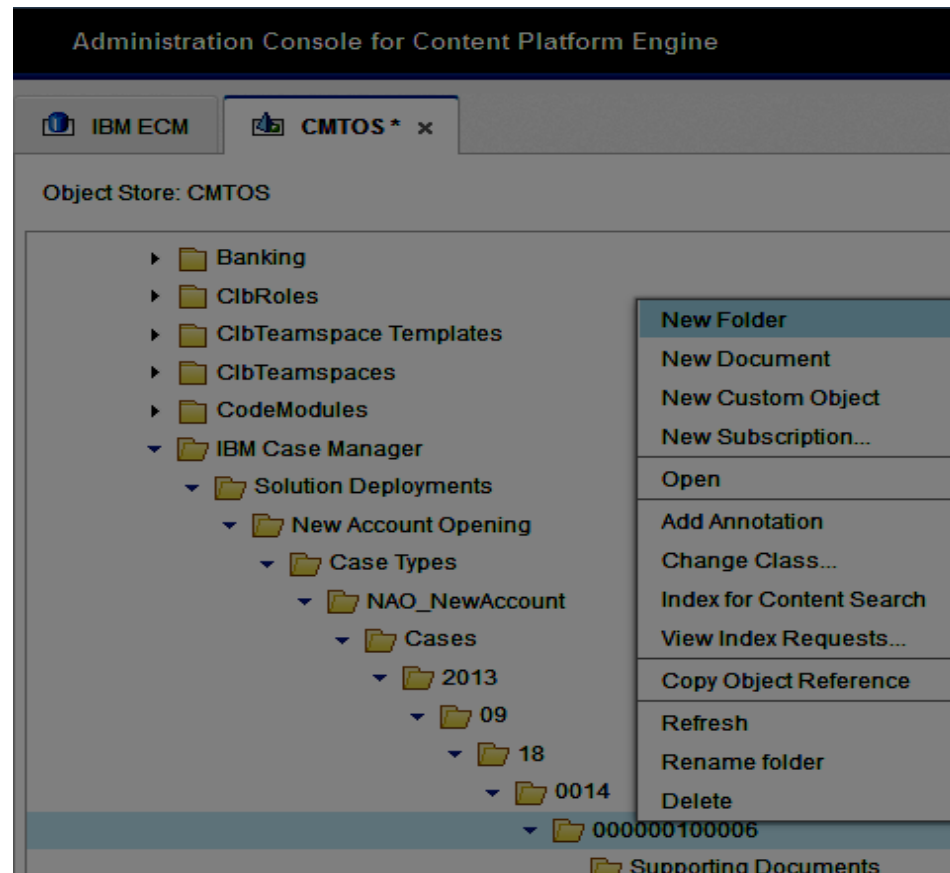
If the documents need to be saved move them out of the Supporting Documents folder. If not delete them.



Maintenance and Best Practices -Deleting Cases

Delete the Case Folder

18. Right-click the task_sequence and click Delete.
19. Click OK when the “Are you sure” warning is displayed.



Maintenance and Best Practices - Deleting Cases

****Remember****

- 1)When you delete a case, all of the open work items, tasks, and comments that are associated with the case are removed permanently
- 2)The task workflows associated with active tasks must be removed **before** the case folder is deleted.
- 3)You will not be able to delete the case folder if there are subfolders that contain dependent objects.

More Information at the 5.2 Knowledge Center

Deleting a case

http://www-01.ibm.com/support/knowledgecenter/SSCTJ4_5.2.0/com.ibm.casemgmt.design.doc/acmta012.htm?lang=en