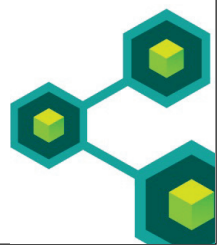
Examine Additional Tools and Special Task Logging

IBM Cognos BI 10.2.2



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Objectives

- At the end of this module, you should be able to:
  - explore diagnostic tools and utilities for special task logging

Note: In this module, ..\ references point to the install location of IBM Cognos BI. For example: ..\bin can be found at C:\Program Files\ibm\cognos\c10_64full, the install path of the IBM Cognos BI server product.

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IBM Cognos BI Content Manager Browser Tool

- Diagnostic name: IBMCognosBI_CMBrowser
- Diagnostic description: reports detailed information of objects
- Download from the IBM Support Portal:
  - http://www-01.ibm.com/support/docview.wss?uid=swg24021211

The IBM Cognos BI Content Manager Browser Tool (CMBrowser) is a graphical user interface that displays detailed information for all objects in the content store.

For each object within the content store database, which is managed through Content Manager, the user can review the properties and their respective value settings. You can use this to verify that what you think should be in the database is in fact, in the database.

Note: For the Windows-based tools presented in this module, you could use a Windows shell or emulator in a non-Windows environment.

Business Analytics software

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IBM Cognos BI Content Manager Size Tool

- Diagnostic name: IBMCognosBI_CMSize
- Diagnostic description:
  - reports size and count of objects in Content Store
  - returns the search path of the objects
- Download from the IBM Support Portal:
  - http://www-01.ibm.com/support/docview.wss?uid=swg24021252

The IBM Cognos 10 Content Manager Size Tool (CMSize) is a Windows-based utility that reports the size and count of all objects in the Content Store database.

Within the specified search scope and type of objects, it returns the count, approximate size, and search path of the objects. This can be useful to find content store objects that can take up a lot of space, such as report outputs and report versions.

This tool will be opened in the demo, but will be explored in more detail in the upcoming Workshop 1: Use CMTools to Extract the Model from the Content Store.

Business Analytics software

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IBM Cognos Framework Manager Tool

- Diagnostic name: IBMCognosBI_FrameMgr
- Diagnostic description: retrieves system and product information about Framework Manager
- Download from the IBM Support Portal:
  - https://www-304.ibm.com/support/docview.wss?uid=swg24020971

The Framework Manager Windows-based diagnostic tool will retrieve system and product information about Framework Manager, and will highlight potential issues with Framework Manager models, such as ambiguous joins, list of facts, multiple valid joins, and recursive joins. These are common modeling traps that the modeler might want to consider resolving.

Business Analytics software

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IBM Cognos BI Content Store Information Tool

- Diagnostic name: IBMCognosBI_ContentStore
- Diagnostic description: use to retrieve Content Store database information
- Download from the IBM Support Portal:
  - https://www-304.ibm.com/support/docview.wss?rs=0&uid=swg24020678

This diagnostic is executed when you are troubleshooting problems with getting Content Store tables created in IBM Cognos 10. It will retrieve Content Store database information, database connection URL, driver name and version, and database name and version.

The output results are displayed in 2 forms:

- a text file named IBMCognosBI_ContentStore_<date>_<time>.txt
- an XML file named IBMCognosBI_ContentStore_<date>_<time>.xml

Business Analytics software

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System Overview Diagnostic Tool

- Diagnostic name: IBM_SystemOverview
- Diagnostic description: gathers environment and system information
- Download from the IBM Support Portal:
  - https://www-304.ibm.com/support/docview.wss?rs=0&uid=swg24020682

The graphical user interface (GUI) IBM_SystemOverview allows the user to select the categories to report on.

Using this tool allows you to:

- compare your system values from two different environments
- quickly gather system information
- check information about local drives

It is recommended to run the utility from the .bat file, which enables you to see the progress in the command window. You can also double-click the .jar file, which runs in the background without displaying progress, but will display the result window when the diagnostic process has completed.

The following list provides a summary of the information collected: local drives and system information, Microsoft network adapter configuration, Computer name, Operating system version, user and system environment, Java information, Microsoft Internet Explorer properties and security settings, Microsoft Internet Explorer trusted sites, Processes, Microsoft Data Access (MDAC) version, network status/statistics, Microsoft .NET Framework, Add/Remove Programs, Microsoft Windows hot fixes, ODBC versions.

This diagnostic runs the reg.exe utility; if it is not installed, the diagnostic will not run.

Demo 1: Explore Diagnostic Tools

At the beginning of this demo, ensure that both dispatchers are running.

Note: For the Windows-based tools presented in this module, you could use a Windows shell or emulator in a non-Windows environment.

Purpose:
You are the administrator and want to use diagnostic tools to gather information about your IBM Cognos BI environment.

Task 1. Configure the system path variable for Java home and bin directories.

Prior to running a diagnostic, the PATH system variable should include the Java\bin path.

1. From the **Start** menu, right-click **Computer**, and then click **Properties**.
2. In the left pane, click **Advanced system settings**, click the **Advanced** tab, and then click **Environment Variables**.
3. Scroll through the **System variables** list, click the **Path** variable, and then click **Edit**.
4. At the end of the current path, type a semi-colon, and then type the Java\bin path. In this case, you will be referencing the folder that was included with the full install of IBM Cognos 10.2.2.

   You have added the following items to your PATH system variable:

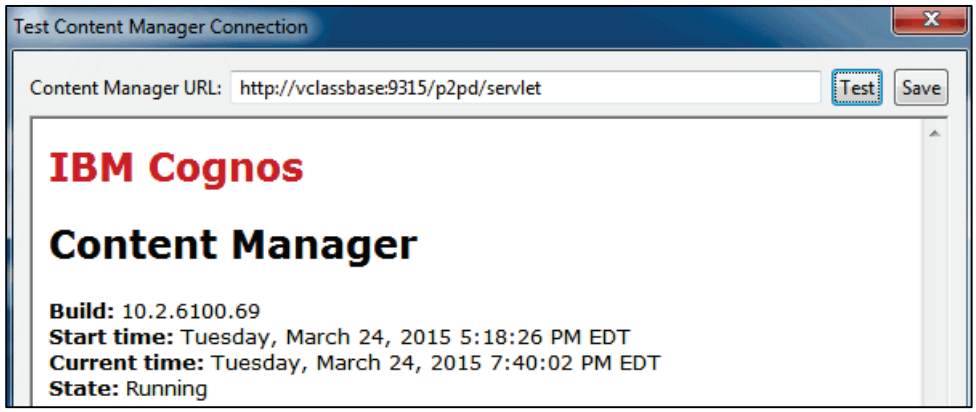
   ;C:\Program Files\IBM\cognos\c10_64full\bin64\jre\7.0\bin
5. Click **OK** to close the following dialog boxes: **Edit System Variable**, **Environment Variables**, **System Properties**.
6. Close the **Control Panel Home** dialog box.

Task 2. Use the IBM Cognos BI Content Manager Browser tool to report detailed information of objects.

For each object within the content store database, the IBM Cognos BI Content Manager Browser tool will allow the user to review the object properties and their respective values.

1. In Windows Explorer, navigate to **C:\Edcognos\B5A19\diagnostictools**, open the **IBMCognosBI_CMBrowser_64** folder, and then double-click **IBMCognosBI_CMBrowser.exe**.
2. If you receive a message indicating that the Content Manager could not be reached, click **OK** to dismiss it.
3. On the toolbar, click **Test Content Manager Connection**  .
4. If necessary, modify the URL to **http://vclassbase:9315/p2pd/servlet**.
5. Click **Save**, and then click **Test**.

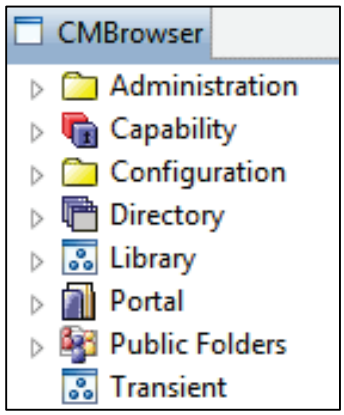
   The results display the Content Manager build, the time it was started, current time, and the state, which is currently running.



6. Click **OK** to close the **Test Content Manager Connection** dialog box.
7. On the toolbar, click **Log on to Content Manager**  , populate the fields with the following information, and then click **Login**:
   - Content Manager URL: **http://vclassbase:9315/p2pd/servlet**
   - Namespace: **LDAP_Dev_ID**
   - User name: **admin**
   - Password: **Education1**

8. On the toolbar at the top right, click **Refresh the complete browse tree**, to see the objects appear in the tree.

   The top level objects in Content Manager are displayed in the left pane of the CMBrowser tab.



   You can expand each item to view its child objects.

9. From the **Window** menu, click **Preferences**.

   Here you can configure your environment settings for Content Manager URL that will be used by CMBrowser. Your environment could have more than one Content Manager. Do not change the Soap Action and BI Bus Namespace fields.

10. Click **Cancel** to close the **Preferences** window.

    In the CMBrowser toolbar, you can toggle between retrieving a small set of properties and all properties, refresh the browse tree, search for objects, and access Help.

11. Click **Search Tool**  , and then in the **Select scope** section, click **Portal**.

12. In the **Enter search string(* retrieves all objects)** box, type *****, click **Search**, and then click **Yes** to close the message about all objects being returned.

    The results include pages, pagelets, portlets, and other portal objects. This will help you determine a count of portlet objects in your environment. You can use this tool to count and list other object types also.

    Optional search: To get the information on a specific item in the content store, in IBM Cognos Connection, click the Set properties icon for the item to get its search path. For example, in Public Folders\Samples\Models, for the Audit package, you could click the Set properties icon, and then click View the search path, ID and URL. You can then copy the Search path to the clipboard, and paste it into the search string in the Search Tool of IBM Cognos BI Content Manager Browser. Select the scope, such as Public Folders, and then click Search to return the results.
13. Scroll through the results to review them, click **Exit** to close the **Search Tool** window, and then in the **IBM Cognos BI Content Manager Browser Tool** window, from the **File** menu, click **Exit**.

Task 3. Use the IBM Cognos BI Content Manager Size tool to report the size of objects.

Within the specified search scope and type of objects, this utility returns the count, approximate size, and search path of the objects. This can be useful to find content store objects that can take up a lot of space, such as report outputs and report versions.

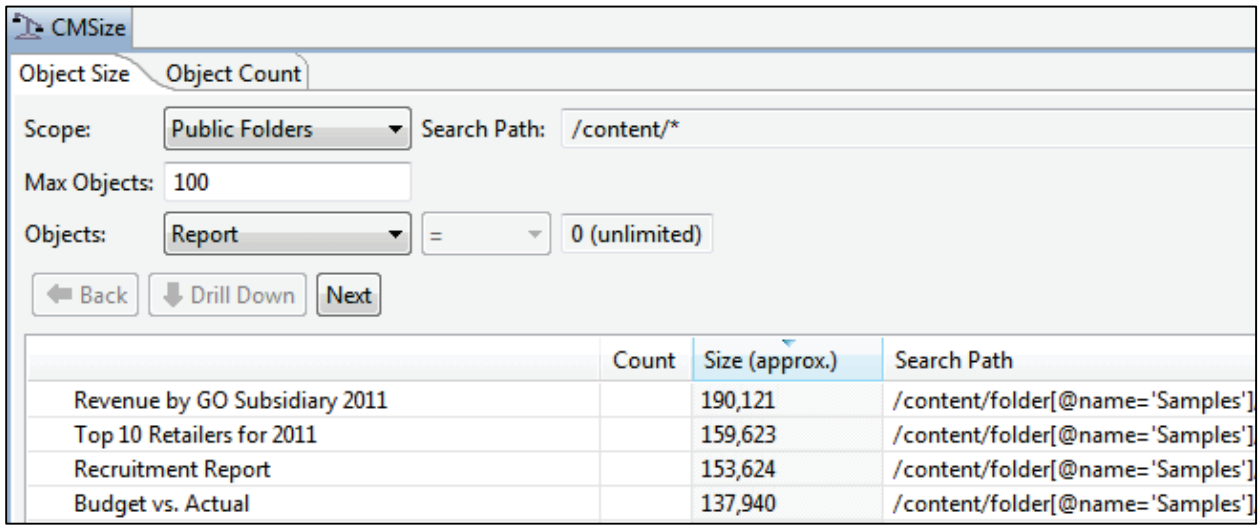
1. In **Windows Explorer**, navigate to the directory with the diagnostic tools, open the **IBMCognosBI_CMSize_64** folder, and then double-click **IBMCognosBI_CMSize.exe**.

   Notice that on the CMSize tab toolbar at the right, there are buttons to save (the query results will be saved to a CSV file), save to a new file, refresh, and to access Help. You could save the results to a file, and compare this to the results taken at a later time. This could help you to understand what has changed over time with regards to the objects in your content store.
2. From the **Window** menu, click **Preferences**, change the **CM URL** to **http://vclassbase:9315/p2pd/servlet**, and then click **OK**.
3. On the toolbar, click **Test CM Connection**  , and then click **OK** to close the **Test CM Connection** window.

4. Explore the **Help** file, available on the **CMSize** toolbar for more detail on each of the options, and the tool itself.
5. On the **Object Size** tab, expand the **Scope** dropdown list to review the options, and then click **Public Folders**.
6. Expand the **Objects** dropdown list, click **Report**, and then click **Send**.
7. Click **Yes** to accept the message that you are going to execute an intensive query.
8. If prompted, logon to the **LDAP_Dev_ID** namespace ID, with **admin/Education1** credentials.

   The reports are returned, with the largest report displayed at the top.

   A section of the result appears similar to the following:



9. Expand the **Objects** dropdown list, click **Model**, click **Send**, and then click **Yes** to the warning message.

   The results are returned, again displaying the size of the object, in descending order.

10. From the **File** menu, click **Exit**.

    You will explore more of the CM Size Tool functionality within the CMTools utility in Demo 2.

Task 4. Use the IBM Cognos Framework Manager tool to retrieve information about models.

This diagnostic tool will retrieve system and product information about Framework Manager, and will highlight potential issues with Framework Manager models, such as ambiguous joins, list of facts, multiple valid joins, and recursive joins.

1. In **Windows Explorer**, navigate to the directory with the diagnostic tools, open the **IBMCognosBI_FrameMgr** folder, and then double-click **execute_IBMCognosBI_FrameMgr.bat**.

   Ensure that the Java bin path was added to the PATH system variable in Task 2.

   The first time the diagnostic is executed a file called properties is created. This file holds a true or false value for a list of variables that can be chosen from the check boxes. You can open the file and modify the values as needed, or from this window, click Current Settings Saved if you make changes to the default settings.

   The IBM Cognos BI Framework Manager Information Request dialog box is displayed.
2. In the **Diagnostic Categories** section, click **Unselect All**, and then click the **Content Store Info** and the **Ambiguous Join Info** check boxes to select them.
3. In the **IBM Cognos BI Install Path** section, click **Browse**, navigate to **C:\Program Files\IBM\cognos\c10_64full**, and then click **Open**.
4. In the **Content Store Connection** section, enter the **admin/Education1** credentials.
5. In the **Model Filepath** section, browse to where the dynamic query sample models were installed, **C:\Program Files (x86)\IBM\cognos\c10\webcontent\samples\models\great_outdoors_sales**, click **model.xml**, and then click **Open**.
6. Click **OK** to run the diagnostic.

   The DIAGNOSTICS RESULTS TREE window is displayed in the background, and in the active dialog box in the foreground you are prompted to select the results tree, results file, log file, or go to the results directory. Notice that the results file location is displayed in the message along with the filename.
7. If necessary, click **View Results Tree**.

8. In the tree, click **Ambiguous Joins**, and use the **PgUp** and **PgDn** keyboard buttons to scroll through the results, resizing the window if necessary.
9. Click the **DIAGNOSTIC TOOLS** dialog box to view an alternate option, and when you have finished your review, close any windows opened by the tool, and then in the **DIAGNOSTIC TOOLS** dialog box, click **Exit**.

Task 5. Use the IBM Cognos BI Content Store Information tool to retrieve information about the Content Store database.

This diagnostic tool is executed when you are troubleshooting problems with getting Content Store tables created in IBM Cognos 10. It will retrieve Content Store database information, database connection URL, driver name and version, and database name and version.

1. In **Windows Explorer**, navigate to the directory with the diagnostic tools, open the **IBMCognosBI_ContentStore** folder, and then double-click **execute_IBMCognosBI_ContentStore.bat**.
2. In the **IBM Cognos BI Information Request** dialog box, click **Browse**, navigate to **C:\Program Files\IBM\cognos\c10_64full**, and then click **Open**.
3. Login with the **admin/Education1** credentials, and then click **OK**.

   In the DIAGNOSTIC TOOLS dialog box, you have the options to view the text results, XML results, or log file, or go to the results directory.
4. Click **View TEXT Results File**, scroll through the results, and then close the window.
5. Click **Go To Results Directory**.

   Windows Explorer is directed to the path of the output result files. The output results are displayed in 2 forms:

   - a text file called IBMCognosBI_ContentStore_<date>_<time>.txt
   - an XML file called IBMCognosBI_ContentStore_<date>_<time>.xml

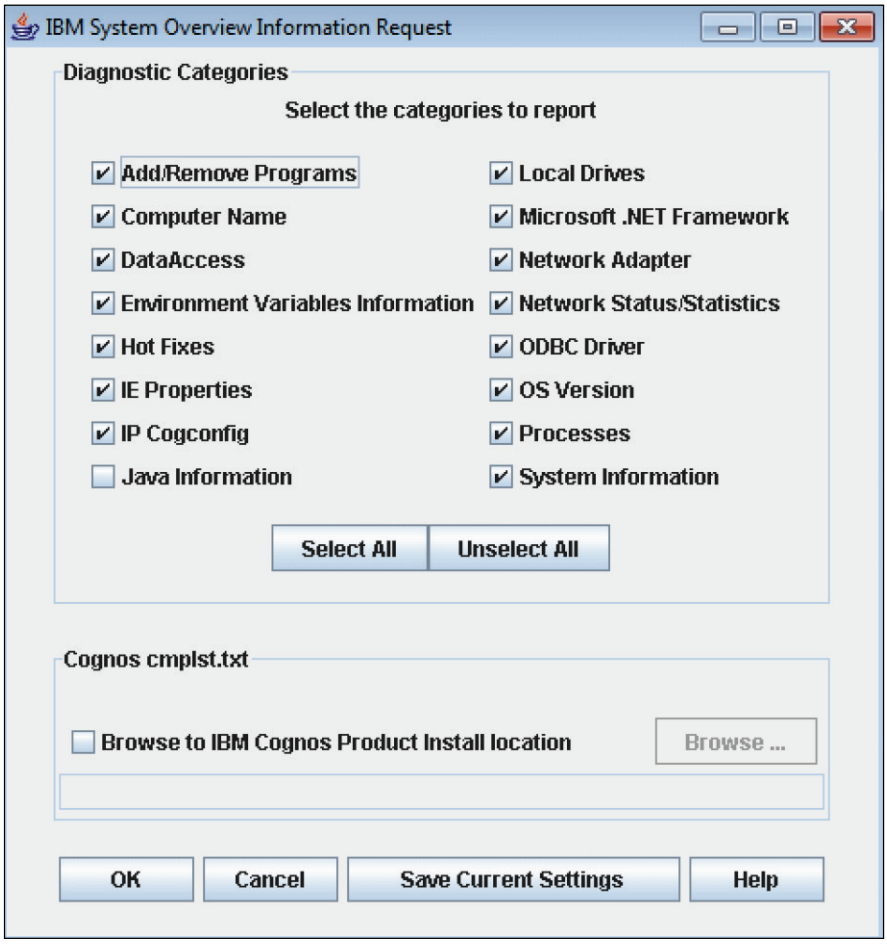
   The log file is also saved at this location.
6. Double-click the **IBMCognosBI_ContentStore_<date>_<time>.txt** file, review the results, and then close the file.
7. Close the results directory window, and then click **Exit** to close the **DIAGNOSTIC TOOLS** dialog box.

Task 6. Use the System Overview diagnostic tool to gather environment and system information.

The graphical user interface (GUI) IBM_SystemOverview allows the user to select the categories to report on.

1. In **Windows Explorer**, navigate to the directory with the diagnostic tools, open the **IBM_SystemOverview** folder, and then double-click **execute_IBM_SystemOverview.bat**.

   The IBM System Overview Information Request dialog box allows you to customize multiple categories on which to report.



2. Click **OK** to run the diagnostic with the default options.

   When the execution is complete (it will take a few moments), the IBM SYSTEM OVERVIEW DIAGNOSTIC Results window is displayed, with a tab for each of the categories selected at the execution.

3. Click each tab, to see the information results.

   In the DIAGNOSTIC TOOLS dialog box, notice that you can select a tabbed view, and that you can also view the text results and XML results, or you can go to the results directory.

4. Click **Exit** to close the diagnostic tool.

Results:
As the administrator, you used diagnostic tools to gather information about your IBM Cognos BI environment.

Business Analytics software

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IBM Cognos Log Viewer Utility

- Utility name: logviewV2
- Utility description: allows filtering of a log file
- Location of utility: ..\bin and ..\bin64

This utility presents a formatted view of log files that you may find easier to read compared to looking at log files in a text editor. You can use this utility to review IPF log files.

With IBM Cognos Log Viewer, you can filter the log file to reduce the amount of data being viewed, and focus on specific messages.

Business Analytics software

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Describe cm_tester

- Utility name: cm_tester.htm
- Utility description: manipulate Content Manager objects with SOAP requests
- Location of utility: ..\webapps\p2pd

CMTools requires Java, whereas cm_tester.htm uses a lot of JavaScript and runs within a browser, such as Internet Explorer or Firefox.

cm_tester functionality is also included in CMTools, which will be explored in Workshop 1: Use CMTools to Extract a Model from the Content Store workshop.

Business Analytics software

IBM

CMTools Utility

- Utility name: CMTools
- Utility description: provides advanced cm monitoring and update capabilities
- Location of utility: ..\bin64\utilities\cm\CMTools

This utility provides advanced Content Manager monitoring and update capabilities. The CMTools utility includes the functionality of CMBrowser, CMSize, and cm_tester.htm (CMTester).

Demo 2: Explore the IBM Cognos Log Viewer and CMTools Utilities

At the beginning of this demo, the IBM Cognos Full:9315 dispatcher and the IBM Cognos DispCM:9320 dispatcher are running.

Purpose:
Log files can be difficult to read through, due to the amount of information and limited formatting if viewing with a text viewer. You will launch CMTools and explore some of the functionality available for advanced Content Manager monitoring.

Task 1. Use logviewV2.exe to filter log files for easier reading.

1. In **Windows Explorer**, navigate to **C:\Program Files\IBM\cognos\c10_64full\bin**, and then double-click **logviewV2.exe**.

   The IBM Cognos Log Viewer launches, and displays a tab that allows you to drag and drop IPF log files onto it.
2. In **IBM Cognos Log Viewer**, from the **File** menu, click **Load Cognos Log File(s)**.

   This is an easy way to quickly navigate to where the Cognos log files are stored. Also available from the File menu, you can load files with filters that you have already created.
3. Click **cogserver.log**, and then click **Open**.

   If prompted with a warning about messages other than audit messages being dropped, click **OK**.
4. Click the **cogserver.log** tab, and maximize the window.

   Notice that the information is presented in columns, with a reference ID for each row.

   There are summary buttons on the toolbar  that you can use, presented on the toolbar.

5. Click **Summarize errors**  .

   If there are errors, the errors are listed with counts of each, and information is displayed about the last occurrence and the message text that was displayed. You can generate a filter from each of the summary views provided, by clicking the Generate Filter button. If there were no errors, the summary will display a blank window.

6. Click **OK** to close the **Error Summary** window, and then click **Summarize messages**  .

7. Review the information, click **OK** to close the dialog box, and then scroll through the log file.

   Rows may be highlighted in yellow or highlighted in dark red. This is a quick visual identifier, which is not usually available when looking at log files in a text editor. The color highlights are based on Rulesets that have been configured. To change the colors, right-click in the rows area, and then select LogPanel Color Filter. You can easily customize the foreground and background colors of specific rules.

   There are many lines of information in this log file, so you want to apply a filter, to focus on items requiring attention.

8. In the **Refine focus on** box type **STATUS == 'Warning'**. You do not need to press Enter.

   Syntax is important in this field as you type a value. If there are no Warning entries, you may want to filter on a different status, such as 'Info'.

   The items are filtered to match this status of Failure, allowing you to focus on much less data.

9. Right-click anywhere in the **Status** column body, and then click **Clear 'refine focus' field** to display all results.

10. Scroll to a row with **Info** listed in the **Status** column, in the **Status** column, right-click the **Info** status, and then click **Set 'refine focus' field**.

    If there are no Info entries, you may want to filter on a different status. This is another way to populate the Refine focus on field, without typing the syntax, to filter your results. Using the methods presented here, you can efficiently focus on specific items to assist when troubleshooting.

    If there were no Info messages in your log, use a different status row for the next step.
11. Click a row displayed with the **Info** status to select it, and then expand the lower pane as needed for a different presentation of the information.

    The last line lists other information that can be helpful to you, in a more readable format than the tabular view.
12. Close **IBM Cognos Log Viewer**.

Task 2. Use CMTools for advanced Content Manager monitoring.

1. In **Windows Explorer**, navigate to **C:\Program Files\IBM\cognos\c10_64full\bin64\utilities\cm\CMTools**, and then double-click **CMTools.exe**.
2. Click **OK** to close the **Problem Occurred** dialog box.
3. On the toolbar, click **Test CM Connection**.
4. In the **CM URL** box, ensure that **http://vclassbase:9315/p2pd/servlet** is displayed, click **Test**, and then click **OK**.
5. In the **Logon** dialog box, login with **admin**/**Education1** credentials, and then click **OK**.

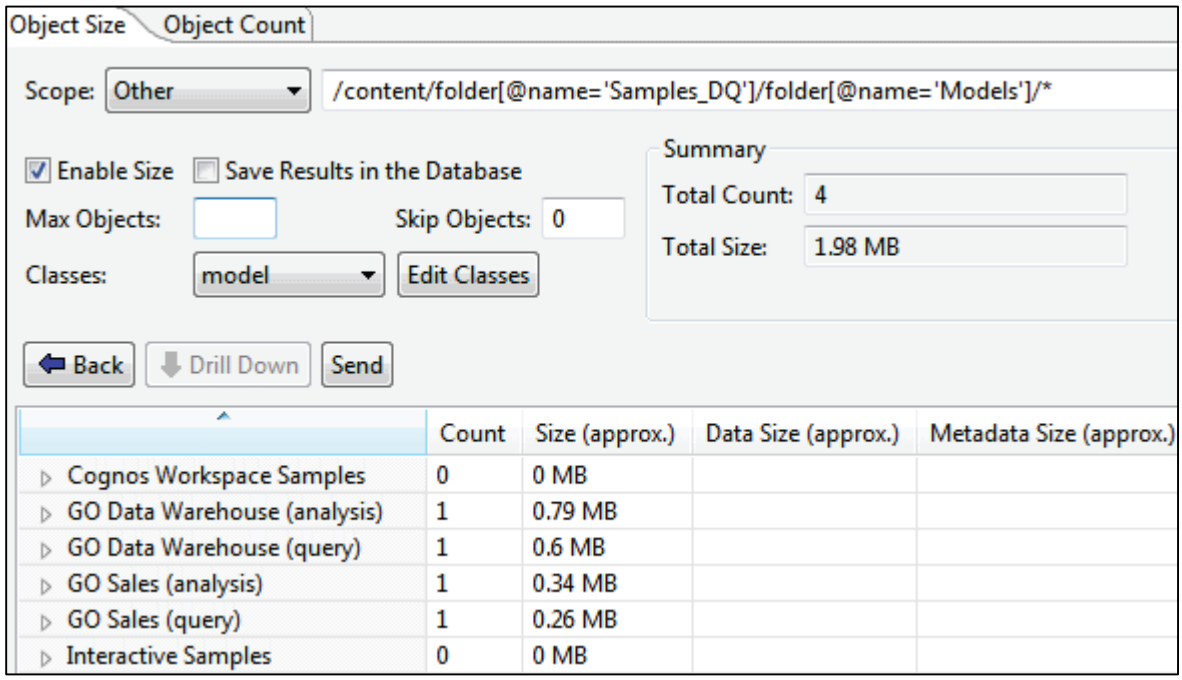
    Within this utility, you can access other CM tools.
6. From the **Window** menu, click **Show View**, and then click **Content Tree** if this view is not already visible.
7. On the **Content Tree** toolbar, click **Rebuilds the entire browse tree**  to refresh the display.
8. From the **Window** menu, click **Show View**, and then click **Other**.
9. In the **Cognos** folder, click **CMSize**, and then click **OK**.

    A new tab appears in the CMTools window. The functionality of the CMSize tool, that you reviewed earlier in this module, is available through CMTools.

10. On the **CMSize** tab, change **Scope** to **Other**, and then replace **/content/*** with the following:
    /content/folder[@name='Samples_DQ']/folder[@name='Models']/*
11. In the **Max Objects** box, type **10**.
12. Change **Classes** from **output** to **model**, and then click **Send**.

    You may need to resize the window to see all options on the CMSize tab, such as the Send button.
13. Click **Yes** to the message about executing an intensive query.

    A section of the result appears similar to the following:



    The count and size of the models found in the Samples_DQ folder in the Models subfolder of the content store are displayed. Notice that the Count column is empty at the folder level.
14. In the list of results, expand **GO Sales (query)**, and observe the size of the model.

    Notice that you can export the findings to a .CSV or .XML file (Export button on the toolbar), which would be helpful to compare to later results, if you monitor the changes in the size of your content store over time.

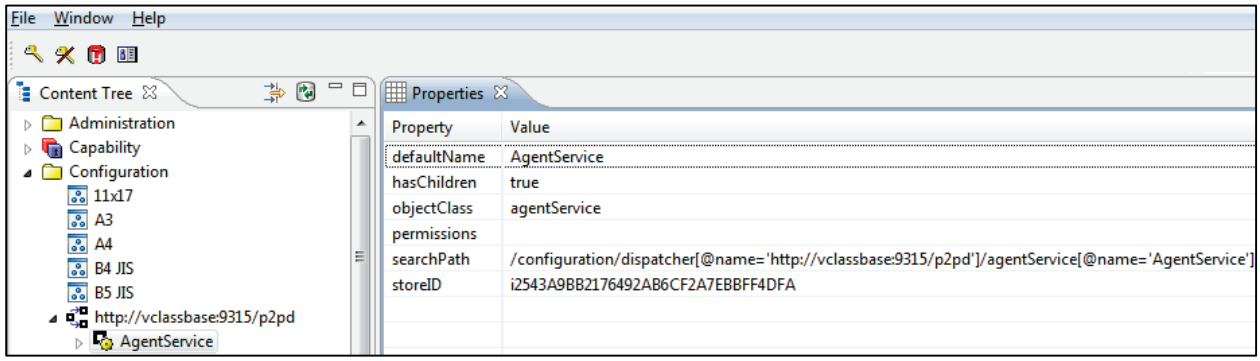
15. Change **Classes** from **model** to **specs**, and then in the **Max Objects** box, type **10** (if necessary).
16. Click **Send**, click **Yes** to the intensive query message, and review the children of **GO Sales (query)**.

    You have changed the class of objects that you want to review. Instead of one model, there is information displayed regarding reports, queries, report version, and analysis.

    You will now explore the Content Tree in CMTools.
17. From the **Window** menu, click **Show View**, and then click **Content Tree** (if necessary).
18. In the **Content Tree** pane, expand **Configuration**.

    Notice the two dispatchers in the environment are displayed.
19. Expand **http://vclassbase:9315/p2pd** to review the children, and then double-click any item to display its properties.

    The results appear similar to the following:



20. Explore the **Help** file for more detail on each of the options and the tool itself.
21. When you have finished reviewing the tool, from the **File** menu, click **Exit**.

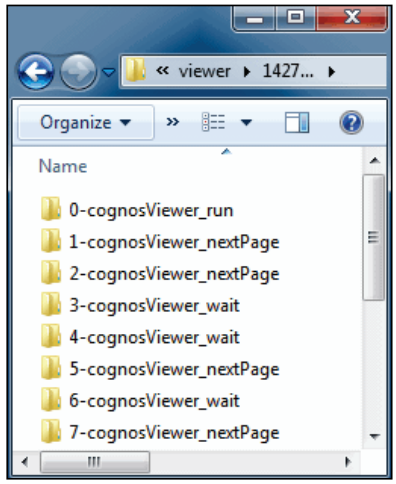
Results:
Using IBM Cognos Log Viewer, you were able to use formatting and filters to focus on information and warnings that can be helpful when troubleshooting issues. You then launched CMTools, and explored some of the functionality available in the utility, for advanced Content Manager monitoring.

Business Analytics software

IBM

IBM Cognos Viewer Trace (1 of 2)

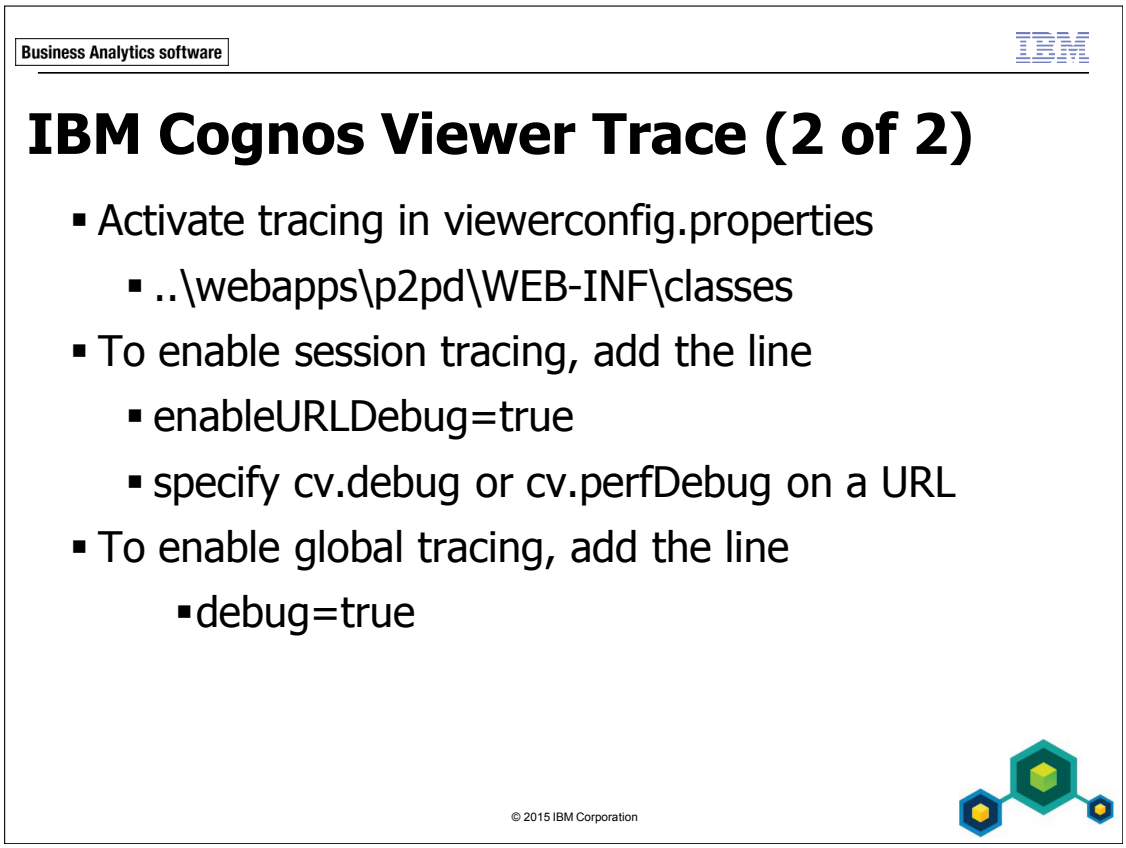
- Enable debug tracing on IBM Cognos Viewer
  - global trace
  - session trace
- Output:
  - log files created under the ..\temp\viewer directory
  - each new action creates a new set of folders



IBM Cognos Viewer Trace results provide information such as the overall time that the IBM Cognos Viewer takes to load a page. With debug tracing enabled, each page load has its own set of resulting folders and files.

Along with performance information, other output files provide information such as server variables, user preferences, output similar to viewing the source on a standard HTML page, files called to render the page to the viewer, and so on.

Note: Globally enabling IBM Cognos Viewer debugging will generate hundreds of log files in a short period on a slightly active site. A complete set of folders and files is generated for each navigation task, such as Page up, or Page down.



In the first method, to enable session level tracing using URLs, add the enableURLDebug=true line, and specify cv.debug. If you append cv.perfDebug instead, the logs for a successful request are deleted, which will help to keep the size of the logs directory small.

In the second method, to enable global level tracing, add the debug=true line. If you append perfDebug=true, instead of using debug=true, the logs for a successful request are deleted, which will help to keep the size of the logs directory small.

Session tracing will remain active as long as the session is valid. Global tracing remains enabled until it is manually disabled. It is recommended to do this tracing in a non-production environment. If working in a distributed environment, it is recommended to use routing rules to force the report being traced to a specific Report Server, otherwise the configuration process will need to be done for each Report Server in the distributed environment.

Business Analytics software

IBM

Explore the Output Files

- query: request.xml, response.xml
- run: request.xml, response.xml, mimeAttachment1.txt
- output: output.txt
- timing.xml
  - <event elapsedTime="57">Overall time used by the viewer</event>

The query request.xml file contains all cookies passed to the viewer, server variables passed and user IBM Cognos 10 preferences as set in My Preferences. The query response.xml file contains similar information as the query request.xml file. The run request.xml and response.xml files are similar in content to the query request.xml and response.xml files.

The run mimeAttachment1.txt file provides information similar to viewing the source of the contents in the body of IBM Cognos Viewer.

The output.txt file contains all JavaScript files loaded and their paths, all HTML generated, all data loaded into the report and any CAF IDs associated to that page.

The timing.xml file provides an overall performance view for IBM Cognos Viewer by the specific page. For example, it may record that all actions by the IBM Cognos Viewer took an elapsed time of 57 milliseconds to complete.

Typically if you right click a Web page, you can select "View Source" to see information such as styles used, data in the report, etc. As View Source is not available in IBM Cognos Viewer, should you require such information, this is a method to obtain it. You can explore some of the output files in the demo Trace IBM Cognos Viewer.

There may be more than one <timing> element in the timing.xml file which means the XML will become invalid. To make the XML valid so it can be seen in a browser or other XML viewing application, add an opening element <cvt> at the very beginning of the file and add the closing element </cvt> as the very end of the file.

Workshop 1: Trace IBM Cognos Viewer

You are working in a non-production environment, and want to test the overall time IBM Cognos Viewer takes to load a page. You will also use IBM Cognos Viewer tracing to review the server variables passed, and user preferences.

In this workshop, you will enable session tracing, and then global tracing.

To do this you will:

- ensure that no dispatchers are running
- edit the viewerconfig.properties file to enable session tracing to include the statement enableURLDebug=true, then start the IBM Cognos Full:9315 service
- in IBM Cognos Connection, ensure that the dispatcher logging level has been set to Request
- in IBM Cognos Connection, logged in as admin/Education1, run a report, modify the URL to perform a trace by appending &cv.debug=true, and then navigate through the report
- examine the results in C:\Program Files\ibm\cognos\c10_64full\temp\viewer, reviewing input.xml, and copying the session ID
- load cogserver.log in IBM Cognos Log Viewer, filter on the session ID and review the results
- stop the IBM Cognos Full:9315 service
- edit the viewerconfig.properties file to delete the statement enableURLDebug=true, enable session tracing by including the statement debug=true, and then start the IBM Cognos Full:9315 service
- in IBM Cognos Connection, logged in with admin/Education1 credentials, run a report, and then navigate through the report, noticing that you do not have to include the URL modification for global tracing to be enabled
- stop the IBM Cognos Full:9315 service

- edit the viewerconfig.properties file to disable global tracing by deleting the statement debug=true, and then start the IBM Cognos Full:9315 service
- start the IBM Cognos Full:9315 service, and then start the IBM Cognos DispCM:9320 service, to prepare for the next workshop

For more information about where to work and the workshop results, refer to the Tasks and Results section that follows. If you need more information to complete a task, refer to earlier demos for detailed steps.

Workshop 1: Tasks and Results

At the beginning of this workshop, ensure no dispatcher is running.

Task 1. Edit the viewerconfig.properties file to enable session tracing.

- In the **Taskbar**, click **Services**, ensure that both IBM Cognos dispatcher services are stopped, and then close the **Services** window.

  You will begin the process by making a backup copy of the viewerconfig.properties file, and then you will edit the file to enable session tracing.

- In **Windows Explorer**, navigate to **C:\Program Files\IBM\cognos\c10_64full\webapps\p2pd\WEB-INF\classes**, copy **viewerconfig.properties**, and paste into the same directory.
- Launch **Eclipse**, and then open **viewerconfig.properties**.
- Type the following line at the end of the code:

  enableURLDebug=true

- Save the file and close **Eclipse**.
- In the **Services** window, ensure that the **Apache Directory Server - default** service is running, and then start the **IBM Cognos Full:9315** service.

  If as message displays, indicating that the service did not start in a timely fashion, click OK to dismiss this message.

  Ensure that the service is fully started before proceeding to the next task.

  In the interest of time, you will only work with one dispatcher for this workshop. You can elect to start both dispatchers, but it will take more time. Because the workshop will use the IBM Cognos Full:9315 dispatcher, the reports that you run will be reports connecting to a dynamic query mode data source. To run compatible query mode reports in this workshop, the IBM Cognos DispCM:9320 dispatcher would have to be started to handle those reports. This latter option is not scripted in the steps.

Task 2. Launch IBM Cognos Connection, run a report, and modify the URL to perform a trace.

- Launch **Internet Explorer**, go to **http://vclassbase:88/C10Full**, and then log on to the **LDAP_Dev** namespace with **admin/Education1** credentials.
- Launch **IBM Cognos Administration**, on the **Status** tab, click **System**, and then in the **Scorecard** pane, click **vclassbase**.
- Click **http://vclassbase:9315/p2pd**, and then in the **Settings** pane, expand **Logging**.
- If the logging level is not set to **Request**, click the **Set properties** icon on the **Settings** pane title bar, in the **Category** list click **Logging**, for the **Audit logging level for the dispatcher** entry, change the value to **Request**, and then click **OK**.
- In the top right corner, click **Launch**, and then click **IBM Cognos Connection**.
- Navigate to **Public Folders\Samples_DQ\Models\GO Sales (query)\Report Studio Report Samples**, and then run the **Briefing Book_DQ** report.
- When the report is displayed in **IBM Cognos Viewer**, modify the URL to include **&cv.debug=true** at the end.

  The address should look something like the following:

  http://vclassbase:88/C10Full/cgi-bin/cognos.cgi?b_action=cognosViewer&ui.action=run&ui.object=%2fcontent%2ffolder%5b%40name%3d%27Samples_DQ%27%5d%2ffolder%5b%40name%3d%27Models%27%5d%2fpackage%5b%40name%3d%27GO%20Sales%20(query)%27%5d%2ffolder%5b%40name%3d%27Report%20Studio%20Report%20Samples%27%5d%2freport%5b%40name%3d%27Briefing%20Book_DQ%27%5d&ui.name=Briefing%20Book_DQ&run.outputFormat=&run.prompt=true&ui.backURL=%2fC10Full%2fcgi-bin%2fcognos.cgi%3fb_action%3dxts.run%26m%3dportal%2fcc.xts%26m_folder%3di9A890DD7508C46EF9FB06010C90886D1**&cv.debug=true**

  Tip: Appending cv.perfDebug=true instead of cv.Debug=true results in all the logs for a successful request to be deleted which will help keep the size of the logs directory small.

- Press **Enter** to run the report, and login again if prompted.

  The Briefing Book displays. Notice the text DEBUG ENABLED at the top of the page.

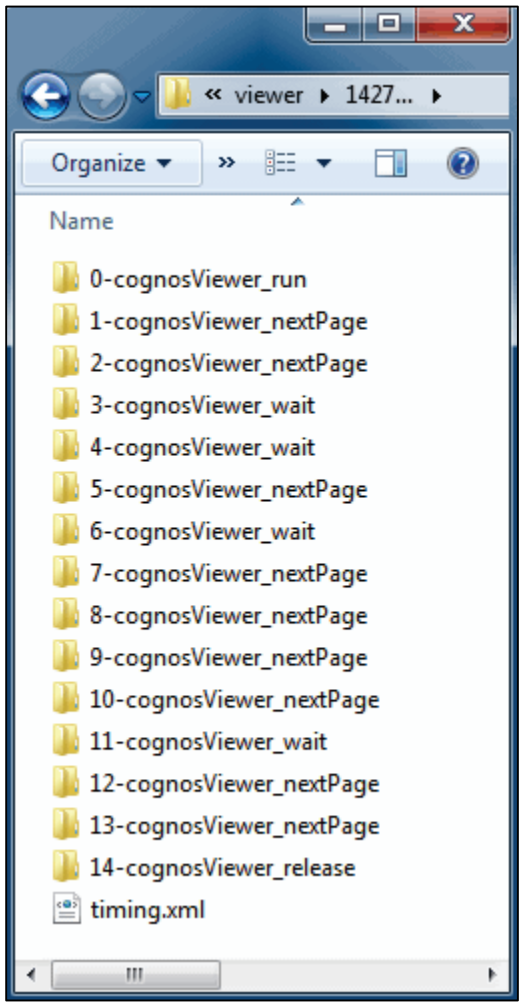
  The results appear as follows:

- Navigate through the report, page by page, to the last page (page 10), log off **Admin Person**, and then close the browser window.

Task 3. Review the results of the trace.

- Navigate to the **C:\Program Files\IBM\cognos\c10_64full\temp\viewer** folder and expand the subfolder structure.

Similar results are shown as follows (you may see a different number of folders):



Each page load results in its own set of folders and files being generated.

- Expand the **0-cognosViewer_run** folder, and observe that the folders available include input, queryCache, run, and so on.

  There are also two other files, timing.xml and trace.log.

- On the toolbar, click **Back**, and then expand a **nextPage** folder, and review the contents.

  Using the URL method is a quick way to obtain the request ID or session ID for a particular run of a report. You will now obtain the session ID contained in the input.xml output file, and follow the actions of the session by filtering on the session ID in cogserver.log. You could also use the request ID.

- From a **cognosViewer_nextPage** folder, expand the **input** folder and open **input.xml** in **Internet Explorer**.

  Disregard any browser messages about script restrictions.

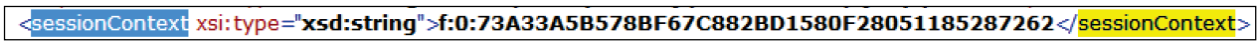
- Press **Ctrl+F** to display the **Find** box, and then type **sessioncontext**.

  In the line of code, you will copy the section between the tags for sessionContext, but do not include the colon or the characters before it.

- Copy the **sessionContext** information to the clipboard as described:

  - In the example below, you would just copy 73A33A5B578BF67C882BD1580F28051185287262

  You would not copy the f:0 or any of the other characters on the line.



- Launch **IBM Cognos Log Viewer**, and load **cogserver.log** into the utility.

  IBM Cognos Log Viewer is in the C:\Program Files\ibm\cognos\c10_64full\bin directory, logviewV2.exe file. Dismiss any message regarding non-audit messages being dropped.

- Click the **cogserver.log** tab.

- To refine the focus, in the Refine focus on text box, type to **SESSIONID == '** and paste the session ID code from the clipboard, and then type **'** to end the statement.

  Ensure that before and after the double equal signs (==) there is a space.

  If you did not do the earlier demo in this course that increased the level of logging, or if you reset your lab environment to the initial state of this course, you may not get results on a Session ID being logged. Review the note at the beginning of this workshop.

- Click an item in the filtered list, to review the information that was logged for the sesssion.

- When you have reviewed the items of interest, close **IBM Cognos Log Viewer** and all other windows, and then stop the **IBM Cognos Full:9315** service.

  Wait until the service has fully stopped before proceeding to the next task.

Task 4. Enable global logging.

Warning: Globally enabling Cognos Viewer tracing will generate hundreds of log files in a short period of time, on even a slightly active site, as a complete set of folders and files are generated for each navigation task (page up, page down, etc.). Use with extreme care.

- Launch **Eclipse**, and activate the tab for the previously opened file **viewerconfig.properties**.

  If this file was closed in a previous Eclipse session, open the file by navigating to C:\Program Files\IBM\cognos\c10_64full\webapps\p2pd\WEB-INF\classes.

- Type the following line at the end of the code:

  debug=true

  Tip: Inserting perfDebug=true instead of debug=true results in all the logs for a successful request to be deleted which will help keep the size of the logs directory small.

- Delete the **enableURLDebug=true** line, which was used for the session tracing in an earlier task.

- Save the file, close **Eclipse**, and then start the **IBM Cognos Full:9315** service.

  Ensure that the service is fully started before proceeding to the next step.

- Launch **Internet Explorer**, go to **http://vclassbase:88/C10Full**, log on to the **LDAP_Dev** namespace with **admin/Education1** credentials, and then on the **IBM Cognos Software** page, click **IBM Cognos content**.

- Navigate to **Public Folders\Samples_DQ\Models\GO Sales (query)\Report Studio Report Samples**, and then run the **Briefing Book_DQ** report.

  At the top of the IBM Cognos Viewer window, notice the presence of the DEBUG ENABLED. As with the session tracing, this indicates that the trace is active, and all actions will be logged.

  Actions are logged the same as for session tracing, and so you can read the resulting files using the method described in Task 3 of this workshop. If there is time, you can run a report and review the resulting files, otherwise proceed to the next task to disable global logging.

Task 5. Disable global logging.

1. Close the browser window and then stop the **IBM Cognos Full:9315** service.
2. Launch **Eclipse**, and activate the tab for the previously opened file **viewerconfig.properties**.

   If this file was closed in a previous Eclipse session, open the file by navigating to C:\Program Files\IBM\cognos\c10_64full\webapps\p2pd\WEB-INF\classes.
3. Delete the **debug=true** line, save the file, and then close all windows.
4. To ready the environment for the next workshop, start the **IBM Cognos Full:9315** service, and when that has started, start the **IBM Cognos DispCM:9320** service.

Business Analytics software

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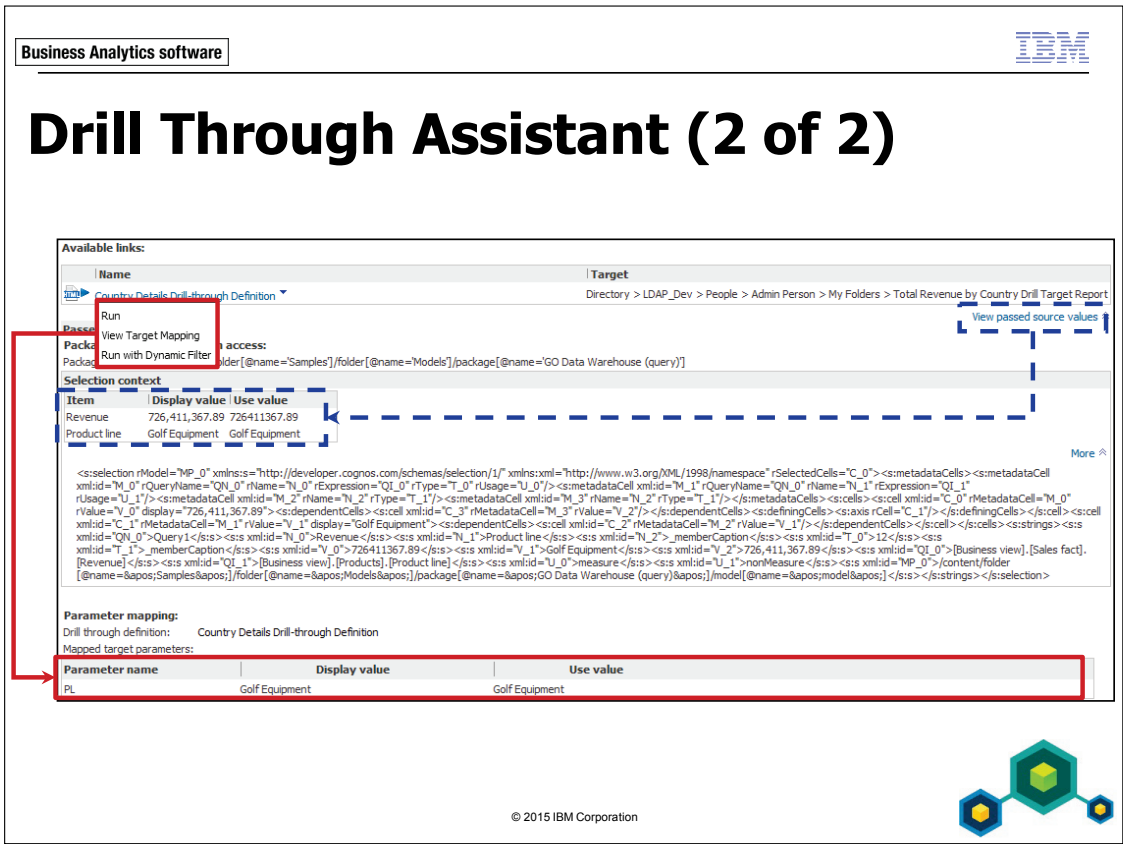
Drill Through Assistant (1 of 2)

- Purpose:
  - debug drill through definitions
- Description:
  - displays values selected by the user for passing to the target report
  - displays the parameter names mapped in the drill-through definition

Use the Drill Through Assistant to debug functionality for drill through definitions. The values selected by the user when invoking the drill-through action will be displayed, for you to review as what is available for passing to the target report. This utility also displays the name of the parameter that was mapped in the drill-through definition, and the values that the source is attempting to pass to that parameter.

This feature is available by default to System Administrators. To activate the Drill Through Assistant for other users, in IBM Cognos Administration, on the Security tab, in the Capabilities section, add users to the member list for Drill Through Assistant.



When the Drill Through Assistant capability is enabled, the Go to window will have additional options available to the user. This information can assist you when troubleshooting drill through issues.

For more information about the Drill Through Assistant see the *Administration and Security* guide.

This topic is also covered in the IBM Cognos BI Administration (v10.2.2) course, which is a prerequisite to this course.

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Use Diagnostic URL Commands

- Get Dispatcher version
- Determine if Content Manager is running
- Determine if a Dispatcher is alive
- View installed components
- Memory utilization
- Environment
- Get load balancing statistics
- Pin requests for load balanced services to a specific Dispatcher
- Determine if the Certificate Server is responding
- XML parser information

There are a variety of URL diagnostic commands available, to assist you when troubleshooting issues. Refer to the product for others than those listed here.

Refer to the Workshop titled Examine URLs Available for Troubleshooting for specific examples of available commands.

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Analyze Logs with I.C.E.T.E.A.

- I.C.E.T.E.A.: IBM Cognos Exploration Tool for Event Analysis
- Logs (individual files or entire directories) are loaded into an in-memory database.
- Logs can be associated to specific "cases" and have several pre-canned queries (hourly activity, hourly errors, process lifecycles, and so forth).
- Logs can be filtered on-demand and have full drill-through capability into underlying errors which then allow for further filtering.

I.C.E.T.E.A. (IBM Cognos Exploration Tool for Event Analysis) is a log analysis tool which allows for interactive examination, filtering, and correlation of log entries from single or multiple log files which are imported and indexed into a database.

I.C.E.T.E.A. is similar to the logviewV2.exe tool, but is considerably more powerful. It is not installed with IBM Cognos BI. You can download it from IBM developerWorks at the following link:

https://www.ibm.com/developerworks/community/groups/service/html/communityview?communityUuid=0ad1d51b-4366-4735-a999-3522a4cba6cd.

Demo 3: Analyze Logs with I.C.E.T.E.A.

Purpose:
To get a better understanding of what is going on in your BI environment, you will use the I.C.E.T.E.A. utility to analyze the logs that have been generated. You will first launch I.C.E.T.E.A. and import the logs. You will then drill through on error messages to see more detail. Next you will filter on errors using query filters. Lastly you will examine the pre-made queries that come supplied with the tool.

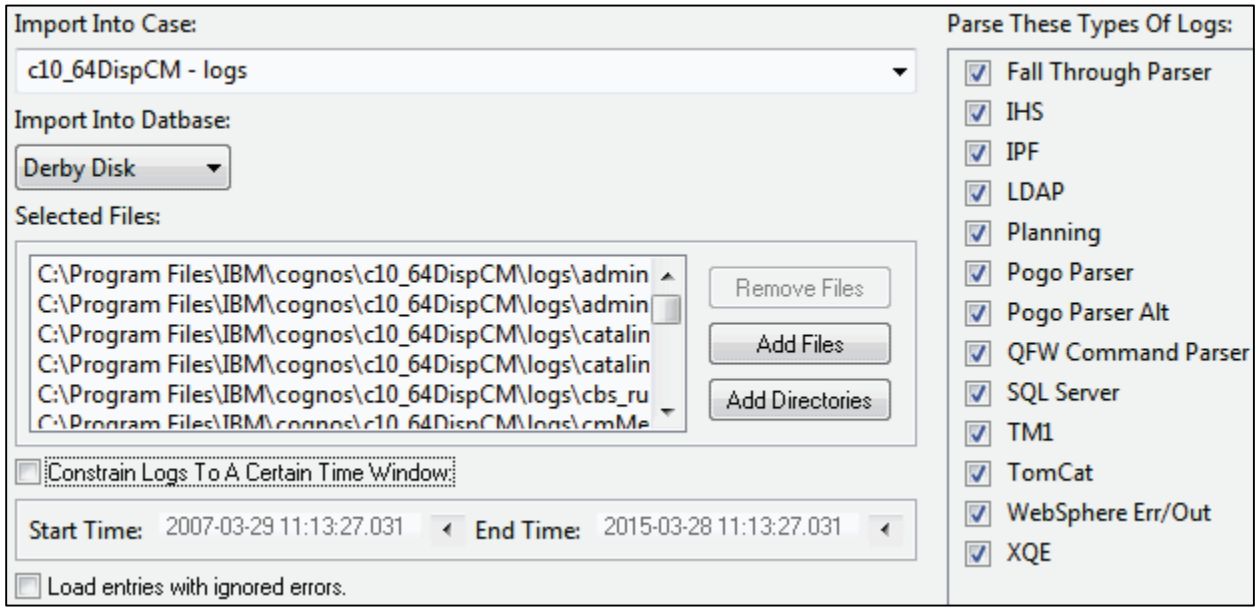
Task 1. Launch I.C.E.T.E.A. and import logs.

1. In the **C:\Edcognos\B5A19\diagnostictools** folder, double-click the **ICETEA** subfolder, and then double-click **icetea.exe**.

   If necessary, accept the license agreement and then close the **Welcome** tab.
2. On the toolbar of the **Case Navigator** pane in the top left corner, click **Import Logs**  .
3. In the **Validating database connectivity** dialog box, click **Details** to see the progress of connecting, and wait for the **Import Data Files** dialog box to display.
4. In the **Selected Files** area, click **Add Directories**, navigate to **C:\Program Files\IBM\cognos\c10_64DispCM\logs**, and then click **OK**.

5. Click the **Constrain Logs To A Certain Time Window** check box to clear it.

   A section of the result appears similar to the following:



6. Click **Next**, and then on the **Filter Log Entry Columns** page click **Next**.
7. Type additional notes about the case (if you want), and then click **Finish**.

   The log parsing window displays (this may take a few moments).
8. In the **Additional Information Required** window, click **OK**.

   This message appears due to missing timing information in some log files.
9. In the **Case Navigator** pane in the top left corner, expand the date object, and then double-click the logs directory which was imported.

   The Case Summary pane on the right side is populated with information about the case.

Task 2. Drill through on error messages.

1. In the **Error Summary Count** section, right-click an error message and then click **Drill Through On <error>**.

   Notice that to the right side of the vertical scroll bar there are thin blue horizontal marks  . These represent the occurrences of the errors in the logs.
2. Click a blue mark to jump to that point of the log file (you may need to scroll slightly up or down to get to the error row which will be highlighted in blue).

Task 3. Filter errors using query filters.

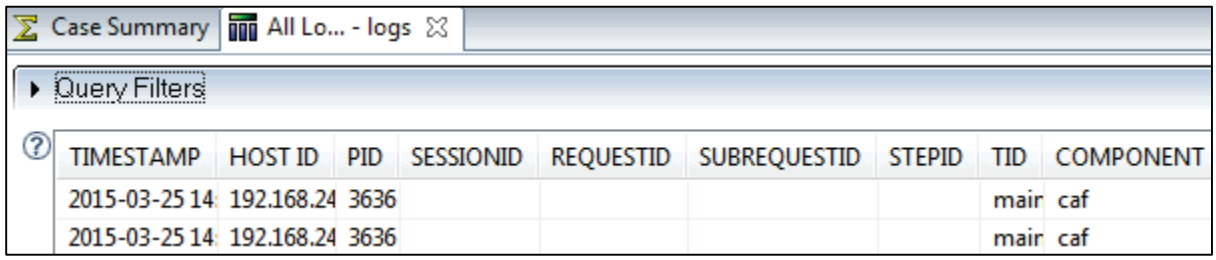
1. Expand **Query Filters** at the top of the workspace tab.
2. Expand the **Error Code** dropdown list, and select an error.
3. Click **Execute This Tab**.

   The result set is now filtered down to only rows containing the selected error code.
4. In the **COMPONENT** column, notice the value for the error message logged.
5. Expand **Query Filters** at the top of the workspace tab.
6. In the **Error Code** list, click the top blank entry to clear it, in the **Component** list, select the value you had seen in step 4 (for example, "caf"), and then click **Execute This Tab**.

   The result set is now filtered down to only rows containing the selected component. This may be quite a large result set.
7. Expand **Query Filters**, maintain the selection in the **Component** list, and then select a value in the **Process ID** list that matches with a value in the **PID** column of the result set.
8. Click **Execute This Tab**.

   The result set is now filtered down to only rows containing *both* the selected component and the selected PID (Process ID).

   The results appear similar to the following:



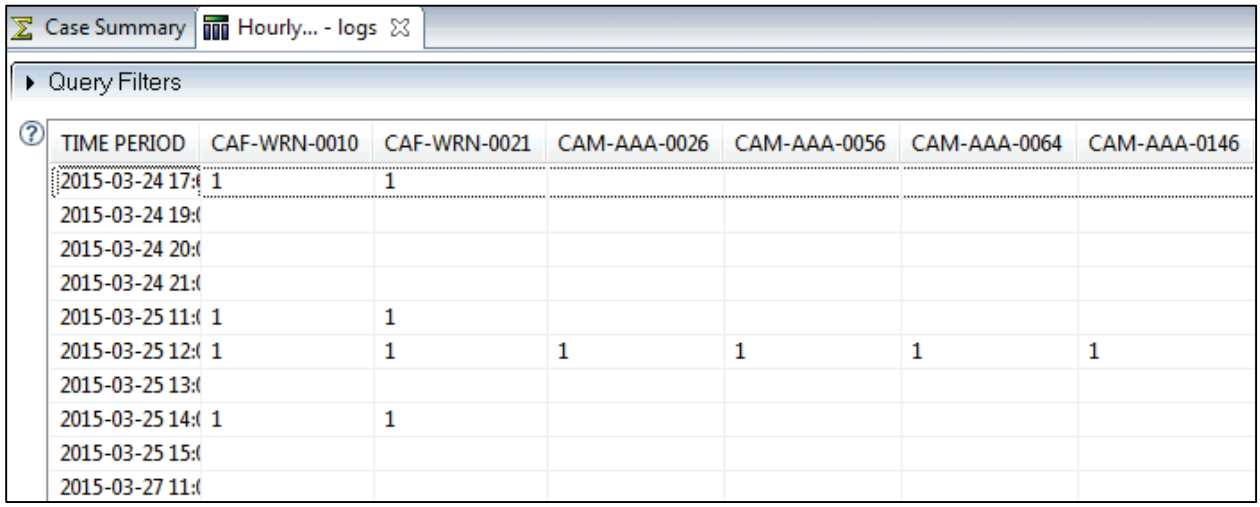
9. Close the workspace tab.

Task 4. Explore the pre-made queries.

1. In the **Queries** pane on the bottom left side, expand **Case Summary\System Runtime Information\Error Pattern**.
2. Right-click **Hourly Error Pattern** and select **Run Query**.

   A message may appear with requirements to turn on basic level logging of the study component and ensure that there are cogserver.log or pogo logs.

   When these requirements are met, the result set will display the frequency with which errors occurred on an hour-by-hour basis. This result set can be filtered using the same steps outlined in Task 3. The results appear similar to the following:



TIME PERIOD	CAF-WRN-0010	CAF-WRN-0021	CAM-AAA-0026	CAM-AAA-0056	CAM-AAA-0064	CAM-AAA-0146
2015-03-24 17:(	1	1				
2015-03-24 19:(						
2015-03-24 20:(						
2015-03-24 21:(						
2015-03-25 11:(	1	1				
2015-03-25 12:(	1	1	1	1	1	1
2015-03-25 13:(						
2015-03-25 14:(	1	1				
2015-03-25 15:(						
2015-03-27 11:(						

   Additional queries can be created and saved within this section of I.C.E.T.E.A. by right-clicking a folder and selecting New Query.

3. Close all open windows.

Results:
To get a better understanding of what is going on in your BI environment, you used the I.C.E.T.E.A. utility to analyze the logs that have been generated. You first launched I.C.E.T.E.A. and imported the logs. You then drilled through on error messages to see more detail. Next you filtered on errors using query filters. Lastly you examined the pre-made queries that come supplied with the tool.

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Summary

- At the end of this module, you should be able to:
  - explore diagnostic tools and utilities for special task logging

Workshop 2: Examine URLs Available for Troubleshooting

As the administrator, you want to use URL commands to assist in troubleshooting your company's BI environment. You will review some URL commands, to become familiar with the tools available. Before beginning this workshop, ensure that both Dispatchers are running.

Within a browser window, explore the following commands and review their purpose:

- Get Dispatcher version: **http://vclassbase:9315/p2pd/servlet/gc**
- Get Dispatcher version: **http://vclassbase:9320/p2pd/servlet/gc**
- Determine if Content Manager is running:
  http://vclassbase:9315/p2pd/servlet
- Determine if Dispatcher ("pogo") is alive:
  http://vclassbase:9315/p2pd/servlet/dispatch?b_action=/dbg
- Memory utilization:
  http://vclassbase:9315/p2pd/servlet/dispatch?b_action=/diagnostics
- Get load balancing statistics. Can also use this to verify the configuration of an install:
  http://vclassbase:9315/p2pd/servlet/dispatch/p2plbDiag
- Pin requests for load balanced services to a specific Dispatcher (need to be logged in first):
  http://vclassbase:9315/p2pd/servlet/dispatch/pin
  You could use this to force select services to one dispatcher, to free up resources for another.
- See if the Certificate Server is responding:
  http://vclassbase:9315/p2pd/servlet/dispatch/autoCAService
- XML Parser Information:
  http://vclassbase:9315/p2pd/servlet/dispatch/xts.diag

For more information about where to work and the workshop results, refer to the Tasks and Results section that follows. If you need more information to complete a task, refer to earlier demos for detailed steps.

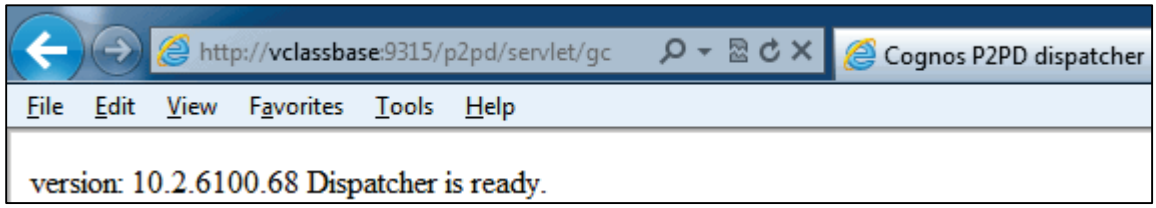
Workshop 2: Tasks and Results

At the beginning of this workshop, both dispatchers are running.

Task 1. Explore Useful URL commands.

- Launch **Internet Explorer**.
- Launch **Windows Explorer**, navigate to **C:\Edcognos\B5A19\09-Examine_Additional_Tools_and_Special_Task_Logging**, and then open **UsefulURLS.txt** in **Notepad**.
- From the **UsefulURLS.txt** file, copy the first URL command, to get the Dispatcher version, **http://vclassbase:9315/p2pd/servlet/gc**, switch to **Internet Explorer**, paste the URL command in the **Address** box, and then press **Enter**.

  The version of the dispatcher is displayed, and the state is ready. There is another instance of a dispatcher in your environment. You can easily redirect the URL command to the second dispatcher.



- In the **Address** box of **Internet Explorer**, change **9315** to **9320** and then press **Enter**.
- Repeat for the next URL command **http://vclassbase:9315/p2pd/servlet**.

- For each of the remaining URL commands in the text file, repeat to view the results.

  Some of the results appear as follows:

  - http://vclassbase:9315/p2pd/servlet/dispatch?b_action=/diagnostics

```
<?xml version="1.0"?>
- <Diagnostics>
    <Dispatcher capacity="1.0" port="9315" host="vclassbase"/>
    <Memory Total_memory_in_the_JVM="805306.368 KB" Amount_of_free_memory_in_the_system="529169.344 KB"/>
    <CM port="9315" host="vclassbase"/>
  </Diagnostics>
```

  - http://vclassbase:9315/p2pd/servlet/dispatch/p2plbDiag

```
This dispatcher is: vclassbase:9315/p2pd/servlet/dispatch
GUID=2015-03-16-20.22.44.255878
Using CM: vclassbase:9315/p2pd/servlet
Current time: Mar 25, 2015 3:37:48 PM EDT
Configured dispatchers and services:
this dispatcher is : "/configuration/dispatcher[@name='http://vclassbase:9315/p2pd']"
this dispatcher is in serverGroup : "Group 64"

All known dispatchers:
        Dispatcher: /configuration/dispatcher[@name='http://vclassbase:9315/p2pd']
                name: vclassbase:9315/p2pd
                dispatcherID: 2015-03-16-20.22.44.255878
                capacity: 1.0
                SSL: false
                serverGroup: Group 64
                loadBalancingMode: weightedRoundRobin
                edition: 10.2.6100.68
                Services:
                        Service name: repositoryService disabled? false
                        Service name: dispatcher disabled? false
```

  - http://vclassbase:9315/p2pd/servlet/dispatch/xts.diag

XML Transformation Service		
XTS		
	version	10.2.6100.5
	template	../templates/ps
SAX Parser		
	factory class	org.apache.xerces.jaxp.SAXParserFactoryImpl
	parser class	org.apache.xerces.jaxp.SAXParserImpl
XSLT Transformer		
	factory class	jd.xml.xslt.trax.TransformerFactoryImpl
	transformer class	jd.xml.xslt.trax.TransformerImpl

For some commands, you will be prompted to authenticate. Use the LDAP_Dev namespace, admin/Education1 credentials for logging in.

If you encounter Firewall Security Rejection for any of the URLs, it may be due to the current environment setup. One possible solution is within IBM Cognos Configuration, set all of the URI settings to fully qualified URI's; an example of Gateway URI: http://machine-name.domain-name.com:88/ibmcognos/cgi-bin/cognos.cgi. The classroom environment is not on a domain, but you are encouraged to try this in your environment if you are on a domain and encounter this issue.

Question: For the Content Manager URL, do you see any differences between the states of each?

Answer: One is Running, the other is Running as standby.