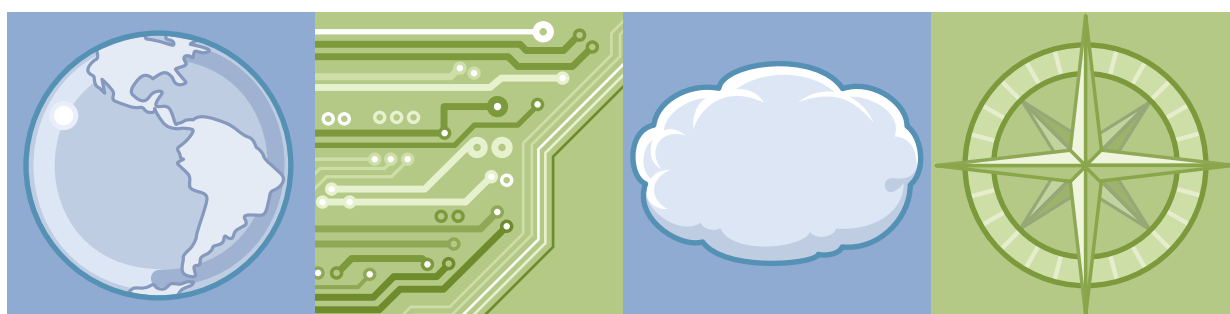# IBM Training

Student Notebook

IBM Case Foundation 5.2.1: Maintain the Workflow System

Course code F233 ERC 1.0

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Course description

IBM Case Foundation 5.2.1: Maintain the Workflow System

Duration: 1 day

Purpose

This course provides training on IBM Case Foundation system maintenance tasks. You learn how to monitor, administer, and troubleshoot an IBM Case Foundation system, performing typical day-to-day maintenance tasks. You work with a virtual IBM Case Foundation system to complete lesson objectives.

Audience

A Workflow System Administrator is responsible for day-to-day operations of a production IBMCase Foundation system.

Prerequisites

- Identify workflow concepts.
- Identify elements in a workflow definition.
- Launch and navigate Administration Console for Content Platform Engine
- Launch and navigate Process Configuration Console
- Launch and navigate IBM Content Navigator
- Launch and navigate Process Administrator
- Launch and navigate Process Designer
- Launch, process, and track a workflow
- Identify functions of IBM Case Foundation components
- Explain a workflow system and its function
- Identify the components of a workflow system
- Configure a workflow system
- Create and configure an isolated region and region objects

Objectives

After completing this course, you should be able to:

- Identify the Workflow system admin tools and their uses.

- For a given scenario, identify the tool that you can use to resolve the problem.
- Use the PE Ping page to check component queues.
- Monitor Processes with System Dashboard.
- Monitor processes with vwtool.
- View event logs.
- Maintain event log tables in a region.
- Configure and use system logs to troubleshoot the system.

Contents

- Use administrative tools for maintenance
- Monitor with the PE Ping page
- Monitor with System Dashboard
- Monitor with vwtool
- Maintain event logs
- Troubleshoot the system

Curriculum relationship

For more information about IBM Trainig paths, go to the following website:

http://www-304.ibm.com/jct03001c/services/learning/ites.wss/us/en?pageType=page&c=Y678448H04759K32

Unit 1. Maintain the Workflow System

What this unit is about

This Unit provides training on IBM Case Foundation system maintenance tasks. You learn how to monitor, administer, and troubleshoot a, IBM Case Foundation system, performing typical day-to-day maintenance tasks. You work with a virtual IBM Case Foundation system to complete lesson objectives.

What you should be able to do

After completing this unit, you should be able to:

- Identify the Workflow system admin tools and their uses.

- For a scenario, identify the tool that you can use to resolve the problem.

- Use the Process Services Ping page to check component queues.

- Monitor Processes with System Dashboard.

- Monitor processes with vwtool.

- View event logs.

- Maintain event log tables in an isolated region.

- Configure and use system logs to troubleshoot the system.

How you will check your progress

- Successfully complete the lesson exercises.

References

IBM Knowledge Center:

http://www-01.ibm.com/support/knowledgecenter/SSNW2F_5.2.0/com.ibm.p8toc.doc/filenetcontentmanager_5.2.0.htm?lang=en

Maintain the Workflow System

Unit objectives

After completing this unit, you should be able to:

- Identify the Workflow system admin tools and their uses.
- For a scenario, identify the tool that you can use to resolve the problem.
- Use the Process Services Ping page to check component queues.
- Monitor Processes with System Dashboard.
- Monitor processes with vwtool.
- View event logs.
- Maintain event log tables in an isolated region.
- Configure and use system logs to troubleshoot the system.

Figure 1-1. Unit objectives   F2331.0

Notes:

Maintain the Workflow System

Unit lessons

This unit contains these lessons:

- Use administrative tools for maintenance
- Monitor with the Process Services Ping page
- Monitor with System Dashboard
- Monitor with vwtool
- Maintain event logs
- Troubleshoot the system

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Figure 1-2. Unit lessons   F2331.0

Notes:

Do these lessons in the sequence presented.

Use administrative tools for maintenance – This lesson provides an overview of workflow system administration tools and their functions.

Monitor with the Process Services Ping page – This lesson shows how to use the Process Services Ping page to quickly assess the system health.

Monitor with System Dashboard – This lesson shows how to configure and use System Dashboard to monitor system health.

Monitor with vwtool – This lesson shows how to use vwtool to monitor system performance and perform other administration tasks.

Maintain event logs – This lesson shows how to prevent event logs from slowing system performance.

Troubleshoot the system - This lesson shows how to use administrative tools to gather data for troubleshooting.

Lesson 1.1.   Use administrative tools for maintenance

Lesson
Use administrative tools for maintenance

Why is this lesson important to you?

- You are administering a workflow system. You can use several Workflow system administration tools. You need to quickly identify which tool to use for any monitoring, troubleshooting, or maintenance task.

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Figure 1-3. Use administrative tools for maintenance   F2331.0

Notes:

Use administrative tools for maintenance

Activities that you need to complete
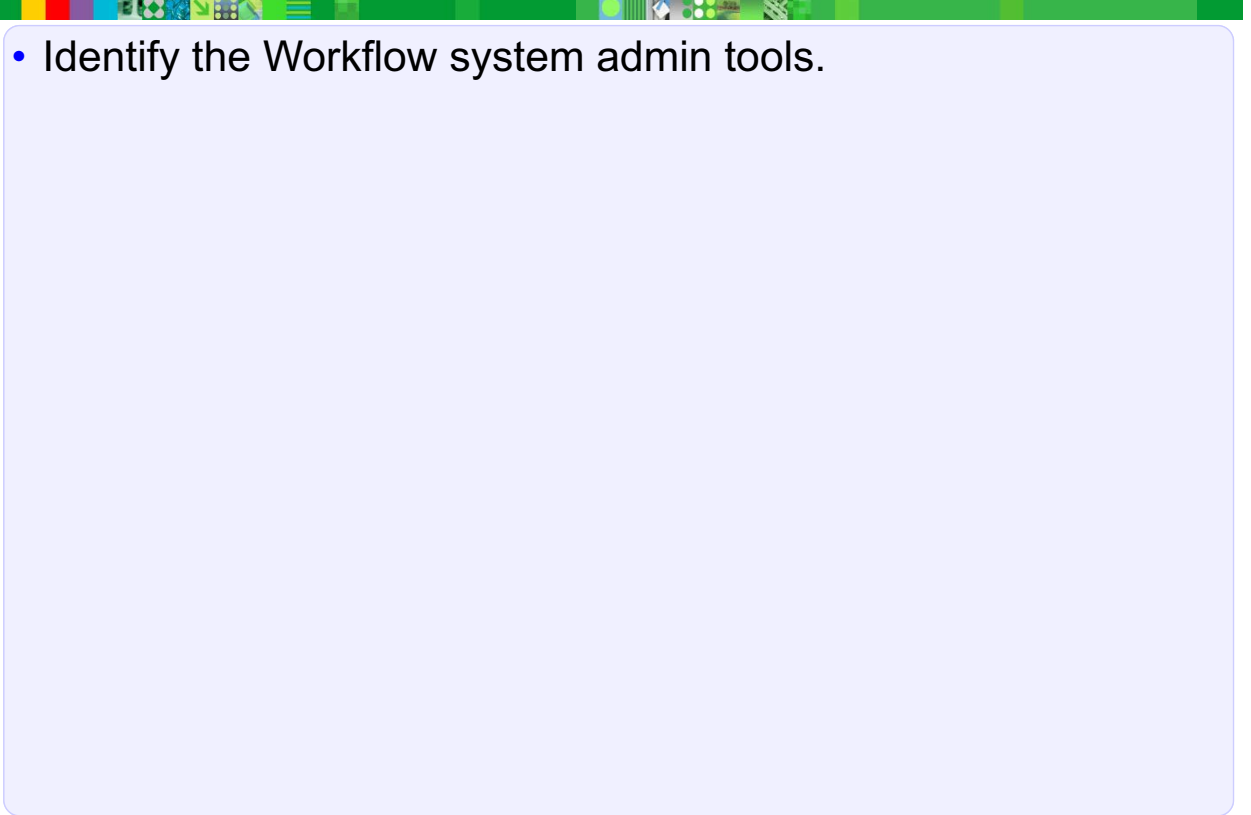
• Identify the Workflow system admin tools.

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Figure 1-4. Activities that you need to complete   F2331.0

Notes:

You are going to complete these activities in this lesson.

Use administrative tools for maintenance

Maintaining a workflow system

- The workflow system administrator is responsible for day-to-day operations of a workflow system.
- The following are typical maintenance tasks:
  - Monitoring system performance
  - Monitoring logs
  - Managing log systems
  - Troubleshooting

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Figure 1-5. Maintaining a workflow system   F2331.0

Notes:

The workflow system administrator is responsible for day-to-day operations of a production workflow system. A workflow system administrator is typically required to do the following functions:

- Help workflow participants to locate work and complete workflows.
- Respond to management decisions that require changes to workflows.
- Gather information about workflow activity to help management make business decisions.

During the production phase, the workflow system administrator manages operation of the workflow application and communicates with workflow participants and managers. In the solution deployment phase, the workflow system administrator coordinates activities with the Workflow Author to plan and control solution implementation into the production environment.

Use administrative tools for maintenance

Administrative tools for the Workflow system

- You must be able to select and use the appropriate administrative tools for a task.
- Administrative tools:
  - Administration Console for Content Platform Engine (ACCE)
  - Process Administrator
  - Process Services Ping Page
  - System Dashboard
  - Vwtool
  - Logging systems

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Figure 1-6. Administrative tools for the Workflow system   F2331.0

Notes:

This lesson provides a high-level overview of the administration tools that you work with to monitor and maintain a workflow system. For any task that you need to accomplish, you must be able to identify the correct tool to accomplish it. In this unit, you use each of these tools to complete lesson exercises.

Use administrative tools for maintenance

Administration Console for Content Platform Engine

- Use Administration Console for Content Platform Engine to access global system properties.
  - Workflow system properties
  - Connection point properties
  - Isolated region properties
  - Isolated region objects
- ACCE provides access to other administration tools:
  - Process Administrator
  - Process Configuration Console
- New Workflow Search
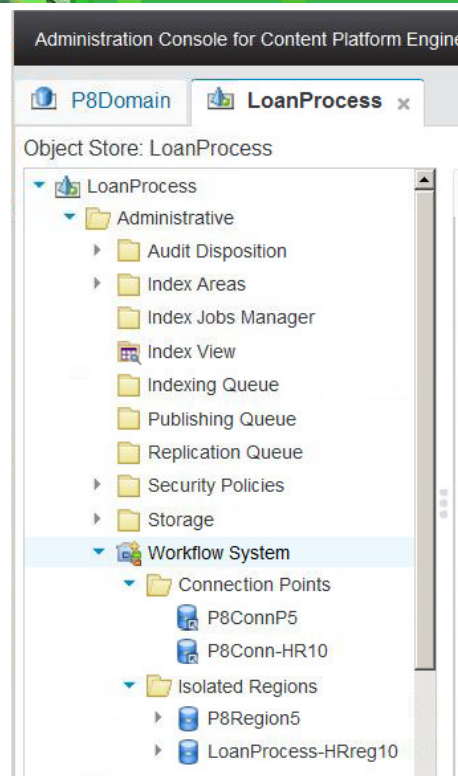
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Figure 1-7. Administration Console for Content Platform Engine   F2331.0

Notes:

Administration Console for Content Platform Engine is a new web-based tool for configuring and administering content, workflow, and analysis features in Content Platform Engine. The administration console replaces Enterprise Manager as the primary administration tool for Content Platform Engine.

In Administration Console for Content Platform Engine, you can find information and edit settings. The following list shows some of the functions that you can access from ACCE. The list provides some examples, but is not meant to be comprehensive.

Workflow system

General tab

- Table spaces name where workflow system data is stored. A database administrator can use this information for creating reports or backups.

- Workflow system security groups: specify who can administer and configure the workflow system.

- Process Orchestration: Specify URLs for WebSphere Message Broker servlet and Public listener so that you can use web applications as part of a process.

Isolated Regions tab

- Lock an isolated region before a system backup or restoration.
- Initialize an isolated region to erase all workflow data and to restore the region to its initial configuration (used mainly in development systems).

New Workflow Search

Administration Console provides a New Workflow Search that you can use to find work items and events. The functions are similar to the functions that are provided by Process Administrator.

Use administrative tools for maintenance

Lock an isolated region
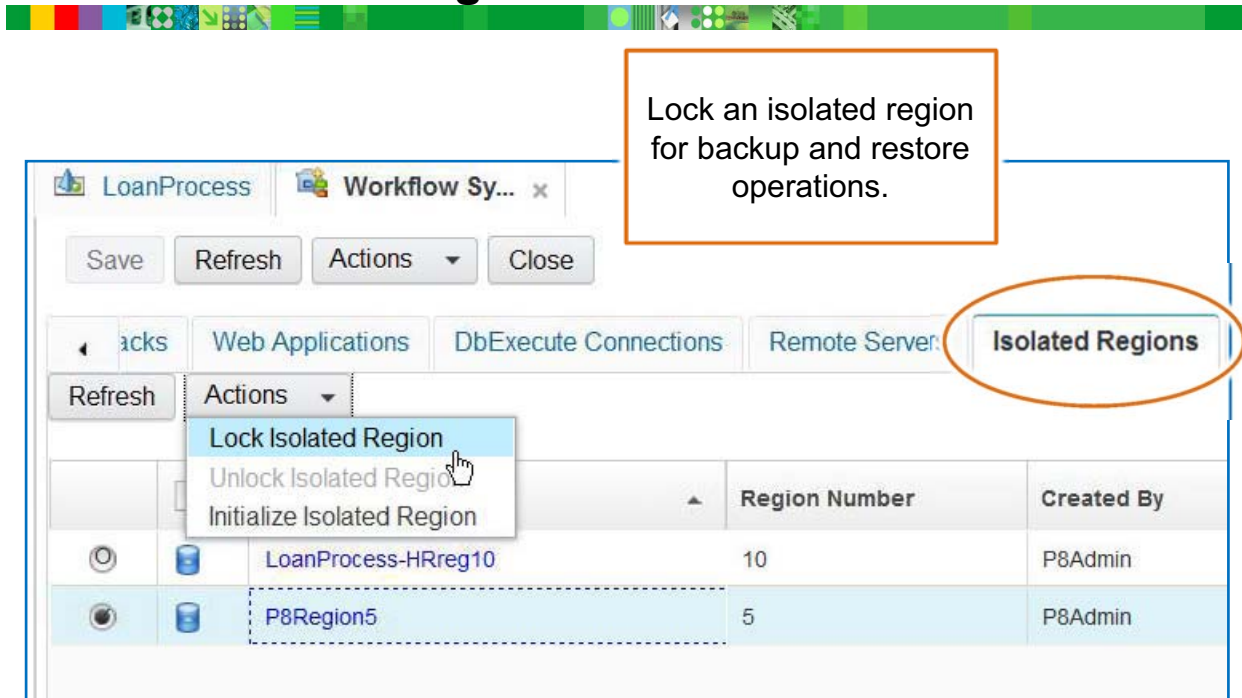
Figure 1-8. Lock an isolated region   F2331.0

Notes:

To lock an isolated region, use Administration Console for Content Platform Engine > Workflow System > Isolated Regions tab.

You can also initialize an isolated region from this menu.

Use administrative tools for maintenance

Workflow system component administration
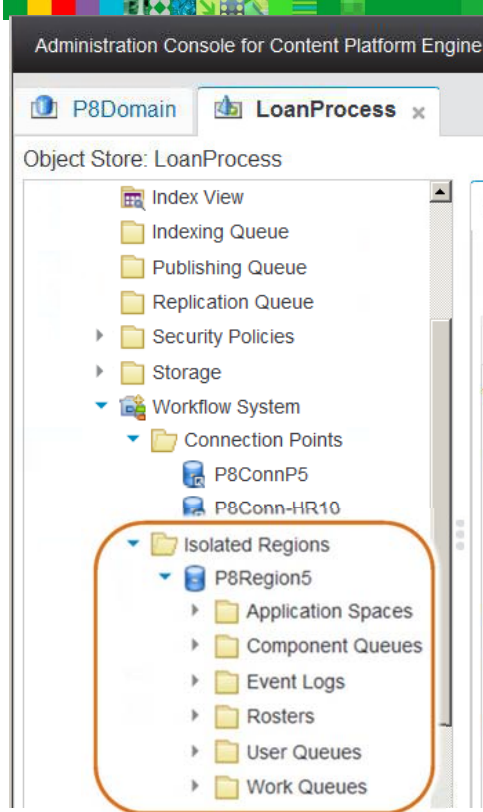
- Components that were formerly configured through Process Configuration Console:
  - Isolated regions
  - Application spaces
  - Queues
  - Event logs
  - Rosters
- Are now administered with Administration Console for Content Platform Engine.

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Figure 1-9. Workflow system component administration   F2331.0

Notes:

Before Case Foundation 5.2.1, administrators used Process Configuration Console to configure workflow system components:

Isolated regions

Queues

Rosters

Event logs

Application spaces

In Case Foundation 5.2.1, use ACCE for these configurations. Exception: Configuring custom component queues still requires PCC.

Use administrative tools for maintenance

Process Administrator

- Process Administrator is a Java applet that you use for administering work in progress.
- You can search for the tables:
  - Workflows, work items, events, and statistics
- You can do the following operations:
  - Modify field values, workflow groups, and trackers.
  - Complete work.
  - Delete workflows or work items.
  - Unlock work.
  - Assign or reassign work to users.
  - Open a work item or workflow in Process Tracker

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Figure 1-10. Process Administrator   F2331.0

Notes:

Help path

IBM Knowledge Center>FileNet P8 Platform 5.2.0>Integrating workflow into document management>Administering work items>About managing workflows

Use Process Administrator to manage work in progress.

User must have security access rights to the queues and rosters.

To assign attachments, user must have access to the object store and documents.

Use administrative tools for maintenance

Start Process Administrator

- Use the Connection Point Action menu to start Process Administrator.
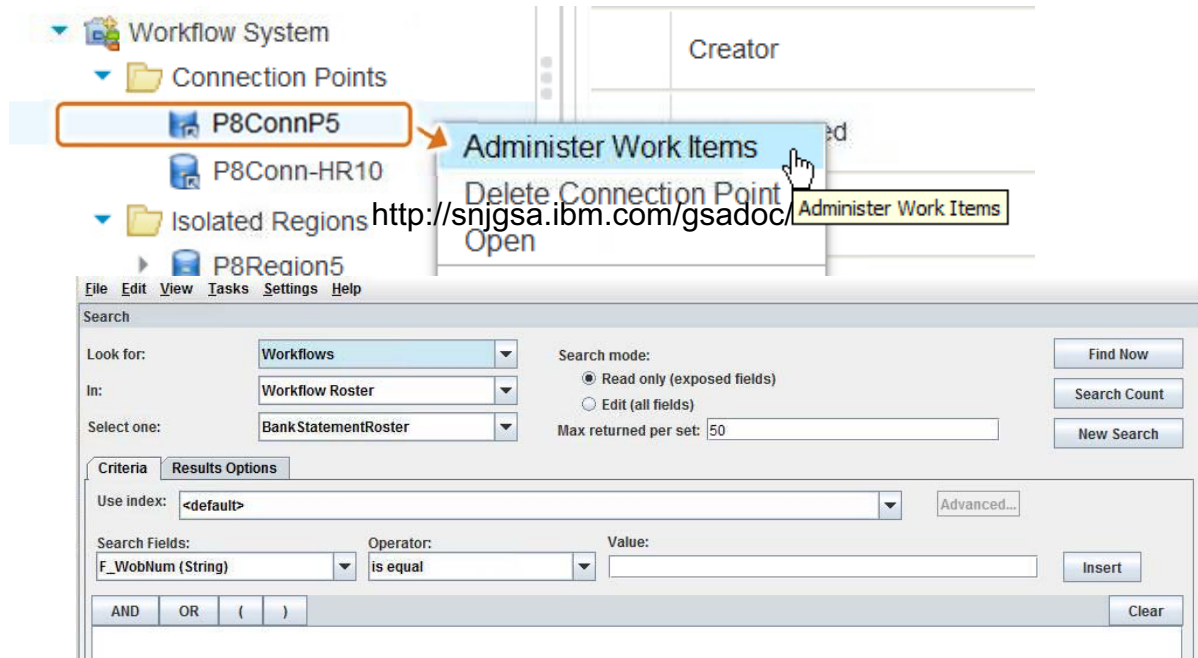
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Figure 1-11. Start Process Administrator   F2331.0
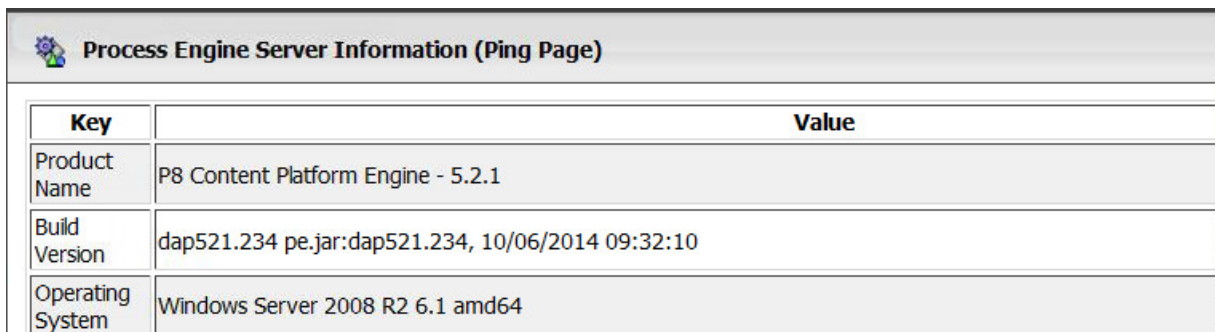
Notes:

Help path

IBM Knowledge Center>FileNet P8 Platform 5.2.1>Integrating workflow into document management>Administering work items

Use administrative tools for maintenance

Process Services Ping page

- The Process Services Ping page is a web page that displays useful information about the workflow system.
  - Verify that the workflow system is working
  - Verify the build version
  - Find JVM path, class path, location of event logs
  - Component manager logs and statistics

Process Engine Server Information (Ping Page)

Key	Value
Product Name	P8 Content Platform Engine - 5.2.1
Build Version	dap521.234 pe.jar:dap521.234, 10/06/2014 09:32:10
Operating System	Windows Server 2008 R2 6.1 amd64

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Figure 1-12. Process Services Ping page   F2331.0

Notes:

Use administrative tools for maintenance

System Dashboard

- IBM System Dashboard for Enterprise Content Management
    - Is a real-time, performance-monitoring dashboard tool.
    - Monitors multiple components of an IBM FileNet P8 system.
    - Displays all information in the same console.
    - Tracks component-specific, environment, and operating system data.
- Components: Dashboard and the listeners.
    - You configure the listeners to monitor the activities that you are interested in.
    - You can watch in real-time or archive listener activity to create reports.
- Use Dashboard to identify and resolve potential performance problems before they occur.
    - Evaluate workload and its effect on system resources.
    - Observe changes and trends in workloads and resource usage.

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Figure 1-13. System Dashboard   F2331.0

Notes:

Help path

IBM Knowledge Center>FileNet P8 Platform 5.2.0>FileNet P8 system overview>FileNet P8 architecture>Administrative components>System Dashboard for Enterprise Content Management

Use administrative tools for maintenance

Vwtool

- Vwtool is a command-line tool.
- Can be run on any Content Platform Engine Client
- Typical uses:
  - Set trace options for servers
  - View isolated region configuration information
  - View workflow system configuration information
  - View statistics on the server load
  - View transferred workflows in a region

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Figure 1-14. vwtool   F2331.0

Notes:

Help path

IBM Knowledge Center>FileNet P8 Platform 5.2.0>Administering FileNet P8>Administering Content Platform Engine>Defining the workflow system>Administrative tools>vwtool

The vwtool is a Content Platform Engine-server-based, command-line-driven, system support and administration program that you can use to analyze and modify various components.

The vwtool utility can run on any client of a Content Platform Engine server. In a workflow system where multiple servers can host client requests for load balancing, a vwtool client request can be directed to any server in the farm. To support vwtool commands that manipulate the memory state of a particular server in a server farm, these vwtool commands display information for all servers or prompt for a server name.

Important: The vwtool is a powerful tool that requires careful and informed use. Misuse of vwtool can lead to work item corruption, compromised data integrity, or loss of data.

Use administrative tools for maintenance

Logging systems

- Event logs
  - A record of specific system or workflow-related events for each isolated region.
  - Exist in the event log database table
  - Accessed with Administration Console for Content Platform Engine
- FileNet P8 logs
  - P8_sever_error.log
  - Pesvr_system.log
- Trace logs
  - A text file that record information about application failures.
  - Use Administration Console to select subsystems to trace.

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Figure 1-15. Logging systems   F2331.0

Notes:

Help paths

IBM Knowledge Center>FileNet P8 Platform 5.2.0>Integrating workflow into document management>Process applications concepts>Events>About event logs

IBM Knowledge Center>FileNet P8 Platform 5.2.0>Administering FileNet P8>Viewing the FileNet P8 log files

IBM Knowledge Center>FileNet P8 Platform 5.2.0>Administering FileNet P8>Administering Content Platform Engine>Troubleshooting>Creating a trace log>Trace logging

The p8_server_error.log file and the pesvr_system.log file contain Content Platform Engine server errors and any embedded exceptions or errors. These log files are the primary troubleshooting tool for Content Platform Engine.

Use administrative tools for maintenance

Activities

In your Student Exercises

- Unit: Maintain the Workflow System
- Lesson: Use administrative tools for maintenance
- Activities:
  - Identify the Workflow system admin tools.

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Figure 1-16. Activities   F2331.0

Notes:

Use your Student Exercises to complete the activities that are listed.

Lesson 1.2.   Monitor with the Process Services Ping page

Lesson
Monitor with the Process Services Ping page

Why is this lesson important to you?

- You are administering a workflow system. As part of your maintenance schedule, you scan the Process Services Ping page to ensure that the workflow system is fully operational.

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Figure 1-17. Monitor with the Process Services Ping page   F2331.0

Notes:

Monitor with the Process Services Ping page

Activities that you need to complete

- System start
- Use the Process Services Ping page.

Figure 1-18. Activities that you need to complete   F2331.0

Notes:

You are going to complete these activities in this lesson.

Process Services Ping Page

- The Process Services Ping Page provides information that you can access quickly by going to one URL.
- Typical uses:
  – Find out whether Content Platform Engine is running.
  – Find software build information.
  – Find log files.
  – Find information for support.
  – Find Component queue logs and status

Figure 1-19. Process Services Ping Page

F2331.0

Notes:

If the Ping Page fails to open, the Process Services are not running. If the page opens, you can use the information that it provides for support and troubleshooting.

Monitor with the Process Services Ping page

Process Services Ping Page: Overview

- Build Version
- Operating System
- JVM
- Start Time
- Class path
- Log file Location
- Local Host
- Data Directory
- Server Instance
- Ping time
- Database
- FileNet Process Engine Daemons
- Active RPC Threads

Figure 1-20. Process Services Ping Page: Overview   F2331.0

Notes:

The top of the Process Services Ping Page provides information that is most useful for support calls.

Build Version: The Content Platform Engine Process Services build version.

Operating System: The operating system of the Content Platform Engine server.

JVM: Details of the JVM version that the Content Platform Engine is using.

Start Time: The most recent start time of the Content Platform Engine. Use this information when reviewing log files.

Class path: The location of the JAR files used by the FileNet P8 Platform.

Log file Location: Content Platform Engine log files, error logs. Use this information to find the log files.

Local Host: The name of the server that is connected.

Data Directory: Location of Process Services subfolder of the Content Platform Engine log files directory and where you can find the WSBroker.properties file.

Server Instance: The web server instance that is running Content Platform Engine.

Ping time: The time that the Ping page accessed the displayed information.

Database: Provides Database Connection, Data Source names, Isolated regions, version information.

PE Daemons: Provides Task name, Region servicing, wait time until active (if delayed)

    Based on Thread pools

        PE Threads

            Primary

            Secondary

            HeartBeat

        EventExporter

            DataCollector

            DataPublisher

Active RPC Threads: Shows RPC threads that are servicing incoming RPCs.

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Monitor with the Process Services Ping page

Process Services Ping Page: URL

- http://server:port/peengine/IOR/ping
  - Server: the machine where the Content Platform Engine is deployed
  - Port: the http port for the Content Platform Engine deployment
    - WebSphere default: 9080
    - WebLogic default: 7001
    - JBoss default: 8080
  - Prompts for user name and password.
    - FileNet P8 Admin security required
- HA environment
  - http://virtual_server/peengine/IOR/ping (virtual_server – load balancer virtual name)

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Figure 1-21. Process Services Ping Page: URL   F2331.0

Notes:

Monitor with the Process Services Ping page

Ping Page: Log file location
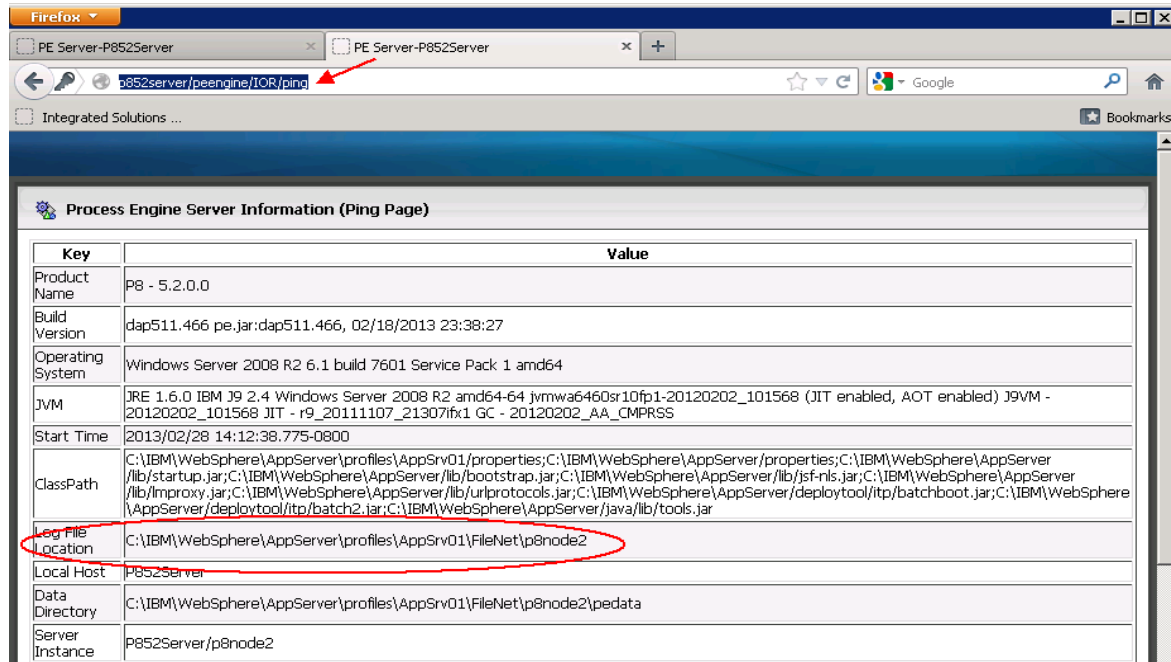
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Figure 1-22. Ping Page: Log file location   F2331.0

Notes:

Use the Ping Page to get the location of the Content Platform Engine Process Services log files.

Monitor with the Process Services Ping page

Ping page: Helpful links

- Ping Page Helpful Links are typically used for support
    - System
    - Async Tasks
    - Component Manager Logs
    - Component Manager Stats
    - Component Processing Details
    - API statistics

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Figure 1-23. Ping page: Helpful links   F2331.0

Notes:

System: Thread dump of the current processes (IBM JRE)

Async Tasks: Shows the status of current asynchronous tasks. Process Services asynchronous tasks include peverify, upgrade, and configuration transfer.

Component Manager Logs: Provides the location of the Component Manager log files.

Component Manager Stats: Provides a table that shows Component Manager statistics. Use this table to watch component performance.

Component Processing Details: Typically used by L3 support.

API statistics: Statistics: After workflow activity, you can check the API statistic page to see statistical information about workflow RPCs.

Monitor with the Process Services Ping page

Sample: API Stats

RPC Timing info - PEEngine-PECMDAPI-EJB (3)

Method	NTimes	Worst	When	Best	When	Avg	Total
pejb_createLaunchStepElement	52	154.0ms	2015.06.02 11:30:37	6.0ms	2015.06.02 11:30:37	27.92ms	1.45sec
pejb_createLiveWorkObject	28	133.0ms	2015.06.02 11:04:29	17.0ms	2015.06.02 11:26:52	38.86ms	1.09sec
pejb_doReassign	6	46.0ms	2015.06.02 11:08:43	34.0ms	2015.06.02 11:30:44	37.5ms	0.22sec
pejb_fetch	419	1540.0ms	2015.06.02 11:08:46	4.0ms	2015.06.02 11:35:03	33.31ms	13.96sec
pejb_fetchMyWorkBaskets	152	49.0ms	2015.06.02 11:07:48	7.0ms	2015.06.02 11:34:56	10.82ms	1.64sec
pejb_fetchRegionDefinitions	2	16.0ms	2015.06.02 11:04:44	12.0ms	2015.06.02 11:23:58	14ms	0.03sec
pejb_fetchRoles	164	4076.0ms	2015.06.02 11:04:50	13.0ms	2015.06.02 11:11:53	107.8ms	17.68sec
pejb_getConfigInfo	499	1.0ms	2015.06.02 11:13:57	0.0ms	2015.06.02 11:35:05	0ms	0sec
pejb_getProcess	4	3.0ms	2015.06.02 11:16:06	0.0ms	2015.06.02 11:35:03	0.75ms	0sec
pejb_getQueueNames	159	20.0ms	2015.06.02 11:06:58	0.0ms	2015.06.02 11:35:05	1.06ms	0.17sec

Figure 1-24. Sample: API Stats   F2331.0

Notes:

The API Stats page provides statistics on API calls. This page is typically used for support.

Monitor with the Process Services Ping page

Activities

In your Student Exercises

- Unit: Maintain the Workflow System
- Lesson: Monitor with the Process Services Ping page
- Activities:
  - System start.
  - Use the Process Services Ping page.

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Figure 1-25. Activities   F2331.0

Notes:

Use your Student Exercises to complete the activities that are listed.

Lesson 1.3.   Monitor with System Dashboard

Lesson
Monitor with System Dashboard

Why is this lesson important to you?

- You monitor the workflow system by using Dashboard to ensure continued workflow throughput and system performance. You must configure a Dashboard view to capture information that is relevant to monitoring the workflow system. You want to collect this information to an archive for later analysis.

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Figure 1-26. Monitor with System Dashboard

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Notes:

Monitor with System Dashboard

Activities that you need to complete

- Activity preparation: Launch workflows.

- Monitor with System Dashboard.

- Create Dashboard Archives and Reports.

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Figure 1-27. Activities that you need to complete   F2331.0

Notes:

You are going to complete these activities in this lesson.

Monitor with System Dashboard

What is System Dashboard?

- IBM System Dashboard for Enterprise Content Management
  - Also referred to as *System Dashboard*
- A real-time, performance-monitoring tool:
  - IBM FileNet P8 system data
  - Application-specific events
  - System environment data
  - Operating system data
- Do not confuse System Dashboard with System Monitor.
- Use System Dashboard to collect and distribute performance data on FileNet products that are installed at a site.
  - System Dashboard comes with many IBM Enterprise Content Manager products.
  - Monitors multiple components on an IBM FileNet system.

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Figure 1-28. What is System Dashboard? F2331.0

Notes:

Reference: IBM System Dashboard for Enterprise Content Management V5.0.0.1 (SC19-3084-04)

Help paths

- FileNet P8 Platform 5.2.1>Administering>Monitoring FileNet P8>System Dashboard overview
- FileNet P8 Platform 5.2.1>System overview>FileNet P8 architecture>Administrative components>System Dashboard for Enterprise Content Management

IBM System Dashboard for Enterprise Content Management is sometimes referred to as System Dashboard. IBM System Dashboard for Enterprise Content Management was previously called FileNet System Manager, System Manager, or Manager Dashboard.

System Dashboard monitors all components in the same console, a useful feature for sites that use various management consoles.

IBM System Dashboard for Enterprise Content Management runs on the following operating systems: Windows, Solaris, AIX, HPUX (Itanium and PA-RISC), Linux.

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Comparison of IBM System Dashboard for Enterprise Content Management and ECM System Monitor

System Dashboard is easily confused with another product named System Monitor. The confusion arises because with System Monitor, you manage the system, but with System Dashboard (formerly known as FileNet System Manager) you can only monitor the system.

IBM System Dashboard for Enterprise Content Management is the standard interface that is used to access performance data from IBM FileNet products.

Although FileNet System Monitor can access the same data that is used by IBM System Dashboard for Enterprise Content Management, FileNet System Monitor is a separately purchased product for proactive monitoring. FileNet System Monitor supports prevention by maintaining a corrective action database. You do not need to install Dashboard if you currently have System Monitor installed.

In addition to providing system information (also provided by System Dashboard), System Monitor does the following tasks:

- System Monitor has a web interface and uses IBM System Dashboard for Enterprise Content Management data.

- Starts and stops components (if directed).

- Notifies support personnel through System Management consoles such as the IBM Tivoli Enterprise Console.

- Reads the log files to report error messages and conditions.

- Provides alerts for critical errors, such as fault detection.

Monitor with System Dashboard
Why use System Dashboard?

- View system metrics in real time:
  – Individual components, the system environment, operating systems
- Gather and archive performance data, and run reports to do these tasks:
  – Generate benchmark data.
  – Evaluate workload and its effect on system resources.
  – Observe changes and trends in workloads and resource usage.
  – Test configuration changes or other tuning efforts.
  – Diagnose problems.
  – Target components or processes for optimization.
- Integrate system metrics with external applications.
- Goal: Use the gathered data to identify and resolve potential performance problems before they occur.

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Figure 1-29. Why use System Dashboard? F2331.0

Notes:

The following examples of system metrics are collected by IBM System Dashboard for Enterprise Content Management:

- Component-specific examples: Remote Procedure Calls (RPCs), event times, and custom metrics.
- Environment examples: Configuration, version, patch levels
- Operating system examples: CPU usage, memory usage, disk I/O, network I/O

You can run management and trend reports on current and archived data.

You can use performance data to do benchmarking. You can collect data immediately after initial installation and configuration, and then collect the same information after the system has been running for some time. Compare the initial and current data to check whether the system is maintaining the same performance level.

Monitor with System Dashboard

Dashboard Terms (1)

- System Dashboard
  - Configure data collection with clusters and view data for a cluster.
  - Assign servers and a monitoring frequency to each cluster.
- Cluster
  - A user-defined group of servers that System Dashboard monitors.
  - Not related to active and passive clusters that are used for business continuity
  - A cluster must be defined before monitoring components.
- Listener
  - A component that provides performance data from the monitored component to System Dashboard
  - Optionally accumulates and aggregates that data.
- Container
  - It is a node in System Dashboard that groups containers, events, and meters.

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Figure 1-30. Dashboard Terms (1)   F2331.0

Notes:

Monitor with System Dashboard

Dashboard Terms (2)

- Event
  - An occurrence that happens in the application that is significant.
  - Examples:
    - Document checkout
    - Database lookup
  - Can have duration
- Meter
  - It is an absolute value of something inside the application software.
- Counter
  - Provides the count of how many events occurred.
- Accumulator
  - Contains the sum of some event-related quantities.
  - Summarizes data from several events (such as averages).
  - Example:
    - Average database lookup duration

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Figure 1-31. Dashboard Terms (2)   F2331.0

Notes:

Events

Event values and accumulator values both stay the same or increase over time.

Example events: a document creation, a document retrieval

Example meter: the number of entries in a cache, the total memory of the Java virtual machine

Example subevents: "success" and "failure" subevents for an event that counts the number of document creations.

> **Note:** Subevents for an event are usually related to each other.

Example accumulator: the duration of an event

An event and duration accumulator example

Every time a document is added to an object store, the Content Platform Engine increments the Creations Event by 1. The Content Platform Engine also adds to a duration accumulator the time that it takes to complete that operation. During a specified interval, Content Platform Engine creates three documents. For example, the time that it takes to create these documents was 30 milliseconds, 40 milliseconds, and 35 milliseconds. During that collection interval, the Creations

Event increased by 3, and the subordinate duration accumulator increased by 105 (30 + 40 + 35). System Dashboard divides 105 by 3 to obtain an average value of 35 milliseconds for each creation operation during that period. System Dashboard displays this average value along with the minimum value (30), maximum value (40), and standard deviation of the duration value over that interval.

Note: This example uses milliseconds for simplicity. The Listeners report durations in nanoseconds, which were divided by 1 million to produce the millisecond values.

Monitor with System Dashboard

System Dashboard Structure
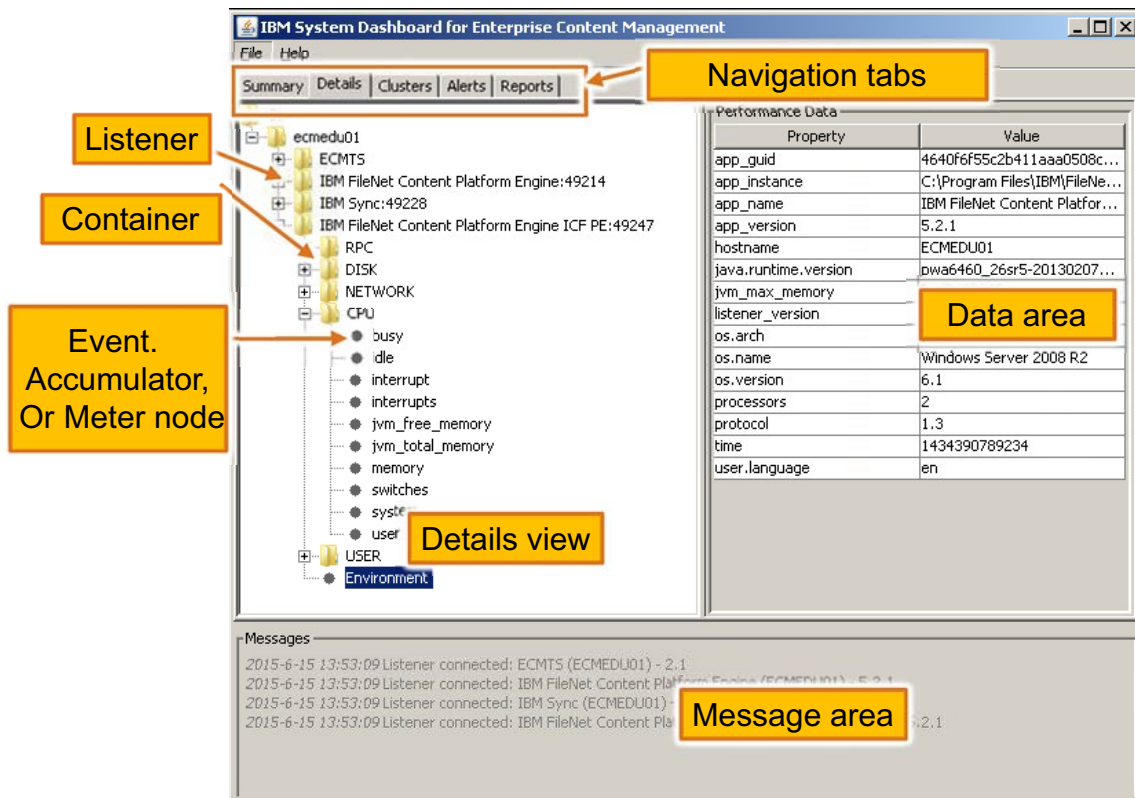
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Figure 1-32. System Dashboard Structure   F2331.0

Notes:

The graphic shows the Details view of System Dashboard.

In the Details view of IBM System Dashboard, the container node in the tree is shown as a folder, and the event and accumulator nodes in the tree are shown as filled circles. Content Platform Engine has a separate container node for each object store under USER. The object store container node provides access to all the counters for that object store.

Monitor with System Dashboard

Create clusters to view data

- You must use a cluster to view listener data.
    - A cluster can contain one or more servers.
    - It normally contains all servers that are related to a particular application.
    - All listeners on the servers in a cluster are discovered automatically.
- You can define any number of clusters.
- To define a cluster:
    1. Name the cluster.
    2. Add the servers.
    3. Specify how often listener data is accumulated.
- Optional steps
    - Override the time span for summary data collection.
    - Override the number of data points.
    - Save the settings in an XML file (so that cluster can be reused).

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Figure 1-33. Create clusters to view data   F2331.0

Notes:

Help path

IBM Knowledge Center>FileNet P8 Platform 5.2.1>Administering>Monitoring FileNet P8>Dashboard configuration>Adding a cluster

Start Dashboard

To start FileNet Dashboard in Windows, click Start > IBM FileNet P8 Platform > Dashboard. To start FileNet Dashboard in UNIX, start the P8Manager shell script from the directory that contains the required .jar files.

Clusters

A cluster is the grouping of servers that you want to view together. You can create a single cluster that defines all your hosts. Or you can create multiple clusters, one cluster for each service. You view the data to ensure that all the servers are working well, which means that the service is working well. Or you can define a cluster for each service so that you view just the data for the servers and components that support one service rather than simultaneously viewing data for all the hosts.

Example: You define a cluster for a mortgage service and another cluster for a bank accounts service. Each cluster consists of the servers that customers can connect to for information on their mortgage and their bank accounts. The bank cluster consists of Content Navigator and a Content Platform Engine combination.

Each defined cluster is a group of host servers to be monitored. Use the cluster to concurrently monitor the performance metrics of applications that run on the servers included in the cluster. The Dashboard uses an automatic discovery process to find the listeners that run on the specified hosts.

Tip: Use cluster names that describe their functions.

Each cluster definition includes an Interval setting, which defines how frequently data is sampled from the applications within that cluster. If the interval is not defined, Dashboard accepts samples at the listener default sampling rate.

Each cluster definition includes a data points value. This value specifies how many data blocks are saved in memory by Dashboard. The interval setting does not affect the data points value.

Extra optional steps when you define a cluster:

- Edit the Max Data Points value to overwrite the default value (500), which specifies the number of interval details that Dashboard keeps in the display.
- Edit the TCP port numbers (only if necessary).

Monitor with System Dashboard

Use the Dashboard views

- Create and edit clusters in Clusters view.
  - Create, edit, and save clusters.
- View graphs of heartbeat data in Summary view.
  - View average response time for Remote Procedure Calls (RPC).
  - View latest reported average response time and the average CPU utilization of servers within the cluster.
- View data by cluster, server, or listener in Details view.
  - View: RPC, DISK, NETWORK, CPU, USER, Environment
- Select, view, and export captured data to a file in Reports view.
  - Run reports against the data available in the Details view.
- View Info, Warning, Critical, Fatal messages in Alerts view.

Figure 1-34. Use the Dashboard views   F2331.0

Notes:

Open the cluster from any view, by using the File menu. After a cluster is opened, it is available until you exit Dashboard. The same cluster is open in all views except Alerts view.

Summary is the default view. After the appropriate parameters are configured, Summary view provides high-level status for the health of the entire FileNet system.

Details view provides real-time data that is updated per the configured interval. Available data includes both system and FileNet metrics.

Alerts view displays Info, Warning, Critical, and Fatal messages.

Reports view shows options to define or modify report templates and run reports against data available in the Details view. The reports are written to comma-separated value (CSV) files, which can easily be imported into other tools, such as spreadsheets, for analysis.

Messages pane

Each Dashboard view, except the Alerts view, includes a Messages pane at the bottom. This pane displays messages that identify the listeners to which the Dashboard connects or to which the connection is lost. The Messages pane also displays urgent messages that are sent to application

log files. Any message with a code higher than INFO is displayed in the Messages pane in bold text and in the Alerts view.

The FileNet P8 Content Engine Java Compatibility Layer provides compatibility with an earlier versions for applications that were developed with the Content Engine Java API library. The listener connection to the FileNet P8 Content Engine Compatibility Layer is reported in Dashboard when an application is active that uses the Content Engine Java API library for FileNet P8. FileNet Workplace, for example, uses Content Engine Java API. The first time that any user signs in to FileNet Workplace, a connection message for Workplace and another connection message for FileNet P8 Content Engine Compatibility Layer are displayed in the Messages pane. Both Workplace and FileNet P8 Content Engine Compatibility Layer are then also listed in the Details view.

Monitor with System Dashboard

Execute options for Listener node and view data

- In Details, right-click a Listener node and click an option.
  - Query for the health status (heartbeat) of its application.
  - Query for the uptime of its application.
  - Save (archive) the data that the Listener gathers.
  - Send a custom message to the Listener.
  - Disconnect a Listener.
  - Request user list (provides a list of all users signed in by name).
- View accumulator data in tables and charts.
  - Select the accumulator node and view data numerically.
  - Or right-click the accumulator node and click a chart option.
- Move and size the graph windows as you like.

Figure 1-35. Execute options for Listener node and view data   F2331.0

Notes:

References

Dashboard User's Guide > Accessing listener tasks

Dashboard User's Guide > Viewing data

Notes:

The Request user list option is available only for the Content Engine.

Typically, you disconnect listeners when you are no longer interested in monitoring the components. You must exit Dashboard and start it again to reconnect to a listener.

Monitor with System Dashboard

Archiving Manager

- Archiving Manager is a command-line tool that you can use to create Dashboard archive files.
  - You can use scripts to run Archiver at designated times.
- Example syntax:
  - ```
    java -jar "C:\Program Files
    (x86)\IBM\FileNet\Dashboard\archiver.jar" -d
    c:\temp\ -t 1
    "C:\Users\Administrator\Documents\C1.xml"
    ```
  - Use quotation marks around paths with spaces.
- Flags
  - Cluster.xml, -d, -h, -I, -m maxtries, -n timespec, -t timespec, -v

Figure 1-36. Archiving Manager   F2331.0

Notes:

Reference

Dashboard User's Guide > Archiving Manager

Flag Definition

cluster.xml Specifies the path and name of the cluster definition. Data from all of the Listeners on the hosts that are specified in this file are archived.

-d path Specifies the path of the directory in which the generated archives are saved. Each listener connection results in a separate archive file in this directory. The default value is the current directory.

-h Specifies that the available listener history is included in the generated archive file.

-i seconds Specifies the interval in seconds. If an interval is not defined, the interval remains the same as it was before.

-m MaxTries Specifies the number of times the archiver tries to reconnect to a host in a specified cluster when the connection is lost. The scheduler retries the number of times that are specified,

waiting 5 seconds between each try, before it ends the reconnection. The default value for **MaxTries** is 5.

-n timespec Specifies the amount of time that you want the Archiving Manager to log data to a file. After the **timespec** value is satisfied, a new file is created. The **timespec** can be in the form of hours:minutes or as a real number, such as 3.5. The archiver can gather historical data, data from the current time and going forward for a designated period, or both, depending on which flags you use. The **-n** flag specifies that you want to record some data, starting from NOW (whenever you run the command) for some length of time; **-n** 1:00 means from now until 1 hour from now. The default value for timespec is 0. The default of **-n** 0 means that the archiver does not wait for further data. If you use the default **-n** 0, also use the **-h** flag; otherwise, no data is collected.

-t timespec Specifies the amount of time for which the Archiving Manager collects data, starting at the time of execution. The **timespec** can be in the form of hours: minutes or as a real number, such as 3.5. You can also specify **-t** - to specify you want to continue to collect data until you click Enter. Use this parameter with the **-v** flag for interactive use. The default value for **timespec** is 0.

-v Specifies a verbose mode, where you can indicate when an archiver is receiving data. This setting is useful when you use the Archive Manager interactively and identify when an activity occurs.

The –t, –n, and –h flags are similar but act slightly differently. The –h flag collects archive data *backward* from the point at which the command is issued. The –h flag works the same as the Archive command from within System Dashboard. The –t command collects data in real time going *forward* from the time at which the command is issued. You can use both flags in the same command. The –n flag specifies the amount of time to log into a single file before starting a new file. For example, –t 10 –n 2.5 collects archive data going forward for 10 hours and saves that data in four separate files. You must specify a value for –h, –t, or both in order to collect data.

Monitor with System Dashboard

Configuration Guidelines

- Data point collection
  - Default interval is 15 minutes (900 seconds).
  - Max data points defaults to 500.
  - 48 hours worth of data, with these defaults, is 192 data points.
- Do not set the interval lower than 120 seconds.
  - Data points are collected stored on the Content Platform Engine Server.
  - Forcing the Content Platform Engine server to collect and store too many data points can affect system performance.
  - Loading too many data points when System Dashboard connects to the cluster can affect network performance.
- Content Platform Engine restart resets the data point collection.

Figure 1-37. Configuration Guidelines   F2331.0

Notes:

By default, the Content Platform Engine collects and stores data points at 15-minute intervals (900 seconds). This interval does not significantly affect system performance.

When you change the interval in System Dashboard and then save the changes, System Dashboard commands Content Platform Engine to collect data at a different rate. Content Platform Engine continues to collect data at the new rate until you change it again by using System Dashboard. Additionally, multiple System Dashboard instances can connect to the same Content Platform Engine server. If each System Dashboard session changes the data collection interval, the most recent change persists on the Content Platform Engine until it is changed again.

If you shorten the data collection interval, then the Content Platform Engine must work harder to collect and store these data points. Thousands of data points can cause system performance to slow.

When you first connect to a cluster, System Dashboard downloads all of the data points from the Content Platform Engine server. It then prunes the number of data points to be displayed down to the specified Max number of data points to display. If the interval is set too low, when you load the cluster, System Dashboard downloads thousands of data points at one time. The data import causes network traffic congestion and might overload the memory of the System Dashboard server.

Monitor with System Dashboard

Process counters to watch (examples)

- Database\Transactions Completed
  - Need system-specific baseline
- Database\Statements Failed
  - A small number is normal at start
- Server Counters\Errors\Authentication Errors
  - Need system-specific baseline
- Server Counters\Errors\E-mail Notification Errors
  - Number greater than zero indicates that email notification is failing, which can cause work processing delays.

Figure 1-38. Process counters to watch (examples)   F2331.0

Notes:

Help path

IBM Knowledge Center>FileNet P8 Platform 5.2.1>Administering>Monitoring FileNet P8>Counter interpretation>Dashboard counters

Reference

PE_PCH_Counters_checking.pdf

The partial list of counters to watch provides some examples of counters and some guidelines to consider when monitoring them. In some instances, you need to observe the system for a while to establish a baseline against which you can compare activity levels after you alter the system.

Monitor with System Dashboard

Activities

In your Student Exercises

- Unit: Maintain the Workflow System
- Lesson: Monitor with System Dashboard
- Activities:
  - Activity preparation: Launch workflows.
  - Monitor with System Dashboard.
  - Create Dashboard Archives and Reports.

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Figure 1-39. Activities   F2331.0

Notes:

Use your Student Exercises to complete the activities that are listed.

Lesson 1.4.   Monitor with vwtool

Lesson

Monitor with vwtool

Why is this lesson important to you?

• Your workflow system is in production with daily workflow activity. You monitor the system with vwtool to ensure continued workflow throughput and system performance.

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Figure 1-40. Monitor with vwtool   F2331.0

Notes:

Monitor with vwtool

Activities that you need to complete

- Monitor with vwtool.

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Figure 1-41. Activities that you need to complete   F2331.0

Notes:

You are going to complete these activities in this lesson.

Monitor with vwtool

Use vwtool to monitor an isolated region

- Vwtool runs in a command window on the Content Platform Engine server.
  - No graphical user interface
  - No remote or Web access
- To use vwtool, you must have access to the server.
  - Login is required.
  - User must belong to the workflow system administration group.
- Vwtool allows access to one region at a time.
- Help for vwtool
  - Glossary of terms
  - Explanation of logical and physical table names

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Figure 1-42. Use vwtool to monitor an isolated region   F2331.0

Notes:

Help paths

IBM Knowledge Center>FileNet P8 Platform 5.2.0>Administering FileNet P8>Administering Content Platform Engine>Defining the workflow system>Administrative tools>vwtool>Technical terms used in vwtool

IBM Knowledge Center>FileNet P8 Platform 5.2.0>Administering FileNet P8>Administering Content Platform Engine>Defining the workflow system>Administrative tools>vwtool>Command quick reference

Content Foundation 5.2.1>Administering>Administering Content Platform Engine>Defining the workflow system>Administrative tools>vwtool>Startup command-line options

IBM Knowledge Center>FileNet P8 Platform 5.2.0>Administering FileNet P8>Administering Content Platform Engine>Defining the workflow system>Administrative tools>vwtool>Tips for using vwtool

IBM Knowledge Center>FileNet P8 Platform 5.1.0>Administering IBM FileNet P8>Administering Process Engine>Administrative tools>vwtool>Technical terms used in vwtool

FileNet P8 Platform 5.1.0>Administering IBM FileNet P8>Administering Process Engine>Administrative tools>vwtool>Logical vs. physical table names

The vwtool tool is a command-line, system support, and administration program that you can use to monitor and modify various components of the workflow system. In order to run vwtool, you must have access to a Content Platform Engine server and provide a user name and password. The user must be a member of the workflow system administration group.

The vwtool program runs on any Content Platform Engine. In a Service containing multiple servers, you can run vwtool on any server and access the database from all servers. Within a Service, vwtool accesses one isolated region at a time. Most of the information that vwtool returns is specific to an isolated region. However, some commands return Service-wide or local server-specific information (the descriptions of these commands include their scope). Many different commands are available with vwtool. Only some vwtool commands are described in this unit.

Logical versus physical table names

Certain queues, rosters, event logs, data fields, and indexes have both a logical name and a physical name.

The logical name is the name that is displayed in the workflow user interfaces and in user-defined applications such as step processors. An administrator specifies the logical name when creating the queue, roster, event log, field, or index.

The physical name is the actual name that the database uses to identify the table. The physical name is guaranteed to be unique and is system-defined. The physical name is visible only when you use vwtool. Several of the vwtool commands, including the config command, display the physical table name.

The logical table name is more readily accessible and is for user reference only. The system software maps the logical table name to the physical table name at run time. Because the system maintains two names for each table, you can specify table names without worrying about collisions with table names that already exist in the database.

Monitor with vwtool

Start vwtool

- Start vwtool from a command prompt.
- Default Location (windows)
  - C:\Program Files\IBM\FileNet\ContentEngine\tools\PE
- Command syntax
  - vwtool [connection_point] [-v] [-Y user_name + password]
    - -v is verbose mode
  - You must belong to the Worflow System Administrators group
- Example
  - Vwtool P8ConnP5 -v -Y P8Admin+IBMFileNetP8

Figure 1-43. Start vwtool   F2331.0

Notes:

Help path

IBM Knowledge Center> FileNet P8 Platform 5.2.0>Administering FileNet P8>Administering
Content Platform Engine>Defining the workflow system>Administrative tools>vwtool>Start vwtool

Monitor with vwtool

Obtain status information on workflow system

- Vwtool command: **`configdetails`**
  - Use for an overview of all regions.
  - Output to text file.
- Vwtool command: **`regions`**
  - List all isolated regions in the workflow system that are loaded into memory or on disk (**m** or **d)**.
- Vwtool command: **`config`**
  - Returns information about a specific isolated region.
  - Use to view the current configuration of a region.
  - Use also to make a record of changes to region.
- Vwtool command: **`views`**
  - Summary of views for queues, rosters, event logs.

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Figure 1-44. Obtain status information on workflow system   F2331.0

Notes:

Help paths

IBM Knowledge Center>FileNet P8 Platform 5.2.0>Administering FileNet P8>Administering Content Platform Engine>Defining the workflow system>Administrative tools>vwtool>Command quick reference>regions

IBM Knowledge Center>FileNet P8 Platform 5.2.0>Administering FileNet P8>Administering Content Platform Engine>Defining the workflow system>Administrative tools>vwtool>Command quick reference>config

IBM Knowledge Center>FileNet P8 Platform 5.2.1>Administering>Administering Content Platform Engine>Defining the workflow system>Administrative tools>vwtool>Command quick reference>views

Note: The `configdetails` command is not documented in online help.

The RPC and error counters are initialized each time the Content Platform Engine is restarted.

Error counters show how many times a function must be retried due to an error on the server.

By default, the `loadstatus` command does not count all statistical events.

Monitor with vwtool

Run loadstatus

- Vwtool command: **loadstatus**
  - Returns statistics about server load for all isolated regions.
  - Use command periodically to become familiar with normal system operation.
  - Use when response time is slow to determine whether error counters are increasing.
  - This information is also available from Dashboard.
- Vwtool command: **count *** or **count #**
  - * - Counts the number of all work items in all queues and rosters.
  - # - Counts the number of all work items in all queues and rosters with a nonzero count.

Figure 1-45. Run loadstatus   F2331.0

Notes:

Help paths

IBM Knowledge Center>FileNet P8 Platform 5.2.0>Administering FileNet P8>Administering Content Platform Engine>Defining the workflow system>Administrative tools>vwtool>Command quick reference>loadstatus>RPC and error counters

IBM Knowledge Center>FileNet P8 Platform 5.2.0>Administering FileNet P8>Administering Content Platform Engine>Defining the workflow system>Administrative tools>vwtool>Command quick reference>count

The vwtool loadstatus command is used to view information about Content Platform Engine server activity in the region.

The vwtool count command is used to count the number of work items in a specific queue or roster. Use it with an asterisk (*) to count all work items in all queues. Use it with a number sign (#) to count all work items in all queues for which the count is nonzero.

Monitor with vwtool

Report memory usage, database usage

- Vwtool command: **dump**
  - Has "z" (siZe) option.
  - Obtains approximate size for workspace memory.
  - Obtains approximate size for class memory.
  - Obtains approximate size for instruction sheet memory.
- Vwtool command: **environment**
  - You can use this command to reconcile cached and permanent user data environment records on the Content Platform Engine.
  - The reconciliation option uses the short name that is supplied by the directory service to identify a user.
- Vwtool command: **pedbrpt**
  - Workflow system database report

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Figure 1-46. Report memory usage, database usage   F2331.0

Notes:

Help paths

IBM Knowledge Center>FileNet P8 Platform 5.1.0>Administering IBM FileNet P8>Administering Process Engine>Administrative tools>vwtool>Command quick reference>dump

IBM Knowledge Center>FileNet P8 Platform 5.1.0>Administering IBM FileNet P8>Administering Process Engine>Administrative tools>vwtool>Command quick reference>environment

Memory size for a workspace, class, or instruction sheet

The administrator can monitor the size of these elements to see how near they are to approaching the maximum size of a BLOB (Binary Large Object).

In IBM FileNet P8, the default BLOB size limit is based on the SQL, Oracle, and DB2 databases. This BLOB size is a default value that is sufficient for most applications. If necessary, this limit can be increased with the assistance of your IBM support representative.

The following conditions increase the amount of data that is stored in the BLOB:

- Many workspaces. This condition is the result of many versions of the same workflow definitions that are transferred to the database tables in one isolated region.

- Many steps on the main workflow map. This condition can be avoided by dividing the workflow into submaps.
- Many data fields.
- Large string data fields.

Environment record reconciliation

- You can use this command to reconcile cached and permanent user data environment records on the Content Platform Engine with the possibly more up-to-date data in the FileNet P8 domain directory service.
- Content Platform Engine duplicates certain parts of the user security information in its own database. Over time, the information in the directory service can be changed or updated.
- When information directory updates happen, the information in workflow system records, whether cached or permanent, can contain old, invalid information about users and groups.

Monitor with vwtool

Report version and system configuration

- Vwtool command: **version**

  – Returns current version information on the process services software.

- Vwtool command: **sysconfig**

  – Returns system-wide properties for a workflow system.

- Vwtool command: **rosterconfig**

  – Returns configuration information for a specified roster.

  – Returns logical and physical table names.

- Vwtool command: **queueconfig**

  – Returns configuration information for a specified queue.

  – Returns queue type, logical and physical table names.

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Figure 1-47. Report version and system configuration   F2331.0

Notes:

Help paths

IBM Knowledge Center>FileNet P8 Platform 5.2.1>Administering>Administering Content Platform Engine>Defining the workflow system>Administrative tools>vwtool>Command quick reference>version

IBM Knowledge Center>FileNet P8 Platform 5.2.1>Administering>Administering Content Platform Engine>Defining the workflow system>Administrative tools>vwtool>Command quick reference>sysconfig

IBM Knowledge Center>FileNet P8 Platform 5.2.1>Administering>Administering Content Platform Engine>Defining the workflow system>Administrative tools>vwtool>Command quick reference>rosterconfig

IBM Knowledge Center>FileNet P8 Platform 5.2.1>Administering>Administering Content Platform Engine>Defining the workflow system>Administrative tools>vwtool>Command quick reference>queueconfig

The vwtool version command displays version information about the workflow system software. This information consists of the following properties:

- Build type (production or debug)
- Database type
- Date and time of compilation

The vwtool `sysconfig` command displays server configuration properties. It displays system-wide properties for a workflow system and properties for each individual server.

Monitor with vwtool

Activities

In your Student Exercises

- Unit: Maintain the Workflow System
- Lesson: Monitor with vwtool
- Activities:
  - Monitor with vwtool.

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Figure 1-48. Activities   F2331.0

Notes:

Use your Student Exercises to complete the activities that are listed.

Lesson 1.5.   Maintain event logs

Lesson

Maintain event logs

Why is this lesson important to you?

• Many event log entries accumulated in the database of your workflow system. You must archive and purge the events logs to free up database space.

• To avoid unnecessary logs from piling up in your database, you can disable some log events. However, you do not want to disable any logs that Process Tracker, Case Analyzer, and Rules need to function.

Figure 1-49. Maintain event logs   F2331.0

Notes:

Maintain event logs

Activities that you need to complete

- View event logs by using Administration Console
- View event logs by using Process Administrator
- Disable event categories
- Prune events

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Figure 1-50. Activities that you need to complete   F2331.0

Notes:

You are going to complete these activities in this lesson.

Maintain event logs

Event tools

- Administration Console for Content Platform Engine
  - Search and view event logs.
- Process Administrator
  - Search and view event logs.
  - Write event logs to a file.
- Pelog
  - Purge event log records.
- Custom programs
  - Retrieve events and information about rosters and queues.
- Case Analyzer
  - Monitors and analyzes case and workflow business processes.

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Figure 1-51. Event tools   F2331.0

Notes:

Help paths

IBM Knowledge Center>FileNet P8 Platform 5.2.0>Administering FileNet P8>Administering Content Platform Engine>Defining the workflow system>Analyzing workflows>Workflow analysis tools>Case Analyzer

This page lists the tools that are used to retrieve and view the event logs that are maintained in the workflow system.

You can use either Administration Console for Content Platform Engine or Process Administrator to search event logs. Both tools have similar functions. The Administration Console method is the newer method. However, you must use Process Administrator to write the event logs to a file.

Custom programs that retrieve events and statistical information about rosters and queues can be written by using APIs for process services.

Case Analyzer

Case Analyzer is a FileNet P8 process component that monitors and analyzes case and workflow business processes. Case Analyzer uses event log information to provide real-time and historical reports on workflow activity.

Maintain event logs

Event architecture

- Each isolated region in the workflow system has the following components:
  - At least one event log table, DefaultEventLog
  - User-added custom event log tables, LoanLog, CreditRatingLog
- Event logging collection is optional and can be collected independently in separate log files.
- View event logs by using
  - ACCE
  - Process Administrator
  - vwtool commands:
    - logconfig
    - logquery
  - Case Analyzer
  - Process Tracker
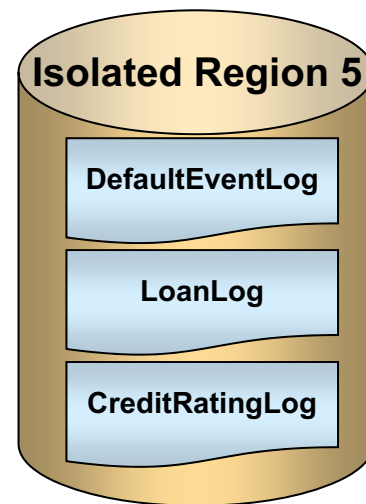
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Figure 1-52. Event architecture   F2331.0

Notes:

Help paths

IBM Knowledge Center>FileNet P8 Platform 5.2.1>Administering>Administering Content Platform Engine>Defining the workflow system>Coordinating workflow design>Workflow options>Managing event logs

IBM Knowledge Center>FileNet P8 Platform 5.2.1>Administering>Administering Content Platform Engine>Defining the workflow system>Coordinating workflow design>Workflow options>Managing event logs>Configuring event logging options

IBM Knowledge Center>FileNet P8 Platform 5.2.1>Administering>Administering Content Platform Engine>Defining the workflow system>Administrative tools>vwtool>Command quick reference>logconfig

FileNet P8 Platform 5.1.0>Administering IBM FileNet P8>Administering Process Engine>Administrative tools>vwtool>Command quick reference>logquery

IBM Knowledge Center>FileNet P8 Platform 5.2.1>Administering>Administering Content Platform Engine>Defining the workflow system>Administrative tools>Process Task Manager>Case Analyzer>Case Analyzer event logs

Event logging is optional. It can be useful to log the occurrence of certain system-level events that are related to work item processing. For example, in an order processing application, management might want to see how often a particular product is ordered and how often a credit card payment is rejected.

Event logs are used by other applications, such as Case Analyzer and Process Tracker, so if you plan to use those applications, you must enable at least some event logging options.

For each isolated region on the server, separate log tables are created to collect the information. The graphic on this page shows a sample isolated region, region 5, that contains the default event log and two user created custom event log tables. Logging is displayed in the Process Administrator application. The pelog tool is a server-based, administrative tool that is used to maintain the logging database tables.

The graphic shows isolated region 5 with several event logs, which accumulate events that are collected from different workflows.

Event logging architecture

Event logging is performed on the server when the event occurs and in the same transaction as the update of the work item while it is processed. At least one default log table is created for each isolated region in the workflow system. You can create and manage extra event logs for your application. For example, you might specify one event log for one workflow definition and another event log for a different workflow definition. This arrangement distributes the event data and enables an administrator to find items of interest more easily.

Each event log has a separate physical log table. For example, the physical log table name for DefaultEventLog for isolated region 5 might be VWLog5_101. If you create an event log called LoanLog, the physical table name might be VWLog5_102. The system assigns a unique number that is appended to the region number.

About event logging

- An event is a system-level action that occurs during the processing of a workflow.
  - One or more events occur when a workflow is launched.
  - One or more events occur when a step processor begins processing a work item.
- An event log contains information for tracking workflow activity.
  - Example: When a step processor begins processing a work item
  - Use this information to improve a business process.
- Each logged event belongs to an event category and has an associated event number.
  - Example: VW_WFTermination records the completion of all work items in a workflow, event number = 165.

Figure 1-53. About event logging   F2331.0

Notes:

Help paths

IBM Knowledge Center>FileNet P8 Platform 5.2.1>Integrating workflow into document management>Process applications concepts>Events>About event logs

IBM Knowledge Center>FileNet P8 Platform 5.2.1>Integrating workflow into document management>Process applications concepts>Events>Event logging categories

The workflow system administrator uses the Administration Console for Content Platform Engine to enable or disable logging of each event category. Ten categories and more than 40 events can be logged.

If the work item contains a field that matches an exposed system or data field, the current value of the work item field is automatically stored in the event log record at the time the record is logged.

Use event logging to obtain information about the occurrence of certain events that are related to work item processing, such as when a work item is created or when a step processor begins processing a work item. Use this information to help to improve a business process.

Optional activities

- Locate the event log categories in the IBM Knowledge Center.

- Describe an event category that might be useful for monitoring and tracking workflow activity.

Maintain event logs

View event logs

- Administration Console for Content Platform Engine
  - New Workflow Search
  - Specify Events
  - Specify an event log to search
  - Specify columns to refine your search.
  - View number of events that match search criteria
  - Filter returns

- Process Administrator
  - Specify a specific event log.
    - Example: LoanLog
  - View the number of events in the log.
  - Specify more criteria to refine your search.
  - Search mode (read only, edit) does not apply.
  - Write event logs to a file.

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Figure 1-54. View event logs   F2331.0

Notes:

Help path

IBM Knowledge Center>FileNet P8 Platform 5.2.1>Integrating workflow into document management>Administering work items>About workflow and event searches

Maintain event logs

View events with New Workflow Search

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Figure 1-55. View events with New Workflow Search

F2331.0

Notes:

Help path

IBM Knowledge Center>FileNet P8 Platform 5.2.1>Administering>Administering Content Platform Engine>Administering the workflow system>Viewing event logs

You use the same tool to view events as you use for finding work items. In Administration Console for Content Platform Engine:

1. Create a New Workflow Search, by using the Search feature.

2. Specify Events as the Search result type.

3. Specify the Workflow structure name (the event log to query).

4. Specify any conditions to refine your search.

5. Count matches to get a count or Run the search.

Maintain event logs

View events with Process Administrator

- Results pane displays the event logging categories in the F_EventType column.
- If the event log includes exposed fields, a log message record can provide system and custom data field values.

	loan_id	customer...	F_Subject	F_EventType	F_OperationId
1	Loan1	Andy	Maintain Wo...	140 (WOParentCreation)	1
2	Loan1	Andy	Maintain Wo...	100 (WOSystemOperation)	
3	Loan1	Andy	Maintain Wo...	100 (WOSystemOperation)	
4	Loan1	Andy	Maintain Wo...	100 (WOSystemOperation)	
5	Loan1	Andy	Maintain Wo...	352 (WPWorkObjectQueued)	
6	Loan1	Andy	Maintain Wo...	500 (WOEmptyStepMsg)	
7	Loan1	Andy	Maintain Wo...	352 (WPWorkObjectQueued)	
8	Loan2	Bob	Maintain Wo...	140 (WOParentCreation)	
9	Loan2	Bob	Maintain Wo...	100 (WOSystemOperation)	20 (While)
10	Loan2	Bob	Maintain Wo...	100 (WOSystemOperation)	20 (While)
11	Loan2	Bob	Maintain Wo...	100 (WOSystemOperation)	4 (Branch)

140 Workflow launched, root item created

100 Work item end system operation

352 Work item is queued

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Figure 1-56. View events with Process Administrator   F2331.0

Notes:

Help paths

FileNet P8 Platform 5.2.1>Integrating workflow into document management>Administering work items>Events>Viewing event logs

FileNet P8 Platform 5.2.1>Integrating workflow into document management>Process applications concepts>Events>Event logging categories

The screen capture on this page shows sample event information that is displayed in Process Administrator. You can identify event types by their codes:

- 140 (workflow launched)
- 100 (work item end - system operation)
- 352 (Work item is queued)

Maintain event logs

Event log maintenance guidelines

- In a production environment, event logs can grow rapidly.
  - Large event logs can slow system performance.
- Disable unnecessary event log categories.
  - Some event logs are required for Tracker and Case Analyzer.
  - Determine which event categories are required for your application.
  - Meet with workflow authors to determine if they have special event log requirements.
- Prune the event log regularly.
  - Write event logs to a file for archival purposes.
  - Use the PELog tool to prune the event logs.
  - Run PELog when the system is not busy.

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Figure 1-57. Event log maintenance guidelines   F2331.0

Notes:

Maintain event logs

Select event log options
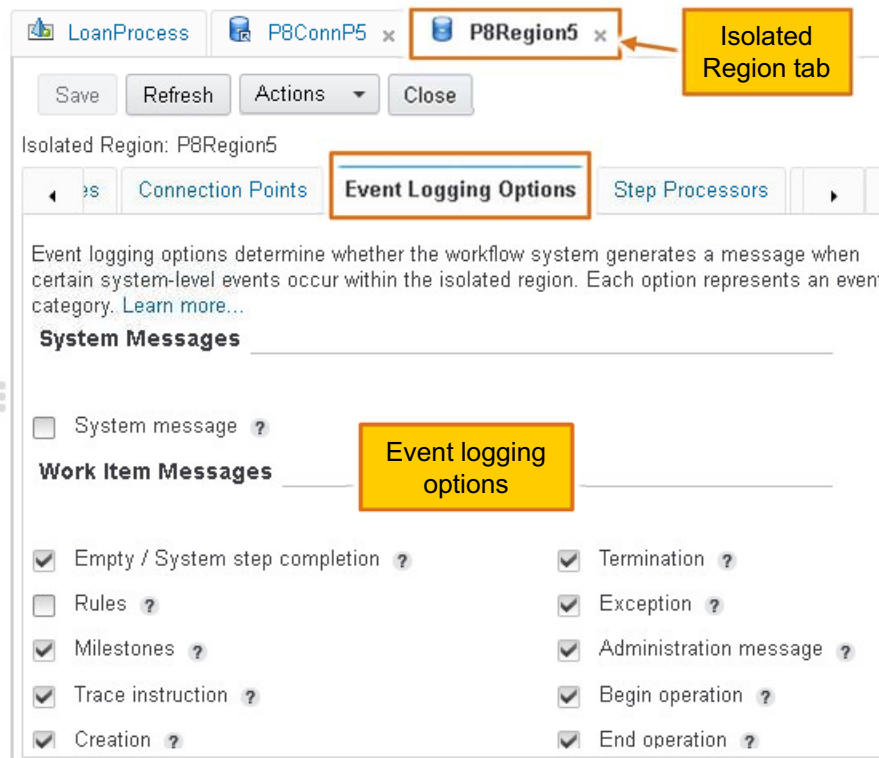
Figure 1-58. Select event log options   F2331.0

Notes:

Help path

FileNet P8 Platform 5.2.1>Integrating workflow into document management>Process applications concepts>Events>Event logging categories

Review the event logging options, or categories before you decide which to disable. Disabling event logging options can greatly reduce the event log volume. However, some event logs are needed for some applications, such as Tracker and Case Analyzer.

Each event logging option includes several event numbers. Click the question mark next to each option to learn more. For example, the Creation option includes the following event numbers:

130 - VW_WOChildCreationMsg: Records the creation of a "child" work item.

140 - VW_WOParentCreationMsg: Records the creation of a "parent" work item.

550 - VW_CreateWobNumMsg: Records when a unique work object number is reserved for a potential work item before the work item is created. Used for REST API in IBM® Case Manager.

Maintain event logs

PELog

- PELog is a command-line tool that bulk-deletes event log records.
  - Replaces VWlog
  - Prunes obsolete tracker items.
- Usability
  - You can run this tool remotely.
  - You can run this tool by using a Cron job.
- Main parameters
  - Terminated
  - Timeonly
- Other parameters
  - Connection point, -h, -v, -t *event log,* -b, -P, -Y [username+password]

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Figure 1-59. PELog   F2331.0

Notes:

Help path

FileNet P8 Platform 5.2.0>Administering FileNet P8>Administering Content Platform Engine>Defining the workflow system>Administrative tools>PELog

Reference

IBM Support Portal > Using the pelog tool in PE 5.2 technote

Use the PELog tool to prune event log records and tracker work items from the workflow system event logs.

Parameters

Terminated – Prunes event log records of completed workflows and prunes tracker items that are associated with completed workflows.

Timeonly – Prunes all event log records specified by the day range regardless whether the workflows completed or not. It also prunes Tracker items that are associated with completed workflows in the specified day range. To specify event log records to save, indicate the number

of days from the present day to save. When the number of days is specified, pelog calculates the time range by determining the start and end times.

Maintain event logs

Activities

In your Student Exercises

- Unit: Maintain the Workflow System
- Lesson: Maintain event logs
- Activities:
    - View event logs by using Administration Console
    - View event logs by using Process Administrator
    - Disable event categories
    - Prune events

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Figure 1-60. Activities   F2331.0

Notes:

Use your Student Exercises to complete the activities that are listed.

Lesson 1.6.   Troubleshoot the workflow system

Lesson
Troubleshoot the workflow system

Why is this lesson important to you?

- You are administering a workflow system. If there is a system failure or a performance problem, you must be able to use the appropriate tools to collect more information about the problem.

Figure 1-61. Troubleshoot the workflow system   F2331.0

Notes:

Troubleshoot the workflow system

Activities that you need to complete

• Enable fnlog4j

• Enable trace logging

• Enable tracing with vwtool

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Figure 1-62. Activities that you need to complete   F2331.0

Notes:

You are going to complete these activities in this lesson.

Troubleshoot the workflow system

Troubleshooting overview

- Whether you see slow performance, user-complaints, or other types of system errors, you are responsible for finding a solution.
- Sometimes, you can quickly find answers on the internet.
- In other cases, more investigation is needed.
- Tasks:
  - Collect data
  - Review technical resources
  - Contact IBM Support

Figure 1-63. Troubleshooting overview   F2331.0

Notes:

When a problem arises, it is useful to document the problem and the resolution.

Describe the problem – Provide details about the issue, including what you were trying to do, the behavior that you saw, and any error messages that occurred.

Collect data – Gather data about the problem and about your system, including:

Error logs from the operating system.

Trace logs from Apache java loggers, vwtool tracing.

Technical resources – If others had the same problem that you are seeing, they might have posted the information on a forum, or there might be an official technote. Always investigate these avenues before making a support call. The answers might already be out there.

Contact IBM Support – If you need IBM Support for resolution, be ready with the information that they require to assist you. In most cases, IBM Support requires you to provide log data, which you can collect before you call.

Troubleshoot the workflow system

Support resources

- IBM Electronic support
  - Tools and resources to keep your systems smoothly running.
  - IBM Fix Central: Download fixes and updates
  - IBM Support portal: Find information quickly.
  - IBM Support Assistant: Tools for troubleshooting
- Social Media Channels for ECM Support
  - A community of clients, developers, support personnel
- Enhanced customer data repository
  - Exchange diagnostic data with IBM Support
- IBM developerWorks
  - Tutorials, community, quick answers, development resources
- IBM Redbooks
  - Technical documentation

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Figure 1-64. Support resources   F2331.0

Notes:

IBM provides many resources for help and support. Be sure to explore each of these options to find solutions.

IBM Electronic support

   http://www.ibm.com/support/electronicsupport/?acss=danl_708_web

IBM Fix Central

   http://www-01.ibm.com/support/electronicsupport/download.html#ibm-table-header-1

IBM Support portal

   https://www.ibm.com/support/entry/portal/support?acss=danl_705_web

Social Media Channels for Enterprise Content Management (ECM) Support

   http://www.ibm.com/support/docview.wss?uid=swg21673183&acss=danl_705_web

Enhanced customer data repository

   http://www-05.ibm.com/de/support/ecurep/index.html

IBM developerWorks

    http://www.ibm.com/developerworks/?lnk=msdDS-deve-usen

IBM Redbooks

    http://www.redbooks.ibm.com/?lnk=msdDS-redb-usen

Troubleshoot the workflow system

Collecting data

- If you cannot find a solution quickly, you might need more data.
- Collect diagnostic data before you contact IBM Software Support.
- Collect MustGather data before you open a problem management record (PMR).
    - Describing the problem
    - Gathering Operating System Versions, Settings, and Logs
    - Gathering vwtool output
    - Gathering DB version information
    - Gathering Content Engine status
    - Gathering Process Engine status
    - Gathering Logs and Traces
    - Gathering javacores
    - Gathering problem-specific data

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Figure 1-65. Collecting data   F2331.0

Notes:

References

- FileNet P8 Platform 5.2.0>Troubleshooting and support>Troubleshooting Content Platform Engine>Collecting data for Content Platform Engine

MustGather: Read first For IBM FileNet Content Manager 5.2 - Process Engine Component

MustGather: FileNet Content Engine Administrative Console for Content Engine (ACCE)

With this information, Support can determine whether:

Yours is a known problem (rediscovery).

A non-defect problem exists that can be identified and resolved.

Yours is a known defect for which a workaround exists.

A new problem emerged that requires a fix.

Troubleshoot the workflow system

For Process Clients issues: fnlog4j.properties

- Process Clients
  - Applications that use the process client APIs to access the process server.
  - Examples: Process Designer, Process Tracker, Process Administrator
- Examples of Java applet issues:
  - User sees authentication window when starting the applet.
  - Applet hangs with white screen.
  - Applet certification errors.
- Collect information by enabling fnlog4j logging
  - Uses the Apache Log4j logging mechanism, which defines loggers, appenders, and layouts for the logging.

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Figure 1-66. For Process Clients issues: fnlog4j.properties   F2331.0

Notes:

Help path

FileNet P8 Platform 5.2.1>Troubleshooting and support>Troubleshooting Content Platform Engine>Enabling trace logging for process clients

Troubleshoot the workflow system

Fnlog4j concepts

- In the fnlog4j.properties file, you can configure appenders and loggers.
- Loggers
  - Specify the type of information that you want to collect.
  - Specify the log level
  - Log levels: TRACE ,DEBUG, INFO, WARN, ERROR, and FATAL
- Appenders
  - Enable logger data to be written to an output media
  - You can specify the output location.
  - Rolling file appenders log a new file each day.
  - Guideline: Specify only one appender to avoid duplicate log entries.

Figure 1-67. Fnlog4j concepts   F2331.0

Notes:

Help path

FileNet P8 Platform 5.2.0>Troubleshooting and support>Troubleshooting Content Platform Engine>Enabling trace logging for process clients>fnlog4j.properties loggers

FileNet P8 Platform 5.2.1>Troubleshooting and support>Troubleshooting Content Platform Engine>Enabling trace logging for process clients>fnlog4j.properties appenders

Loggers and appenders are configured in the fnlog4j.properties file.

Loggers specify the type of information that you want to collect. Typically, loggers are named after the class that they report on. You set the log level on each logger that you are interested in. Log levels determine the severity of messages that are logged. The most verbose log level is TRACE, which logs all messages. The INFO level logs INFO, WARN, ERROR, and FATAL.

Appenders specify where the data from the loggers is sent. You can send the data directly to the console screen, or you can send it to a file. In most cases, you are going to send the data to a file, so that you can review the file or send the file to an IBM support technician.

Troubleshoot the workflow system

Enable fnlog4j

- Copy the fnlog4j.properties.sample file to the JRE/lib directory for the application.

- Delete the file extension.

- Configure Loggers and Appenders by editing the file.
  - Locate the loggers that you want to activate
    - Example: `#log4j.logger.filenet.vw.api=DEBUG, TXT`
  - Remove the # to activate the logger.
  - Configure the log level. TRACE is most verbose. FATAL is least.
  - Specify an appender (TXT writes to a text file)
  - Locate the appenders
    - Example: log4j.appender.TXT.File=c:\\pe.txt
  - Configure output file name and location.

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Figure 1-68. Enable fnlog4j   F2331.0

Notes:

Help path

FileNet P8 Platform 5.2.0>Troubleshooting and support>Troubleshooting Content Platform Engine>Enabling trace logging for process clients

The fnlog4j.properties file destination location depends on the application to be monitored:

- For IBM Content Navigator deployed within WebSphere, the JRE/lib location is associated with the WebSphere Java that is being used.

- For process client applets, the JRE/lib location of the plug-in JRE that the browser uses on the client machine.

- For Administration Console for Content Platform Engine and Process Engine Web Services API, the JRE/lib is the one that the application server uses to host Content Platform Engine.

- Other locations are used for components and for custom applications.

You must have a good knowledge of system architecture to correctly select loggers. If you are not sure which loggers to activate, you can activate the root logger, which activates all of them. In many cases, the root logger can identify issues quickly. Though it produces unwanted log entries, the root

logger is the most comprehensive. Use TRACE logging only for a short time until you can reproduce the problem; then search the log files for errors. After you identify which processes are producing errors, you can re-enable a subset of loggers to focus on the issue.

In some instances, you might need to deploy the fnlog4j.properties file on the client PC. The following procedure provides an example. In this example, a user is unable to launch Process Designer.

Deploy fnlog4j.properties file.

1. Copy the fnlog4j.properties.sample from the PE Server

    C:\IBM\FileNet\ContentEngine\tools\PE\samples directory to your client PC.

2. On your client PC, place the fnlog4j.properties.sample under the JRE lib folder.

    For example: C:\Program Files\Java\jre1.5.0_11\lib

3. Rename the file to fnlog4j.properties.

4. Edit the file by using Notepad.

    Specify the logger and appender options.

    Specify the output file and location.

Enable java console on the client PC

1. On your client PC, go to Start -> Settings -> Control Panel -> Java

2. In the Java Control Panel window, click the Advanced tab.

3. Under Advanced tab, expand the Settings -> Java Console and enable the "Show Console" option.

4. Click Apply and then OK to close the Java Control Panel Window.

Data Collection

1. Close all IE Browsers on your PC.

2. Clean up / Delete IE Temporary Internet Files (under Tools -> Internet Options -> General Tab)

3. Start a new IE Browser and login to Content Navigator.

4. Try to reproduce the Process Designer issue.

5. Compress the resulting files:

    a. fnlog4j output file (file name and location are specified in the fnlog4j.properties file).

    b. Java console content. For the java console, do a CTRL-A to select the txt, then CTR-C to copy and paste the output to Notepad. Save the file to javaconsole.txt.

Troubleshoot the workflow system

Two trace methods both use log4j

- Configure traceOptions file in the virtual server folder
  - Starts with restart of the Content Platform Engine.
  - Turn off by deleting or renaming traceOptions file and restarting Content Platform Engine.
- Vwtool `trace` command
  - Start and stop tracing without restarting Content Platform Engine.
  - Optionally select trace options from the traceOptions file.
- Default log4j trace file options
  - Trace file size is 200 MB.
  - Three files are created before the first is overwritten.
- Important
  - Turn off tracing when analysis is complete.
  - Monitor to ensure that files are not unintentionally overwritten.

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Figure 1-69. Two trace methods both use log4j   F2331.0

Notes:

Help path

FileNet P8 Platform 5.2.0>Administering FileNet P8>Administering Content Platform Engine>Defining the workflow system>Administrative tools>vwtool>Command quick reference>trace

Vwtool command: `trace`

- Option a - Simultaneously set trace options on all servers.

- Option s - Set trace for local server only.

- Can read tracing options from a file.

  When the trace command is run, you are prompted to choose whether to read trace options from the traceOptions file. The ability to read trace options from a file is convenient for support services. Support staff can send a traceOptions file to a customer to collect specific trace data to help resolve support issues.

- TraceOptions file location and name

- The traceOptions.sample file can be found in ..\tools\PE\samples relative to the Content Platform Engine installation directory.

- File name: traceOptions

- Copy the traceOptions file to the user.dir system property:

- Example: C:\Program Files\IBM\WebSphere\AppServer\profiles\AppSrv01\traceOptions

• Trace output file location and names

- The destination of the trace information is the pesvr_trace.log file. To find the location of this log file, access the Content Platform Engine Startup Context (Ping Page):

Workflow system tracing

Trace options can be configured by reading them from a traceOptions file or they can be entered through the vwtool `trace` command.

Configure `traceOptions` file in the virtual server folder

Configure tracing to occur transparently by using this procedure:

1. Log in to the Content Platform Engine server. Any user can create the input parameter files.

2. Copy the sample traceOptions file.

3. Modify the traceOptions file

- Using a text editor, edit and save the traceOptions file by removing the leading # character for the options you want to activate:

- Trace output parameters

 TRACE_BY_LOGFILE

 TRACE_BY_CONSOLE

 TRACE_BY_MEMORY

 Select only one of the previous options.

- Trace options

 TRACE_DBI_MSGS

 TRACE_DBI_OUT

 TRACE_TRANSFER

 Select any or all of the trace options.

- Trace log4j default settings

 # JPETRACEFILE trace file appender

 log4j.appender.JPETRACEFILE=org.apache.log4j.RollingFileAppender

 log4j.appender.JPETRACEFILE.MaxBackupIndex=3

 log4j.appender.JPETRACEFILE.MaxFileSize=200MB

 (The trace file grows to 200MB, before the appender creates a new file. After three files are created, the previous files are overwritten.)

4. Stop and restart the Content Platform Engine.

Use the vwtool `trace` command

- The vwtool `trace` command can be used to activate explicit tracing options through interactive or command-line-provided options. If the vwtool trace command is used to start tracing, be aware that, if the Content Platform Engine is restarted, tracing is reset to the setting that is defined in the traceOptions file.

- The vwtool `trace` command also provides the option to read the traceOptions file so that preset tracing options can be started with no Content Platform Engine restart.

- The vwtool `trace` command can also allow tracing to be stopped without restart the Content Platform Engine. If the vwtool `trace` command is used to stop tracing, and then Content Platform Engine is restarted, tracing resumes, unless the traceOptions file is edited to disable tracing.

Default log4j trace file options

- The default configuration for the traceOptions file is to append trace events to the trace file until the defined maximum size of 200 MB is reached before starting to fill a new file. This cycle repeats two more times before the trace action rolls over and starts overwriting the first file.

Important

- Turn off tracing when analysis is complete.

  If trace options are left active after debugging is complete, serious performance degradation can occur on the system. The more trace options that were activated, the worse the degradation. Use one of these methods to disable tracing:

  - Turn off trace options in the traceOptions file

  - Delete the traceOptions file, and then stopping the tracing using the vwtool `trace` command

  - Stop and restart the Content Platform Engine.

- Monitor tracing to ensure that files are not unintentionally overwritten.

  While tracing is active, monitor the trace output files to make sure that they are not growing too rapidly, which might result in rollover and loss of trace data.

Troubleshoot the workflow system

vwtool trace log options

```
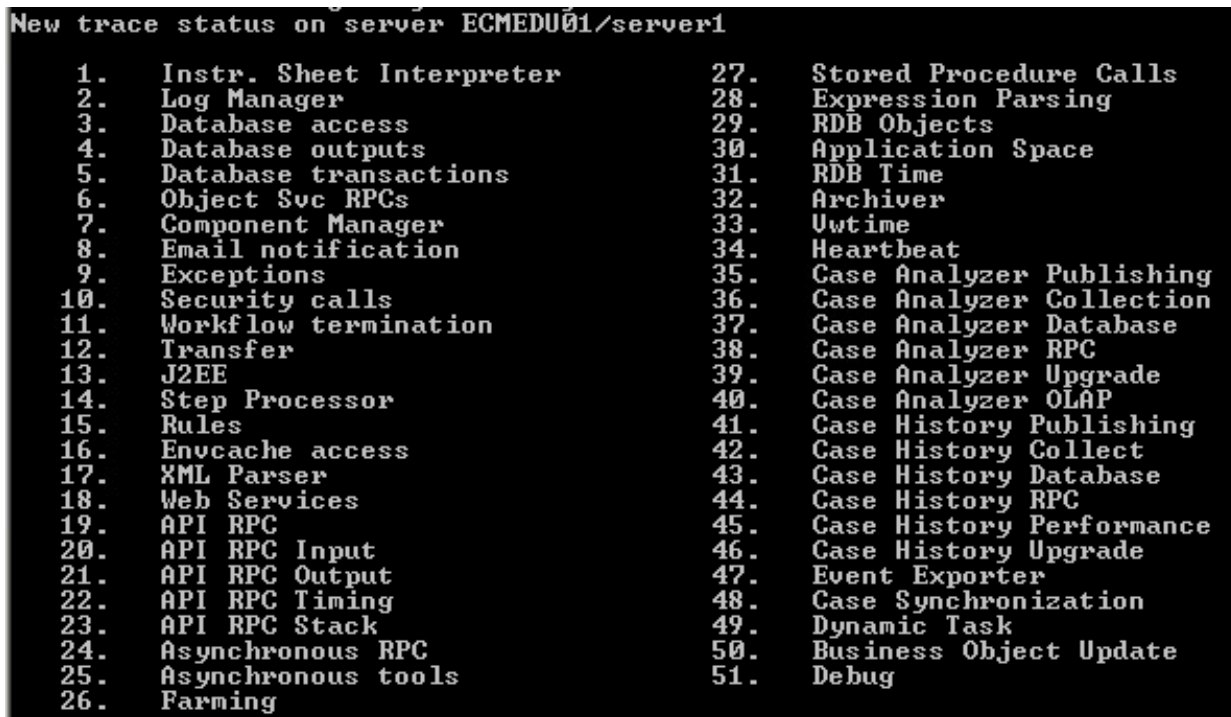New trace status on server ECMEDU01/server1

    1.   Instr. Sheet Interpreter     27.   Stored Procedure Calls
    2.   Log Manager                  28.   Expression Parsing
    3.   Database access              29.   RDB Objects
    4.   Database outputs             30.   Application Space
    5.   Database transactions        31.   RDB Time
    6.   Object Svc RPCs              32.   Archiver
    7.   Component Manager            33.   Vwtime
    8.   Email notification           34.   Heartbeat
    9.   Exceptions                   35.   Case Analyzer Publishing
   10.   Security calls               36.   Case Analyzer Collection
   11.   Workflow termination         37.   Case Analyzer Database
   12.   Transfer                     38.   Case Analyzer RPC
   13.   J2EE                         39.   Case Analyzer Upgrade
   14.   Step Processor               40.   Case Analyzer OLAP
   15.   Rules                        41.   Case History Publishing
   16.   Envcache access              42.   Case History Collect
   17.   XML Parser                   43.   Case History Database
   18.   Web Services                 44.   Case History RPC
   19.   API RPC                      45.   Case History Performance
   20.   API RPC Input                46.   Case History Upgrade
   21.   API RPC Output               47.   Event Exporter
   22.   API RPC Timing               48.   Case Synchronization
   23.   API RPC Stack                49.   Dynamic Task
   24.   Asynchronous RPC             50.   Business Object Update
   25.   Asynchronous tools           51.   Debug
   26.   Farming
```

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Figure 1-70. vwtool trace log options   F2331.0

Notes:

When you run the vwtool trace command, you can select the trace options that you want to enable. You select them by the numbers, which are listed in the command window. For example, to enable Archiver logging, you toggle option number 32. To toggle multiple options, you separate each number by a space. After you toggle the option, logging is started. The active logging options are displayed with two asterisks (**).

Selecting logging options

The problem that you are troubleshooting determines which logging options to select. Sometimes, you must enable a combination of tracing options.

Examples

- For a general exception, enable option 9 (Exceptions).

- For work items that fail to move from step to step, enable option 1 (Inst. Sheet Interpreter).

- For Component Manager, enable option 7 (Component Manager).

- For DBexecute, enable option 27 (Stored Procedure Calls).

- For workflow transfer issues, enable option 12 (Transfer).

- For security-related issues, enable option 10 (Security calls).
- For user-caching issues, enable option 16 (Envcache access).
- For any database-related issue, you can enable options 3, 4, 5.

Troubleshoot the workflow system

Activities

In your Student Exercises

- Unit: Maintain the Workflow System
- Lesson: Troubleshoot the workflow system
- Activities:
  - Enable fnlog4j
  - Enable trace logging
  - Enable tracing with vwtool

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Figure 1-71. Activities   F2331.0

Notes:

Use your Student Exercises to complete the activities that are listed.

Maintain the Workflow System

Unit summary

Having completed this unit, you should be able to:

- Identify the Workflow system admin tools and their uses.
- For a scenario, identify the tool that you can use to resolve the problem.
- Use the Process Services Ping page to check component queues.
- Monitor Processes with System Dashboard.
- Monitor processes with vwtool.
- View event logs.
- Maintain event log tables in an isolated region.
- Configure and use system logs to troubleshoot the system.

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Figure 1-72. Unit summary   F2331.0

Notes: