

IBM Cognos TM1

Operations Console

Prepared:

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1. Introduction to TM1 Operations Console

Traditionally, TM1 administrators have been leveraging the TM1Top utility to monitor and log system activity (user activity, TM1 jobs & processes). A newer "version" of TM1Top, called Operations Console, is included with TM1 as of version 10.1. Compared to TM1TOP, Operations Console provides

- i) More detailed logging
- ii) More informative logging on contention, locking, wait states and dependencies
- iii) Ability to set Monitoring/Watchdog Rules and to automate alerts based on those rules
- iv) Easier configuration of log intervals, refresh rates, log output file generation
- v) Logging of multiple server instances via one operations console

Please see <u>https://www.youtube.com/watch?v=CUjFteYjf0k</u> for an introductory video demo of TM1 10.2 Operations console. Refer to <u>Installing and Configuring TM1 10.2</u> Operations Console for further details on installing and configuring Operations console on TM1 10.2. Note that by default, Operations console configuration access is <u>not</u> secured. Please refer to <u>Securing Operations Console Configuration Page</u>' for instructions on how to secure Operations console admin access.

Example features:

Rich, configurable UI for monitoring of TM1 instances:

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User-based configuration of Ops Console

Health Status dashboard:

IBM Cognos TM1 Operations Consol			
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TM1 Environment	Server Health Status Monitors Logg	ing Watchdog	
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	current_week_Mtz_model vyorthomasp64b hursley.ibm.com sideta vyor3istm1101.hursley.ibm.com advanced sectnrigues	 planning sample epad_ami 	 gs_new_stores planning sample

Ops Console Health Status Dashboard



Monitoring w/ monitoring rules, Watchdog w/ watchdog rules, watchdog alerts (email) etc:

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Ops Console Monitoring Rules & Watchdog Configuration

Detailed logging:

rent_week_blitz_model S	tatus : Enhanced						
Online Number of threads Armory Used 829 13 Gar	s 19 Number of wait bace Memory 16.94	threads 0					
Showing states. All	C Log to disk						
						Fiter	
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Ops Console Logging



2. Initial Setup

2.1 Log-In

Click on the drop-down menu under 'Namespace'. Servers should be listed as <AdminHost>/<TM1DBName>

Diana	N Seter Vaus Information
Pleas	e Enter Your Information.
Name	ispace:
	*
llear	Namer
USCI	Norme.
Passv	vord:
Log	ad Materials - Property of IBM Corp. © Copyright proporation and other(s) 2013, 2014. IBM, the IBM
Licens IBM Co	orn com and Lognos are trademarks of registered

2.2 Adding and Operations Groups, Adminhost, and Servers

2.2.1 Add an Operations Group

Operations Groups are meant for grouping Environments. For example: Production, QA, Test, Dev, ...





2.2.2 Add Admin Hosts

TM1 Admin Hosts can be added to Operation Groups:



2.2.3 Add TM1 Instances

Right click the Adminhost and add a TM1 instance (sdata):

* Name: d2g	- 8		
future chips plan sdata		Create	Cancel
planning sample			

2.3 Verify Admin Access

To be able to perform administrative actions against the TM1 Instance, admin access needs to be verified:

U		• E1 E E1 O E7	Verify Admin Access : localhost : hol1320			
rironment		Server Health Status 😠	These credentials will be used to perform admin operations against the server			
Group 1 Group 1 Group 1 Group 1 Group 1	ist 1320	 localhost hol1320 	* Username:			
-	Monitor		Required Required			
	Start Performance Monitor Delete Configure View Log View Transaction Log		Password:			
	View Message Log View Audit Log Download Log File		OK Cancel			
	Verify Admin Access					



2.4 Basic Configuration

2.4.1 Configuring Logging Parameters for Monitoring and Log File Generation

umeric Parameters	
Log Period (sec):	2
Log Append:	No 👻
^c Top Refresh Period (sec):	2
* Top Tolerance Factor (sec):	0
^c Top Time Out (sec):	2
Memory Stats Refresh Period (min):	2
Memory Stats Tolerance Factor (min):	0
Memory Stats Time Out (min):	1

Log period

Specifies the time interval between updates being written to the log file. For example, if the screen Refresh is set to 2 seconds, LogPeriod could be set to 10 seconds so that every fifth screen display will be output to decrease the amount of data written to the file. Default: 2 seconds.

Log Append

By default a new log file is not appended, it overwrites the existing log. Select True to append new logfiles to the existing log.

Refresh period

By default, the log waits 2 seconds before refreshing the data. You can enter a longer or shorter time for the refresh here in seconds.

Tolerance factor

By default, the data is new (0). To permit data in the log to be older, enter a number here in seconds for how old the data can be before requiring a new polling.

Time Out

By default, attempts to connect to the server end after 2 seconds. You can change this number to shorten or lengthen the time the log will keep trying before giving up.

If the IBM® Cognos® TM1® Operations Console server does not get the updated status in the seconds specified here, then the old data (if it exists) is sent with an indication that a timeout has occurred.



Memory Stats refresh period

By default, the log waits 2 minutes before refreshing the data. You can enter a longer or shorter time for the refresh here in minutes.

Memory Stats tolerance factor

By default, the data is new (0). To permit data in the memory statistics to be older, enter a number here in seconds for how old the data can be before requiring a new polling.

Memory Stats timeout

By default, attempts to connect to the server end after 2 minutes. You can change this number to shorten or lengthen the time the log will keep trying before giving up.

If the IBM Cognos TM1 Operations Console server does not get the updated status in the minutes specified here, then the old data (if it exists) is sent with an indication that a timeout has occurred.



3. Monitoring in the Cognos TM1 Operations Console

IBM Cognos TM1 Operations Console	
TM1 Environment	Logging Watchdog Monitor Mode
 sample Iocalhost paralleldataloadmodel localhost 	TM1 Servers Application Servers
	Adminhost loc alhost

3.1 TM1 Server Instance Monitoring

http://www.ibm.com/support/knowledgecenter/en/SS9RXT 10.2.2/com.ibm.swg.ba.cognos.tm1 ops con sole.10.2.2.doc/c tm1 ops console monitoring tasks.html

3.2 Basic and Enhanced Server Status

Double-click the server name or right-click the server and select Monitor > Status > Enhanced or choose Basic.

CAUTION: Using the default Enhanced version of this report when the server is under heavy load can degrade system performance by up to 10%.

3.3 Sandbox and Sandbox Queue

Double-click the server name or right-click the server and select **Monitor** > **Sandbox** or **Sandbox queue**.

The report displays the sandbox activity on the server in the Monitor tab. You will only see data here when sandboxes are turned on and being used.

3.4 Turbo-Integrator Processes

If the thread is originated by a chore, the chore name appears in square brackets along with its corresponding thread ID.

When a large number of threads are associated with a process click on the node arrow to provide a list such as:

Completion Status :

NORMAL - Process executed normally



UNKNOWN - Process status could not be captured REJECTED_RECORD - User asked to skip this record and note an error into the log with the ItemReject() TI function MINOR_ERRORS - Execution finished but had less than the maximum number of minor errors PROCESS_BREAK - User executed a ProcessBreak() function ABORTED_BY_PROCESSQUIT - Execution was aborted by a Process Quit() TI function ABORTED_WITH_ERROR - Process was aborted because a serious error occurred ABORTED_ON_INIT - Process was aborted because of a serious error during the process startup phase.

The Process Pane is refreshed based on the rate specified by the Memory Stats Refresh Rate in the Configure window.

3.5 Chores

If you have not started Performance Monitoring, right-click the server, verify admin access, then right-click the server and click **Start Performance Monitor**.

To see the statistics for the Chores running on a server, right-click the server and click **Monitor** > **Chores** The following information is shown for chores: Chore Name, Completion Status, Current State, Client Name, Last Start Time, Last Duration in seconds, Next Activation Time, Current Process.

3.6 Memory Usage

Right-click the server you want to use and select **Monitors** > **Memory Usage Graph**

• 0 🖑 🔊		0.	12
1 Environment	Server Health Status × Monitors × Monitors ×		
 ■ local host > ■ sdata > ■ go_new_stores 	MemoryUsageDetails [group > localhost > sdata [TM1Server]] Select TM1 Server(s): ♥ All Cubes ♥ PNLCube ♥ PriosCube ♥ SalesByQuarterCube. ♥ SalesByQuarterCube.TotalMode ♥ SalesPriorCube	ł ♥ SalesCube	- 0 >
	I demory Used for Views Armory Used for Caclaudiations Memory Used for Feeders Memory Used for Input Data		8
	PNLCube SalesByQuarterCube		



3.7 Thread Details

The Thread Details Graph displays thread information as a graphical chart. Right-click the server you want to use and select **Monitors** > **Thread Details Graph**.



3.8 Performance Statistics

To begin gathering server and performance statistics, right-click the server and select **Start Performance Monitor**. To see the log, right-click the server and select

Monitor > Performance Statistics.

The following statistics are available on the Performance Statistics report:

- Memory Used for Views
- Memory Used for Calculations
- Memory Used for Feeders
- Memory Used for Input Data
- Total Memory Used

In addition, the Status options for each server being monitor displays the following statistics:

- MemoryUsed
- GarbageMemory

3.9 Monitoring the TM1 Web Application Server

To add a Cognos TM1 Application server to the Cognos TM1 Operations Console, right-click the operation group where you want to list the Cognos TM1 Application Server.

Select Add Application Server.

Enter a name to use to identify this Application Server and click **Create**.

Right-click the name that you just added and select **Configure**.

Complete the fields on that dialog box:



IP

Enter the IP address for the Applications Server. The IP field can also be the fullyqualified domain name or the NetBIOS name.

Context

Enter the name of the planning service, for example, pmpsvc

Port number:

Enter the port number specified in the JVM for TM1. This port number is the jmx port number that you have specified in the applications server JRE options.

Top Refresh period (sec)

A typical refresh period is 2.

Top Tolerance Factor (sec)

Enter 0 unless you want to expand the tolerance.

Top Time Out (sec)

A typical time out value is 1.

Click **OK**. If the Cognos TM1 Applications Server is running, the health status becomes green and the activity is being monitored. If the Cognos TM1 Application Server status is not green, ensure that the service is running using IBM® Cognos Configuration.

Most users prefer to use SSL to securely monitor the TM1 Applications Server. However, you can also monitor it without using SSL. This is a less secure method but does not require the additional certificate steps described in <u>Using SSL when monitoring the TM1 Applications</u> <u>Server</u>. To monitor the TM1 Application Server without using SSL, modify the jvm parameter

-Dcom.sun.management.jmxremote.ssl=true

and change it to

-Dcom.sun.management.jmxremote.ssl=false

Restart the TM1 Applications Server.

3.10 Log Files for the TM1 Application Server with the TM1 Operations Console

The IBM® Cognos® TM1® Operations Console can track and monitor activity in the TM1 Applications server..

When you select **Log To Disk** for automatic logging, the rate at which log messages are written is the same as the refresh rate of data in the monitoring window. With **Log to Disk** for Cognos TM1 Applications Server monitoring, the older monitoring data from the log file is overwritten with new log contents.

Unlike configuration of a Cognos TM1 server, you cannot use **Log Append** with the Cognos TM1 Application server.



Cognos TM1 Application Server logging can also be scheduled. Two types of Application Server data can be logged:

- Application Server Statistics
- Application Server Session Information

The **Log to Disk** option is available on all monitor windows. Click **Log to Disk** to create an automatic log. The data will continue to be logged until you turn off the logging by unchecking **Log to Disk**, closing the monitor window, or closing the Cognos TM1 Operations Console.





4. Log Files in the IBM Cognos TM1 Operations Console

4.1 Log Configuration Mode



4.2 Create/Schedule a new log

Environment		Log Type:	Log only the following states:
Environment	Logging Watchdog	Log Status	ldle
Group 1		Log Enhanced Status	Run
🕶 🥅 localhost	TM1 Servers Application Servers	Log SandBox	Commit
E hol1320		Log SandBox Queue	Rollback
			Se Wait
		Log Duration:	Z Login
	Adminhost	* Start Date :	Pinish
	V localhost	08-11-2016	
		* Start Time:	Select All Deselect All
		14:45:00	2-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0
		* Stop Date :	Threads
		09-11-2016	System Threads
		* Stop Time :	Chores
		15:45:00	User Threads
		* Log Frequency (sec):	
	Total: 1 Selected: 1	1	



4.2.1 Directory Location for Scheduled Logs

For scheduled logs, folders (for different log types) & corresponding log files will be created in:

```
.\<TM1InstallDirectory>\tm1_64\bin64\opsconsoledata\<AdminHost>
\<TM1DBInstance>\Logs
```

4.2.2 Directory Location for Configuration

```
.\<TM1InstallDirectory>\tm1_64\bin64\opsconsoledata\<AdminHost>
\<TM1DBInstance>\<User>
```

4.3 'Log to Disk'

For 'log t disk', folders (for different log types) & corresponding log files will be created in:

.\<TM1InstallDirectory>\tm1_64\bin64\opsconsoledata\<AdminHost> \<TM1DBInstance>\<User>\Logs

4.3.1 Viewing Logs

http://www.ibm.com/support/knowledgecenter/SS9RXT 10.2.2/com.ibm.swg.ba.cognos.tm1 ops consol e.10.2.2.doc/t tm1 ops console viewinglogs.html

4.3.2 Filtering Logs

http://www.ibm.com/support/knowledgecenter/SS9RXT 10.2.2/com.ibm.swg.ba.cognos.tm1 ops consol e.10.2.2.doc/c tm1 ops console filtering.html

4.3.3 Exporting Logs

http://www.ibm.com/support/knowledgecenter/SS9RXT 10.2.2/com.ibm.swg.ba.cognos.tm1 ops consol e.10.2.2.doc/t tm1 ops console export logs.html

4.4 TM1 Server Logs

4.4.1 TM1 Server Transaction Logs

http://www.ibm.com/support/knowledgecenter/SS9RXT 10.2.2/com.ibm.swg.ba.cognos.tm1 ops consol e.10.2.2.doc/t tm1 ops console transaction log.html

4.4.2 TM1 Server Message Logs

http://www.ibm.com/support/knowledgecenter/SS9RXT 10.2.2/com.ibm.swg.ba.cognos.tm1 ops consol e.10.2.2.doc/t tm1 ops console message log.html

4.4.3 TM1 Server Audit Logs

http://www.ibm.com/support/knowledgecenter/SS9RXT 10.2.2/com.ibm.swg.ba.cognos.tm1 ops consol e.10.2.2.doc/t tm1 ops console audit log.html



5. Interpreting TM1Top and Operations Console output

IBM Analytics



IBM Cognos TM1 & Planning Analytics

Interpreting TM1Top

& Operations Console Output

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IBM Cognos TM1 & Planning Analytics – Interpreting TM1Top & Operations Console Output

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