IBM

IBM Cognos TM1

Operations Console

Prepared:

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Document Version History

| Date	Version	Author	Description
1/2017	0.9	Andreas Kugelmeier	1st Version
3/9/2017	1.0	Andreas Kugelmeier	

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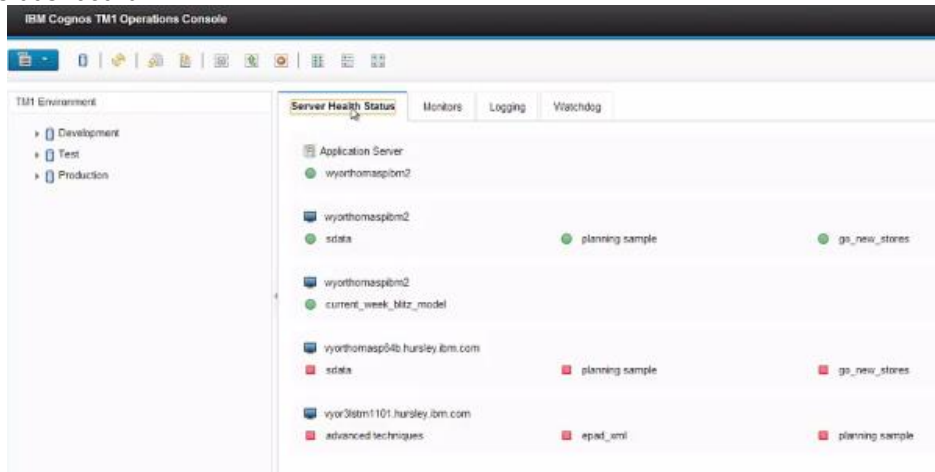
Example features:

Rich, configurable UI for monitoring of TM1 instances:
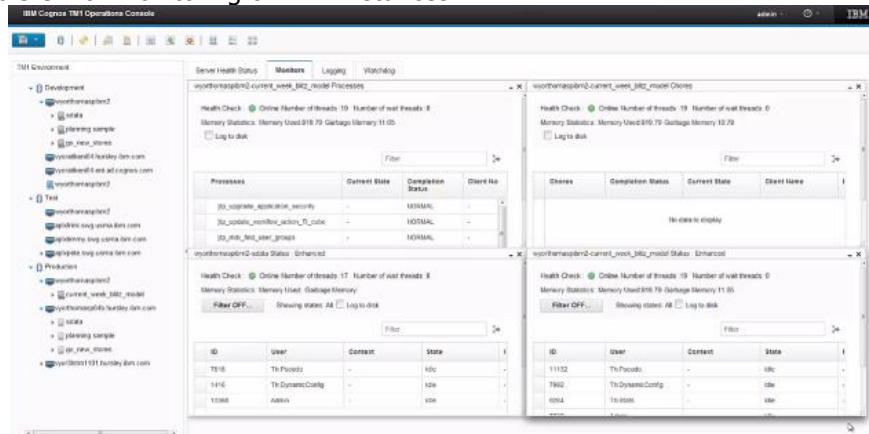
User-based configuration of Ops Console

Health Status dashboard:

Ops Console Health Status Dashboard

Monitoring w/ monitoring rules, Watchdog w/ watchdog rules, watchdog alerts (email) etc:
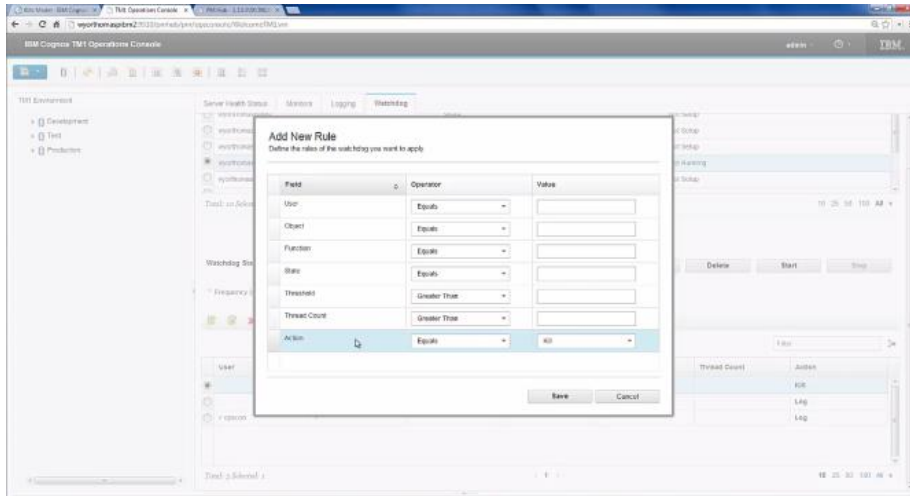
Ops Console Monitoring Rules & Watchdog Configuration

Detailed logging:

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>
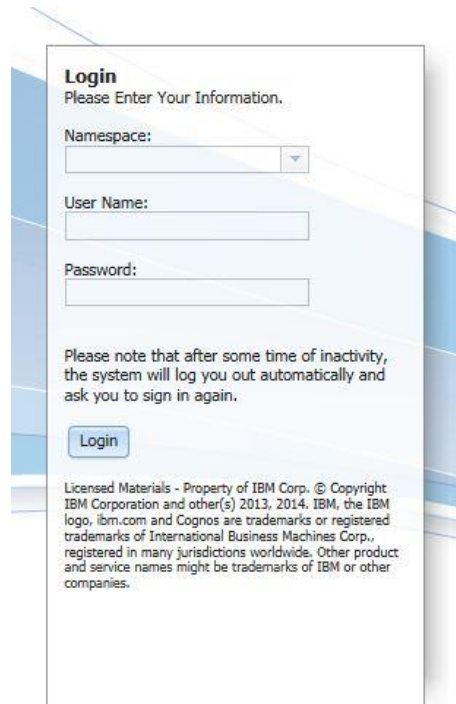
2.2 Adding and Operations Groups, Adminhost, and Servers

2.2.1 Add an Operations Group

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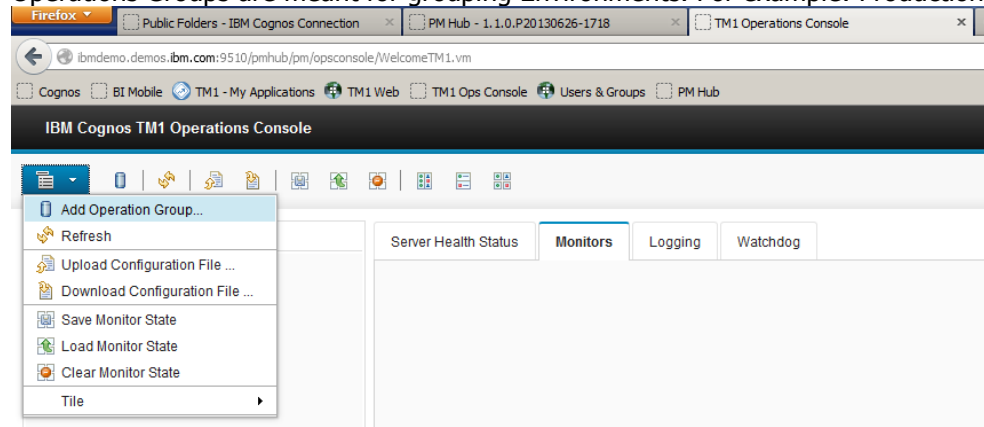
2.2.2 Add Admin Hosts

TM1 Admin Hosts can be added to Operation Groups:
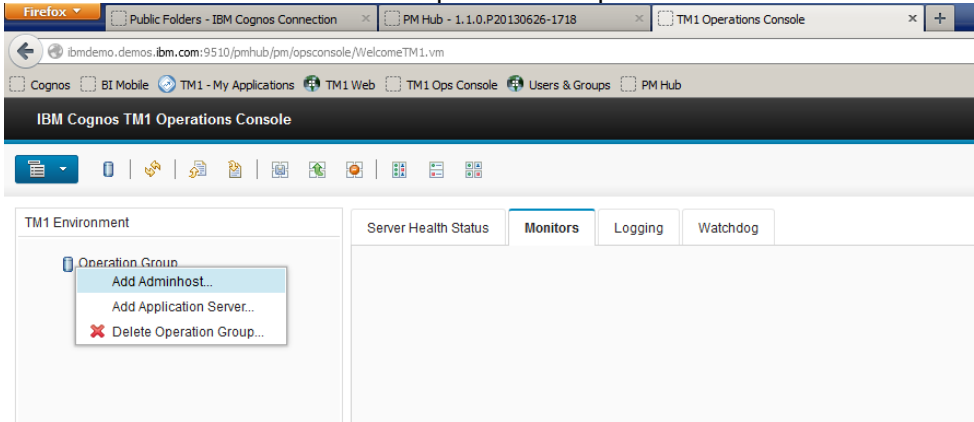
2.2.3 Add TM1 Instances

Right click the Adminhost and add a TM1 instance (sdata):
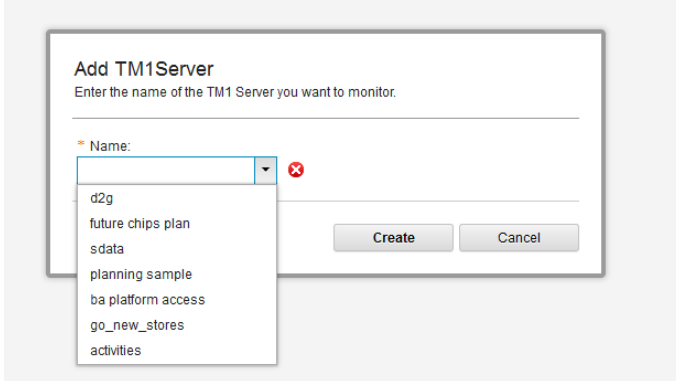
2.3   Verify Admin Access

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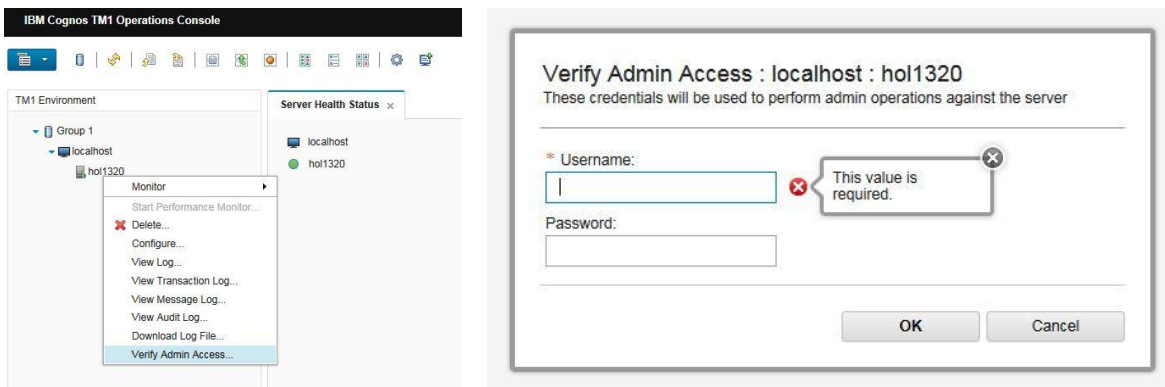
2.4   Basic Configuration

2.4.1 Configuring Logging Parameters for Monitoring and Log File Generation

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
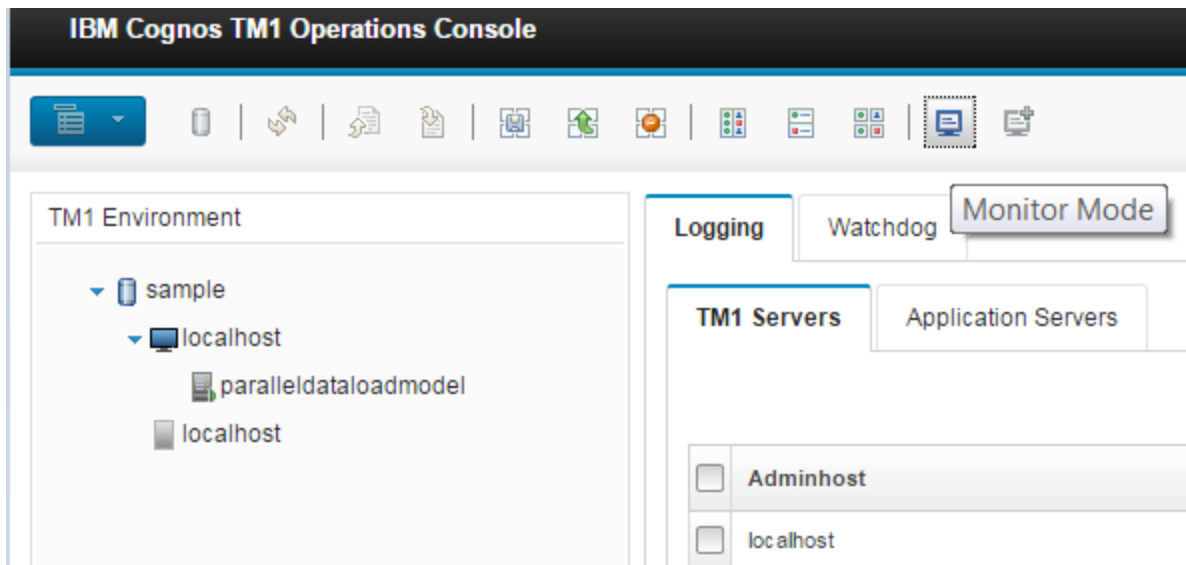
3.1 TM1 Server Instance Monitoring

http://www.ibm.com/support/knowledgecenter/en/SS9RXT_10.2.2/com.ibm.swg.ba.cognos.tm1_ops_console.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**
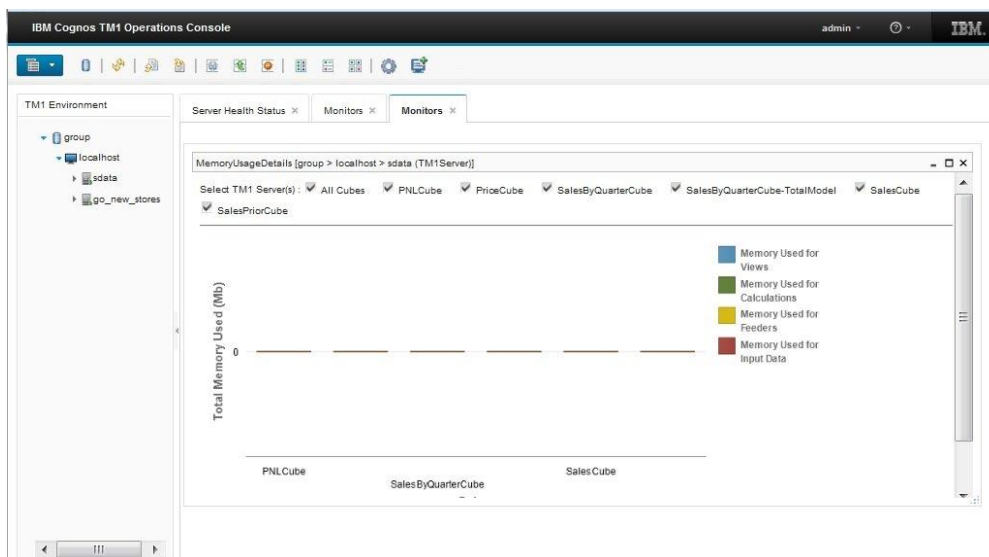
3.7 Thread Details

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
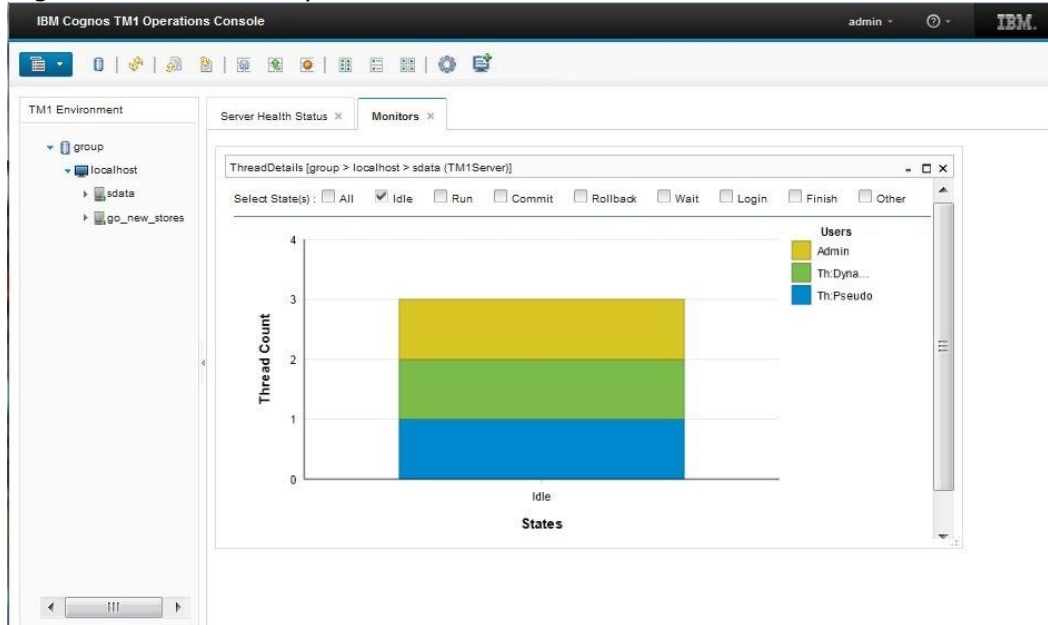**Monitor** > **Performance Statistics**.

> 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 fully-qualified 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 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
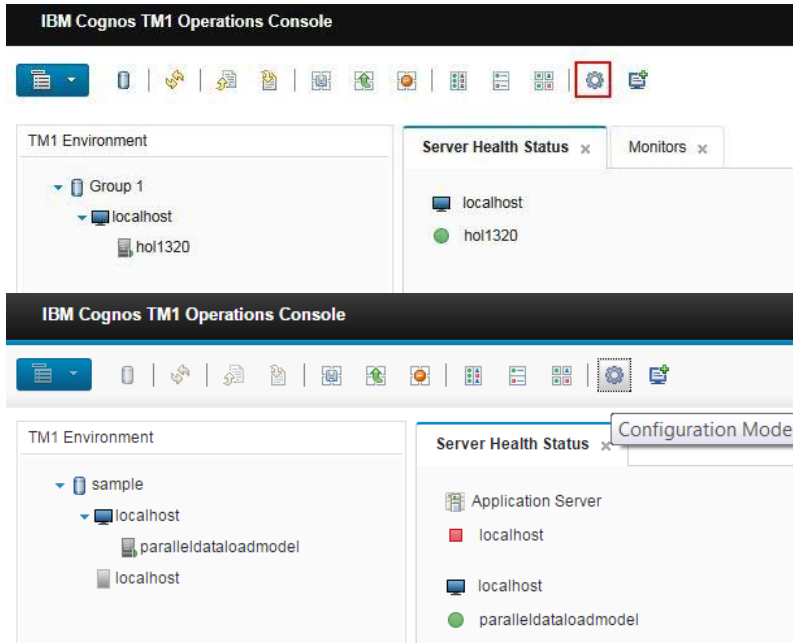
4.2 Create/Schedule a new log
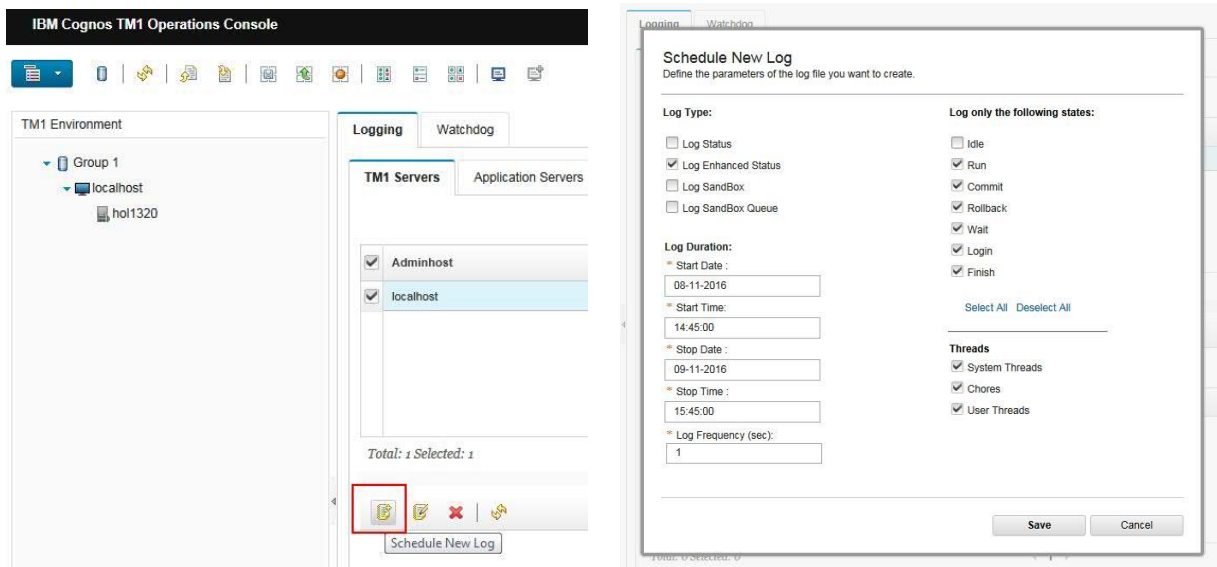
4.2.1 Directory Location for Scheduled Logs

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_console.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_console.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_console.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_console.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_console.10.2.2.doc/t_tm1_ops_console_message_log.html
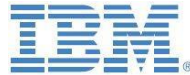
4.4.3 TM1 Server Audit Logs

http://www.ibm.com/support/knowledgecenter/SS9RXT_10.2.2/com.ibm.swg.ba.cognos.tm1_ops_console.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

Prepared:

November 2016

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

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