

CAPLIN ENTERPRISE MANAGEMENT CONSOLE 4.4

Getting Started Guide

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1 Preface

1.1 What this document contains

This document describes how to configure Caplin's Enterprise Management Console.

This guide assumes that the user has a Java Virtual Machine (JVM) version 1.5 or later installed and added to the classpath. This is the minimum requirement in order to run JMX monitoring.

1.2 Who should read this document

This document is intended for people who want to install and configure the Enterprise Management console to monitor Caplin's real-time data architecture.

1.3 Typographical conventions

This document uses the following typographical conventions to identify particular elements within the text.

Type	Use
Arial Bold	Other sections and chapters within this document.
<i>Arial Italic</i>	Parameter names and other variables.
<i>Times Italic</i>	File names, folders and directories.
Courier	Program output and code examples.
❖	Information bullet point
■	Instruction

1.4 Feedback

Customer feedback can only improve the quality of Caplin product documentation, and we would welcome any comments, criticisms or suggestions you may have regarding this document.

Please email your thoughts to documentation@caplin.com.

2 Server-side Configuration for Caplin Products

2.1 Configuring Caplin Liberator

As a prerequisite for using JMX Monitoring, the user will need version 4 of the Caplin Liberator. The Liberator will be supplied with some predefined configuration files that will need to be modified in order to use JMX Monitoring. The files that will require modification are:

- ❖ *rtttd.conf* – Caplin Liberator configuration file
- ❖ *java.conf* – Java configuration file
- ❖ *jmx.conf* – JMX Monitoring configuration file
- ❖ *sockmon.conf* – socket monitoring configuration file

The Liberator will also need a license file that allows monitoring to be enabled.

rtttd.conf

Some of the JMX Monitoring options will be supplied with the Caplin Liberator, however these options will be commented out by default. The user will need to uncomment the following lines in this file in order to use JMX Monitoring. The *rmi.client.port* is normally set to one higher than the *rmi-registry-port* in *jmx.conf*. Please refer to the Liberator Administration Guide for further option details.

```
## Monitoring
#####
#
#

monitor-mkdir      %r/lib
#monitor-module    sockmon
#monitor-module    jmx

# Username and password for accessing monitoring

add-monuser
  user      admin
  pass      admin
  addr      127.0.0.1
end-monuser

process-usage-period      10.0
```

java.conf

```
## In Process JVM
#####
#
#

# Set jvm-location as a fully qualified pathname to the preferred JVM
#
jvm-location      /usr/local/java/jre/lib/i386/libjava.so
#jvm-location     /usr/local/jre/lib/sparc/libjava.so

# Add any desired JVM startup options to jvm-options
#
jvm-options       -
Djava.naming.factory.initial=com.sun.jndi.rmi.registry.RegistryContextFactory

# uncomment the next line to enable remote debugging of the JVM
#jvm-options      -Xdebug -
Xrunjdpw:transport=dt_socket,server=y,suspend=n,address=25090

# uncomment the next line to configure the address on which the jni client
accepts connections
# jvm-options     -Djava.rmi.server.hostname=localhost

# Configure the rmi client port here
jvm-options       -Drmi.client.port=1100
```

```
## Java Classes
#####
#
#

# JARs required in the startup global classpath for the JVM
#
jvm-global-classpath    %r/lib/java/jmx-default-classloader.jar
jvm-global-classpath    %r/lib/java/javaauth.jar
jvm-global-classpath    %r/lib/java/common-jmx.jar

# Configurations for individual classes to be loaded,
# identified and referenced by the class-id option

# Required by JMX monitoring module
#
#add-javaclass
#   class-name  com.caplin.management.jmx.JMXController
#   class-id    jmx
#   classpath   %r/lib/java/jmx-child-classloader.jar
#   classpath   %r/lib/java/common-jmx.jar
#end-javaclass

# Example JavaAuth class
#
#add-javaclass
#   class-name  examples.OpenAuthenticator
#   class-id    authenticator
#
# JARs or paths may be added to the CLASSPATH,
# one per classpath option line
#   classpath   %r/lib/java/javaauth-examples.jar
#   classpath   %r/lib/java/javaauth.jar
#end-javaclass
```

jmx.conf

The user will need to configure this file as it tells the Caplin Liberator what options to use for the monitoring utility. This file is used to specify the monitoring port and other options that will be used by the Caplin Enterprise Management Console to connect to the Liberator. The only option that may need to be changed is the *rmi-registry-port* which needs to be a unique port that the Caplin Enterprise Management Console can connect to.

```
#
# Example Config File for JMX Monitoring Module
#
# $Id: //CDev/V-4_4/monmods/jmx/jmx-sample.conf#1 $
#

#####
#
# Debug level
#
# One of either:
# CRIT, ERROR, NOTIFY, WARN, INFO, DEBUG
#
# (These are in descending order of importance and increasing order
# of logging detail)
#
#####
debug-level    INFO

#####
#
# Hash table size
#
# This value should be about twice the total number of mbeans that
# your system will create
#
#####
jmxcache-hash-size10000
```

```
#####  
#  
# Port number that the MX4J system listens on for HTTP connections  
#  
# This is only accessible from the loopback interface  
#  
# If set to -1 then it is disabled  
#  
#####  
http-port -1  
  
#####  
#  
# Classid to use from the add-javaclass groups in the main configuration  
# file.  
#  
# This defaults to jmx  
#  
#####  
jmx-classidjmx  
  
#####  
#  
# Bind name of the registry  
#  
#####  
registry-bind-namedatasrc  
  
#####  
#  
# Port number that MX4J exposes the monitoring interface on  
#  
#####  
rmi-registry-port1099
```


sockmon.conf

This file configures the monitoring plug-in. This plug-in uses a simple text based protocol (see the companion document **Socket Monitoring Guide** for more details).

```
#
# Example Config File for Socket Monitoring Module
#
# $Id: //CDev/V-4/monmods/sockmon/sockmon-sample.conf#1 $
#

#####
#
# Debug level
#
# One of either:
# CRIT, ERROR, NOTIFY, WARN, INFO, DEBUG
#
# (These are in descending order of importance and increasing order of
# logging detail)
#
#####
debug-level INFO

#####
#
# Hash table size
#
# This value should be about twice the total number of mbeans that your
# system will create
#
#####
cache-hash-size10000

#####
#
# Listen port configuration
#
#####
sockmon-port10000
#sockmon-interface127.0.0.1
```

license file

You will also need a new license to enable Monitoring. This will require *jmx monitor* and/or *sockmon monitor* modules - please contact Caplin for a license file.

2.2 Configuring Caplin Transformer

As a prerequisite for using JMX Monitoring, the user will need version 4 of the Caplin Transformer. The Transformer will be supplied with some predefined configuration files that will need to be modified in order to use JMX Monitoring. The files that will require modification are:

- ❖ *transformer.conf* (Caplin Transformer configuration file)
- ❖ *jmx.conf* (JMX Monitoring configuration file)
- ❖ *java.conf*
- ❖ *sockmon.conf* (socket monitoring configuration file)

The Transformer will also need a license file that allows monitoring to be enabled. This will be discussed at the end of this section.

transformer.conf	See the license file requirement details for Caplin Liberator above for details.
jmx.conf	This should be configured in the same way as jmx.conf on page 7.
sockmon.conf	This should be configured in the same way as sockmon.conf on page 9.
license file	See the license file requirement details for Caplin Liberator above for details.

2.3 Configuring Caplin Datasource

As a prerequisite for using JMX Monitoring, the user will need version 4 of the Caplin Datasource. The Datasource will be supplied with some predefined configuration files that will need to be modified in order to use JMX Monitoring. For example the files that will require modification for Datasource for Triarch are:

- ❖ *sslsrvc.conf* (Caplin datasource configuration file)
- ❖ *java.conf*
- ❖ *jmx.conf* (JMX Monitoring configuration file)
- ❖ *sockmon.conf* (socket monitoring configuration file)

Note: *The Datasource will also need a license file that allows monitoring to be enabled.*

sslsrvc.conf

This should be configured in the same way as **rttspd.conf** on page 4.

jmx.conf

The user will need to modify this file as it tells the Caplin Datasource what options to use for the monitoring utility. By default, the only difference between this file and the **jmx.conf** file used in the Caplin Liberator or Caplin Transformer configuration section is the *rmi-registry-port* which needs to be different if the Caplin Liberator or Caplin Transformer are executing on the same physical machine as the Caplin Datasource.

sockmon.conf

This should be configured in the same way as **sockmon.conf** on page 9.

license file

See the licence file requirement details for Caplin Liberator on page 9 for details.

3 Client-side Installation

In order to run the Caplin Enterprise Management Console the user will require JVM 1.5 or later.

3.1 Starting the Caplin Enterprise Management Console

The Caplin Enterprise Management Console is supplied as an executable Java Archive (JAR) file which can be run in two ways.

- 1 Double click on the file called emc.jar which is located in the directory Caplin Enterprise Management Console kit was installed to. This will start the console provided that the user has set javaw as the default handler for executable JAR files.
- 2 The user can type the below line in an executable shell at the location in which the Caplin Enterprise Management Console kit was installed.

```
$ java -jar emc.jar
```

This will start the Caplin Enterprise Management Console and a splash screen will load. If the console is configured to use KeyMaster authentication, then the user will be prompted to enter a username and password.

Then a blank screen will appear

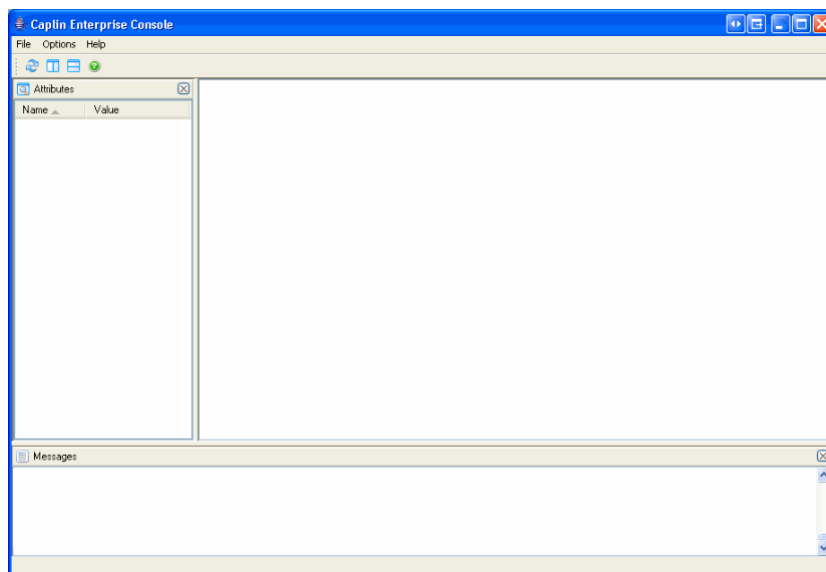


Figure 3-1: Initial screen

This is the overview screen of the Caplin Enterprise Management Console.

Next the user will need to add a monitorable Caplin Product. This is done by right clicking in the centre of the main window and selecting Add New DataSource (Figure 3-2).

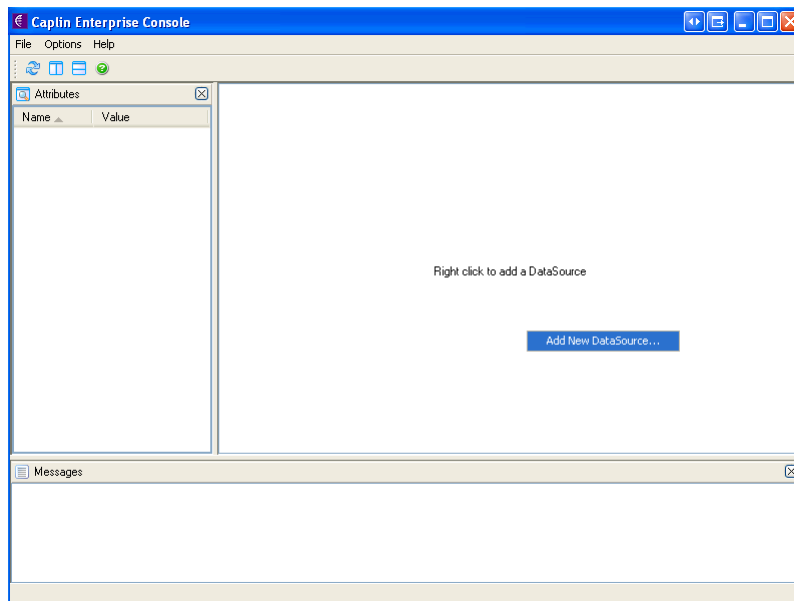


Figure 3-2: Adding new datasource (1)

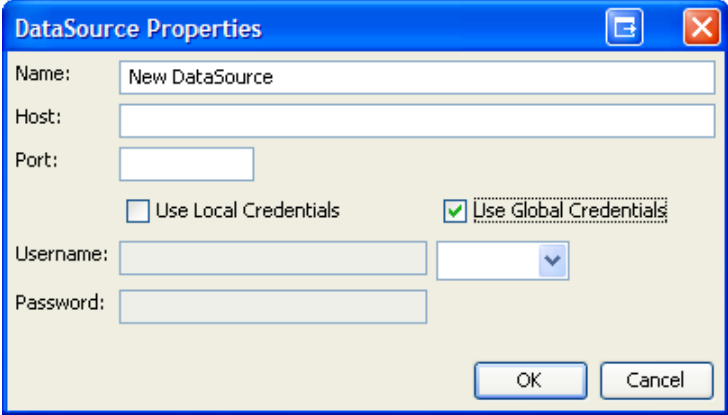


Figure 3-3: Adding a new datasource (2)

3.2 Configuring the Caplin Enterprise Management Console

When the user right-clicks on the centre screen, a new window will appear which will allow the user to enter the details of a new monitorable Caplin Product (Figure 3-3). The user should enter a meaningful name for the product. Then add the IP address or DNS name of the machine that the product is running on. Below that the user must enter the port that JMX Monitoring has been set up on. This will correspond to the *rmi-registry-port* property that was set in the *jmx.conf* configuration file when setting up the server side product (i.e. Caplin Liberator, Caplin Transformer, Caplin Datasource).

Finally the user needs to choose their authentication method. If local authentication is chosen, then the user must specify a user name and password that the Caplin Enterprise Management Console can use to access the monitoring. If global authentication is chosen, then one of the configured global authentication methods must be selected.

These authentication methods need to be configured in the configuration file for the Caplin Product (*rtttd.conf*, *transformer.conf* or the Datasource configuration file).

If both the Caplin Enterprise Management Console and the relevant Caplin Product have been configured correctly, then the Caplin Product will turn blue, and if the user left-clicks on it a list of attributes will appear in the left hand column (Figure 3-4). Otherwise the Caplin Product will be red in colour and the attribute column will also be empty. This specifies that the Caplin Enterprise Management Console was unable to connect to the Caplin Product. A brief explanation of what is wrong is available as a tool-tip which can be viewed by hovering over the Caplin Product using the mouse for a few seconds (Figure 3-5)

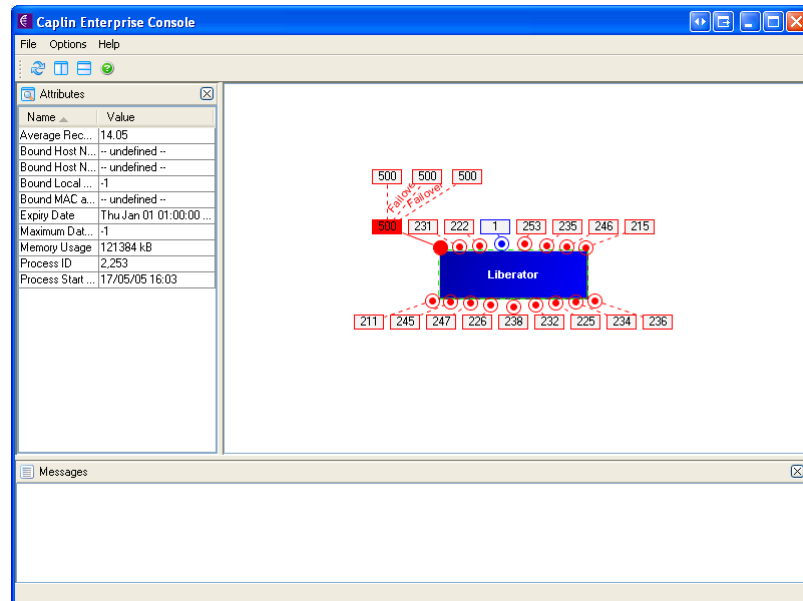


Figure 3-4: Attribute list

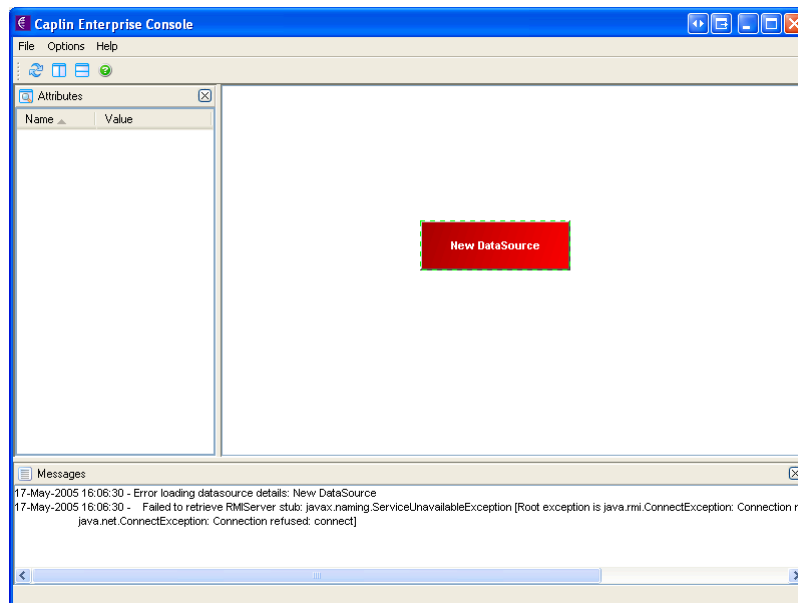


Figure 3-5: Adding a new datasource

The user can add as many Caplin Products as required following the above procedure for each. The Caplin Enterprise Management Console will automatically detect that two Caplin Products are linked to one another (e.g. a Caplin Datasource is connected to a Caplin Liberator) and link the two (see Figure 3-6)

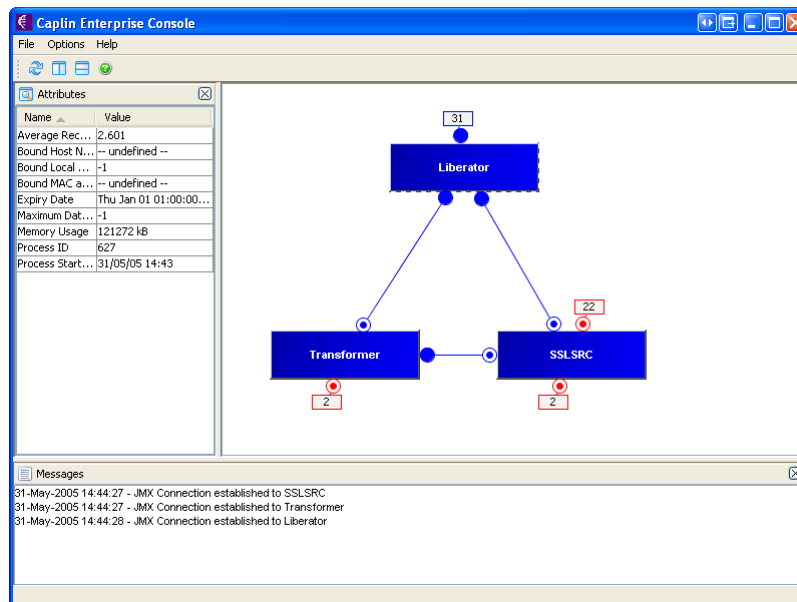


Figure 3-6: Linked products

Next the user should double click on the Product they wish to view. This action will open up the console view. This window contains all the information available about this particular Caplin Product. The views available (i.e. one view is assigned to one tab) will depend on the type of Caplin Product being viewed. The Caplin Enterprise Management Console will determine the type of Caplin Product being viewed by using a MBean attribute contained within each Caplin Product.

Figure 3-7 shows the typical view available for a Caplin Liberator.

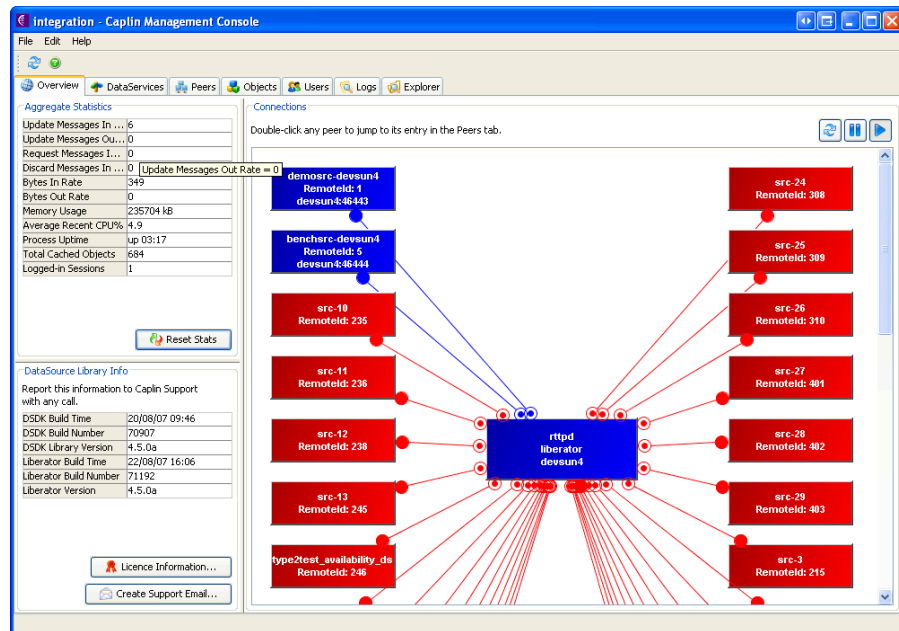


Figure 3-7: Typical Liberator view

At the top of the window the user has a number of tabs available. Each tab describes a different view of the Caplin Liberator.

The final tab is the Explorer tab which shows every MBean available in the Caplin Liberator (Figure 3-8). The user can browse through the explorer tree on the left hand side. The user can perform operations on these MBeans if the MBean has any operations that can be performed on it. The user may wish to view the SERVERTYPE MBean first as this will confirm what type of Caplin product is being viewed

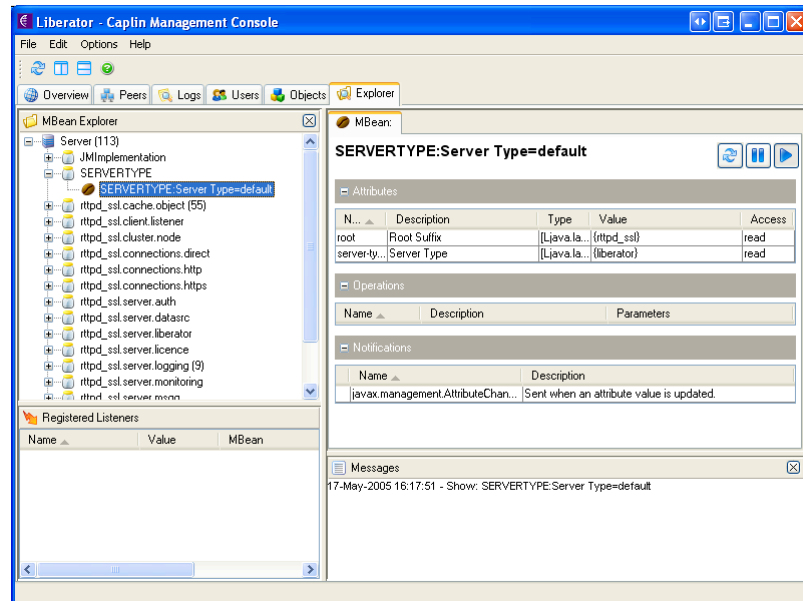


Figure 3-8: Typical Explorer tab view

Please refer to the Help section of the Caplin Enterprise Management Console for further details about the functionality of the console.



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