DataBot TODO

* **DataBot:** Important: validate the CPU stats computed from /proc/stat with top or some other trusted method. Compare with stats produced by Zabbix.
* Explore <https://prometheus.io/>
* <https://www.influxdata.com>
* <https://graphiteapp.org>
* <https://kb.novaordis.com/index.php/Grafana> or <https://kb.novaordis.com/index.php/Kibana>
* <https://blog.outlyer.com/top10-open-source-time-series-databases>
* **Low Priority Defect**: declaring a JMX metric in-line as follows:

-jmx://localhost:9999/java.lang:type=Threading/ThreadCount

without declaring the associated metric source with a “classpath:” element that gives to JBoss-specific implementation makes the generic JMX metric source start, but run into trouble because the proper jboss-specific protocol is not used. This is confusing, make if fail more clearly:

@DataBot Timer Thread 15:24:31,311 ERROR [DataCollectionTask] source jmx://localhost:9999 collection failed:

io.novaordis.events.api.metric.MetricSourceException: io.novaordis.jmx.JmxException: failed to create the underlying JMX remoting connector

at io.novaordis.events.api.metric.jmx.JmxBus.start(JmxBus.java:128)

at io.novaordis.events.api.metric.MetricSourceBase.collectMetrics(MetricSourceBase.java:91)

at io.novaordis.databot.task.SourceQueryTask.call(SourceQueryTask.java:110)

at io.novaordis.databot.task.SourceQueryTask.call(SourceQueryTask.java:38)

at java.util.concurrent.FutureTask.run(FutureTask.java:266)

at java.util.concurrent.ThreadPoolExecutor.runWorker(ThreadPoolExecutor.java:1142)

at java.util.concurrent.ThreadPoolExecutor$Worker.run(ThreadPoolExecutor.java:617)

at java.lang.Thread.run(Thread.java:745)

Caused by: io.novaordis.jmx.JmxException: failed to create the underlying JMX remoting connector

at io.novaordis.jmx.JmxClientImpl.connect(JmxClientImpl.java:176)

at io.novaordis.events.api.metric.jmx.JmxBus.start(JmxBus.java:122)

... 7 more

Caused by: java.net.MalformedURLException: Unsupported protocol: jmxmp

at javax.management.remote.JMXConnectorFactory.newJMXConnector(JMXConnectorFactory.java:359)

at javax.management.remote.JMXConnectorFactory.connect(JMXConnectorFactory.java:269)

at javax.management.remote.JMXConnectorFactory.connect(JMXConnectorFactory.java:229)

at io.novaordis.jmx.JmxClientImpl.connect(JmxClientImpl.java:163)

... 8 more

The same defect was recorded previously as “If I specify a JMX metric without specifying the corresponding source, the JMX custom library is missing from the classpath and I get the exception below. Solutions: 1) better error message that suggests what’s missing AND 2) Introduce configuration file variables so I can define the source with the classpath and use a variable to refer to it from the metric definition.”

* **Defect**:

#

# DataBot configuration file

#

sampling.interval: 10

sources:

local-jboss-over-jmx:

type: jmx

host: 10.76.161.19

port: 4447

classpath:

- /usr/share/jbossas/bin/client/jboss-cli-client.jar

output:

file: /opt/ge/home/jbuser/databot.csv

append: true

metrics:

- jmx://10.76.161.19:4447/jboss.as:hornetq-server=default,jms-queue=DLQ,subsystem=messaging/messageCount

@main 16:06:23,010 DEBUG [YamlConfigurationFile] loading configuration from /opt/ge/home/jbuser/databot.yaml

[error]: internal failure: IllegalArgumentException: null source definition representation (consult logs for more details)

# Parking Lot

* **Disband events core.** Get rid of events core – see what’s in there and break it apart.
* **ContentLogger**. ContentLogger does not work on Linux -> troubleshoot.
* DataBot does not exit after just one execution. Investigate the state of the threads and figure out who keeps it running. This is after making the stream consumer threads daemons. To replicate: run a data collection sweep with “sampling.interval: 0”.
* Add a “max executions” configuration element. The internal machinery is already implemented.
* Investigate projects/events-agent and consolidate with DataBot, if possible. Get rid of events-agent.
* Consolidate all CSV support in events-api and events-core and fix the current defect that breaks output for “test.domain:service=Mock,something=somethingelse/TestAttribute” field. The comma and the “.” should be enclosed in quotes. Then go to below:
* Connect to the local JBoss over JMX from databot, and get correct CSV output.
* **Configuration File Classpath Extensions**
  + **Environment Variable Support in configuration file classpaths.** Currently the wrapper script does not resolve environment variables.
  + **Eliminate Redundant Classpath Elements.** Currently the wrapper script will add to classpath a JAR every time it sees is, even if it seen it before. Filter out the JARs that already exist.
* **Sensitivity to $JBOSS\_HOME.** If using JBoss controllers as metric sources, databot is sensitive to the value of JBOSS\_HOME. Investigate why is that and fix.
* (..) **-f malfunctions**. -f should also send the results to stdout and avoid creating the CSV file. Currently it does not.
* **Logging Configuration.** Logging should be configurable from the .yaml file. I should be able to specify at least the location of the log file and the verbosity, even if all the details can still be specified in $DATABOT\_HOME/lib/log4j.xml
* **Reduce JBoss CLI client console verbosity**. Currently the JBoss CLI client sends this to stdout. Make it not to, or at least to send it to file only:  
    
  WARN: can't find jboss-cli.xml. Using default configuration values.

INFO xnio: XNIO Version 3.0.16.GA-redhat-1

INFO nio: XNIO NIO Implementation Version 3.0.16.GA-redhat-1

INFO remoting: JBoss Remoting version 3.3.9.Final-redhat-1

* Longs do not display correctly because the field is interpreted as Map. Fix that.
* Some OS metrics can be obtained from the JVM:

conf:

- include:

domain: java.lang

bean:

- java.lang:type=OperatingSystem

- java.lang:type=Threading

attribute:

OpenFileDescriptorCount:

alias: jmx.OpenFileDescriptorCount

metric\_type: counter

MaxFileDescriptorCount:

alias: jmx.MaxFileDescriptorCount

metric\_type: counter

TotalStartedThreadCount:

alias: jmx.TotalStartedThreadCount

metric\_type: counter

PeakThreadCount:

alias: jmx.PeakThreadCount

metric\_type: counter

* 10/15/16 Does not work with JDG 7:

@Timer-0 07:14:05,153 WARN [DataCollectionTimerTask] failed to collect data: org.jboss.as.cli.CommandContextFactory.newCommandContext(Ljava/lang/String;ILjava/lang/String;[CZZI)Lorg/jboss/as/cli/CommandContext;

* Explore using [[iftop]] to gather up/down bandwidth usage for each host:port pair.
* '''JDG testing'''
  + Network bandwidth statistics, integrate <tt>iftop</tt>.
  + Access to MBeans. Paul's e-mail ''The mbean of the transport for the bridge channel exposes the attributes: num\_bytes\_sent and num\_bytes\_received''.
* For four CLI metrics (2 for one instance and 2 for another, I get 4 cli.xml warnings. Normally I should get only 2 because I should share the clients.

[fsgapp@ln001xsjdg0003 etc]$ WARN: can't find jboss-cli.xml. Using default configuration values.

@Timer-0 17:28:55,620 INFO [xnio] XNIO Version 3.0.14.GA-redhat-1

@Timer-0 17:28:55,623 INFO [nio] XNIO NIO Implementation Version 3.0.14.GA-redhat-1

@Timer-0 17:28:55,634 INFO [remoting] JBoss Remoting version 3.3.5.Final-redhat-1

WARN: can't find jboss-cli.xml. Using default configuration values.

WARN: can't find jboss-cli.xml. Using default configuration values.

WARN: can't find jboss-cli.xml. Using default configuration values.

* Fix logging, get rid of:

NOMBP2:tmp ovidiu$ @Timer-0 18:37:22,052 INFO [xnio] XNIO Version 3.0.15.GA-redhat-1

@Timer-0 18:37:22,058 INFO [nio] XNIO NIO Implementation Version 3.0.15.GA-redhat-1

@Timer-0 18:37:22,080 INFO [remoting] JBoss Remoting version 3.3.7.Final-redhat-1

* Disconnect the JBossCliMetricSource instances on databot shutdown.
* <span id="n3jHG32">'''Support for password externalization'''. Then update [[Os-stats\_Metric\_Reference#JBoss\_CLI\_Metrics]] with details.</span>
* Warn if the collection time takes so long that it interferes with sampling interval length. Tests.
* Implement <tt>databot --help metrics</tt> that introspects and displays the list of built-in metrics.
* Current OSBase.execute() implementation is naive, implement it correctly.
* Integrate the functionality and get rid of https://github.com/NovaOrdis/shell-tools/blob/master/jboss-os-memory-stats.sh