How to set External Sumologic for logging using Log4j2 Appender in CH

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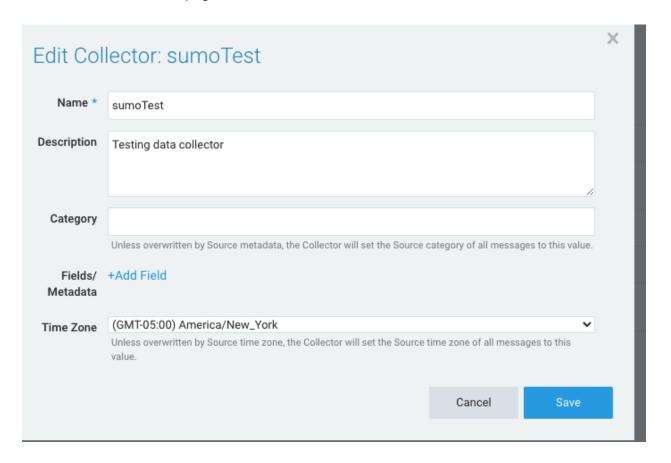6. Related Documentation/Helpful Resources

The goal of this document is to provide you with detailed steps of Sumologic logging using Log4j2 Appender and Validate testing using POC.
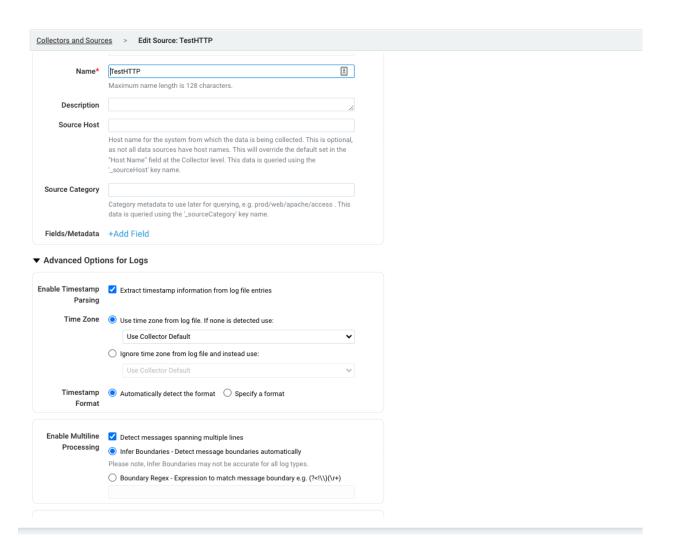
1. Pre-requisites

- JDK Version 1.8
- Anypoint Studio 7.x.x
- Sumologic Access
- Anypoint Platform access

2. How to setup HTTP Logs and metrics source on Sumologic

- To configure an HTTP Logs and Metrics Source: In the Sumo Logic web app, select Manage Data > Collection > Collection.

- On the Collectors page, click Add Source next to a Hosted Collector.

Edit Collector: sumoTest

Name *	sumoTest
Description	Testing data collector
Category	
	Unless overwritten by Source metadata, the Collector will set the Source category of all messages to this value.
Fields/Metadata	+Add Field
Time Zone	(GMT-05:00) America/New_York
	Unless overwritten by Source time zone, the Collector will set the Source time zone of all messages to this value.

Cancel   Save

- Select HTTP Logs & Metrics.

- Enter a Name to display for the Source in the Sumo web application. The description is optional.

- When you are finished configuring the Source click **Save**

- Source Host and Source Category, enter any string to tag the output collected from the source

3. Implementing with Log4j2 Appender installation steps

- ❏ Below Dependency library can be added to your project using Maven Central to a POM file

```
<dependency>
        <groupId>com.sumologic.plugins.log4j</groupId>
        <artifactId>sumologic-log4j2-appender</artifactId>
        <version>1.1</version>
        </dependency>
</dependencies>
```

❏ Open the src/main/resources/log4j2.xml and add sumologic appender as below and ensure the URL is HTTP resource URL to hook up with

```xml
 1  <?xml version="1.0" encoding="utf-8"?>
 2  <Configuration status="info" name="sumoloigc" packages="com.sumologic.log4j">
 3
 4      <!--These are some of the loggers you can enable. There are several more
 5          you can find in the documentation. Besides this log4j configuration, you
 6          can also use Java VM environment variables to enable other logs like network
 7          (-Djavax.net.debug=ssl or all) and Garbage Collector (-XX:+PrintGC). These
 8          will be append to the console, so you will see them in the mule_ee.log file. -->
 9
10      <Appenders>
11          <RollingFile name="file"
12              fileName="${sys:mule.home}${sys:file.separator}logs${sys:file.separator}sumologic.log"
13              filePattern="${sys:mule.home}${sys:file.separator}logs${sys:file.separator}sumologic-%i.log">
14              <PatternLayout
15                  pattern="%-5p %d [%t] [processor: %X{processorPath}; event: %X{correlationId}] %c: %m%n" />
16              <SizeBasedTriggeringPolicy size="10 MB" />
17              <DefaultRolloverStrategy max="10" />
18          </RollingFile>
19
20          <SumoLogicAppender
21              name="SumoAppender"
22              url="https://endpoint6.collection.us2.sumologic.com/receiver/v1/http/ZaVnC4dhaV2nX2eHW3MUPOIYTpOJLkhX6pMkzEDsw5AelL456_V81bbT5URq8ZB75hNqzTGRy8Xmb3pqVa0VKMKZ2KZA51pji2SOIbzDZ
23              <PatternLayout pattern="%d{yyyy-MM-dd HH:mm:ss,SSS Z} [%t] %-5p %c - %m%n" />
24          </SumoLogicAppender>
25      </Appenders>
26
27      <Loggers>
28
29          <!-- Http Logger shows wire traffic on DEBUG. -->
30          <!--AsyncLogger name="org.mule.service.http.impl.service.HttpMessageLogger"
31              level="DEBUG" / -->
32          <AsyncLogger name="org.mule.service.http" level="WARN" />
33          <AsyncLogger name="org.mule.extension.http" level="WARN" />
34
35          <!-- Mule logger -->
36          <AsyncLogger
37              name="org.mule.runtime.core.internal.processor.LoggerMessageProcessor"
38              level="INFO" />
39
40          <AsyncRoot level="INFO">
41              <AppenderRef ref="file" />
42              <AppenderRef ref="SumoAppender" />
43
44          </AsyncRoot>
45      </Loggers>
46  </Configuration>
47
```
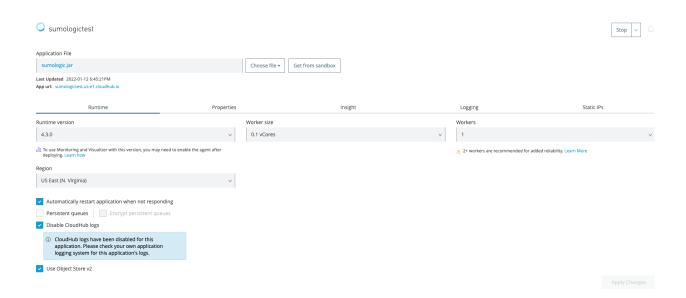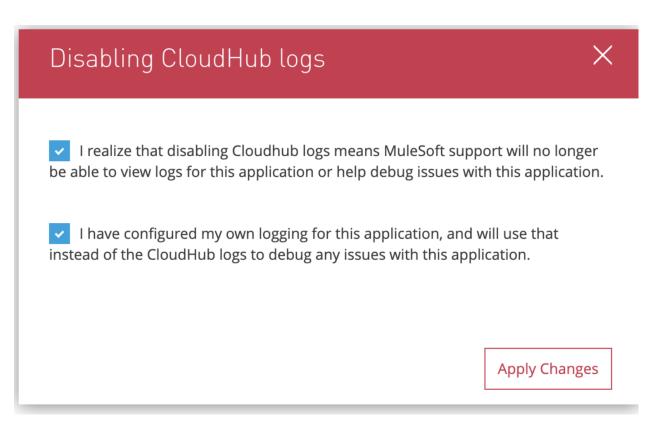

HTTP Source Address

Use the following address to send data to the Collector. Learn more...

Keep this address private since anyone can use it to send data.

https://endpoint6.collection.us2.sumologic.com/receiver/v1/http/ZaVnC

OK

❏ Add appender ref as below

```
<!-- Mule logger -->
<AsyncLogger
    name="org.mule.runtime.core.internal.processor.LoggerMessageProcessor"
    level="INFO" />

<AsyncRoot level="INFO">
    <AppenderRef ref="file" />
    <AppenderRef ref="SumoAppender" />

</AsyncRoot>
```

```
<Loggers>

        <!-- Http Logger shows wire traffic on DEBUG. -->
        <!--AsyncLogger name="org.mule.service.http.impl.service.HttpMessageLogger"
                level="DEBUG" / -->
        <AsyncLogger name="org.mule.service.http" level="WARN" />
        <AsyncLogger name="org.mule.extension.http" level="WARN" />
        <AsyncLogger name="com.test.appender" level="INFO">
                <AppenderRef ref="AzureEventHub" />
        </AsyncLogger>
```

4. How to Enable Custom Log4j Configurations in CloudHub

- After you configure the Log4j appender, deploy the application to CloudHub and follow these steps to disable CloudHub logs
- From Anypoint Platform, select Runtime Manager >> Click Applications in the left menu.
- Click the Type column to display the details pane for the application.
- Click Manage Application.
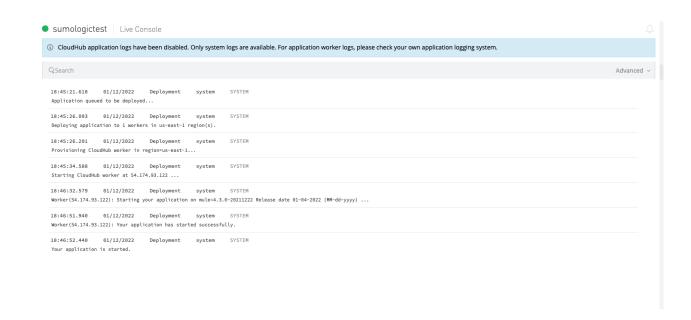- In the Settings page, click Disable CloudHub logs as below

- In the Disabling CloudHub logs confirmation window, select the checkboxes to verify that you want to disable CloudHub logs as below

- Click Apply Changes.
- Review your application settings to ensure they are correct.
- Click Apply Changes to restart your application.

- After your application starts, logs start flowing to your custom Log4j appender and are viewable on your target logging system - Sumologic
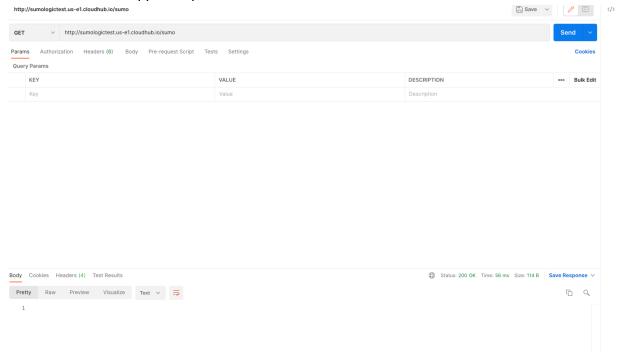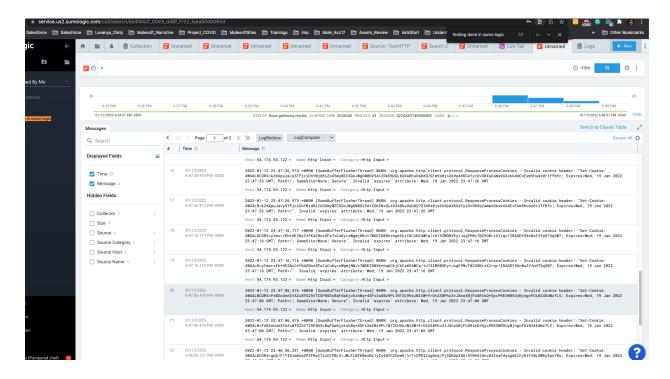

5. Testing and Validaiton of POC

- Deploy the app to cloud hub and system deployments logs shown as below

sumologictest | Live Console

ⓘ CloudHub application logs have been disabled. Only system logs are available. For application worker logs, please check your own application logging system.

🔍 Search   Advanced ⌄

```
18:45:21.618    01/12/2022    Deployment    system    SYSTEM
Application queued to be deployed...

18:45:26.093    01/12/2022    Deployment    system    SYSTEM
Deploying application to 1 workers in us-east-1 region(s).

18:45:26.291    01/12/2022    Deployment    system    SYSTEM
Provisioning CloudHub worker in region=us-east-1...

18:45:34.588    01/12/2022    Deployment    system    SYSTEM
Starting CloudHub worker at 54.174.93.122 ...

18:46:32.579    01/12/2022    Deployment    system    SYSTEM
Worker(54.174.93.122): Starting your application on mule=4.3.0-20211222 Release date 01-04-2022 (MM-dd-yyyy) ...

18:46:51.940    01/12/2022    Deployment    system    SYSTEM
Worker(54.174.93.122): Your application has started successfully.

18:46:52.440    01/12/2022    Deployment    system    SYSTEM
Your application is started.
```

● Test the EP of the app from postman as below

- Application logs would be displayed as below in sumologic for successful connection

6. Related Documentation/Helpful Resources

1. https://help.sumologic.com/03Send-Data/Sources/02Sources-for-Hosted-Collectors/HTTP-Source
2. https://docs.mulesoft.com/runtime-manager/custom-log-appender
3. https://github.com/SumoLogic/sumo-log4j-appender