Setting Up Zeppelin to Run With HCP

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https://docs.hortonworks.com/

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Introduction to Using Zeppelin With HCP

The Zeppelin dashboard is intended for use by Security Operations Center (SOC) analysts and investigators.

Like the Metron dashboard, the Zeppelin dashboard can be used to view and analyze the enriched telemetry data provided by HCP. However Zeppelin can be used by a data scientist to create runbooks for recreatable investigations. These runbooks can be static, which require no input, or dynamic, which require you to enter or choose information.

Setting up Zeppelin to Run with HCP

You can import the Zeppelin Notebook using Ambari or manually. To complete your set up you'll need to use Zeppelin interpretors and load the telemetry information.

Setting up Zeppelin is very simple. To access Zeppelin, go to http://$ZEPPELIN_HOST:9995.

In addition to this documentation, there are two other sources for Zeppelin information.

- The Zeppelin installation for HCP provides a couple sample notes including tutorials specific to Metron. These notes are listed on the left side of the **Welcome** screen and in the **Notebook** menu.
- Zeppelin documentation provides additional information on using Zeppelin.

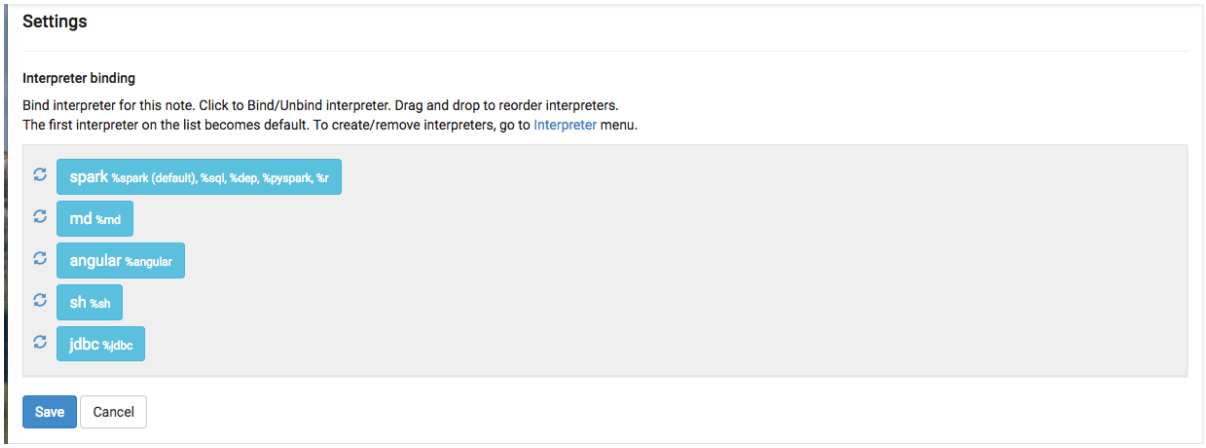
Using Zeppelin Interpreters

This section describes how to use Apache Zeppelin interpreters.

Before using an interpreter, ensure that the interpreter is available for use in your note:

1. Navigate to your note.
2. Click on “interpreter binding”:

3. Under "Settings", make sure that the interpreter you want to use is selected (in blue text). Unselected interpreters appear in white text:



4. To select an interpreter, click on the interpreter name to select the interpreter. Each click operates as a toggle.

5. You should unselect interpreters that will not be used. This makes your choices clearer. For example, if you plan to use %livy to access Spark, unselect the %spark interpreter.

Whenever one or more interpreters could be used to access the same underlying service, you can specify the precedence of interpreters within a note:

- Drag and drop interpreters into the desired positions in the list.
- When finished, click "Save".

Use an interpreter in a paragraph

To use an interpreter, specify the interpreter directive at the beginning of a paragraph, using the format %[INTERPRETER_NAME]. The directive must appear before any code that uses the interpreter.

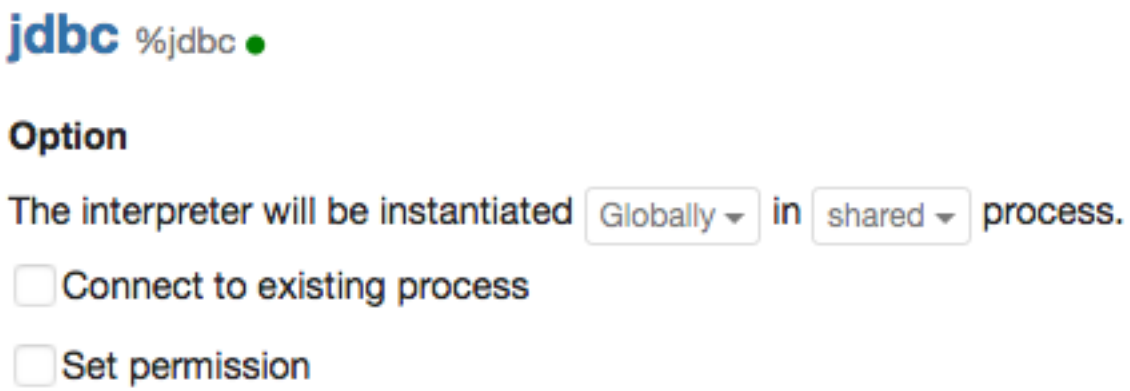
The following paragraph uses the %sh interpreter to access the system shell and list the current working directory:

```
%sh
pwd

home/zeppelin
```

Some interpreters support more than one form of the directive. For example, the %livy interpreter supports directives for PySpark, PySpark3, SparkR, Spark SQL.

To view interpreter directives and settings, navigate to the Interpreter page and scroll through the list of interpreters or search for the interpreter name. Directives are listed immediately after the name of the interpreter, followed by options and property settings. For example, the JDBC interpreter supports the %jdbc directive:



Note: The Interpreter page is subject to access control settings. If the Interpreters page does not list settings, check with your system administrator for more information.

Use interpreter groups

Each interpreter belongs to an interpreter group. Interpreters in the same group can reference each other. For example, if the Spark SQL interpreter and the Spark interpreter are in the same group, the Spark SQL interpreter can reference the Spark interpreter to access its SparkContext.

Loading Telemetry Information into Zeppelin

Before you can analyze telemetry information in Zeppelin, you must first download it from Hortonworks Cybersecurity Platform (HCP).

HCP archives the fully parsed, enriched, and triaged telemetry for each sensor in HDFS. This archived telemetry information is simply raw JSON files which makes it simple to parse and analyze the information with Zeppelin. The following is an example of some Bro telemetry information.

```
%sh

hdfs dfs -ls -C -R /apps/metron/indexing/indexed/bro
/apps/metron/indexing/indexed/bro/enrichment-null-0-0-1484124296101.json
/apps/metron/indexing/indexed/bro/enrichment-null-0-0-1484128332104.json
/apps/metron/indexing/indexed/bro/enrichment-null-0-0-1484131460758.json
/apps/metron/indexing/indexed/bro/enrichment-null-0-1-1484217861096.json
/apps/metron/indexing/indexed/bro/enrichment-null-0-10-1484995461039.json
/apps/metron/indexing/indexed/bro/enrichment-null-0-11-1485081861043.json
/apps/metron/indexing/indexed/bro/enrichment-null-0-12-1485168261040.json
/apps/metron/indexing/indexed/bro/enrichment-null-0-13-1485254661040.json
/apps/metron/indexing/indexed/bro/enrichment-null-0-14-1485341061047.json
/apps/metron/indexing/indexed/bro/enrichment-null-0-15-1485427461040.json
/apps/metron/indexing/indexed/bro/enrichment-null-0-16-1485513861039.json
/apps/metron/indexing/indexed/bro/enrichment-null-0-17-1485600261045.json
/apps/metron/indexing/indexed/bro/enrichment-null-0-18-1485686661035.json
/apps/metron/indexing/indexed/bro/enrichment-null-0-19-1485773061037.json
/apps/metron/indexing/indexed/bro/enrichment-null-0-2-1484304261042.json
/apps/metron/indexing/indexed/bro/enrichment-null-0-20-1485859461037.json
/apps/metron/indexing/indexed/bro/enrichment-null-0-21-1485945861039.json
/apps/metron/indexing/indexed/bro/enrichment-null-0-22-1486032261036.json
```

You can use Spark to load the archived information from HDFS into Zeppelin.

For example if you are loading information received from Bro, your command would look like the following:

```
%spark
sqlContext.read.json("hdfs:///apps/metron/indexing/indexed/
bro").cache().registerTempTable("bro")
```