

SMOKE TEST

HDF 3.3.1

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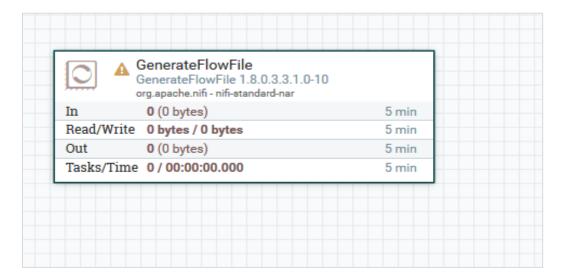
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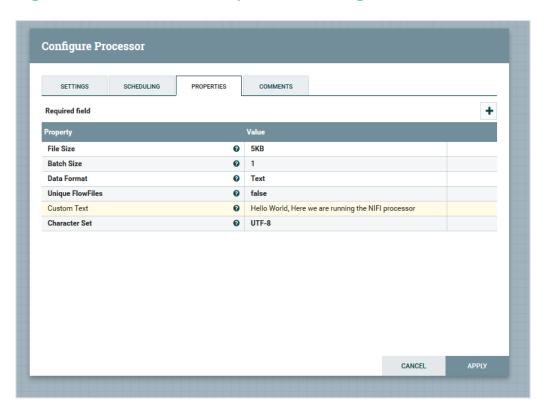
1 TESTING NIFI

We will use NIFI UI to create a HelloWorld dataflow.

1.1 Select a GenerateFlowFile processor in NIFI UI



1.2 Configure GenerateFlowFile processor to generate the data

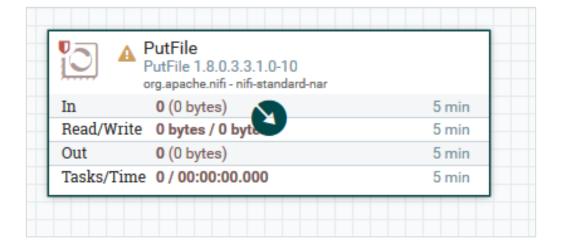




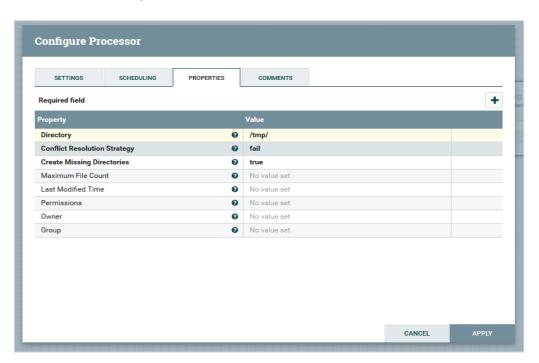
Following are the configuration you need to perform for GenerateFlowFile processor:

- Set the file size
- Enter custom text in Custom Text section

1.3 Select a PutFile processor in NIFI UI



1.4 Configure PutFile processor to store generated data from GenerateFlowFile processor

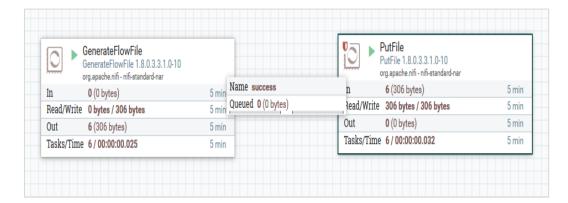


You need to perform following configuration for PutFile processor:

Enter a location where you want to store generated data from GenerateFlowFile processor.
 (Ex. /tmp/)



1.5 Connect and run the processors



1.6 Verify the data

Go to NIFI container and check into /tmp directory, if the data is stored or not.

ls /tmp/

```
0f415ed5-b405-422c-89a6-69bd68f17bcf
                                          6ae13641-8aef-4eab-9e0a-bc53e70a3f1d bds-20190616225559.log
                                                                                                                               ee11a6ce-974d-4276-bd1f-5b4b54495e66
                                                                                    bd_vagent_bundle.517.log
cfa81c94-579d-48fb-917b-abb48bfd6e04
1c96755c-209b-4690-b8b5-71e9186d50fc
2019466d-1b12-44f9-83f2-033252867b9f
                                          6f5eef59-f810-4a31-a838-ced3e4f86650
                                                                                                                               efc2534f-e25f-412d-a0f5-309bc920b95a
                                          7852fa6c-d820-41f1-bb38-34158882a2d0
                                                                                                                               fe448eb1-b30b-493a-af79-4cb05730d89c
23994186-4bef-4f26-9638-074eb4b9e20b
                                          787f475d-c6a4-4f2a-ab98-e786f0cd5212
                                                                                    d6c6e001-57c2-41f5-aabc-ebdc894122f0
                                                                                                                               hsperfdata\_mynifiuser
3540a303-9e91-42ad-a66c-ada17c3f1673 87111caa-0238-4323-867b-9602378bbc5c 358ef550-c2cc-42fb-837e-e71b75422b2e 8c0c012e-ed1c-4eab-9027-903d5b49f2b7
                                                                                    dbbab28a-5666-4f93-b992-904a7265fe63
                                                                                                                               hsperfdata_registry
                                                                                    de538e75-172d-4631-9684-cda97eb5d315 hsperfdata root
4f44eda8-5801-43ae-965d-fded68baa078 8d970764-d334-4f9d-b964-3c2f6c1e428d
                                                                                                                              jna-551163445
                                                                                    e3a9c207-d4dc-44df-88a5-90f30e6ad659
647c88ff-ea0f-4536-9612-2ce45f79992c
                                          a2c32c88-76bb-4210-a9ad-f1f43d3c44b6
                                                                                    e9e1a5f6-915e-4438-aa4d-c25ea7985a37
                                                                                                                               snappy-1.0.5-libsnappyjava.so
65b8d7ee-9635-4de4-9d2e-8622f8504fb1 a477f930-f8b8-4873-8cbd-a2e73a10e849
                                                                                    ec394c58-beda-469a-a17f-fd83a262ef70
[bluedata@bluedata-6670 ~]$
```

Use cat command to check the stored data.

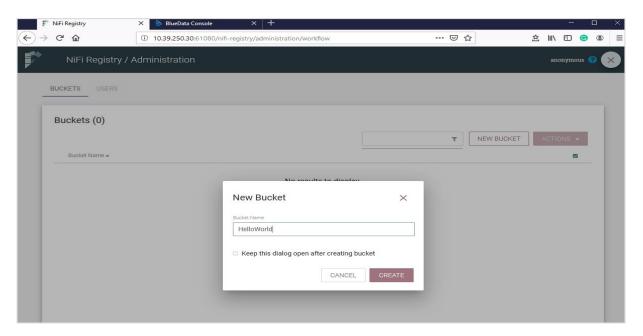
[bluedata@bluedata-6670 ~]\$ cat /tmp/0f415ed5-b405-422c-89a6-69bd68f17bcf
Hello World, Here we are running the NIFI processor[bluedata@bluedata-6670 ~]\$
[bluedata@bluedata-6670 ~]\$



2 TESTING NIFI REGISTRY

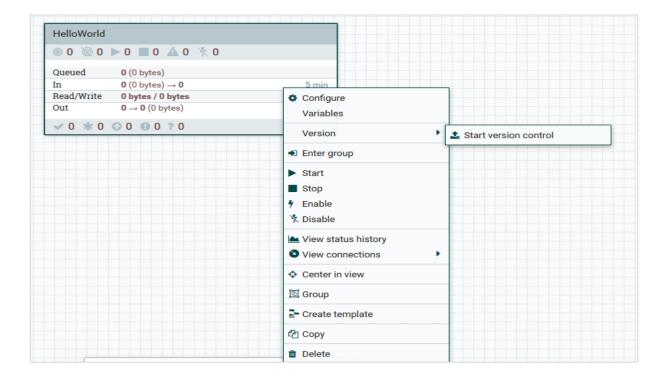
Here we will test the NIFI Registry service. Go to the NIFI Registry UI and create a bucket called **HelloWorld**.

2.1 Create HelloWorld bucket in NIFI Registry UI



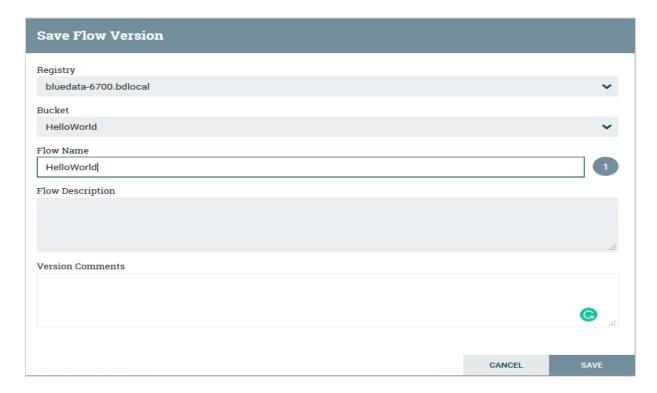
2.2 Create a process group

Create a HelloWorld process group in NIFI UI and start version control.



2.3 Configure a process group

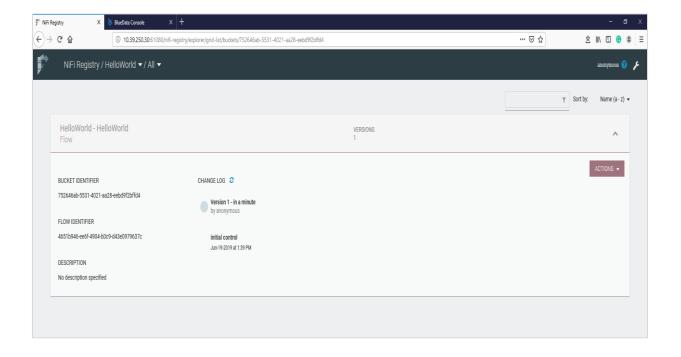
Configure HelloWorld process group for storing it into bucket HelloWorld in NIFI Registry.



2.4 Verify version control

Go to the NIFI Registry UI. Select HelloWorld bucket and check if version control started for process group HelloWorld.

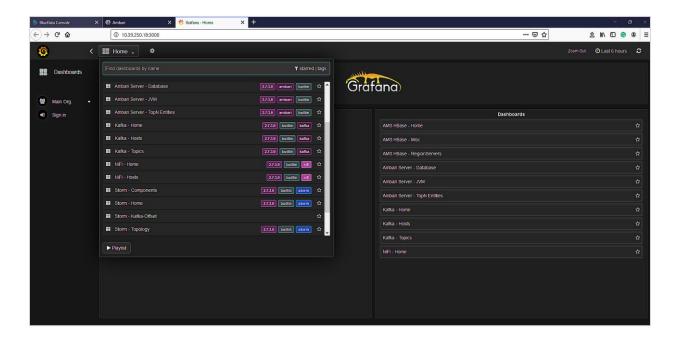






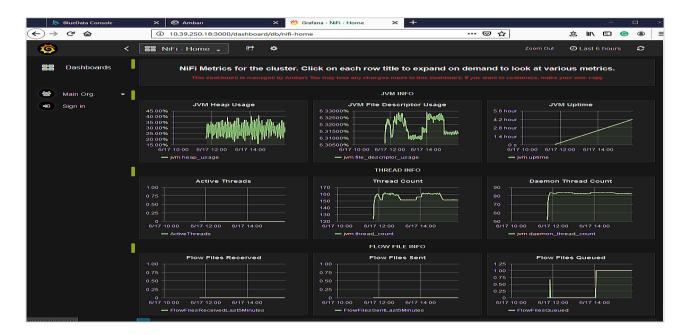
3 TESTING GRAFANA

Go to the Grafana UI and click on the search icon. Here you can see the components which is deployed into the HDF cluster.



3.1 Selection of component

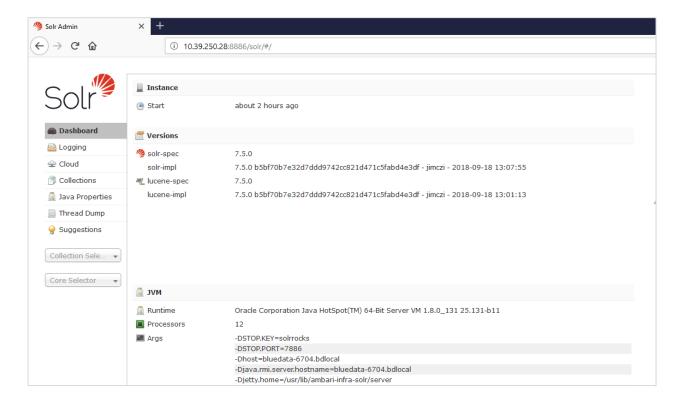
NIFI – Home component is selected in Grafana UI, and you can see the resources usages by the NIFI service.





4 TESTING SOLR

4.1 Go to the Solr Admin UI in HDF cluster



4.2 Go to the Solr container and create a new collection

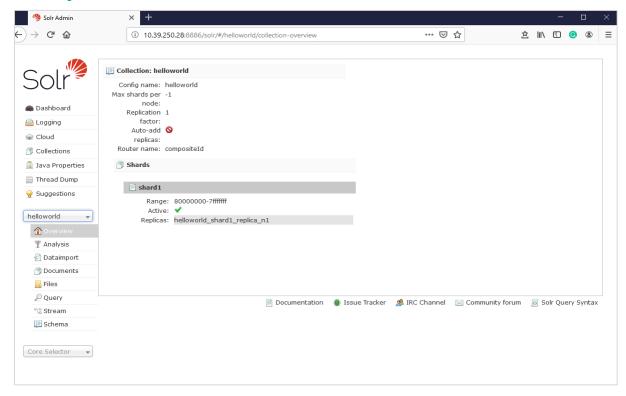
./bin/solr create -c helloworld

```
[bluedata@bluedata-6704 ambari-infra-solr]$
[bluedata@bluedata-6704 ambari-infra-solr]$ ./bin/solr create -c helloworld
WARNING: Using _default configset with data driven schema functionality. NOT RECOMMENDED for production use.

To turn off: bin/solr config -c helloworld -p 8886 -action set-user-property -property update.autoCreateFields -value false
INFO - 2019-06-17 23:20:42.271; org.apache.solr.util.configuration.SSLCredentialProviderFactory; Processing SSL Credential Provider chain: env;
sysprop
Created collection 'helloworld' with 1 shard(s), 1 replica(s) with config-set 'helloworld'
[bluedata@bluedata-6704 ambari-infra-solr]$
```

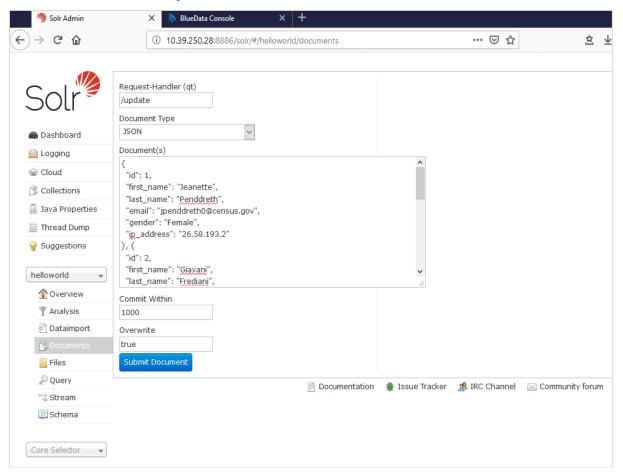


4.3 Verify HelloWorld collection creation in Solr Admin UI





4.4 Place some example JSON data in HelloWorld collection

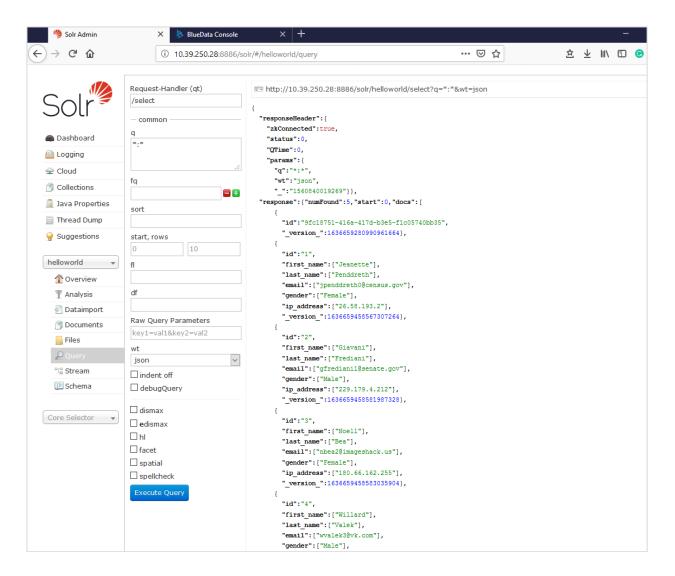


Perform below steps to store JSON data into HelloWorld collection:

- Select document type as JSON
- Place some example JSON data in document(s) section in HelloWorld collection and click on Submit Document

4.5 Fetch JSON data from HelloWorld collection





Perform below step to fetch JSON data from HelloWorld collection:

Select wt as JSON and click on execute query



5 TESTING KAFKA

Go inside the Kafka container and follow the below steps.

5.1 Create a new Kafka topic

Create new Kafka topic inside the Kafka container.

5.2 Create a new topic

Execute the below command to create a new topic "SDS"

bin/Kafka-topics --create --zookeeper <ip address of zookeeper>:2181 --replication-factor 1 --partitions 1 --topic SDS

```
[bluedata@bluedata-6711 kafka]$ ls bin/
connect-distributed.sh
                              kafka-configs.sh
                                                           kafka-delegation-tokens.sh kafka-preferred-replica-ele
connect-standalone.sh
                              kafka-console-consumer.sh
                                                           kafka-delete-records.sh
                                                                                       kafka-producer-perf-test.sh
kafka
                              kafka-console-producer.sh
                                                           kafka-dump-log.sh
                                                                                       kafka-reassign-partitions.sh
kafka-acls.sh
                              kafka-consumer-groups.sh
                                                           kafka-log-dirs.sh
                                                                                       kafka-replica-verification.s
kafka-broker-api-versions.sh kafka-consumer-perf-test.sh kafka-mirror-maker.sh
                                                                                       kafka-run-class.sh
[bluedata@bluedata-6711 kafka]$
.
[bluedata@bluedata-6711 kafka]$ ./bin/kafka-topics.sh --create --zookeeper 10.39.250.17,10.39.250.30,10.39.250.28
181 --replication-factor 1 --partitions 1 --topic SDS
Created topic "SDS".
[bluedata@bluedata-6711 kafka]$
```

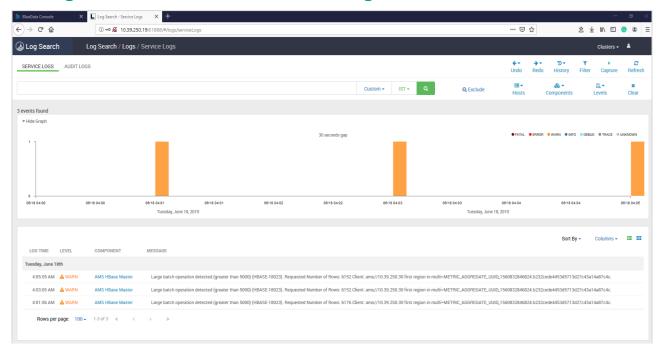


6 TESTING LOG SEARCH

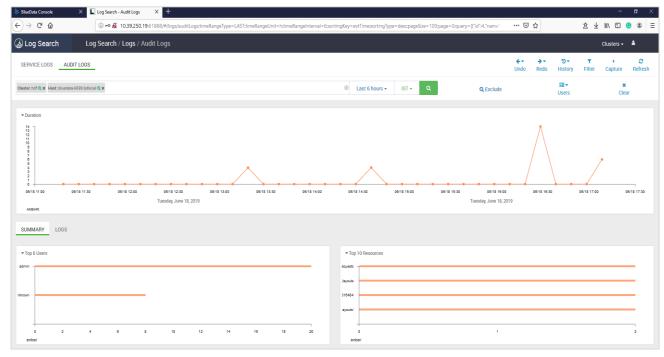
Go to the Log search UI in HDF cluster, enter username/password – admin/admin.

In Log search you can track service and audit logs for HDF component.

6.1 Log search dashboard for service logs



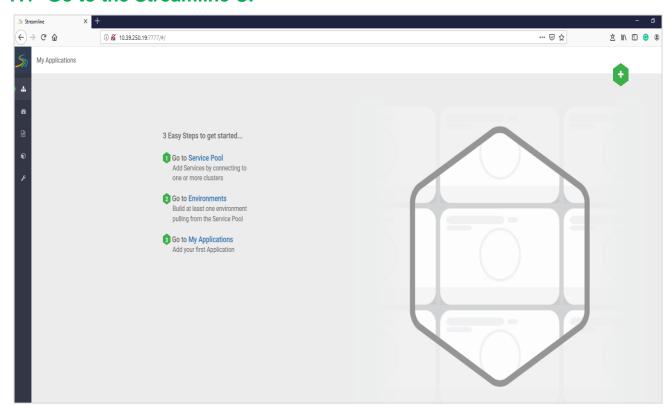
6.2 Log search dashboard for audit logs



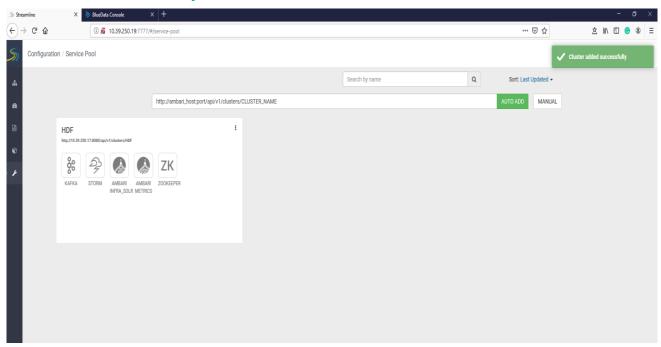


7 TESTING STREAMING ANALYTICS MANAGER

7.1 Go to the Streamline UI



7.2 Create a service pool



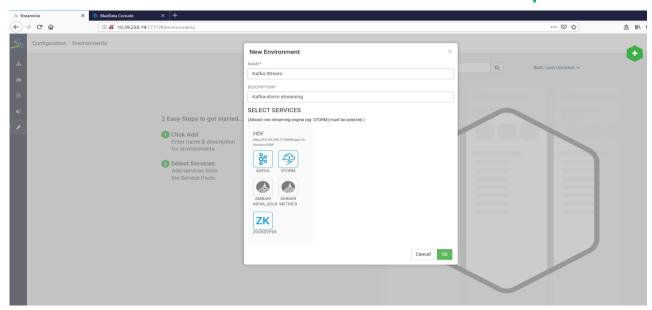


Perform below steps to create a service pool for HDF Cluster:

Enter url for HDF cluster into url bar and click on AUTO ADD button.

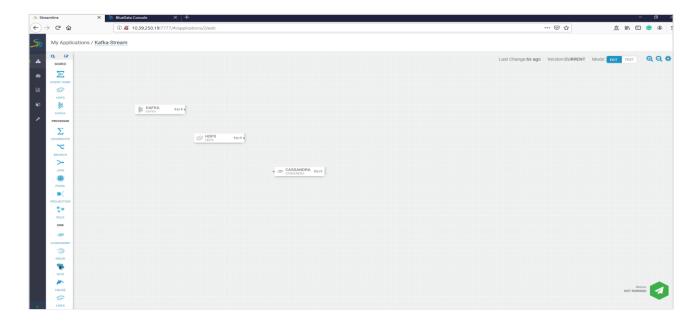
(Ex.: http://<ip address of ambari server>:8080/api/v1/clusters/HDF)

7.3 Create a new environment for HDF cluster from service pool

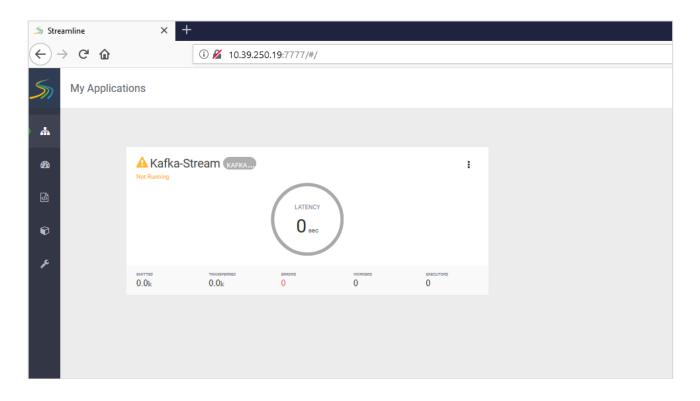


7.4 Create a new application for your environment

Here you can create and design your application. After running your application you can verify your application under application section.





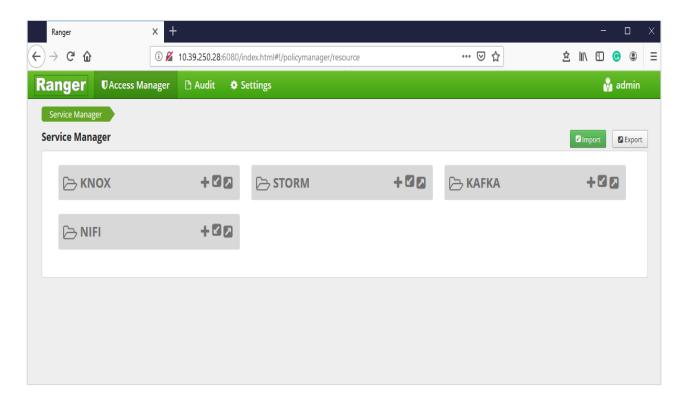


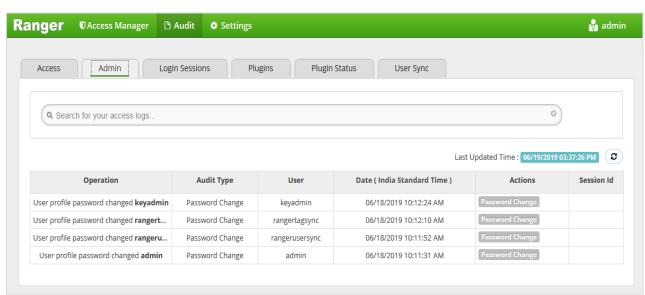


8 TESTING RANGER

Go to the Ranger UI in HDF cluster, enter username and password in login screen.

Service manager is available for Knox, Storm, Kafka and NIFI services. With the help of Ranger, you can create resource and tag based polices for different-different services.







9 TESTING STORM

Here we will create a WordCount topology for Storm. We will download a WordCount example and create a WordCount topology.

9.1 Download Storm WordCount example

Execute the below command to download Storm WordCount example

git clone https://github.com/ADMIcloud/examples.git

```
[bluedata@bluedata-6896 ~]$ git clone https://github.com/ADMIcloud/examples.git Cloning into 'examples'...
remote: Enumerating objects: 152, done.
remote: Total 152 (delta 0), reused 0 (delta 0), pack-reused 152
Receiving objects: 100% (152/152), 34.88 KiB | 0 bytes/s, done.
Resolving deltas: 100% (34/34), done.
[bluedata@bluedata-6896 ~]$
[bluedata@bluedata-6896 ~]$
```

9.2 Change directory to the storm-example

cd examples/storm-example/

```
[bluedata@bluedata-6896 ~]$ ls
examples vagent.bin
[bluedata@bluedata-6896 ~]$ cd examples/storm-example/
[bluedata@bluedata-6896 storm-example]$
[bluedata@bluedata-6896 storm-example]$
[bluedata@bluedata-6896 storm-example]$
```

9.3 Building jar

Execute the below command to build jar for Storm WordCount example.

mvn clean install

Note: After executing this command a new directory target will be created where you can find Strom



WordCount example jar file. Use Is command to verify.

```
[bluedata@bluedata-6896 storm-example]$ 1s

pom.xml src target

[bluedata@bluedata-6896 storm-example]$

[bluedata@bluedata-6896 storm-example]$

[bluedata@bluedata-6896 storm-example]$ 1s target/

archive-tmp classes generated-sources maven-archiver maven-status storm-example-1.0.jar storm-example-1.0-jar-with-dependencies.jar surefire

[bluedata@bluedata-6896 storm-example]$ _
```

9.4 Create topology for Storm WordCount example

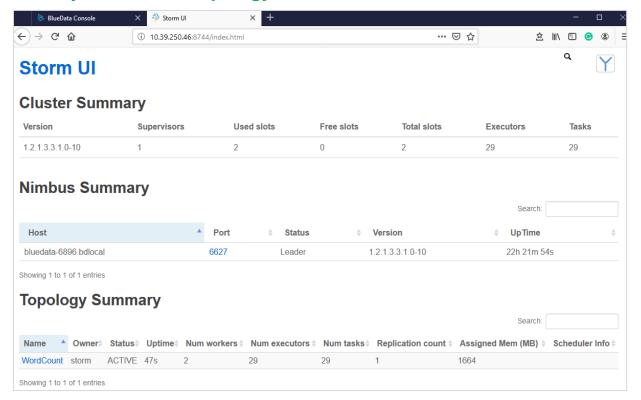
Execute the below command to create topology for Storm WordCount example.

```
./bin/storm jar /home/bluedata/examples/storm-example/target/storm-example-1.0-jar-with-dependencies.jar admicloud.storm.WordCount.WordCountTopology WordCount
```

```
torm.wordcount.WordCountTopology WordCount
SLF4J: Class path contains multiple SLF4J bindings.
SSF40: Found binding in [jar:file:/usr/hdf/3.3.1.0-10/storm/lib/log4j-s1f4j-impl-2.8.2.jar!/org/s1f4j/impl/StaticLoggerBinder.class]
SLF4J: Found binding in [jar:file:/home/bluedata/examples/storm-example/target/storm-example-1.0-jar-with-dependencies.jar!/org/s1f4j/impl/StaticLog
gerBinder.class]
SLF4J: See http://www.slf4j.org/codes.html#multiple_bindings for an explanation.
SLF4J: Actual binding is of type [org.apache.logging.slf4j.Log4jLoggerFactory]
 Running: /usr/java/default/bin/java -Ddaemon.name= -Dstorm.options= -Dstorm.home=/usr/hdf/3.3.1.0-10/storm -Dstorm.log.dir=/var/log/storm -Djava.lib
rary.path=/usr/local/lib:/opt/local/lib:/usr/lib -Dstorm.conf.file= -cp /usr/hdf/3.3.1.0-10/storm/*:/usr/hdf/3.3.1.0-10/storm/lib/*:/usr/hdf/3.3.1.0
-10/storm/extlib/*:/home/bluedata/examples/storm-example/target/storm-example-1.0-jar-with-dependencies.jar:/usr/hdf/current/storm-supervisor/conf:
usr/hdf/3.3.1.0-10/storm/bin -Dstorm.jar=/home/bluedata/examples/storm-example/target/storm-example-1.0-jar-with-dependencies.jar -Dstorm.dependenc
.jars= -Dstorm.dependency.artifacts={} admicloud.storm.wordcount.WordCountTopology WordCount SLF4J: Class path contains multiple SLF4J bindings.
SEF40: Found binding in [jar:file:/usr/hdf/3.3.1.0-10/storm/lib/log4j-slf4j-impl-2.8.2.jar!/org/slf4j/impl/StaticLoggerBinder.class]
SEF4J: Found binding in [jar:file:/usr/hdf/3.3.1.0-10/storm-example/target/storm-example-1.0-jar-with-dependencies.jar!/org/slf4j/impl/StaticLog
GSLF40: See http://www.slf4j.org/codes.htmlfmultiple_bindings for an explanation.
SLF4J: Actual binding is of type [org.apache.logging.slf4j.Log4jLoggerFactory]
       (main) INFO o.a.s.u.NimbusClient - Found leader nimbus : bluedata-6896.bdlocal:6627
        [main] INFO o.a.s.StormSubmitter - Uploading dependencies - jars...
[main] INFO o.a.s.StormSubmitter - Uploading dependencies - artifacts...
942 [main] INFO o.a.s.StormSubmitter - Dependency Blob keys - jars: [] / artifacts: []
947 [main] INFO o.a.s.StormSubmitter - Uploading topology jar /home/bluedata/examples/storm-example/target/storm-example-1.0-jar-with-dependencie
.jar to assigned location: /hadoop/storm/nimbus/inbox/stormjar-a9a53b08-926d-4bb0-a096-08654df6cbad.jar
Start uploading file '/home/bluedata/examples/storm-example/target/storm-example-1.0-jar-with-dependencies.jar' to '/hadoop/storm/nimbus/inbox/storm
53b08-926d-4bb0-a096-08654df6cbad.jar' (165697 bytes)
967 [main] INFO o.a.s.StormSubmitter - Successfully uploaded topology jar to assigned location: /hadoop/storm/nimbus/inbox/stormjar-a9a53b08-926d
 9bb0-a096-08654df6cbad.jar
967 [main] INFO o.a.s.StormSubmitter - Submitting topology WordCount in distributed mode with conf {"storm.zookeeper.topology.auth.scheme":"diges
   ."storm.zookeeper.topology.auth.payload":"-6269264375147352907:-8793272926567057743","tog
67 [main] WARN o.a.s.u.Utils - STORM-VERSION new 1.2.1.3.3.1.0-10 old 1.2.1.3.3.1.0-10
201 [main] INFO o.a.s.StormSubmitter - Finished submitting topology: WordCount
                                                                                                                                            "topology.workers":3,"topology.debug":true)
```



9.5 Verify WordCount topology from Storm UI



Note: Under Topology Summary WordCount topology is created.