

Monitoring Kafka Clusters Using Streams Messaging Manager

Date published: 2019-09-20

Date modified: 2020-10-13



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Monitoring Clusters

The Overview page provides you with tools to see a snapshot of the Kafka cluster you are monitoring.

Configure Apache Kafka for SMM

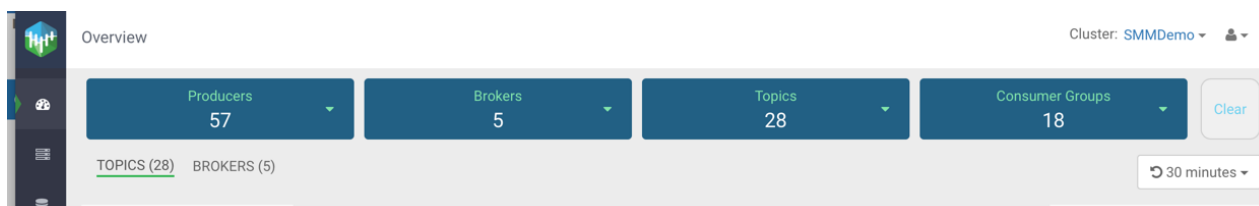
After you have installed and configured Apache Kafka, you must set one configuration parameter to enable Kafka and SMM to communicate.

1. Select Kafka from your cluster drop-down, and then select the Configuration tab.
2. Ensure that the Enable Producer Metrics check box is selected.

Viewing Cluster Overview Information

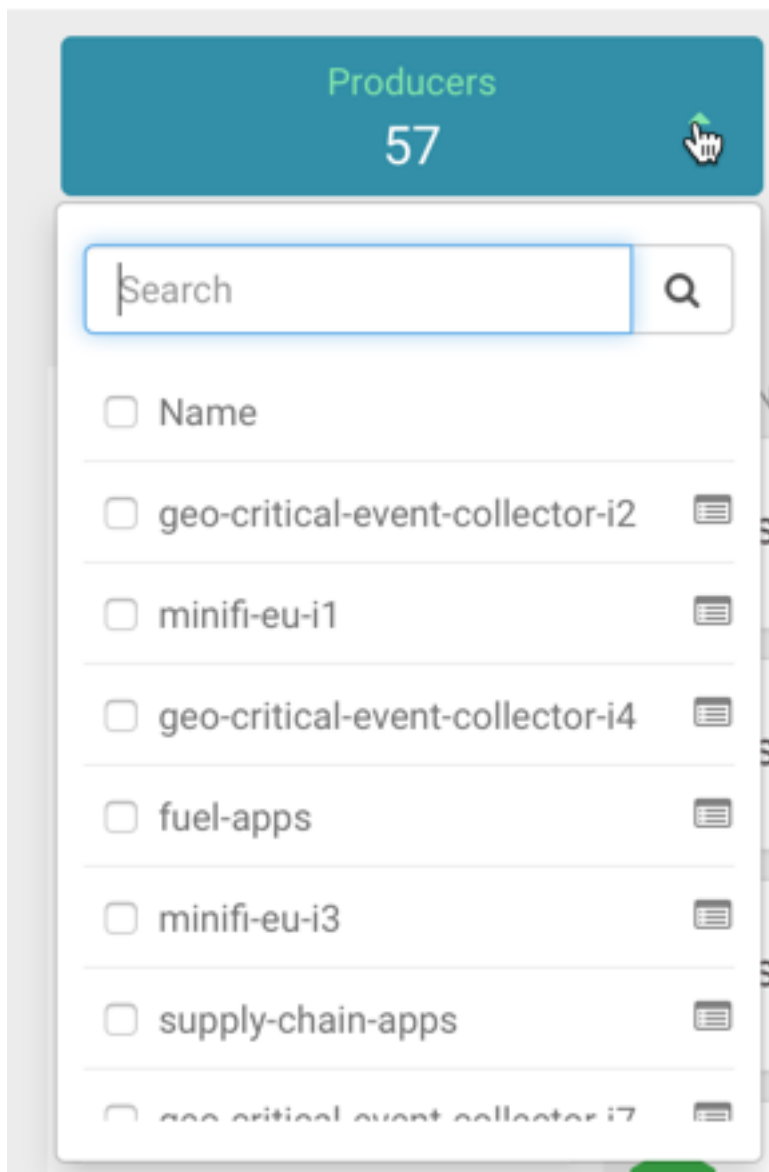
You can use the Overview tab to review information about your Kafka cluster. This page gives you information about total number of producers, brokers, topics, and consumer groups. It also provides more detailed metrics about producers and consumers.

Review the Producers, Brokers, Topics, and Consumer Groups information at the top of your page to understand how many of each are contained in your Kafka cluster.



You can click the drop-down arrow in any of the boxes to view a list of Kafka resource. Select one or more Kafka resource to filter your view to just those resource. You can also search for a specific resource. You can click clear at any time to return to the full Overview.

Overview



Monitoring Producers

Understanding Producer Naming Conventions

The Producers you interact with in SMM are named based on the `client.id` property you added when creating Kafka producers.

Active vs. Passive Producers

On the Overview page, Producers are referred to as active or passive. Producers are active when they are producing messages over a designated time period.

On the Producers page, passive producers are referred to as inactive.

You can set the period of time after which a Producer is considered inactive in the Streams Messaging Manager Configs screen.

1. Select Streams Messaging Manager from the services pane.
2. Click Configs and select Advanced streams-messaging-manager-common from the Advanced tab.
3. Update `inactive.producer.timeout.ms` to change the period of time after which a Producer is considered inactive. This value is specified in milliseconds.

STREAMS MESSAGING MANAGER CONFIG ADVANCED

Advanced streams-messaging-manager-common

AMS's Kafka Application Id	kafka_broker	+	↺
AMS's protocol	{{ams_timeline_metrics_protocol}}	+	↺
ams.timeline.metrics.truststore.password	{{ams_metric_truststore_password}}	+	↺
ams.timeline.metrics.truststore.path	{{ams_metric_truststore_path}}	+	↺
ams.timeline.metrics.truststore.type	{{ams_metric_truststore_type}}	+	↺
consumer.group.refresh.interval.ms	300000	+	↺
inactive.group.timeout.ms	1800000	+	↺
inactive.producer.timeout.ms	1800000	+	↺

Identifying a Producer State

There are two ways to identify whether a producer is active or passive.

From the Overview page Producer pane, use the Active, Passive, and All tabs to view only active producers, only passive producers, or all of them. This allows you to see the total number of active and passive Producers.

Producers (84)	
ACTIVE (57)	PASSIVE (27) ALL
MESSAGES	
geo-critical-event-coll...	7m
minifi-eu-i1	5.9m
load-optimizer-apps	3.2m
geo-critical-event-coll...	3m
fuel-apps	2.3m
minifi-eu-i2	1.8m

From the Producers page, each producer is listed with the status visible.

	nifi-syndicate-speed-avro INACTIVE
	geo-critical-event-collector-i19 ACTIVE
	nifi-syndicate-geo-avro INACTIVE

Monitoring Topics

Viewing the Total Number of Topics in Your Cluster

You can see the total number of topics in your Kafka cluster on the Overview page.



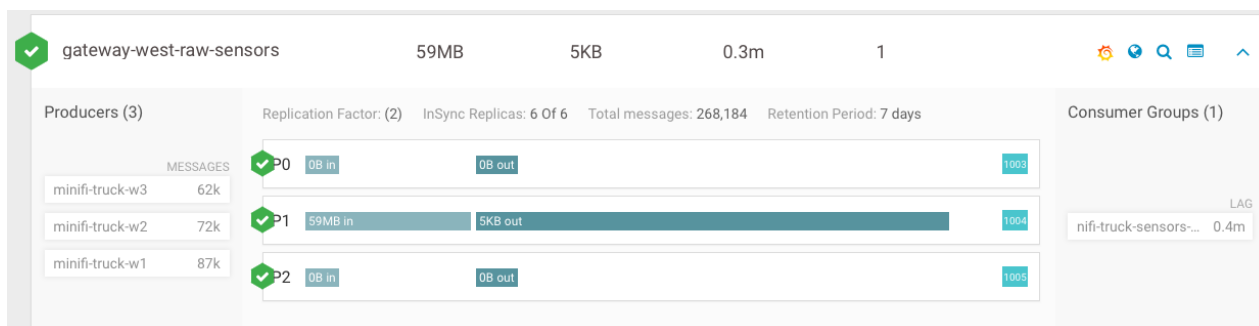
Detailed Information about Topics

The Topic page contains a number of useful details about your Kafka Topics. This page helps you answer the following questions:

- How can I see if the replicas in this Topic are in sync?
- How do I see this Topic's retention rate?
- How can I see the replication factor for this Topic?
- How do I see the Producers and Consumers that are connected to this Topic?
- How do I find the total number of messages going into this Topic, over a specified time range?

To access this detailed Topic information:

1. From the left navigation pane, click Topics.
2. Identify the Topic about which you want information. You can either scroll through the list of Topics, or use the Search bar at the top left of the page.
3. Click the green hexagon at the left of the Topic to view details.



Monitoring Brokers

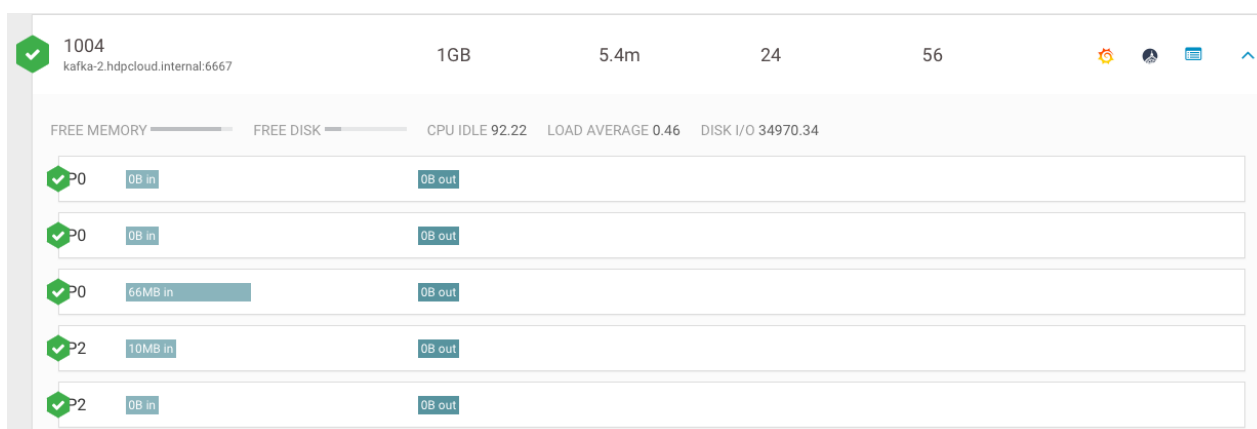
Detailed Broker Information

The Brokers page contains a number of useful details about your Kafka Brokers. This page helps you answer the following questions:

- On what host is my Broker located?
- Is my Broker running out of disk space?

To access detailed Broker information:

1. From the left navigation pane, click Brokers.
2. Identify the Broker about which you want information. You can either scroll through the list of Brokers, or use the Search bar at the top left of the page.
3. Click the green hexagon at the left of the Broker to view details.



Viewing Additional Details About the Broker Host

You can view additional details about the Broker host from Ambari. To access this information:

1. From the left navigation pane, click Brokers.
2. Identify the Broker about which you want information. You can either scroll through the list of Brokers, or use the Search bar at the top left of the page.
3. Click the Ambari icon on the right side of the Broker view.

Brokers (5)					Search	↺ a month
NAME	THROUGHPUT	MESSAGES IN	PARTITIONS	REPLICAS		
 1001 kafka-5.hdpcloud.internal:6667	3GB	15m	27	59	   	Ambari

Monitoring Consumers

By monitoring Kafka consumer groups, you can track active and passive consumer groups, or all consumer groups, which use the default internal `__consumer_offsets` topic to store the consumed offset information. You can track additional details about consumer groups. You can also track details including number of consumers and consumer instances included in a group and consumer group lag in the consumer group profile.

Streams Messaging Manager (SMM) displays consumer groups that have offsets stored in Kafka's internal topic `__consumer_offsets`, which is also the default store if the `auto.commit.enable` property is set to true for consumers. SMM does not display consumer groups that have offsets stored anywhere else other than this default store.

Viewing Summary Information about Consumer Groups

The Overview page gives you summary information about consumer groups on the right side of the page. You can use the Active, Passive, and All tabs to view consumer groups only in the Active or Passives, or all of the consumer groups, which use the default internal `__consumer_offsets` topic to store the consumed offset information. Use the Lag tab to sort consumer groups based on ascending or descending amounts of lag.

Overview Cluster: SMMDemo

Producers 84 Brokers 5 Topics 28 Consumer Groups 18 Clear

TOPICS (28) BROKERS (5) a month

NAME	DATA IN	DATA OUT	MESSAGES IN	CONSUMER GROUPS
✓ syndicate-transmission	139MB	77MB	0.6m	0
✓ syndicate-speed-even...	0B	0B	0	0
✓ syndicate-speed-even...	0B	0B	0	0
✓ syndicate-oil	166MB	0B	0.8m	0

Producers (84) ACTIVE (61) PASSIVE (23) ALL

MESSAGES

- minifi-eu-t1 8.2m
- geo-critical-event-coll... 4.1m
- geo-critical-event-coll... 4m
- fuel-apps 3.4m
- supply-chain-apps 2.3m
- geo-critical-event-coll... 1.8m
- geo-critical-event-coll... 1.6m

Consumer Groups (18) ACTIVE (3) PASSIVE (15) ALL

LAG

- fuel-micro-service 14m
- supply-chain-micro-s... 9.2m
- audit-micro-service 5m
- adjudication-micro-se... 4.1m
- load-optimizer-micro-... 4.1m
- energy-micro-service 2.4m
- compliance-micro-ser... 1.7m

Viewing Details about a Consumer Group

To access detailed Consumer Group information:

1. From the left navigation pane, click Consumer Group.
2. Identify the Consumer Group about which you want information. You can either scroll through the list of Consumer Groups, or use the Search bar at the top left of the page.
3. Click the green hexagon at the left of the Consumer Group to view details.

✓ nifi-truck-sensors-west 2

ACTIVE

Partitions (3) State: Stable

✓ 1004	gateway-west-r... P0	0B in	0B out
✓ 1005	gateway-west-r... P1	81MB in	29KB out
✓ 1001	gateway-west-r... P2	0B in	0B out

Viewing the Consumer Group Profile

The Consumer Group profile displays detailed information about each Consumer Group, including:

- The number of Consumers included in the group.
- The number of Consumer instances in the group.
- Details about Consumer Group lag.

To access the Consumer Group profile:

1. From the Consumer Group page, select the Consumer Group for which you want to view the profile.
2. Click the Profile icon in the upper right of the Consumer Group tile.

