

# Monitoring Kafka Clusters Using Streams Messaging Manager

Date published: 2019-09-20

Date modified: 2020-11-30



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## Monitoring Kafka clusters

The overview page provides you with tools to see a snapshot of the Kafka cluster you are monitoring. After you select the Kafka cluster to monitor, you can see the total number of producers, brokers, topics, and consumer groups in that cluster. You can also monitor producer and consumer metrics.

### Configure Apache Kafka for SMM

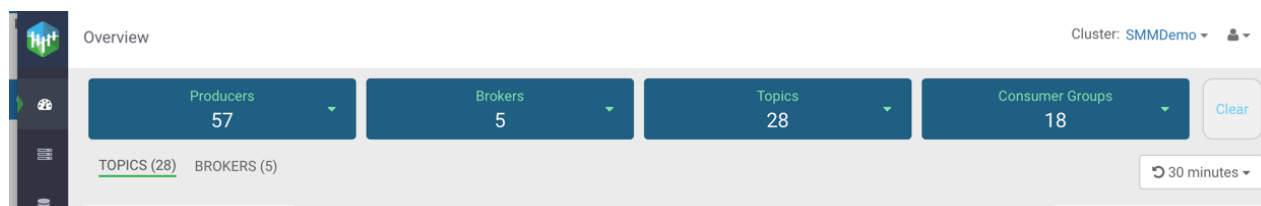
After you have installed and configured Apache Kafka, you must set one configuration parameter to enable Kafka and SMM to communicate.

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

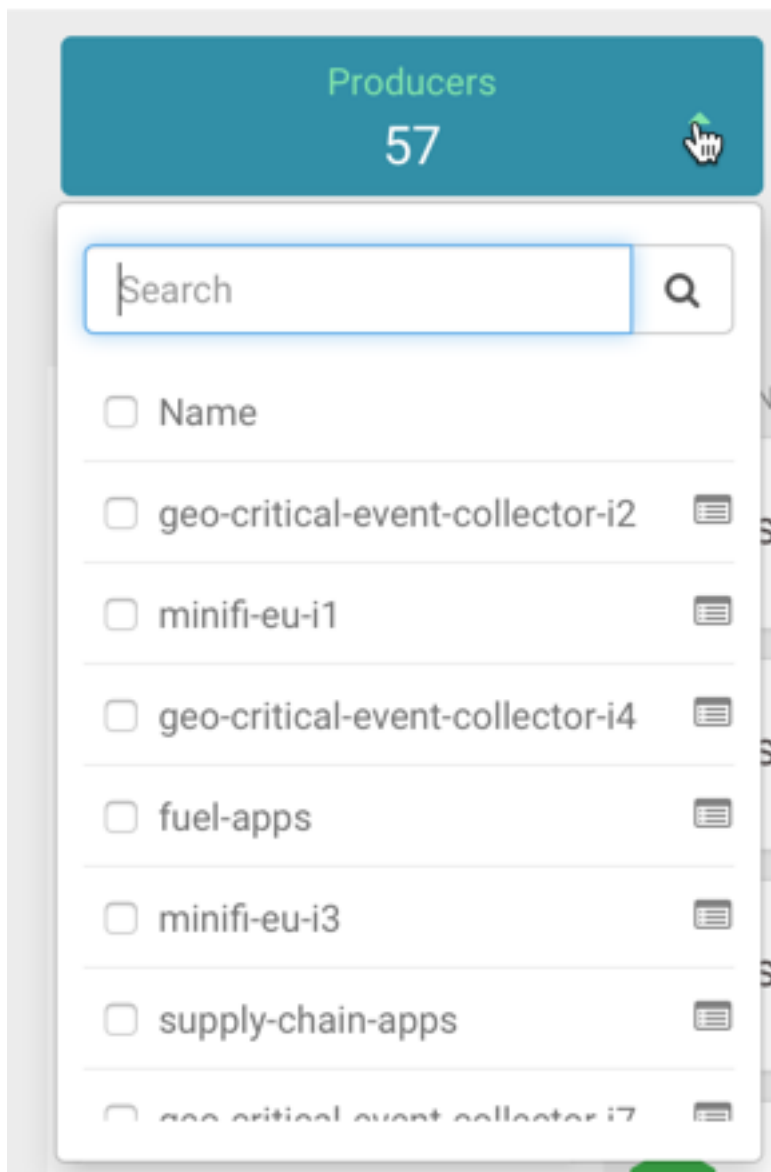
You can use the Overview tab to review information about your Kafka cluster. This page gives you information about total number of producers, brokers, topics, and consumer groups. It also provides more detailed metrics about producers and consumers.

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 Kafka producers

By monitoring Kafka producers, you can track the active and inactive producers in your cluster. You can also change the period of time after which a producer is considered inactive.

### Understanding producer naming conventions

The producers you interact with in Streams Messaging Manager (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 Producer pane in the Overview page, 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.

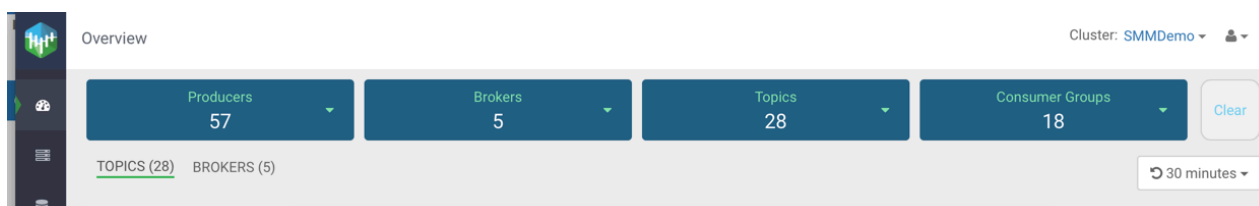
|                                                                                     |                                            |
|-------------------------------------------------------------------------------------|--------------------------------------------|
|  | nifi-syndicate-speed-avro<br>INACTIVE      |
|  | geo-critical-event-collector-i19<br>ACTIVE |
|  | nifi-syndicate-geo-avro<br>INACTIVE        |

## Monitoring Kafka topics

By monitoring Kafka topics, you can track the total number of topics in your cluster and details about the topics. You can also monitor Grafana metrics for the topics in your cluster.

### 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.



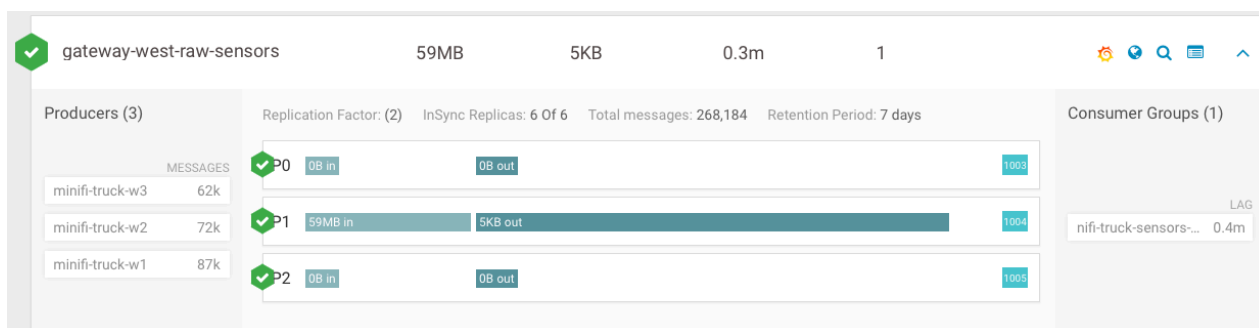
### Detailed information about topics

The Topics 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 Kafka brokers

By monitoring Kafka brokers, you can track various details about brokers including the host where the broker is located, disk space used by the broker, throughput, messages coming in, partitions, and replicas.

### Detailed broker information

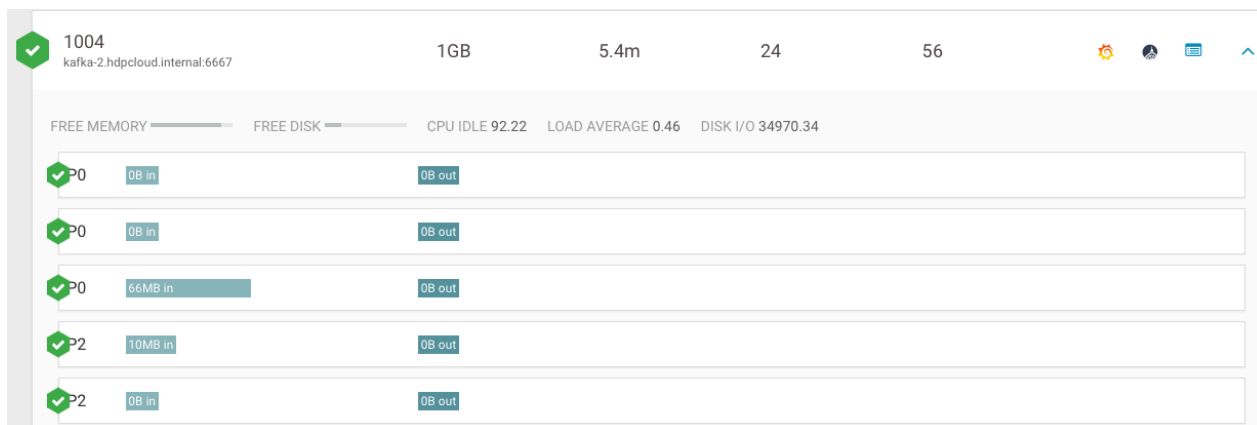
The Brokers page contains a number of useful details about your Kafka brokers. This page helps you answer the following questions:



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

To access detailed broker information:

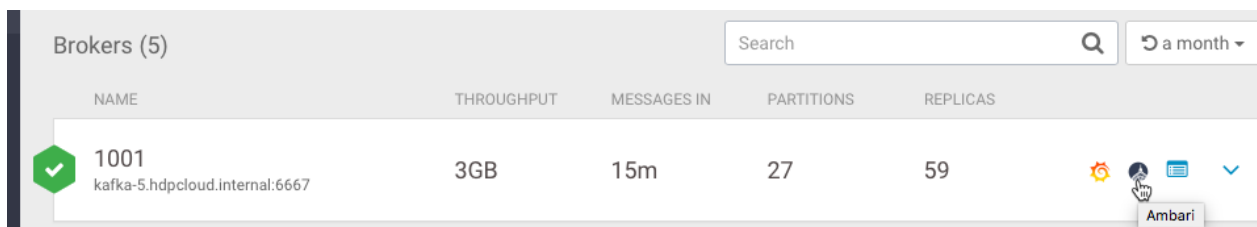
1. From the left navigation pane, click Brokers.
2. Identify the broker about which you want information. You can either scroll through the list of brokers, or use the Search bar at the top left of the page.
3. Click the green hexagon at the left of the broker to view details.



### 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.



## Monitoring Kafka 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.

The screenshot shows the 'Overview' page of the Kafka Streams Messaging Manager. At the top, there are four summary cards: Producers (84), Brokers (5), Topics (28), and Consumer Groups (18). Below these, there are tabs for 'TOPICS (28)' and 'BROKERS (5)'. The main table displays a list of topics with columns for NAME, DATA IN, DATA OUT, MESSAGES IN, and CONSUMER GROUPS. On the left, there is a 'Producers (84)' sidebar with filters for 'ACTIVE (61)', 'PASSIVE (23)', and 'ALL'. On the right, there is a 'Consumer Groups (18)' sidebar with filters for 'ACTIVE (3)', 'PASSIVE (15)', and 'ALL'. The table lists several topics, including 'syndicate-transmission', 'syndicate-speed-even...', and 'syndicate-oil'.

### 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.

The screenshot shows the 'Consumer Group' details page for 'nifi-truck-sensors-west'. The group is 'ACTIVE' and has 2 partitions. Below this, there is a table showing the details of each partition. The table has columns for the partition ID, the topic name, the partition number, and the data in/out status. The partitions are 1004, 1005, and 1001, all belonging to the 'gateway-west-r...' topic.

### 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.

