Cloudera Runtime 7.2.16

Securing Streams Messaging Manager

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Securing Streams Messaging Manager

As a cluster administrator, you can combine Kerberos authentication and Ranger authorization to secure the Streams Messaging Manager (SMM) web user interface (UI). After you secure the SMM web UI, the login page appears, which does not appear by default.

About this task

If you deploy SMM without security, the login page is not enabled on the SMM UI by default. When you enable Kerberos authentication, SMM uses SPNEGO to authenticate users and allows them to view or create topics within Kafka by administering Ranger Kafka Policies. For information on enabling browsers to use SPNEGO, see How to Configure Browsers for Kerberos Authentication.

After you secure SMM, anyone within the organization can login to SMM. However, if they do not have the correct policy configuration in Ranger, then they may not have the necessary privileges to perform their required tasks through SMM.

Before you begin

- Configure Kafka in Ranger

  For more information, see *Configure a resource-based service: Kafka*.
- Enable Kerberos authentication for Kafka

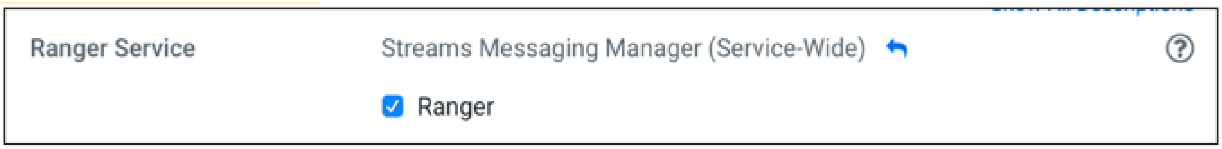
  For more information, see *Enable Kerberos authentication*.
- Add and configure SMM

  For more information, see *Creating your first Streams Messaging cluster*.

Note: For the Kafka Client security protocol, it is possible to use INFERRED, SASL_PLAINTEXT, and SASL_SSL for securing SMM. However, Cloudera recommends using SASL_SSL.

Procedure

1. Go to Cloudera Manager > SMM , and click Configuration.
2. Enable Ranger for SMM.



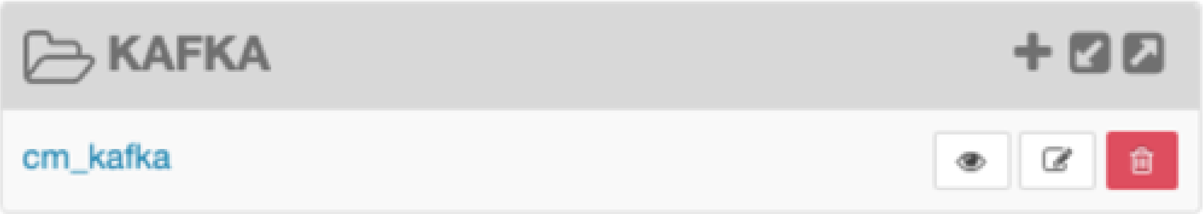
Ranger Service

Streams Messaging Manager (Service-Wide)

☑ Ranger

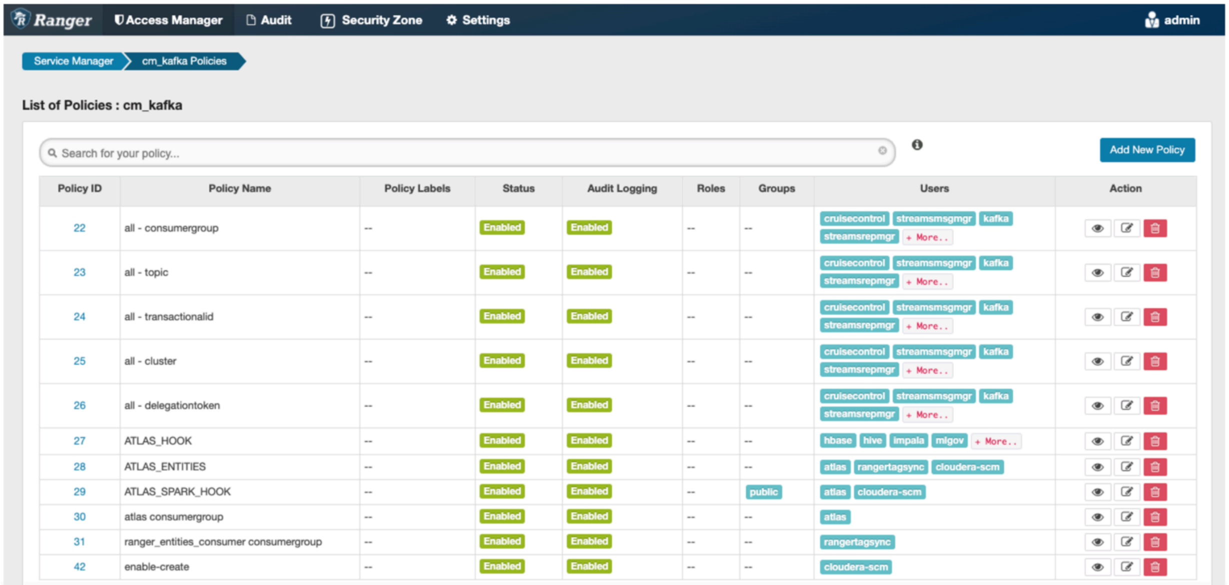
3. Go to the Ranger service UI and configure the Kafka policies.

   Note: Review your Ranger Kafka Policies. Remember to log in to Ranger with a user that has the Ranger Admin role.
4. Click cm_kafka in the Ranger service UI.



The List of Policies page appears.

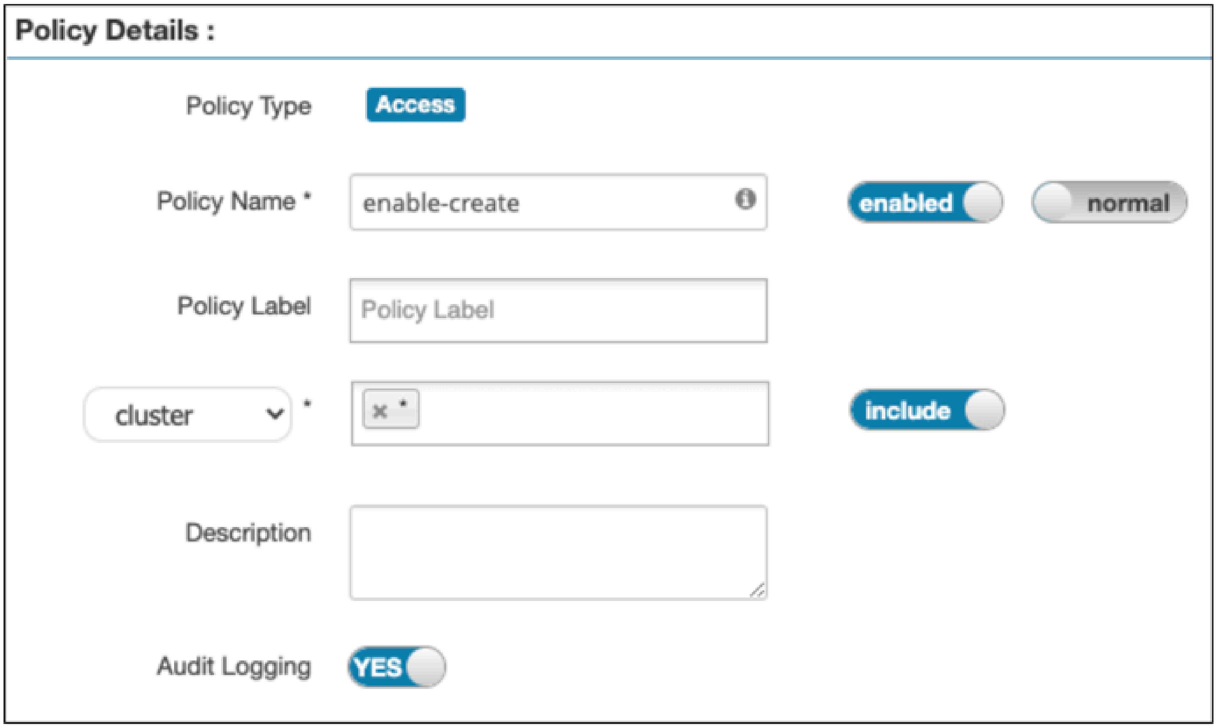
5. Click Add New Policy.



List of Policies : cm_kafka

Policy ID	Policy Name	Policy Labels	Status	Audit Logging	Roles	Groups	Users	Action
22	all - consumergroup	--	Enabled	Enabled	--	--	cruisecontrol streamsmsgmgr kafka streamsrepmgr + More..	👁 ✎ 🗑
23	all - topic	--	Enabled	Enabled	--	--	cruisecontrol streamsmsgmgr kafka streamsrepmgr + More..	👁 ✎ 🗑
24	all - transactionalid	--	Enabled	Enabled	--	--	cruisecontrol streamsmsgmgr kafka streamsrepmgr + More..	👁 ✎ 🗑
25	all - cluster	--	Enabled	Enabled	--	--	cruisecontrol streamsmsgmgr kafka streamsrepmgr + More..	👁 ✎ 🗑
26	all - delegationtoken	--	Enabled	Enabled	--	--	cruisecontrol streamsmsgmgr kafka streamsrepmgr + More..	👁 ✎ 🗑
27	ATLAS_HOOK	--	Enabled	Enabled	--	--	hbase hive impala mlgov + More..	👁 ✎ 🗑
28	ATLAS_ENTITIES	--	Enabled	Enabled	--	--	atlas rangertagsync cloudera-scm	👁 ✎ 🗑
29	ATLAS_SPARK_HOOK	--	Enabled	Enabled	--	public	atlas cloudera-scm	👁 ✎ 🗑
30	atlas consumergroup	--	Enabled	Enabled	--	--	atlas	👁 ✎ 🗑
31	ranger_entities_consumer consumergroup	--	Enabled	Enabled	--	--	rangertagsync	👁 ✎ 🗑
42	enable-create	--	Enabled	Enabled	--	--	cloudera-scm	👁 ✎ 🗑

The Policy Details page appears.



Policy Details :

Policy Type: Access

Policy Name *: enable-create

enabled normal

Policy Label: Policy Label

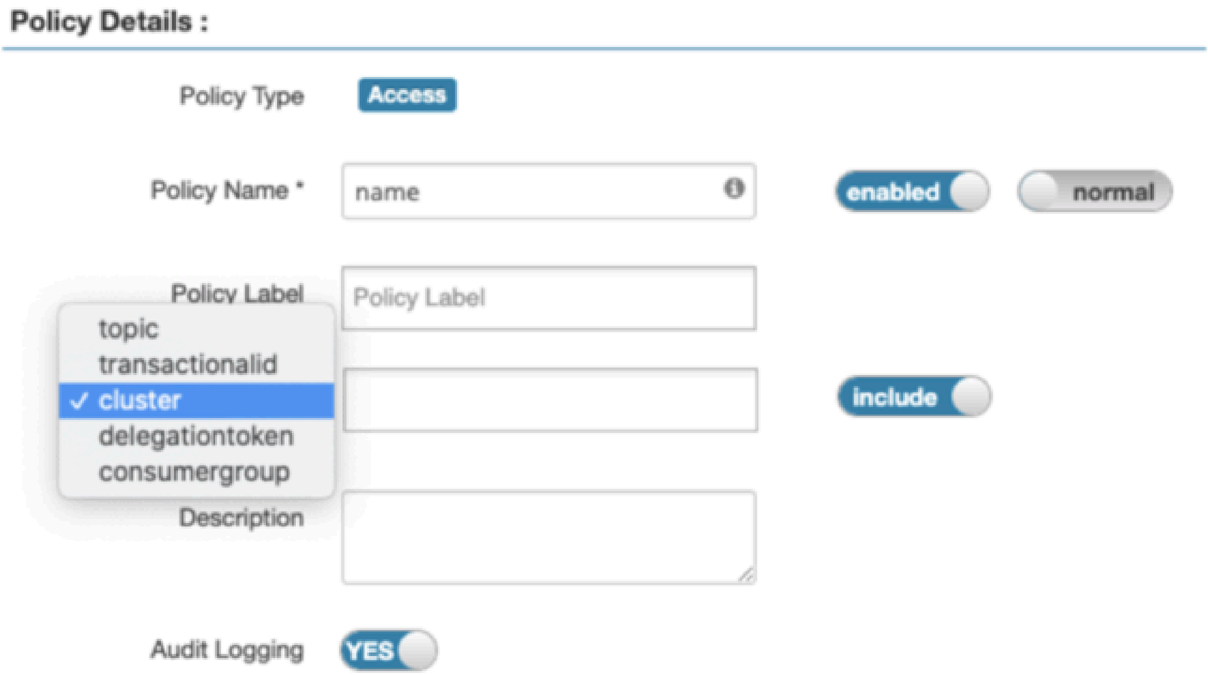
cluster *: × *

include

Description:

Audit Logging: YES

6. Add a policy name and select cluster from the dropdown.



Policy Details :

Policy Type: Access

Policy Name *: name — enabled — normal

Policy Label: Policy Label

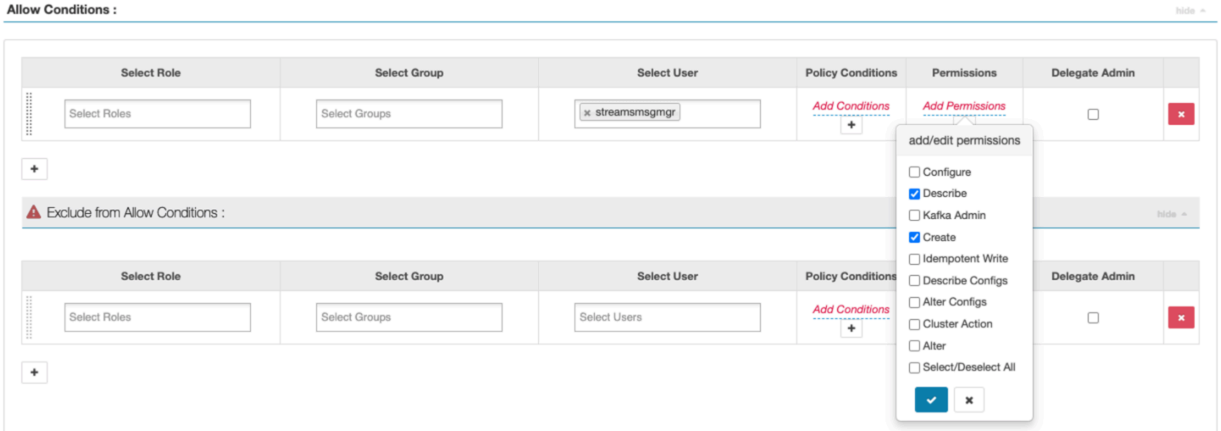
- topic
- transactionalid
- ✓ cluster
- delegationtoken
- consumergroup

include

Description

Audit Logging: YES

7. Type * in the field beside cluster, and select the * from the values that appear.
8. Go to the Allow Condition section and select the user.
9. Add permissions by clicking the + under Add Permissions.



Allow Conditions : hide

Select Role	Select Group	Select User	Policy Conditions	Permissions	Delegate Admin	
Select Roles	Select Groups	× streamsmsgmgr	Add Conditions +	Add Permissions	□	×

+

add/edit permissions

- □ Configure
- ☑ Describe
- □ Kafka Admin
- ☑ Create
- □ Idempotent Write
- □ Describe Configs
- □ Alter Configs
- □ Cluster Action
- □ Alter
- □ Select/Deselect All

✓ ×

Exclude from Allow Conditions : hide

Select Role	Select Group	Select User	Policy Conditions	Permissions	Delegate Admin	
Select Roles	Select Groups	Select Users	Add Conditions +		□	×

+

10. Select Create and Describe permissions.
11. Click Add.

Related Information

Configure a resource-based service: Kafka

Enable Kerberos Authentication

Setting up your Streams Messaging cluster

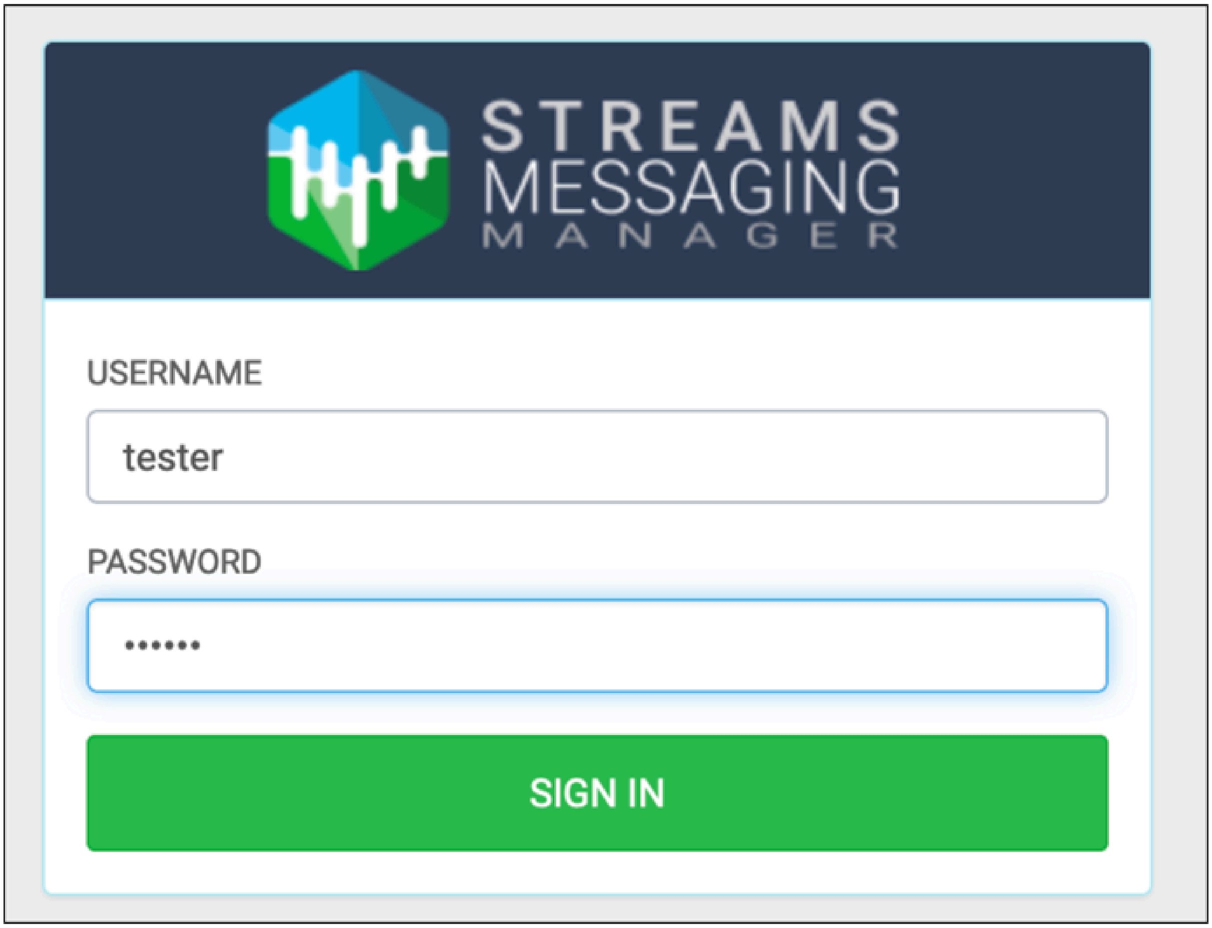
Verifying the setup

After you secure SMM, you can verify the security setup. You can login to the SMM web UI and create Kafka topics.

Procedure

1. Go to Cloudera Manager > SMM .

   The login page for SMM appears.



USERNAME

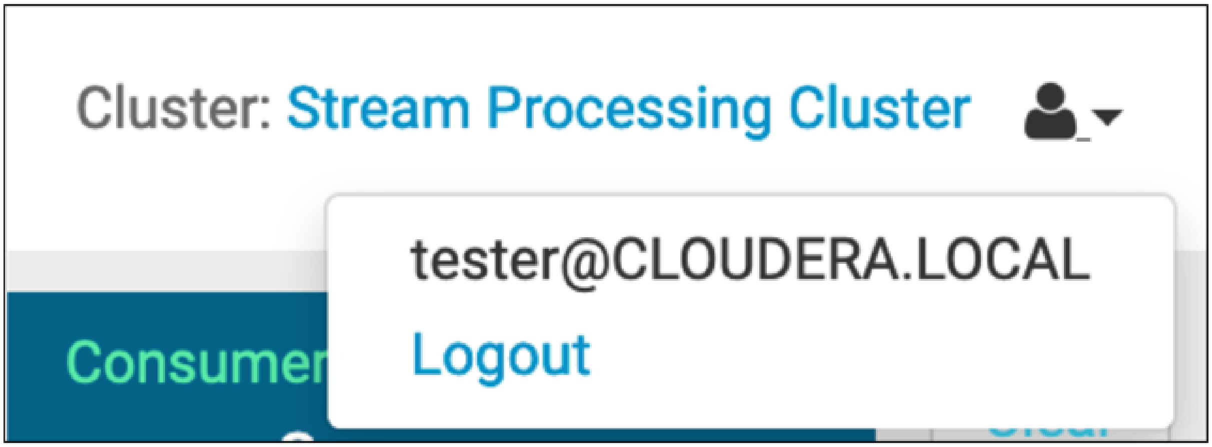
tester

PASSWORD

••••••

2. Login to the SMM UI using your regular credentials.

   After you log in, you see the user logout dropdown at the top right corner of your screen. It shows the domain associated with the user.

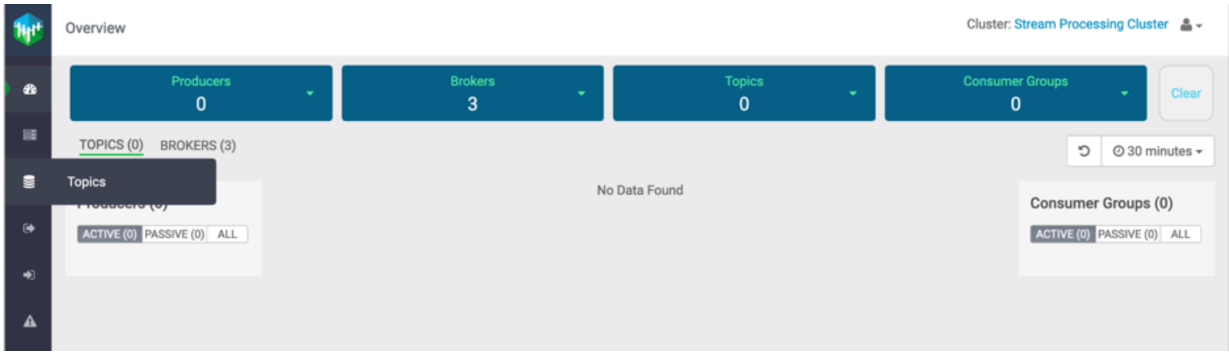


Cluster: Stream Processing Cluster

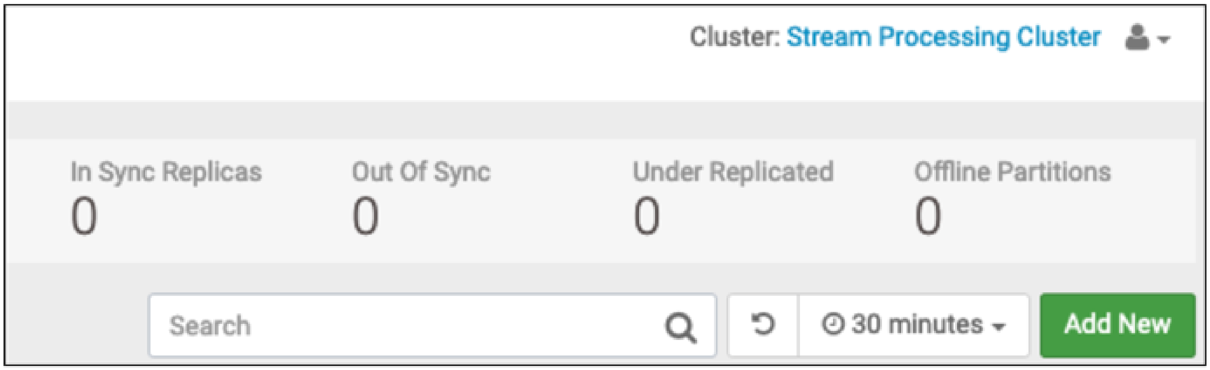
tester@CLOUDERA.LOCAL

3. Click Streams Messaging Manager Web UI.

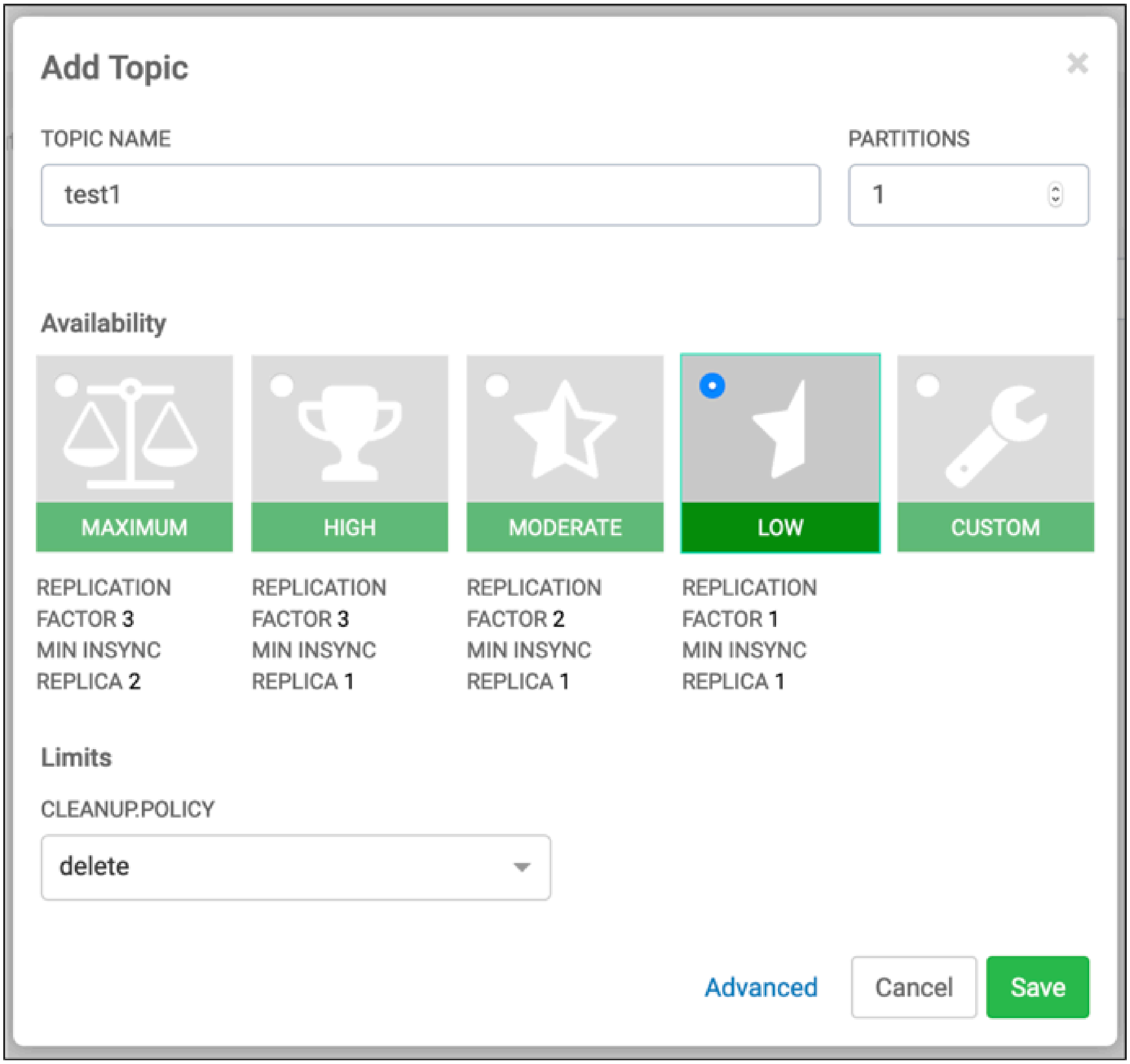
4. To add a topic, go to Topics.



5. Click Add New.



6. Add a topic name, select partitions, and cleanup policy.



Add Topic

TOPIC NAME: test1

PARTITIONS: 1

Availability

○ MAXIMUM — REPLICATION FACTOR 3 MIN INSYNC REPLICA 2

○ HIGH — REPLICATION FACTOR 3 MIN INSYNC REPLICA 1

○ MODERATE — REPLICATION FACTOR 2 MIN INSYNC REPLICA 1

● LOW — REPLICATION FACTOR 1 MIN INSYNC REPLICA 1

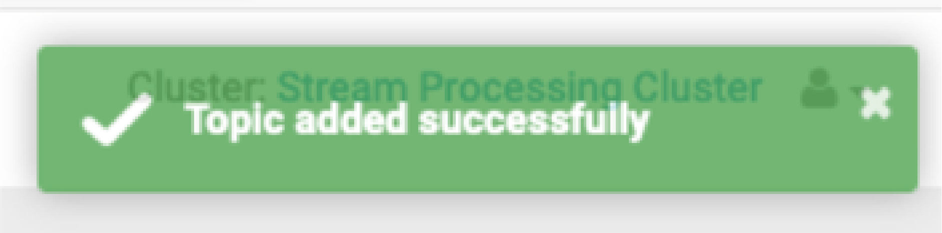
○ CUSTOM

Limits

CLEANUP.POLICY: delete

7. Click Save.

You see the following message in the top right corner of the webpage.



Cluster: Stream Processing Cluster

✓ Topic added successfully