

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).

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

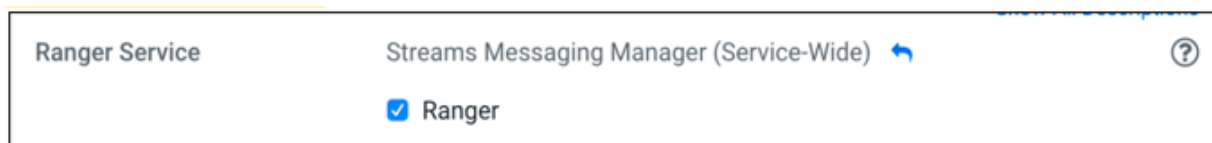
For more information, see *CDP Data Center Installation Guide*.



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.



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.

Ranger

Access Manager

Audit

Security Zone

Settings

admin

Service Manager

cm_kafka Policies

List of Policies : cm_kafka

Search for your policy...

Add New Policy

Policy ID	Policy Name	Policy Labels	Status	Audit Logging	Roles	Groups	Users	Action
22	all - consumer group	--	Enabled	Enabled	--	--	<div>crusecontrol streamsmgmr kafka</div> <div>streamsmgmr + More...</div>	<div>eye</div> <div>edit</div> <div>delete</div>
23	all - topic	--	Enabled	Enabled	--	--	<div>crusecontrol streamsmgmr kafka</div> <div>streamsmgmr + More...</div>	<div>eye</div> <div>edit</div> <div>delete</div>
24	all - transactional id	--	Enabled	Enabled	--	--	<div>crusecontrol streamsmgmr kafka</div> <div>streamsmgmr + More...</div>	<div>eye</div> <div>edit</div> <div>delete</div>
25	all - cluster	--	Enabled	Enabled	--	--	<div>crusecontrol streamsmgmr kafka</div> <div>streamsmgmr + More...</div>	<div>eye</div> <div>edit</div> <div>delete</div>
26	all - delegation token	--	Enabled	Enabled	--	--	<div>crusecontrol streamsmgmr kafka</div> <div>streamsmgmr + More...</div>	<div>eye</div> <div>edit</div> <div>delete</div>
27	ATLAS_HOOK	--	Enabled	Enabled	--	--	<div>hbase hive impala mgov + More...</div>	<div>eye</div> <div>edit</div> <div>delete</div>
28	ATLAS_ENTITIES	--	Enabled	Enabled	--	--	<div>atlas rangertagync cloudera-scm</div>	<div>eye</div> <div>edit</div> <div>delete</div>
29	ATLAS_SPARK_HOOK	--	Enabled	Enabled	--	public	<div>atlas cloudera-scm</div>	<div>eye</div> <div>edit</div> <div>delete</div>
30	atlas consumer group	--	Enabled	Enabled	--	--	<div>atlas</div>	<div>eye</div> <div>edit</div> <div>delete</div>
31	ranger_entities_consumer consumer group	--	Enabled	Enabled	--	--	<div>rangertagync</div>	<div>eye</div> <div>edit</div> <div>delete</div>
42	enable-create	--	Enabled	Enabled	--	--	<div>cloudera-scm</div>	<div>eye</div> <div>edit</div> <div>delete</div>

The Policy Details page appears.

Policy Details :

Policy Type

Access

Policy Name *

enable-create

Policy Label

Policy Label

cluster

*

x *

Description

Audit Logging

YES

enabled

normal

include

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

Policy Details :

Policy Type

Access

Policy Name *

name

enabled

normal

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 :

Select Role	Select Group	Select User	Policy Conditions	Permissions	Delegate Admin
Select Roles	Select Groups	x streamsmgmr	Add Conditions	Add Permissions	
+ add/edit permissions					
<input type="checkbox"/> Configure					
<input checked="" type="checkbox"/> Describe					
<input type="checkbox"/> Kafka Admin					
<input checked="" type="checkbox"/> Create					
<input type="checkbox"/> Idempotent Write					
<input type="checkbox"/> Describe Configs					
<input type="checkbox"/> Alter Configs					
<input type="checkbox"/> Cluster Action					
<input type="checkbox"/> Alter					
<input type="checkbox"/> Select/Deselect All					

Exclude from Allow Conditions :

Select Role	Select Group	Select User	Policy Conditions	Permissions	Delegate Admin
Select Roles	Select Groups	Select Users	Add Conditions		
+ add/edit permissions					
<input type="checkbox"/> Configure					
<input checked="" type="checkbox"/> Describe					
<input type="checkbox"/> Kafka Admin					
<input checked="" type="checkbox"/> Create					
<input type="checkbox"/> Idempotent Write					
<input type="checkbox"/> Describe Configs					
<input type="checkbox"/> Alter Configs					
<input type="checkbox"/> Cluster Action					
<input type="checkbox"/> Alter					
<input type="checkbox"/> Select/Deselect All					

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

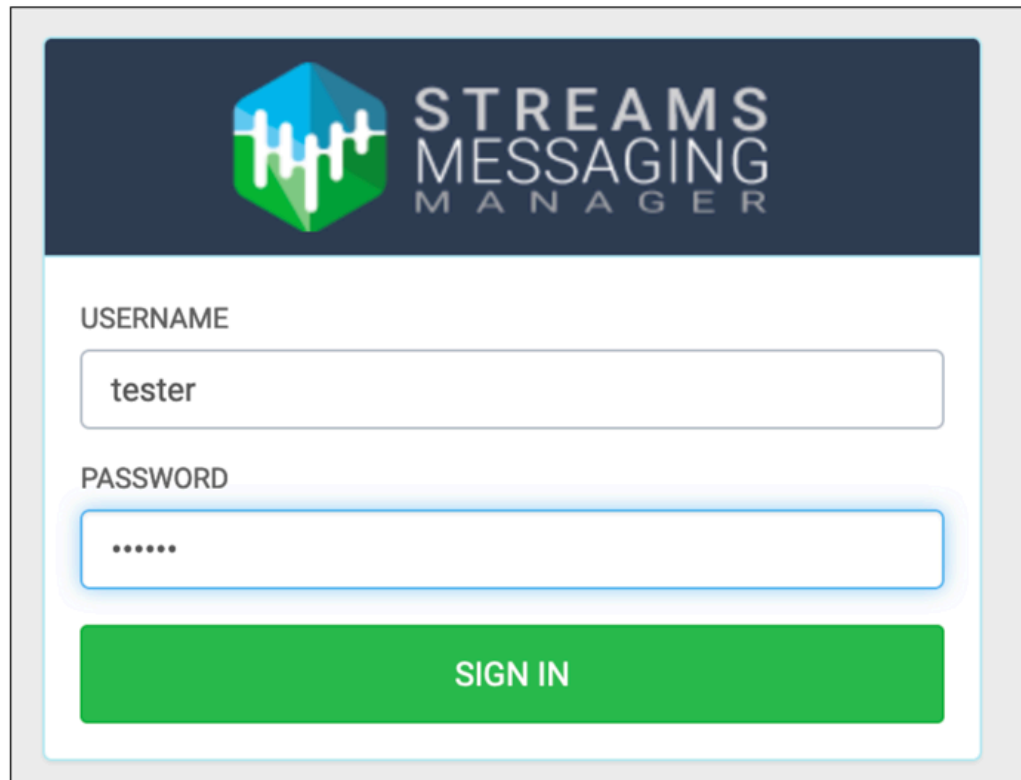
What to do next

Verifying the Setup

After you secure SMM, you can verify the security setup.

1. Go to Cloudera Manager > SMM .

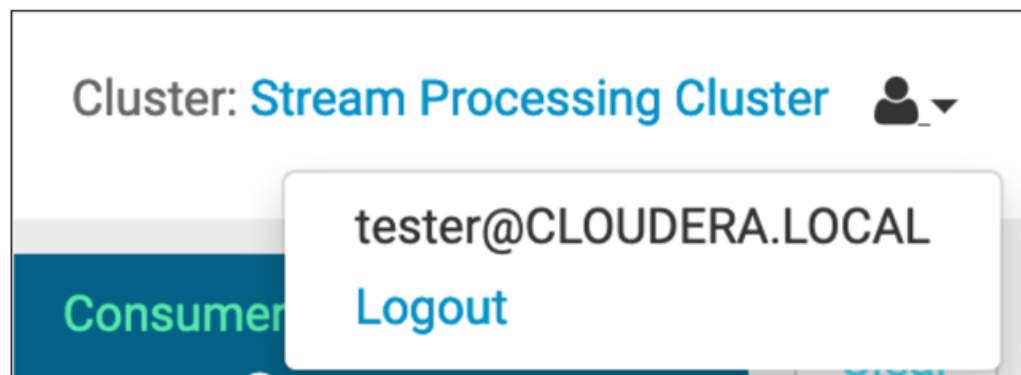
The login page for SMM appears.



The screenshot shows the login interface for Streams Messaging Manager. At the top, there is a dark blue header with the SMM logo (a green hexagon with a white waveform) and the text "STREAMS MESSAGING MANAGER". Below the header, the login form is white. It contains two input fields: "USERNAME" with the value "tester" and "PASSWORD" with masked characters ".....". A large green "SIGN IN" button is positioned below the password field.

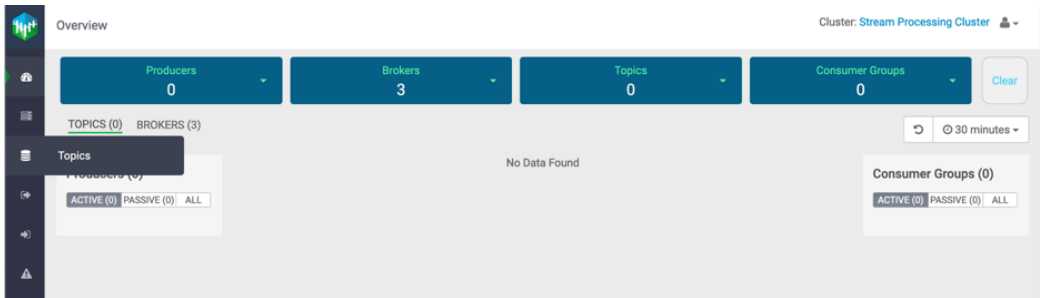
2. Login to the SMM UI using your regular credentials.

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.

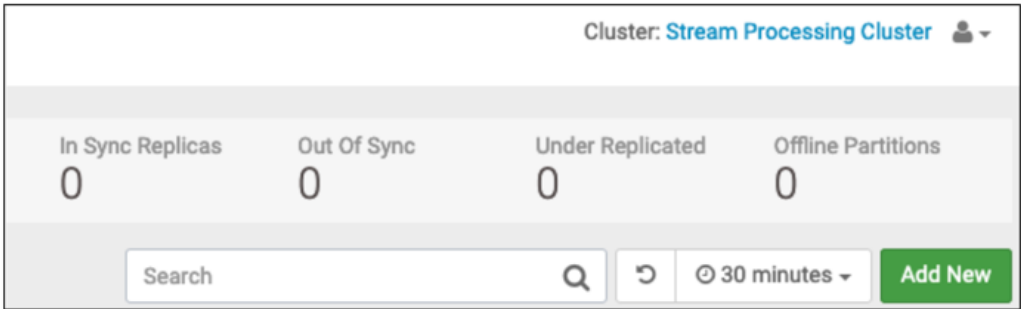


3. Click Streams Messaging Manager Web UI.

- 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

Advanced

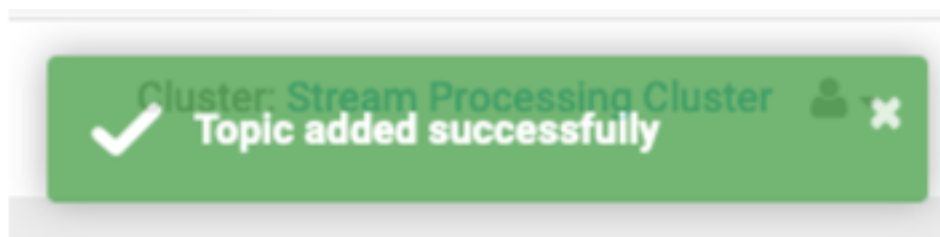
Cancel

Save

8

7. Click Save.

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



Related Information

[How to Configure Browsers for Kerberos Authentication](#)

[Configure a resource-based service: Kafka](#)

[Enable Kerberos Authentication](#)

[CDP Private Cloud Base Installation Guide](#)