mod19_ex03: Installing Ranger RMS

The purpose of this exercise to install and configure Ranger Resource Mapping Server (RMS).
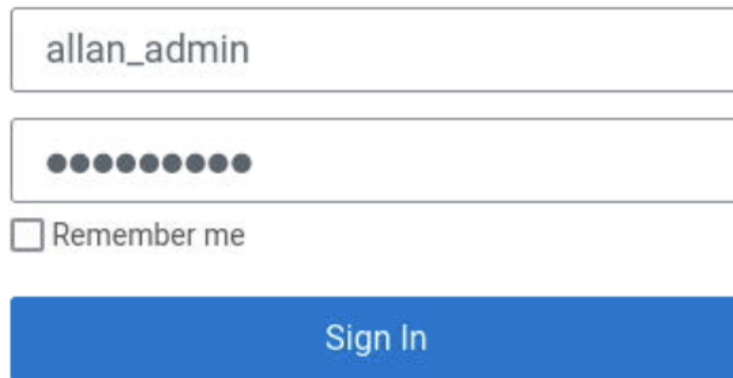
Legacy CDH users set Hive policies which automatically linked Hive permissions to HDFS ACL's. This was especially convenient for external table data used by Spark or Hive. Previously, Ranger managed Hive and HDFS policies separately, you had to set both. Ranger RMS replicates the CDH capability, setting a Hive policy will make changes in HDFS.

Reference Information

- TBD

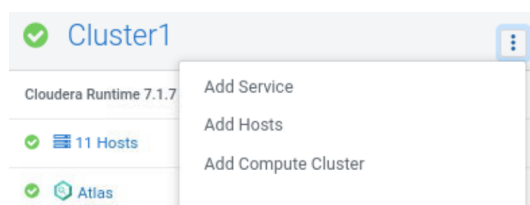1. Login into Cloudera Manager as the administrative user, allan_admin.

1.1 Login into Cloudera Manager as the administrative user, allan_admin, with password <password>.
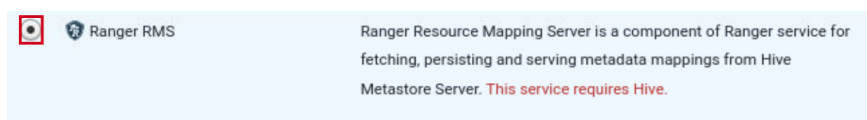

2. Install Ranger RMS.

2.1 From Cloudera Manager Home select Action. Select Add Service.

2.2 Scroll down. Select Ranger RMS. Click Continue.

2.3 On Assign Roles click on Server.

2.4 Select the option for edge.example.com. Clear the checkmark for worker-3.example.com. Click OK.

1 Hosts Selected

Select hosts for a new or existing role. The host list is filtered to remove h
the software installed on them.

	Hostname	IP Address	Rack	Cores
☐	cmhost.example.com	10.0.0.100	/default	4
☑	edge.example.com	10.0.0.106	/default	2

2.5 Verify Server is set to edge.example.com. Click Continue.

Assign Roles

You can customize the role assignments for your new service here, but note that if assignments are made incorrectly, such as assigning too many roles to a single host, performance will suffer.

You can also view the role assignments by host. [View By Host]

Server × 1 New

edge.example.com ▾

2.6 On Setup Database configure the database. Click Test Connection. When succeful click Continue.

Database Type	Ranger RMS (Service-Wide) ⟲ Undo
ranger_rms_database_type ⚙ ranger_rms_database_type	⦿ mysql ◯ oracle ◯ postgresql
Database Name	Ranger RMS (Service-Wide) ⟲ Undo
ranger_rms_database_name ⚙ ranger_rms_database_name	ranger
Database Host	Ranger RMS (Service-Wide) ⟲ Undo
ranger_rms_database_host ⚙ ranger_rms_database_host	cmhost.example.com
Database User	Ranger RMS (Service-Wide) ⟲ Undo
ranger-rms.jpa.jdbc.user ⚙ ranger_rms_database_user	rangeradmin
Database User Password	Ranger RMS (Service-Wide) ⟲ Undo
ranger-rms.jpa.jdbc.password ⚙ ranger_rms_database_password	•••••••••

```
Database Type: mysql
        Database Name: ranger
        Database Host: cmhost.example.com
        Database User: rangeradmin
        Database Password: <password>
```

2.7 Scroll down to Heapsize. Set Ranger RMS Max Heapsize to 1 GiB.

Ranger RMS Max Heapsize	Ranger RMS Server Default Group ⟲ Undo
ranger_rms_max_heap_size ⚙ ranger_rms_max_heap_size	1 ⬍ GiB ▾ 256 is less than the recommended minimum of 1024.

2.8 Scroll down to Enable Mapping Hive Managed Tables. Select the option for Enable Mapping Hive Managed Tables. Click Continue.

Enable Mapping Hive Managed Tables	☑ Ranger RMS Server Default Group ⟲ Undo
ranger-rms.HMS.map.managed.tables ⚙	

This will be used by Ranger RMS to track managed tables. Kerberos and TLS will be automatically configured.

2.9 On Command Details monitor progress. When Finish click Continue.

Command Details

First Run Command

Status ✔ **Finished**   Context   Ranger RMS ⬀   📅 Oct 13, 6:53:51 PM   ⏱ 5.09s

Finished First Run of the following services successfully: Ranger RMS.

∨ **Completed 1 of 1 step(s).**

◉ Show All Steps   ◯ Show Only Failed Steps   ◯ Show Only Running Steps

❯ ✔ Run a set of services for the first time.		Oct 13, 6:53:51 PM	5.09s

2.10 On Summary, click Finish.

Summary

⊘ Your new service is installed and configured on your cluster.

ⓘ **Note:** You may still have to start your new service. It is recommended that you restart any dependency services with outdated configurations before doing so. You can perform these actions on the main page by clicking **Finish** below.

3. Configure HDFS.

3.1 From Cloudera Manager Home select hdfs. Select Configurations.

Cluster1

✔ 🐘 hdfs   Actions ▾

Status   Instances   Configuration   Commands   File Browser   Charts Library   Cache Statistics   Audits

3.2 Search for 'ranger-hdfs-security'. Add two properties to the ranger_security_safety_valve advanced configuration. Click Save Changes.

HDFS Service Advanced Configuration Snippet (Safety Valve) for ranger-hdfs-security.xml

⚙ ranger_security_safety_valve

hdfs (Service-Wide) ↺ Undo

View as XML

Name	ranger.plugin.hdfs.chained.services	🗑 ⊕
Value	cm_hive	
Description		
	☐ Final	
Name	ranger.plugin.hdfs.chained.services.cm_hive.impl	🗑 ⊕
Value	org.apache.ranger.chainedplugin.hdfs.hive.RangerHdfsHiveChainedPlugin	
Description		
	☐ Final	

```
ranger.plugin.hdfs.chained.services cm_hive

         ranger.plugin.hdfs.chained.services.cm_hive.impl

org.apache.ranger.chainedplugin.hdfs.hive.RangerHdfsHiveChainedPlugin
```

3.3 On HDFS select Actions. Select Restart. Click Restart. When Finished click Close.
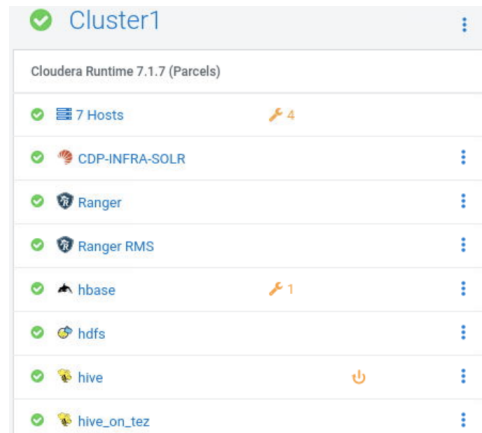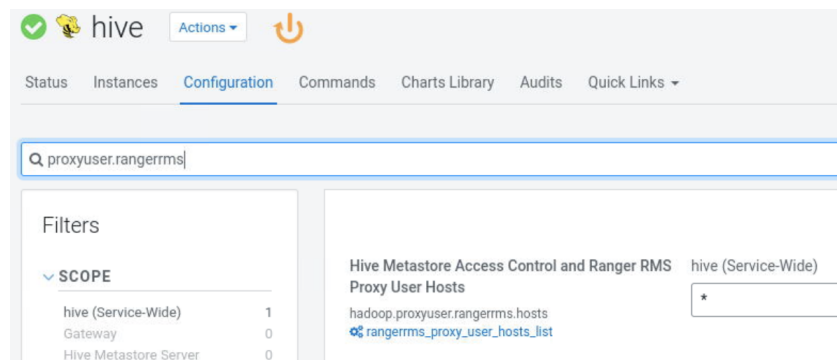
Cluster1

✓ 🐘 hdfs [Actions ▾] ⏻

Status Instances Configuration Commands File Browser Charts Library Cache Statistics Audits Web UI ▾

4. Configure Hive.

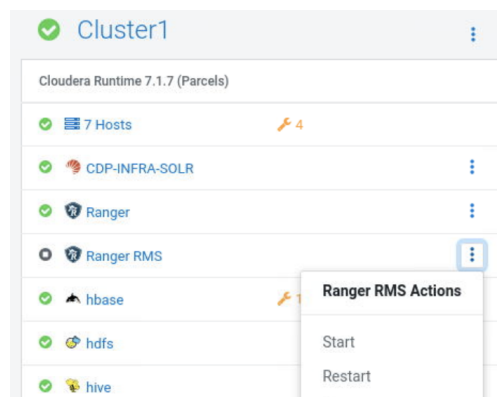4.1 From Cloudera Manager Home select Hive. Select Configuration.

4.2 Search for 'proxyuser.rangerrms'. Verify the property value is set to '*'.

4.3 Select Hive Actions. Select Restart. Click Restart. When Finished click Close.

5. Return to Cloudera Manager Home. Select Ranger RMS actions. Select Start. Click Start. When Finish click Close.

6. Return Cloudera Manager Home.