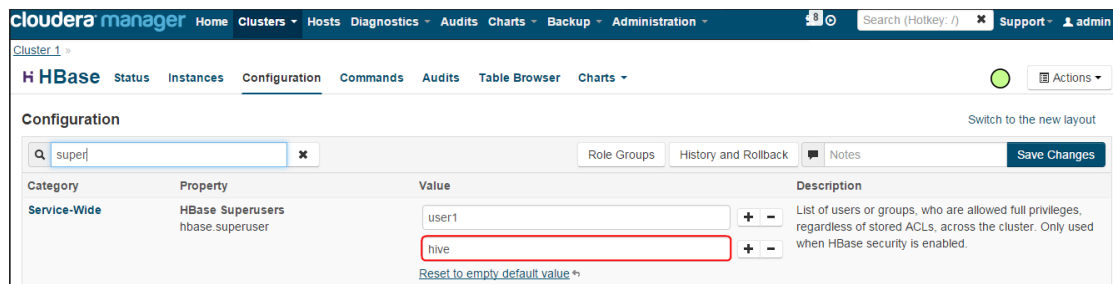


HareDB_1.98.06.01 User Guide

This document contains the information about the HareDB_1.98.06.01 package and the components. It will guide the users to install and use the files.

1. Before Use HareDB

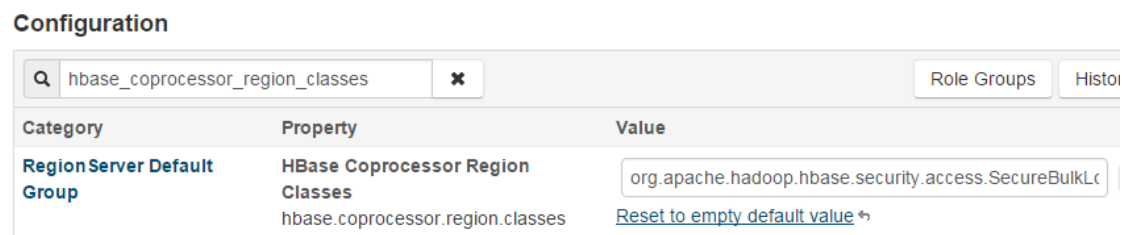
- (1). If you enable kerberos in your cluster, you need to add kerberos user in *hbase.superuser* of HBase configuration:



The screenshot shows the Cloudera Manager interface for configuring HBase Superusers. The search bar contains 'superf'. The configuration table is as follows:

Category	Property	Value	Description
Service-Wide	HBase Superusers	user1	List of users or groups, who are allowed full privileges, regardless of stored ACLs, across the cluster. Only used when HBase security is enabled.
	hbase.superuser	hive	

- (2). Add `org.apache.hadoop.hbase.security.access.SecureBulkLoadEndpoint` to `hbase.coprocessor.region.classes` property in Cloudera manager configuration.



The screenshot shows the Cloudera Manager interface for configuring the `hbase.coprocessor.region.classes` property. The search bar contains 'hbase_coprocessor_region_classes'. The configuration table is as follows:

Category	Property	Value
Region Server Default Group	HBase Coprocessor Region Classes	org.apache.hadoop.hbase.security.access.SecureBulkLc




2. HareDB Jar Introduction

HareDB package has four folders which are HareDB_Client、HareDB_WebRestful、HareDB_JDBC_Jar、Hare-Thrift_Service, here are the details in HareDB package:

HareDB_Client : Including three files HareDBClient-1.98.06.01.jar、startup.bat、startup.sh.

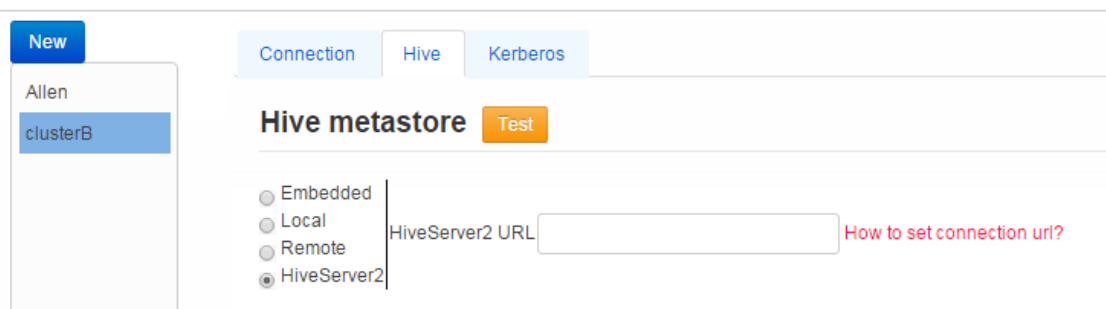
Activate HareDB Client :

- (1). If OS is Windows, please double click startup.bat.
Limitation : Bulkload function does not support on Windows client.
- (2). If OS is Linux, please use terminal to execute startup.sh. If you are starting HareDB Client tool, please make sure that the user name is the same as the one on the cluster. And which has registered the ticket on Kerberos.
- (3). Default port is 8080, please make sure it doesn't occupy.

 HareDBClient-1.98.06.01.jar	2015/7/24
 startup.bat	2015/7/24
 startup.sh	2015/7/24

- (4). If you want to use HareDB in a security cluster with Kerberos, please make sure you set up the following steps:
- Open HareDB Client, click Connection Manager, choose Kerberos tab and enable kerberos.
 - Fill up all the principals.
- (5). If you want to integrate HareDB with sentry, please make sure you set up the following steps:
- Open HareDB Client, click Connection Manager, choose Hive tab and select HiveServer2.

Connection Manager



The screenshot shows the 'Connection Manager' window with the 'Hive' tab active. On the left, a list of connections includes 'Allen' and 'clusterB'. The 'HiveServer2' radio button is selected. The 'HiveServer2 URL' field is empty, and a red link 'How to set connection url?' is present. The 'Test' button is highlighted in orange.


- In HiveServer2 URL, please input the connection string with kerberos principal. For example,

```
jdbc:hive2://{hostname}:10000/default;principal=hive/_HOST@relam.com
```

HareRest_WebRestful : Including one file, HareDB_WebRestful-1.98.06.01.war.

Activate HareRestful :

- Put HareDB_WebRestful-1.98.06.01.war into Apache Tomcat 7.x or later version and make sure the web container is running. Please use the user which has registered the ticket on Kerberos to start up the Apache Tomcat.
- Please refer to the file "HareDB Restful API.pdf" for the HareRestful API function.

 HareDB_WebRestful-1.98.06.01.war	2015/7/30
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Hare_JDBC_Jar : This folder contains the HareDB_Hive_Jdbc.jar.

 HareDB_Hive_Jdbc.jar	2015/5/11 上午 1...
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HareDB_Thrift_Service : This folder contains the hareserver.sh, hareserver2.sh, and hare_thrift-service-1.98.06.01.jar.

 hareserver.sh	2015/7/24
 hareserver2.sh	2015/7/24
 hare-thrift-service-1.98.06.01.jar	2015/7/24

3. Setting up Hare Thrift Server

We need to start Hare Thrift Server before using JDBC and ODBC driver, here are the starting steps, please make sure you are doing these steps on the node where Hive Metastore Server is install :

Limitation : Sentry is not support in this version.

- (1). Using Cloudera Manager activate Hive Service
- (2). Setting Hare Thrift environment
 - i. Copy hareserver.sh and hareserver2.sh to /opt/Cloudera/parcels/CDH/lib/hive/bin/ext on the host which Hive Metastore Server is running
 - ii. Copy hare-thrift-service jar to /opt/Cloudera/parcels/CDH/lib/hive/lib on the host which Hive Metastore Server is running
 - iii. install mysql for metadata. Please refer to [Configuring the Hive Metastore](#) which help you to install the mysql server.
 - iv. Once you finished install mysql you need to open Cloudera Manager Click Hive -> Configuration -> Service-Wide -> Hive Metastore Database to setup the mysql information.
 - v. Open Cloudera Manager Click Hive -> Configuration -> Service-Wide -> Advanced -> Hive Service Advanced Configuration Snippet (Safety Valve) for hive-site.xml add property as below.

```
<property>
  <name>hive.dbname</name>
  <value>default</value>
</property>
<property>
  <name>yarn.resourcemanager.address</name>
  <value>{hostname}:8032</value>
</property>
<property>
  <name>yarn.resourcemanager.scheduler.address</name>
```

```
<value>{hostname}:8030</value>
</property>
<property>
  <name>yarn.resourcemanager.resource-tracker.address</name>
  <value>{hostname}:8031</value>
</property>
<property>
  <name>yarn.resourcemanager.admin.address</name>
  <value>{hostname}:8033</value>
</property>
<property>
  <name>mapreduce.framework.name</name>
  <value>yarn</value>
</property>
<property>
  <name>cluster.kerberos.enabled</name>
  <value>>true</value>
</property>
<property>
  <name>hbase.master.kerberos.principal</name>
  <value>hbase/{hbase.master.kerberos.principal}</value>
</property>
<property>
  <name>hbase.regionserver.kerberos.principal</name>
  <value>hbase/{hbase.regionserver.kerberos.principal}</value>
</property>
<property>
  <name>dfs.namenode.kerberos.principal</name>
  <value>hdfs/{dfs.namenode.kerberos.principal}</value>
</property>
<property>
  <name>dfs.datanode.kerberos.principal</name>
  <value>hdfs/{dfs.datanode.kerberos.principal}</value>
</property>
<property>
  <name>hive.metastore.kerberos.principal</name>
  <value>hive/{hive.kerberos.principal}</value>
```

```
</property>
<property>
  <name>yarn.resourcemanager.principal</name>
  <value>yarn/{yarn.resourcemanager.principal}</value>
</property>
<property>
  <name>yarn.nodemanager.principal</name>
  <value>yarn/{yarn.nodemanager.principal }</value>
</property>
<property>
  <name>hbase.security.authentication</name>
  <value>kerberos</value>
</property>
<property>
  <name>hadoop.security.authentication</name>
  <value>kerberos</value>
</property>
<property>
  <name>hive.server2.authentication</name>
  <value>kerberos</value>
</property>
```

vi. After setting the configuration you need to restart hive service.

(3). Active Hare Thrift Server(Using Terminal)

- i. Change to user which has registered the ticket on Kerberos.
- ii. `cd /opt/cloudera/parcels/CDH/lib/hive/bin`
- iii. `./hive --service hareserver`

4. JDBC Driver

Limitation : Sentry is not support in this version.

- (1). Import HareDB_Hive_Jdbc.jar which in HareJdbcDriver folder into your java project.
- (2). Before Using HareJdbcDriver , please make sure HareThriftService is activate , and using HareDBClient register the coprocessor to the table which you want to query.

5. Hare Restful Service :

- (1). Please set up Apache Tomcat7.x or later version.



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- (2). Move HareDB_WebRestful-1.98.06.01.war into {tomcat path}/webapps then change to user which has registered the ticket on Kerberos to startup the tomcat service.
- (3). To access Tomcat on web browser by connecting your server on port 8080
`http://{hostname}:8080`