

Cloudera Runtime 7.2.11

## Starting Apache Hive

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# CLOUDERA

<https://docs.cloudera.com/>

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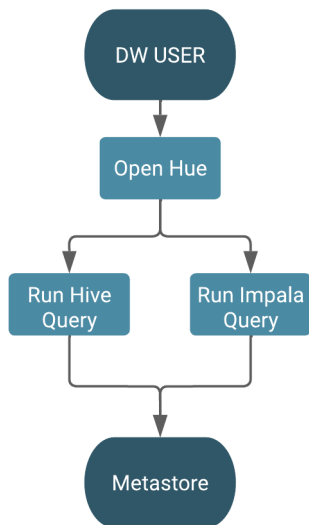
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## Running a query in Cloudera Data Warehouse

You simply open Hue and submit your query. You do not need to manually start beeline or any other shell.

### About this task


As a DW User, you open Hue from a Virtual Warehouse that you set up, and run the query. The SQL engine reads from and writes to the same metastore, regardless of the type Virtual Warehouse.

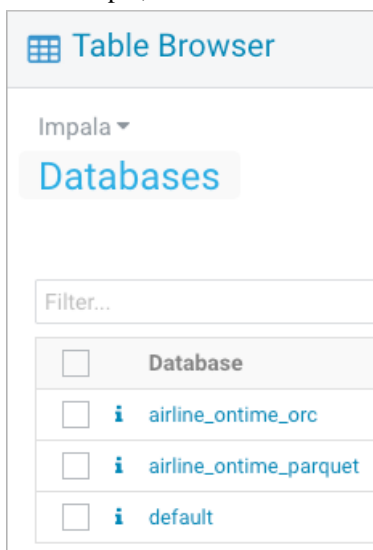


### Before you begin

- Required role: DW User
- You obtained permission to run SQL queries from the Env Admin, who added you to a Hadoop SQL policy.


### Procedure

1. On the **Overview** page under Virtual Warehouses, click options , and select Open Hue.
2. Select a database.  
For example, select database `airline_ontime_parquet`.



3. In Hue, enter a query.

```
SELECT dest, origin
FROM flights
GROUP BY dest, origin;
```

4. Click  to run the query.

## Converting Hive CLI scripts to Beeline

If you have legacy scripts that run Hive queries from edge nodes using the Hive CLI, you must solve potential incompatibilities with variable substitution in these scripts. CDP supports Beeline instead of Hive CLI. You can use Beeline to run legacy scripts with a few caveats.

### About this task

In this task, you resolve incompatibilities in legacy Hive CLI scripts and Beeline:

- Configuration variables
  - Problem: You cannot refer to configuration parameters in scripts using the hiveconf namespace unless allowed.
  - Solution: You include the parameter in the HiveServer allowlist (whitelist).
- Namespace problems
  - Problem: Beeline does not support the system and env namespaces for variables.
  - Solution: You remove these namespace references from scripts using a conversion technique described in this task.

### Procedure

1. Create a conversion script named `env_to_hivevar.sh` that removes env references in your SQL scripts.

```
#!/usr/bin/env bash

CMD_LINE=""

#Blank conversion of all env scoped values
for I in `env`; do
    CMD_LINE="$CMD_LINE --hivevar env:${I} "
done
echo ${CMD_LINE}
```

2. On the command line of a node in your cluster, define and export a variable named `HIVEVAR`, for example, and set it to run the conversion script.

```
export HIVEVAR=`./env_to_hivevar.sh`
```

3. Define and export variables to hold a few variables for testing the conversion.

```
export LOC_TIME_ZONE="US/EASTERN"
export MY_TEST_VAR="TODAY"
```

- On the command line of a cluster node, test the conversion: Execute a command that references HIVEVAR to parse a SQL statement, remove the incompatible env namespace, and execute the remaining SQL.

```
hive ${HIVEVAR} -e 'select "${env:LOC_TIME_ZONE}";'
```

```
+-----+
|      _c0      |
+-----+
|  US/EASTERN  |
+-----+
```

- Create a text file named `init_var.sql` to simulate a legacy script that sets two configuration parameters, one in the problematic env namespace.

```
set mylocal.test.var=hello;
set mylocal.test.env.var=${env:MY_TEST_VAR};
```

- Include these configuration parameters in the allowlist: In Cloudera Manager, go to Clusters HIVE\_ON\_TEZ-1 Configuration , and search for hive-site.
- In HiveServer2 Advanced Configuration Snippet (Safety Valve) for `hive-site.xml`, add the property key: `hive.security.authorization.sqlstd.confwhitelist.append`.
- Provide the property value, or values, to allowlist, for example: `mylocal\.*|junk`.  
This action appends `mylocal.test.var` and `mylocal.test.env.var` parameters to the allowlist.
- Save configuration changes, and restart any components as required.
- Run a command that references HIVEVAR to parse a SQL script, removes the incompatible env namespace, and runs the remaining SQL, including the whitelisted configuration parameters identified by `hiveconf`:

```
hive -i init_var.sql ${HIVEVAR} -e 'select "${hiveconf:mylocal.test.var}
", "${hiveconf:mylocal.test.env.var}";'
```

```
+-----+-----+
|  _c0  |  _c1  |
+-----+-----+
| hello | TODAY |
+-----+-----+
```

### Related Information

[Custom Configuration \(about Cloudera Manager Safety Valve\)](#)

[Example of using the Cloudera Manager Safety Valve](#)

## Configuring graceful shutdown property for HiveServer

Learn how to configure the graceful shutdown timeout property for HiveServer (HS2), which ensures that HS2 waits for a specified time period before shutting down, thereby allowing queries that are already running to complete before HS2 stops.

### About this task

By default, the graceful shutdown timeout property is set to 5 minutes. Queries that are still running beyond the timeout period are aborted and will have to be manually submitted by the user because HS2 cannot automatically resubmit these queries.



**Important:** If you want to disable HS2 graceful shutdown, set the graceful timeout property value to 0.

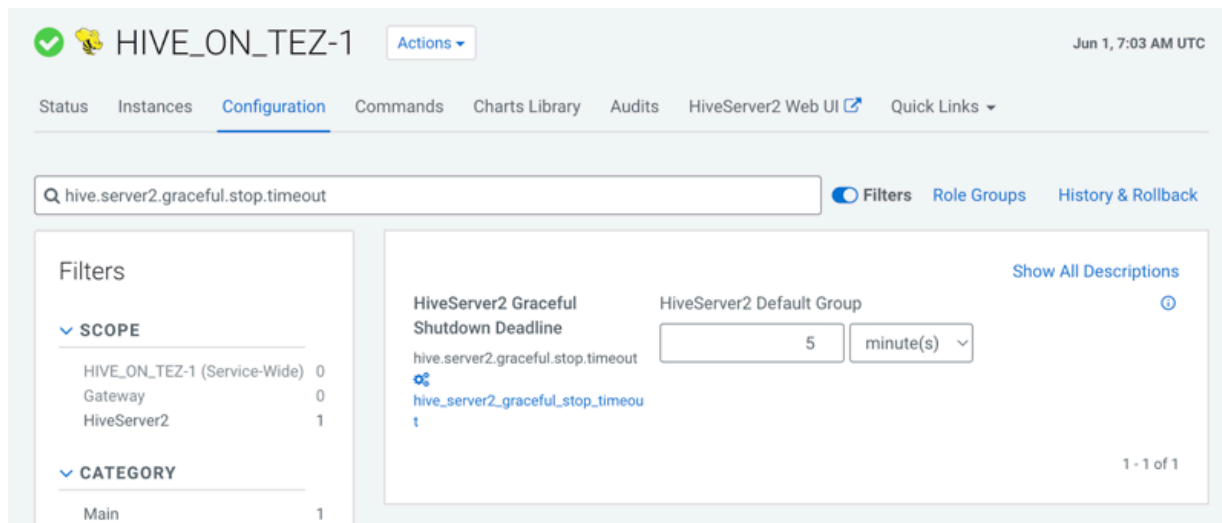
You must also know that submitting new queries or starting a new session during a HS2 graceful shutdown will fail. Also, if there are no active queries during the graceful shutdown, HS2 stops in 30 seconds instead of waiting 5 minutes for all the live sessions to close.

You can modify the graceful shutdown timeout property based on a customer's usage, for example, you can choose to increase the timeout property if the customer has long running queries.

The HS2 graceful shutdown is initiated during a Cloudera Runtime Rolling Upgrade, Rolling Restart, can be triggered by stopping HS2 in Cloudera Manager, or by running the `hive --service hiveserver2 --graceful_stop` command.

## Procedure

1. In Cloudera Manager, click Clusters and select the Hive on Tez service.
2. From the Hive on Tez service, go to the **Configuration** tab and search for `hive.server2.graceful.stop.timeout`.



The screenshot shows the Cloudera Manager interface for the HIVE\_ON\_TEZ-1 cluster. The 'Configuration' tab is active, and a search for 'hive.server2.graceful.stop.timeout' has been performed. The search results show a configuration property 'hive.server2.graceful.stop.timeout' with a value of '5' and a unit of 'minute(s)'. The 'HiveServer2 Graceful Shutdown Deadline' is also visible, with a value of '5' and a unit of 'minute(s)'. The 'HiveServer2 Default Group' is set to 'HiveServer2'. The 'Filters' section on the left shows the scope and category for the configuration.

3. Modify the graceful timeout value. By default, the timeout value is set to 5 minutes.
4. Click Save Changes and restart the Hive on Tez service.

## Results

The changes do not take effect during the first HS2 restart and the graceful timeout value that was specified prior to the change is considered for the graceful shutdown. The new changes take effect only from the second restart.

For example, if the timeout value was changed from 5 minutes to 10 minutes, the first HS2 restart considers the 5 minute timeout for the graceful shutdown. The second HS2 restart will consider the 10 minute timeout value.