

Cloudera Runtime 7.1.7

Using Hue

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CLOUDERA

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About using Hue

Hue provides a one-stop querying experience in Cloudera Data Warehouse (CDW) to leverage Hive and Impala SQL engines. You can also run stored procedures (HPLSQL) and Unified Analytics queries.

Accessing and using Hue in Cloudera Data Warehouse

Get started using Hue by analyzing and visualizing your data with Impala and Hive SQL query engines.

About this task

To try Hue without having an account, try running sample queries on <http://demo.gethue.com/>.

Before you begin

Hue uses your LDAP credentials that you have configured for the CDP cluster.

Procedure

1. Log into the CDP web interface and navigate to the Data Warehouse service.
2. In the Data Warehouse service, navigate to the **Overview** page.

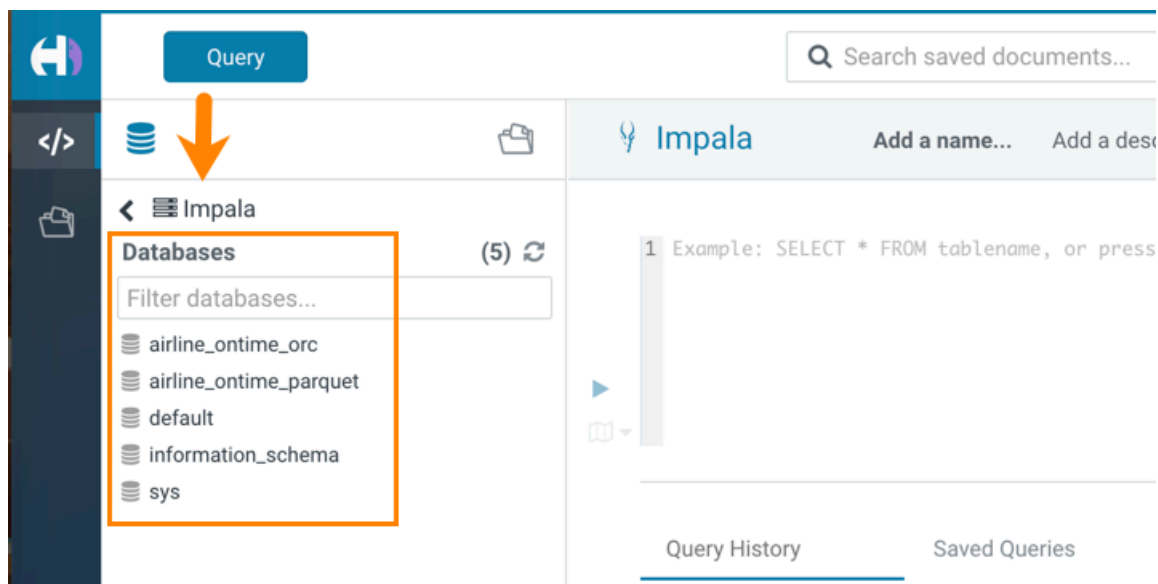


Note: You can also launch Hue from the **Virtual Warehouse** page using the same steps.

3. To run Impala queries:


- a) On the **Overview** page under Virtual Warehouses, click on the Hue button.

The query editor is displayed:




- b) Click a database to view the tables it contains.

When you click a database, it sets it as the target of your query in the main query editor panel.

- c) Type a query in the editor panel and click the run icon  to run the query.

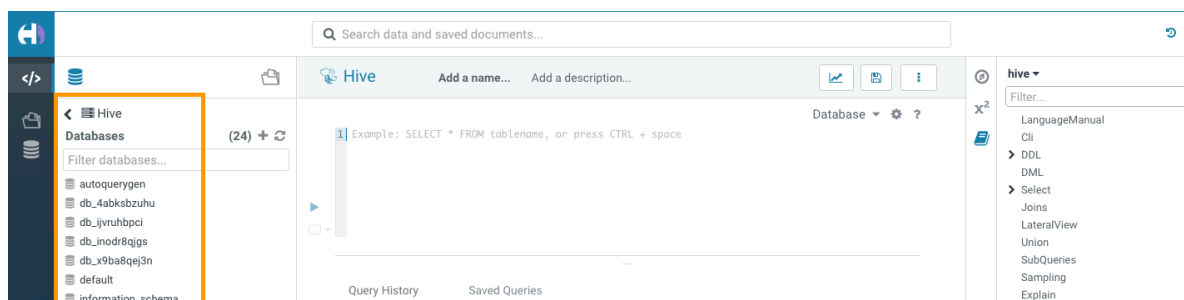


Note: Use the Impala language reference to get information about syntax in addition to the SQL auto-complete feature that is built in. To view the language reference, click the book icon  to the right of the query editor panel.

4. To run Hive queries:


- a) On the **Overview** page under Virtual Warehouses, click on the Hue button.

The Hive query editor is displayed:




- b) Click a database to view the tables it contains.

When you click a database, it sets it as the target of your query in the main query editor panel.

- c) Type a query in the editor panel and click the run icon  to run the query.



Note: Use the Hive language reference to get information about syntax in addition to the SQL auto-complete feature that is built in. To view the language reference, click the book icon  to the right of the query editor panel.

How to run a stored procedure from Hue in Cloudera Data Warehouse

HPL/SQL allows you to implement business logic using variables, expressions, flow-of-control statements, and iterations. HPL/SQL makes SQL-on-Hadoop more dynamic. You can leverage your existing procedural SQL skills, and use functions and statements to make your typical ETL development more productive. In Cloudera Data Warehouse, Hue provides a smart interface to run stored procedures.



Note: This feature is available only for Hive queries.

To run stored procedures from Hue, create a Hive Virtual Warehouse in CDW and enable the `hplsql` option in the `hue-safety-valve` field.

The following example creates a procedure and returns records by passing a cursor:

```
print 'Hello world';/
CREATE PROCEDURE greet(name STRING)
BEGIN
  PRINT 'Hello ' || name;
END;/
CREATE PROCEDURE even(cur OUT SYS_REFCURSOR)
BEGIN
  OPEN cur FOR
  SELECT n FROM NUMBERS
  WHERE MOD(n, 2) == 0;
END;/
CREATE PROCEDURE set_message(IN name STRING, OUT result STRING)
BEGIN
  SET result = 'Hello, ' || name || '!';
END;
-- Call the procedure and print the results
DECLARE str STRING;
CALL set_message('world', str);
PRINT str;
```



Attention: In the `hplsql` mode, you must terminate the commands using the forward slash (/). The semicolon (;) is used throughout procedure declarations and can no longer be relied upon to terminate a query in the editor.



Note: HPL/SQL does not support all types of Hive statements, such as `JOIN` or `EXPLAIN`. Refer to the [HPL/SQL Reference](#) for more information.

Enabling stored procedures for Hive in Cloudera Data Warehouse

To create, edit, and drop procedures and functions that are written in Hive Hybrid Procedural SQL (HPL/SQL) using the Hue query editor in CDW, you must enable the `hplsql` option in the `hue-safety-valve` field.

About this task



Important: Hue enables you to switch between Hive and HPL/SQL interpreters. By default, the regular Hive interpreter is enabled when you create a Hive Virtual Warehouse. To enable the HPL/SQL interpreter, you must update the configuration in the `hue-safety-valve` field in your Hive Virtual Warehouse. However, updating the `hue-safety-valve` overrides the default configuration. Therefore, to use both Hive and HPL/SQL interpreters, you must enable both by updating the configuration in the `hue-safety-valve` field.

Procedure

1. Log in to the Data Warehouse service as an administrator.

- Go to Virtual Warehouse Edit CONFIGURATIONS Hue and select hue-safety-valve from the Configuration files drop-down list.
- Add the following lines in the hue-safety-valve:

```
[notebook]
  [[interpreters]]
    [[[hive]]]
      name=Hive
      interface=hiveserver2
    [[[hplsql]]]
      name=Hplsql
      interface=hiveserver2
```

- Click APPLY.
- Restart the Virtual Warehouse.

Enabling the SQL editor autocompleter

Autocompleter provides finely tuned SQL suggestions for Hive and Impala dialects while you enter queries into the editor window. See [Brand new Autocompleter for Hive and Impala](#) in the Hue blog.

About this task

Autocompleter is enabled by default. To manually enable or disable it, open the editor configuration panel and edit settings as follows:

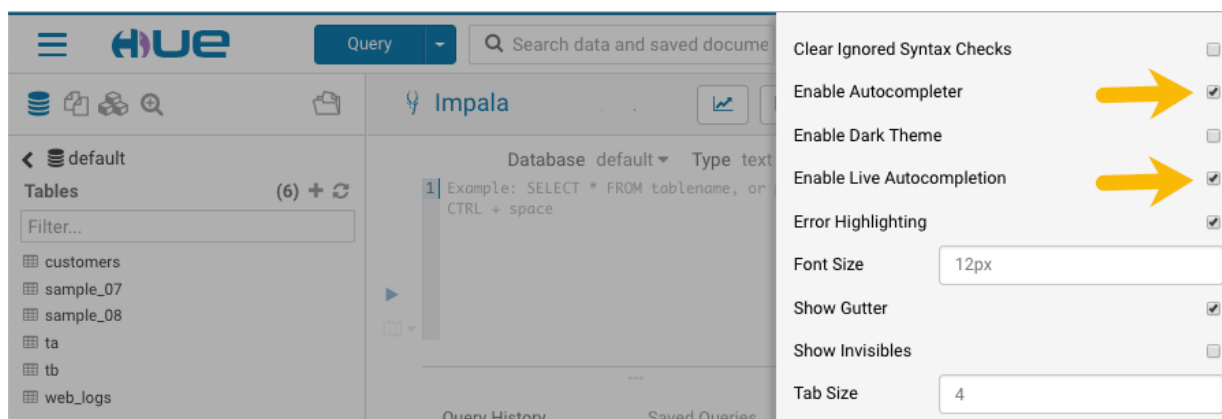
Procedure

- Log in to Hue and go to either the Hive or Impala editor.
- Place your cursor in the editor window and then use one of the following keyboard shortcuts to open the editor configuration panel:
 - On a Mac system, use the Command key followed by a hyphen and then a comma: Command-,
 - On a Windows system, use the Ctrl key followed by a hyphen and then a comma: Ctrl-,



Tip: Type a question mark (?) anywhere but in the active editor window to open a menu of editor keyboard shortcuts.

- To enable autocompletion, check the box adjacent to Enable Autocompleter. When you check Enable Autocompleter, Enable Live Autocompletion is automatically enabled as well. Place your cursor in the editor window to close the configuration panel.



4. To disable autocompletion:

- Uncheck Enable Live Autocompletion but leave Enable Autocompleter checked, and then place your cursor in the editor window to close the configuration panel. This disables live autocompletion, but if you want to use autocompletion while building your queries in the editor, enter the following key stroke sequence to activate autocompletion: Ctrl + Space Key
- Uncheck both Enable Autocompleter and Enable Live Autocompletion, and then click in the editor to close the configuration panel. This disables all autocompletion functionality.

Using governance-based data discovery

Hue can use the metadata tagging, indexing, and search features available in Apache Atlas data management. After integrating Hue with Atlas, classifications and indexed entities can be accessed and viewed in Hue. This topic shows you how to use metadata classifications in Hue.

Integration between Hue and Atlas is enabled by default, but if your administrator has disabled it, it must be re-enabled before you can use governance-based data discovery.

In Cloudera Data Warehouse, you can only view tags that are created in Atlas in Hue. You must create tags in Atlas.

Searching metadata tags

The SQL Editor in Hue provides a search text box where you can search on the metadata tags or classifications that are associated with your databases, tables, and columns.

About this task

You can search for tags or classifications in either the Hive or the Impala editors.

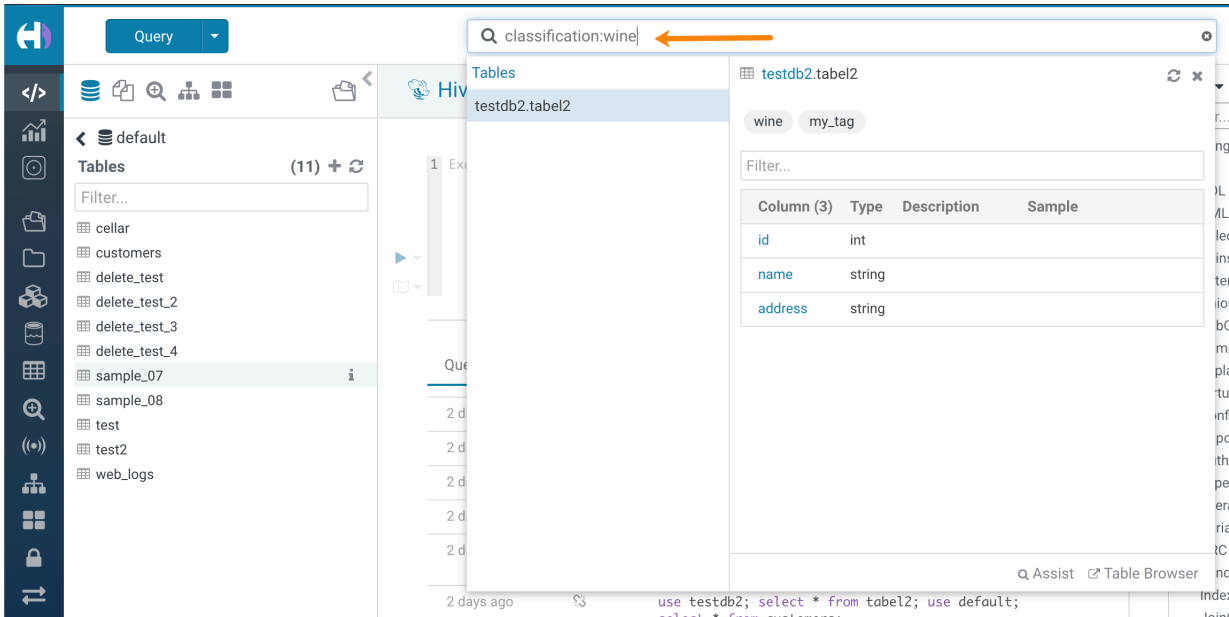


Note: On clusters that use Apache Ranger for role-based access control, the Search mechanism does not display counts of popular values. Ranger ensures that Hue users can view only entities to which their user role (as configured and managed by Ranger) has been granted specific permissions.

Procedure

1. Go to Query Editor Impala or Hive.

- 2. To locate the tags or classifications in Apache Atlas, in the metadata search box located just to the right of the Query drop-down menu, type a tag: or classification: facet followed by its name. For example, type classification: wine as shown in the following image:



After you type the search facet and the tag or classification name in the search box, the `<database>.<table>` where the tag or classification is found is returned. Click the `<database>.<table>` to view the tags and classifications that have been defined for it.

List of supported non-alphanumeric characters for file and directory names in Hue

Auto-generated files may often introduce non-alphanumeric characters in the filenames which are not supported by Hue. This might cause the files or directories to not appear on the Hue File Browser. Review the list of non-alphanumeric characters supported in Hue to avoid running into this issue.

Table 1: Non-alphanumeric characters supported in Hue

Special character symbol	Description
~	Tilde
@	Ampersat
#	Hash
\$	Dollar sign
&	Ampersand
(Left paranthesis
)	Right paranthesis
*	Asterisk
!	Exclamation mark
+	Plus
=	Equal
:	Colon
	Not supported with Knox.

Special character symbol	Description
;	Semicolon
,	Comma
.	Period
?	Question mark Not supported with Knox.
/	Forward slash Not supported with Knox.
\	Backslash
'	Apostrophe or single quote