

Ambari    Sandbox 2 ops 19 alerts

Dashboard Services Hosts Alarms Admin

maria\_dev ▾

Service Actions ▾

5 alerts

via reserved  
via pending / it/a  
idle  
available

Last 1 hour ▾

apps  
data/available

OK

## 2 Background Operations Running

Operations	Start Time	Duration	Show: All (10)
Start YARN	Not started	0%	▶
Restart all components for Hive	Today 23:37	9.66 secs	4% ▶
Restart all components for Hive	Today 23:35	148.47 secs	100% ▶
Start Hive	Today 23:23	159.69 secs	100% ▶
Start HDFS	Today 23:20	139.08 secs	100% ▶
Start Hive	Today 23:19	44.48 secs	100% ▶
Restart all components for Hive	Today 23:18	66.92 secs	100% ▶
Start Hive	Today 23:18	43.73 secs	100% ▶
Start Hive	Today 23:15	42.71 secs	100% ▶
Start Hive	Today 23:13	87.82 secs	100% ▶

26°C ENG 23:37

Search

Ambari - Sandbox - Google Chrome

localhost:8080/#/main/view/HIVE/auto\_hive20\_instance

Ambari Sandbox 0 ops 1 alert

Dashboard Services Hosts Alerts Admin maria\_dev

## HIVE

QUERY JOBS TABLES SAVED QUERIES UDFs SETTINGS NEW JOB NEW TABLE NOTIFICATIONS

Worksheet1 +

DATABASE Select or search database/schema default Browse

1 | default Tables(0) No Table found.

Execute Save As Insert UDF Visual Explain

This screenshot shows the Ambari Hive interface. At the top, there's a navigation bar with links for Dashboard, Services, Hosts, Alerts, Admin, and a user dropdown for 'maria\_dev'. Below the header, the word 'HIVE' is prominently displayed. The main area has tabs for QUERY, JOBS, TABLES, SAVED QUERIES, UDFs, and SETTINGS. A green button for 'NEW JOB' and a blue button for 'NEW TABLE' are visible. On the left, a 'Worksheet1' tab is active, with a '+' button to add more. The 'DATABASE' section shows 'default' selected. To the right, a 'Browse' dropdown is set to 'default'. Below these, a large text input field contains the number '1'. To the right of the input field, it says 'Tables(0)' and 'No Table found.' At the bottom of the interface, there are buttons for 'Execute', 'Save As', 'Insert UDF', and 'Visual Explain'.

HIVE

QUERY JOBS TABLES SAVED QUERIES UDFs SETTINGS NEW JOB NEW TAB

Worksheet1 \*

DATABASE Select or search database/schema default Browse

```
1: CREATE TABLE matrix_a (
2:   i INT,
3:   k INT,
4:   val INT
5: )
6: ROW FORMAT DELIMITED
7: FIELDS TERMINATED BY '\t';
```

default Tables(No Table found.)

Execute Save As Insert UDF Visual Explain

RESULTS LOG VISUAL EXPLAIN TEZ UI

Filter columns

Worksheet1 \*

**DATABASE** Select or search database/schema **default** **Browse**

```
1 CREATE TABLE matrix_a (
2   i INT,
3   k INT,
4   val INT
5 );
6
```

**Execute** **Save As** **Insert UDF** **Visual Explain**

**RESULTS** **LOG** **VISUAL EXPLAIN** **TEZ UI**

No Results available.

Ambri - Sandbox - Google Chrome

localhost:8080/#/main/view/HIVE/auto\_hive20\_instance

DATABASE: default

Select or search database/schema

Browse

1. SHOW TABLES;

default ✓ Tables(2)

Search Tables

matrix\_a

matrix\_b

Execute Save As Insert UDF Visual Explain

RESULTS LOG VISUAL EXPLAIN TEZ UI

Filter columns x

tab\_name

matrix\_a

matrix\_b

This screenshot shows the Ambari HIVE auto\_hive20\_instance interface. At the top, there's a header bar with the URL localhost:8080/#/main/view/HIVE/auto\_hive20\_instance. Below it, a database selection dropdown is set to 'default'. A 'Browse' button is also present. The main area contains a command line input field with the query 'SHOW TABLES;'. To the right of the input field is a results pane titled 'default ✓ Tables(2)'. This pane includes a 'Search Tables' input field and a list of tables: 'matrix\_a' and 'matrix\_b'. Below the input field and results pane are several buttons: 'Execute', 'Save As', 'Insert UDF', 'Visual Explain', 'RESULTS' (which is currently selected), 'LOG', 'VISUAL EXPLAIN', and 'TEZ UI'. At the bottom left, there's a 'Filter columns' dropdown with an 'x' button. The results table has a single column labeled 'tab\_name' with two entries: 'matrix\_a' and 'matrix\_b'. Navigation icons for sorting, filtering, and page navigation are located at the bottom right of the results table.

Worksheet1 \* +

DATABASE Select or search database/schema default Browse ▾

```
1. INSERT INTO matrix_a VALUES
2. (1,1,2),
3. (1,2,3),
4. (2,1,4),
5. (2,2,5);
```

default ✓ Tables(2)

Search Tables

matrix\_a

matrix\_b

Execute Save As Insert UDF Visual Explain

RESULTS LOG VISUAL EXPLAIN TEZ UI

Filter columns ×

Ambari - Sandbox - Google Chrome

localhost:8080/#/main/view/HIVE/auto\_hive20\_instance

Worksheet1 \* +

DATABASE Select or search database/schema default Browse

```
1 INSERT INTO matrix_b VALUES
2 (1,1,6),
3 (1,2,7),
4 (2,1,8),
5 (2,2,9);
```

default ✓ Tables(2)

Search Tables

matrix\_a

matrix\_b

Execute Save As Insert UDF Visual Explain

RESULTS LOG VISUAL EXPLAIN TEZ UI

Filter columns X

Ambari - Sandbox - Google Chrome

localhost:8080/#/main/view/HIVE/auto\_hive20\_instance

QUERY JOBS TABLES SAVED QUERIES UDFs SETTINGS NOTIFICATIONS

Worksheet1 \*

DATABASE Select or search database/schema default Browse

1 SELECT \* FROM matrix\_a;

Execute Save As Insert UDF Visual Explain

RESULTS LOG VISUAL EXPLAIN TEZ UI

matrix\_a.i matrix\_a.k matrix\_a.val

matrix_a.i	matrix_a.k	matrix_a.val
1	1	2
1	2	3
2	1	4
2	2	5

28°C Search ENG 19:49

Ambari - Sandbox - Google Chrome

localhost:8080/#/main/view/HIVE/auto\_hive20\_instance

QUERY JOBS TABLES SAVED QUERIES UDFs SETTINGS NOTIFICATIONS

Worksheet1 \*

DATABASE  Browse

Select or search database/schema:

1 SELECT \* FROM matrix\_b;

default Tables(2)

Search Tables

matrix\_a

matrix\_b

Execute Save As Insert UDF Visual Explain

RESULTS LOG VISUAL EXPLAIN TEZ UI

Filter columns

matrix_b.k	matrix_b.j	matrix_b.val
1	1	6
1	2	7
2	1	8
2	2	9

This screenshot shows the Apache Hive Web Interface. The top navigation bar includes links for QUERY, JOBS, TABLES, SAVED QUERIES, UDFs, SETTINGS, and NOTIFICATIONS. A sidebar on the left contains a 'Worksheet1' tab, a 'DATABASE' dropdown set to 'default', and a 'Browse' button. The main area displays a query log with the command 'SELECT \* FROM matrix\_b;'. To the right, a sidebar lists tables in the 'default' database: 'matrix\_a' and 'matrix\_b'. Below the query log are buttons for Execute, Save As, Insert UDF, Visual Explain, and Tez UI. The bottom section is titled 'RESULTS' and shows a table with four rows and three columns: matrix\_b.k, matrix\_b.j, and matrix\_b.val. The table data is as follows:

matrix_b.k	matrix_b.j	matrix_b.val
1	1	6
1	2	7
2	1	8
2	2	9

The status bar at the bottom shows system information including weather (28°C), battery level, and system time (19:51).

Ambari - Sandbox - Google Chrome

localhost:8080/#/main/view/HIVE/auto\_hive20\_instance

QUERY JOBS TABLES SAVED QUERIES UDFs SETTINGS NOTIFICATIONS

Worksheet1 +

DATABASE Select or search database/schema default Browse

```
1 SELECT
2   a.i,
3   b.j,
4   SUM(a.val * b.val) AS result
5 FROM matrix_a a
6 JOIN matrix_b b
7 ON a.k = b.k
8 GROUP BY a.i, b.j
9 ORDER BY a.i, b.j;
```

Execute Save As Insert UDF Visual Explain

RESULTS LOG VISUAL EXPLAIN TEZ UI

a.i	b.j	result
1	1	36
1	2	41
2	1	64
2	2	73

1.xml | Super 🔥 — if you already know so... • README.txt | Experiment-03 Matrix Multiplicatio • +

File Edit View H1  $\equiv$  B I  $\Leftrightarrow$   $\oplus$   $\otimes$

Experiment-03: Matrix Multiplication Using Hive – Short Steps

Started Hadoop Sandbox in VirtualBox.

Opened Ambari → <http://localhost:8080>

Logged in as admin.

Started HDFS, YARN, Hive services.

Opened Hive View 2.0 (SQL editor).

Created table `matrix_a`.

Created table `matrix_b`.

Verified tables using SHOW TABLES.

Inserted values into `matrix_a`.

Inserted values into `matrix_b`.

Verified data using SELECT \*.

Performed multiplication using JOIN + GROUP BY.

Calculated result matrix.

Displayed output in results tab.

Experiment completed successfully.