

# Kylin Web Tutorial

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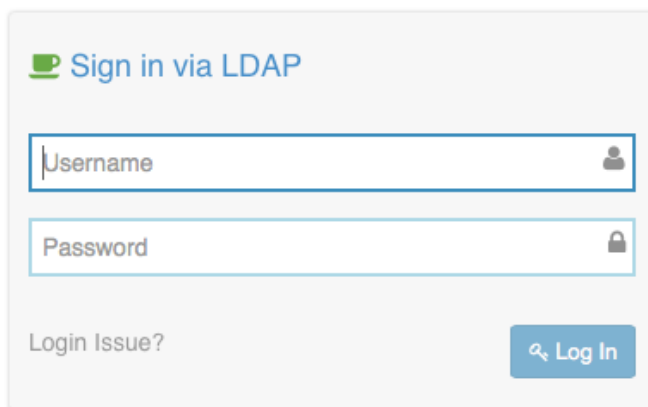
## ***Supported Browsers***

*Windows: Google Chrome, FireFox*

*Mac: Google Chrome, FireFox, Safari*

## 1. Access & Login

Host to access: `http://your_sandbox_ip:9080` Login with username/password: ADMIN/KYLIN



The image shows the Kylin web login interface. At the top, there is a link "Sign in via LDAP" with a small icon. Below this are two input fields: "Username" and "Password". The "Username" field has a user icon on the right, and the "Password" field has a lock icon on the right. At the bottom left, there is a link "Login Issue?". At the bottom right, there is a blue button labeled "Log In" with a magnifying glass icon.

## 2. Available Hive Tables in Kylin

Although Kylin will use SQL as query interface and leverage Hive metadata, Kylin will not enable user to query all Hive tables since it's a pre-build OLAP (MOLAP) system so far. To enable Table in Kylin, it will be easy to use "Sync" function to sync up tables from Hive.

Kylin

Query

Cubes

Jobs

Tables

Admin

Help

Welcome, ADMIN

Source Tables

EDW

+

↺

TEST\_CAL\_DT

TEST\_CATEGORY\_GROUPINGS

TEST\_KYLIN\_FACT

TEST\_SELLER\_TYPE\_DIM

TEST\_SITES

Table Schema: TEST\_KYLIN\_FACT

Columns

Extend Information

Columns

Filter ...

ID ^	Name ⇅	Data Type ⇅	Cardinality ⇅
1	TRANS_ID	long	
2	CAL_DT	date	
3	LSTG_FORMAT_NAME	string	
4	LEAF_CATEG_ID	int	
5	LSTG_SITE_ID	int	
6	SLR_SEGMENT_CD	short	
7	PRICE	decimal(38,16)	
8	ITEM_COUNT	long	
9	SELLER_ID	long	

Home Page

Google Group

### 3. Kylin OLAP Cube

Kylin's OLAP Cubes are pre-calculation datasets from Star Schema Hive tables, Here's the web management interface for user to explorer, manage all cubes.Go to **Cubes** Menu, it will list all cubes available in system:

Kylin

Query

Cubes

Jobs

Tables

Admin

Help

Welcome, ADMIN

Project: -- All Projects --

+

Cube Name: Filter ...

Json Editor

+ Cube

Cubes

Name ⇅	Status ⇅	Cube Size ⇅	Source Records ⇅	Last Build Time ⇅	Owner ⇅	Create Time ⇅	Actions	Admins
test_kylin_cube_without_slr_empty		0.00 KB	0	1970-01-01 08:00:00			Action	Action
test_kylin_cube_with_slr_empty	READY	6.52 MB	10,000	2014-11-11 13:59:15			Action	Action

Total: 2

Storage: 6.52 MB

Home Page

Google Group

To explore more detail about the Cube

- Form View:

Name	Status	Cube Size	Source Records	Last Build Time	Owner	Create Time	Actions	Admins
test_kylin_cube_without_slr_empty		0.00 KB	0	1970-01-01 08:00:00			Action	Action
test_kylin_cube_with_slr_empty	READY	6.52 MB	10,000	2014-11-11 13:59:15			Action	Action

Grid Visualization SQL JSON Access Notification HBase

Cube Designer

1 Cube Info

2 Dimensions

3 Measures

4 Filter

5 Refresh Setting

6 Rowkeys

7 Aggregation Groups

8 Overview

Project

onlyinner

Cube Name

test\_kylin\_cube\_with\_slr\_desc

Notification List

Description

Note: inputs with light blue border are mandatory.

Back to My Cubes

Next

Tips

1. Cube must belong to project which you have privilege to create

2. Cube name is unique name of entire system

- SQL View (Underline Hive Query to generate the cube):

Name	Status	Cube Size	Source Records	Last Build Time	Owner	Create Time	Actions	Admins
test_kylin_cube_without_slr_empty		0.00 KB	0	1970-01-01 08:00:00			Action	Action
test_kylin_cube_with_slr_empty	READY	6.52 MB	10,000	2014-11-11 13:59:15			Action	Action

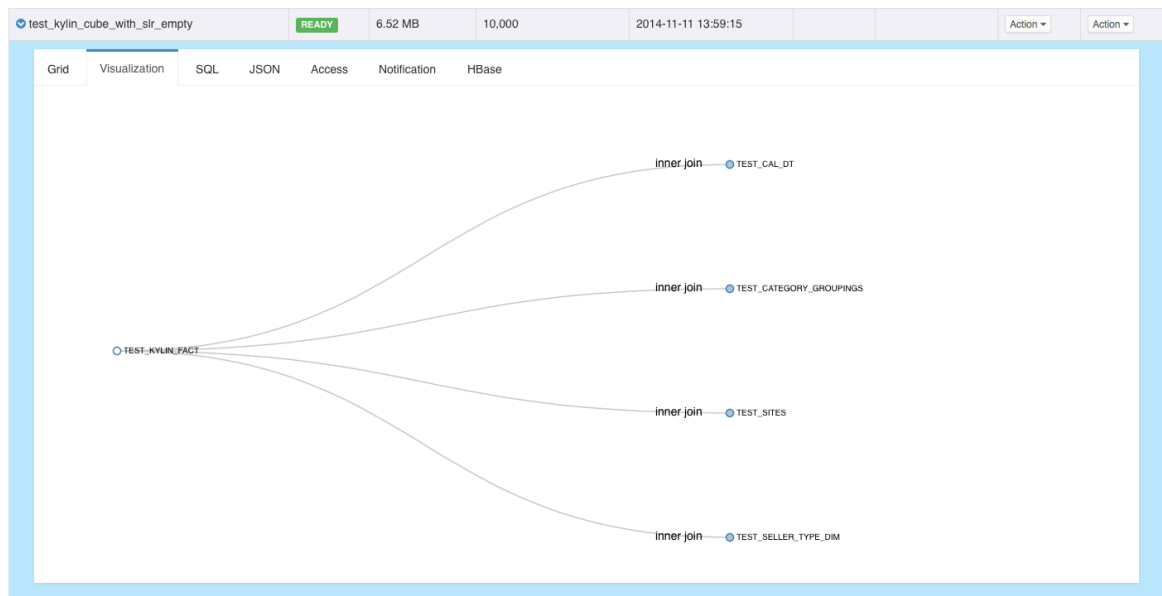
Grid Visualization SQL JSON Access Notification HBase

```

SELECT
  TEST_KYLIN_FACT.CAL_DT
  ,TEST_KYLIN_FACT.LEAF_CATEG_ID
  ,TEST_KYLIN_FACT.LSTG_SITE_ID
  ,TEST_CATEGORY_GROUPINGS.META_CATEG_NAME
  ,TEST_CATEGORY_GROUPINGS.CATEG_LVL2_NAME
  ,TEST_CATEGORY_GROUPINGS.CATEG_LVL3_NAME
  ,TEST_KYLIN_FACT.LSTG_FORMAT_NAME
  ,TEST_KYLIN_FACT.SLR_SEGMENT_CD
  ,TEST_KYLIN_FACT.SELLER_ID
  ,TEST_KYLIN_FACT.PRICE
FROM TEST_KYLIN_FACT
INNER JOIN TEST_CAL_DT
ON TEST_KYLIN_FACT.CAL_DT = TEST_CAL_DT.CAL_DT
INNER JOIN TEST_CATEGORY_GROUPINGS
ON TEST_KYLIN_FACT.LEAF_CATEG_ID = TEST_CATEGORY_GROUPINGS.LEAF_CATEG_ID AND TEST_KYLIN_FACT.LSTG_SITE_ID = TEST_CATEGORY_GROUPINGS.SITE_ID
INNER JOIN TEST_SITES
ON TEST_KYLIN_FACT.LSTG_SITE_ID = TEST_SITES.SITE_ID
INNER JOIN TEST_SELLER_TYPE_DIM

```

- Visualization (Showing the Star Schema behind of this cube):



- Access (Grant user/role privileges, Grant operation only open to Admin in beta):

Cubes								
Name ↕	Status ↕	Cube Size ↕	Source Records ↕	Last Build Time ↕	Owner ↕	Create Time ▼	Actions	Admins
test_kylin_cube_without_slr_empty		0.00 KB	0	1970-01-01 08:00:00			Action ▼	Action ▼
test_kylin_cube_with_slr_empty	READY	6.52 MB	10,000	2014-11-11 13:59:15			Action ▼	Action ▼

Grid Visualization SQL JSON Access Notification HBase														
<div> <div>+ Grant ?</div> <table> <tr> <th>Name</th><th>Type</th><th>Access</th><th>Update</th><th>Revoke</th></tr> <tr> <td>ADMIN</td><td>User</td><td>CUBE ADMIN</td><td>-- select access -- Update</td><td>Revoke</td></tr> </table> </div>					Name	Type	Access	Update	Revoke	ADMIN	User	CUBE ADMIN	-- select access -- Update	Revoke
Name	Type	Access	Update	Revoke										
ADMIN	User	CUBE ADMIN	-- select access -- Update	Revoke										

## 4. Write and Execute SQL on web

Kylin's web offer a simple query tool for user to run SQL to explorer existing cube, verify result and explorer the result set using #5's Pivot analysis and visualization

“

### Query Limit

1. Only *SELECT* query be supported
2. To avoid huge network traffic from server to client, the underline scan range's threshold be set to 1,000,000 in beta.
3. SQL can't found data from cube will not redirect to Hive in beta

Go to "Query" menu:

KylinQueryCubesJobsTablesAdmin

HelpWelcome, ADMIN

Project: onlyinner

EDW

New Query

Saved Queries

Query History

1

Tips: Ctrl+Shift+Space or Alt+Space(Windows), Command+Option+Space(Mac) to list tables/columns in query box.

Project: onlyinnerLIMIT50000Submit

Results

No Query Result.

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- Source Tables:

Browser current available Tables (same structure and metadata as Hive):

Kylin

Query

Cubes

Jobs

Tables

Admin

Project

onlyinner

EDW

TEST\_CAL\_DT

CAL\_DT (date)

WEEK\_BEG\_DT (date)

TEST\_CATEGORY\_GROUPINGS

CATEG\_LVL3\_NAME (varchar)

CATEG\_LVL2\_NAME (varchar)

UPD\_USER (varchar)

SITE\_ID (integer)

UPD\_DATE (varchar)

USER\_DEFINED\_FIELD3 (varchar)

USER\_DEFINED\_FIELD1 (varchar)

META\_CATEG\_NAME (varchar)

LEAF\_CATEG\_ID (integer)

TEST\_KYLIN\_FACT

PRICE (decimal(38, 16))

SLR\_SEGMENT\_CD (smallint)

LSTG\_SITE\_ID (integer)

SELLER\_ID (bigint)

CAL\_DT (date)

LSTG\_FORMAT\_NAME (varchar)

LEAF\_CATEG\_ID (integer)

TEST\_SELLER\_TYPE\_DIM

TEST\_SITES

New Query

Saved Queries

1

Tips: Ctrl+Shift+Space or Alt+Space(V

Project: onlyinner

Results

- New Query:

You can write and execute your query and explorer the result. One query for you experience:

Kylin

Query

Cubes

Jobs

Tables

Admin

Help

Welcome, ADMIN

Project

onlyinner

New Query

Saved Queries

Query History

EDW

TEST\_CAL\_DT

CAL\_DT (date)

WEEK\_BEG\_DT (date)

TEST\_CATEGORY\_GROUPINGS

CATEG\_LVL3\_NAME (varchar)

CATEG\_LVL2\_NAME (varchar)

UPD\_USER (varchar)

SITE\_ID (integer)

UPD\_DATE (varchar)

USER\_DEFINED\_FIELD3 (varchar)

USER\_DEFINED\_FIELD1 (varchar)

META\_CATEG\_NAME (varchar)

LEAF\_CATEG\_ID (integer)

TEST\_KYLIN\_FACT

PRICE (decimal(38, 16))

SLR\_SEGMENT\_CD (smallint)

LSTG\_SITE\_ID (integer)

SELLER\_ID (bigint)

CAL\_DT (date)

LSTG\_FORMAT\_NAME (varchar)

LEAF\_CATEG\_ID (integer)

TEST\_SELLER\_TYPE\_DIM

TEST\_SITES

```

1 select lstg_format_name, week_beg_dt, meta_categ_name, sum(price) as price
2 from test_kylin_fact
3 inner join test_category_groupings on test_category_groupings.leaf_categ_id = test_kylin_fact.leaf_categ_id
4 and test_category_groupings.site_id = test_kylin_fact.lstg_site_id
5 inner join test_cal_dt on test_cal_dt.cal_dt = test_kylin_fact.cal_dt
6 where week_beg_dt >= date '2013-01-01' and week_beg_dt <= date '2013-05-31'
7 group by week_beg_dt, test_category_groupings.meta_categ_name, lstg_format_name
8 order by week_beg_dt

```

Tips: Ctrl+Shift+Space or Alt+Space(Windows), Command+Option+Space(Mac) to list tables/columns in query box.

Project

onlyinner

LIMIT

50000

Submit

Results

1 ✓ ✕ |

Status: All

Query String

Start Time: 2014-11-12 17:33:48 Duration: 3.10s

Run

Save

Status: Success

Project: onlyinner

Cubes: test\_kylin\_cube\_with\_slr\_empty

Results (1215)

Visualization

Export

Drag a column header here and drop it to group by that column.

LSTG_FORMAT...	WEEK_BEG_DT	META_CATEG...	PRICE
FP-GTC	2013-01-01	Sports MeCard...	93.268450871...
Auction	2013-01-01	Business & Ind...	55.635632631...

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- Saved Query:

Associate with user account, you can get saved query from different browsers even machines. Click "Save" in Result area, it will popup for name and description to save current query:

Save Query

Project

onlyinner

Name

Sample query

Description

Description..

Close

Save

Click "Saved Queries" to browser all your saved queries, you could direct resubmit it to run or remove it:

The screenshot shows the Kylin web interface. The top navigation bar includes 'Kylin', 'Query', 'Cubes', 'Jobs', 'Tables', and 'Admin'. The 'Query' tab is active, showing a 'Sample query' with the following SQL:

```
1 select lstg_format_name, week_beg_dt, meta_categ_name, sum(price) as price
2 from test_kylin_fact
3 inner join test_category_groupings on test_category_groupings.leaf_categ_id = test_kylin_fact.leaf_categ_id
4 and test_category_groupings.site_id = test_kylin_fact.lstg_site_id
5 inner join test_cal_dt on test_cal_dt.cal_dt = test_kylin_fact.cal_dt
6 where week_beg_dt >= date'2013-01-01' and week_beg_dt <= date'2013-05-31'
7 group by week_beg_dt, test_category_groupings.meta_categ_name, lstg_format_name
8 order by week_beg_dt
```

The 'Results' section shows a table with the following columns: LSTG\_FORMAT\_NAME, WEEK\_BEG\_DT, META\_CATEG\_NAME, and PRICE. The status is 'Success' and the project is 'onlyinner'.

- Query History:

Only keep the current user's query history in current browser, it will require cookie enabled and will lost if you clean up browser's cache. Click "Query History" tab, you could directly resubmit any of them to execute again.

## 5. Pivot Analysis and Visualization

There's one simple pivot and visualization analysis tool in Kylin's web for user to explorer their query result:

- General Information:

When the query execute success, it will present a success indictor and also a cube's name which be hit. Also it will present how long this query be executed in backend engine (not cover network traffic from Kylin server to browser):

The screenshot shows the Kylin web interface. The top navigation bar includes 'Kylin', 'Query', 'Cubes', 'Jobs', 'Tables', and 'Admin'. The 'Query' tab is active, showing a 'Sample query' with the following SQL:

```
1 select lstg_format_name, week_beg_dt, meta_categ_name, sum(price) as price
2 from test_kylin_fact
3 inner join test_category_groupings on test_category_groupings.leaf_categ_id = test_kylin_fact.leaf_categ_id
4 and test_category_groupings.site_id = test_kylin_fact.lstg_site_id
5 inner join test_cal_dt on test_cal_dt.cal_dt = test_kylin_fact.cal_dt
6 where week_beg_dt >= date'2013-01-01' and week_beg_dt <= date'2013-05-31'
7 group by week_beg_dt, test_category_groupings.meta_categ_name, lstg_format_name
8 order by week_beg_dt
```

The 'Results' section shows a table with the following columns: LSTG\_FORMAT\_NAME, WEEK\_BEG\_DT, META\_CATEG\_NAME, and PRICE. The status is 'Success' and the project is 'onlyinner'.

- Query Result:

It's easy to order on one column.



Results (1215)

Visualization Export

Drag a column header here and drop it to group by that column.

LSTG_FORMAT_NAME	WEEK_BEG_DT	META_CATEG...	PRICE
FP-GTC	2013-01-01	Sports MeCard...	93.268450871...
Auction	2013-01-01	Business & Ind...	55.635632631...
Others	2013-01-01	Sporting Goods	82.533676494...
Auction	2013-01-01	Real Estate	20.347844733...
Auction	2013-01-01	Toys & Hobbies	4.0906749147...
Others	2013-01-01	ClothinShoes ...	52.425273054...
FP-GTC	2013-01-01	ClothinShoes ...	60.342377784...
Auction	2013-01-01	Video Games ...	96.053294673...

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- Export to CSV File

Click "Export" button to save current result as CSV file.

- Pivot Table:

Drag and Drop one or more columns into the header, the result will grouping by such column's value:

Results

1 ✓ x |

Status: All

Query String

Start Time: 2014-11-12 17:33:48 Duration: 3.10s Rerun Save

Status: Success

Project: onlyinner

Cubes: test\_kylin\_cube\_with\_slr\_empty

Results (1215)

Visualization Export

WEEK_BEG_DT	LSTG_FORMAT_NAME		
LSTG_FORMAT_NAME	WEEK_BEG_DT	META_CATEG...	PRICE
2013-01-01 (48)			
FP-GTC (10)			
Auction (11)			
Others (10)			
FP-non GTC (8)			
ABIN (9)			
2013-01-06 (55)			
Others (11)			

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- Visualization:

Also, the result set will be easy to show with different charts in "Visualization":

note: line chart only available when there's at least one dimension with real "Date" data type of column from Hive Table.

- Bar Chart:

## Results

1 ✓ ✕ |

Status: All

Query String

Start Time: 2014-11-12 17:33:48 Duration: 3.10s [Rerun](#) [Save](#)

Status: **Success**

Project: onlyinner

Cubes: test\_kylin\_cube\_with\_slr\_empty

Results (1215)

[Grid](#) [Export](#)

Graph Type

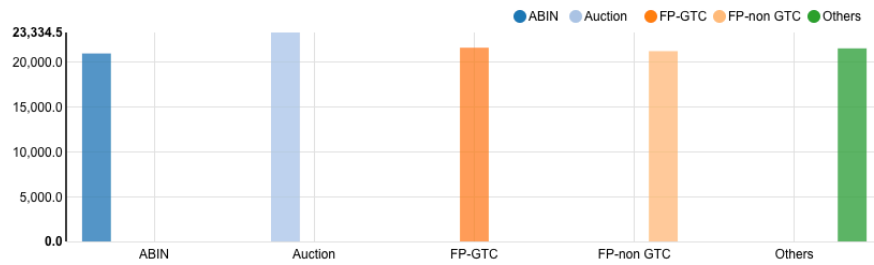
Bar Chart

Dimensions

LSTG\_FORMAT...

Metrics

PRICE



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- Pie Chart:

## Results

1 ✓ ✕ |

Status: All

Query String

Start Time: 2014-11-12 17:33:48 Duration: 3.10s [Rerun](#) [Save](#)

Status: **Success**

Project: onlyinner

Cubes: test\_kylin\_cube\_with\_slr\_empty

Results (1215)

[Grid](#) [Export](#)

Graph Type

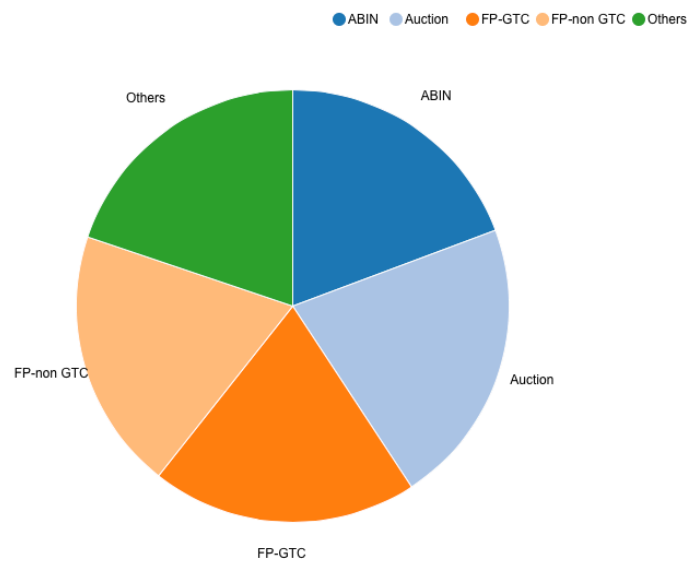
Pie Chart

Dimensions

LSTG\_FORMAT...

Metrics

PRICE



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- Line Chart

## Results

1 ✓ x |

Status: All

Query String

Start Time: 2014-11-12 17:33:48 Duration: 3.10s [Rerun](#) [Save](#)

Status: Success

Project: onlyinner

Cubes: test\_kylin\_cube\_with\_slr\_empty

Results (1215)

[Grid](#) [Export](#) [Print](#)

Graph Type

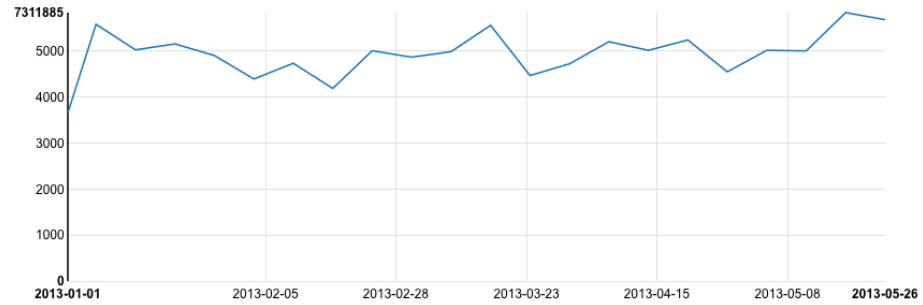
Line Chart

Dimensions

WEEK\_BEG\_DT

Metrics

PRICE



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## 6. Cube Build Job Monitoring

Monitor and manage cube build process, diagnostic into the detail and even link to Hadoop's job information directly:

Kylin

Query

Cubes

Jobs

Tables

Admin

Help

Welcome, ADMIN

Project: -- All Projects --

Cube Name: Filter ...

Job Status: new x pending x running x finished x error x discarded x

Jobs

Job Name	Cube	Progress	Last Modified Time	Duration	Actions
test_kylin_cube_with_slr_empty - 19700101000000_19710101000000 - BUILD - PST 2014-11-05 03:01:20	test_kylin_cube_with_slr_empty		2014-11-05 19:01:20	0.00 mins	Action
test_kylin_cube_without_slr_empty - FULL_BUILD - BUILD - PST 2014-11-05 01:28:57	test_kylin_cube_without_slr_empty	73.33%	2014-11-05 17:57:46	24.07 mins	Action

Total: 2

Detail Information

Job Name

test\_kylin\_cube\_without\_slr\_empty - FULL\_BUILD - BUILD - PST 2014-11-05 01:28:57

Job ID

d8a3a78a-0b31-4a77-b984-a94a785eb2a2

Status

RUNNING

Duration

24.07 mins

MapReduce Waiting

4.83 mins

Start 2014-11-05 17:29:08

17:29:08

#1 Step Name: Create Intermediate Flat Hive Table  
Data Size: 446.61 KB  
Duration: 5.44 mins

17:34:35

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