

Kylin Web Tutorial

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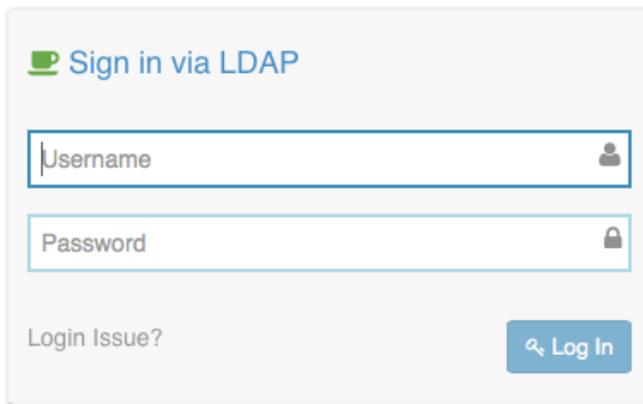
Supported Browsers

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



Sign in via LDAP

Username 

Password 

[Login Issue?](#)

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-built 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	

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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

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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

Cube Designer

Grid Visualization SQL JSON Access Notification HBase

1 Cube Info 2 Dimensions 3 Measures 4 Filter 5 Refresh Setting 6 Rowkeys 7 Aggregation Groups 8 Overview

Project: onlylinner
 Cube Name: test_kylin_cube_with_slr_desc
 Notification List:
 Description:

Tips

- Cube must belong to project which you have privilege to create
- Cube name is unique name of entire system

Note: inputs with light blue border are mandatory.

[Back to My Cubes](#) Next →

- 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

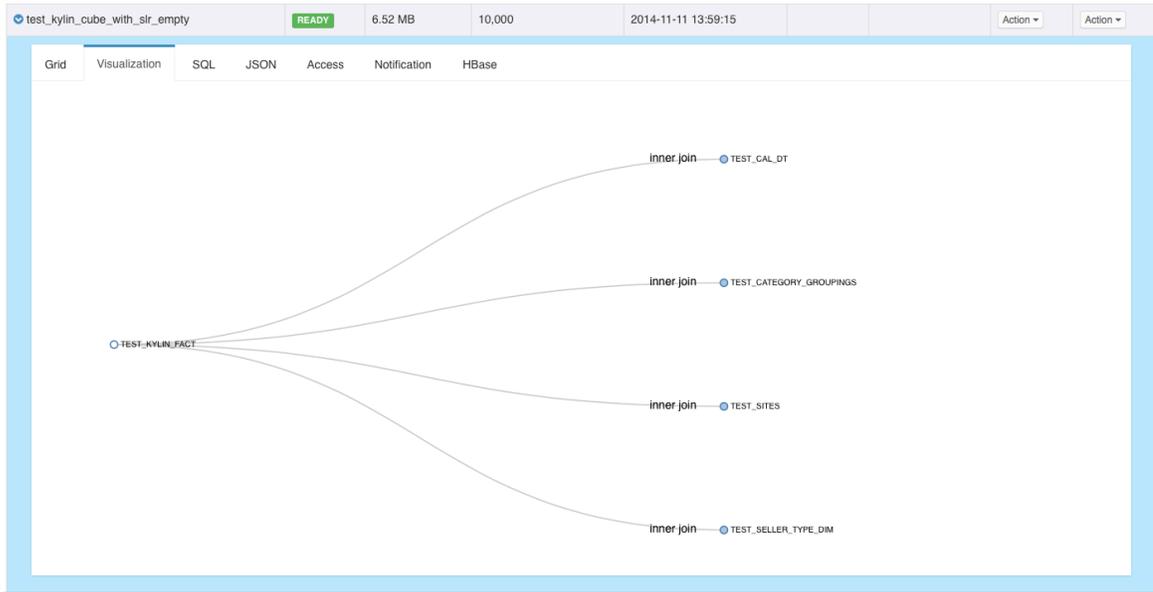
Grid Visualization **SQL** JSON Access Notification HBase

```

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):

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

Name	Type	Access	Update	Revoke
ADMIN	User	CUBE ADMIN	-- select access -- Update	Revoke

4. Write and Execute SQL on web

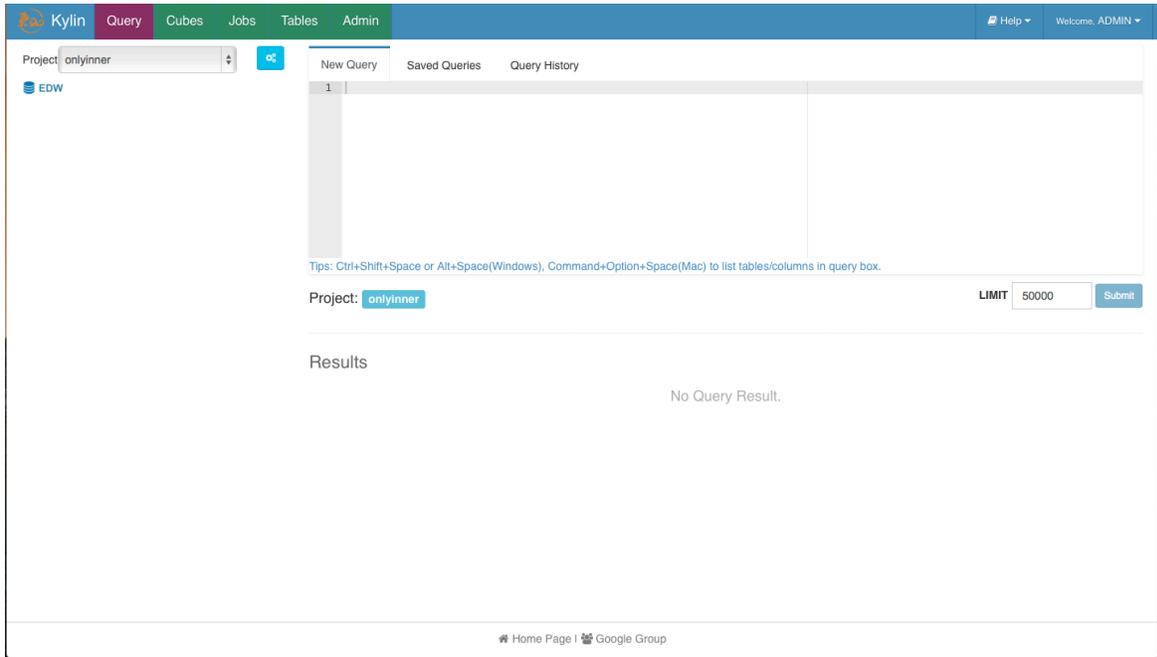
Kylin's web offer a simple query tool for user to run SQL to explorer existing cube, verify result and explorer the result set using #5's Pivot analysis and visualization

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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:



- Source Tables:

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

The screenshot displays the Kylin Query web interface. At the top, there is a navigation bar with tabs for 'Kylin', 'Query', 'Cubes', 'Jobs', 'Tables', and 'Admin'. Below this, a 'Project' dropdown menu is set to 'onlyinner'. The left sidebar shows a tree view of the 'EDW' database schema with the following tables and their columns:

- 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**

The right side of the interface has two tabs: 'New Query' and 'Saved Queries'. The 'New Query' tab is active, showing a single row with the number '1'. Below the query editor, there is a 'Project:' label with a dropdown menu set to 'onlyinner'. A 'Results' section is visible below the query editor, but it is currently empty.

- New Query:

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

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

```

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

```

Below the query, there is a 'Project' dropdown set to 'onlyinner', a 'LIMIT' field set to '50000', and a 'Submit' button. The 'Results' section shows a table with 1215 rows. The 'Query String' is displayed, and the status is 'Success'. The project is 'onlyinner' and the cube is 'test_kylin_cube_with_slr_empty'. The results table has the following columns: LSTG_FORMAT_NAME, WEEK_BEG_DT, META_CATEG_NAME, and PRICE.

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

- **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:

The 'Save Query' dialog box is shown. It contains the following fields:

- Project:** onlyinner
- Name:** Sample query
- Description:** Description..

At the bottom right, there are two buttons: 'Close' and 'Save'.

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

The screenshot displays the Kylin web interface. At the top, there is a navigation bar with tabs for 'Kylin', 'Query', 'Cubes', 'Jobs', 'Tables', and 'Admin'. Below this, the 'Query' tab is active, showing a query named 'Sample query' with the following SQL code:

```

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

```

Below the SQL code, the 'Results' section is visible, showing a table with the following headers: LSTG_FORMA., WEEK_BEG_DT., META_CATEG., and PRICE. The status is 'Success' and the project is 'onlyinner'. The cube used is 'test_kylin_cube_with_slr_empty'.

- Query History:

Only keep the current user's query history in current browser, it will require cookie enabled and will be 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 explore their query result:

- General Information:

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

The screenshot displays the Kylin web interface. At the top, there is a navigation bar with tabs for 'Kylin', 'Query', 'Cubes', 'Jobs', 'Tables', and 'Admin'. Below this, the 'Query' tab is active, showing a query named 'Sample query' with the following SQL code:

```

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

```

Below the SQL code, the 'Results' section is visible, showing a table with the following headers: LSTG_FORMA., WEEK_BEG_DT., META_CATEG., and PRICE. The status is 'Success' and the project is 'onlyinner'. The cube used is 'test_kylin_cube_with_slr_empty'.

- 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...

- 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)					

- 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

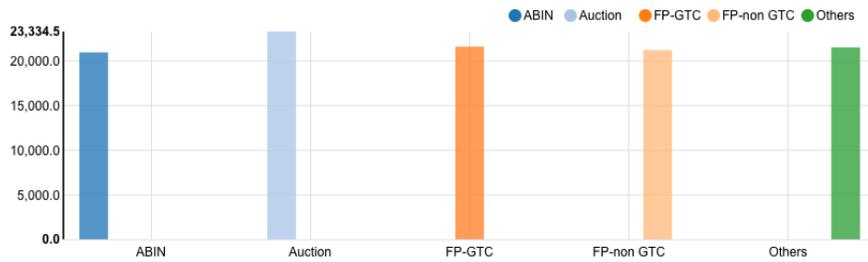
Bar Chart

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

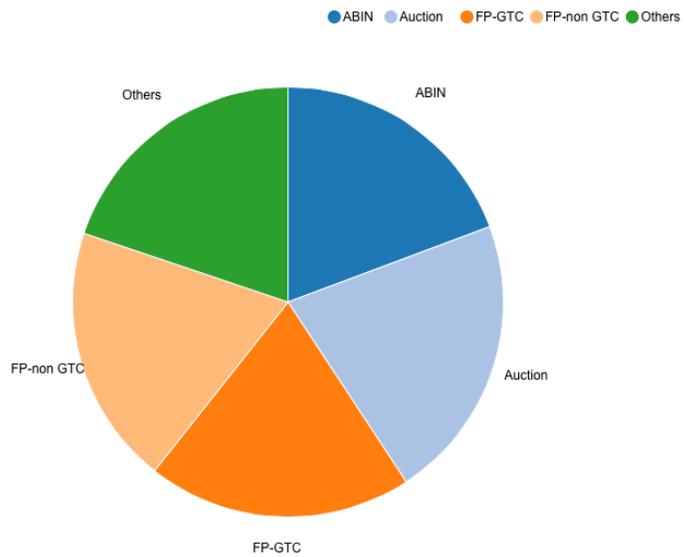
Pie Chart

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](#)

Graph Type

Line Chart

Dimensions

WEEK_BEG_DT

Metrics

PRICE



6. Cube Build Job Monitoring

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

Project: -- All Projects -- Cube Name: Filter ... Job Status: new x pending x running x finished x error x discarded x

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

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