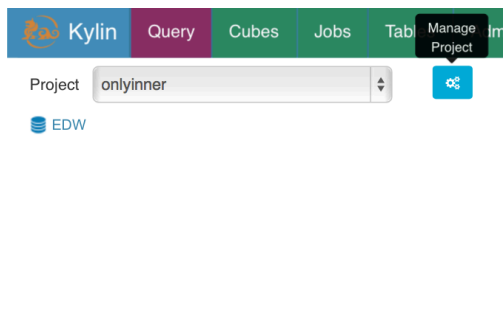


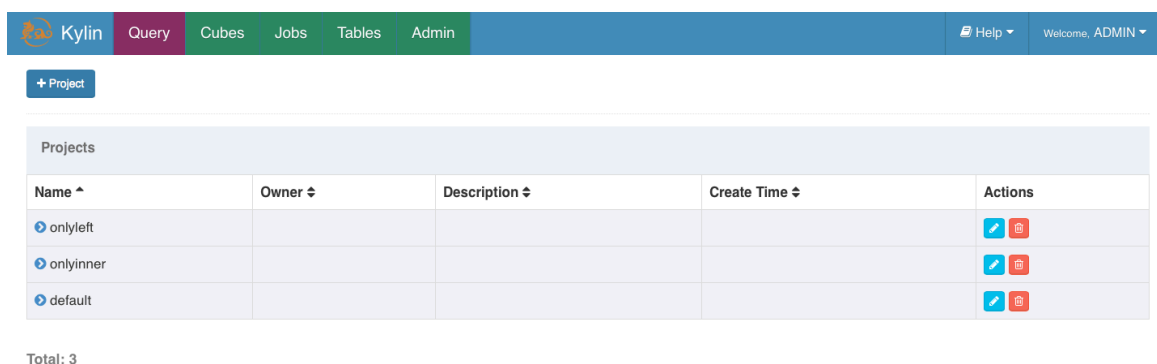
# Kylin Cube Creation Tutorial

## I. Create a Project

1. Go to **Query** page in top menu bar, then click **Manage Projects**.



2. Click the **+ Project** button to add a new project.



3. Fulfill the following form and click **submit** button to send a request.

### New Project

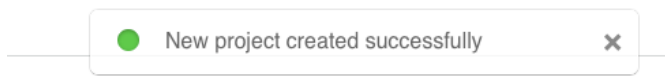
**Project Name**

**Project Description**

This project is created for tutorial use.

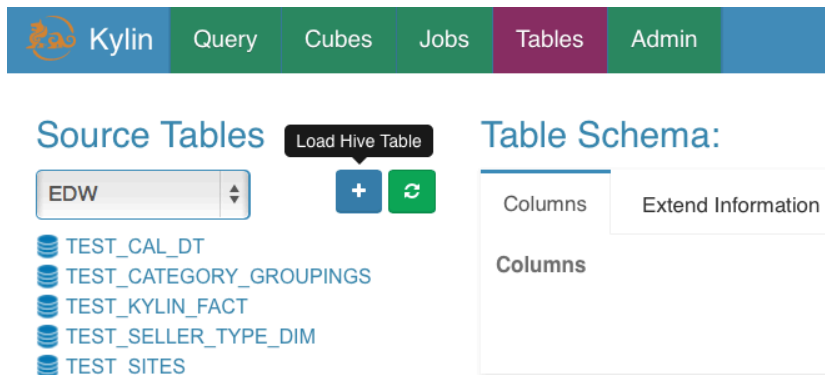
CloseSubmit

4. After success, there will be a notification show in the bottom.



## II. Sync up a Table

1. Click **Tables** in top bar and then click the **+ Sync** button to load hive table metadata.



2. Enter the table names and click **Sync** to send a request.

Load Hive Table Metadata

Table Names:(Seperate with comma)

table1,table2

Sync

Cancel

## III. Create a Cube

To start with, click **Cubes** in top bar. Then click **+Cube** button to enter the cube designer page.

Kylin

Query

Cubes

Jobs

Tables

Admin

Help

Welcome, ADMIN

Project: -- All Projects --

+

Cube Name:

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		0.00 KB	0	1970-01-01 08:00:00			Action	Action

Total: 2  
Storage: 0.00 KB

### Step 1. Cube Info

Fill up the basic information of the cube. Click **Next** to enter the next step.

You can use letters, numbers and '\_' to name your cube (Notice that space in name is not allowed).

Kylin

Query

Cubes

Jobs

Tables

Admin

Help

Welcome, ADMIN

Source Tables

EDW

+

TEST\_CAL\_DT

TEST\_CATEGORY\_GROUPINGS

TEST\_KYLIN\_FACT

- TRANS\_ID (long)
- CAL\_DT (date)
- LSTG\_FORMAT\_NAME (string)
- LEAF\_CATEG\_ID (int)
- LSTG\_SITE\_ID (int)
- SLR\_SEGMENT\_CD (short)
- PRICE (decimal(38,16))
- ITEM\_COUNT (long)
- SELLER\_ID (long)

TEST\_SELLER\_TYPE\_DIM

TEST\_SITES

Cube Designer

1

2

3

4

5

6

7

Cube Info

Dimensions

Measures

Filter

Refresh Setting

Advanced Setting

Overview

Project

Tutorial

Cube Name

cube\_creation\_demo

Notification List

Comma Separated

Description

Tips

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

2. Cube name is unique name of entire system

Note: inputs with light blue border are mandatory.

Next

Back to My Cubes

### Step 2. Dimensions

1. Set up the fact table.

**Cube Designer**

1 **Cube Info** 2 **Dimensions** 3 Measures 4 Filter 5 Refresh Setting 6 Advanced Setting 7 Overview

**Fact Table**

tes

TEST\_CAL\_DT  
TEST\_CATEGORY\_GROUPINGS  
**TEST\_KYLIN\_FACT**  
TEST\_SELLER\_TYPE\_DIM  
TEST\_SITES

[+ Dimension](#)

**Note:** inputs with light blue border are mandatory.

[← Back to My Cubes](#) [← Prev](#) [Next →](#)

- Click [+Dimension](#) to add a new dimension.

**Cube Designer**

1 **Cube Info** 2 **Dimensions** 3 Measures 4 Filter 5 Refresh Setting 6 Advanced Setting 7 Overview

**Fact Table**

TEST\_KYLIN\_FACT

[+ Dimension](#)

**Note:** inputs with light blue border are mandatory.

[← Back to My Cubes](#) [← Prev](#) [Next →](#)

- There are different types of dimensions that might be added to a cube. Here we list some of them for your reference.
  - Dimensions from fact table.

### Cube Designer

1

2

3

4

5

Cube InfoDimensionsMeasuresFilterRefresh Setting

Fact Table

TEST\_KYLIN\_FACT

#### Edit Dimension

Name

LSTG\_FORMAT\_NAME

Data Type

string

Table Name

TEST\_KYLIN\_FACT

Column Name

LSTG\_FORMAT\_NAME

JoinHierarchyDerived

+ New Derived

Save

Cancel

- Dimensions from look up table.

ID	Name	Table Name	Column Name	Data Type
1	LSTG_FORMAT_NAME	TEST_KYLIN_FACT	LSTG_FORMAT_NAME	string

### Edit Dimension

Name

CAL\_DT

Data Type

date

Table Name

TEST\_CAL\_DT

Column Name

{FK}

Join

Hierarchy

Derived

Join Relation

☒

Type

Inner

CAL\_DT

=

CAL\_DT

+ New Join

Save

Cancel

### Edit Dimension

Name

CAL\_DT

Data Type

date

Table Name

TEST\_CAL\_DT

Column Name

{FK}

Join

Hierarchy

Derived

WEEK\_BEG\_DT

+ New Derived

Save

Cancel

- Dimensions from look up table with hierarchy.

Filter ...

ID	Name	Table Name	Column Name	Data Type	Join
1	LSTG_FORMAT_NAME	TEST_KYLIN_FACT	LSTG_FORMAT_NAME	string	
2	CAL_DT	TEST_CAL_DT	{FK}	date	inner

Edit Dimension

Name

CATEGORY

Data Type

-- Select a Data Type --

Table Name

TEST\_CATEGORY\_GROUPINGS

Column Name

{FK}

Join
Hierarchy
Derived

Hierarchy
☒

Level
Column

1

META\_CATEG\_NAME

2

CATEG\_LVL2\_NAME

3

CATEG\_LVL3\_NAME

+ New Hierarchy

Save
Cancel

- Dimensions from look up table with derived dimensions.

ID	Name	Table Name	Column Name	Data Type	Join
1	LSTG_FORMAT_NAME	TEST_KYLIN_FACT	LSTG_FORMAT_NAME	string	
2	CAL_DT	TEST_CAL_DT	{FK}	date	inner
3	CATEGORY	TEST_CATEGORY_GROUPINGS	{FK}		inner

### Edit Dimension

Name

Data Type

Table Name

Column Name

Join

Hierarchy

Derived

4. User can edit the dimension after saving it.

ID	Name	Table Name	Column Name	Data Type	Join	Derived	Hierarchy	Actions
1	LSTG_FORMAT_NAME	TEST_KYLIN_FACT	LSTG_FORMAT_NAME	string		[]	N	<input type="button" value="edit"/> <input type="button" value="delete"/>
2	CAL_DT	TEST_CAL_DT	{FK}	date	inner	["WEEK_BEG_DT"]	N	<input type="button" value="edit"/> <input type="button" value="delete"/>
3	CATEGORY	TEST_CATEGORY_GROUPINGS	{FK}		inner	["USER_DEFINED_FIEL D1","USER_DEFINED_F IELD3","UPD_DATE","U PD_USER"]	Y	<input type="button" value="edit"/> <input type="button" value="delete"/>
4	SITE_ID	TEST_SITES	{FK}	string	inner	["SITE_NAME","CRE_U SER"]	N	<input type="button" value="edit"/> <input type="button" value="delete"/>

### Edit Dimension

Name

Data Type

Table Name

Column Name

Join

Hierarchy

Derived

Join Relation

☒

#### Tips

1. Type in any input box for auto suggestion
2. Pick up Fact Table from Star Schema Tables first
3. Data Type should match with Hive Table's Data Type
4. Join Type have to be same as will be used in query
5. Using Hierarchy to inherit one dimension another
6. Using Derived for One-One relationship between columns, like ID and Name

### Step 3. Measures



1. Click the **+Measure** to add a new measure.



**Cube Designer**

✓ Cube Info
 ✓ Dimensions
 3 Measures
 4 Filter
 5 Refresh Setting
 6 Advanced Setting
 7 Overview

Filter ...

ID	Name	Expression	Param Type	Param Value	Return Type	Actions
1	_COUNT_	COUNT	constant	1	bigint	 

[+ Measure](#)

Note: inputs with light blue border are mandatory.

[← Back to My Cubes](#) [← Prev](#) [Next →](#)

2. There are 5 different types of measure according to its expression: SUM, MAX, MIN, COUNT and COUNT\_DISTINCT. Please be carefully to choose the return type, which is related to the error rate of the COUNT(DISTINCT).

- SUM

Filter ...

ID	Name	Expression	Param Type	Param Value
1	_COUNT_	COUNT	constant	1

**Edit Measure**

Name

Expression

Param Type

Param Value

Return Type

[Save](#) [Cancel](#)

- MIN

ID	Name	Expression	Param Type	Param Value
1	_COUNT_	COUNT	constant	1
2	GMV_SUM	SUM	column	PRICE

### Edit Measure

Name

GMV\_MIN

Expression

MIN

Param Type

column

Param Value

PRICE

Return Type

DECIMAL

Save

Cancel

◦ MAX

ID	Name	Expression	Param Type	Param Value
1	_COUNT_	COUNT	constant	1
2	GMV_SUM	SUM	column	PRICE
3	GMV_MIN	MIN	column	PRICE

### Edit Measure

Name

GMV\_MAX

Expression

MAX

Param Type

column

Param Value

PRICE


Return Type

DECIMAL

Save

Cancel

- COUNT



ID	Name	Expression	Param Type
1	GMV_SUM	SUM	column
2	GMV_MIN	MIN	column
3	GMV_MAX	MAX	column
4	SELLER_CNT_HLL	COUNT_DISTINCT	column

### Edit Measure

Name	<input type="text" value="TRANS_CNT"/>
Expression	<div>COUNT ▾</div>
Param Type	constant
Param Value	1
Return Type	BIGINT

Save

Cancel

- DISTINCT\_COUNT

Q

ID	Name	Expression	Param Type	Param Value
1	_COUNT_	COUNT	constant	1
2	GMV_SUM	SUM	column	PRICE
3	GMV_MIN	MIN	column	PRICE
4	GMV_MAX	MAX	column	PRICE

### Edit Measure

Name

SELLER\_CNT\_HLL

Expression

COUNT\_DISTINCT

Param Type

column

Param Value

SELLER\_ID

Return Type

Error Rate < 2.44%

Save
Cancel

#### Step 4. Filter

This step is optional. You can add some condition filter in **SQL** format.

### Cube Designer

✓  
Cube Info

✓  
Dimensions

✓  
Measures

4  
Filter

5  
Refresh Setting

6  
Advanced Setting

7  
Overview

#### Condition Filter

Condition Filter..

#### Tips

1. Where clause to filter data from source
2. Do not include date column which will be used for incremental refresh
3. Do not include "Where"
4. Please verify SQL when finish cube design from SQL view of cube

Note: inputs with light blue border are mandatory.

[← Back to My Cubes](#)

← Prev
Next →

#### Step 5. Refresh Setting

This step is designed for incremental cube build.

Cube Designer

✓

✓

✓

✓

5

6

7

Cube Info

Dimensions

Measures

Filter

Refresh Setting

Advanced Setting

Overview

Cube Size

SMALL

Query Priority

NORMAL

Partition Type

APPEND

Partition Column

TEST\_KYLIN\_FACT.CAL\_DT

Start Date

Click to choose start date...

←

November 2014

→

#	Sun	Mon	Tue	Wed	Thu	Fri	Sat
43	26	27	28	29	30	31	01
44	02	03	04	05	06	07	08
45	09	10	11	12	13	14	15
46	16	17	18	19	20	21	22
47	23	24	25	26	27	28	29
48	30	01	02	03	04	05	06

Today

Weeks

Clear

Done

Note: inputs with light blue border are mandatory.

← Back to My Cubes

← Prev

Next →

Tips

- Please indicate which type for refresh model
- Leave as default if this cube always need full build
- Please indicate partition column of Fact Table in Hive
- Partition column accept expression like: concat(year, '-', month, '-', day)
- Please indicate start date to just pull certain data from source

Choose partition type, partition column and start date.

Cube Designer

✓

✓

✓

✓

5

6

7

Cube Info

Dimensions

Measures

Filter

Refresh Setting

Advanced Setting

Overview

Cube Size

SMALL

Query Priority

NORMAL

Partition Type

APPEND

Partition Column

TEST\_KYLIN\_FACT.CAL\_DT

Start Date

2014-10-01

Note: inputs with light blue border are mandatory.

← Back to My Cubes

← Prev

Next →

Tips

- Please indicate which type for refresh model
- Leave as default if this cube always need full build
- Please indicate partition column of Fact Table in Hive
- Partition column accept expression like: concat(year, '-', month, '-', day)
- Please indicate start date to just pull certain data from source

## Step 6. Advanced Setting

Cube Designer

✓

✓

✓

✓

✓

6

7

Cube Info

Dimensions

Measures

Filter

Refresh Setting

Advanced Setting

Overview

Aggreation Groups

ID

Aggregation Groups

1

LSTG\_FORMAT\_NAME ✕

CATEGORY ✕

SITE\_ID ✕

-

New Aggregation Group+

Rowkeys

New Rowkey Column+

Note: inputs with light blue border are mandatory.

← Prev

Next →

[← Back to My Cubes](#)

## Step 7. Overview & Save

You can overview your cube and go back to previous step to modify it. Click the **Save** button to complete the cube creation.

Cube Designer

✓

✓

✓

✓

✓

✓

7

Cube Info

Dimensions

Measures

Filter

Refresh Setting

Advanced Setting

Overview

Project Name

Tutorial

Cube Name

cube\_creation\_demo

Fact Table

TEST\_KYLIN\_FACT

Lookup Table

3

Dimensions

4

Measures

5

Description

Note: inputs with light blue border are mandatory.

← Prev

Save

[← Back to My Cubes](#)