Alibaba Cloud
Quick BI

User Guide

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Generic conventions

Table -1: Style conventions

Style	Description	Example
	This warning information indicates a situation that will cause major system changes, faults, physical injuries, and other adverse results.	 **Danger:** Resetting will result in the loss of user configuration data.
	This warning information indicates a situation that may cause major system changes, faults, physical injuries, and other adverse results.	 **Warning:** Restarting will cause business interruption. About 10 minutes are required to restore business.
	This indicates warning information, supplementary instructions, and other content that the user must understand.	 **Note:** Take the necessary precautions to save exported data containing sensitive information.
	This indicates supplemental instructions, best practices, tips, and other content that is good to know for the user.	 **Note:** You can use **Ctrl** + **A** to select all files.
>	Multi-level menu cascade.	**Settings** > **Network** > **Set network type**
Bold	It is used for buttons, menus, page names, and other UI elements.	Click **OK**.
`Courier font`	It is used for commands.	Run the `cd /d C:/windows` command to enter the Windows system folder.
Italics	It is used for parameters and variables.	`bae log list --instanceid` *Instance_ID*
[] or [a|b]	It indicates that it is a optional value, and only one item can be selected.	`ipconfig` *[-all|-t]*
{} or {a|b}	It indicates that it is a required value, and only one item can be selected.	`swich` *{stand | slave}*

Contents

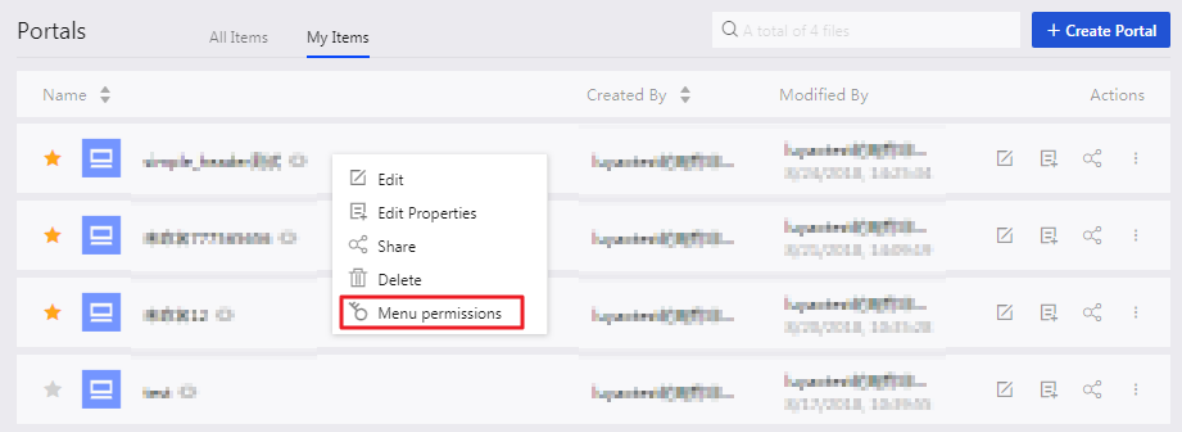
1 Privilege control

1.1 Data Portal menu permission settings

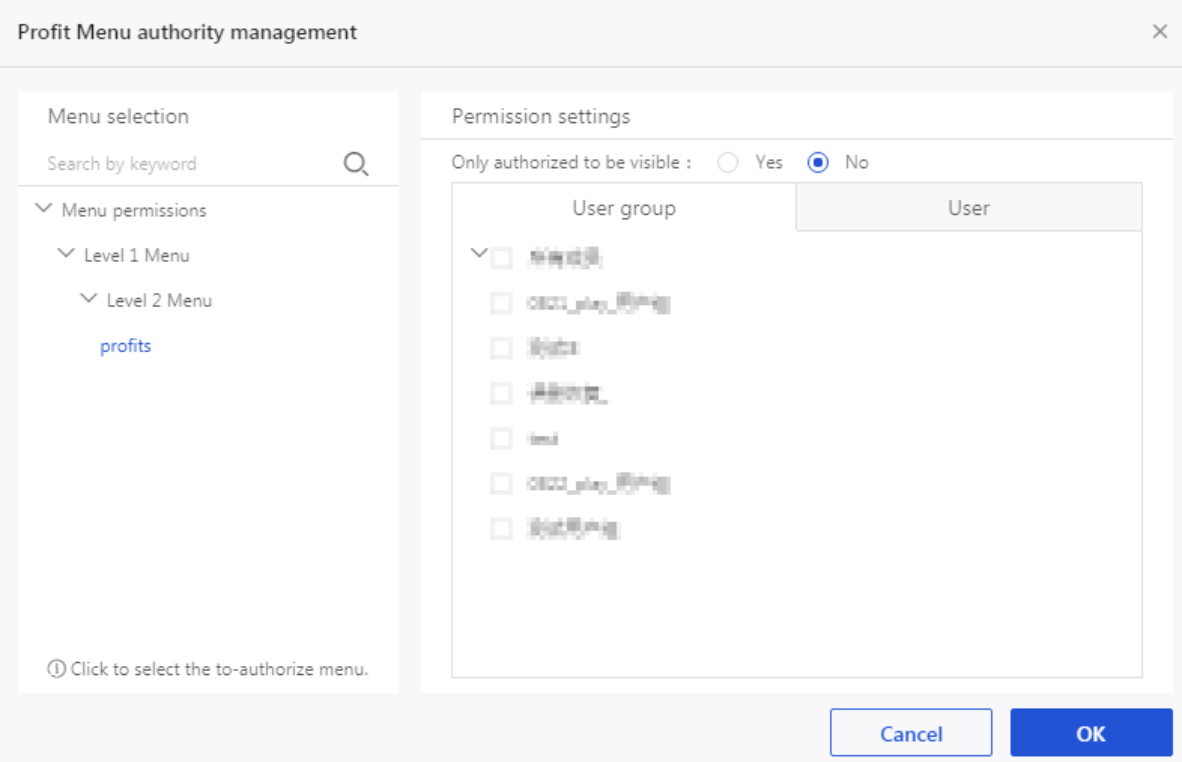
You can set menu permissions in workspaces for data portals.

Menu permissions can be authorized to user groups and users. To create a menu permission, follow these steps:

1. Log on to the Quick BI console.
2. Select the target workspace. If you need to create a workspace, see *Create a workspace*.
3. In the left-side navigation pane, click **Portals**.
4. Select the target portal, click the **three dots** icon, and then select **Menu permissions**. You can also right-click the target portal.



5. In the **Menu authority management** panel, set menu permissions, as shown in the following figure:



Note:

You can select one of the following options for **Only authorized to be visible**:

- Yes, which indicates only authorized user groups and users have permission to read the menu.
- No, which indicates all user groups and users have permission to read the menu.

6. Click **OK**.

2 Data modeling

2.1 Overview of data modeling

Data modeling is used to visualize data and allows you to quickly identify and extract information. Furthermore, it helps you to make correct decisions based on the trend represented by the data.

The basic process of data modeling is shown in the following figure.

1. Add data sources: a required step. Operations on datasets, workbooks, dashboards, and portals are all based on data sources. For more information about data sources, see *Data sources management overview*.
2. Create datasets: a required step. You can create a dataset by using any one of the following three methods:
   - Tables in a data source: You can create dashboards and workbooks based on datasets. For more information about operations on datasets, see *Datasets management overview*.
   - Local files: You can only create datasets based on local files in Personal Workspace. You can create datasets based on CSV files uploaded from your local disk. For more information about operations on CSV files, see *Upload local files*.
   - Custom SQL queries: You can create datasets based on custom SQL queries in MaxCompute. For more information about operations on custom SQL queries, see *SQL overview*.

2.2 Data source management

2.2.1 Data sources management overview

Quick BI supports the following types of data sources:

Cloud data sources:

- MaxCompute
- MySQL
- SQL Server
- Analytic DB
- HybridDB for MySQL
- HybridDB for PostgreSQL released

- PostgreSQL
- PPAS
- Hive (Quick BI Pro)

External database data sources

- MySQL
- SQL Server
- Oracle
- PostgreSQL
- Hive (Quick BI Pro)
- Vertica（Quick BI Pro）
- IBM DB2 LUW（Quick BI Pro）

Exploration space

- CSV file
- Local Excel files
- Data IDE

Uploaded local files are stored in the exploration space. The exploration space is a dedicated storage area of Quick BI, providing 1G space for each user currently.

When creating data sources, the Quick BI has the following requirements for the network type of data sources.

1. The VPC RDS instance can access Quick BI by using an extranet domain name. MySQL and SQL Server instances can access Quick BI by using an intranet domain name, other VPC RDS instances can't access Quick BI by using an intranet domain name.
2. The instances in the classic network can access Quick BI by using an extranet domain name and an intranet domain name. When you access Quick BI by using an extranet domain name, you should set the IP address whitelist on the RDS. For more information, see *Set whitelist*.
3. Quick BI can be accessed by using the public network.
4. MySQL and SQL Server built on a VPC ECs instance can access quick Bi via the internal network domain name.

2.2.2 List of data sources

On the Data Sources page, you can manage all the data sources. You can perform operations, such as **create data sources**, **query data sources**, **edit data sources**, and **delete data sources**, on this page as shown in the following figure.

On the right side of this page, you can click a data source to display all the tables in this data source. You can create a dataset from any one of these tables.

2.2.3 Create a cloud data source

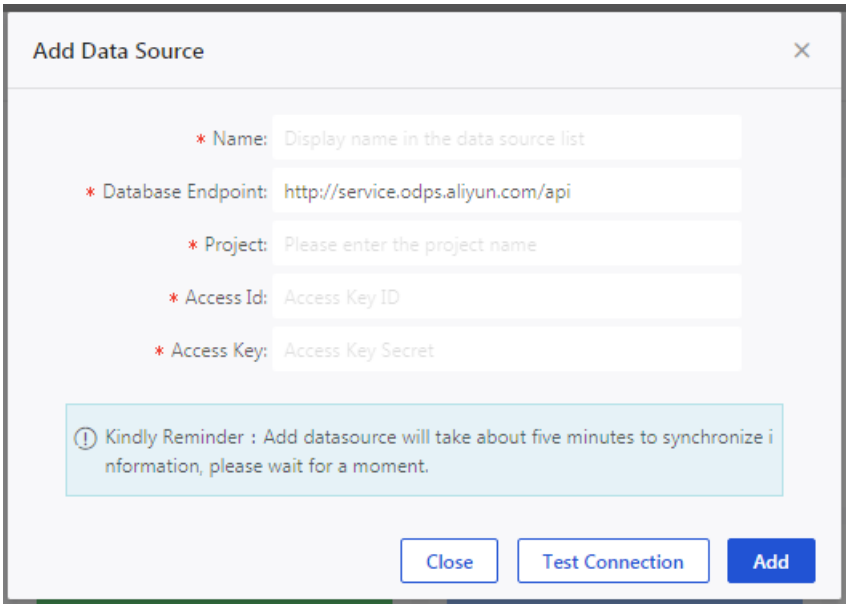
Data sources must be used as the basis to operate datasets, worksheets, dashboards, data portals, and others. This section describes how to create a cloud data source.

Before you create a cloud data source, you need to go to the data source creation page:

1. Log on to Quick BI console.
2. Click **Data Sources**. The data source management page is displayed.
3. Click **Create Data Sources** to select a data source.
4. Click **Cloud database** tab.

MaxCompute

1. Click **MaxCompute**.
2. Enter the required data source connection information, as shown in the following figure.



- Name: The name of the data source configuration list.

- Database address: There is a default address here, which is generally not subject to modification; if you need to modify, please refer to *Access domains and data centers*.

  Note:
  Database addresses change by region. For example, in the classic network, the database address in HongKong region is http://service.cn-hongkong.maxcompute.aliyun-inc.com/api, the database address in Singapore region is http://service.ap-southeast-1.maxcompute.aliyun-inc.com/api. For more information, refer to: *Access domains and data centers*.

- Project: The name of the project.
- Access Id: Access Key ID of the Alibaba Cloud console.
- AccessKey: The AccessKey Secret of the Alibaba Cloud console.

  Note:
  The value of "Access Key" must be valid. The corresponding account can be that of the project administrator or owner or a common user who has the list, select, and create instance permissions.

3. Click **Test Connection** to perform the data source connectivity test.

   Note:
   If the connectivity is normal, a prompt message is displayed.

4. Click **Add**, then the data source is added.

   After the data source is added, the **Data Source** tab is automatically displayed, and all data tables under the data source are displayed in the right pane.

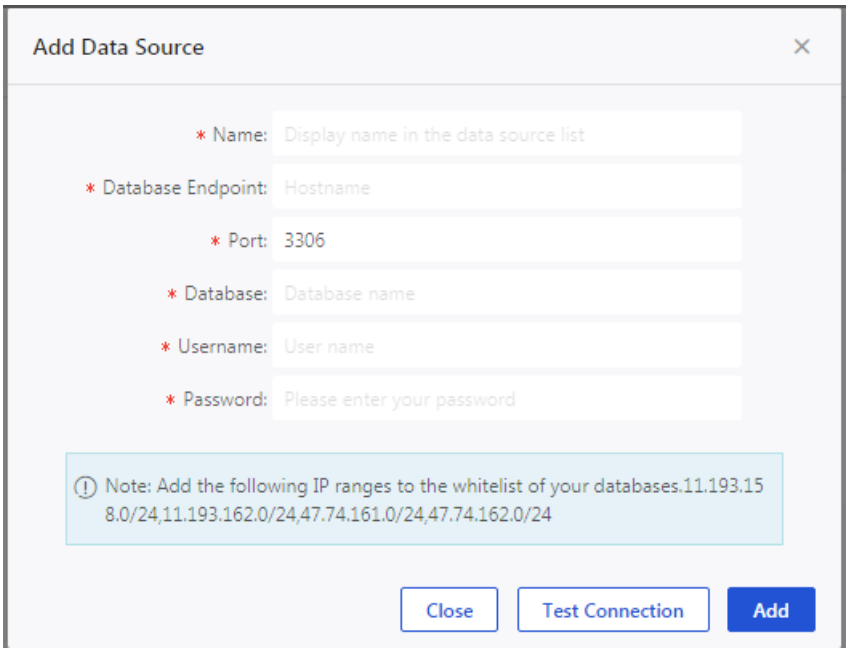
   MaxCompute data sources are asynchronously loaded and updated. If it is your first time to create a data source, you must wait one to five minutes for data synchronization.

MySQL

Due to the limitation of the whitelist policy of ApsaraDB for RDS, you must manually add the whitelists on the ApsaraDB for RDS console before adding an ApsaraDB for RDS data source.

To add and set up whiteable lists, see *Access domains and data centers*.

1. Click **MySQL**.
2. Enter the required data source connection information, as shown in the following figure.



- Display name: Display name in the data source list
- Database Endpoint: Enter the host name or IP address.
- Port: Enter the correct port number.
- Database: Connection database name
- User Name: The user name of the database.
- Password: The password of the database.

If you do not know the user name and password, contact your data warehouse administrator.

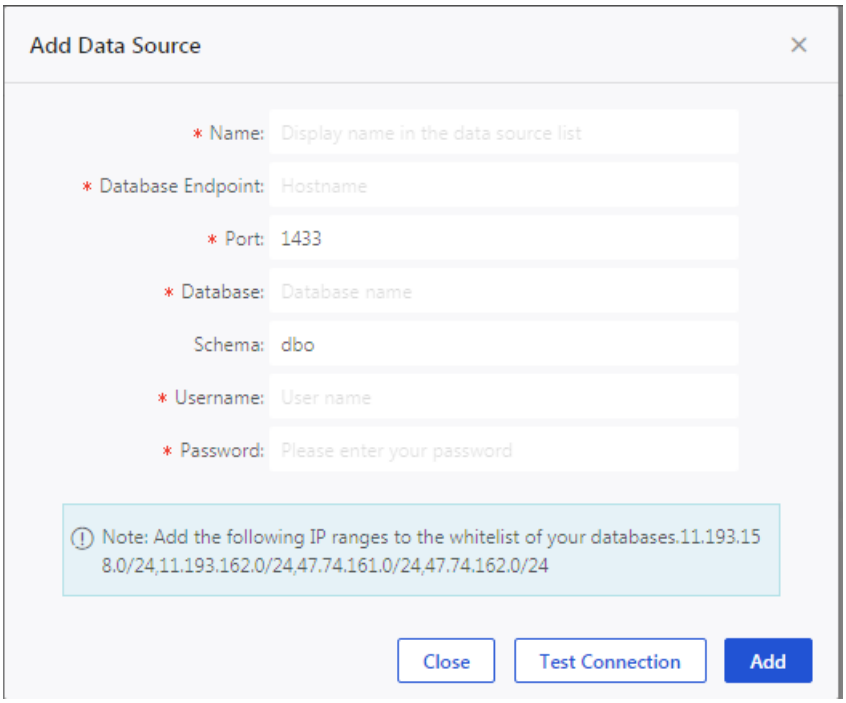
3. Click **Test Connection** to perform the data source connectivity test.
4. Click **Add** to complete the data source add.

   If a data source with the same configuration already exists, a message indicating a conflict is displayed. Do not add a duplicate data source.

SQL Server

The method for adding a data source from ApsaraDB for RDS (SQL Server) is similar to that from ApsaraDB for RDS (MySQL). The differences are that the configuration item **schema** is added for data sources from ApsaraDB for RDS (SQL Server), and the default port is set to port **1433** of the SQL server.

1. Click **SQL Server**.
2. Enter the required data source connection information, as shown in the following figure.

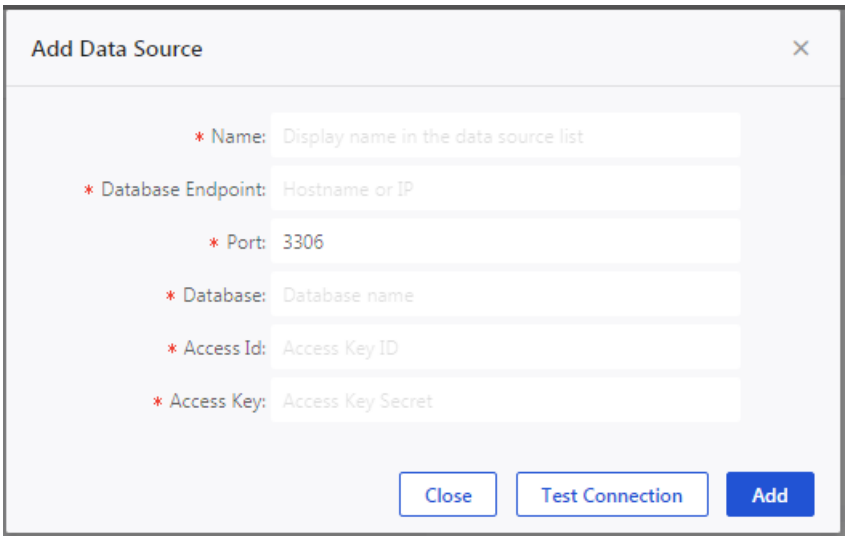


- Name: Display name in the data source list
- Database Endpoint: Enter the host name or IP address.
- Port: Enter the correct port number.
- Database: Connection database name
- Schema: dbo
- User Name: The user name of the database.
- Password: The password of the database.

3. Click **Test Connection** to perform the data source connectivity test.
4. Click **Add** to complete the data source add.

Analytic DB

1. Click **Analytic DB**.
2. Enter the required data source connection information, as shown in the following figure.



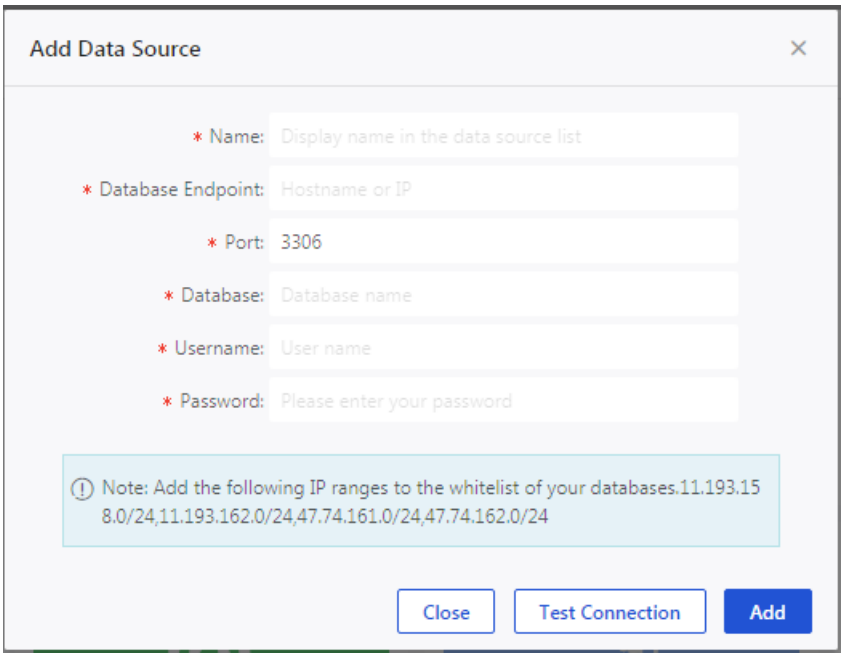
- Name: Display name in the data source list
- Database Endpoint: Enter the host name or IP address.
- Port: Enter the correct port number.
- Database: Connection database name
- Access Id: The AccessKey ID of the Alibaba Cloud console.
- AccessKey: The AccessKey Secret of the Alibaba Cloud console.

3. Click **Test Connection** to perform the data source connectivity test.
4. Click **Add** to complete the data source add.

Hybrid DB for MySQL

The method for adding a data source from Hybrid DB for MySQL is similar to that from MySQL.

1. Click **Hybrid DB for MySQL**.
2. Enter the required data source connection information, as shown in the following figure.



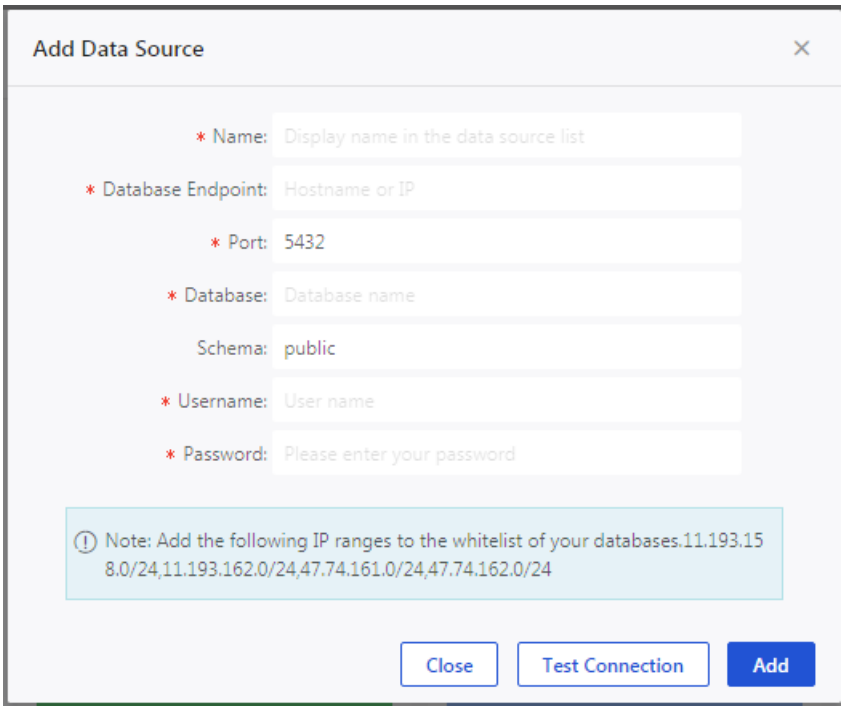
- Name: Display name in the data source list
- Database address: Just fill in the host name or IP address.
- Port: Default 3306
- Database: Connection database name
- User name: Corresponding user name
- Password: The password of the database.

3. Click **Test Connection** to perform the data source connectivity test.
4. Click **Add** to complete the data source add.

HybirdDB for PostgreSQL

The method for adding a data source from Hybrid DB for PostgreSQL is similar to that from SQL Server. The default port is the port specific to HybridDB for PostgreSQL.

1. Click **Hybrid DB for PostgreSQL**.
2. Enter the required data source connection information, as shown in the following figure.

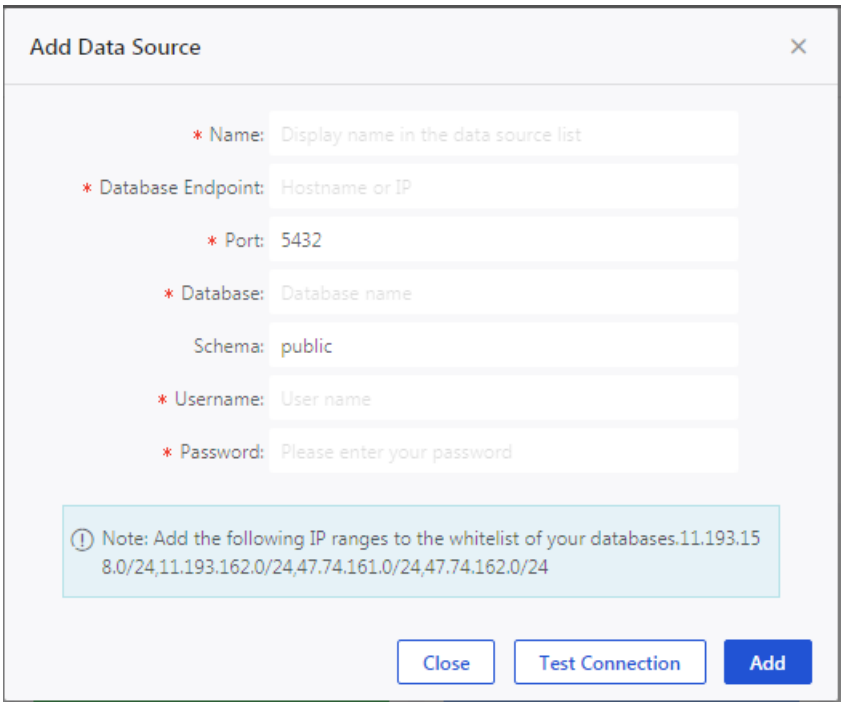


- Name: Display name in the data source list
- Database Endpoint: Enter the host name or IP address.
- Port: Enter the correct port number.
- Database: The name of the database to be connected to.
- Schema: public
- User Name: The user name of the database.
- Password: The password of the database.

3. Click **Test Connection** to perform the data source connectivity test.
4. Click **Add** to complete the data source add.

PostgreSQL

1. Click **PostgreSQL**.
2. Enter the required data source connection information, as shown in the following figure.



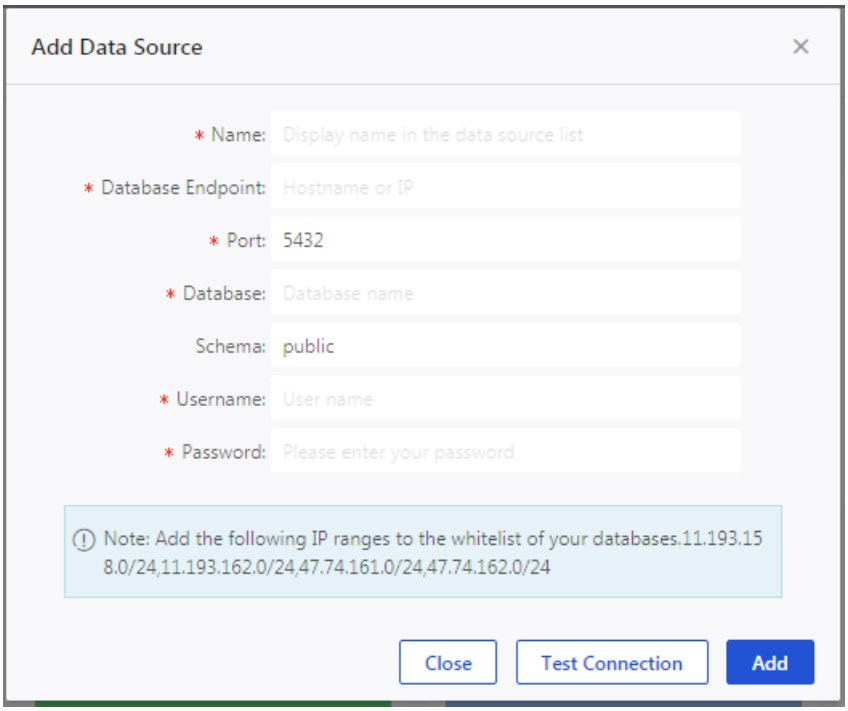
- Name: Display name in the data source list
- Database Endpoint: Enter the host name or IP address.
- Port: Enter the correct port number.
- Database: The name of the database to be connected to.
- Schema: public
- User Name: The user name of the database.
- Password: The password of the database.

3. Click **Test Connection** to perform the data source connectivity test.
4. Click **Add** to complete the data source add.

PPAS

The method for adding a data source from PPAS is similar to that from PostgreSQL.

1. Click **PPAS**.
2. Enter the required data source connection information, as shown in the following figure.



- Name: Display name in the data source list
- Database Endpoint: Enter the host name or IP address.
- Port: Enter the correct port number.
- Database: The name of the database to be connected to.
- Schema: public
- User Name: The user name of the database.
- Password: The password of the database.

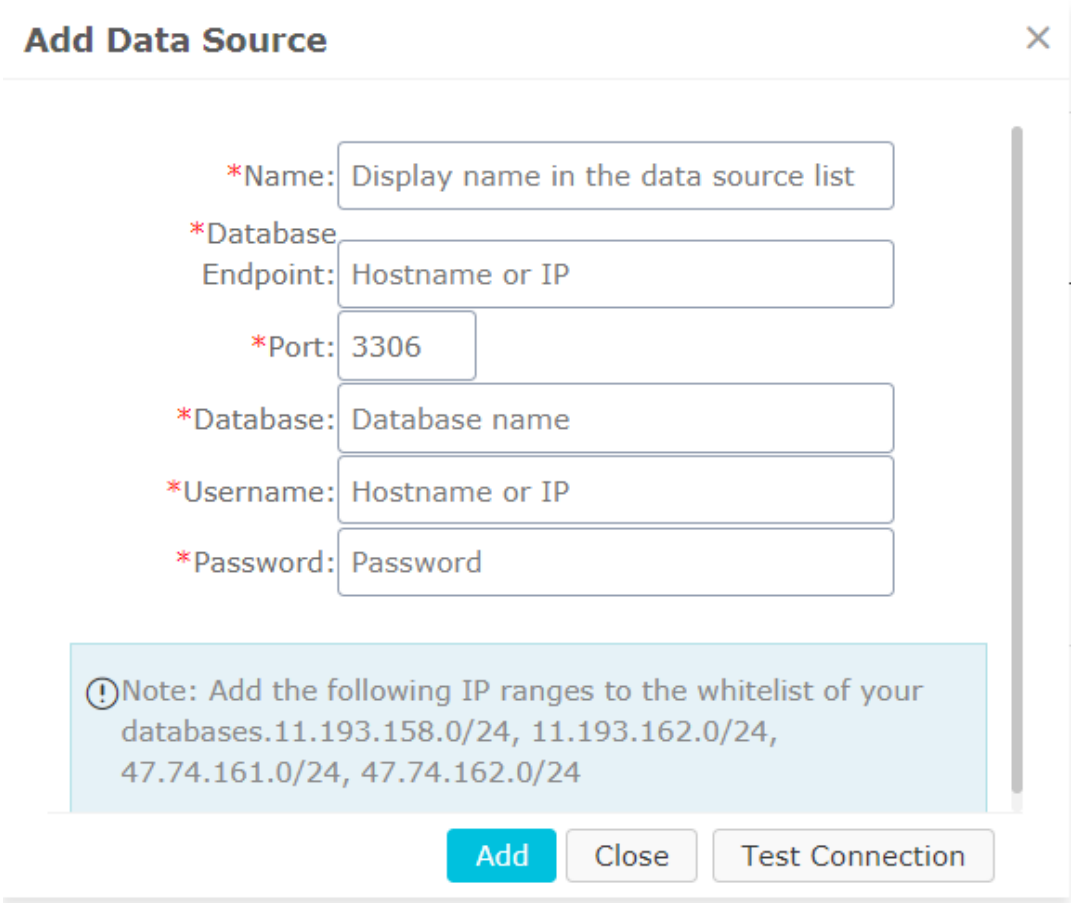
3. Click **Test Connection** to perform the data source connectivity test.
4. Click **Add**. The data source is added.

2.2.4 Create a data source from external database

This section describes how to create a data source from external database.

MySQL

1. Log on to Quick BI console.
2. Click **Data Sources**. The data source management page is displayed.
3. Click**Create data source** > **From External Database** > **MySQL**
4. Enter the required data source connection information, as shown in the following figure.



- Display name: list of data sources display name
- Database address: Just fill in the host name or IP address.
- Port: Default 3306
- Database: Connection database name
- User name: corresponding user name
- Password: The password of the database.

5. Click **Test Connection** to perform the data source connectivity test.
6. Click Add to complete the data source add.

You must enable the ECS firewall to enable external accesses to MySQL.

1. Run the following command to access the firewall configuration file:

   ```
   vi /etc/sysconfig/iptables
   ```

2. Add the following command to the firewall configuration file.

   ```
   -A RH-Firewall-1-INPUT -m state –state NEW -m tcp -p tcp –dport 3306
    -j
   ```

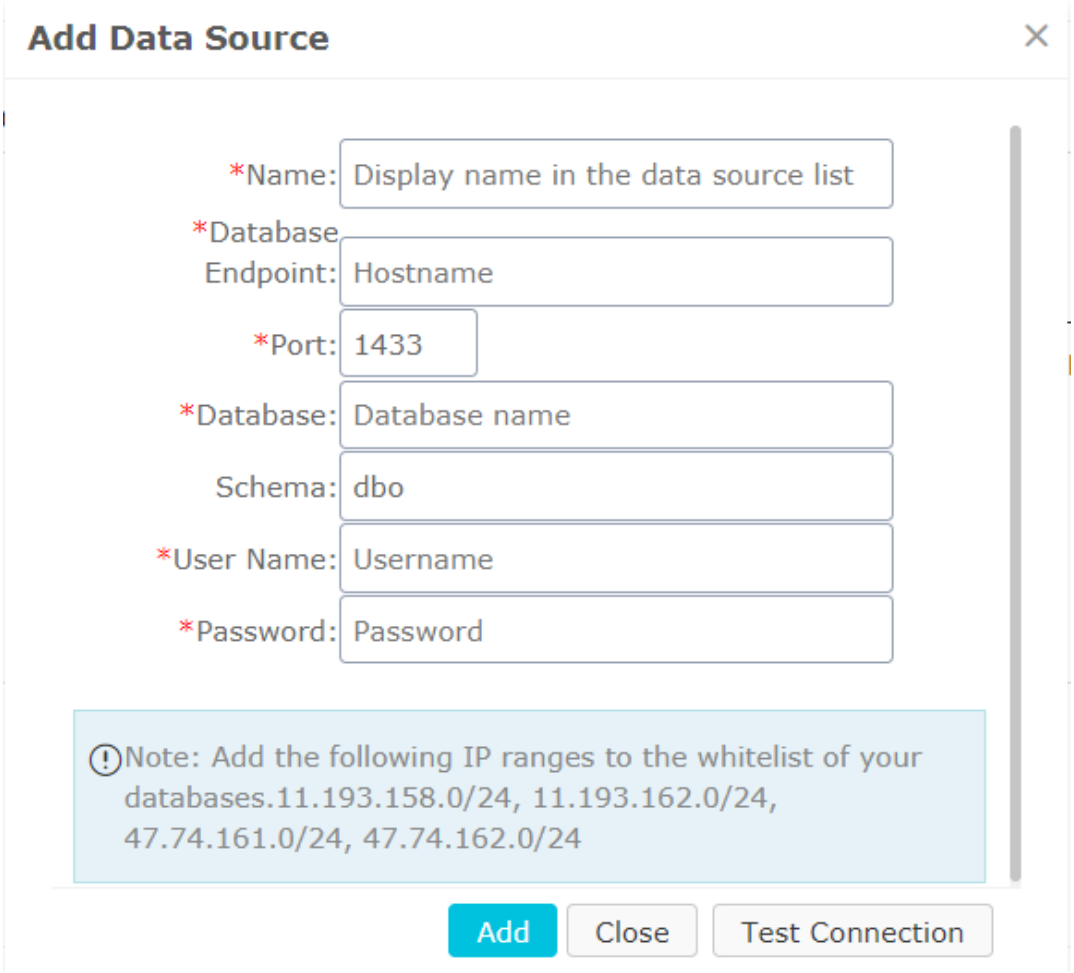
```
                    ACCEPT
```

3. After the configuration succeeds, restart iptable.

```
service iptables restart
```

SQL Server

1. Click **SQL Server**.
2. Enter the required data source connection information, as shown in the following figure.



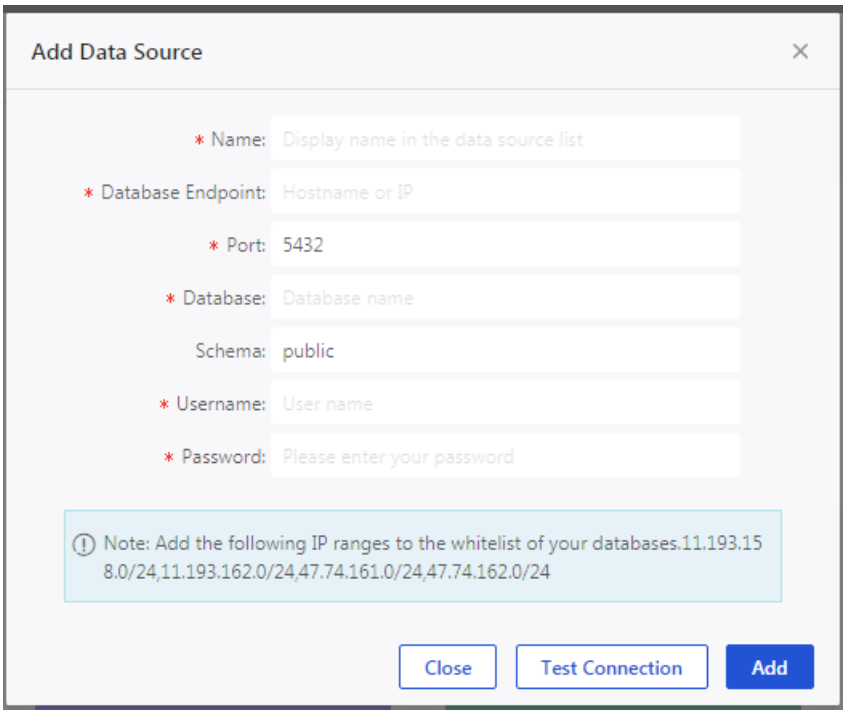
- Display name: list of data sources display name
- Database address: Just fill in the host name or IP address.
- Port: Default 1433
- Database: Connection database name
- Schema: dbo
- User name: corresponding user name
- Password: The password of the database.

3. Click **Test Connection** to perform the data source connectivity test.

4. Click Add to complete the data source add.

PostgreSQL

1. Click **PostgreSQL**.
2. Enter the required information for connecting to a data source.

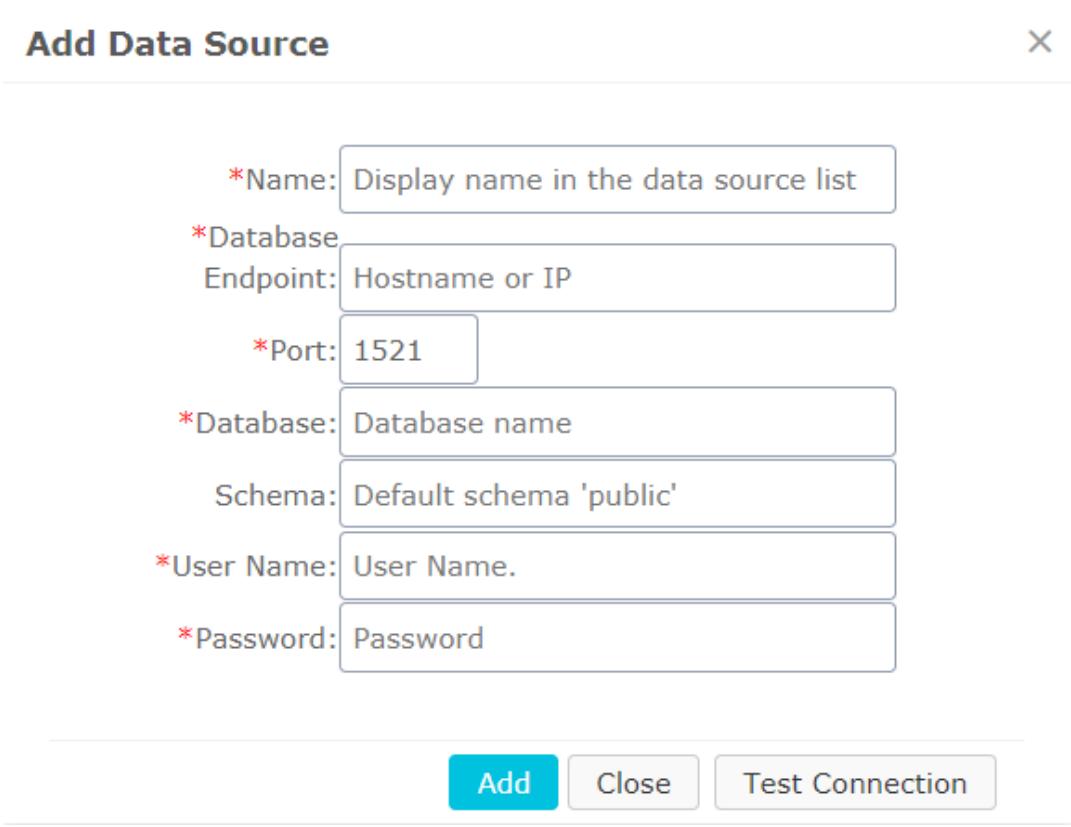


- Display name: list of data sources display name
- Database address: Just fill in the host name or IP address.
- Port: Default 5432
- Database: The name of the database to be connected to.
- Schema: public
- User Name: The user name of the database.
- Password: The password of the database.

3. Click **Test Connection** to perform the data source connectivity test.
4. Click Add to complete the data source add.

Oracle

1. Click **Oracle**.
2. Enter the required data source connection information, as shown in the following figure.



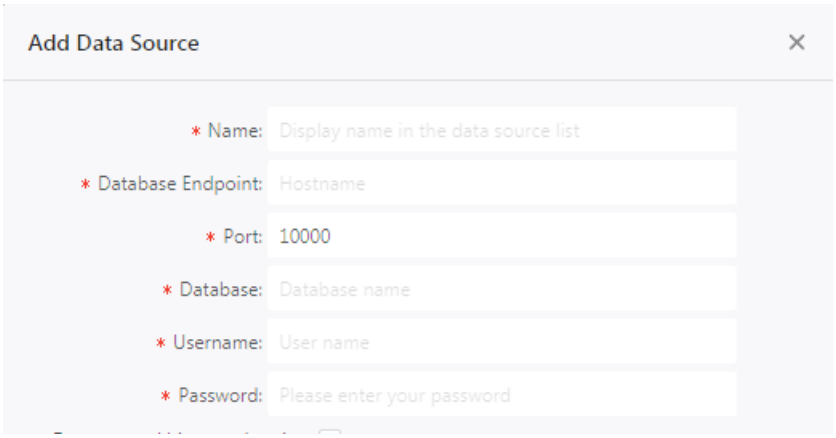
- Display name: list of data sources display name
- Database Address: Enter the host name or IP address.
- Port: Default 1521
- Database: Name of the database to be connected to.
- Schema: public
- User Name: The user name of the database.
- Password: The password of the database.

3. Click **Test Connection** to perform the data source connectivity test.
4. Click **Add**. The data source is added.

Hive (Quick BI Pro)

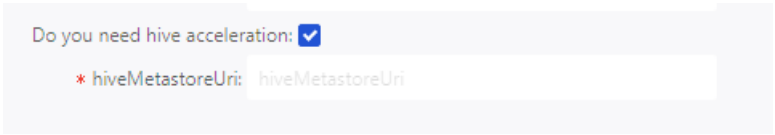
If you are using the Quick BI professional, you can add Hive data source.

1. Click **Hive**.
2. Enter the required data source connection information, as shown in the following figure.



- Display name: list of data sources display name
- Database address: Just fill in the host name or IP address.
- Port: Just fill in the correct port number
- Database: Connection database name
- User name: Corresponding user name
- Password: Corresponding Password

3. If you need to accelerate your Hive data source, enter the following data source acceleration information, as shown in the following figure.



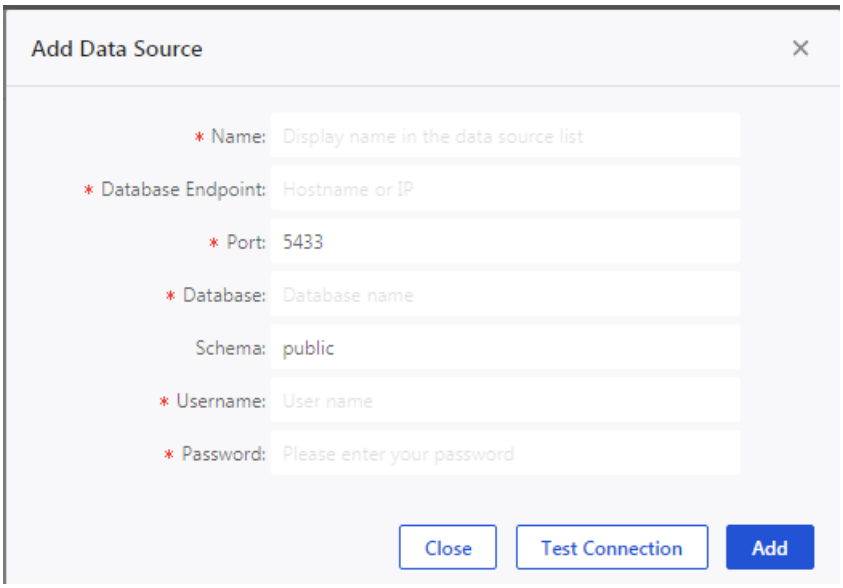
- hiveMetastoreUri: The address of Hive metadata.

4. Click Connect tests to perform a data source connectivity test.
5. Click Add to complete the data source add.

Vertica（**Quick BI Pro**）

If you are using Quick BI professional, you can also add a Vertica data source.

1. Click **Vertica**.
2. Enter the required data source connection information, as shown in the following figure.



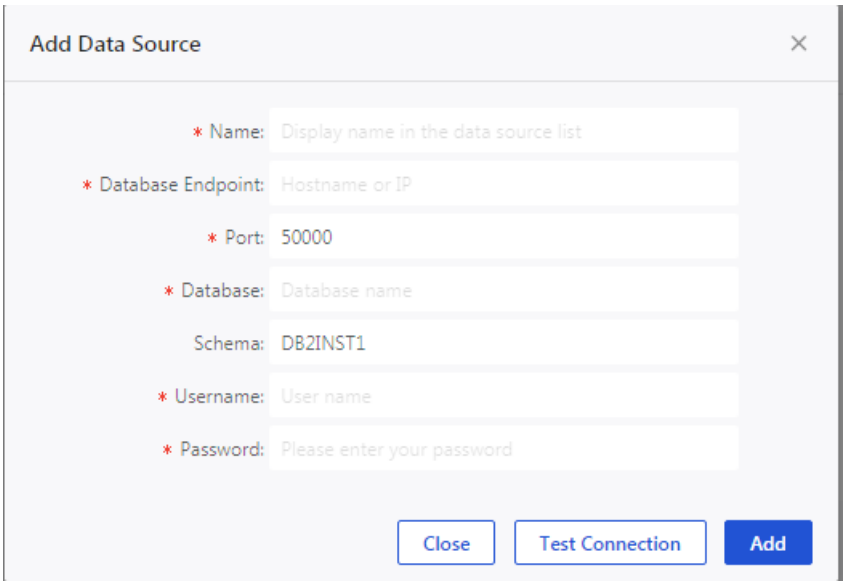
- Display name: List of data sources display name
- Database address: Just fill in the host name or IP address.
- Port Number: Default 5433
- Database: The name of the database to be connected to.
- Schema: public
- User Name: The user name of the database.
- Password: The password of the database.

3. Click **Test Connection** to perform the data source connectivity test.
4. Click Add to complete the data source add.

IBM DB2 LUW（**Quick BI Pro**）

If you are using Quick BI professional, you can also add an IBM DB2 LUW data source.

1. Click **IBM DB2 LUW**.
2. Enter the required data source connection information, as shown in the following figure.



- Display name: list of data sources display name
- Database address: Just fill in the host name or IP address.
- Port Number: Default 50000
- Database: Connection database name
- Schema: DB2INST1
- User name: Corresponding user name
- Password: The password of the database.

3. Click **Test Connection** to perform the data source connectivity test.
4. Click Add to complete the data source add.

2.2.5 Upload local files

You can upload local CSV files and Excel files (.xls and .xlsx files) to the explore space as a data source.

The explore space is a data source type that is used only in the personal workspace. Each user has 1 GB storage space.

In addition, you can import data sources from the Data IDE.

CSV file

CSV files in UTF-8 format are decoded without errors. CSV files in GBK or GB2312 format are automatically decoded, but the decoding may fail in some special cases.

If your CSV files cannot be decoded correctly, use text editors such as Notepad to convert the encoding of the files to UTF-8. Otherwise, the content of the uploaded files is shown as gibberish.

1. Use **Notepad** to open a CSV file.
2. Choose **File > Save As**.
3. Click the drop-down arrow of **Encoding**.
4. Select UTF-8.

After you have changed the encoding, upload the CSV file to the explore space.

1. Log on to the Quick BI console.
2. Click **Data Source** to enter the Data Sources page.
3. Click**Create Data Sources** > **Local Upload** > **CSV file**.
4. Enter a display name for the file.
5. Click **Select File** to select a file to upload, as shown in the following figure.

6. Click **OK** to upload the file.

Excel file

When you upload Excel files, you need to select which sheet in each excel file to upload. To make the editing and maintenance more flexible, you can only select one sheet in one Excel file at a time.

1. Click**Create Data Sources** > **Local Upload** > **EXCEL file**.
2. Enter a display name for the file.
3. Click **Select a file** to select the file to upload, as shown in the following figure.

4. Click **OK** to complete uploading the file.

Data IDE

Note:
Only supports importing data sources from the China (Shanghai) region, and you must add your account to the project.

1. Click**Create Data Sources** > **Local Upload** > **Data IDE**.
2. Select the data source from the list.
3. Click **Import** to complete the importing of the data source.

Update table data according to the local data source

The local data source feature of Quick BI is designed to meet the analysis requirements for your changing and growing business.

After you have uploaded a file, new files are generated as the business grows. You can append the new files to the table corresponding to the previously uploaded file to analyze business data consistently over a long period of time.

The new file can be in a format different from the previously uploaded file. For example, if you have uploaded a CSV file, you can import data from a sheet in an Excel file. Make sure that the field names and the field types in the files to be uploaded are the same as those in the previously uploaded file.

1. Click **Data Source** to enter the Data Sources page.
2. Click **Explore Space** to enter the Explore Space page.
3. Select a file, and then click **Update**.
4. Click **Append** to upload the file that needs to be appended.
5. Click **OK** to append the data.

Delete the data of the table corresponding to a local data source

If a file that you have appended contains dirty data, which decreases the accuracy of the data, you can delete the file with dirty data that is corresponding to the table in the uploaded file list. The corresponding dashboard displays corrected data without any manual changes. Therefore, the analysis results of data are accurate at all times.

1. Click **Data Source** to enter the Data Sources page.
2. Click **Explore Space** to enter the Explore Space page.
3. Select a file, and then click **Update**.
4. Locate the file that needs to be deleted, and then click the **Delete** icon, as shown in the following figure.

Example of local files

To help you learn to use local data source files, we provide a sample CSV file here: *Sales data examples*.

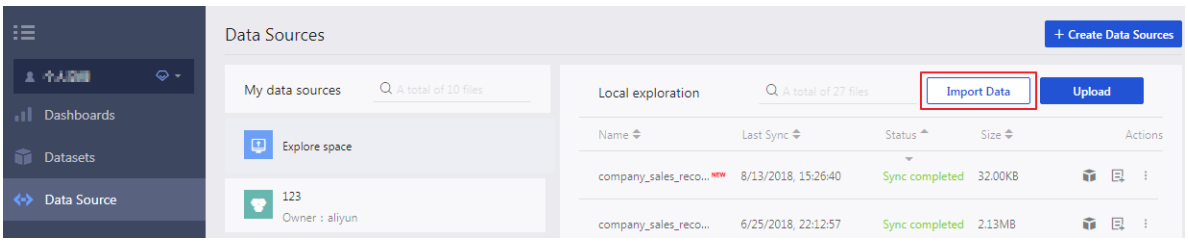
The structure of the sales data is shown in the following table.

Field	*Field type*	*Description*
order_id	varchar	Order ID
report_date	datetime	Order date
customer_name	varchar	Customer name
order_level	varchar	Order grade
order_number	double	Order quantity
order_amt	double	Order amount
back_point	double	Discount
shipping_type	varchar	Shipping type
profit_amt	double	Profit amount
price	double	Unit price
shipping_cost	double	Shipping cost
area	varchar	Region
province	varchar	Province
city	varchar	City
product_type	varchar	Product type
product_sub_type	varchar	Product subtype
product_name	varchar	Product name
product_box	varchar	Product packing box
shipping_date	datetime	Shipping date

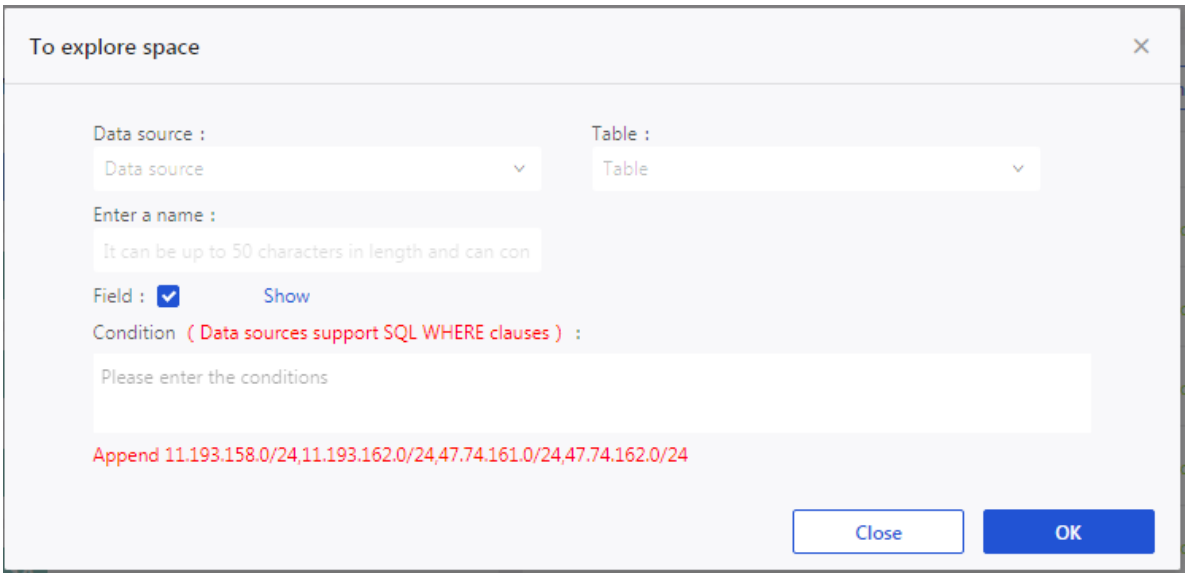
2.2.6 Data synchronization

In the personal workspace, the Quick BI supports synchronizing data sources of MaxCompute and MySQL to the explore space.

1. In the Data Sources page, click **Import Data** button.



2. Click drop-down arrow, and select a data source (MaxCompute or MySQL).



Note:

- You must add the following IP addresses to the RDS whitelist when synchronizing the MySQL data source.

  10.152.69.0/24,10.153.136.0/24,10.143.32.0/24,120.27.160.26,10.46.67.156,120.27.160.81,10.46.64.81,121.43.110.160,10.117.39.238,121.43.112.137,10.117.28.203,118.178.84.74,10.27.63.41,118.178.56.228,10.27.63.60,118.178.59.233,10.27.63.38,118.178.142.154,10.27.63.15,100.64.0.0/8,10.151.99.0/24
- You must switch to the classic network to synchronize the MySQL data sources. The VPC network does not support the synchronization.
- This function is a one-time synchronization. If the data source is updated, you must synchronize the data source again.

2.3 Dataset management

2.3.1 Datasets management overview

You can create a dataset based on an added or imported data source. For details about how to add or import a data source, see *Create a cloud data source*, *Create a data source from external database*, and *Upload local files*.

After creating a dataset, you can create your own dashboards based on the data demonstration needs. For details about how to create a dashboard, see *Charts overview*.

On the dataset management page, you can analyze, edit, and rename a selected dataset.

2.3.2 Create a dataset

Prerequisites

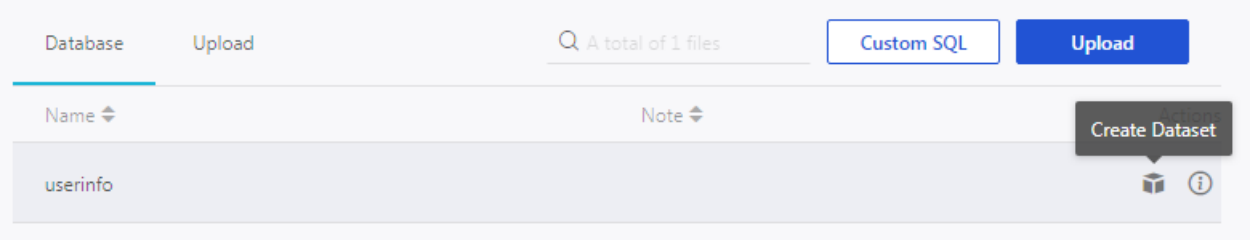
Before creating a dataset, ensure that you have added or imported a data source.

Context

For details about how to add or import a data source, see *Create a cloud data source*, *Create a data source from external database*, and *Upload local files*.

Procedure

1. Log on to the Quick BI console.
2. Click **Data Sources**. The data source management page is displayed.
3. Select a data table in the right pane.
4. Click **Create Dataset** next to the data table, as shown in the following figure.

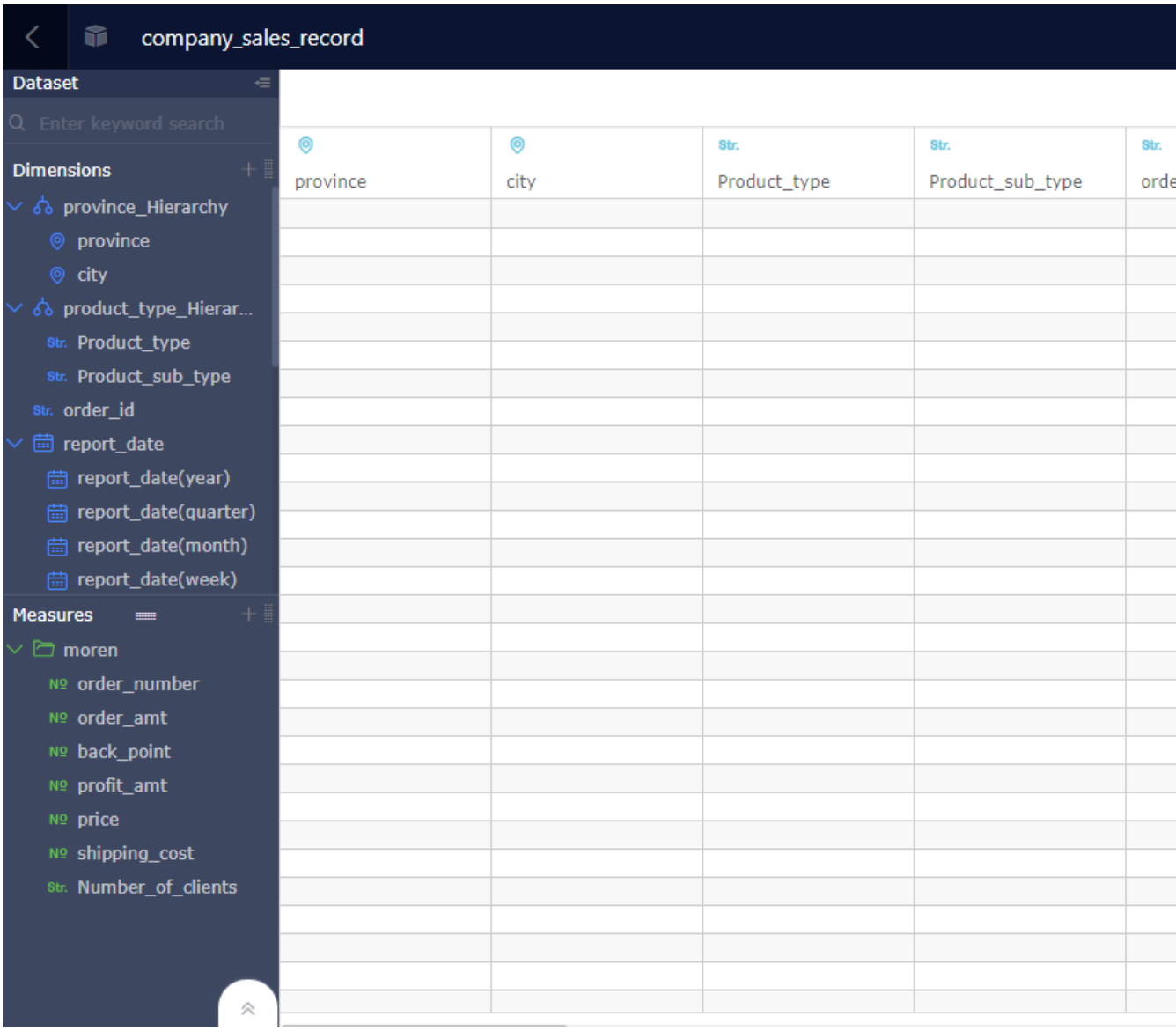


After the dataset is created, the **Dataset** tab is automatically displayed. **New** is displayed for the newly created dataset, which helps you to fast locate the dataset.

2.3.3 Edit a dataset

You can edit a dataset based on the chart demonstration needs.

1. Log on to the Quick BI console.
2. Click **Datasets**. The dataset management page is displayed.
3. Select a dataset and click its name. The dataset editing page is displayed.

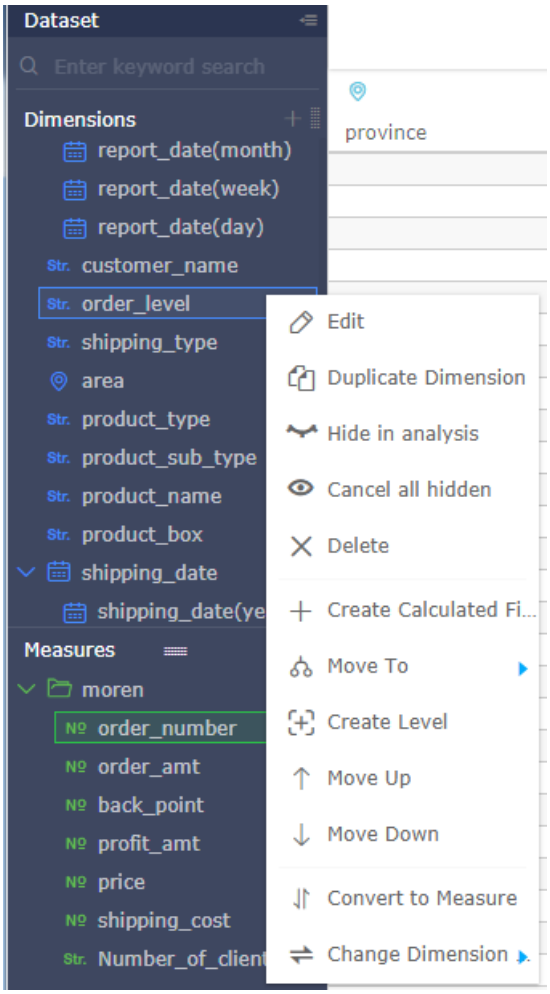


Fields in the dataset are automatically classified into **dimensions** and **measurements**. You can edit the dimension and measurement fields based on your table creation requirements. After the dataset is edited, you can save and refresh the edited data using **Toolbar** provided by the system.

Edit a dimension field

You can click the operation icon of a dimension field or right-click a dimension field to open the editing menu. For example, if you want to create a bubble or color map, you must set the dimension type to "Geographical Information". Otherwise, you cannot properly make the map.

1. Select a dimension field, for example, **order_level**.
2. Right-click the selected field. The field editing menu is displayed, as shown in the following figure.

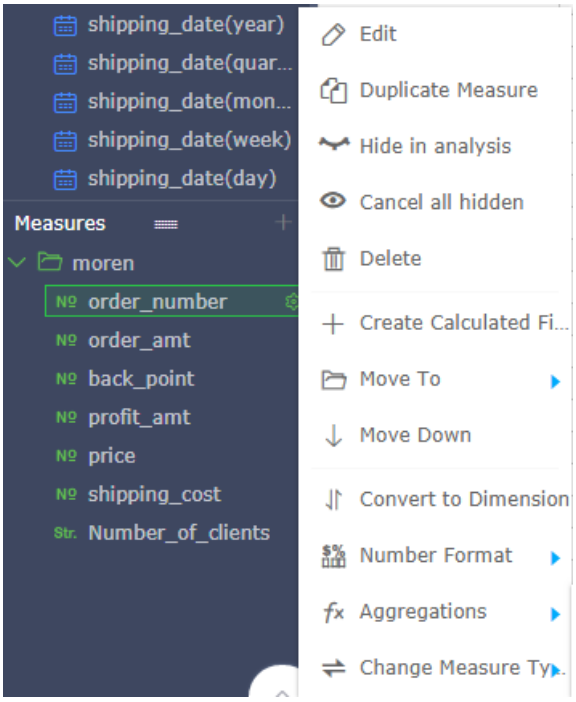


- Edit: To modify the display name and remarks of a dimension field.
- Duplicate Dimension: To quickly copy a dimension. **Copy** is automatically displayed for the generated dimension.
- Hide in analysis: Hide related dimensions.
- Cancel all hidden: Cancel the hide for related dimensions.
- Delete: To delete a field.
- Create Calculated Field (Dimension): To create a dimension field and customize the calculation mode.
- Move To: To quickly include a dimension field in an existing level for drilling.
- Create Level: To quickly include a dimension field in a created level.
- Move Up/Move Down: To move a field. You can drag the field or right-click the field to move it.
- Convert to Measurement: To convert the current dimension field to a measurement field.

- Change Dimension Type: To switch a dimension field to the default, date, or geographical type.

Edit a measurement field

1. Select a measurement field, for example, **order_number**.
2. Right-click the selected field. The field editing menu is displayed, as shown in the following figure.



- Edit: To modify the display name and remarks of a measurement field.
- Duplicate Measure: To quickly copy a measure. **Copy** is automatically displayed for the generated measure.
- Hide in analysis: Hide related measures.
- Cancel all hidden: Cancel the hide for related measures.
- Delete: To delete a field.
- Create Calculated Field (Measurement): To create a measurement field and customize the calculation mode.
- Move To: To quickly include a measurement field in an existing folder.
- Move Up/Move Down: To move a field. You can drag the field or right-click the field to move it.
- Convert to Dimension: To convert the current measurement field to a dimension field.
- Number Format: To set the display format of a number.

- Aggregations: You can select an aggregation mode, such as sum, max, or min, on the menu .
- Change Measure Type: To switch a measure field to the default, date, or geographical type.

Toolbar

You can use the toolbar shown in the following figure to save, refresh, or synchronize datasets.

- Sync Table Schema: To combine new table fields added to an online physical table. This operation can be used when an online physical table is changed, for example, a field is added . In this case, fields can be easily synchronized online. If a field of the online table is deleted or renamed, the corresponding dimension/measurement of the dataset is not deleted.
- Refresh Preview: To refresh and preview data of a dataset. If you want to view the latest data in real time, save the dataset and then refresh data.
- Save: To save a dataset.
- Save As: To save the current dataset as a new one. This operation can be used to quickly copy a new dataset or back up a dataset.

Join tables

Note:
Professional edition supports Multi-Dataset type, and it only applies to the MaxCompute, MySQL, and Oracle data source. Other editions don't support.

mysql Oracle

The Multi-Dataset type is not supported

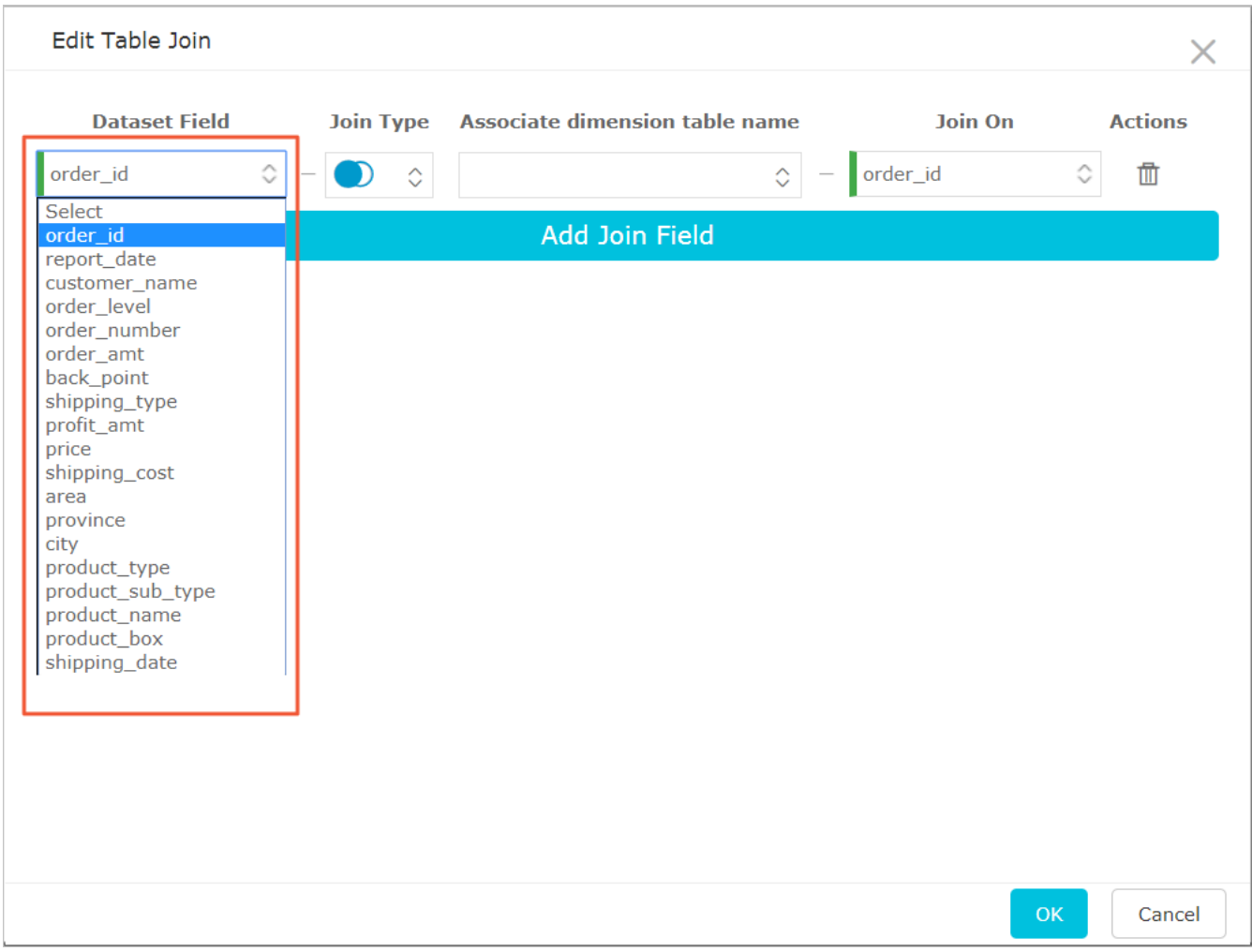
The following two joining modes are supported.

- Inner Join
- Left outer join

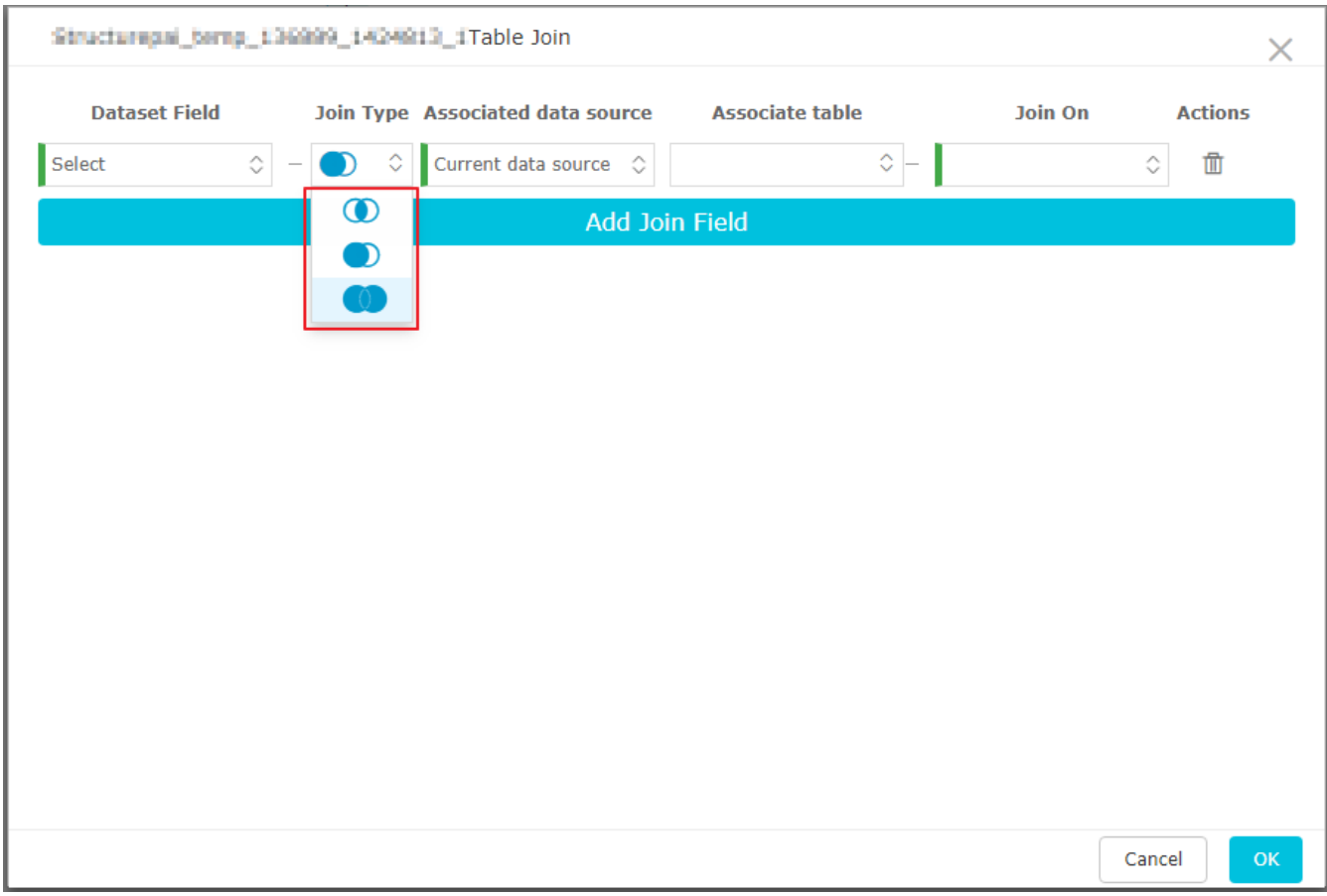
If you have two data tables that are from the same dataset, you can click **Join Table** to join one or multiple fields in the second table to the table that is currently edited. The joined table fields are automatically added to the dimension and measurement areas of the first table as folders.

1. Click the **Join Table** icon. The data table joining page is displayed.

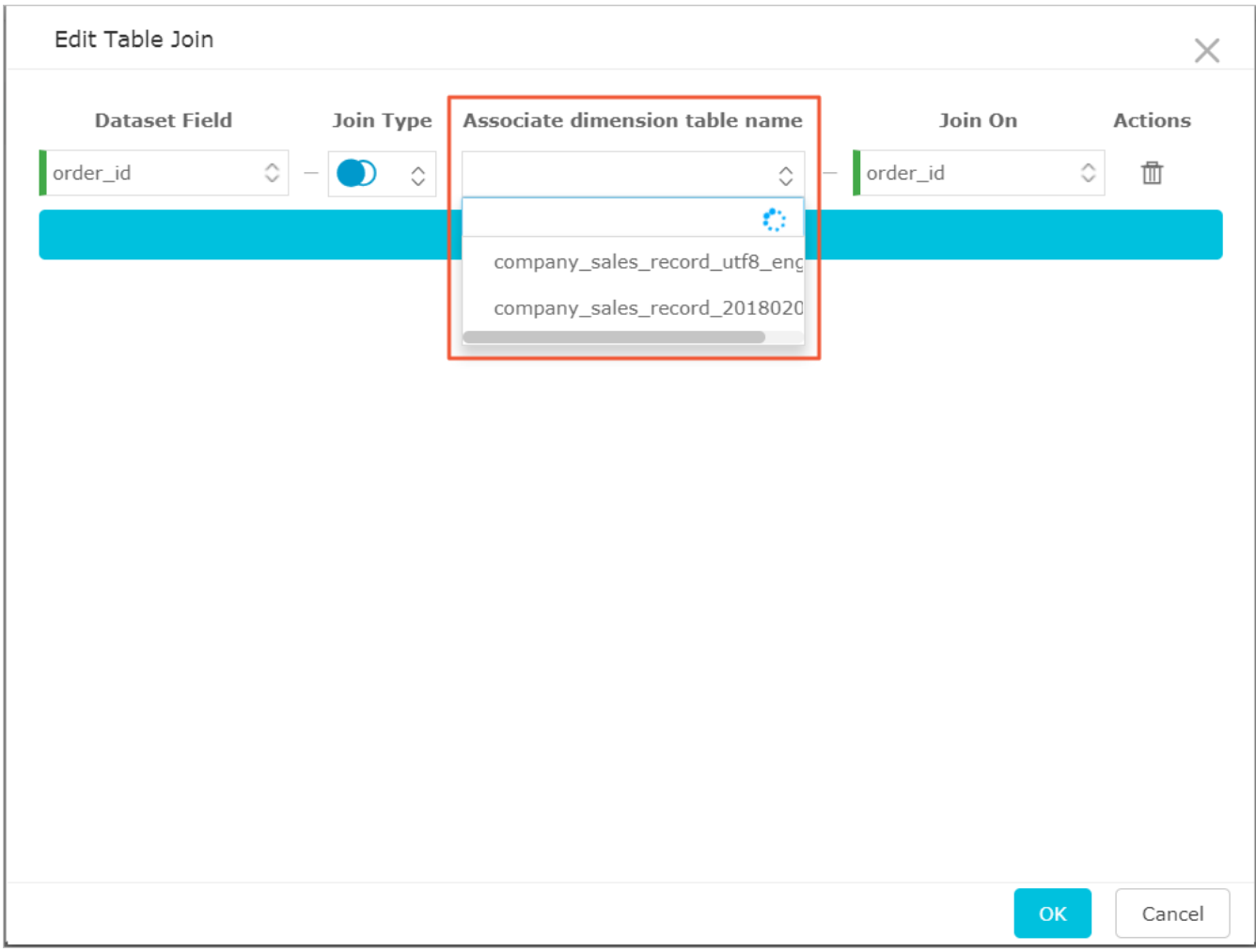
2. Click **+ Table Join** and add the data table to be joined.
3. Click the drop-down arrow of Dataset Field and select the dataset field to be joined.



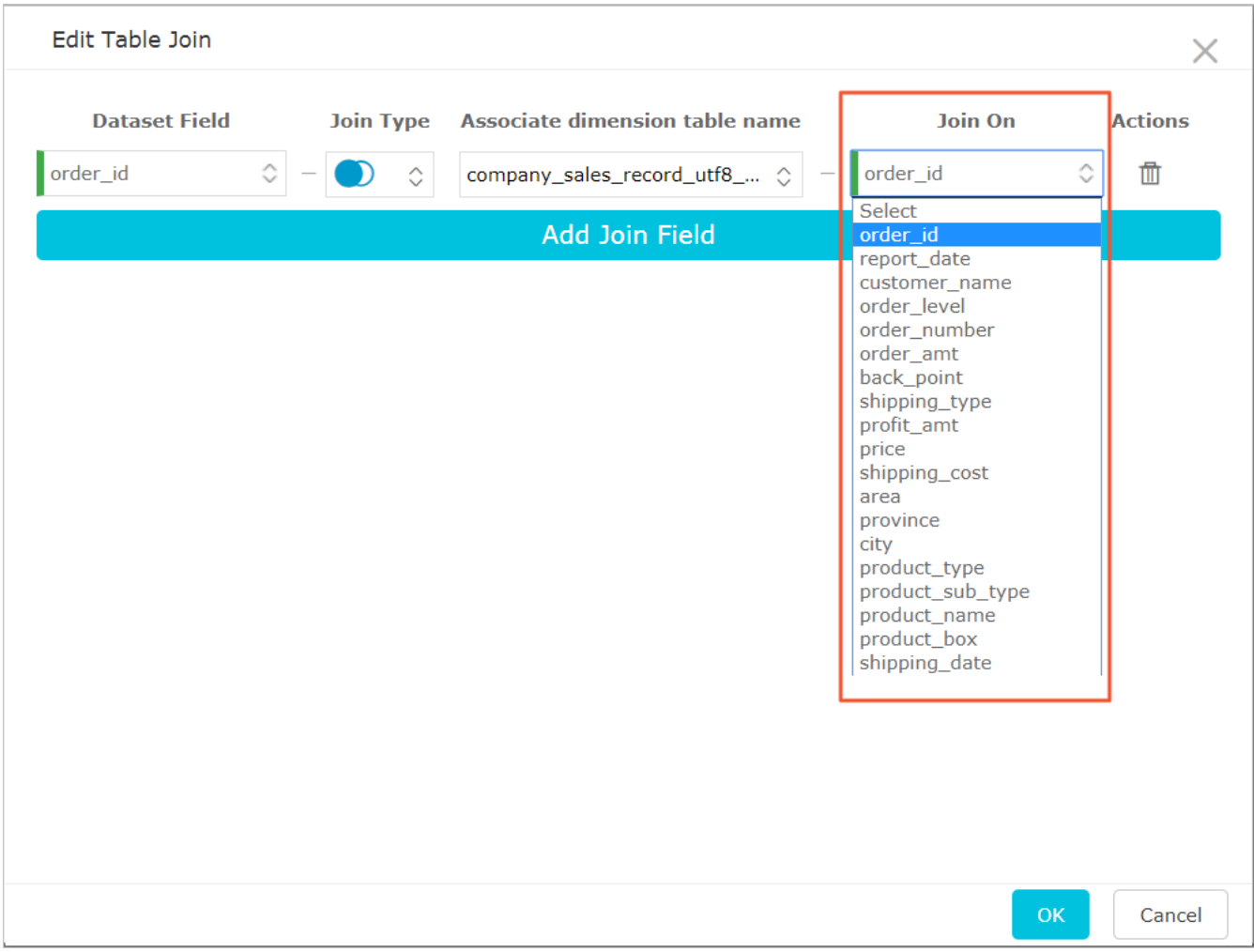
4. Click the drop-down arrow of **Join Type** and select the join mode.



5. Click the drop-down arrow of **Associate dimension table name** and select a joined table name.



6. Click the drop-down arrow of **Join On** and select a joined field.



7. Click **OK**. The joined table is added.
8. Click the preview icon to switch to preview mode, as shown in the following figure.

9. Click **Save** to save the current dataset.

Joined table example

1. On the dataset management page, select company_sales_record1.
2. Click its name and enter the dataset editing page.
3. Click the **Join Table** icon. The joined table editing page is displayed.
4. Click **+** to open the associated model dialog box.
5. Click **Dataset Field** drop-down arrow to select an associated field.
6. Click the **Join Type** drop-down arrow to select a join type, such as **left outer join**.

7. Click the drop-down arrow of **Associate dimension table name** and select an associated dataset.
8. Click **Join On** drop-down arrow to select an associated field.
9. Click **OK**. The joined table is added.
10. Click **Preview** icon to preview the data.
11. Click **Save** to save the dataset.

2.3.4 Analyze a dataset

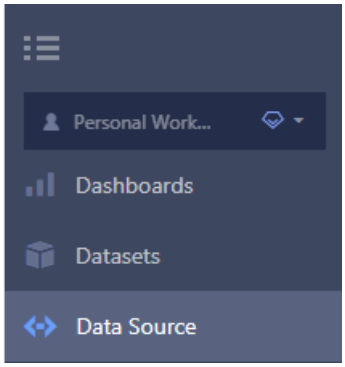
You can analyze data by using the worksheet and workbook.

The worksheet is only available for Quick BI Basic, the workbook is only available for workspace in Quick BI Pro and Quick BI Professional edition. You can only create a worksheet in personal workspace.

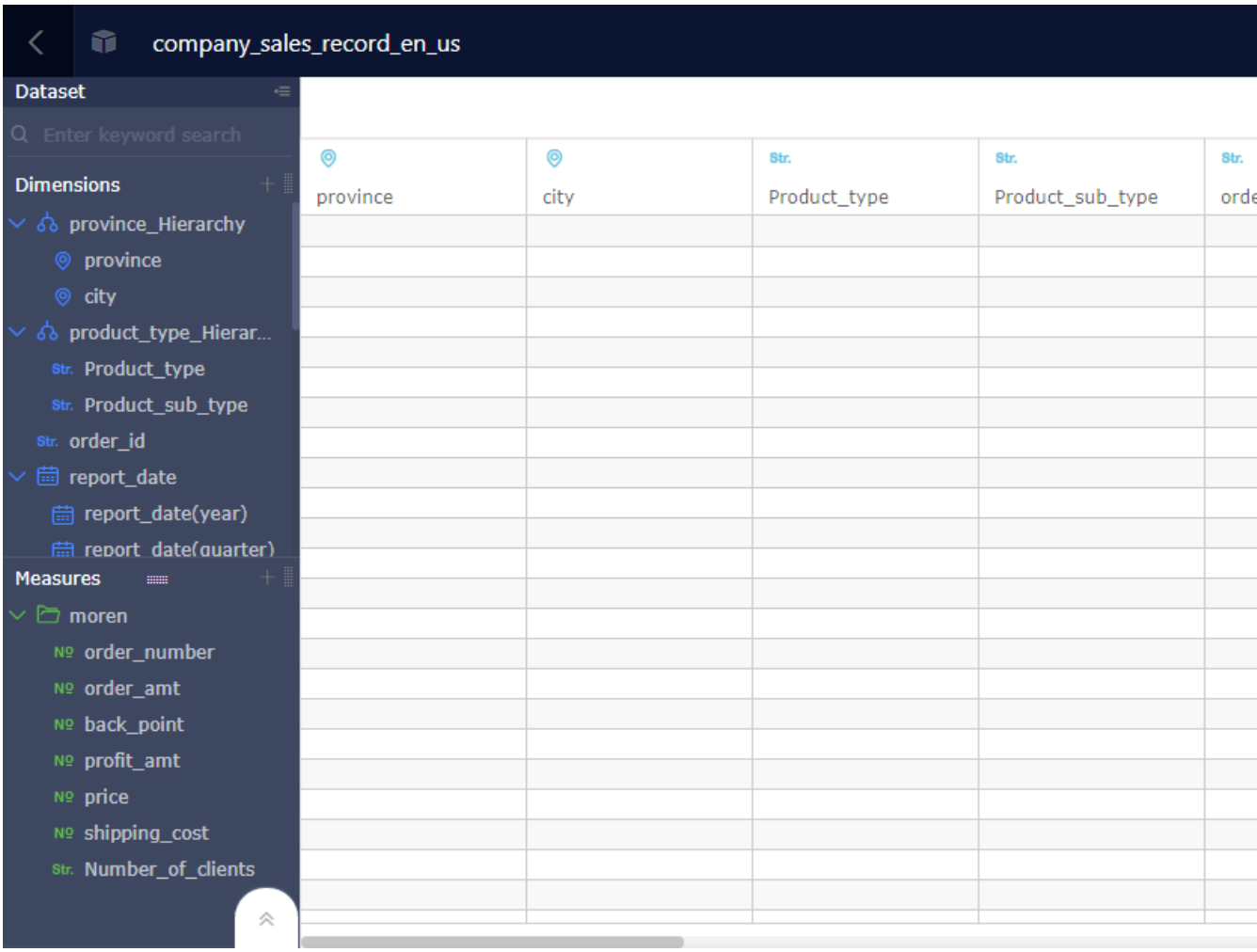
Note:
Worksheet is public preview function and will be retired later.

Worksheet

1. Log on to the Quick BI console.
2. (If you are using the Quick BI Basic, skip this step .) Switch the workspace to personal workspace.

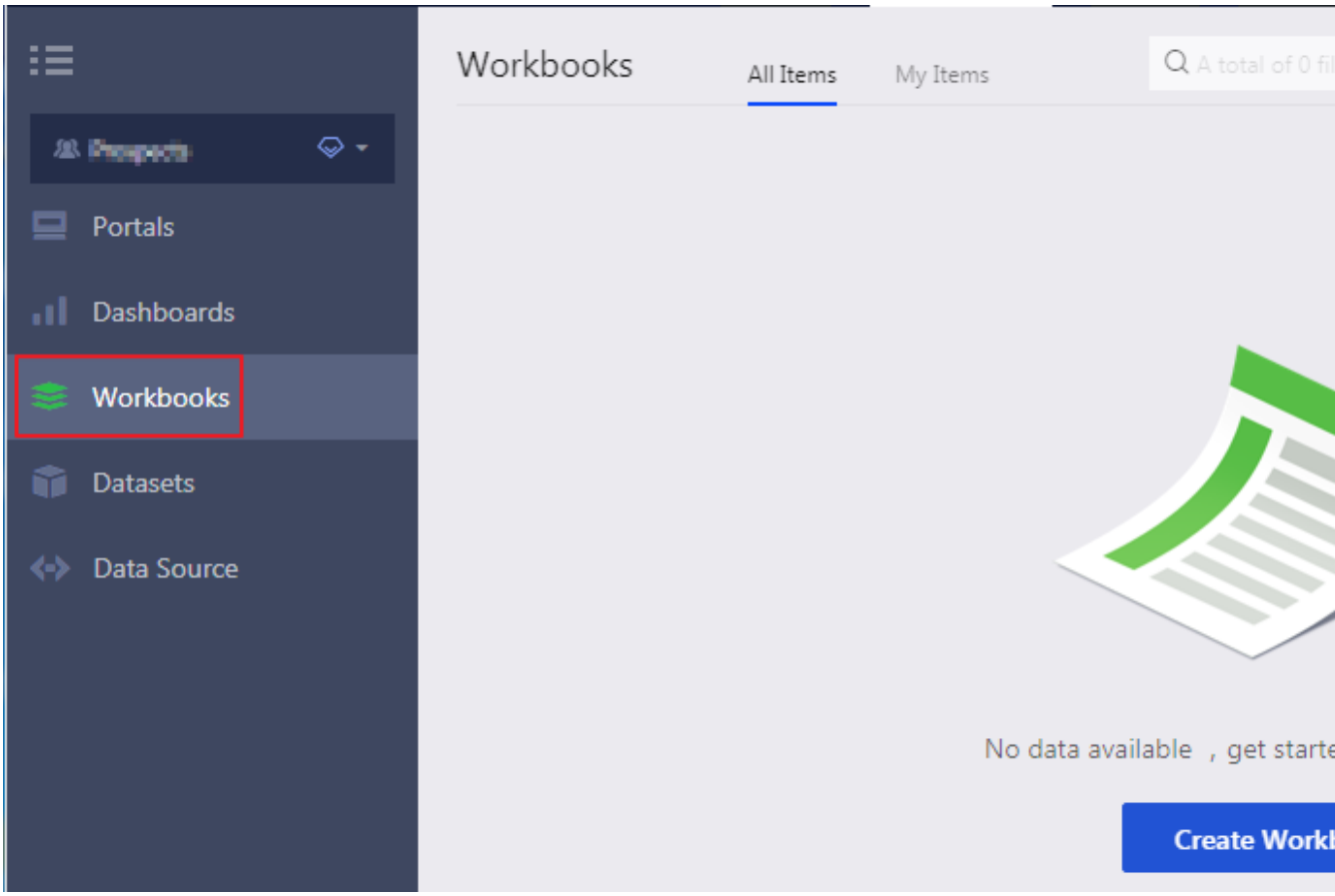


3. Click **Datasets**. The dataset management page is displayed.
4. Click a dataset name to enter the worksheet editing page.

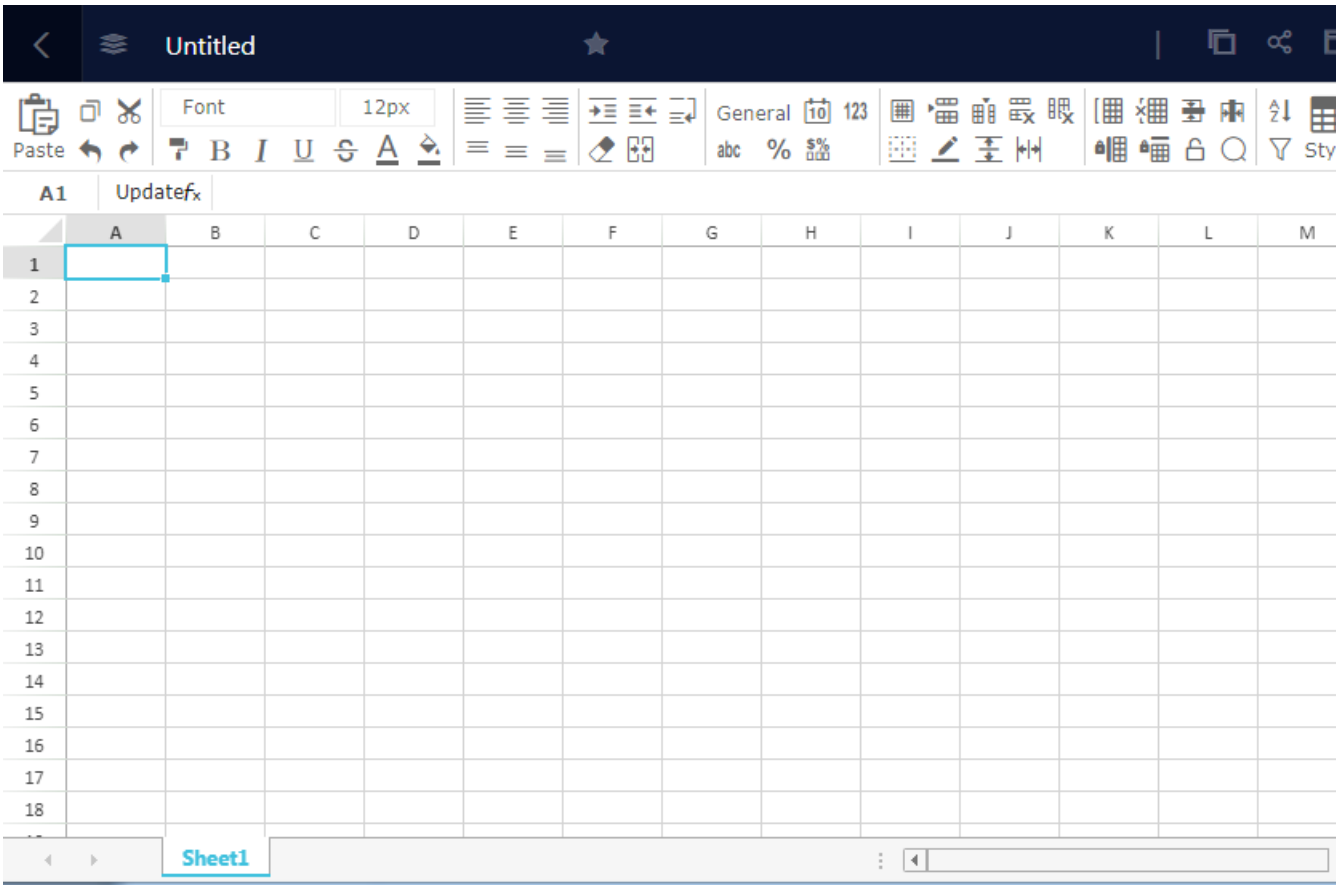


Workbook

1. Log on to the Quick BI console. (Quick Bi Pro or Professional edition)
2. Switch to the workspace.
3. Click **Workbooks**. The workbook management page is displayed.



4. Click **Create Workbook** to enter the workbook editing page.



For more information about the workbook, see *Example: Create a workbook*.