Alibaba Cloud
Quick BI

Product Introduction

Issue: 20190731

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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.	ⓘ Notice: 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]*

Style	Description	Example
{} or {a|b}	It indicates that it is a required value, and only one item can be selected.	`swich` *{stand | slave}*

Contents

1 What is Quick BI

Product positioning

Alibaba Cloud Quick BI is a cloud computing-based service that supports big data analysis and visualized data presentation. It is a lightweight, easy to use BI tool. You can perform ad hoc queries and analysis on data by creating data sources and datasets. You can use workbooks and dashboards to visualize data.

Process
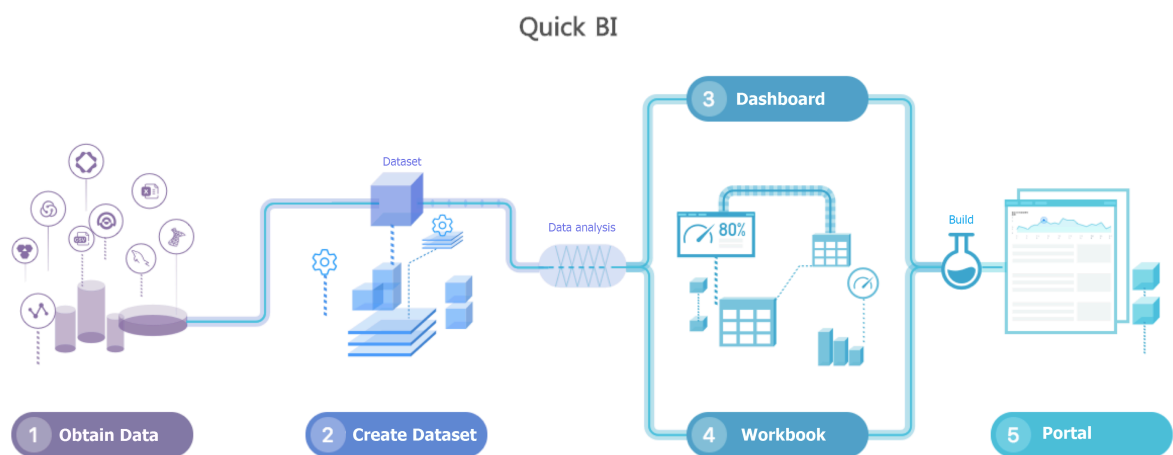
Features

Benefits

· Multiple data sources: Quick BI supports a wide range of data sources, including ApsaraDB, cloud, relational, Hadoop, and MPP databases.

· High-performance ad hoc queries: the built-in high-performance query engine runs computing and query tasks on a large volume of data within seconds.

· Convenient data analysis: Quick BI allows you to create Microsoft Excel-like workbooks and use over 300 Microsoft Excel-like data analysis functions. Quick BI dashboards support multiple types of data analysis, including filter interaction and drill down analysis. You do not need to use SQL statements to analyze data.

· Secure and multiple access methods: Quick BI allows you to create ACL rules to ensure data security. Access permissions to each object is under control. You can verify and grant permissions to different objects. Quick BI provides multiple security control methods, including user permission control, row-level permission

s, and watermarks. You can create a dashboard and display it on multiple terminals
, including mobile terminals, PCs, and large screens.

Features

· Quick modeling: you can create a dataset in three steps.

· Powerful data analysis capabilities: Quick BI allows you to create workbooks.
  You can use Quick BI to analyze data and create reports (such as daily, monthly,
  and annual reports) based on multiple data sources. Quick BI supports over 300
  common data analysis functions to help you optimize analysis results.

· Diversified data visualization features: Quick BI supports over 21 chart types,
  including vertical bar, line, horizontal bar, area, pie, funnel, radar, hierarchy, and
   scatter charts. Quick BI also supports geo bubble maps, geo maps, dashboards,
  Kanban, treemaps, LBS maps, polar diagrams, word clouds, tornado-leaned, flow
  analysis, and cross tables. You can use these charts to visualize business data.

· Protected mode: Quick BI allows members in the same group space to edit the
  same object. This helps you analyze your business data efficiently.

· Multi-dimensional data analysis: the Web interface supports Microsoft Excel-like
  drag-and-drop operations, quick data import, and real-time analysis. This allows
  you to analyze data based on different dimensions without building a new model.

· Flexible reporting methods: reports created in Quick BI can be embedded into
  your own system. This allows you to view reports without the need to log on to the
 Quick BI console.

History

Based on big data construction and management, Quick BI can solve business
scenario issues, monitor global data, and support data-based operations. You can use
 Quick BI and Dataphin to build a data middle platform based on cloud data. Quick BI
helps you solve issues occurred in intelligent data collection and exploration.

Beginning August 2017, Quick BI has released several updates based on its own
existing features and commonly used features of other Alibaba Cloud services. These
 updates also take into consideration any advantages of domestic and international
 competitors, feedback from developers, and user experience feedback. Quick BI
is widely used in the following sectors: retail, financial, media, catering, and fast-
moving consumer goods.

Beginning from version 3 that was released in September 2018, Quick BI supports more data sources, including Object Storage Service, SAP IQ, SAP HAHA, and Vertica . The OLAP and query acceleration engines can provide high-quality query and analysis services based on big data. The BI process is simplified to improve user experience. You do not need to understand the complex technologies to use Quick BI.

2 Basic concepts

Key procedures
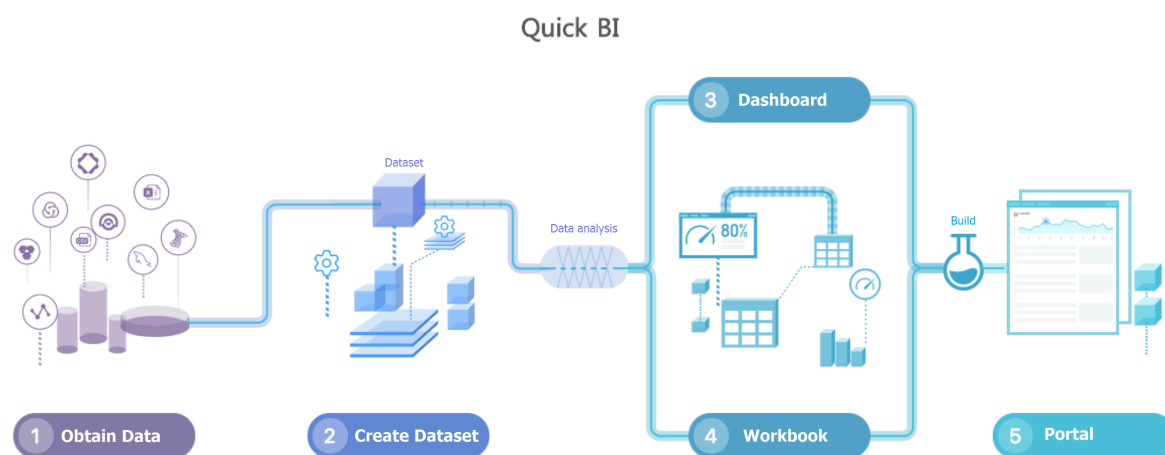
Basic objects

- Data source
- Dataset
- Workbook (for Quick BI Pro and Quick BI Enterprise Standard)
- Dashboard
- Portals

> **Note:**
>
> For more information about the difference of editions, see the following figure.

Features

Features	Quick BI Basic	Quick BI Pro	Quick BI Enterprise Standard
Workspaces	Personal Workspaces	Personal workspace (as in Quick BI Basic) Group Workspaces	Personal workspace (as in Quick BI Basic) Group Workspaces
User space	1 GB capacity is provided for each account.	1 GB capacity is provided for each account.	1 GB capacity is provided for each account.
Connect to Alibaba Cloud's cloud databases	MaxCompute (ADS)Analytic DB (RDS)MySQL (RDS)SQL Server HybridDB for MySQL HybridDB for PostgreSQL (RDS)PostgreSQL (RDS)PPAS	MaxCompute (ADS)Analytic DB (RDS)MySQL (RDS)SQL Server HybridDB for MySQL HybridDB for PostgreSQL (RDS)PostgreSQL (RDS)PPAS DLA	MaxCompute (ADS)Analytic DB (RDS)MySQL (RDS)SQL Server HybridDB for MySQL HybridDB for PostgreSQL (RDS)PostgreSQL (RDS)PPAS DLA OSS DRDS

Data source

When you use Quick BI for data analysis, you must first specify the data source of the raw data. A data source stores your raw data. You can use multiple methods to add data sources:

· Add data sources from cloud database services

· Add data sources from user-created database systems

· Upload local files (only available for Personal Space)

For more information about creating data sources, see Create a cloud data source, Create a data source from external database, and Upload local files.

Dataset

You can create datasets by using tables from different data sources. You can edit, move, or delete a dataset in the dataset list.

For more information about datasets, see Create a dataset.

Workbook

Workbooks are available for Workspace. You can obtain a workbook by analyzing and processing a dataset. You can use it to reference individual cells, leverage a rich range of functions, and create sophisticated business reports.
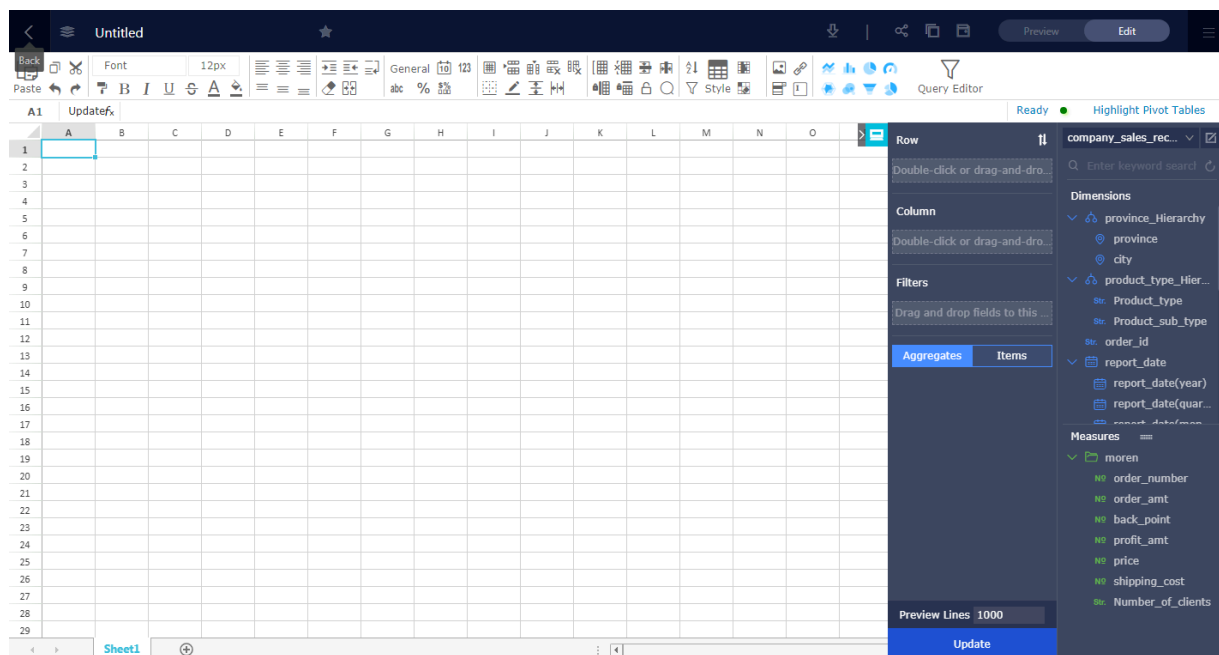
For more information about creating workbooks, see Create a workbook.

Dashboard

Dashboard provides you a more flexible tile layout to create interactive reports with visual analytics. Dashboard supports data filtering, data query, and multiple data display modes to highlight the key fields of data.

Dashboards support two display modes.

· Standard mode (for Quick BI Pro and Quick BI Enterprise Standard)
· Full-screen mode (only for Quick BI Enterprise Standard)

The standard mode supports multiple charts and five layout widgets.
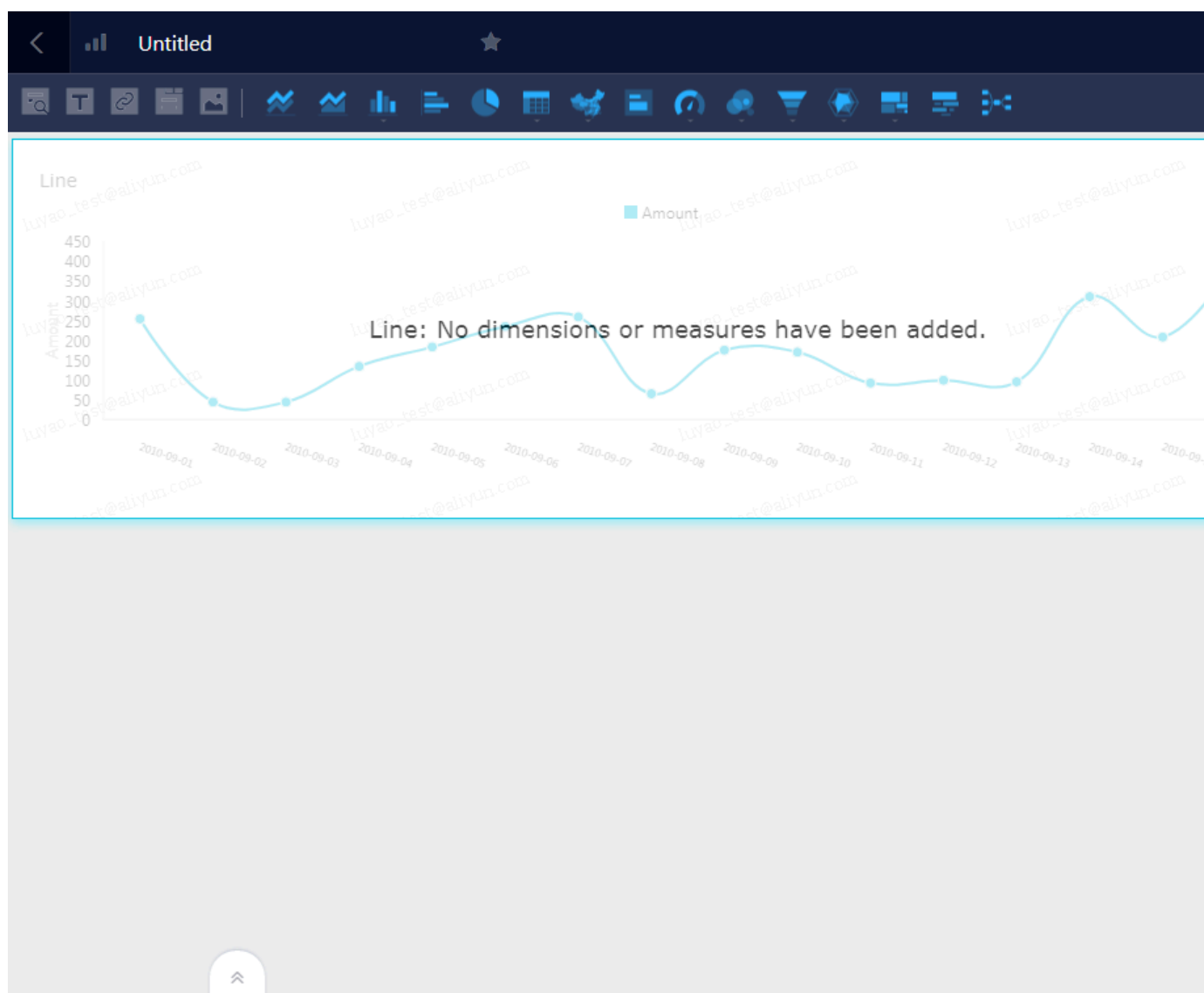
The standard mode supports multiple charts and five layout widgets.

For more information, see Create a dashboard.

Portals

> The data portal is also known as the data product. and reporting products that use a menu structure. You can use a portal as part of a management analysis system, for it supports to be referenced by external links.

> For more information about portals, see Create portals.

Product architecture

> The product architecture of Quick BI is shown in the following figure.
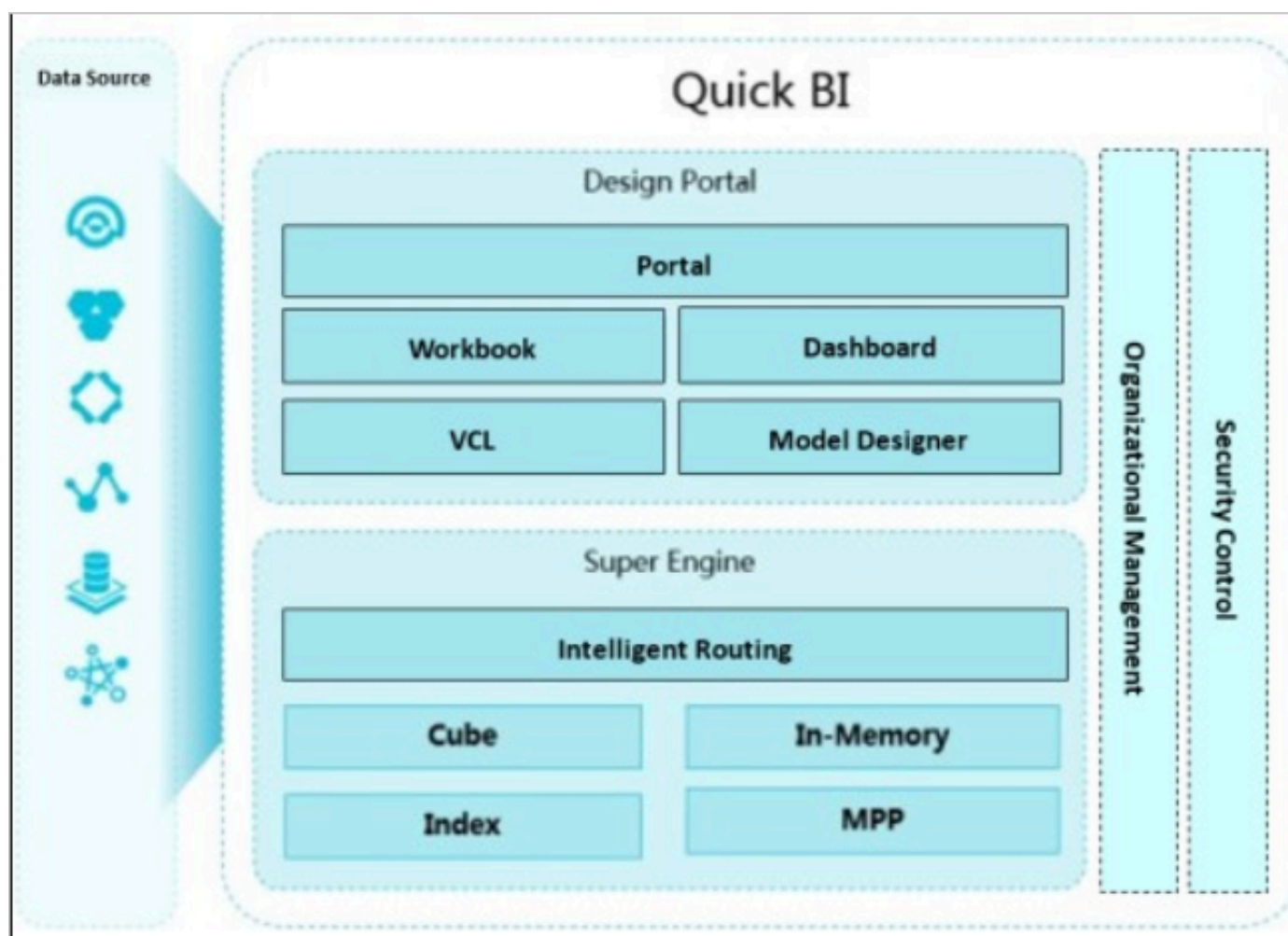
Modules and functions of Quick BI:

- Data connection module

  Quick BI accesses data from multiple supported data sources, including MaxCompute, ApsaraDB for RDS (MySQL, PostgreSQL, SQL Server), Analytic DB, and HybridDB (MySQL, PostgreSQL). Quick BI provides an encapsulation of the

standard APIs that are used for querying the schema and data of these data sources
.

· Data processing module

- QUERY engine: You can use the QUERY engine to perform queries and retrieve
data from data sources.

- Data pre-processing: This feature provides lightweight solutions to extract
, transform, and load data (ETL processing). Currently, only the custom
MaxCompute SQL queries are supported, with more data sources to be
supported in the future.

- Data modeling: This module provides data modeling features for online
analytical processing (OLAP). It converts data sources to multi-dimensiona
l analysis models. Data modeling supports common semantic objects, such
as dimensions (such as date and location), measures, and star schema. This
module supports calculated fields. Additionally, it allows you to edit dimensions
and measures using the SQL syntax supported by the current data source.

· Data visualization module

- Workbook: Provides operations related to online electronic spreadsheet (
webexcel), including data analysis (such as row and column filtering, common/
advanced filtering, classified aggregation, AutoSum, and conditional formatting
), data export, text processing, sheet processing, and other operations.

- Dashboard: In Quick BI, you can easily author dashboards with widgets and rich
visuals. Quick BI provides 33 charts and diagrams, including line charts, pie
charts, bar charts, funnel charts, tree diagrams, geo bubble maps, geomaps, and
card charts. Supported widgets include Filter Bar, TAB, IFrame, Image, and Text
Area. Quick BI supports filter interactions that allow you to filter data across
multiple charts.

- Portal: You can drag and drop components on a dashboard to assemble a portal.
Quick BI supports embedded links (linked dashboards) and basic settings of the
template and the menu bar.

- Share/Publish: You can share workbooks, dashboards, and portals with other
logged-in users, and publish dashboards on the Internet for non-logged-in users
to access the dashboards.

· Permission management module

- Organizational unit management and authorizations: Manages authorizations
  in a three-layer hierarchy: organization - workspace - role, to control access
  permission of each report.

- Row-level permission management: Control access to data at row-level, enables
  different roles to have row-level access to data stored in a table.

3 Scenarios

Quick BI has numerous customers around the world. The dynamic features meet the requirements in different scenarios.

Dynamic data analysis and effective decision-making

In data-driven business operations and management, we often need to create analysis reports based on data such as the customer retention rate and the active customer rate. Quick BI is easy to use and provides multiple data presentation techniques that support dynamic data analysis and effective decision-making. The following customer issues are resolved:

· Inconvenience to obtain data

For better decision-making, business managers often need to ask technical staff to write SQL statements for querying data based on different conditions.

· Difficulty to generate and maintain reports

The data of the backend analysis system changes frequently, the development cycle is long, and it is difficult to develop and maintain the system.

· The design of charts is unfriendly and costs large amounts of effort

Reports that are created with tools such as HighChart have a plain visualization and require large amounts of effort.

Recommended services:

RDS + Quick BI
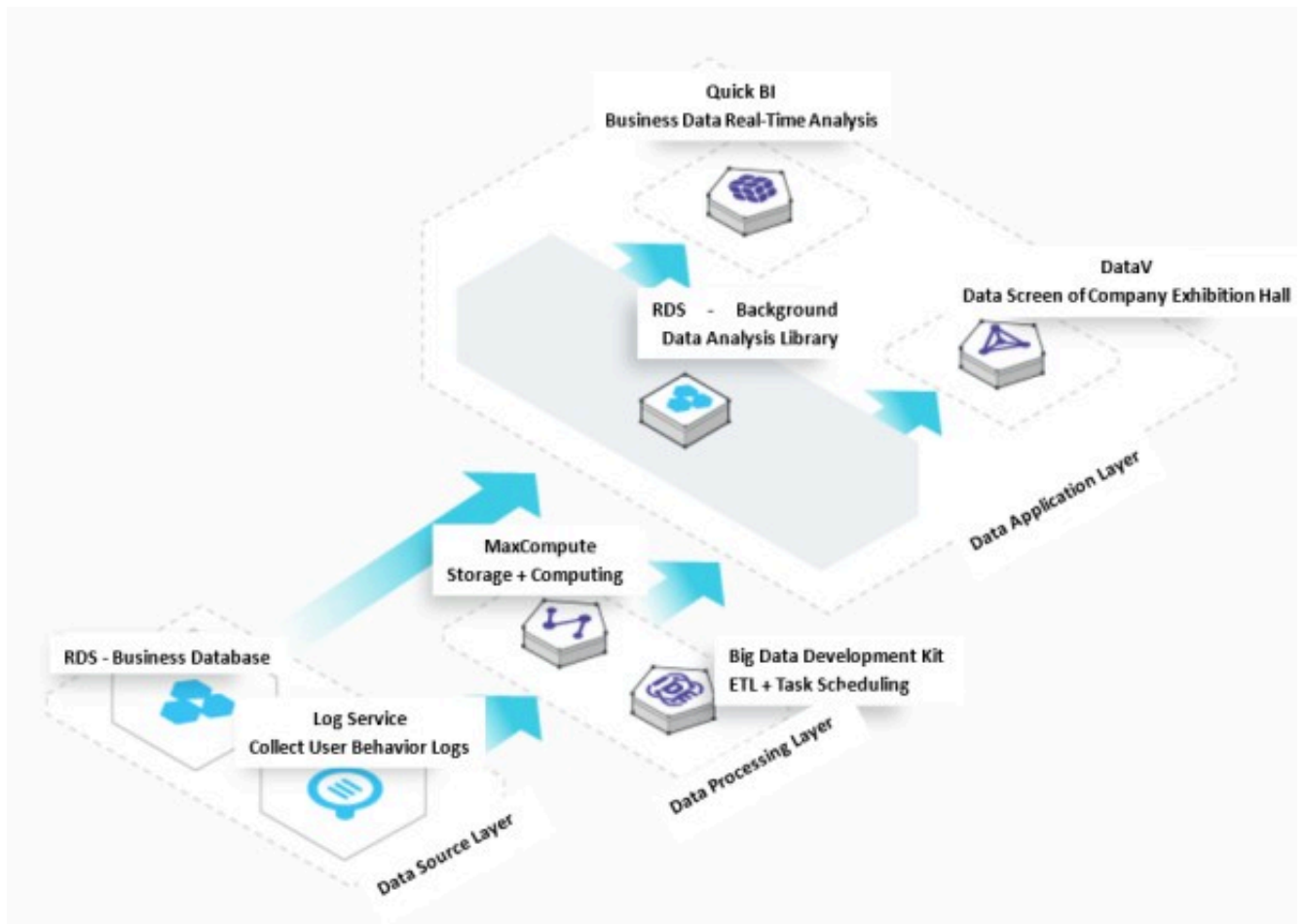
Reports integrated with your own system

A shipping service provider wants to build a simple BI platform that supports data visualization and analysis at the lowest possible cost and in the shortest possible time . The platform is supposed to integrate important business data into the management system of the company and provide employees in different departments and regions with data support. Quick BI resolves the issues of users and provides the following features:

· Easy to use

The system is quick and easy to use. It meets the data requirements for all and is easy to get started.

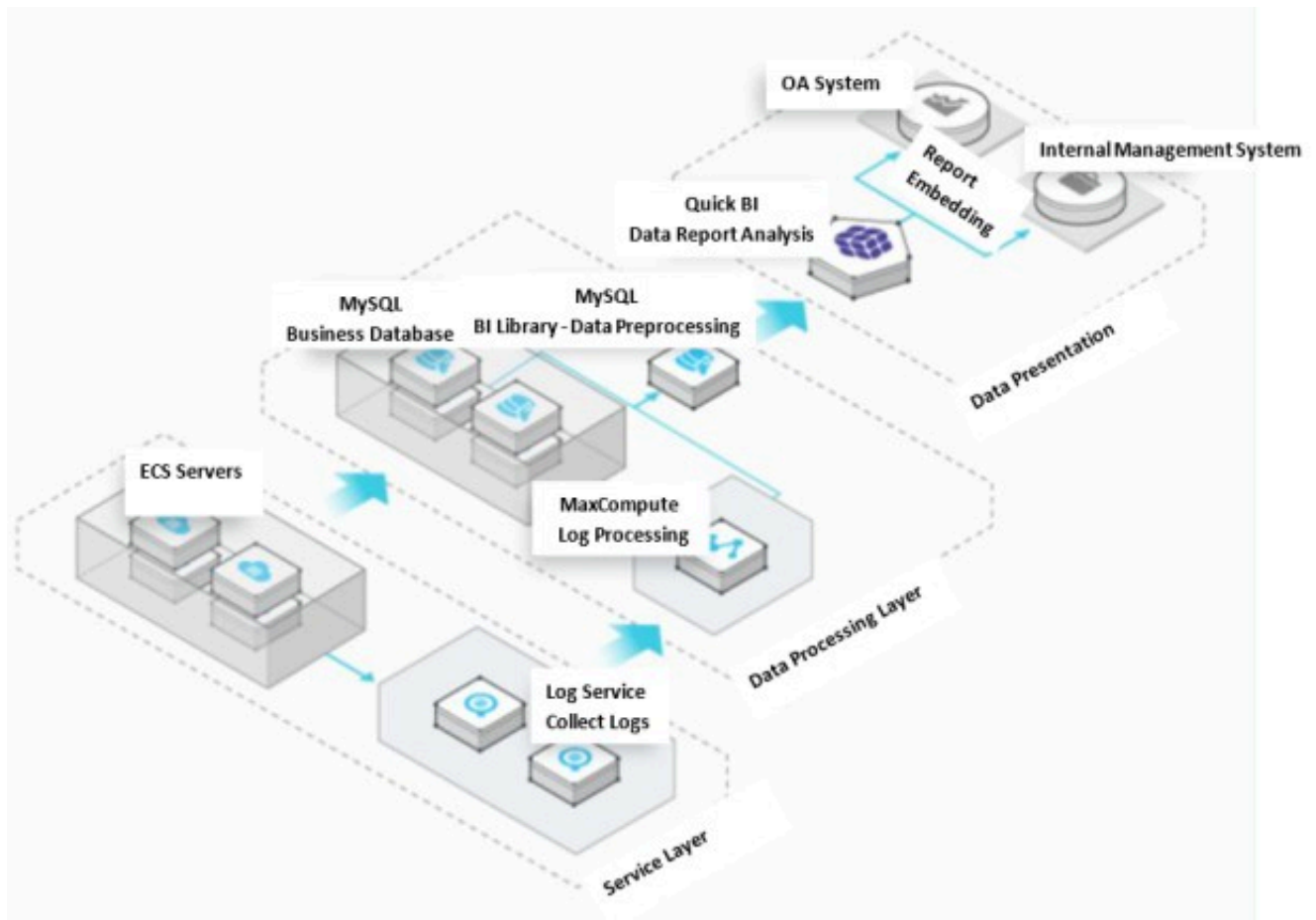· Significantly improved efficiency for data presentation

Integrated with your system to perform data analysis. Significantly improves the efficiency of data visualization and analysis.

· Single entry point

Staff no longer need to switch between multiple systems.

Recommended services:

RDS + Quick BI

Permission management of transaction data

Data is significant to each city manager of a certain payment platform. The managers need transaction data to measure the development of the business in different cities . It is vital that we identify risks in time, drill down to locate the issues, and then resolve them. Data access control is as important as data analysis to a data team. Based on this requirement, Quick BI provides you with the following features:

· Row-level permissions

The same report is displayed differently for each user role. The Shanghai city manager can only view data that is related to the Shanghai marketplace.

· Dynamic business requirements

Statistical indicators constantly change with the growth of a business. When the server cannot handle all the requests, the server response slows down.

- Data integration across sources and high computing performance

  You can leverage the BI capabilities of Alibaba Cloud to resolve the issues of data analysis across multiple sources and the computing performance bottleneck.

Recommended services:

Log + RDS + Quick BI + MaxCompute
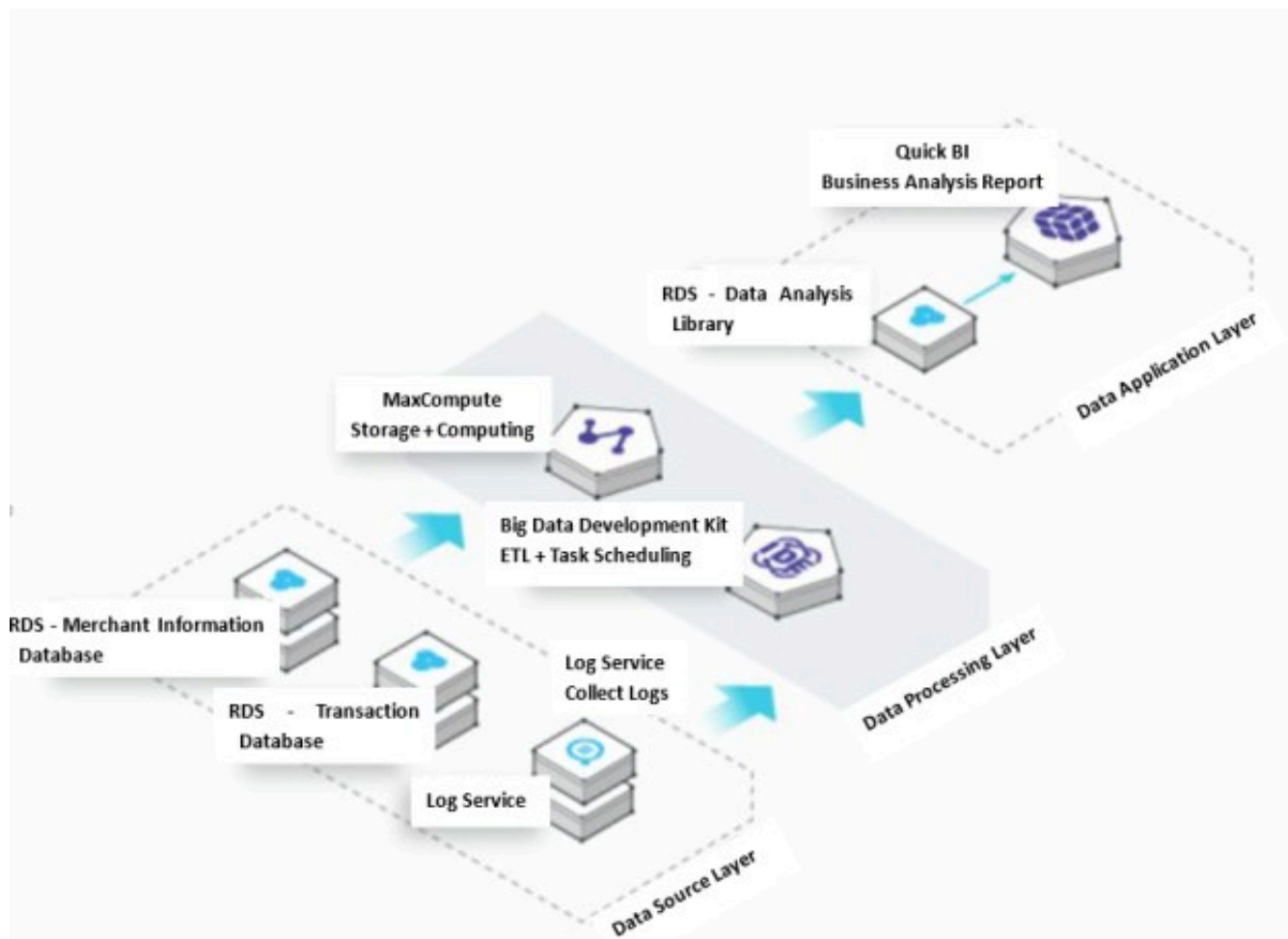
4 Version history

Quick BI V3.3.1

Quick BI V3.3.1 supports the following features:

```
Data    sources
```

· Supports connecting Quick BI to PostgreSQL data sources through endpoints with the following format: lightning.****.aliyun-inc.com.

· Optimized the WEEKDAY function in ADS and PostgreSQL data sources.

```
Dashboards
```

· Supports combination charts.

· Supports the Metric Analysis feature.

· Supports wrapping text, renaming totals, and setting data bars with conditional formats for cross tables and pivot tables.

· Allows you to enter a value for data filtering when you set the filter condition. Supports pinning the Filter Bar widget, and setting the field style (drop-down or expanded), position, field alignment, and field width.

· Optimized the Style tab pages for multiple chart types.

```
Datasets
```

· You can copy datasets across workspaces.

· Supports duplicating, hiding, and deleting dimensions of all hierarchy levels. Supports specifying the first day of a week for the week dimension.

· Renamed Custom SQL to Ad Hoc Query. Supports specifying a data source, formatting SQL statements, and creating datasets by copying and uploading SQL statements.

Quick BI V3.2.0

```
Data    sources
```

· You can access all data sources that are created in Quick BI Enterprise Standard by using SSH tunnels.

```
Datasets
```

- When you create datasets with custom SQL statements, you can preview the data.
- You can use filter bars when you edit datasets.
- The dataset edit page is optimized.

Dashboards

- Cross tables now support table topics, paging, and exporting data statistics that are sorted based on a specified field or table.
- Line, vertical bar, and area charts now support new features including data labels, zero axes, markers, and the maximum and minimum values.

Workbooks

- You can embed workbooks into third-party systems.

BI   portals

- You can now set colors for the navigation pane and the sub-navigation pane of BI portals.

Quick BI 3.1.3

Data   sources

- Quick BI V3.1.3 supports more data sources including:

  - Data Lake Analytics
  - Distribute Relational Database Service (DRDS)
  - Object Storage Service (OSS)
- Quick BI V3.1.3 also supports the following user-created data sources:

  - SAP IQ (supported by Quick BI Enterprise Standard)
  - SAP HANA (supported by Quick BI Enterprise Standard)
- You can connect Quick BI to VPC-connected HybridDB for PostgreSQL and HybridDB for MySQL databases.
- MaxCompute resources support full table scans.
- You can configure SSL for the PostgreSQL data source. MaxCompute Lightning is also supported.

Datasets

- Group spaces in Quick BI Enterprise Standard now support field grouping.

· Supports the label authorization mode for row-level permissions.

```
Dashboards
```

· You can now switch dashboards colors.

· Supports regional maps and regional bubble maps, and a new tab component style.

· Optimized the drilling and filter interaction features.

· You can now copy and view the SQL statements in charts and tables. You can also move charts in and out of the tab components.

· Supports parameter passing and hyperlinks for cross tables and scatter charts.

· Filter bars allow you to set time ranges for time-based data, set default values, and set time range presets by month or day.

· Filter bars allow you to set a value range for text data. Cascade filtering supports three-level cascade, renaming the filter field, tree cascade, and tile cascade.

· You can adjust the column width and alignment, set hyperlinks, and show or hide the chart title. Supports parameter passing and hyperlinks for cross tables and scatter charts.

· You can roll up and drill down layers in a chart or table. You can specify custom items and drill-down and roll-up dimensions.

```
BI   portals
```

· You can now manage menu permissions for BI portals.

```
Other   features
```

· You can share an object with a specified user group.

· The Protected mode allows members in the same group space to edit the same dataset, dashboard, workbook, and BI portal.

Quick BI V2.4.0

The Chinese version of Quick BI V2.4.0 supports the following features:

· Dashboard layouts are improved.

· You can now use hyperlinks and filter interaction in cross tables.

· You can drag items to add components and create charts.

· Quick BI Enterprise Standard now supports these user-created data sources: Vertica and IBM DB2 LUW.

- Quick BI Enterprise Standard can detect second or minute-based data and filter time-based data by second.

Quick BI V2.3.0

The international version of Quick BI V2.3.0 supports the following features:

- Page layouts are improved.
- Quick BI Enterprise Standard now supports more data sources including Hive and Oracle.
- The data modeling feature of Quick BI Enterprise Standard supports connecting databases across different data sources: MaxCompute, MySQL, and Oracle.

Quick BI V2.0

Layout

The layout of Quick BI V2.0 contains these sections: Home, Workspace, Guide, and Subscriptions.

- Home: you can find a specified report on the Shared with Me or Favorites tab. New users can install case reports and apply to join the workspace to view resources in the workspace.
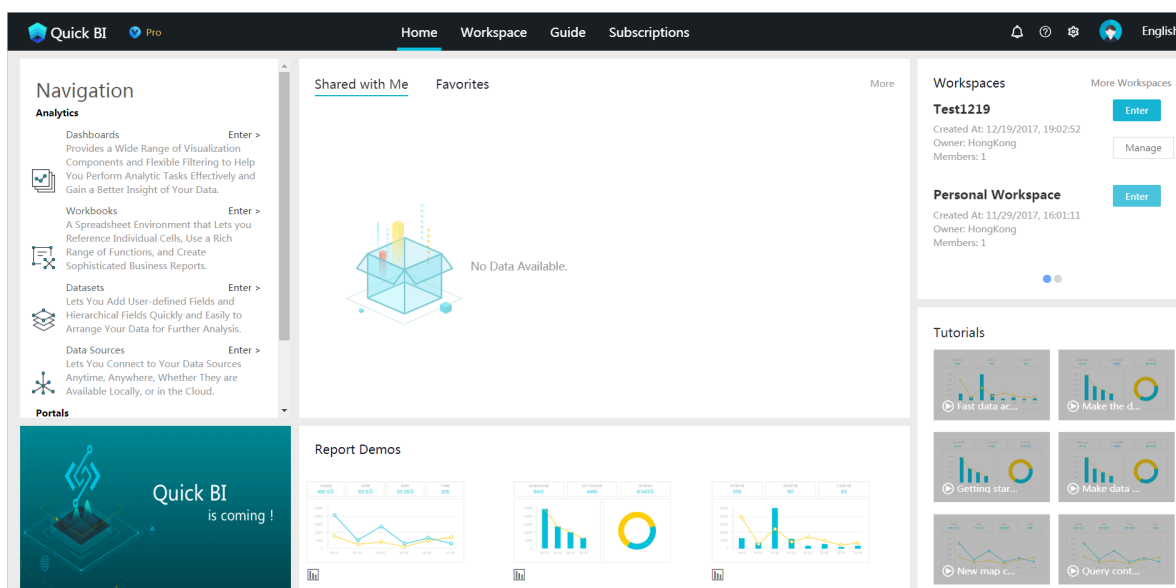
- Workspace: you can create data sources, datasets, dashboards, and workbooks. Dashboards components are better displayed and filter bars are optimized.
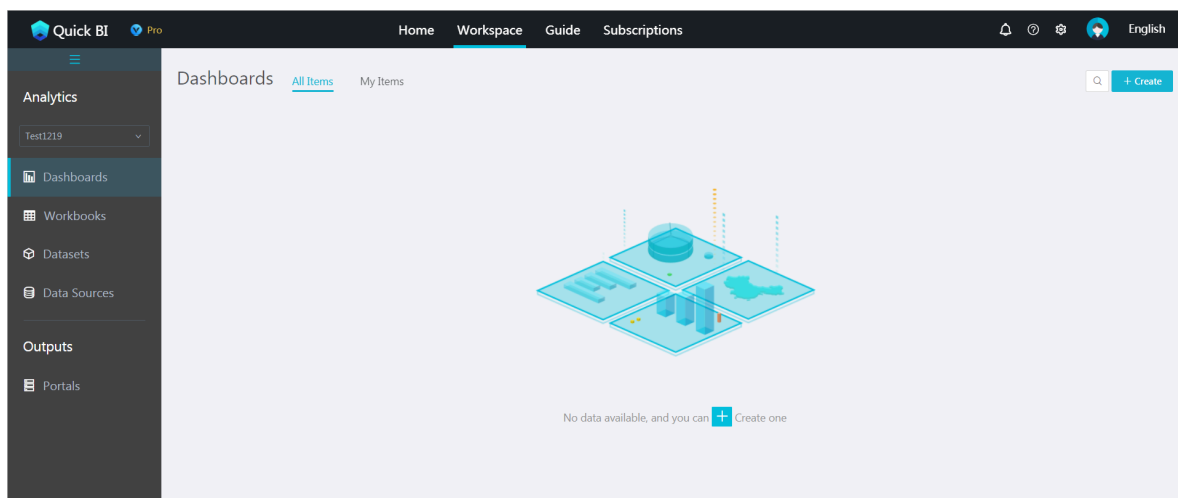

- Guide: the workflow provides you with an overview of the product process to familiarize you with Quick BI.

- Subscriptions: you can create, manage, and monitor email tasks.

Quick BI Basic new features

- Quick BI Basic now supports more data sources including PostgreSQL, PPAS, and Oracle.
- Supports image components (URLs).

Quick BI Pro new features

- Workbooks

  Added new data analysis methods for workbooks. Supports retrieving data from workbook cells, and displaying and processing data from different data sources.

Supports more than 200 data processing functions that are similar to those in Excel.
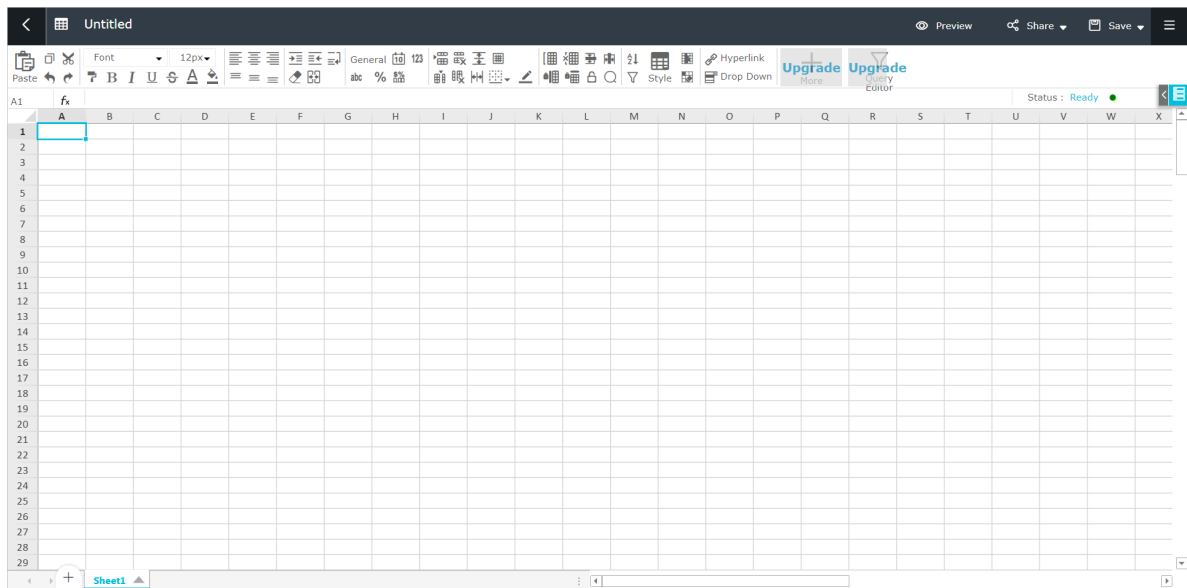
- · Subscriptions

    You can manage email subscriptions and quickly create email tasks in the dashboards.

- · Protected mode

    Members in the same workspace can edit the same dashboard or workbook.

- · Apply for and approve permissions

    You can apply for permission to access dashboards, workbooks, and BI portals . Quick BI will send you notifications when you receive permission requests or approvals. This helps you obtain permissions.

(Testing) Modify embedded reports

Quick BI Pro allows you to embed a maximum of 20 third-party reports. However, you cannot embed third-party reports into Quick BI Basic. The reports that you have already embedded remain editable, but no new reports can be added.

Quick BI V1.12

Quick BI V1.12 supports the following features:

- · Quick BI now supports more data sources including HybridDB for MySQL.
- · Added the management page where reports of third-party systems can be embedded for personal workspaces.

- Quick BI V1.12 allows you to use views in the SQL Server data source.
- You can now add descriptions to the calculated fields.

Quick BI V1.11

Quick BI V1.11 supports the following features:

- The following widgets are available in the dashboards:

  - Five chart widgets: polar diagrams, word clouds, tornado-leaned funnel charts, hierarchy charts, and flow analysis.
  - One content widget: iFrame.

  You can use more methods to create dashboards.

- New filtering rules for cross tables in dashboards: you can use visualization methods such as foreground colors, background colors, and icon sets to highlight values within a specified value range. Business data is better displayed.

- New filtering criteria for charts in the dashboards: you can filter data based on dimensions and measures before or after the data is processed by aggregate functions. Supports more filtering methods.

Quick BI V1.10

The new dashboard (testing) is released and supports the following features:

- The new dashboard uses the popular tile layout in the industry. You can easily adjust the size and location of the chart block.

- The new dashboard provides 12 charts and 2 widgets to optimize the chart functionality. Scatter charts now support up to 1,000 dimensions. Date widgets can be combined into filter bars. The chart color scheme is visually enhanced.

- The interaction of the new dashboard caters to user habits. You can configure charts based on the chart logic. It is easier for you to learn and use the dashboard.

- The new dashboard supports filtering dimensions and measures in chart blocks. This allows you to filter data more flexibly.

- The filter bars of the new dashboard support associating datasets from the same or different data sources.

- The filter interaction of the new dashboard allows you to cancel the interaction.

· The new dashboard allows you to report data while editing the report. This increases development efficiency.

Quick BI V1.9

Quick BI supports the following features:

· Quick BI now supports more data sources including SQL Server databases running on Elastic Compute Service (ECS) instances.

· You can now upload local Excel files, including XLS and XLSX files. You can use these Excel files to create reports.

· The user space now supports more update operations. You can add fields to the table schema, update tables, append files to tables, and delete specified files from tables.

· Watermarks are optimized. Previously, dashboards were watermarked with your baseId. Dashboards now can be watermarked with your username that directly displays the author information.

· Enhanced capabilities for generating calculated fields. Calculated fields are generated based on SQL-supported functions and existing fields that meet the SQL syntax rules of the current data source. If you need to create a new field that is calculated based on existing data in the data source, add another calculated field. Calculated fields help you analyze data based on different conditions, such as user attribute groups and price ranges.

· Quick BI Basic release. Features: Connecting to multiple data sources, using classic workbooks for data analysis, and creating dashboards that support multiple charts. Creating portals and downloading data. Sharing classic workbooks, dashboards, and portals. You can embed dashboards to third-party systems (number <= 2 per account and monthly visiting time <= 10 thousand per dashboard). Uploading local files to the Explore space (capacity <= 100 MB per account).

> 📋 Note:
>
> The workbook feature is in beta testing and will be soon unavailable. Workbooks do not support adding custom grouping fields, data type conversion, dataset snowflake model association, database cross-source association, and other features.

- Quick V1.9 allows you to download dashboard data. You can download data corresponding to the chart widgets in the dashboard in the XLSX format.

- Data row-level permission settings are optimized: redundant columns displayed on the row-level permission settings area in the earlier versions are removed. Operations of query member values are added to each selected controlled field. The interaction optimization makes operations of row-level permissions more smooth and convenient.

- Added the analyst role to the group workspace. Analyst is a role between developer and reader. It can use the data sources and datasets to create new data applications , but it cannot create data sources or datasets. This feature was developed based on user proposals and is a role feature developed from production scenarios.

- In the Org Units page, you can now upload multiple accounts. Earlier versions only allowed administrators to manually add group members. For organizations that have a large number of members to manage, uploading multiple members is a required feature. This feature allows the organization managers to fill in the workbooks that contain Alibaba Cloud accounts and account names based on the template to add multiple users, with a maximum of 3,000 users at a time.

- Supports using a drop-down list to select users to share reports with or transfer reports to. In earlier versions, when you share or transfer reports, you use the fuzzy search feature to locate users. Only when the keywords are hit, the user list appears. The current version supports selecting users from the drop-down list, which is more user-friendly.

Quick BI V1.8

Quick BI V1.8 supports the following features.

- Data modeling is optimized: Previously, dataset maintenance can only be conducted on worksheets. Multiple worksheets affect each other and can easily cause errors. The new version removes dataset maintenance from worksheets and provides central dataset maintenance. Multiple datasets can be created from a fact table, and the dataset modification interface is more easy-to-use.

- Unified the terms of various data objects with common terms in the industry. Renamed metric to measure. Renamed drilling group to hierarchy.

Quick BI V1.7

Quick BI V1.7 supports the following features:

· Quick BI V1.7 now supports more data sources including CSV files. You can upload CSV files to the user space to analyze data.

· The main navigation pane is optimized. Data Sources and Datasets are moved to separate tabs.

Quick BI V1.6

Quick BI V1.6 supports the following features.

· The fast dataset function is released. Based on the Quick BI built-in accelerati on engine, you can transfer MaxCompute tables to fast datasets by creating fast datasets, greatly improving the query speed.

· Greenplum data sources are added. ApsaraDB HybridDB incorporates some in-depth extensions by Alibaba Cloud based on Greenplum Open Source Database program, and supports features including OSS storage, JSON data type, and HyperLogLog approximating analysis. Supports flexible hybrid analysis by using the standard and pre-released query syntax of SQL 2008 and Online Analytical Processing (OLAP) aggregate functions.

· Optimized share feature: in earlier versions, you can only share objects with users under the same organization. The new feature makes it easier to collaborate and share objects with other users.

Quick BI V1.5

Quick BI V1.5 supports the following features:

· You can publish dashboards.

· Scenario analysis: the log analysis template for net.cn is available.

Quick BI V1.4

Quick BI V1.4 supports the following features:

· The distributed execution layer framework is optimized.

· You can delete data sources.

· Quick BI V1.4 supports more data sources including SQL Server.

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Quick BI V1.3

Quick BI V1.3 supports the following features:

· User demos are available.

· The procedure to create works is optimized.

Quick BI V1.2

Quick BI V1.2 supports the following features:

· Tenant models, data source management, work sharing areas, and the authorizat ion and application processes are simplified.

· You can embed Quick BI dashboards to third-party systems.

Quick BI V1.1

Quick BI V1.1 supports the following features:

· Network connection errors of data sources are fixed.

· You can share objects with other users.

Quick BI V1.0

Quick BI V1.0 supports the following features:

· Quick BI V1.0 supports basic BI features, such as creating datasets, workbooks, and dashboards.