Alibaba Cloud

DataV
Introduction

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Document conventions

Style	Description	Example
⚠ Danger	A danger notice 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.
🔔 Warning	A warning notice 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 restart an instance.
📢 Notice	A caution notice indicates warning information, supplementary instructions, and other content that the user must understand.	📢 **Notice:** If the weight is set to 0, the server no longer receives new requests.
⑦ Note	A note indicates supplemental instructions, best practices, tips, and other content.	⑦ **Note:** You can use Ctrl + A to select all files.
>	Closing angle brackets are used to indicate a multi-level menu cascade.	Click **Settings> Network> Set network type**.
Bold	Bold formatting is used for buttons , menus, page names, and other UI elements.	Click **OK**.
Courier font	Courier font is used for commands	Run the `cd /d C:/window` command to enter the Windows system folder.
Italic	Italic formatting is used for parameters and variables.	`bae log list --instanceid` *Instance_ID*
[] or [a|b]	This format is used for an optional value, where only one item can be selected.	`ipconfig [-all|-t]`
{} or {a|b}	This format is used for a required value, where only one item can be selected.	`switch {active|stand}`

Table of Contents

1.What is DataV?

DataV is an Alibaba Cloud data visualization service that allows you to analyze and present large and complex data sets as visual dashboards. DataV aims to bring the experience of data visualization to a wider audience and help less-experienced engineers build professional visual applications through an intuitive graphical interface. DataV can fulfill your data presentation requirements in scenarios such as conference and exhibitions, business monitoring, risk warning, and geographic information analysis.

Background information

DataV displays complex and dynamic business data in a more lively and user-friendly way than traditional charts and data dashboards, and delivers real-time insights to drive rapid, informed decisions. DataV can be used in a variety of industries including retail, transportation, logistics, electric power, water conservation, and environmental protection. DataV provides interactive data dashboards to enable easy identification and diagnosis of business problems and has become an essential part of big data solutions.

When creating a visualization project, you may encounter the following challenges:

- You are unfamiliar with how to use data visualization tools and lack experience.
- It is time-consuming and requires a lot of effort to develop charts and visual effects.
- Necessary widgets or tools for presenting and analyzing non-traditional data such as spatio-temporal or relational data are not accessible or available for use.
- The tools that you use have resolution problems when presenting data on large screens.
- The tools that you use cannot properly present data visualizations for big data analysis.

Why DataV?

DataV enables you to:

- Develop data visualization projects similar to those used for the Tmall Double 11 Shopping Festival and Alibaba Cloud City Brain.

  DataV provides a variety of visual tools to present data in a wide range of scenarios.

- Use high-performance 3D rendering engines.

  DataV incorporates game-level 3D rendering capabilities into geographic displays. It uses GPUs to render large volumes of data and provide low-cost, reusable 3D visualizations for fields such as smart city, smart traffic, security monitoring, and business intelligence.

- Use a wide variety of charts and widgets.

  DataV provides a wide variety of basic and third-party chart libraries to build professional visualizations.

- Build professional geographic visualization projects.

  DataV allows you to overlay geographical data and plot effects such as geographical trajectories, geographical flying lines, heatmaps, regional chunks, and 3D globes.

- Create visualization projects from templates designed for different industries.

  DataV provides dozens of customized data templates for different industries to better suit your business.

- Connect and display a wide range of data sources.

DataV supports Alibaba Cloud AnalyticDB, ApsaraDB for RDS, local CVS files, online APIs, and can send requests to data sources dynamically.

- Build visualization projects easily.

  DataV requires minimal programming skills and allows you to create professional visualization projects with simple drag-and-drop operations.

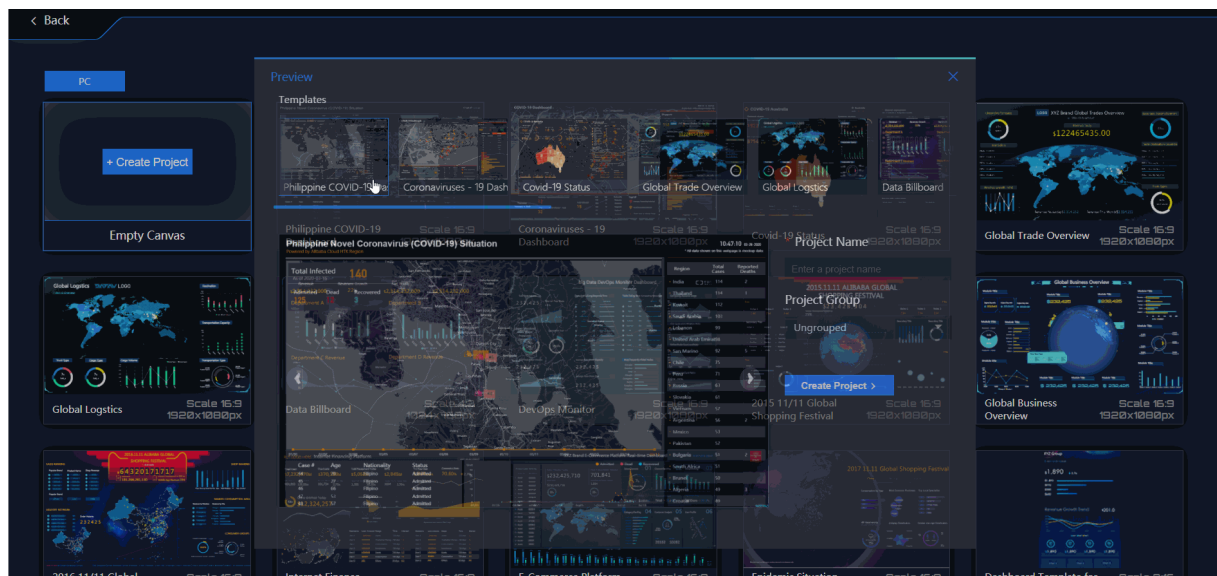- Flexibly deploy and publish visualization projects.

  DataV visualization projects can be adapted and split in many non-conventional configurations. You can publish projects with password or token authentication to implement access control and secure information shown on the dashboards.

2.Features

This topic describes the features of DataV, such as scenario-specific templates, chart widgets, and various data sources.

Scenario-specific templates

To better design a visualization project, you must have a keen eye for how to clearly demonstrate the structural hierarchy and the relationship between various data sources on a single dashboard, in addition to presenting various charts. This requires the integrated application of colors, layouts, and charts. DataV offers templates for various scenarios, such as control centers, geographic analysis, real-time monitoring, reporting, and presentation. It enables you to create visualization projects with sophisticated design that are typically impossible without the help of professional designers.

Rich visualization widget libraries

DataV allows you to overlay geographic data and plot effects such as geographic trajectories, geographic flying lines, heat maps, regional chunks, 3D maps, and 3D globes. Special-shaped charts such as topological charts and tree charts are also provided.

Various data sources

DataV supports a multitude of data sources, such as AnalyticDB for MySQL, AnalyticDB for PostgreSQL, ApsaraDB RDS for MySQL, ApsaraDB RDS for PostgreSQL, ApsaraDB RDS for SQL Server, local CSV files, and online APIs. In addition, DataV can send requests to data sources dynamically. DataV unleashes the full potential of real-time computing and monitoring of big data to suit your needs.
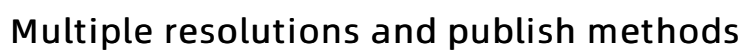
Regular Data Source (Basic & Enterprise Edition)

MySQL	◇	MySQL	CSV
RDS for MySQL	AnalyticDB (ADS)	Oracle	CSV
API	JSON		
API	Static JSON		

More Data Source (Enterprise Edition)

SQL Server	PostgreSQL	ORACLE	PostgreSQL
RDS for SQLserver	RDS for PostgreSQL	Oracle	HybridDB for PostgreSQL
Alibaba Cloud API Gateway	Table Store	DataV Proxy	

User-friendly interfaces

DataV requires minimal programming skills and allows you to create professional visualization projects with simple drag-and-drop operations.

Operations for a DataV project

Configuration example for a DataV project

Multiple resolutions and publish methods

DataV provides multiple resolutions to support multi-screen collaboration and screen splicing. Your visualization projects can be published and shared with others who have not purchased DataV.

3.Concepts

This topic introduces the basic concepts and terms used in DataV.

Visualization project

Dashboards that are generated based on various data. DataV is a tool that converts data into various dynamic charts and maps to present data to users in real time.

If you want to quickly create a visualization project, see Quick start.
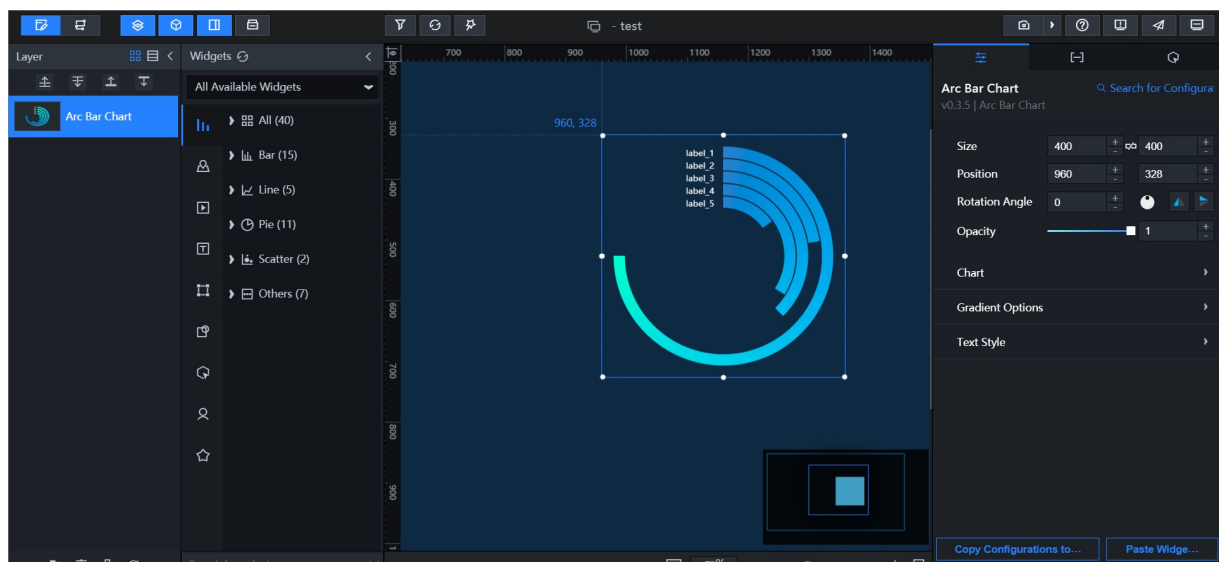
Data source

To create a visualization project by using DataV, you must specify the source of raw data. DataV supports the following types of data sources:

- Database
- File
- API
- Others

For more information about how to add a data source, see Add a data source.
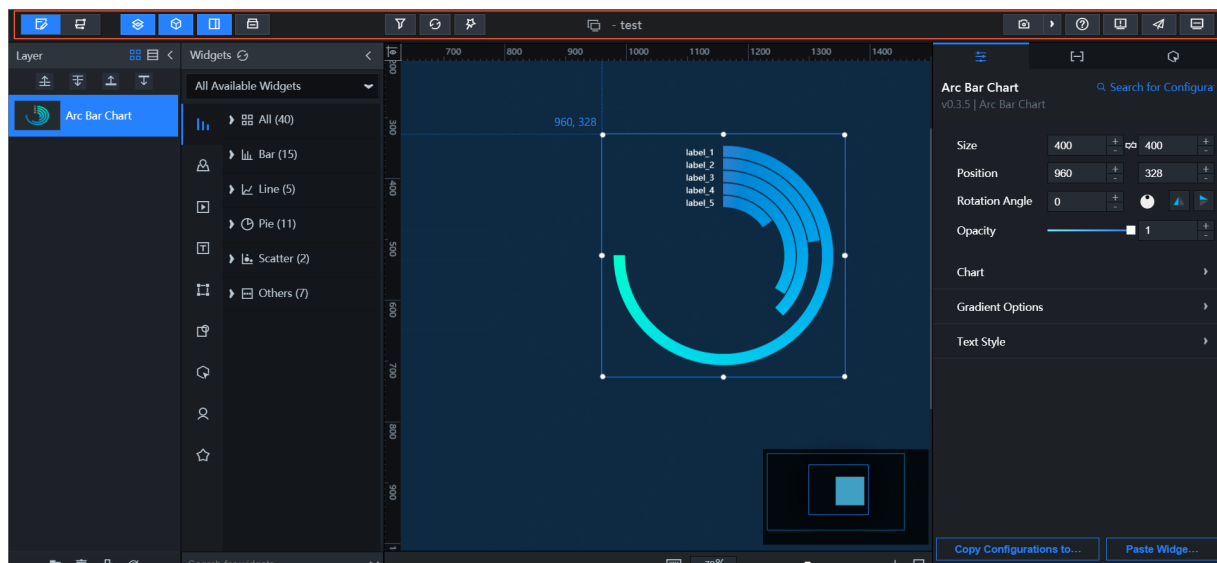
Canvas

A canvas is also called a canvas editor and is the main functional area of DataV. You can use a canvas to determine the layout and colors for a project, adjust the sizes and locations of charts, and preview the configuration of the project.

For more information about how to use a canvas, see Canvas operations.

Toolbar

The toolbar is located at the top of a canvas. You can use the toolbar to redirect to the console, show or hide the layer panel, widget panel, and right-side panel, set project filter, view widget updates, configure a variety of functions, such as node programming, publish, preview, help, and error reporting.

Widgets

You can click the Widgets icon in the toolbar to select widgets from the **Widgets** drop-down list and add them to a canvas.

DataV supports the following types of widgets:

- Charts
- Maps
- Media
- Texts
- Networks
- Materials
- Interaction
- Others
- Favorite widgets

4.Editions

DataV provides **Basic Edition**, **Enterprise Edition**, **Professional Edition**.

Basic Edition

Feature	Description
Sharing	Share to public
Projects and templates	Basic templates and five projects
Data sources	AnalyticDB for MySQL, AnalyticDB for PostgreSQL, ApsaraDB RDS for MySQL, MySQL-compatible databases, CSV files, DataV Proxy Service, APIs, and static JSON files
Charts and maps	Basic charts
Custom widgets	Unavailable
Interaction	Support for callback IDs
Advanced features	Unavailable
On-premises solution	Unavailable
Duration	One year

Enterprise Edition

Feature	Description
Sharing	Share to public, share with password protection, share with access token, and copy and transfer.
Projects and templates	Non-interaction templates, 20 projects (extendable), 2 workspaces, and 20 favorite widgets.
Data sources	AnalyticDB for MySQL, ApsaraDB RDS for MySQL, MySQL-compatible databases, ApsaraDB RDS for PostgreSQL, ApsaraDB RDS for SQL Server, CSV files, DataV Proxy Service, APIs, static JSON files, OpenAPI Explorer, Object Storage Service (OSS), Log Service (SLS), Tablestore, Oracle, Alibaba Cloud API Gateway.
Charts and maps	Basic charts, advanced charts, maps, and EChart widgets.
Custom widgets	Upload of three custom widgets, and developer tools.
Interaction	Support for callback IDs, binding variables to callback IDs, and basic interactive widgets.
Advanced features	Grouping, hiding, and locking of widgets, favoriting widgets by group, and intra-group widget carousel.

Feature	Description
On-premises solution	Unavailable.
Custom development	Unavailable.
Duration	Subscriptions can be purchased on a monthly or yearly basis.

Professional Edition

Feature	Description
Sharing	Share to public, share with password protection, share with access token, and copy and transfer.
Projects and templates	All templates, 40 projects (extendable), 5 workspaces, and 40 favorite widgets.
Data sources	AnalyticDB for MySQL, ApsaraDB RDS for MySQL, MySQL-compatible databases, ApsaraDB RDS for PostgreSQL, ApsaraDB RDS for SQL Server, CSV files, DataV Proxy Service, APIs, static JSON files, OpenAPI Explorer, OSS, SLS, Tablestore, Oracle, Alibaba Cloud API Gateway.
Charts and maps	Basic charts, advanced charts, maps, EChart widgets, and 3D city.
Custom widgets	Upload of custom widgets (No limitation on widget quantities), developer tools, and custom widget authorization.
Interaction	Support for callback IDs, binding variables to callback IDs, basic interactive widgets, interactive widget package, and blueprint editor.
Advanced features	Grouping, hiding, and locking of widgets, favoriting widgets by group, and intra-group widget carousel.
On-premises solution	Unavailable.
Custom development	Unavailable.
Duration	Subscriptions can be purchased on a monthly or yearly basis.