# **Data Lake Visualization**

# **User Guide**

**Issue** 01

**Date** 2025-05-30





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# Preparatory Work

# 1.1 Registering Accounts and Performing Real-Name Authentication

This section describes how to register a Huawei Cloud account and perform realname authentication.

You can use the Huawei Cloud account or an IAM user in your account to access DLV. With IAM, you can create IAM users in your account and grant them custom permissions to manage and use resources under your account. For more information about accounts and IAM users, see "Basic Concepts" in IAM Service Overview.

#### **Registering Accounts**

An account is an entity that accesses Huawei Cloud. If you are a new user, register a Huawei Cloud account. For details, see **Account Registration Process**. If you already have a Huawei Cloud account, skip this part.

#### **Performing Real-Name Authentication**

You are advised to complete real-name authentication for better experience in using cloud services. Real-name authentication is available for two types of accounts: individual account and enterprise account. For details about the authentication methods for different account types, click the following links: (If your account has passed the real-name authentication, skip this part.)

- Individual Real-Name Authentication Process
- Enterprise Real-Name Authentication Process

#### ■ NOTE

- After you send the application for real-name authentication, it will take three work days at most before the application is approved.
- The account takes effect 40 minutes later after your real-name authentication is approved.

# 1.2 (Optional) Creating Workspaces

This section describes how to create workspaces. After a user purchases DLV, the system creates a default workspace named **default** for the user by default and assigns the administrator role to the user. You can use the default workspace or create a workspace by referring to this section.

A workspace enables its administrator to manage user (member) permissions, resources, and underlying compute engines of DLV.

Each team has an independent workspace.

You can manage workspaces, data connections, screens, screen combinations, and applications only after being added to workspaces and assigned permissions.

In the workspace management, the administrator can add other users to a workspace and assign roles to them, such as **Administrator**, **Developer**, **Analyst**, and **Visitor** that are preset on DLV.

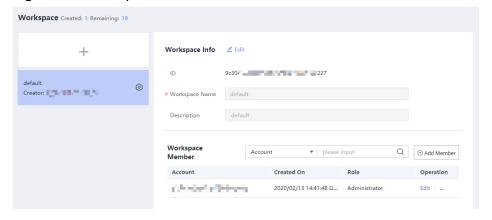
#### Context

- Huawei Cloud accounts or users with the DLV FullAccess can perform all operations on DLV by default.
- Only the users with the DLV FullAccess or Tenant Administrator permission
  can create, delete, or modify workspaces and set the default workspace.
   The Tenant Administrator permission has all cloud service administrator
  permissions except the IAM management permission. For security purposes,
  you are not advised to grant this permission to IAM users. Exercise caution
  when performing this operation.
- An IAM user can access a workspace only after being added as a member of the workspace.

#### **Creating Workspaces**

- **Step 1** Log in to the DLV console.
- **Step 2** In the navigation tree on the left, click **Control Center > Workspace**.
- **Step 3** On the **Workspace** page, click to create a workspace.

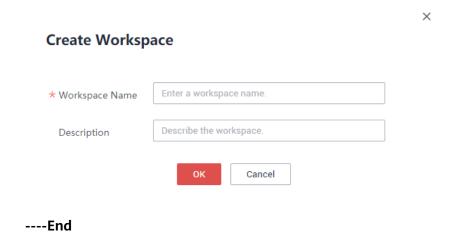
Figure 1-1 Workspace



**Step 4** In the **Create Workspace** dialog box, set the following parameters and click **OK**.

- Workspace Name: A workspace name can contain only letters, numbers, underscores (\_), and hyphens (-), and cannot exceed 32 characters.
- **Description**: Description of the workspace.

Figure 1-2 Creating a workspace



# 1.3 Granting Permissions to IAM Users

### 1.3.1 Creating Users and Assigning DLV Permissions

This section describes how to use IAM to implement fine-grained permissions control for your DLV resources. With IAM, you can:

- Create IAM users for employees based on the organizational structure of your enterprise. Each IAM user has their own security credentials, providing access to DLV resources.
- Grant only the permissions required for users to perform a specific task.
- Entrust a Huawei Cloud account or service to perform professional and efficient O&M on your DLV resources.

If your Huawei Cloud account does not need individual IAM users for permissions management, then you may skip over this chapter.

This section describes the procedure for granting permissions. **Permission Assigning Process** shows the procedure. You can use either of the following methods to grant DLV permissions to a user:

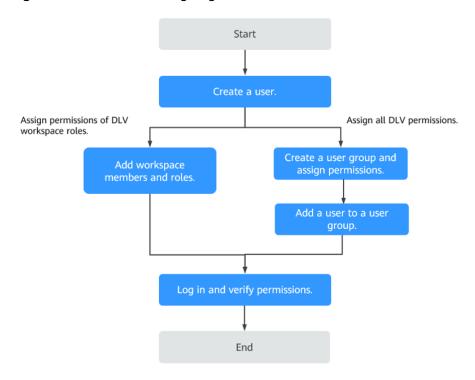
- Creating Users and Assigning Permissions of DLV Workspace Roles
- Creating Users and Assigning All DLV Permissions

#### **Prerequisites**

 Before granting permissions to a user, learn about the DLV workspace roles and permissions that can be assigned to the user and select the roles and permissions based on the site requirements. For details about the roles and permissions supported by DLV, see Permissions Management. • For the system policies of other services, see **System Permissions**.

#### **Permission Assigning Process**

Figure 1-3 Process for assigning DLV roles to users



#### Creating Users and Assigning Permissions of DLV Workspace Roles

#### Step 1 Create a user.

Log in to the IAM console and create a user.

#### **Step 2 Adding Workspace Members and Roles**

Log in to the DLV console as the user created in **Step 1** and add the user as a member and role of the workspace to be authorized. Assume that only the visitor role of the DLV workspace is granted to the user.

#### **Step 3** Log in and verify the permissions.

Log in to the DLV console by using the user created, and verify the granted permissions of the user as follows:

- Log in to the DLV console and switch to the authorized workspace. On the **Screens** page, click **New Screen** to create a screen. If the screen cannot be created, the visitor role has taken effect.
- In the service list area, select any service except DLV (assume that policies of other services are not granted to the user). If a message appears indicating that you have no permission to access the service, the visitor role has taken effect.

#### **Creating Users and Assigning All DLV Permissions**

To grant an IAM user permission to create a workspace, you need to grant the IAM user the **DLV FullAccess** policy, so that the user can perform all permissions on DLV. You can grant DLV policies to a user group. In this way, after you add a user to the user group, the user will have the corresponding permissions.

#### Step 1 Create a user.

Log in to the IAM console and create a user.

#### Step 2 Create a user group and assign permissions to it.

Create a user group on the IAM console, and assign the **DLV FullAccess** permission to the group.

#### □ NOTE

• The **DLV FullAccess** permission is not granted to the existing users. To obtain this permission, log in to the IAM console and grant the permission to the existing users.

#### Step 3 Add a user to a user group.

On the IAM console, add the user created in **Step 1** to the user group.

**Step 4** Log in and verify the permissions.

Log in to the DLV console by using the user created, and verify the granted permissions of the user.

- Log in to the DLV console and click on the Workspace page to create a
  workspace. If a workspace can be created, the DLV FullAccess permission has
  taken effect.
- In the service list area, select any service except DLV. If a message appears
  indicating that you have no permission to access the service, the DLV
  FullAccess permission has already taken effect.

# 2 Introducing the DLV Console

The DLV console consists of five functional modules: Screens, Scenario Templates, Data, Documentation, and Screen Development.

#### Logging In to the DLV Console

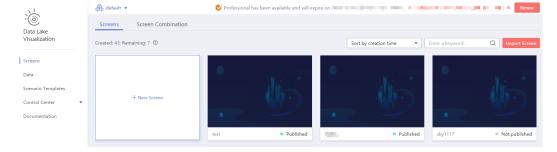
- **Step 1** Log in to the management console.
- **Step 2** On the top navigation bar of the page, choose **Enterprise Intelligence** > **Data Lake Visualization**. The DLV console is displayed.

----End

#### Screens

Log in to the DLV console. In the navigation tree, select **Screens**, and then click the **Screens** tab. On the **Screens** page, you can create, edit, preview, publish, copy, delete, and rename a screen, and view the existing screens.

Figure 2-1 Screens page



#### **Screen Combination**

Log in to the DLV console. In the navigation tree, select **Screens**, and then click the **Screen Combination** tab. On the **Screen Combination** page, you can create, edit, preview, publish, copy, delete, and rename a screen combination, and view the existing screens.

Data Lake
Visualization

Screens

Data
Scenario Templates

Control Center

Documentation

Screen Sorreen Combination

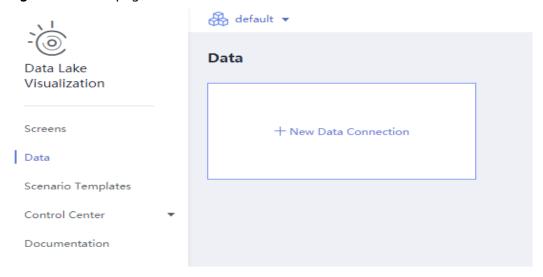
+ Create Screen Combination

Figure 2-2 Screen Combination page

#### **Data**

Log in to the DLV console. In the navigation tree, select **Data**. On the **Data** page, you can create, edit, delete, and view a data connection. DLV provides more than 10 types of data sources. You can select a data source type as required.

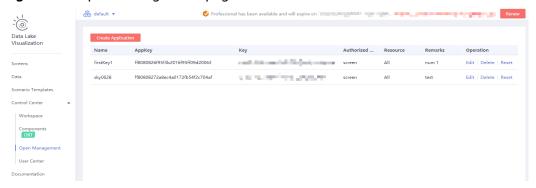
Figure 2-3 Data page



#### **Open Management**

Log in to the DLV console. In the navigation tree, choose **Control Center > Open Management**. You can create, edit, delete, reset, and view applications on this page.

Figure 2-4 Open Management page



#### **Scenario Templates**

Log in to the DLV console. In the navigation tree, select **Scenario Templates**. On the **Scenario Templates** page, you can view all templates. The system simulates users' application scenarios and builds templates to suit specific scenario requirements.

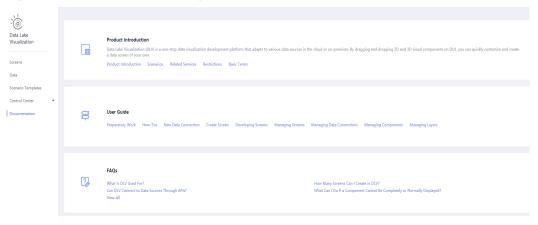
#### **Workspace Management**

Log in to the DLV console. In the navigation tree, choose **Control Center** > **Workspace**. On this page, you can create, edit, and delete workspaces, set default workspaces, add members, and view workspaces.

#### **Documentation**

Log in to the DLV console. In the navigation tree, select **Documentation**. On the **Documentation** page, you can obtain desired help information, including product introduction, user guide, and FAQs.

Figure 2-5 Documentation page



#### **Screen Development**

Log in to the DLV console. In the navigation tree, select **Screens**. Locate the screen

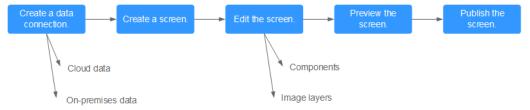
to be edited and click . The screen development page is displayed. On the screen development page, you can use the canvas, components, layers, and preview and publish functions required for data development. The screen development page is a major functional interface of DLV.

 $\mathbf{3}_{\mathsf{How-Tos}}$ 

#### 3.1 Use Process

Before developing a screen, understand the process of using DLV. Figure 3-1 illustrates the DLV use flowchart. You can perform all the operations in the flowchart on the DLV console.

Figure 3-1 Use flowchart



- 1. Creating data connections: Connect to data sources required for screen creation. If static data is used, skip this step.
- 2. Creating screens: Use a template to create a screen.
- 3. Editing screens: Configure the pattern, data, interaction of components and manage image layers.
- 4. Previewing screens: Preview your created screens.
- 5. Publishing screens: Publish your created screens.

# 3.2 Creating Screens Quickly (Interaction)

You can use the interaction function to implement data linkage between components on screens.

This example demonstrates how to implement data linkage between components through geographical search and bar charts. The general procedure is as follows:

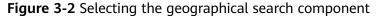
- 1. Adding and Configuring Components
- 2. Previewing and Publishing Screens

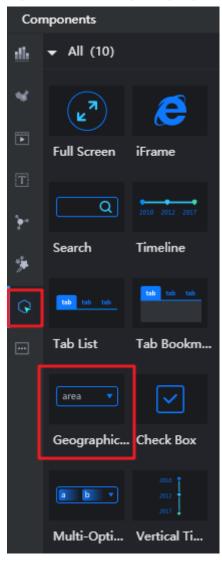
#### **Prerequisites**

You have logged in to the DLV console and created a screen using a blank template.

#### **Adding and Configuring Components**

**Step 1** Open the screen development page, click the **Interaction** icon, and select **Geography Search** in the **Components** list.





**Step 2** On the **Pattern** panel, configure the geographical search component. In this example, use the default settings.

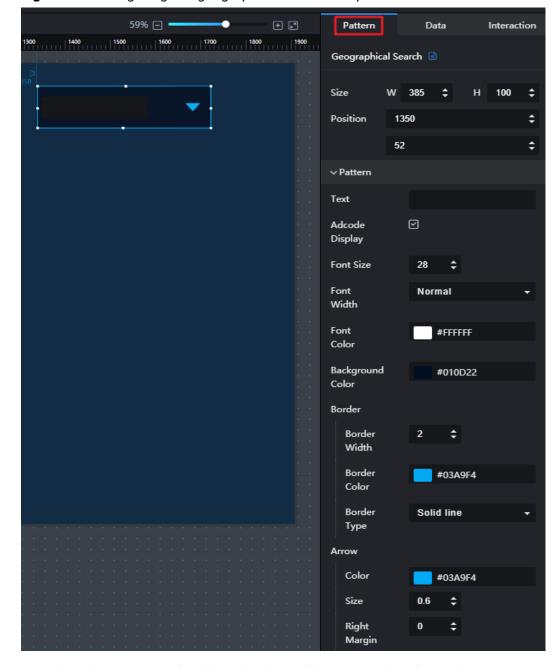


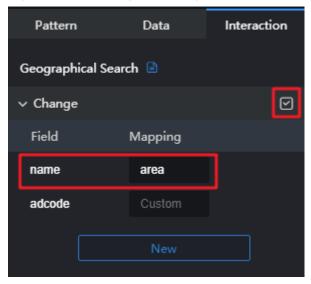
Figure 3-3 Configuring the geographical search component

Step 3 Switch to the Data panel and set the data of the geographical search component.

Figure 3-4 Setting the data of the geographical search component

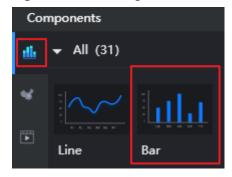
**Step 4** Switch to the **Interaction** panel and define and use interaction variables.

Figure 3-5 Defining and using interaction variables



**Step 5** In the component list on the left, choose **Charts** > **Bar**.

Figure 3-6 Selecting a bar chart component



**Step 6** On the **Pattern** tab page, configure the bar chart pattern. This example uses the default settings.

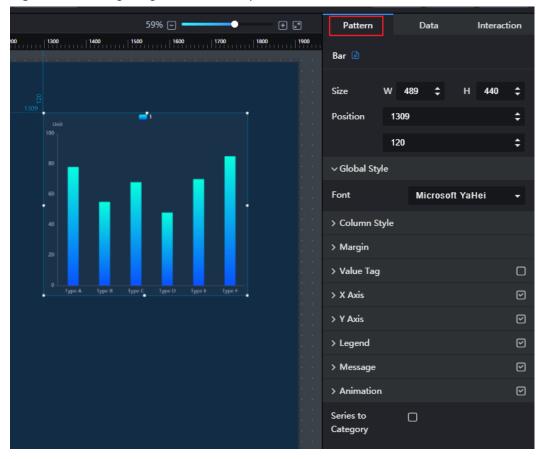


Figure 3-7 Configuring the bar chart pattern

**Step 7** Switch to the **Data** tab page and configure the bar chart.

1. Configure field mapping and select a data source type. As shown in **Figure**3-8, the component is associated with dynamic data.

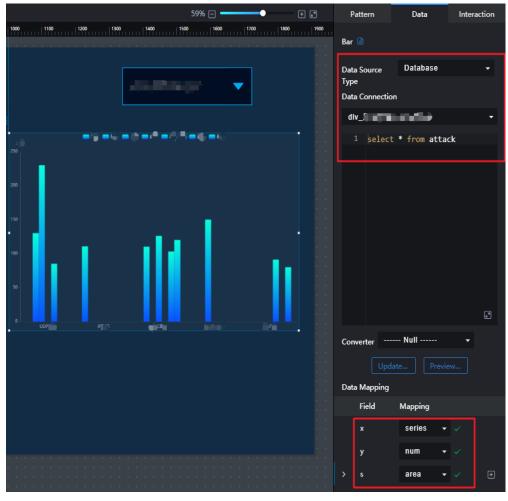


Figure 3-8 Associating with dynamic data

2. Press **Shift+\$** to reference the interaction variable **\${name}** defined in **Step 4**.

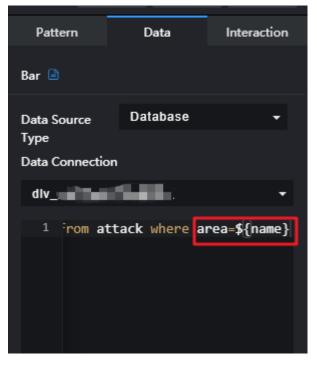


Figure 3-9 Referencing the interaction variable

----End

#### **Previewing and Publishing Screens**

- **Step 1** In the upper right corner of the screen development page, click preview to preview the screen.
- **Step 2** If you reset the geographical location in the geographical search, the bar chart displays only the data of the corresponding location.
- Step 3 After ensuring that interaction works, click Publish in the upper right corner of the screen development page, configure publish parameters, and then share the screen with other users.

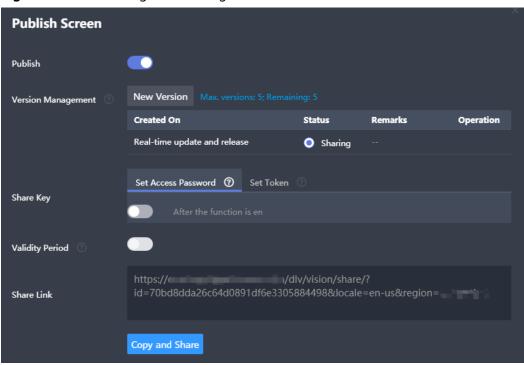


Figure 3-10 Publishing and sharing the screen

# 4 Managing Workspaces

# 4.1 Managing Workspaces

A workspace enables its administrator to manage user (member) permissions, resources, and underlying compute engines of DLV.

Each team has an independent workspace.

You can manage workspaces, data connections, screens, screen combinations, and applications only after being added to workspaces and assigned permissions.

In the workspace management, the administrator can add other users to a workspace and assign roles to them, such as **Administrator**, **Developer**, **Analyst**, and **Visitor** that are preset on DLV.

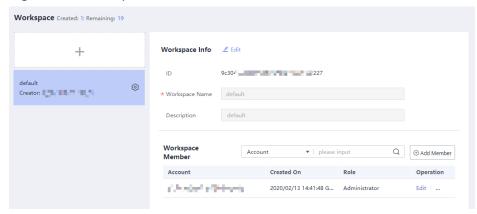
#### **Background**

- Huawei Cloud accounts or users with the DLV FullAccess can perform all operations on DLV by default.
- Only the users with the DLV FullAccess or Tenant Administrator permission can create, delete, or modify workspaces and set the default workspace.
  - The **Tenant Administrator** permission has all cloud service administrator permissions except the IAM management permission. For security purposes, you are not advised to grant this permission to IAM users. Exercise caution when performing this operation.
- An IAM user can access a workspace only after being added as a member of the workspace.

#### **Creating Workspaces**

- **Step 1** Log in to the DLV console.
- **Step 2** In the navigation tree on the left, click **Control Center > Workspace**.
- **Step 3** On the **Workspace** page, click to create a workspace.

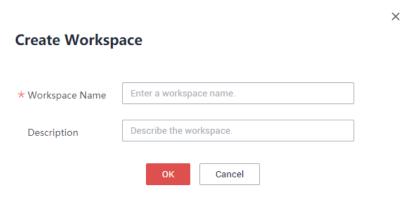
Figure 4-1 Workspace



**Step 4** In the **Create Workspace** dialog box, set the following parameters and click **OK**.

- Workspace Name: A workspace name can contain only letters, numbers, underscores (\_), and hyphens (-), and cannot exceed 32 characters.
- **Description**: Description of the workspace.

Figure 4-2 Creating a workspace



#### ----End

### **Setting the Default Workspace**

- **Step 1** Log in to the DLV console.
- **Step 2** In the navigation tree on the left, click **Control Center > Workspace**. The **Workspace** page is displayed.
- Step 3 In the workspace list, click the workspace to be set, click , and choose Set to Default Workspace from the shortcut menu.

workspace Created: 7; Remaining: 13

workspace01
Creator: Set to Default
Workspace
default
Creator: Delete
Creator: 3

Figure 4-3 Setting the default workspace

After the setting is completed, the **Default** icon is displayed next to the workspace name.

Figure 4-4 Default workspace

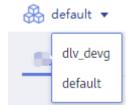


----End

### **Switching Workspaces**

- **Step 1** Log in to the DLV console.
- **Step 2** Click the workspace drop-down list in the upper left corner of the page. On the displayed workspace panel, click the workspace that you want to switch to.

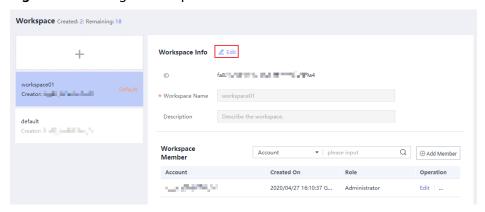
Figure 4-5 Switching a workspace



#### **Modifying Workspaces**

- **Step 1** Log in to the DLV console.
- **Step 2** In the navigation tree on the left, click **Control Center > Workspace**. The **Workspace** page is displayed.
- **Step 3** In the workspace list, select the workspace to be modified and click **Edit**.

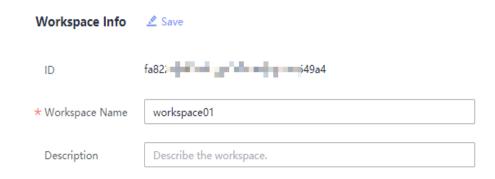
Figure 4-6 Editing a workspace



**Step 4** In the **Workspace Info** area, set the following parameters and click **Save**.

- Workspace Name: A workspace name can contain only letters, numbers, underscores (), and hyphens (-), and cannot exceed 32 characters.
- **Description**: Description of the workspace.

Figure 4-7 Modifying the workspace information



----End

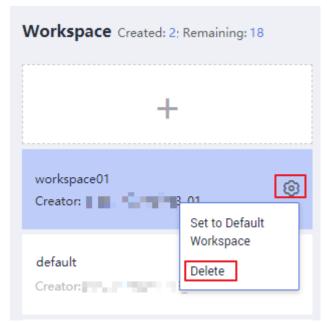
#### **Deleting Workspaces**

After a workspace is deleted, all resources in the workspace are deleted and cannot be recovered. Exercise caution when performing this operation.

- **Step 1** Log in to the DLV console.
- **Step 2** In the navigation tree on the left, click **Control Center > Workspace**. The **Workspace** page is displayed.

Step 3 In the workspace list, click the workspace to be deleted, click , and choose Delete from the shortcut menu.

Figure 4-8 Deleting a workspace



Step 4 In the displayed dialog box, select After you delete this workspace, all resources in it cannot be restored, and click OK.

----End

### 4.2 Managing Members

This section describes how to add members and roles to a workspace, as well as the permissions and differences of the roles.

If you want to use DLV through a Huawei Cloud account, skip this section.

If you need to invite other users to use DLV, prepare an IAM user by referring to the instructions in **Creating Users and Assigning DLV Permissions** and perform the following operations.

#### Background

- The Huawei Cloud account has all execution permissions of DLV. By default, the account has permission to add workspace members.
- If a sub-user of an account needs to add workspace members, the account needs to grant the required permissions to the sub-user. Only the following three types of sub-user have permission to add workspace members:
  - User who is assigned the DLV workspace administrator role and has the IAM ReadOnlyAccess permission
  - User who has the **DLV FullAccess** permission
     By default, a user with the **DLV FullAccess** permission can perform all operations on DLV.

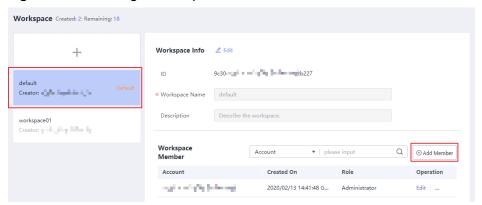
User who has the Tenant Administrator permission
 The Tenant Administrator permission has all cloud service administrator permissions except the IAM management permission. For security purposes, you are not advised to grant this permission to IAM users.

To grant the preceding permissions to a sub-user, log in to the IAM console, create a user group, grant the required permissions to the user group, and add the sub-user to the user group.

#### **Adding Workspace Members and Roles**

- **Step 1** Log in to the DLV console.
- **Step 2** In the navigation tree on the left, click **Control Center > Workspace**. The **Workspace** page is displayed.
- **Step 3** In the workspace list, click the workspace you want to access. In the **Workspace Member** area, click **Add Member**.

Figure 4-9 Selecting a workspace



**Step 4** In the **Add Member** dialog box, use either of the following methods to add a member or user group:

#### Add User

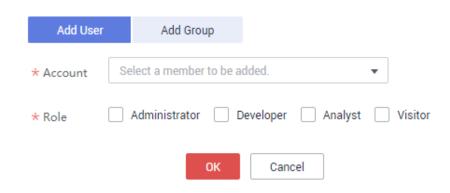
- Account: Select one or more members from the drop-down list.
- Role: All selected member accounts will be set as the selected role. The
  role can be Administrator, Developer, Analyst, and Visitor. Each role
  has different workspace access permissions. The workspace creator is the
  administrator role by default. For details about the permissions of specific
  roles, see Permissions Management.

#### Add Group

- Account: Select one or more user groups from the drop-down list.
- Role: All selected user groups will be set as the selected roles, and users in these user groups will obtain the permissions of the selected roles.

Figure 4-10 Adding a member

#### **Add Member**



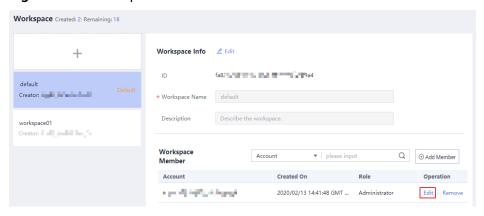
**Step 5** Click **OK**. View or modify the existing members and roles in the member list, or delete a member from the workspace.

----End

#### **Modifying Member Roles**

- **Step 1** Log in to the DLV console.
- **Step 2** In the navigation tree on the left, click **Control Center > Workspace**. The **Workspace** page is displayed.
- **Step 3** In the workspace list, click the workspace to be set. In the **Workspace Member** area, locate the member to be edited, and click **Edit** in the **Operation** column.

Figure 4-11 Workspace member

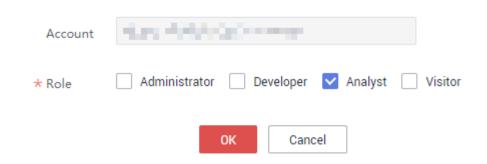


**Step 4** In the **Edit Member** dialog box, select one or more roles and click **OK**.

The role can be **Administrator**, **Developer**, **Analyst**, and **Visitor**. Each role has different workspace access permissions. The workspace creator is the administrator role by default. For details about the permissions of specific roles, see **Permissions Management**.

Figure 4-12 Editing a member

#### **Edit Member**



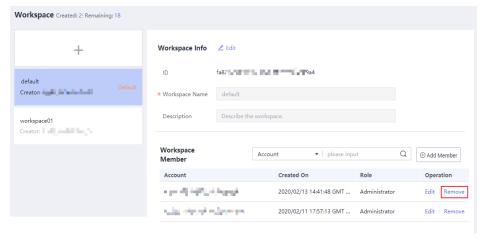
**Step 5** After the member is added, you can view the member and the member role in the workspace member list.

----End

#### **Removing Members**

- **Step 1** Log in to the DLV console.
- **Step 2** In the navigation tree on the left, click **Control Center > Workspace**. The **Workspace** page is displayed.
- **Step 3** In the workspace list, click the workspace to be set. In the **Workspace Member** area, locate the member to be deleted and click **Remove** in the **Operation** column.

Figure 4-13 Removing a member



**Step 4** In the dialog box that is displayed, click **OK**.

# 5 Creating Data Connections

Source data required for screen creation can be static data or non-static data.

- Static data: You can enter and use static data on the screen development page.
- Non-static data: Non-static data is stored locally or in other cloud services.

Assume that user data is stored in Data Warehouse Service (DWS). The following section describes how to establish a data connection between DLV and DWS on the **Data** page. After the data connection is successfully created, DLV can use data in DWS.

For details about more data sources, see **Creating Data Connections**.

#### **Prerequisites**

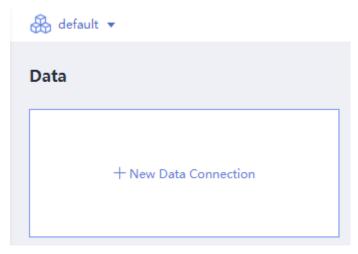
- You have obtained the IP address, port number, username, and password of DWS.
- A Cloud Data Migration (CDM) cluster is used as the network agent to ensure that DLV can communicate with DWS. Ensure that an available CDM cluster exists and is in the same region, AZ, and VPC as the DWS data source. In addition, the CDM cluster and DWS data source must be in the same security group or the security group rule allows them to communicate with each other.

In CDM, you only need to do nothing but create a CDM cluster.

#### **Creating a Data Connection**

- Step 1 Log in to the DLV console.
- **Step 2** In the navigation pane on the left, click **Data**.
- **Step 3** On the **Data** page, click the workspace drop-down list at the top of the page, select the workspace to be accessed, and click **New Data Connection**.

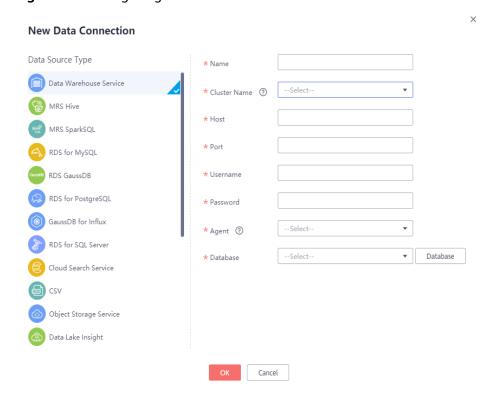
Figure 5-1 Creating a data connection



**Step 4** In the data source list, choose **Data Warehouse Service**. Specify the related parameters. For details about how to create a data connection, see **Data Connection Overview**.

For example, if **Data Source Type** is set to **Data Warehouse Service**, configure the data source parameters by referring to **Table 5-1**.

Figure 5-2 Configuring the data source



**Table 5-1** DWS data connection parameters

Paramet er	Description
Name	Name of the data connection. Must contain 1 to 32 characters and contain only letters, digits, hyphens (-), and underscores (_).
Cluster Name	Name of the DWS cluster. To create a DWS cluster, click <b>Create Cluster</b> next to the drop-down list.
Domain Name	After a DWS cluster is selected, an intranet domain name of a database will be automatically matched. The domain name is alterable.
Port	After a DWS cluster is selected, a database port will be automatically matched. The port is alterable.
Usernam e	Username of the database. The database user must have permission to access data tables and metadata.
Passwor d	Password of the database user.
Agent	Name of the CDM cluster. To view all available CDM clusters, click  View Agent next to the drop-down list.  NOTE  DWS is not a fully managed service and thus cannot be directly connected to fully managed DLV. A CDM cluster serves as an agent that enables communication between them.
Databas e	You can select a database from the <b>Database</b> drop-down list. <b>NOTE</b> If there is no database displayed, check whether the database username and password are correct. Then, ensure that security group rules have been configured to allow database connections. Ensure that the CDM proxy and the DB instance are in the same VPC. If the fault persists, contact technical support.  Currently, DLV cannot use CDM 2.9 or later as a proxy.

Step 5 Click OK.

# 6 Creating Screens

DLV offers multiple scenario templates. You can select one template based on actual scenario requirements before creating a screen. DLV does not allow creating or modifying existing templates. If you want to create a screen based on an existing screen, you can copy, import, or export the screen. For details, see Copying Screens and Importing and Exporting Screens.

This chapter describes how to create a screen by using a blank template. Before creating a screen, you need to understand the following information:

• Users of the professional edition can create a maximum of 50 screens.

To increase quota, submit a service ticket.

#### **Creating Screens**

- **Step 1** Log in to the DLV console.
- **Step 2** Click the workspace drop-down list in the upper left corner of the page. On the displayed workspace panel, click the workspace that you want to switch to.

Screens | Screen Combination

Created: 1; Remaining: 49 ③

+ New Screen

Figure 6-1 Switching a workspace

- **Step 3** On the **Screens** page, click **New Screen**.
- **Step 4** On the **Scenario Templates** page, select a template from the scenario template list on the left, for example, select a blank template. Enter a screen name.
  - A screen name can contain only letters, numbers, underscores (\_), and hyphens (-), and cannot exceed 32 characters.
- **Step 5** Click **Create Screen**. The screen development page is automatically displayed after the screen is successfully created.

# **7** Developing Screens

# 7.1 Editing Screens

This section uses a bubble chart as an example to describe how to edit a screen.

### **Screen Development Page**

Log in to the DLV console. On the **Screens** page, locate the screen to be edited and click on the screen.

On the screen development page, you can design and develop screens based on service requirements, add components, configure page layouts, associate data sources, and publish screens.

Table 7-1 Functional area description

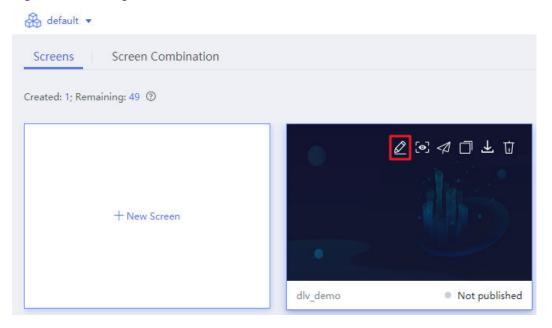
N o.	Functiona l Area	Description
1	Compone nt area	In the component area, DLV provides various components for you to add them to the canvas. For details about the components, see <b>Overview</b> .
2	Layer area	In the layer area, the name and thumbnail of each layer in a screen can be displayed, facilitating layer search. For details about layer management, see Managing Layers.
3	Canvas	Canvas of the screen.
4	Canvas zoombar	Drag the zoombar or click or to zoom in or zoom out the canvas.  Click to adapt the canvas to the screen.

N o.	Functiona l Area	Description
5	Horizontal ruler	When the button in the upper left corner of the canvas
		displays as move the pointer to the horizontal rule area. When the pointer changes to a bidirectional arrow and a red auxiliary line is displayed on the canvas, double-click the mouse to add a red auxiliary line.
6	Vertical ruler	When the button in the upper left corner of the canvas
		displays as move the pointer to the vertical rule area. When the pointer changes to a bidirectional arrow and a red auxiliary line is displayed on the canvas, double-click the mouse to add a red auxiliary line.
7	Configurat ion panel	When you select a screen or a component, the configuration information is displayed on the configuration panel.
		For details about how to configure a screen, see <b>Editing Screens</b> .
		For details about how to configure components, see <b>Component Guide</b> .
8	Publish area	The buttons in the publish area are described as follows:
		Back: return to the DLV console homepage. The modifications made on the screen development page are automatically saved.
		Preview: preview a screen. During the screen development, you can preview the screen effect whenever you want. For details, see Previewing Screens.
		✓ Publish: publish a screen. After a screen is developed, you can share your screen with other users after publishing it. For details, see Publishing Screens.
9	Panel control area	Used to control the area displayed or hidden on the screen development page.
10	Layout	You can select multiple components to align them.

# **Editing Screens**

- **Step 1** Log in to the DLV console.
- Step 2 On the Screens page, locate the screen to be edited and click on the screen. The screen development page is displayed.

Figure 7-1 Editing a screen



**Step 3** On the canvas, set the screen parameters on the **Page Settings** panel on the right.

- Screen Size: width and height of the canvas. Unit: pixel.
- Background Color: background color of the screen.
- Background Image: You can upload a custom image as the background image of the screen. If this parameter is not set, no background image is available by default.
- **Display Mode**: zoom mode of the screen.
- **Thumbnail**: Click **Capture Image** to take a thumbnail of the current screen as the screen cover. When you search for the screen on the **Screens** page, you can see the thumbnail.



Using a thumbnail as a screen cover may disclose your data.

- Reset: Click Reset Background to restore the default background color and image.
- Adhesion Sensitivity: If this parameter is set to No fill, this function is
  disabled. If this parameter is set to another value, when you drag a
  component to the position close to another component or auxiliary line and
  the distance between them is less than or equal to this value, the component
  automatically adheres to the other component or auxiliary line. Unit: pixel.
- **Allow export**: If this parameter is selected, the screen can be exported as an image or a PDF file.
- Global Parameters: global interaction parameters.

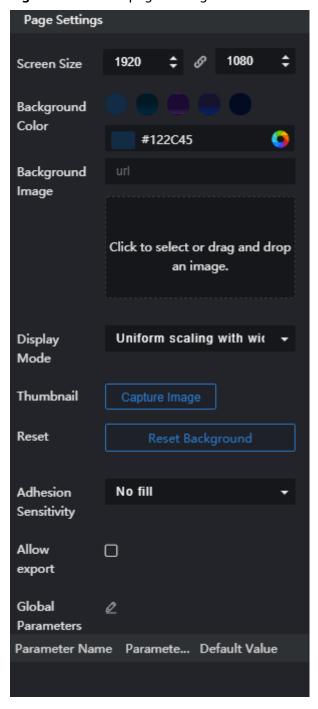


Figure 7-2 Screen page setting

**Step 4** Add and manage components.

Add required components to the canvas. For details, see **Managing Components**.

**Step 5** Manage layers.

After adding a component, you can manage the layer. For details, see **Managing Layers**.

----End

### **Arranges Components**

After adding components to the canvas, you can select multiple components and click the buttons in the layout area above the canvas to arrange the components.

Figure 7-3 Layout



### **Coordinates and Coordinate Auxiliary Lines of Components**

In the upper left and lower right corner of a component, the coordinates and coordinate auxiliary lines of the component are displayed.

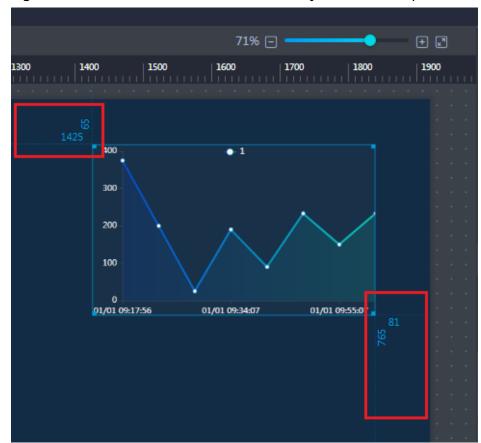


Figure 7-4 Coordinates and coordinate auxiliary lines of a component

#### **Auxiliary Lines**

#### Adding auxiliary lines

When the button in the upper left corner of the canvas displays as the pointer to the top of the canvas or on the left of the ruler. When the pointer changes to a bidirectional arrow and a red auxiliary line is displayed on the canvas, click the mouse to add a red auxiliary line. You can add multiple horizontal or vertical auxiliary lines to the canvas.

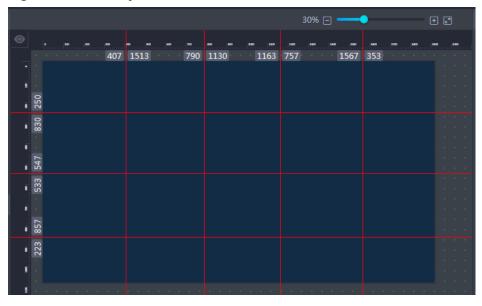


Figure 7-5 Auxiliary lines

#### Adjusting positions of auxiliary lines

Move over a red auxiliary line and hold down the left mouse button while dragging the auxiliary line until to a desired position on the canvas. The distance between the auxiliary line and the left, right, upper, and lower boundaries of the canvas is displayed on the ruler.

#### • Showing/Hiding auxiliary lines

Click in the upper left corner of the canvas to hide all auxiliary lines. In this case, you cannot add auxiliary lines.

To display all auxiliary lines again, click in the upper left corner of the canvas. You can add auxiliary lines.



Figure 7-6 Showing/Hiding auxiliary lines

• Deleting auxiliary lines

In the canvas, move over a red auxiliary line. When the pointer changes to a bidirectional arrow, hold down the left mouse button while dragging the auxiliary line to remove it from the canvas. Alternatively, right-click the auxiliary line and choose **Delete** from the shortcut menu.

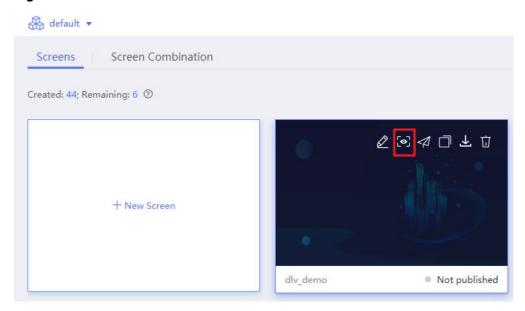
# 7.2 Previewing Screens

During screen development, you can preview the screen effect whenever you want.

Two entrances into the preview page are available:

- In the upper right corner of the screen development page, click the **Preview** icon
- On the **Screens** page, locate the screen to be previewed and click on the screen.

Figure 7-7 Preview entrance 2



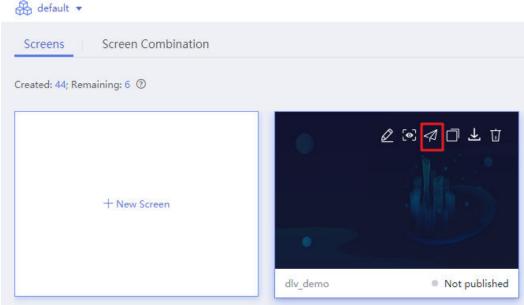
# 7.3 Publishing Screens

After a screen is developed, you can share your screen with other users by publishing it.

## **Publishing Screens**

- **Step 1** Log in to the DLV console.
- **Step 2** On the **Screens** page, locate the screen to be published and click on the screen.

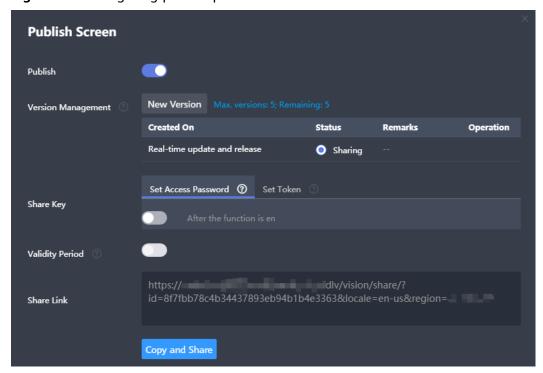
Figure 7-8 Publishing a screen



You can also click in the upper right corner of the screen development page to publish the screen.

**Step 3** On the displayed page, configure publish parameters.

Figure 7-9 Configuring publish parameters



#### **Publish**

Specifies whether others can share your created screens (see Figure 7-9). After the screen is published, other users can access the screen without logging in to DLV. They only need to open the browser and enter the shared link in the address box to access the screen.

#### **Version Management**

Specifies a sharable version.

- Real-time version: When the current version of screen is modified, users who
  are sharing it can synchronously use the latest version of screen. It is the
  default option and cannot be deleted.
- Historical version: When the current version of screen is modified, users who
  are sharing it cannot use the latest version of screen but can only use the
  original one.

#### **Share Key**

Specifies a screen sharing mode.

- Public sharing: If a user does not configure password access or token authentication for a screen, the screen is accessed through the shared link.
   The basic edition of DLV supports only the public sharing mode.
- Password access: On the Set Access Password tab page, enable password
  access and set a password. After the password is set successfully, other users
  need to enter the password when they want to access the screen through the
  shared link.

After **Validity Period** is enabled, you do not need to perform verification again within the validity period after successful verification unless the validity period expires. If this function is disabled, each access requires verification.

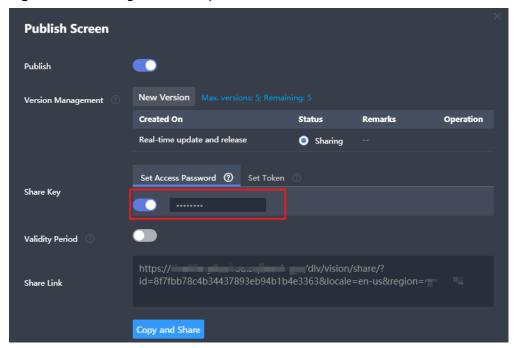
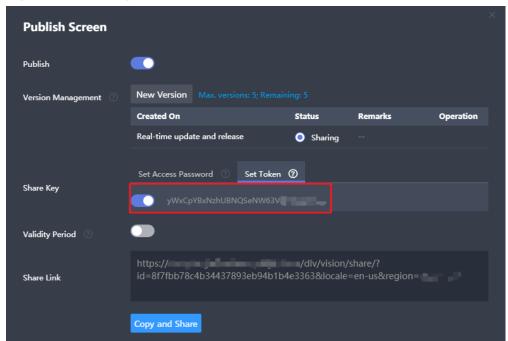


Figure 7-10 Setting the access password

• Token access: On the **Set Token** tab page, enable token verification.

The system randomly generates a token. You need to record it for future use. After **Validity Period** is enabled, you do not need to perform verification again within the validity period after successful verification unless the validity period expires. If this function is disabled, each access requires verification.

Figure 7-11 Setting a token



After the token for the screen is generated, you have to perform the following steps before accessing the screen:

#### ■ NOTE

To prevent replay attacks, ensure that your server time is GMT +08:00. DLV allows only one minute difference. If the time difference exceeds one minute, authentication fails.

- a. Publish the screen and record the shared screen code (a character string behind **share** in the shared link).
- b. Connect the screen code with the current time (millisecond) and separate them with a vertical bar (|).
- Use the token to encrypt the character string in Step 3.b through HMAC-SHA256 base64.
- d. Name the time and the encrypted signature **dlv\_time** and **dlv\_signature**, respectively.
- e. Add them to **querystring** of the shared link.

An example is provided as follows:

#### Java:

```
package com.test;
import java.security.*;
import javax.crypto.*;
import javax.crypto.spec.SecretKeySpec;
import org.apache.commons.codec.binary.Base64;
import java.net.URLEncoder;
```

```
public class ShareWithTokenTest {
   public static void main(String[] args) throws Exception {
System.out.println(getShareUrlWithToken("*******722467a9477b5b******",
"******r1tyy1C7Jenni3p********"));
   }
   public static String getShareUrlWithToken(String shareID, String token){
      long time = System.currentTimeMillis();
      String data = shareID + "|" + time;
      String signature = HMACSHA256(data.getBytes(), token.getBytes());
      String url = "https://console.huaweicloud.com/dlv/vision/share/?id="+shareID
+"&dlv_time="+time+"&dlv_signature="+ signature+"&locale=zh-cn&region=cn-north-4";
      return url;
//Use HmacSHA256 for signature.
   public static String HMACSHA256(byte[] data, byte[] key)
      try {
        SecretKeySpec signingKey = new SecretKeySpec(key, "HmacSHA256");
        Mac mac = Mac. getInstance("HmacSHA256");
        mac.init(signingKey);
        return URLEncoder. encode (Base 64. encode Base 64 String (mac. do Final (data)));
      } catch (NoSuchAlgorithmException e) {
         e.printStackTrace();
      } catch (InvalidKeyException e) {
        e.printStackTrace();
      return null;
}
```

#### 

Replace the following parameters in the preceding code based on the site requirements:
In System.out.println(getShareUrlWithToken("\*\*\*\*\*3b44722\*\*\*\*\*\*\*5b888211bca",
"\*\*\*\*\*\*\*er1tyy1C7J\*\*\*\*\*\*\*JxellPz8P"), \*\*\*\*\*\*\*4722467a9477\*\*\*\*\*\*\*11bca indicates the parameter value following share in the URL, and \*\*\*\*\*er1tyy1C7\*\*\*\*\*\*pzJxe\*\*\*8P indicates the parameter value in the shared key.
In String url = "https://console.huaweicloud.com/dlv/vision/share/?id="+shareID +"&dlv\_time="+time +"&dlv\_signature="+ signature+"&locale=zh-cn&region=cn-north-4, locale=zh-cn indicates the language ID, en-us indicates the English language, and region=cn-north-4 indicates the area where the service is deployed.

#### ----End

# 8 Managing Screens

# 8.1 Copying Screens

This section describes how to copy a screen.

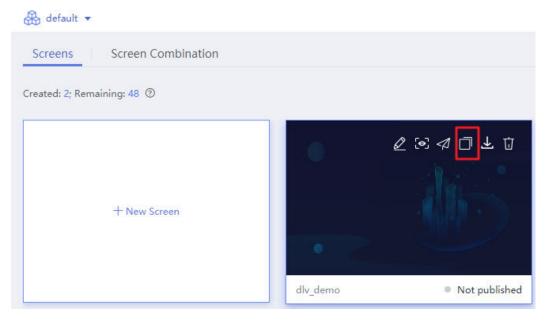
## **Prerequisites**

Before copying a screen, ensure that the screen already exists. If there are no screens on **Screens**, create one. For details about how to create a screen, see **Creating Screens**.

#### **Procedure**

- **Step 1** Log in to the DLV console.
- **Step 2** On the **Screens** page, locate the screen to be copied and click on the screen and select the target workspace. A screen named *Original screen name\_copy* is created.

Figure 8-1 Copying a screen



**Step 3** Mouse over the name of the screen to change it.





----End

# 8.2 Deleting Screens

This section describes how to delete a screen.

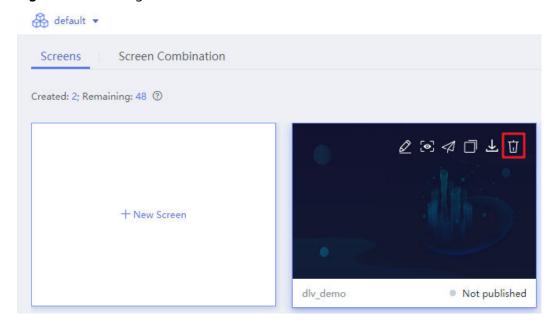
#### **Prerequisites**

Before deleting a screen, ensure that the screen is no longer used. Deleting screens cannot be recovered. Exercise caution before performing this operation.

#### **Procedure**

- **Step 1** Log in to the DLV console.
- **Step 2** On the **Screens** page, locate the screen to be deleted and click on the screen.

Figure 8-3 Deleting a screen



Step 3 In the displayed dialog box, click Yes.

----End

# 8.3 Searching for Screens

This section describes how to search for a screen.

## **Prerequisites**

Before searching for a screen, ensure that the screen already exists. If there are no screens on **Screens**, create a screen. For details about how to create a screen, see **Creating Screens**.

#### **Procedure**

- **Step 1** Log in to the DLV console.
- Step 2 On the Screens page, select a screen sorting mode, enter the name or keyword of the target screen in the search box, and click Q.

Figure 8-4 Searching for a screen



For example, if you enter **screen** in the search box, all screens whose names contain **screen** are displayed.

The following sorting modes are provided on the **Screens** page:

- **Sort by name**: Sort the screen names in ascending alphabetical order.
- **Sort by creation time**: Screens are sorted by creation time in descending order. The latest screen is displayed at the top.
- **Sort by modification time**: Sort the screens by modification time in descending order. The latest modified screen is displayed at the top.

----End

# 8.4 Importing and Exporting Screens

DLV allows you to export a developed screen and import the exported screen to DLV.

## **Precautions for Importing Screens**

- You can import screens that are exported from DLV in one region to DLV in another region.
- You can import screens exported by one account or IAM user to DLV purchased by another user.
- After the screen exported from an earlier edition of DLV is imported to a later edition of DLV, the screen configuration and components are still of the edition when the screen is exported. To use the latest edition of components, you need to add the components again on the screen.
- After a screen is imported successfully, you need to reconfigure the data source of each component on the screen.
- After a screen is imported successfully, the interaction needs to be recreated.

## **Exporting Screens**

- **Step 1** Log in to the DLV console.
- **Step 2** On the **Screens** page, locate the screen to be exported and click on the screen.

Screens Screen Combination

Created: 2; Remaining: 48 ⑦

+ New Screen

dlv\_demo

Not published

Figure 8-5 Exporting a screen

----End

## **Importing Screens**

- **Step 1** Log in to the DLV console.
- **Step 2** In the upper right corner of the **Screens** page, click **Import Screen**, select the exported screen, and click **Open** to import the screen.

If the import is successful, a message is displayed in the upper right corner of the console, indicating that the screen is imported successfully.

Figure 8-6 Importing a screen



----End

# 8.5 Changing a Screen Name

This section describes how to change the name of a screen.

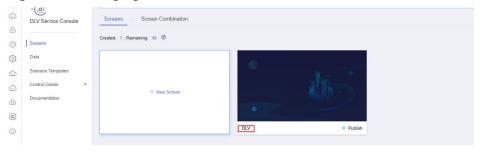
## **Prerequisites**

There is a screen available in the system before you change its name.

#### **Procedure**

- **Step 1** Log in to the DLV console.
- **Step 2** Choose **Screens**. On the tab page displayed, locate the screen you want to change the name for, move the cursor over the icon of the screen, and click the screen name in the lower left corner.

Figure 8-7 Changing a screen name



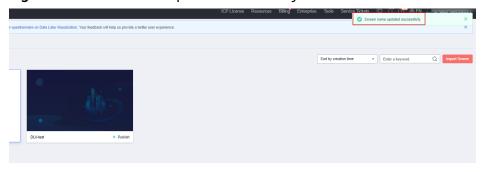
**Step 3** Enter a new screen name.

#### 

The name can contain a maximum of 32 characters. Only letters, digits, underscores (\_), and hyphens (-) are allowed.

**Step 4** Move the cursor away from the screen name and click the screen name again. If the screen name is changed successfully, message "Screen name updated successfully." is displayed.

Figure 8-8 Screen name updated successfully



----End

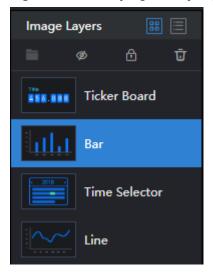
# 9 Managing Layers

If multiple components are deployed or nested in the canvas, the layer function helps you quickly locate a component.

# **Modifying the Layer Position of a Component**

Method 1: Select a component in the layer list and drag the component to a specific layer.

Figure 9-1 Modifying the layer position of a component (method 1)



Method 2: Right-click on a component in the canvas and choose **Top**, **Bottom**, **Move Up**, or **Move Down**.

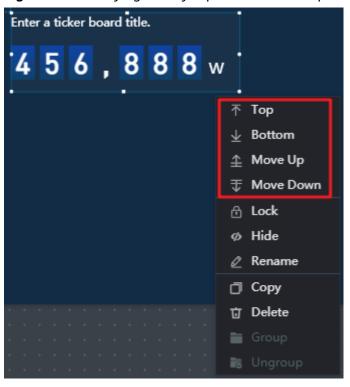
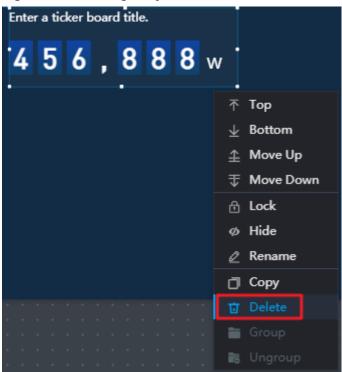


Figure 9-2 Modifying the layer position of a component (method 2)

# **Deleting a Layer**

In the layer area, select a component in the layer list or right-click a component in the canvas and click from the shortcut menu to delete the component.

Figure 9-3 Deleting a layer



# 10 Data Connection Management

# **10.1 Creating Data Connections**

### 10.1.1 Data Connection Overview

DLV provides various data sources. When using a screen, you can create data connections based on the data storage location. Data results will then display on the screen.

Log in to the DLV console and click the **Data** tab to manage data sources.

DLV supports the following types of data sources:

- APIs
- Databases
- Files
- Others

#### **APIs**

DLV supports **API** data sources.

#### **Databases**

DLV supports the following types of databases:

- DWS
- MRS Hive
- MRS SparkSQL
- MapReduce Service (ClickHouse)
- RDS for MySQL
- RDS for PostgreSQL
- RDS for SQL Server

- RDS for GaussDB
- RDS for GaussDB for Influx
- Oracle
- MySQL
- PostgreSQL
- SQL Server

#### **Files**

The DLV supports the following types of files data:

- Static data
- CSV files

#### **Others**

- OBS
- Cloud Search Service
- Elasticsearch

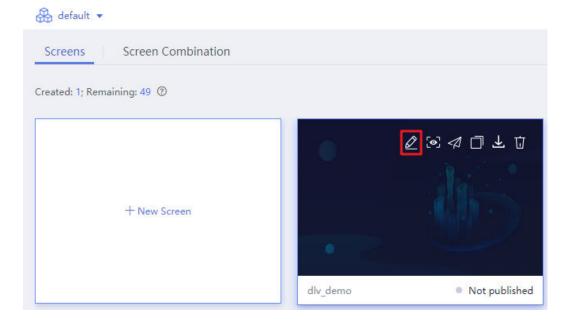
# **10.1.2 Using Static Data Sources**

When using static data sources, you do not need to create data connections. You can directly paste static data in JSON format to the data editing page.

## **Using Static Data**

- **Step 1** Log in to the DLV console and click the **Screens** tab.
- **Step 2** On the **Screens** page, locate the screen to be edited and click on the screen. The screen development page is displayed.

Figure 10-1 Editing a screen



- **Step 3** Select a component, for example, a bar chart. The component is displayed in the canvas. Click the component and then the **Data** panel on the right of the page.
- **Step 4** On the **Data** panel, set **Data Source Type** to **Static data**.

Figure 10-2 Static data source



**Step 5** Paste static data in JSON format to the data editing area.

Figure 10-3 Pasting static data

```
Static data
Data Source
Туре
         E
     2 -
                      "Type A",
                     78,
                      "Type A",
    10
    12 -
    13
                      "Type C",
    14
                     68,
                                             E<sup>2</sup>
    18
```

Step 6 Configure field mapping. In this example, **x** is mapped to **x**, **y** to **y**, and **s** to **s**. Click on the right of **s** to add two series values (1 and 2) and set different colors for them.

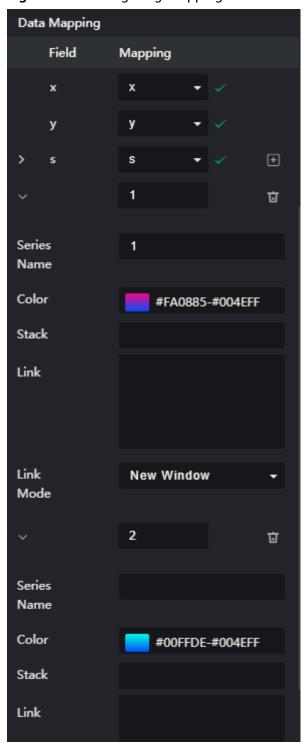


Figure 10-4 Configuring mapping and color

**Step 7** View the effect of the configured screen component.

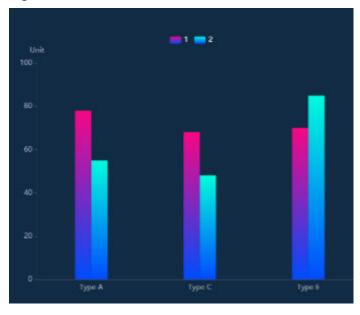


Figure 10-5 Screen effect

----End

# 10.1.3 Creating API Data Connections

You can call a third-party Representational State Transfer (REST) API to obtain source data. The HTTP body in the RESTful API response is the source data. DLV can parse the source data in the response and display it on the screen. Without the need to create a data connection, you can directly configure the URL of the API data source on the **Data** panel.

#### **Use Restrictions**

To connect to data sources through the REST API, ensure that the following conditions are met:

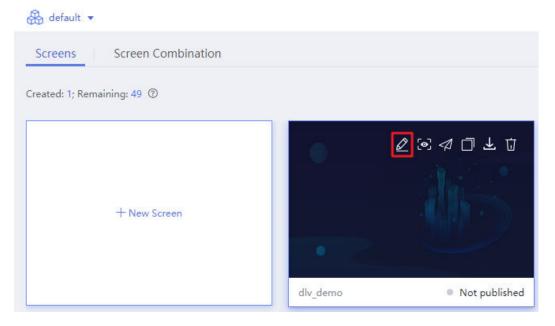
- The REST API for obtaining source data can communicate with the HUAWEI CLOUD network.
- The REST API for obtaining source data can be called only using HTTPS GET requests, and the HTTP body in the API response result must be in JSON format.
- For the API data sources, DLV parses only level-1 JSON arrays similar to the JSON structure of the static data source. Multi-layer nested JSON structure is not supported.

### **Using API Data Sources**

**Step 1** Log in to the DLV console and click the **Screens** tab.

**Step 2** On the **Screens** page, locate the screen to be edited and click on the screen. The screen development page is displayed.

Figure 10-6 Editing a screen



- **Step 3** Select a component, for example, a bar chart. The component is displayed in the canvas. Click the component and then the **Data** panel on the right of the page.
- Step 4 On the Data panel, set Data Source Type to API.
- **Step 5** Enter a complete URL in the editing area.

#### □ NOTE

DLV supports only HTTPS-based API requests.

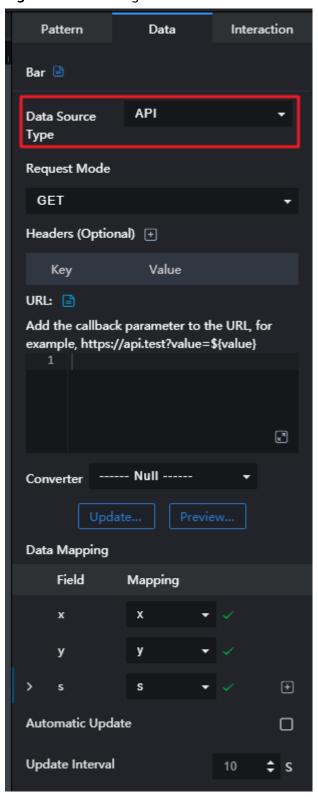


Figure 10-7 Creating an API data source

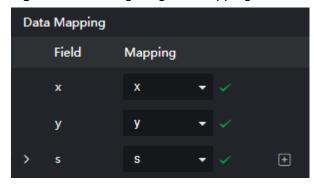
**Step 6** Click **Preview Response Result** to view the data response result.

Figure 10-8 Viewing the response result

```
Preview Response Result
   1 - [
   2 -
           "s": 1,
            "x": "Type A",
           "x": "Type B",
  10
  11
  12 -
  13
  14
           "x": "Type C",
  16
  18
           "x": "Type D",
  19
  20
  22 -
  24
            x": "Type E",
```

**Step 7** Configure the field mapping based on the attribute name of the response data.

Figure 10-9 Configuring the mapping



**Step 8** View the effect of the configured screen component.

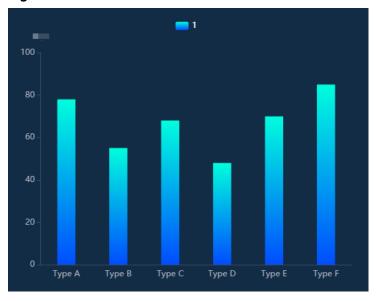


Figure 10-10 Screen effect

----End

# 10.1.4 Creating CSV File Data Connections

You can upload local CSV files to OBS and establish a data connection with DLV. Alternatively, you can create a data connection between a CSV file stored in OBS and DLV. Then, the data in the CSV file can be displayed on DLV screens.

Before establishing a data connection to CSV files, ensure that the following conditions are met:

- You have obtained an Access Key ID (AK) and Secret Access Key (SK).
   For details about how to obtain them, see Obtaining AK and SK.
- An OBS bucket is available.

## **CSV File Format Description**

The CSV file data source supports the following CSV file formats:

- Only commas (,) can be used as separators in CSV files. CSV files are encoded in UTF-8 format (without BOM).
- When a screen uses the CSV data source, the first row in the CSV file is parsed as the table header by default.
  - If the CSV file to be uploaded does not have a table header, you can add one before uploading the file. Alternatively, you can select **Default Table Header** in the data source settings of the screen to add a default table header to the CSV file.
- In a CSV file, if a field value is enclosed in double quotation marks, the double quotation marks are parsed as a part of the field value, and are displayed as "\"" on the screen. If a field value contains single quotation marks, the field is not affected.

For example, if the CSV file contains the following records, "abc" is displayed as "\"abc\"".

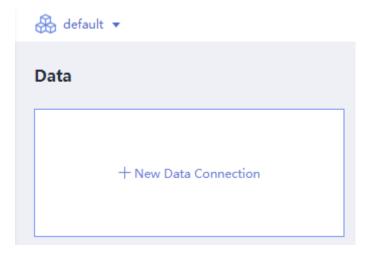
1."abc".2

• Only one CSV file can be uploaded through a data connection, and the file size cannot exceed 10 MB. If the size of a CSV file exceeds 10 MB, the file can be uploaded only through the OBS client.

#### **Adding CSV File Data Sources**

- **Step 1** Log in to the DLV console.
- **Step 2** On the **Data** page, click the workspace drop-down list at the top of the page, select the workspace to be accessed, and click **New Data Connection**.

Figure 10-11 Creating a data connection



**Step 3** In the **New Data Connection** dialog box, set **Data Source Type** to **CSV** and set the related parameters. Click **OK**.

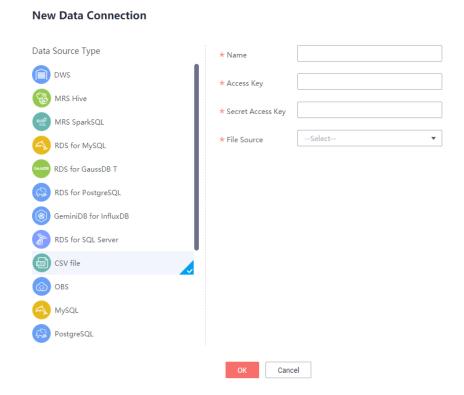


Figure 10-12 Creating a CSV data connection

Table 10-1 describes the data connection parameters of CSV files.

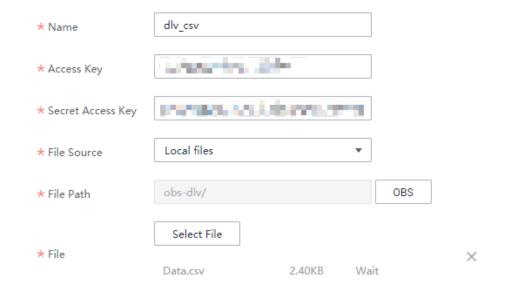
Table 10-1 CSV file data connection parameters

Parameter	Description
Name	Name of the data connection. Must contain 1 to 32 characters and contain only letters, digits, hyphens (-), and underscores (_).
Access Key	Enter the AK. Obtain it by referring to <b>Obtaining AK and SK</b> .
Secret Access Key	Enter the SK. Obtain it by referring to <b>Obtaining AK and SK</b> .
File Source	Local files and OBS files are supported.
File Path	• If you set <b>File Source</b> to <b>Local files</b> , click <b>OBS</b> in <b>File Path</b> . In the displayed dialog box, select an OBS directory. The local files will be uploaded to the OBS directory first. See <b>Figure 10-13</b> .
	<ul> <li>If you set File Source to OBS files, click OBS in File Path.         In the displayed dialog box, select the CSV file in the OBS bucket. See Figure 10-14.     </li> <li>For details about the CSV file format requirements, see CSV File Format Description.</li> </ul>
	Ensure that you have the read and write permissions on the specified OBS bucket.

Parameter	Description
File	If you set <b>File Source</b> to <b>Local files</b> , click <b>Select File</b> . In the displayed dialog box, select the CSV file to be uploaded. Click <b>OK</b> . For details about the CSV file format requirements, see <b>CSV File Format Description</b> .

• When File Source is set to Local files:

Figure 10-13 Setting File Source to Local files





• When File Source is set to OBS files:

\* Name dlv\_csv

\* Access Key

\* Secret Access Key

\* File Source

OBS files

\* OBS

Figure 10-14 Setting File Source to OBS files

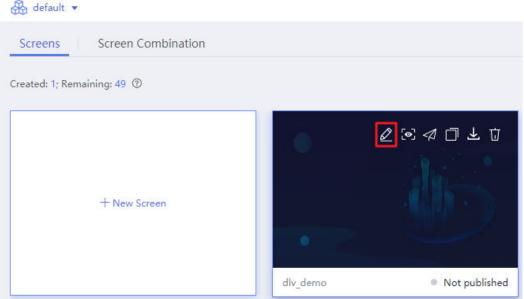


----End

## **Using CSV File Data Sources**

- **Step 1** Log in to the DLV console and click the **Screens** tab.
- Step 2 On the Screens page, locate the screen to be edited and click on the screen. The screen development page is displayed.

Figure 10-15 Editing a screen



- **Step 3** Select a component, for example, a bar chart. The component is displayed in the canvas. Click the component and then the **Data** panel on the right of the page.
- **Step 4** Set the following parameters on the **Data** panel:
  - **Data Source Type**: Set this parameter to **CSV**.
  - Data Connection: Select a CSV file data connection from Data Connection.

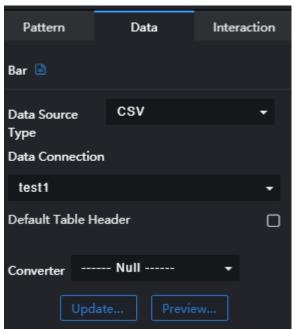


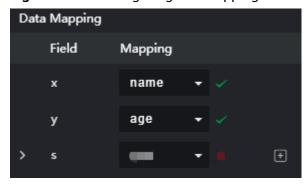
Figure 10-16 Selecting a CSV file data connection

**Step 5** Click **Preview Response Result** to view the data response result.

Figure 10-17 Viewing the response result

**Step 6** Configure the field mapping based on the attribute name of the response data. In this example, **x** is set to **name**, **y** is set to **age**, and **s** is left blank or set to any value.

Figure 10-18 Configuring the mapping



**Step 7** View the effect of the configured screen component.

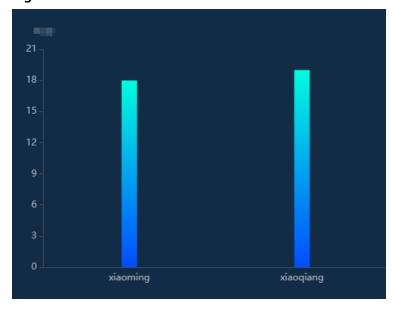


Figure 10-19 Screen effect

----End

# 10.1.5 Creating Object Storage Service Data Connections

You can set up a data connection between DLV and Object Storage Service (OBS) to display data in CSV files stored on OBS on DLV screens. To connect to OBS, ensure that the following conditions are met:

- DLV and the OBS data source to be connected must be in the same region.
- You have obtained an Access Key (AK) and Secret Access Key (SK).
   For details about how to obtain them, see Obtaining AK and SK.
- You have obtained OBS endpoints. For details, see Regions and Endpoints.

### **Obtaining AK and SK**

- **Step 1** Log in to the management console.
- **Step 2** Mouse over the username in the upper right corner and select **My Credentials** from the drop-down list.
- **Step 3** On the **My Credentials** page, click **Access Keys**.

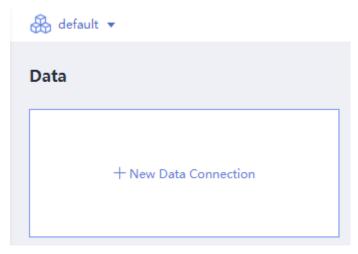
On the **Access Keys** page, you can view the existing AKs. To obtain both the AK and SK, click **Create Access Key** to create and download an access key. The downloaded key file contains the AK and SK.

----End

## **Adding OBS Data Sources**

- Step 1 Log in to the DLV console.
- **Step 2** On the **Data** page, click the workspace drop-down list at the top of the page, select the workspace to be accessed, and click **New Data Connection**.

Figure 10-20 Creating a data connection



**Step 3** In the **New Data Connection** dialog box, set **Data Source Type** to **Object Storage Service** and set the related parameters.

Figure 10-21 Creating an OBS data connection

#### **New Data Connection**

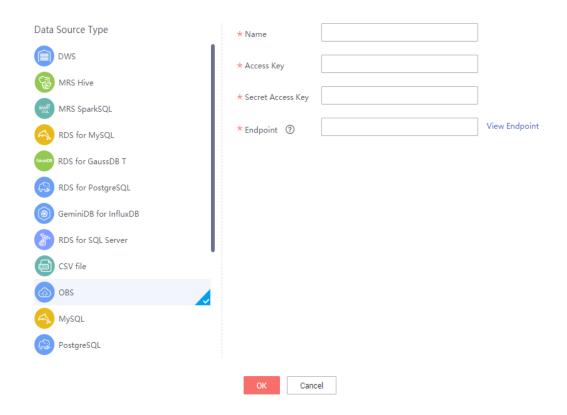


Table 10-2 describes the OBS data connection parameters.

Table 10 2 0B3 data connection parameters		
Parameter	Description	
Name	Name of the data connection. Must contain 1 to 32 characters and contain only letters, digits, hyphens (-), and underscores (_).	
Access Key	Enter the AK. Obtain it by referring to <b>Obtaining AK and SK</b> .	
Secret Access Key	Enter the SK. Obtain it by referring to <b>Obtaining AK and SK</b> .	
Endpoint	Enter the OBS endpoint based on the region of the OBS bucket where data is stored. Example: obs.ap-southeast-1.myhuaweicloud.com	

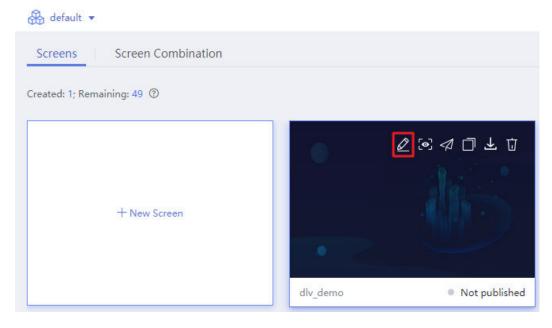
**Table 10-2** OBS data connection parameters

----End

#### **Using OBS Data Sources**

- **Step 1** Log in to the DLV console and click the **Screens** tab.
- Step 2 On the Screens page, locate the screen to be edited and click on the screen. The screen development page is displayed.

Figure 10-22 Editing a screen



- **Step 3** Select a rose chart component from the component list on the left, click the **Data** tab, and set **Data Source Type** to **OBS**.
- **Step 4** In the **Data Connection** drop-down list, select a created OBS data connection.

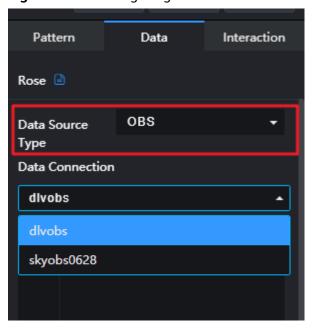
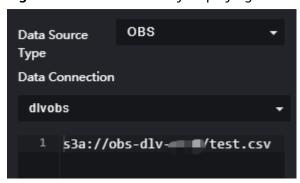


Figure 10-23 Configuring the OBS data connection

**Step 5** On the displayed OBS page, select the required OBS bucket and files and click **OK**. The system automatically enters the OBS file path in the text box.

Figure 10-24 Automatically displaying OBS file path



**Step 6** Click **Preview Response Result** to view the data response result.

Figure 10-25 Viewing the response result

Step 7 Based on the response data, set **y** to **y** and **s** to **z**. Click on the right of **s** to add three series values which are all **z**, and set different display colors.

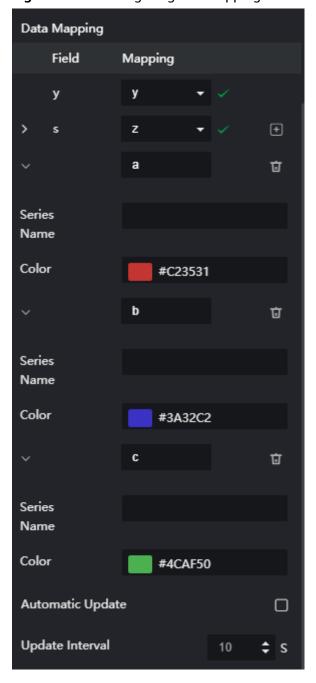


Figure 10-26 Configuring the mapping

**Step 8** View the effect of the configured screen component.

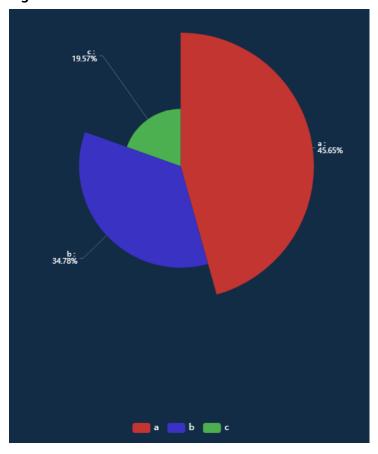


Figure 10-27 Screen effect

----End

## **10.1.6 Creating Data Warehouse Service Data Connections**

Before establishing a data connection to Data Warehouse Service (DWS), ensure that the following conditions are met:

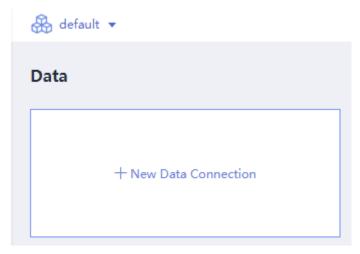
- You have obtained the IP address, port number, username, and password of DWS.
- A Cloud Data Migration (CDM) cluster is used as the network agent to ensure that DLV can communicate with DWS. Ensure that an available CDM cluster exists and is in the same region, AZ, and VPC as the DWS data source. In addition, the CDM cluster and DWS data source must be in the same security group or the security group rule allows them to communicate with each other.

In CDM, you only need to do nothing but create a CDM cluster.

## **Creating a DWS Data Connection**

- **Step 1** Log in to the DLV console.
- **Step 2** In the navigation pane on the left, click **Data**.
- **Step 3** On the **Data** page, click the workspace drop-down list at the top of the page, select the workspace to be accessed, and click **New Data Connection**.

Figure 10-28 Creating a data connection



**Step 4** In the **New Data Connection** dialog box, set **Data Source Type** to **DWS** and set the related parameters.

Figure 10-29 Creating a DWS data connection

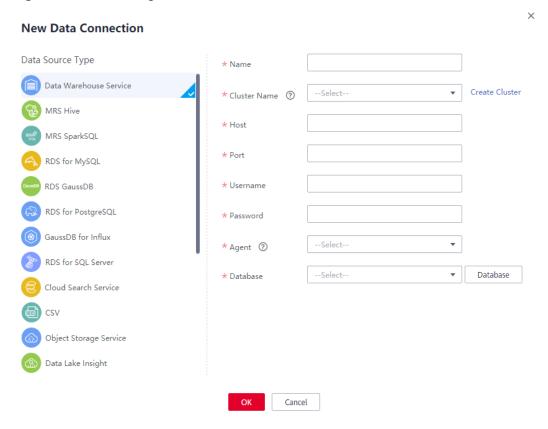


Table 10-3 DWS data connection parameters

Paramet er	Description
Name	Name of the data connection. Must contain 1 to 32 characters and contain only letters, digits, hyphens (-), and underscores (_).
Cluster Name	Name of the DWS cluster. To create a DWS cluster, click <b>Create Cluster</b> next to the drop-down list.
Domain Name	After a DWS cluster is selected, an intranet domain name of a database will be automatically matched. The domain name is alterable.
Port	After a DWS cluster is selected, a database port will be automatically matched. The port is alterable.
Usernam e	Username of the database. The database user must have permission to access data tables and metadata.
Passwor d	Password of the database user.
Agent	Name of the CDM cluster. To view all available CDM clusters, click  View Agent next to the drop-down list.  NOTE  DWS is not a fully managed service and thus cannot be directly connected to fully managed DLV. A CDM cluster serves as an agent that enables communication between them.
Databas e	You can select a database from the <b>Database</b> drop-down list. <b>NOTE</b> If there is no database displayed, check whether the database username and password are correct. Then, ensure that security group rules have been configured to allow database connections. Ensure that the CDM proxy and the DB instance are in the same VPC. If the fault persists, contact technical support.  Currently, DLV cannot use CDM 2.9 or later as a proxy.

----End

### **Using DWS Data Sources**

The following example compares visits of a service in different channels through a pie chart.

- **Step 1** Log in to the DLV console and click the **Screens** tab.
- **Step 2** On the **Screens** page, locate the screen to be edited and click on the screen. The screen development page is displayed.

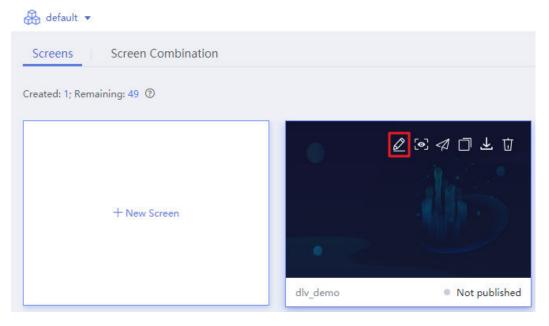


Figure 10-30 Editing a screen

- **Step 3** Select a pie chart component from the component list on the left, click the **Data** tab, and set **Data Source Type** to **Database**.
- **Step 4** In the **Data Connection** drop-down list, select a created DWS data connection.

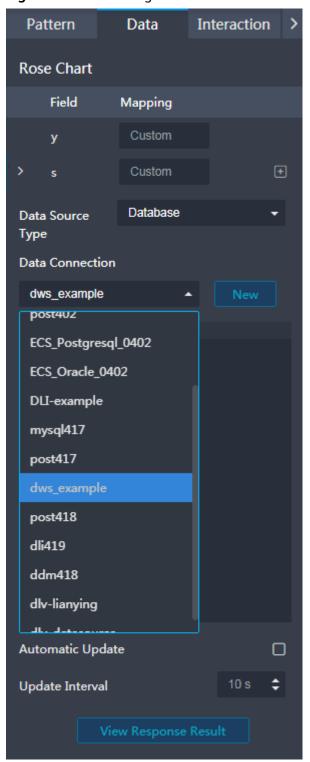
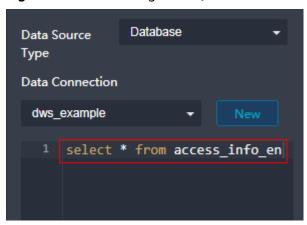


Figure 10-31 Selecting a DWS data connection

**Step 5** Enter the SQL statement in the SQL editing box.

Figure 10-32 Executing the SQL statement



**Step 6** Click **View Response Result** to view the data response result.

Figure 10-33 Viewing the response result

**Step 7** Configure field mapping based on the response data.

Set **y** to **volume** and **s** to **way** and then set the legend color.

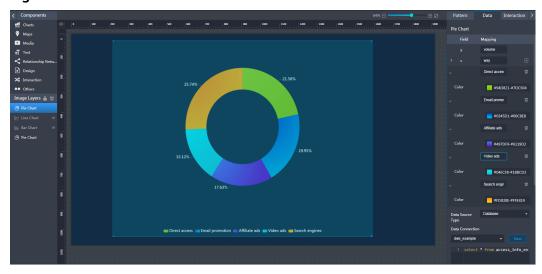


Figure 10-34 Screen effect

----End

## 10.1.7 Creating Data Lake Insight Data Connections

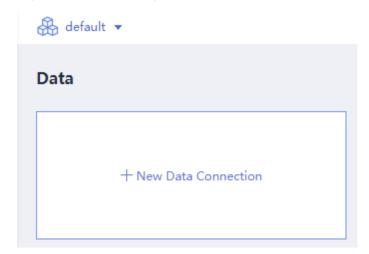
Before establishing a data connection to Data Lake Insight (DLI), ensure that the following condition is met:

• You have created DLI databases and resource queues.

### **Creating a DLI Data Connection**

- **Step 1** Log in to the DLV console.
- **Step 2** On the **Data** page, click the workspace drop-down list at the top of the page, select the workspace to be accessed, and click **New Data Connection**.

Figure 10-35 Creating a data connection



**Step 3** In the **New Data Connection** dialog box, set **Data Source Type** to **DLI** and set the related parameters.

**New Data Connection** Data Source Type \* Name MRS Hive --Select--Database \* Database MRS SparkSQL --Select--\* Resource Queue RDS for MySQL Authorize access to DLI \* Authorize Access RDS GaussDB RDS for PostgreSQL GaussDB for Influx RDS for SQL Server Cloud Search Service Object Storage Service Data Lake Insight Distributed Database Middleware Cancel

Figure 10-36 Creating a DLI data connection

Table 10-4 describes the DLI data connection parameters.

Table 10-4 DLI data connection parameters

Parameter	Description
Name	Name of the data connection. Must contain 1 to 32 characters and contain only letters, digits, hyphens (-), and underscores (_).
Database	You can select a database from the <b>Database</b> dropdown list.
Resource Queue	Select an available DLI resource queue. <b>default</b> is the preset DLI resource queue.
Authorize Access	When you create a DLI data connection for the first time, you will be reminded to authorize access to DLI. After the authorization, you will not be asked to do so when you create DLI data connections later.

----End

#### **Using DLI Data Sources**

You can configure and use DLI data sources by referring to the instructions in **Using DWS Data Sources**.

## 10.1.8 Creating MRS Hive Data Connections

Before establishing a data connection to MapReduce (MRS) Hive, ensure that the following conditions are met:

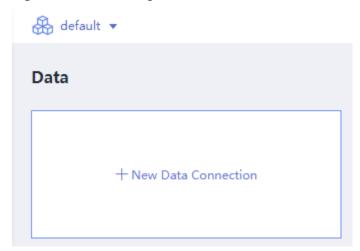
- An MRS cluster earlier than 2.0.0 has been created. The cluster contains Hive components. Kerberos authentication has been disabled for the MRS cluster. DLV does not support MRS Hive data sources with Kerberos authentication enabled.
- You have obtained the MRS Hive address.
- A CDM cluster is used as the network agent to ensure that DLV can communicate with MRS. Ensure that an available CDM cluster exists and is in the same region, AZ, and VPC as the MRS data source. In addition, the CDM cluster and MRS data source must be in the same security group or the security group rule allows them to communicate with each other.

In CDM, you only need to do nothing but create a CDM cluster.

#### **Creating an MRS Hive Data Connection**

- **Step 1** Log in to the DLV console.
- **Step 2** On the **Data** page, click the workspace drop-down list at the top of the page, select the workspace to be accessed, and click **New Data Connection**.

Figure 10-37 Creating a data connection



**Step 3** In the **New Data Connection** dialog box, set **Data Source Type** to **MRS Hive** and set the related parameters.

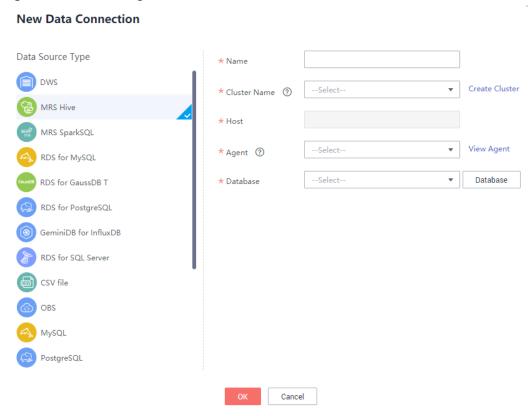


Figure 10-38 Creating an MRS Hive data connection

Table 10-5 MRS Hive data connection parameters

Parame ter	Description
Name	Name of the data connection. Must contain 1 to 32 characters and contain only letters, digits, hyphens (-), and underscores (_).
Cluster Name	Name of the MRS cluster.
Domain Name	After an MRS cluster is selected, the preferred private IP address of the cluster will be automatically matched. The domain name cannot be changed.
Agent	Select an available connection agent, such as VPC connection, CDM proxy, or Internet.  NOTE  MRS Hive is not a fully managed service and thus cannot be directly connected to fully managed DLV. A CDM cluster serves as an agent that enables communication between them.
Databas e	You can select a database from the <b>Database</b> drop-down list.

Step 4 Click OK.

----End

#### **Using MRS Hive Data Sources**

You can configure and use MRS Hive data sources by referring to the instructions in **Using DWS Data Sources**.

## 10.1.9 Creating MRS SparkSQL Data Connections

Before establishing a data connection to MRS SparkSQL, ensure that the following conditions are met:

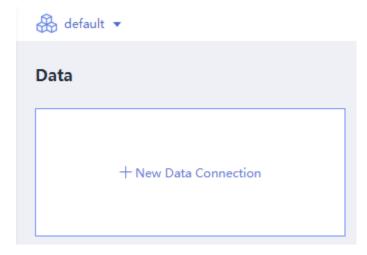
- You have created an MRS cluster of a version earlier than 2.x that is deployed with Spark, and Kerberos authentication has been disabled for the MRS cluster. DLV does not support MRS SparkSQL data sources with Kerberos authentication enabled.
- You have obtained the MRS SparkSQL address.
- A CDM cluster is used as the network agent to ensure that DLV can communicate with MRS. Ensure that an available CDM cluster exists and is in the same region, AZ, and VPC as the MRS data source. In addition, the CDM cluster and MRS data source must be in the same security group or the security group rule allows them to communicate with each other.

In CDM, you only need to do nothing but create a CDM cluster.

#### Creating an MRS SparkSQL Data Connection

- **Step 1** Log in to the DLV console.
- **Step 2** On the **Data** page, click the workspace drop-down list at the top of the page, select the workspace to be accessed, and click **New Data Connection**.

**Figure 10-39** Creating a data connection



Step 3 In the New Data Connection dialog box, set Data Source Type to MRS SparkSQL and set the related parameters.

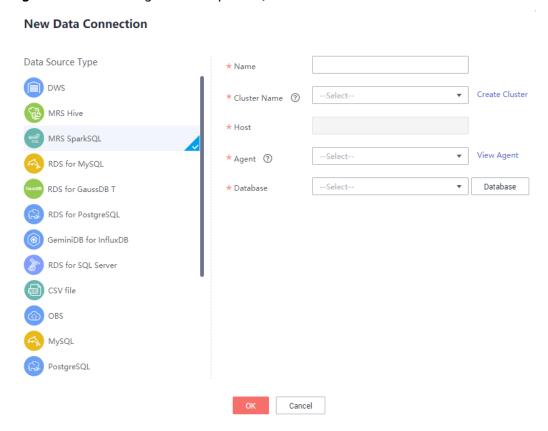


Figure 10-40 Creating an MRS SparkSQL data connection

**Table 10-6** describes the MRS SparkSQL data connection parameters.

Table 10-6 MRS SparkSQL data connection parameters

Paramete r	Description
Name	Name of the data connection. Must contain 1 to 32 characters and contain only letters, digits, hyphens (-), and underscores (_).
Cluster Name	Name of the MRS cluster.
Domain Name	After an MRS cluster is selected, the preferred private IP address of the cluster will be automatically matched. The domain name cannot be changed.
Agent	Select an available connection agent, such as VPC connection, CDM proxy, or Internet.  NOTE  MRS SparkSQL is not a fully managed service and thus cannot be directly connected to fully managed DLV. A CDM cluster serves as an agent that enables communication between them.
Database	You can select a database from the <b>Database</b> drop-down list.

Step 4 Click OK.
----End

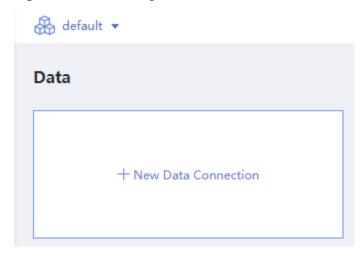
## **Using MRS SparkSQL Data Sources**

You can configure and use MRS SparkSQL data sources by referring to the instructions in **Using DWS Data Sources**.

## 10.1.10 Creating ClickHouse Data Connections

- Step 1 Log in to the DLV console.
- **Step 2** On the **Data** page, click the workspace drop-down list at the top of the page, select the workspace to be accessed, and click **New Data Connection**.

Figure 10-41 Creating a data connection



**Step 3** In the **New Data Connection** dialog box, set **Data Source Type** to **MRS ClickHouse** and set the related parameters.

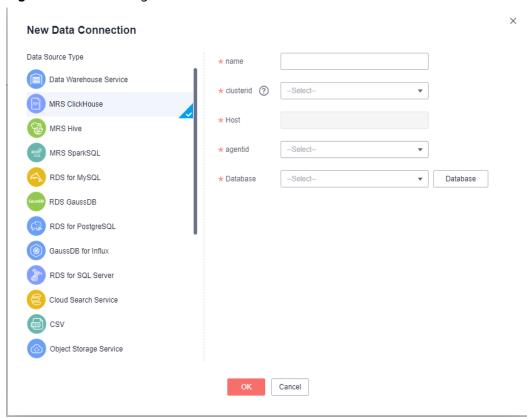


Figure 10-42 Creating a ClickHouse data connection

To connect to ClickHouse, configure the parameters as described in Table 10-7.

**Table 10-7** ClickHouse data connection parameters

· · · · · · · · · · · · · · · · · · ·	
Paramete r	Description
Name	Name of the data connection. Must contain 1 to 32 characters and contain only letters, digits, hyphens (-), and underscores (_).
Cluster ID	ID of the MRS cluster.
Host	After an MRS cluster is selected, the preferred private IP address of the cluster will be automatically matched. The domain name cannot be changed.
Agent	Select an available connection agent, such as VPC connection, CDM proxy, or Internet.
Database	You can select a database from the <b>Database</b> drop-down list.

Step 4 Click OK.

----End

#### **Using MRS ClickHouse Data Sources**

You can configure and use MRS ClickHouse data sources by referring to the instructions in **Using DWS Data Sources**.

## 10.1.11 Creating RDS for MySQL Data Connections

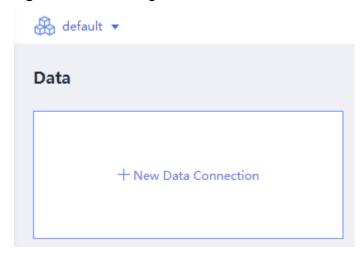
Before establishing a data connection to Relational Database Service (RDS) for MySQL, ensure that the following conditions are met:

- You have obtained the address, port number, username, and password of RDS for MySQL.
- A CDM cluster is available and used as the network agent to ensure that DLV can communicate with RDS for MySQL.

#### Creating an RDS for MySQL Data Connection

- **Step 1** Log in to the DLV console.
- **Step 2** On the **Data** page, click the workspace drop-down list at the top of the page, select the workspace to be accessed, and click **New Data Connection**.

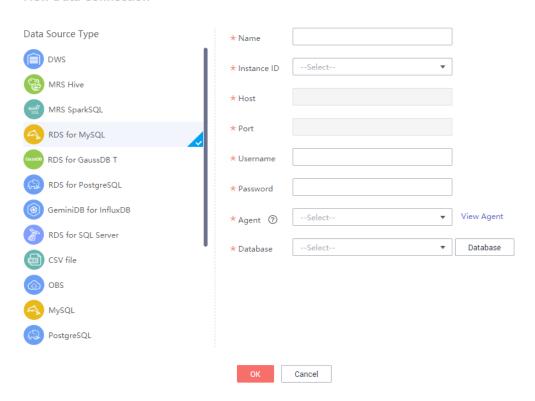
Figure 10-43 Creating a data connection



Step 3 In the New Data Connection dialog box, set Data Source Type to RDS for MySQL and set the related parameters.

Figure 10-44 Creating an RDS for MySQL data connection

#### **New Data Connection**



**Table 10-8** describes the RDS for MySQL data connection parameters.

**Table 10-8** RDS for MySQL data connection parameters

Paramete r	Description
Name	Name of the data connection. Must contain 1 to 32 characters and contain only letters, digits, hyphens (-), and underscores (_).
Instance ID	ID of the database instance.
Domain Name	After an instance ID is selected, an intranet IP address of a database is automatically matched. The domain name cannot be changed.
Port	After an instance ID is selected, a database port is automatically matched. The port cannot be changed.
Username	Username of the database. The database user must have permission to access data tables and metadata.
Password	Password of the database user.

Paramete r	Description
Agent	NOTE  RDS for MySQL is not a fully managed service and thus cannot be directly connected to fully managed DLV. A CDM cluster serves as an agent that enables communication between them.
Database	You can select a database from the <b>Database</b> drop-down list.

----End

#### **Using RDS for MySQL Data Sources**

You can configure and use RDS for MySQL data sources by referring to the instructions in **Using DWS Data Sources**.

## 10.1.12 Creating RDS for PostgreSQL Data Connections

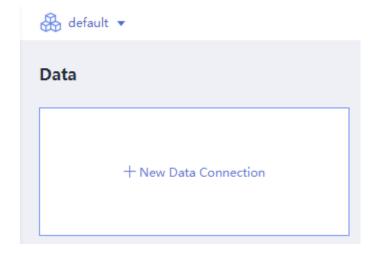
Before establishing a data connection to RDS for PostgreSQL, ensure that the following conditions are met:

- You have obtained the address, port number, username, and password of RDS for PostgreSQL.
- A CDM cluster is available and used as the network agent to ensure that DLV can communicate with RDS for PostgreSQL.

#### Creating an RDS PostgreSQL Data Connection

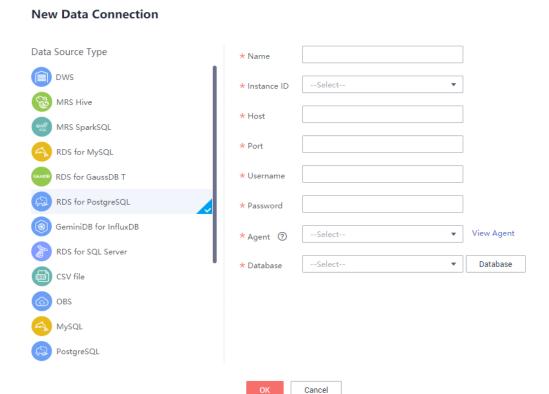
- **Step 1** Log in to the DLV console.
- **Step 2** On the **Data** page, click the workspace drop-down list at the top of the page, select the workspace to be accessed, and click **New Data Connection**.

Figure 10-45 Creating a data connection



# Step 3 In the New Data Connection dialog box, set Data Source Type to RDS for PostgreSQL and set the related parameters.

Figure 10-46 Creating an RDS for PostgreSQL data connection



**Table 10-9** describes the RDS for PostgreSQL data connection parameters.

Table 10-9 RDS for PostgreSQL data connection parameters

Paramete r	Description
Name	Name of the data connection. Must contain 1 to 32 characters and contain only letters, digits, hyphens (-), and underscores (_).
Instance ID	ID of the database instance.
Domain Name	After an instance ID is selected, an intranet IP address of a database is automatically matched. The domain name cannot be changed.
Port	After an instance ID is selected, a database port is automatically matched. The port cannot be changed.
Username	Username of the database. The database user must have permission to access data tables and metadata.
Password	Password of the database user.

Paramete r	Description
Agent	NOTE  RDS for PostgreSQL is not a fully managed service and thus cannot be directly connected to fully managed DLV. A CDM cluster serves as an agent that enables communication between them.
Database	You can select a database from the <b>Database</b> drop-down list.

----End

#### **Using RDS for PostgreSQL Data Sources**

You can configure and use RDS for PostgreSQL data sources by referring to the instructions in **Using DWS Data Sources**.

## 10.1.13 Creating RDS for SQL Server Data Connections

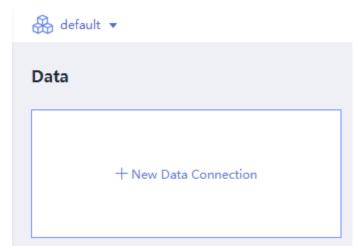
Before establishing a data connection to RDS for SQL Server, ensure that the following conditions are met:

- You have obtained the address, port number, username, and password of RDS for SQL Server.
- A CDM cluster is available and used as the network agent to ensure that DLV can communicate with RDS for SQL Server.

#### **Creating an RDS for SQL Server Data Connection**

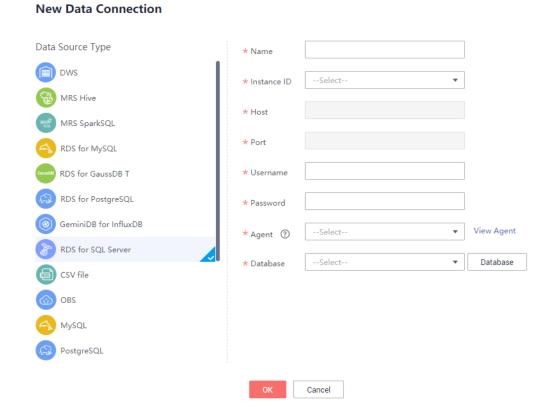
- **Step 1** Log in to the DLV console.
- **Step 2** On the **Data** page, click the workspace drop-down list at the top of the page, select the workspace to be accessed, and click **New Data Connection**.

Figure 10-47 Creating a data connection



Step 3 In the New Data Connection dialog box, set Data Source Type to RDS for SQL Server and set the related parameters.

Figure 10-48 Creating an RDS for SQL Server data connection



**Table 10-10** describes the RDS for SQL Server data connection parameters.

**Table 10-10** RDS for SQL Server data connection parameters

Paramete r	Description
Name	Name of the data connection. Must contain 1 to 32 characters and contain only letters, digits, hyphens (-), and underscores (_).
Instance ID	ID of the database instance.
Domain Name	After an instance ID is selected, an intranet IP address of a database is automatically matched. The domain name cannot be changed.
Port	After an instance ID is selected, a database port is automatically matched. The port cannot be changed.
Usernam e	Username of the database. The database user must have permission to access data tables and metadata.
Password	Password of the database user.

Paramete r	Description
Agent	NOTE  RDS for SQL Server is not a fully managed service and thus cannot be directly connected to fully managed DLV. A CDM cluster serves as an agent that enables communication between them.
Database	You can select a database from the <b>Database</b> drop-down list.

----End

#### **Using RDS for SQL Server Data Sources**

You can configure and use RDS for SQL Server data sources by referring to the instructions in **Using DWS Data Sources**.

## 10.1.14 Creating RDS for GaussDB Data Connections

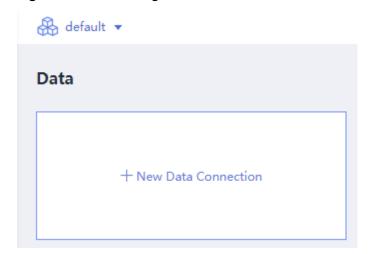
Before establishing a data connection to RDS for GaussDB, ensure that the following conditions are met:

- You have obtained the IP address, port number, username, and password of RDS for GaussDB.
- A CDM cluster is available and used as the network agent to ensure that DLV can communicate with GaussDB.

#### Creating an RDS for GaussDB Data Connection

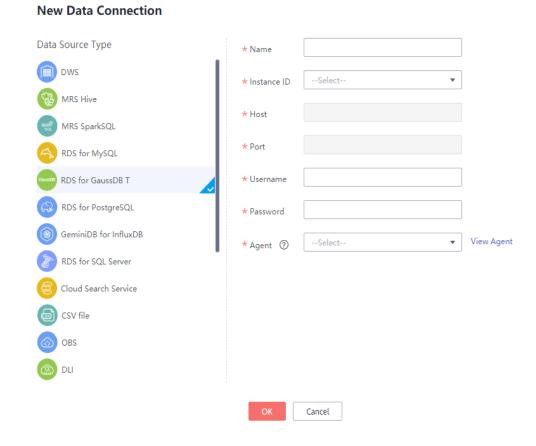
- **Step 1** Log in to the DLV console.
- **Step 2** On the **Data** page, click the workspace drop-down list at the top of the page, select the workspace to be accessed, and click **New Data Connection**.

Figure 10-49 Creating a data connection



# Step 3 In the New Data Connection dialog box, set Data Source Type to RDS for GaussDB and set the related parameters.

Figure 10-50 Creating an RDS for GaussDB data connection



**Table 10-11** describes the RDS for GaussDB data connection parameters.

**Table 10-11** RDS for GaussDB data connection parameters

Paramete r	Description
Name	Name of the data connection. Must contain 1 to 32 characters and contain only letters, digits, hyphens (-), and underscores (_).
Instance ID	ID of the database instance.
Host	After an instance ID is selected, an intranet IP address of a database is automatically matched. The domain name cannot be changed.
Port	After an instance ID is selected, a database port is automatically matched. The port cannot be changed.

Paramete r	Description
Username	Username of the database. The database user must have permission to access data tables and metadata.
Password	Password of the database user.
Agent	NOTE  RDS for GaussDB is not a fully managed service and thus cannot be directly connected to fully managed DLV. A CDM cluster serves as an agent that enables communication between them.

----End

#### **Using GaussDB Data Sources**

You can configure and use GaussDB data sources by referring to the instructions in **Using DWS Data Sources**.

## 10.1.15 Creating GeminiDB Influx API Data Connections

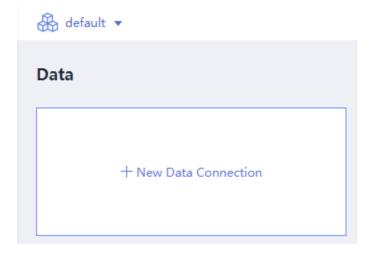
Before establishing a data connection to GeminiDB Influx API, ensure that the following conditions are met:

- You have obtained the IP address, port number, username, and password of GeminiDB Influx API.
- A CDM cluster is available and used as the network agent to ensure that DLV can communicate with GeminiDB Influx API.

#### Creating a GeminiDB Influx API Data Connection

- **Step 1** Log in to the DLV console.
- **Step 2** On the **Data** page, click the workspace drop-down list at the top of the page, select the workspace to be accessed, and click **New Data Connection**.

Figure 10-51 Creating a data connection



# **Step 3** In the **New Data Connection** dialog box, set **Data Source Type** to **GeminiDB Influx API** and set related parameters.

When connecting to GeminiDB Influx API, set parameters according to **Table 10-12**.

**Table 10-12** GeminiDB Influx API data connection parameters

Paramete r	Description
Name	Name of the data connection. Must contain 1 to 32 characters and contain only letters, digits, hyphens (-), and underscores (_).
Host	Intranet IP address of the GeminiDB for InfluxDB instance to be connected.
Port	Port of the GeminiDB for InfluxDB instance to be connected.
Username	Username of the database. The database user must have permission to access data tables and metadata.
Password	Password of the database user.
Agent	NOTE  GeminiDB Influx API is not a fully managed service and thus cannot be directly connected to fully managed DLV. A CDM cluster serves as an agent that enables communication between them.
Database	You can select a database from the <b>Database</b> drop-down list.

Step 4 Click OK.

----End

#### **Using GeminiDB Influx API Data Sources**

You can configure and use GeminiDB Influx API data sources by referring to **Using DWS Data Sources**.

## 10.1.16 Creating Cloud Search Service Data Connections

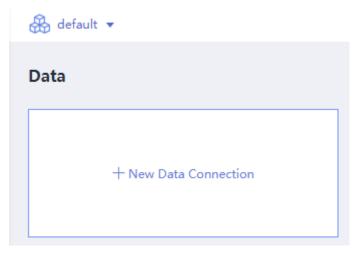
Before establishing a data connection to Cloud Search Service (CSS), ensure that the following conditions are met:

- You have obtained the IP address and port number of CSS.
- A CDM cluster is available and used as the network agent to ensure that DLV can communicate with CSS.

#### **Creating CSS Data Connections**

- **Step 1** Log in to the DLV console.
- **Step 2** On the **Data** page, click the workspace drop-down list at the top of the page, select the workspace to be accessed, and click **New Data Connection**.

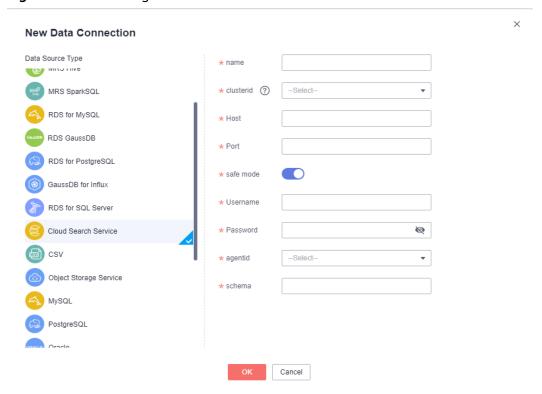
Figure 10-52 Creating a data connection



**Step 3** In the **New Data Connection** dialog box, set **Data Source Type** to **Cloud Search Service** and set the related parameters.

**Table 10-13** describes the CSS data connection parameters.

Figure 10-53 Creating a CSS data connection



**Paramete** Description Name of the data connection. Must contain 1 to 32 characters and name contain only letters, digits, hyphens (-), and underscores (\_). clusterid Name of the CSS cluster to be connected. Host Intranet IP address of the CSS cluster to be connected. Port of the CSS cluster to be connected. Port safe Whether the security mode will be enabled for the CSS cluster you mode want to connect to. By default, the security mode is disabled. Username Administrator account of the CSS cluster. This parameter is valid

only when **Security Mode** is available. The default value is **admin**.

Administrator account of the CSS cluster. This parameter is valid only when **Security Mode** is available. The default value is **admin**.

Elasticsearch is not a fully managed service and thus cannot be directly connected to DLV. A CDM cluster serves as an agent that enables

Enter a mapping name that is different from the index name.

Table 10-13 CSS data connection parameters

Step 4 Click OK.

----End

Password

Agent

schema

## **Using Cloud Search Service Data Sources**

You can configure and use the Cloud Search Service data source by referring to **Using DWS Data Sources**.

## 10.1.17 Creating DDM Data Connections

NOTE

communication between them.

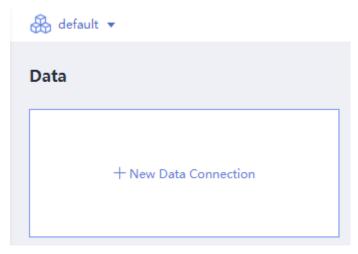
Before establishing a data connection to Distributed Database Middleware (DDM), ensure that the following conditions are met:

- You have obtained the IP address, username, and password of DDM.
- A CDM cluster is available and used as the network agent to ensure that DLV can communicate with DDM.

### Creating a DDM Data Connection

- **Step 1** Log in to the DLV console.
- **Step 2** On the **Data** page, click the workspace drop-down list at the top of the page, select the workspace to be accessed, and click **New Data Connection**.

Figure 10-54 Creating a data connection



**Step 3** In the **New Data Connection** dialog box, set **Data Source Type** to **DDM** and set the related parameters.

Figure 10-55 Creating a DDM data connection

#### **New Data Connection**

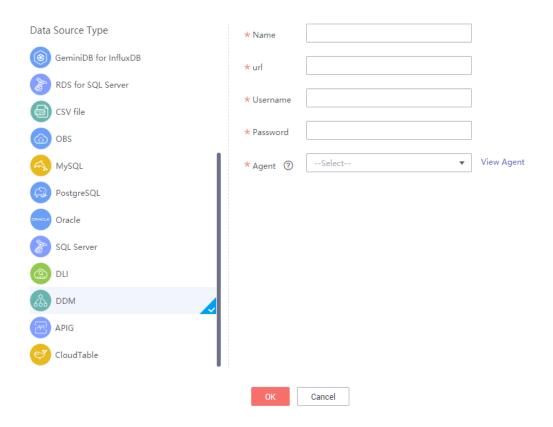


Table 10-14 describes the DDM data connection parameters.

**Table 10-14** DDM data connection parameters

Paramet er	Description
Name	Name of the data connection. Must contain 1 to 32 characters and contain only letters, digits, hyphens (-), and underscores (_).
URL	JDBC connection address of the DDM schema. For details about how to obtain the URL, see "How Do I Obtain a JDBC Connection Address of a DDM Schema?" in <i>DLV FAQs</i> .
Usernam e	Username of the schema. The schema user must have permission to access data tables and metadata.
Password	Password of the schema user.
Agent	Select an available connection agent, such as VPC connection, CDM proxy, or Internet.
	NOTE  DDM is not a fully managed service and thus cannot be directly connected to fully managed DLV. A CDM cluster serves as an agent that enables communication between them.

----End

#### **Using DDM Data Sources**

You can configure and use DDM data sources by referring to the instructions in **Using DWS Data Sources**.

## **10.1.18 Creating Oracle Data Connections**

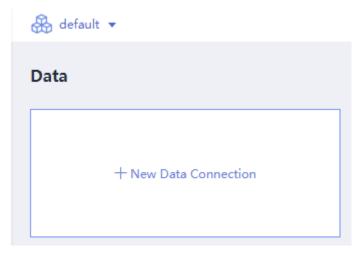
Before establishing a data connection to Oracle, ensure that the following condition is met:

You have obtained the IP address, port number, username, password, and service name of Oracle.

#### **Creating an Oracle Data Connection**

- **Step 1** Log in to the DLV console.
- **Step 2** On the **Data** page, click the workspace drop-down list at the top of the page, select the workspace to be accessed, and click **New Data Connection**.

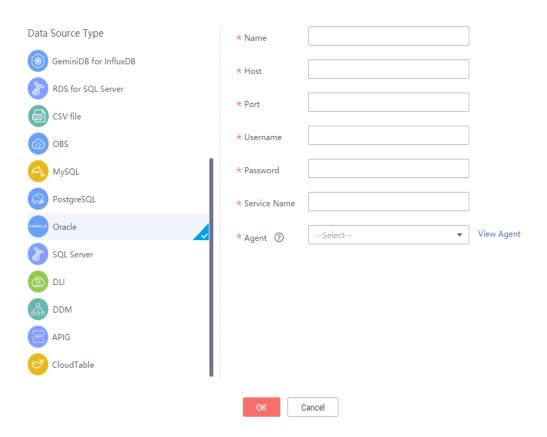
Figure 10-56 Creating a data connection



**Step 3** In the **New Data Connection** dialog box, set **Data Source Type** to **Oracle** and set the related parameters.

Figure 10-57 Creating an Oracle data connection

#### **New Data Connection**



**Creating Oracle Data Connections** describes the Oracle data connection parameters.

**Parame** Description ter Name of the data connection. Must contain 1 to 32 characters and Name contain only letters, digits, hyphens (-), and underscores (\_). IP address of the database. Domain Name Port Port of the database. Username of the database. The database user must have permission Userna to access data tables and metadata. me Passwor Password of the database user. d Service name of the database. Service Name Select an available connection agent, such as VPC connection, CDM Agent proxy, or Internet. NOTE Oracle is not a fully managed service and thus cannot be directly connected to

fully managed DLV. A CDM cluster serves as an agent that enables

communication between them.

**Table 10-15** Oracle data connection parameters

Step 4 Click OK.

----End

#### **Using Oracle Data Sources**

You can configure and use Oracle data sources by referring to the instructions in **Using DWS Data Sources**.

# 10.1.19 Creating MySQL Data Connections

Before establishing a data connection to a MySQL database, create a MySQL data connection first.

#### **Prerequisites**

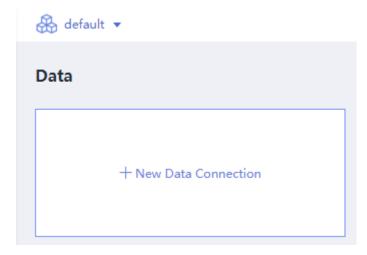
- You have obtained the IP address and port number of the MySQL data source, and the username and password for logging in to the MySQL database. In addition, you must have the SELECT permission on the database to be connected.
- You have used the CDM cluster as the network proxy or an Internet connection proxy to connect your screen to the MySQL data source network.
  - If you use a CDM cluster, the following requirements must be met:

- You need to create a CDM cluster on the CDM console. The CDM cluster and DLV must be in the same region. For details about how to create a CDM cluster, see Creating a CDM Cluster.
- If the MySQL data source is not on Huawei Cloud, the host where the MySQL data source is located must have a public IP address, and the CDM cluster must be bound with an elastic IP address (EIP).
- If the MySQL data source is on Huawei Cloud, the host where the MySQL data source is located must be in the same region, AZ, and VPC as the CDM cluster.
- If the firewall is enabled on the host where the MySQL data source is located, the inbound and outbound rules of the firewall must allow the access of the MySQL database port and the CDM cluster address.
- The inbound and outbound rules of the security group to which the CDM cluster belongs must allow the access of the IP address and port of the MySQL database.
- If you use the Internet to connect to the data source, an EIP must be bound to the ECS where your MySQL database is deployed. The ECS and DLV must be in the same region and VPC, and can communicate with each other.

#### Creating a MySQL Data Connection

- **Step 1** Log in to the DLV console.
- **Step 2** On the **Data** page, click the workspace drop-down list at the top of the page, select the workspace to be accessed, and click **New Data Connection**.

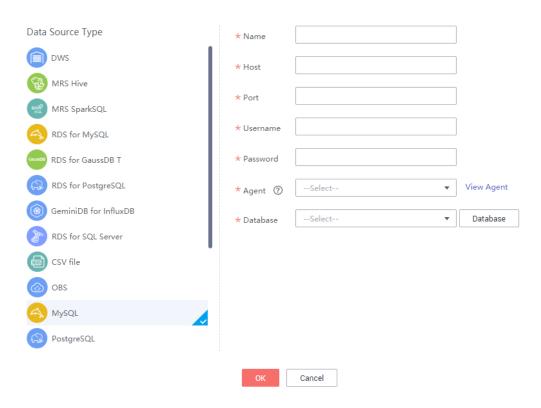
Figure 10-58 Creating a data connection



**Step 3** In the **New Data Connection** dialog box, set **Data Source Type** to **MySQL** and set the related parameters.

Figure 10-59 Creating a MySQL data connection

#### **New Data Connection**



**Table 10-16** describes the MySQL data connection parameters.

Table 10-16 MySQL data connection parameters

Paramete r	Description
Name	Name of the data connection. Must contain 1 to 32 characters and contain only letters, digits, hyphens (-), and underscores (_).
Domain Name	IP address of the database. Private zones are not supported.
Port	Port of the database.
Username	Username of the database. The database user must have permission to access data tables and metadata.
Password	Password of the database user.
Agent	Select an available connection agent, such as VPC connection, CDM proxy, or Internet.
	MOTE  MySQL is not a fully managed service and thus cannot be directly connected to fully managed DLV. A CDM cluster serves as an agent that enables communication between them.

Paramete r	Description
Database	You can select a database from the <b>Database</b> drop-down list.

Step 4 Click OK.

----End

#### **Using MySQL Data Sources**

You can configure and use the MySQL data source by referring to the instructions in **Using DWS Data Sources**.

#### 10.1.20 Creating PostgreSQL Data Connections

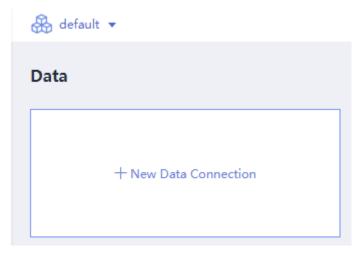
Before establishing a data connection to PostgreSQL, ensure that the following condition is met:

- You have obtained the address, port number, username, and password of PostgreSQL.
- A Cloud Data Migration (CDM) cluster is used as the network agent to ensure that DLV can communicate with the PostgreSQL data source. The CDM cluster must meet the following requirements:
  - You need to create a CDM cluster on the CDM console. The CDM cluster and DLV must be in the same region. For details about how to create a CDM cluster, see Creating a CDM Cluster.
  - If the PostgreSQL data source is not on Huawei Cloud, the host where the PostgreSQL data source is located must have a public IP address, and the CDM cluster must be bound with an elastic IP address (EIP).
  - If the PostgreSQL data source is on Huawei Cloud, the host where the PostgreSQL data source is located must be in the same region, AZ, and VPC as the CDM cluster.
  - If the firewall is enabled on the host where the PostgreSQL data source is located, the inbound and outbound rules of the firewall must allow the access of the PostgreSQL database port and the CDM cluster address.
  - The inbound and outbound rules of the security group to which the CDM cluster belongs must allow the access of the IP address and port of the PostgreSQL database.

#### Creating a PostgreSQL Data Connection

- **Step 1** Log in to the DLV console.
- **Step 2** On the **Data** page, click the workspace drop-down list at the top of the page, select the workspace to be accessed, and click **New Data Connection**.

Figure 10-60 Creating a data connection



**Step 3** In the **New Data Connection** dialog box, set **Data Source Type** to **PostgreSQL** and set the related parameters.

Figure 10-61 Creating a PostgreSQL data connection

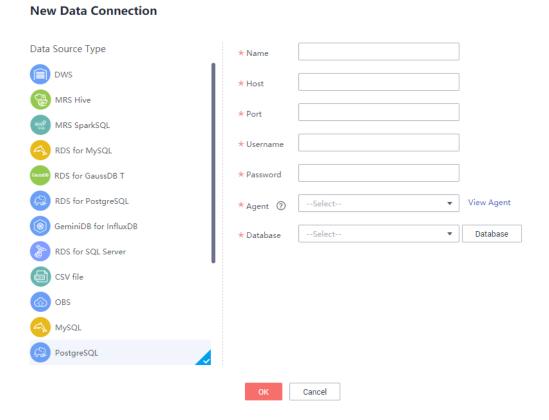


Table 10-17 describes the PostgreSQL data connection parameters.

**Paramet** Description er Name of the data connection. Must contain 1 to 32 characters and Name contain only letters, digits, hyphens (-), and underscores (\_). IP address of the database. Domain Name Port Port of the database. Usernam Username of the database. The database user must have permission to access data tables and metadata. Password Password of the database user. Agent Select an available connection agent, such as VPC connection, CDM proxy, or Internet. NOTE PostgreSQL is not a fully managed service and thus cannot be directly connected to fully managed DLV. A CDM cluster serves as an agent that enables communication between them. Database You can select a database from the **Database** drop-down list.

Table 10-17 PostgreSQL data connection parameters

Step 4 Click OK.

----End

#### **Using PostgreSQL Data Sources**

You can configure and use PostgreSQL data sources by referring to the instructions in **Using DWS Data Sources**.

#### **10.1.21 Creating SQL Server Data Connections**

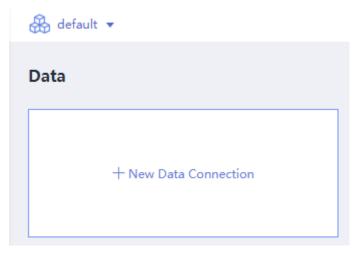
Before establishing a data connection to SQL Server, ensure that the following condition is met:

- You have obtained the IP address, port number, username, and password of SQL Server.
- A CDM cluster is used as the network agent to ensure that DLV can communicate with SQL Server. A CDM cluster is available and can communicate with SQL Server.

#### **Creating an SQL Server Data Connection**

- **Step 1** Log in to the DLV console.
- **Step 2** On the **Data** page, click the workspace drop-down list at the top of the page, select the workspace to be accessed, and click **New Data Connection**.

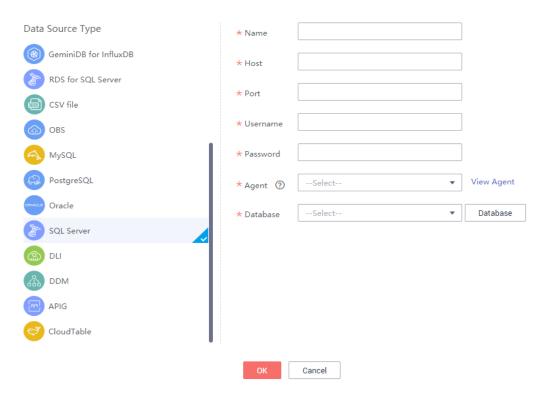
Figure 10-62 Creating a data connection



**Step 3** In the **New Data Connection** dialog box, set **Data Source Type** to **SQL Server** and set the related parameters.

Figure 10-63 Creating an SQL Server data connection

#### **New Data Connection**



**Paramet** Description er Name of the data connection. Must contain 1 to 32 characters and Name contain only letters, digits, hyphens (-), and underscores (\_). IP address of the database. Domain Name Port of the database. Port Usernam Username of the database. The database user must have permission to access data tables and metadata. Password Password of the database user. Agent Select an available connection agent, such as VPC connection, CDM proxy, or Internet. **NOTE** SQL Server is not a fully managed service and thus cannot be directly connected to fully managed DLV. A CDM cluster serves as an agent that enables communication between them. **Database** You can select a database from the **Database** drop-down list.

**Table 10-18** SQL Server data connection parameters

Step 4 Click OK.

----End

#### **Using SQL Server Data Sources**

You can configure and use SQL Server data sources by referring to the instructions in **Using DWS Data Sources**.

#### 10.1.22 Creating Elasticsearch Data Connections

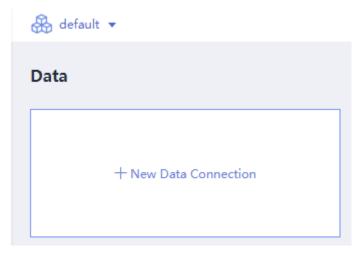
Before establishing a data connection to Elasticsearch, ensure that the following conditions are met:

- You have obtained the IP address and port number of the Elasticsearch data source.
- A CDM cluster is used as the network agent to ensure that DLV can communicate with Elasticsearch. A CDM cluster is available and can communicate with Elasticsearch.

#### **Creating Elasticsearch Data Connections**

- **Step 1** Log in to the DLV console.
- **Step 2** On the **Data** page, click the workspace drop-down list at the top of the page, select the workspace to be accessed, and click **New Data Connection**.

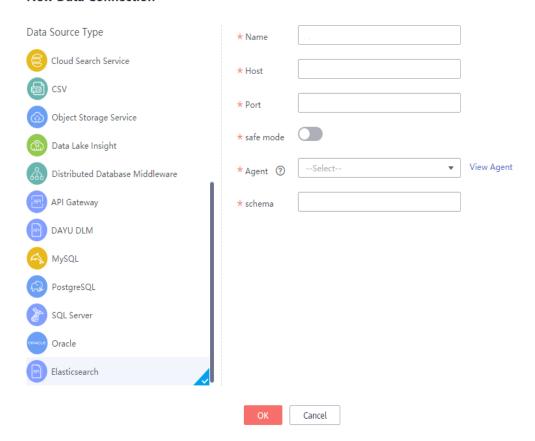
Figure 10-64 Creating a data connection



**Step 3** In the **New Data Connection** dialog box, set **Data Source Type** to **Elasticsearch** and set the related parameters.

Figure 10-65 Creating Elasticsearch Data Connections

#### **New Data Connection**



When you create a connection to Elasticsearch, configure the parameters as described in **Table 10-19**.

Paramete Description Name Name of the data connection. Must contain 1 to 32 characters and contain only letters, digits, hyphens (-), and underscores ( ). Intranet IP address of the Elasticsearch cluster to be connected. Host Port Port number of the Elasticsearch cluster to be connected. Whether the security mode will be enabled for the Elasticsearch Security Mode cluster you want to connect to. By default, the security mode is disabled. Username Administrator account name of the Elasticsearch cluster. This parameter is valid only when **Security Mode** is enabled. Password Administrator password of the Elasticsearch cluster. This parameter is valid only when **Security Mode** is enabled. Select an available connection agent, such as VPC connection, CDM Agent proxy, or Internet. NOTE Elasticsearch is not a fully managed service and thus cannot be directly connected to DLV. A CDM cluster serves as an agent that enables communication between them. schema Enter a mapping name that is different from the index name.

**Table 10-19** Elasticsearch data connection parameters

Step 4 Click OK.

----End

#### **Using Elasticsearch Data Sources**

You can configure and use the Elasticsearch data source by referring to the instructions in **Using DWS Data Sources**.

### 10.2 Editing Data Connections

After a data connection is added, you can edit it based on actual requirements.

You can edit data connections on either of the following pages:

- 1. Data Page
- 2. Screen Editing Page

#### Data Page

On the **Data** page, click in the lower right corner of the data connection that you want to edit. In the **Edit Data Connection** dialog box, specify related

parameters. For details about data connection parameters, see **Creating Data Connections**.

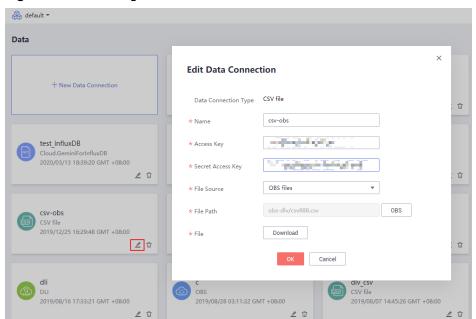
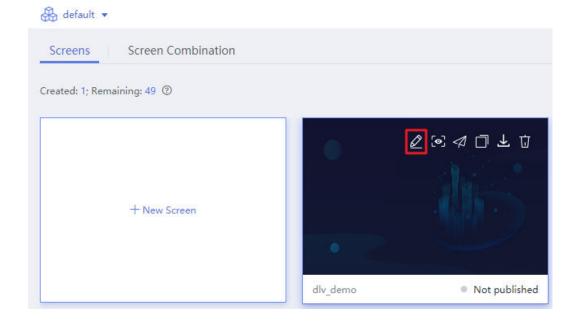


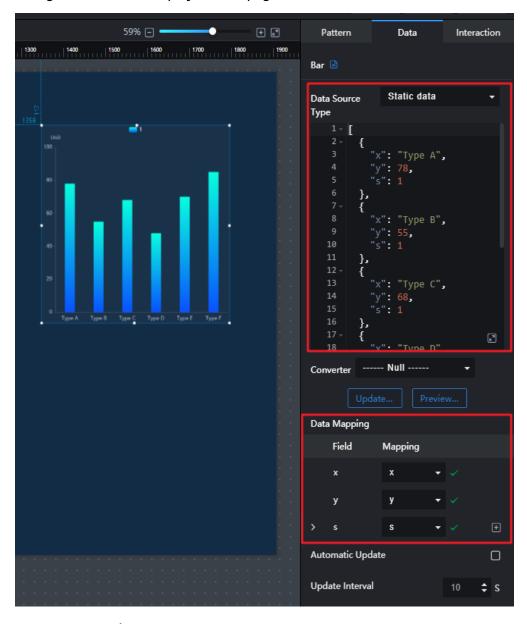
Figure 10-66 Editing a data connection

#### Screen Editing Page

- **Step 1** Log in to the DLV console and click the **Screens** tab.
- **Step 2** On the **Screens** page, locate the screen to be edited and click on the screen. The screen development page is displayed.

Figure 10-67 Editing a screen



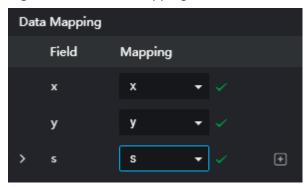


**Step 3** In the canvas, select a component, click the **Data** tab, and modify the data configuration on the displayed data page.

#### Data Mapping

When the attribute names in the response data are the same as the field values, the mapping is automatically completed. If data is complex, you need to manually enter the returned attribute names to configure the mapping.

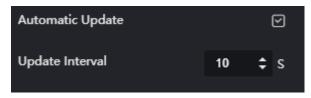
Figure 10-68 Field mapping



#### • Automatic Update

When **Automatic Update** is selected, the data update request is sent to the background at a specified interval. You can customize the interval in **Update Interval**.

Figure 10-69 Automatic update



----End

# **10.3 Searching for Data Connections**

You can quickly locate the corresponding data connection by using the search function in the upper right of the page.

#### **Procedure**

- **Step 1** Log in to the DLV console.
- **Step 2** In the navigation pane on the left, choose **Data**.
- **Step 3** Move the pointer over the search box in the upper right corner of the page and enter the keyword of the data connection name. Click  $\bigcirc$  . The desired data connection is displayed.

Figure 10-70 Searching for a data connection



----End

# **10.4 Deleting Data Connections**

You can delete unused data connections from the data connection list.

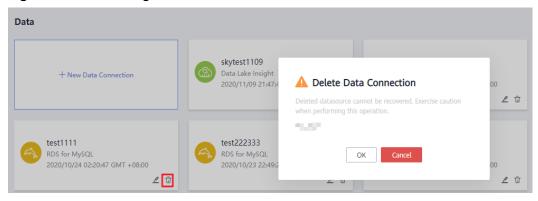
#### **Prerequisites**

Before deleting a data connection, ensure that the data connection is not used by any screens. A deleted data connection cannot be recovered. Exercise caution when performing this operation.

#### **Procedure**

- **Step 1** Log in to the DLV console.
- **Step 2** On the **Data** page, click the deletion icon data connection that you want to delete.

Figure 10-71 Deleting a data connection



**Step 3** In the **Delete Data Connection** dialog box, click **Yes**.

----End

# **11** Managing Components

#### 11.1 Overview

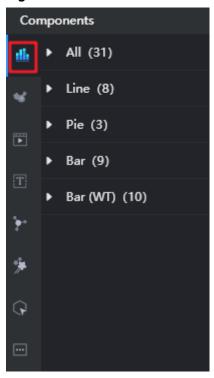
DLV provides various components. Currently, the following types of components are supported:

- Charts
- Maps
- Media
- Text
- Relationship Network
- Design
- Interaction
- Others

#### **Charts**

Chart components include the line chart, bar chart, pie chart, percentage, rose chart, radar chart, scatter chart, bubble chart, liquid chart, region ranking, combination chart, horizontal bar chart, horizontal bi-directional bar chart, radar scanning, stacked bar chart, and heatmap.

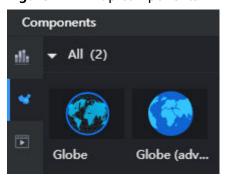
Figure 11-1 Charts



#### Maps

Map components include the globe and globe (advanced).

Figure 11-2 Map components



#### Media

Media components include **Image**, **Carousel**, **Video**, **RTMP Video Stream Player**, and **FLV Player**.

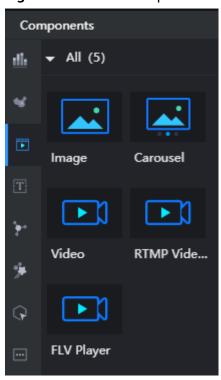


Figure 11-3 Media components

#### **Text**

Text components include the title, text, word cloud, timer, carousel table, ticker board, marquee, carousel bar chart, key-value table, and treemap.

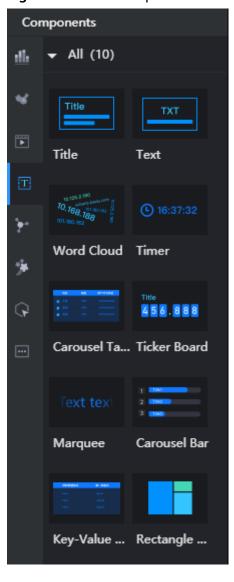


Figure 11-4 Text components

#### **Relationship Network**

Currently, DLV provides only one type of relationship network component.

Components

All (1)

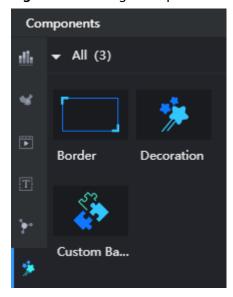
Relationshi...

Figure 11-5 Relationship network component

#### Design

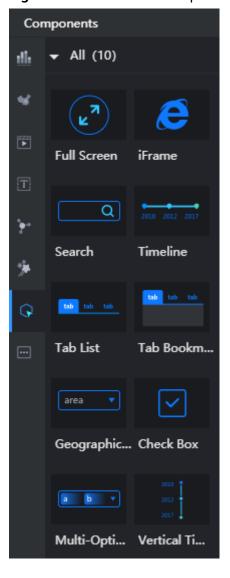
Design components include the border, decoration, and custom background.

Figure 11-6 Design components



#### Interaction

Interaction components include Full Screen, iFrame, Search, Timeline, Tab List, Tab Bookmark, Geographical Search, Check Box, Multi-Option Drop-Down List, and Vertical Timeline.



**Figure 11-7** Interaction components

#### **Others**

Other types of components include the time selector, gauge, and funnel chart.

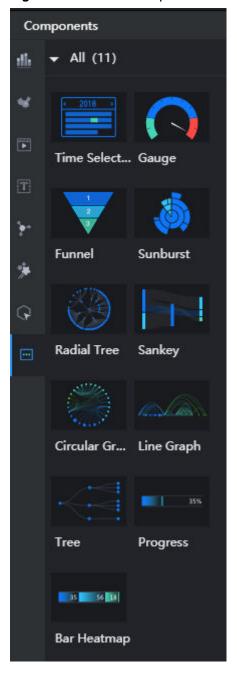


Figure 11-8 Other components

# **11.2 Adding Components**

After creating a screen, you can add required components to it. DLV provides various visualized components to help you quickly develop your screens. This section describes how to add components to a screen.

#### **Adding Components**

- **Step 1** Log in to the DLV console.
- **Step 2** On the **Screens** page, click **New Screen**.

- **Step 3** On the **Scenario Templates** page, select a template from the scenario template list on the left, for example, select a blank template. Enter a screen name.
  - A screen name can contain only letters, numbers, underscores (\_), and hyphens (-), and cannot exceed 32 characters.
- **Step 4** Click **Create Screen**. The screen development page is automatically displayed after the screen is successfully created.
- **Step 5** On the screen development page, move the cursor to a component type in the component list and click the icon of a component to add it to the screen.

For example, you can add a bubble chart to the canvas by clicking it.



Figure 11-9 Selecting a component

**Step 6** On the **Pattern** tab in the right pane, configure the component pattern.

This example uses the default settings. For details about component pattern settings, see **Configuring the Component Pattern**.

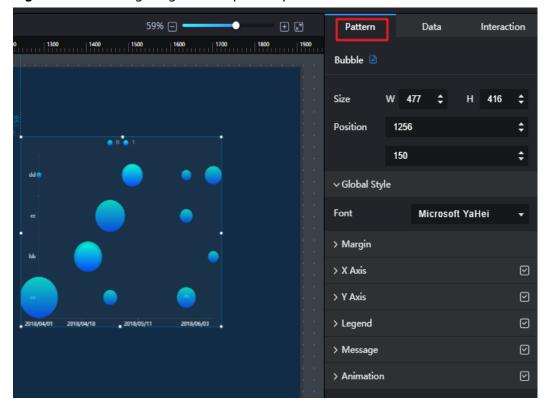


Figure 11-10 Configuring the component pattern

**Step 7** On the **Data** tab page in the right pane, configure the component data.

In this example, static data is used. For details about more data settings, see **Configuring Component Data**.

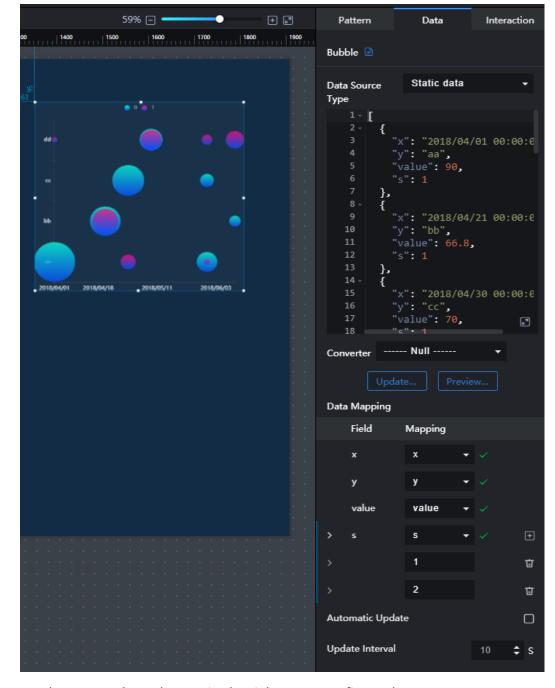


Figure 11-11 Configuring the component data

**Step 8** On the **Interaction** tab page in the right pane, configure the component interaction. The example component does not provide the interaction function. For details about the interaction settings, see **Configuring Component Interaction**.

----End

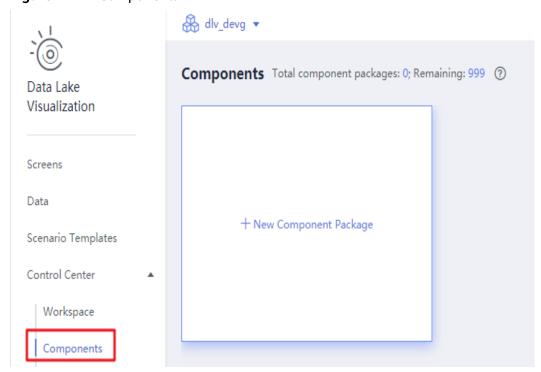
# 11.3 Uploading Custom Components

You can use the developer tool provided by DLV to customize components. After custom components are uploaded to the component package and approved by the technical personnel, you can use them on DLV.

#### **Creating a Component Package**

**Step 1** Log in to the DLV console. In the navigation pane on the left, choose **Control Center > Components**.

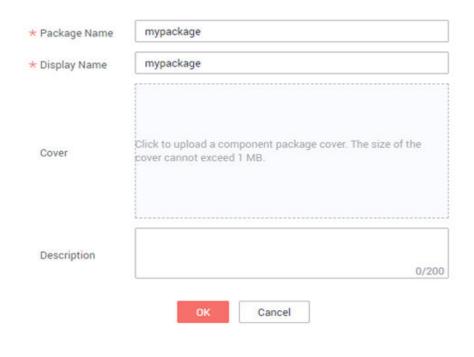
Figure 11-12 Components



- **Step 2** On the **Components** page, click **New Component Package**.
- **Step 3** In the **New Component Package** dialog box, configure the following parameters and click **OK**.
  - Package Name: The package name defines the component namespace in the component package and cannot be modified after being created. A package name must start with letters. It can contain only letters, digits, underscores (\_), and hyphens (-), and cannot exceed 32 characters.
  - **Display Name**: display name of a component package in the component list. You can change the name at any time. A display name can contain only letters, digits, underscores (\_), and hyphens (-), and cannot exceed 32 characters.
  - Cover: Click to upload a component package cover. The size of the cover cannot exceed 1 MB. Only the PNG, JPEG, JPG, and BMP formats are supported.
  - **Description**: description of a component package. The value contains a maximum of 200 characters.

Figure 11-13 Creating a component package

New Component Package



----End

#### **Customizing a Component**

**Step 1** Log in to the DLV console. In the navigation pane on the left, choose **Control Center > Components**.

Data Lake
Visualization

Screens

Data
Scenario Templates

Components

Workspace

Components

A

Morkspace

Components

Figure 11-14 Components

- **Step 2** On the **Components** page, click **Download Developer Tool** in the upper right corner to download the developer tool.
- **Step 3** Use the developer tool to customize components based on the specifications. For details, see the *Data Lake Visualization Developer Guide*.

----End

#### **Uploading a Component**

- **Step 1** Log in to the DLV console. In the navigation pane on the left, choose **Control Center > Components**.
- Step 2 Locate the component package for which you want to upload a component and move the pointer over the component package. Operation buttons are displayed over the component package. Click to upload the component.

Components Total component packages: 1; Remaining: 999 ⑦

+ New Component Package

mypackage Components: 0

-Updated: 2020/04/29 18:42:44

Figure 11-15 Component package

**Step 3** In the displayed dialog box, complete the following configurations. Click **OK**.

- **Component**: Click **Upload Component** to upload a custom component.
- Thumbnail: Click to upload a component thumbnail. The size of the thumbnail cannot exceed 1 MB. Only the PNG, JPEG, JPG, and BMP formats are supported.

Figure 11-16 Uploading a component

mypackage

# \* Component Click to upload a component package thumbnail. The size of the thumbnail cannot exceed 1 MB.

- **Step 4** After the component is uploaded, wait for the technical personnel for review.

  DLV technical personnel will process your application as soon as possible.
- **Step 5** After the application is approved, go to the screen editing page. The uploaded custom component is displayed in the custom component list. You can use the custom component during screen development.

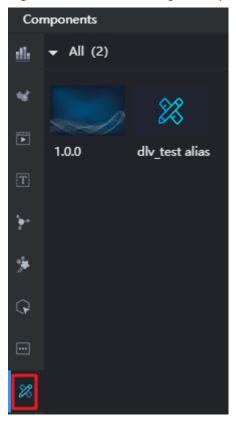


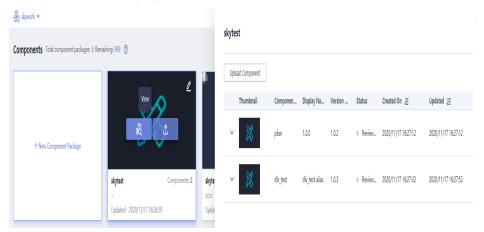
Figure 11-17 Customizing a component

----End

#### **Editing a Component Package**

On the **Components** page of the DLV console, locate the component package to be edited. Move the pointer over the component package. Operation buttons of the component package are displayed.

Figure 11-18 Managing a component



• edits and modifies the information of a component package.

- uploads a component.
- : views a component package. The component list of a component package is displayed on the right of the page, including the component thumbnail, package name, display name, version, status, creation time, and update time.

Figure 11-19 Viewing a component package



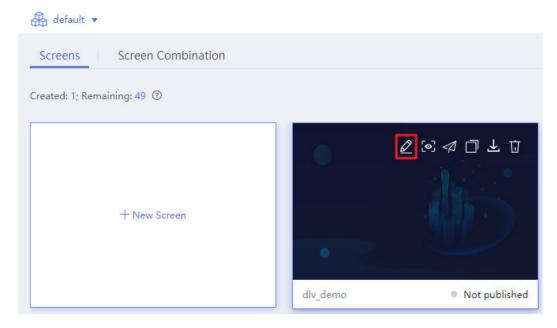
# 11.4 Locking Components

This section describes how to lock and unlock a component in the canvas.

#### Procedure

**Step 1** On the **Screens** page, locate the screen to be edited and click on the screen. The screen development page is displayed.

Figure 11-20 Editing a screen



**Step 2** Right-click a component in the canvas and select **Lock** from the shortcut menu. Alternatively, right-click a component in the layer area and select **Lock** from the shortcut menu.

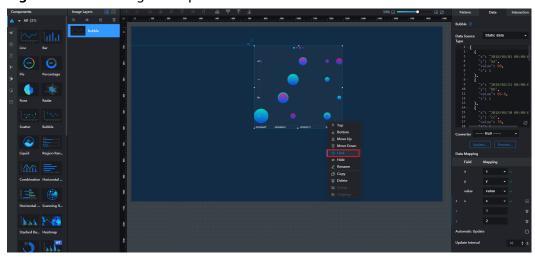
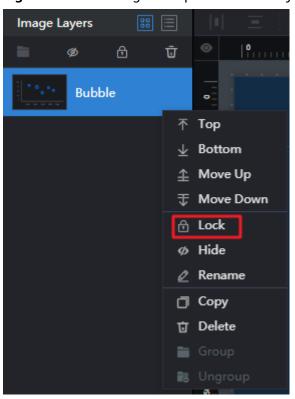


Figure 11-21 Locking a component on the canvas

Figure 11-22 Locking a component in the layer



**Step 3** After a component is locked, it cannot be moved or edited. To re-edit the component, select it and click on it and choose **Unlock** from the shortcut menu to unlock the component.

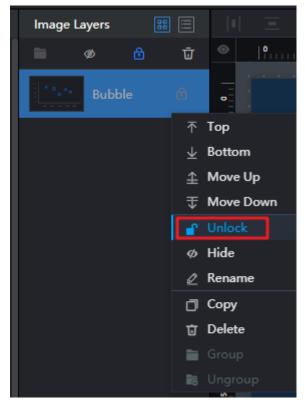


Figure 11-23 Unlocking a component

----End

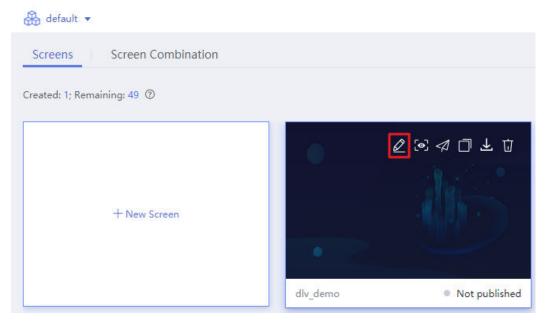
# 11.5 Hiding Components

This section describes how to hide a component in the canvas.

#### **Procedure**

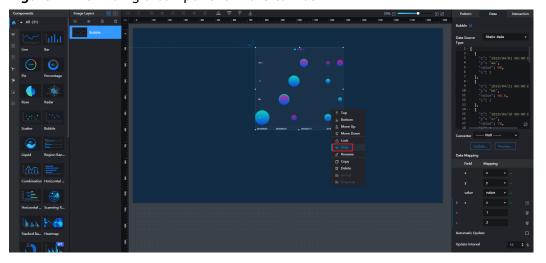
**Step 1** On the **Screens** page, locate the screen to be edited and click on the screen. The screen development page is displayed.

Figure 11-24 Editing a screen



**Step 2** Right-click a component in the canvas and select **Hide** from the shortcut menu. Alternatively, right-click a component in the layer area and select **Hide** from the shortcut menu.

Figure 11-25 Hiding a component in the canvas



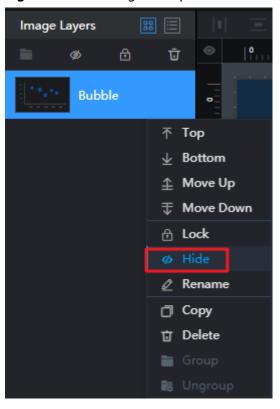


Figure 11-26 Hiding a component in the layer

**Step 3** To show the component, select it and click , or right-click on it and choose **Show** from the shortcut menu.

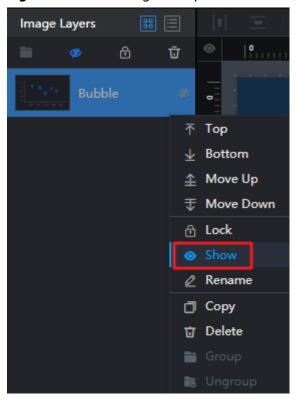


Figure 11-27 Showing a component

----End

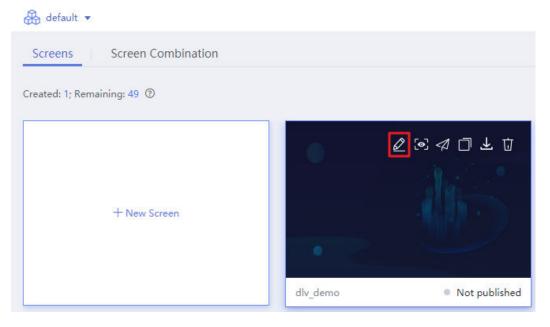
# **11.6 Renaming Components**

This section describes how to rename a component in the canvas.

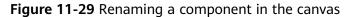
#### **Procedure**

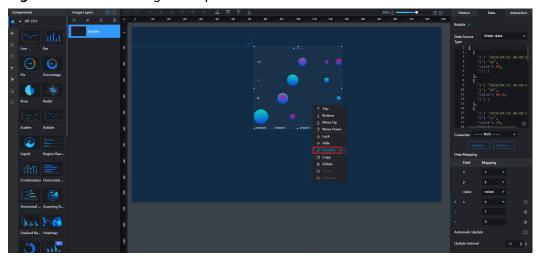
**Step 1** On the **Screens** page, locate the screen to be edited and click on the screen. The screen development page is displayed.

Figure 11-28 Editing a screen



**Step 2** Right-click a component in the canvas and select **Rename** from the shortcut menu. Alternatively, right-click a component in the layer area and select **Rename** from the shortcut menu.





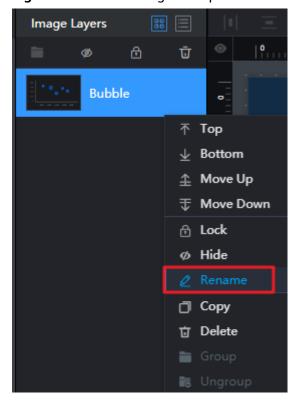


Figure 11-30 Renaming a component in the layer

**Step 3** Rename the component in the component list.

----End

# 11.7 Copying Components

This section describes how to copy a component in the canvas. The copied component has the same pattern, data, and interaction configuration information as the original one.

#### **Procedure**

**Step 1** On the **Screens** page, locate the screen to be edited and click on the screen. The screen development page is displayed.

Screens | Screen Combination

Created: 1; Remaining: 49 ③

+ New Screen

| Not published | No

Figure 11-31 Editing a screen

**Step 2** Right-click a component in the canvas and select **Copy** from the shortcut menu. Alternatively, right-click a component in the layer area and select **Copy** from the shortcut menu.

Alternatively, you can select a component, press **Ctrl+C** to copy the component, and then press **Ctrl+V** to paste the component.

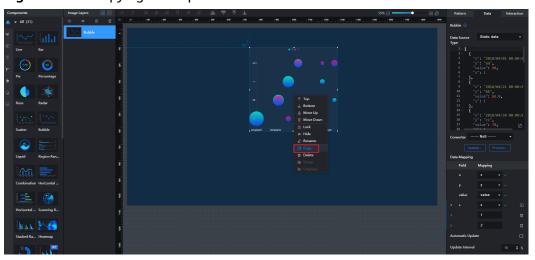


Figure 11-32 Copying a component

----End

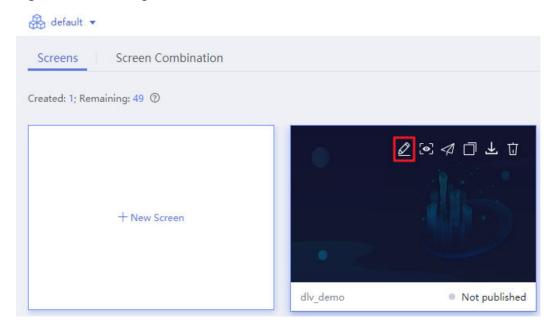
# **11.8 Deleting Components**

This section describes how to delete a component from the canvas. A deleted component cannot be recovered. Exercise caution when performing this operation.

#### **Procedure**

**Step 1** On the **Screens** page, locate the screen to be edited and click on the screen. The screen development page is displayed.

Figure 11-33 Editing a screen



**Step 2** Right-click a component in the canvas and select **Delete** from the shortcut menu. Alternatively, right-click a component in the layer area and select **Delete** from the shortcut menu.

You can also select a component and then press **Delete** on the keyboard to delete it.

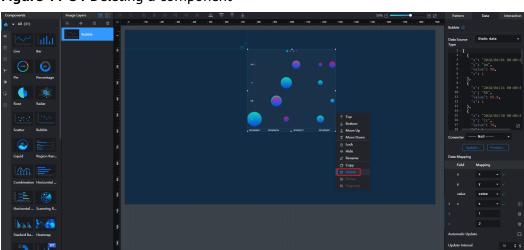


Figure 11-34 Deleting a component

Step 3 In the displayed dialog box, click Yes.

Delete Component

Are you sure you want to delete this component?

A deleted component cannot be recovered. Exercise caution when performing this operation.

Yes

No

Figure 11-35 Confirming component deletion

----End

# 11.9 Configuring Component Data

This section uses a line component as an example to describe how to configure component data parameters.

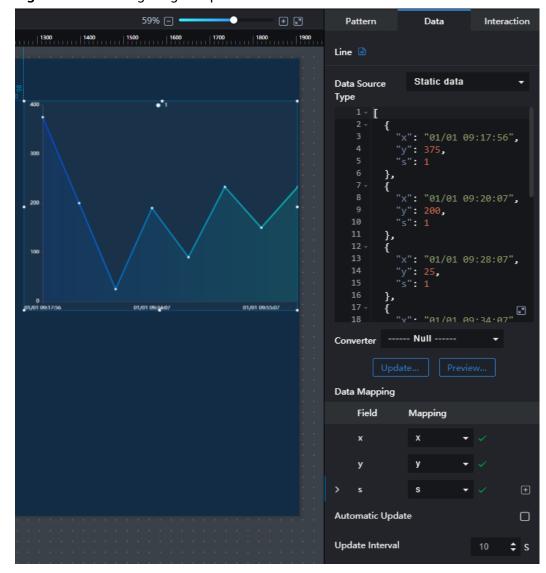


Figure 11-36 Configuring component data of a line chart

#### **Data Source Type**

After selecting the data source type of a chart, you can view or edit the corresponding content in the data area. You can click in the lower right corner of the data area to zoom in the data area window. This helps you view and edit data.

Figure 11-37 Data area

```
Static data
Data Source
Type
       E
    2 -
            "x": "01/01 09:17:56",
            "y": 375,
          },
            "x": "01/01 09:20:07",
            "y": 200,
            "s": 1
   10
   11
          },
   13
            "x": "01/01 09:28:07",
   14
   16
          {
                                     18
            "x" • "01/01 09 · 34 · 07"
```

The system provides the following data sources for users to select:

#### Static data

The following displays a data format example. You can adjust the data values according to your specific requirements, or paste the prepared JSON data.

```
{
    "x": "01/01 09:55:07",
    "y": 150,
    "s": 2
},
{
    "x": "01/01 10:30:07",
    "y": 233,
    "s": 2
}
]
```

#### API

DLV can connect to data sources through APIs. For details about the data format, see the example in the **Static data** pane. For details about how to add API data sources, see **Creating API Data Connections**.

Database, CSV file, API Gateway, DAYU DLM, Elasticsearch, and OBS
 If you select this type of data source, you need to select the corresponding data connection. For details about data connections, see Creating Data
 Connections. For details about the data format, see the example in the Static data pane.

#### **Data Mapping**

The system allows you to customize field mappings.

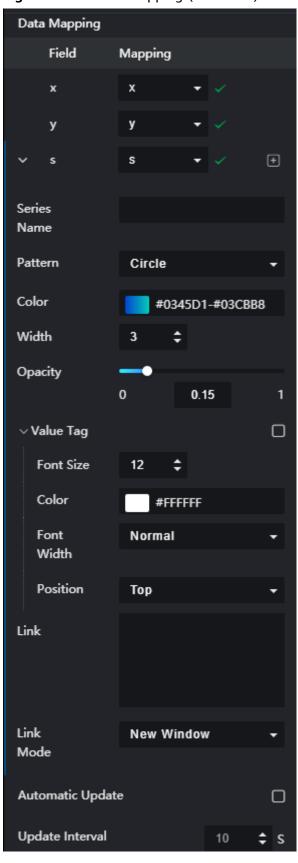
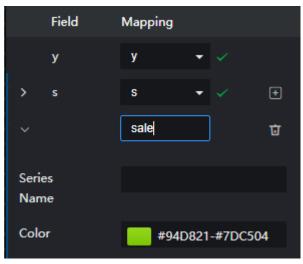


Figure 11-38 Data mapping (line chart)

#### **Data Field Settings**

Click next to the field to be modified and set the field in the drop-down list.

Figure 11-39 Field settings – pie chart



- Series Name: name of the series the field belongs to
- Color: color of the field in a chart

#### **Data Series**

The **s** field is a data series field. Data is grouped based on the value of the **s** field. As shown in **Figure 11-38**, the data whose value of **s** is **1** belongs to one group and the data whose value of **s** is **2** belongs to another group.

- Adding a data series
  - Click next to the **s** field to add a data series.
- Configuring a data series
  - Click in front of a data series. On the displayed page, configure the following data series parameters.
  - **Series Name**: name of the data series.
  - Pattern: coordinate shape of the data series. The value can be Circle,
     Rectangle, Triangle, or others.
  - Color: curve color of the data series.
  - Width: curve width of the data series.
  - **Opacity**: fill color transparency of the data series.
  - Value Tag: If this option is selected, the value of the corresponding point
    is displayed in the chart. You can set the font size, color, font width, and
    position of the value tag.
  - Link: Set the hyperlink of the data series.
  - Link Mode: Possible values are New window, Current page, and Floating panel.

#### **Automatic Update**

If you select **Automatic Update** and set **Update Interval**, the data is automatically updated based on the interval.

#### **Preview Result**

You can click **Update Query** to manually update the component data when the data source changes. Click **Preview Result** to view the information about the selected data source.

#### 

A data request will time out in 60s. You need to allow for factors such as network latency and SQL execution efficiency to ensure that the data request is successful.

#### Converter

Convert the data into the data that meets the display requirements. For details, see **Using a Converter**.

# 11.10 Configuring Component Interaction

This section uses the tab list and line chart as an example to describe the component interaction configuration. In DLV, component interaction configuration indicates that a component transfers parameters to other components when responding to user operations or automatically triggering updates. The parameters can be used as dynamic variables during data query in other components. If you

can select on the **Interaction** tab page of a component, the component supports the interaction function. Otherwise, the component does not support the interaction function.

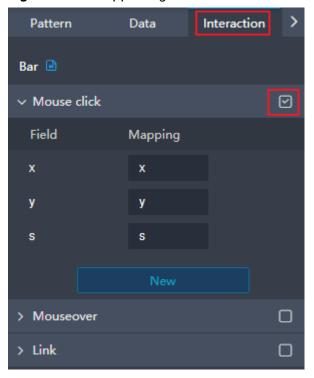
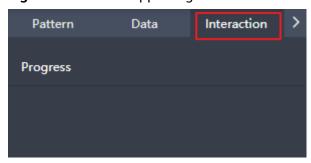


Figure 11-40 Supporting the interaction function

Figure 11-41 Not supporting the interaction function



# **Prerequisites**

- You have enabled or purchased the required service and created a database instance.
- The corresponding data has been stored in the database instance.

## **Adding and Configuring Components**

**Step 1** Open the screen development page, click the **Interaction** icon, and select **Geography Search** in the **Components** list.

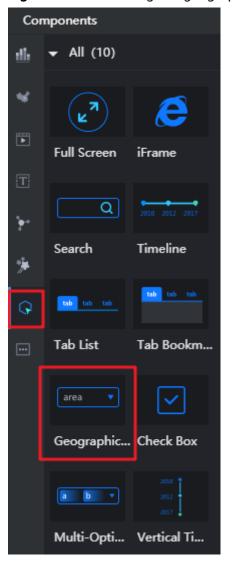


Figure 11-42 Selecting the geographical search component

**Step 2** On the **Pattern** panel, configure the geographical search component. In this example, use the default settings.

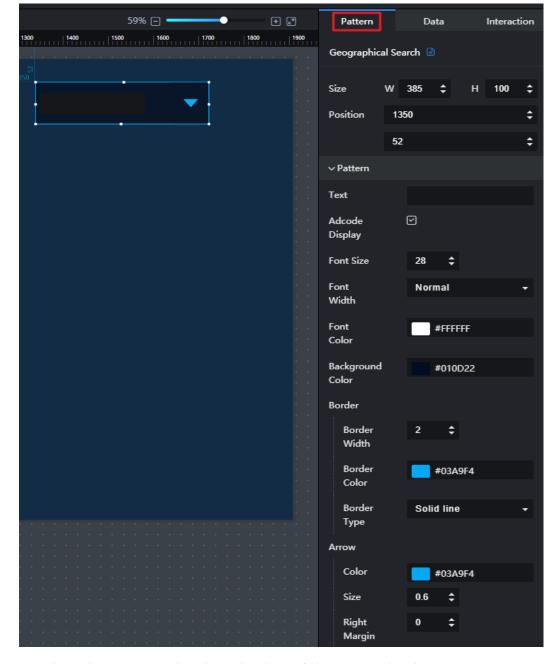


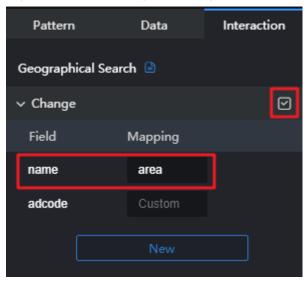
Figure 11-43 Configuring the geographical search component

**Step 3** Switch to the **Data** panel and set the data of the geographical search component.

Figure 11-44 Setting the data of the geographical search component

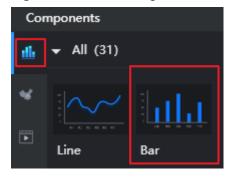
**Step 4** Switch to the **Interaction** panel and define and use interaction variables.

Figure 11-45 Defining and using interaction variables



**Step 5** In the component list on the left, choose **Charts** > **Bar**.

Figure 11-46 Selecting a bar chart component



**Step 6** On the **Pattern** tab page, configure the bar chart pattern. This example uses the default settings.

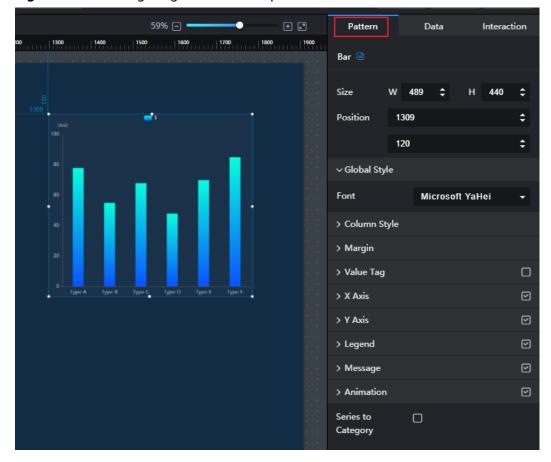


Figure 11-47 Configuring the bar chart pattern

**Step 7** Switch to the **Data** tab page and configure the bar chart.

1. Configure field mapping and select a data source type. As shown in **Figure**11-48, the component is associated with dynamic data.

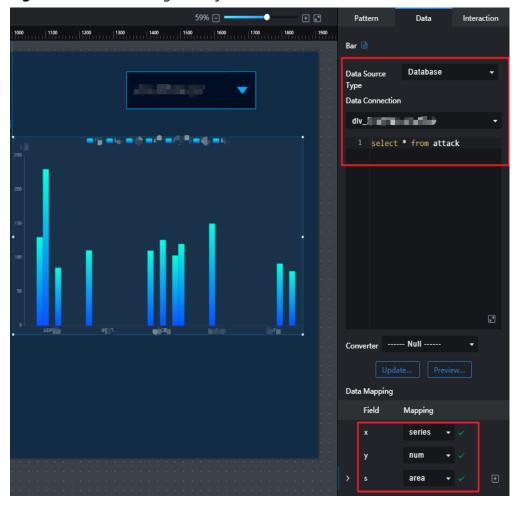


Figure 11-48 Associating with dynamic data

2. Press **Shift+\$** to reference the interaction variable **\${name}** defined in **Step 4**.

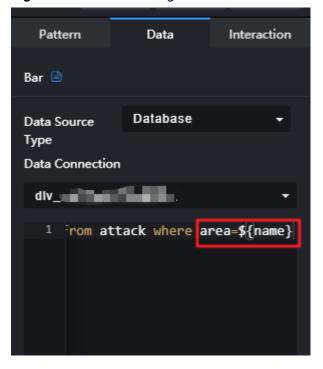


Figure 11-49 Referencing the interaction variable

----End

### **Previewing and Publishing Screens**

- **Step 1** In the upper right corner of the screen development page, click preview to preview the screen.
- **Step 2** If you reset the geographical location in the geographical search, the bar chart displays only the data of the corresponding location.
- **Step 3** After ensuring that interaction works, click Publish in the upper right corner of the screen development page, configure publish parameters, and then share the screen with other users.

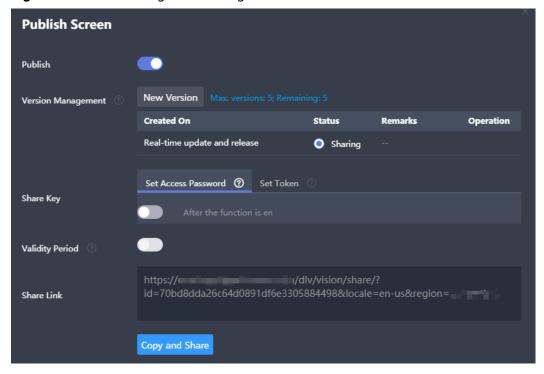


Figure 11-50 Publishing and sharing the screen

----End

## **Enabling Interaction**

To enable the interaction function, you can select on the **Interaction** tab page. When the value of the tab component changes, the value is transferred to other components.

# Field Mapping

Configure field mappings When variable *\${data}* is used in other components, the value mapped by **label** can be obtained.

# 11.11 Configuring Drilldown

You can set link interaction to implement drilldown. Link interaction allows users to open a page specified by a link when clicking a component. In a link, users can specify one or more interaction variables. The system can transfer the data clicked on the component to the hyperlink as variable values. In this way, the details can be displayed in a drill-down manner.

## **Configuring Drilldown**

The following uses a carousel table component as an example to describe how to implement drilldown.

**Step 1** Create a screen and add a carousel table component.

- **Step 2** Click the component. On the **Data** tab page, expand a series field and configure a link and link mode for the series.
  - **Link**: target link to which the web page points when a data item in component widget is clicked.
  - Link Mode: The options are New window, Current page, and Floating panel. Assume that the floating panel mode is selected in this example.
    - New window: The target link opens a new browser window.
    - Current page: The target link opens a window in the current browser window.
    - Floating panel: The target link opens a floating window in the center of the current screen.

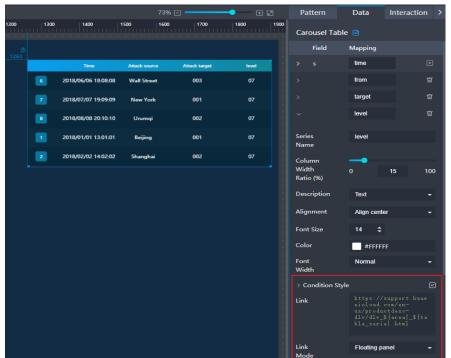


Figure 11-51 Setting a link

**Step 3** Open the **Interaction** panel of the carousel table component and select **Link** to enable the link interaction.

You can set the link and link mode for all series. If the link and link mode are set for each series on the **Data** panel, the settings on the **Data** panel take precedence.

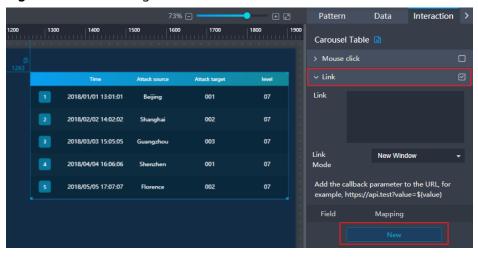


Figure 11-52 Enabling link interaction

**Step 4** If you need to use the clicked component data as the value of the interaction variable in the link, click **New** to create an interaction variable and set the mapping between the interaction variable and field.

For example, create an interaction variable shown in **Figure 11-53**. If you click a data record when viewing a screen, the values of the **area** and **series** fields corresponding to the data are transferred to the **area** and **table\_series** variables in the link. In this way, the link displays the corresponding details page.

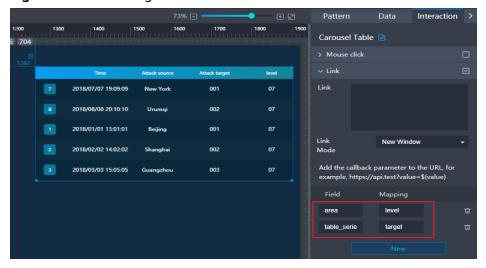


Figure 11-53 Creating interaction variables

**Step 5** After the link is configured, click in the upper right corner of the page to preview the screen. Then click a data item in the component to open the corresponding link and the details.

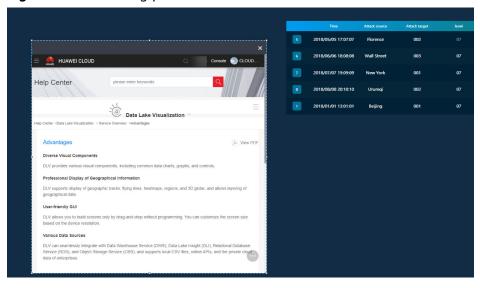


Figure 11-54 Floating panel

----End

# 11.12 Setting URL Parameter Interaction

After setting the hash parameter, you can view the data specified by the hash parameter from the dynamic data sources (API data source or database data source).

## **Configuring URL Parameter Interaction**

The following uses the API data source and database data source as an example to describe how to implement URL interaction.

**Step 1** Create a screen and add a component to the canvas. On the **Data** panel, set **Data Source Type** to the dynamic data source, such as **API** or **Database**. Configure the data source, and add a URL interaction variable in format of **\$**{*Interaction variable name*}.

You can add URL interaction variables based on service requirements. The following are some simple examples for reference:

- For API data sources, use URL interaction variables. The following are URL configuration examples:
  - Example 1: Use a URL interaction variable in the URL of the API data source:

https://api.test?var=\${var}

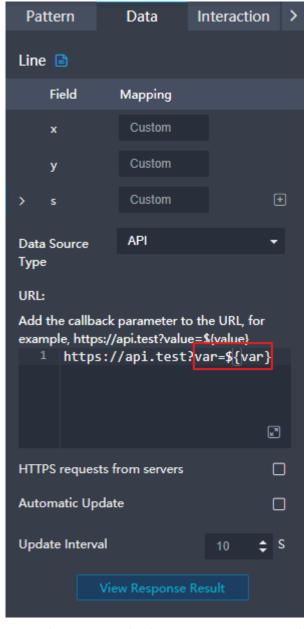


Figure 11-55 URL interaction variable

- Example 2: Use multiple URL interaction variables in the URL of the API data source and use ampersands (&) to separate variables.
   https://api.test?var=\${var}&var2=\${var2}
- For database data sources, use URL interaction variables in SQL statements. The following are configuration examples:
  - Example 1: Use multiple URL interaction variables in SQL statements.
     select \* from \${var} where var2=\${var2};

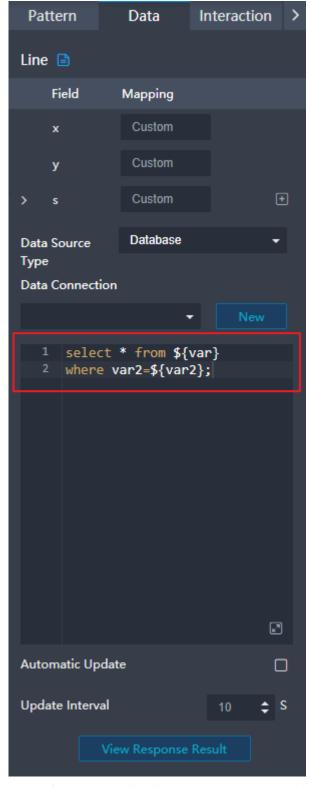


Figure 11-56 URL interaction variable: SQL

Example 2: Use multiple URL interaction variables in SQL statements.
 select \${var} from \${var2};

**Step 2** After the link is configured, click in the upper right corner of the page to preview the screen. Add an interaction variable at the end of the URL of the screen

preview page and access the page again to view the drilldown effect of the link. If drilldown effect is correctly displayed, go to the next step.

For example, the URL of the screen preview page is as follows:

https://console.huaweicloud.com/dlv/vision/preview/? projectId=9c3043ab4dac4055888643b331a0b227&locale=zh-cn&screenId=ff80808270c25d5d0170c261090b0000&name=dlv-demo&region=cn-north-7&workspaceId=9c3043ab4dac4055888643b331a0b227

Add the following interaction variables to the end of the URL of the screen preview page:

Example 1:

https://console.huaweicloud.com/dlv/vision/preview/? projectId=9c3043ab4dac4055888643b331a0b227&locale=zh-cn&screenId=ff80808270c25d5d0170c261090b0000&name=dlv-demo&region=cn-north-7&workspaceId=9c3043ab4dac4055888643b331a0b227**#var=value** 

• Example 2: If a URL contains multiple hash parameters, use ampersands (&) to separate them.

https://console.huaweicloud.com/dlv/vision/preview/? projectId=9c3043ab4dac4055888643b331a0b227&locale=zh-cn&screenId=ff80808270c25d5d0170c261090b0000&name=dlv-demo&region=cn-north-7&workspaceId=9c3043ab4dac4055888643b331a0b227**#var=value&var2=value2** 

**Step 3** Publish the screen and obtain the screen URL. For details, see **Publishing Screens**.

For example, the URL of the screen is as follows:

https://console.huaweicloud.com/dlv/vision/share/?id=qwertyuiioapsdgfhj123456789c&locale=enus&region=cn-north-1

**Step 4** In the URL obtained in the previous step, set the default value of the variable by setting the hash parameter. The parameter name is the same as the URL interaction variable name set in the data source.

#### Example 1:

 $https://console.huaweicloud.com/dlv/vision/share/?id=qwertyuiioapsdgfhj123456789c\&locale=enus\&region=cn-north-1 \verb|#var=value||$ 

Example 2: If a URL contains multiple hash parameters, use ampersands (&) to separate them. For example, the following example sets the interaction variables **var** and **var2** at the same time:

https://console.huaweicloud.com/dlv/vision/share/?id=qwertyuiioapsdgfhj123456789c&locale=enus&region=cn-north-1**#var=value&var2=value2** 

**Step 5** In the browser or application code, use the URL of the screen to which the hash parameter is added to access the screen data specified by the parameter.

Use the URL in the preceding example to access the screen. When the page is opened, the value of the interaction variable **var** of the screen component is set to **value**, and the value of the interaction variable **var2** is set to **value2**.

----End

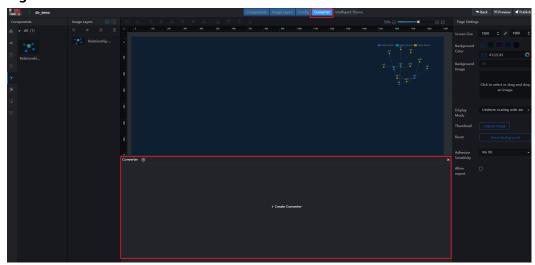
# 11.13 Using a Converter

When the result returned by the component does not meet the display requirements or requires secondary processing and conversion, you can use a converter to edit the code to process the data returned by the component.

#### **Procedure**

- **Step 1** Create a screen and go to the screen editing page.
- **Step 2** Click **Converter** at the top of the page. The converter editing area is displayed at the bottom of the page.

Figure 11-57 Converter

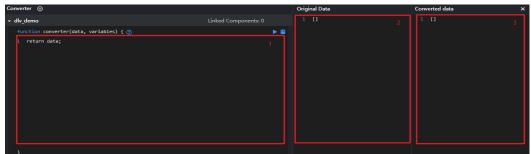


Step 3 In the converter editing area, click Create Converter and enter the converter name. After the converter is created, move the cursor to the row where the converter is located, click to rename the converter, or click to delete the converter. If the number of Linked Components is not 0, cancel the link and then delete the converter.

A converter name can contain only letters, numbers, underscores (\_), and hyphens (-), and cannot exceed 32 characters.

- **Step 4** Click a converter name to expand the converter code area and edit and run the code.
  - 1. Write JavaScript code in area 1.
  - 2. Enter the data to be processed in area 2. The system transfers the original data to the **data** of the code editor for compilation.
  - 3. Click in the code editing area to run the code. The converted result data is displayed in area 3.
  - 4. Click in the code editing area to save the code in the converter.

Figure 11-58 Converter code area



**Step 5** Link the converter to components.

- 1. Select the components you want to link to the converter and switch to the **Data** panel.
- 2. Select the converter you created next to **Converter**.

Figure 11-59 Selecting a converter



3. Modify the converter code. Click the icon on the right of the converter to modify, run, and save the code. The **Original Data** area displays the request response data or static data of the current component.

----End

# **Sample Code**

For details about the JavaScript syntax, see <a href="https://developer.mozilla.org/en-US/docs/Web/JavaScript">https://developer.mozilla.org/en-US/docs/Web/JavaScript</a>.

• Data conversion example 1 (when the data structure in the returned weather data is complex and the indicator data is scattered, the data is converted into a simple format for display)

#### Code

```
return data.results[0].weather_data.map(it => {
 return {
  date: it.date,
  weather: `${it.weather} ${it.wind} ${it.temperature}`
 };
});
```

#### Original data

```
"error": 0,
"status": "success",
"date": "2020-11-27",
"index": [],
           "weather_data": [{
                       "date": "Wednesday, September 16 (real-time temperature: 28°C)",
                       "dayPictureUrl": "http://s1.bdstatic.com/r/www/aladdin/img/new_weath/
bigicon/3.png",
                      "nightPictureUrl": "http://s1.bdstatic.com/r/www/aladdin/img/new_weath/
bigicon/3.png",
                       "weather": "Overcast to cloudy,",
                      "wind": "East wind 3 to 4 mph,",
                       "temperature": "25 to 15°C"
           },
{
                      "date": "Thursday",
                       "dayPictureUrl": "http://s1.bdstatic.com/r/www/aladdin/img/new_weath/
icon/5.png",
                      "nightPictureUrl": "",
                      "weather": "Cloudy to sunny,",
"wind": "Northwest breeze,",
                      "temperature": "26 to 12°C"
           },
                      "date": "Friday",
                      "dayPictureUrl": "http://s1.bdstatic.com/r/www/aladdin/img/new_weath/
icon/1.png",
                      "nightPictureUrl": "",
                      "weather": "Sunny,",
                       "wind": "East breeze,",
                       "temperature": "30 to 16°C"
           },
                      "date": "Saturday",
                      "dayPictureUrl": "http://s1.bdstatic.com/r/www/aladdin/img/new_weath/
icon/5.png",
                      "nightPictureUrl": "",
                       "weather": "Cloudy to overcast,",
                      "wind": "Southeast wind 3 to 4 mph,",
                      "temperature": "30 to 18°C"
           }]
}]
```

#### Converted data

```
"date": "Wednesday, September 16 (real-time temperature: 28°C)",
  "weather": "Overcast to cloudy, East wind 3 to 4 mph, 15°C to 25°C"
  "date": "Thursday",
"weather": "Cloudy to sunny, Northwest breeze, 12°C to 26°C"
},
  "date": "Friday",
  "weather": "Sunny, East breeze, 16°C to 30°C"
```

```
},
{
  "date": "Saturday",
  "weather": "Cloudy to overcast, Southeast wind 3 to 4 mph, 18°C to 30°C"
}
]
```

- Data conversion example 2 (when data with multiple **series** values is returned, only data items whose value of **series** is **Search** are displayed.)
  - Code return data.filter (it => it.series === 'Search');

```
    Original data
```

```
[
{
    "area": "city A",
    "series": "Speed",
    "num": "120",
    "id": "1"
},
{
    "area": "city B",
    "series": "Search",
    "num": "150",
    "id": "2"
},
{
    "area": "city C",
    "series": "3",
    "num": "120",
    "id": "3"
},
{
    "area": "aa",
    "series": "44",
    "num": "444",
    "num": "444",
    "id": "5"
}
```

Converted data

 Data conversion example 3 (when the data is a decimal, the data is converted into a percentage and is displayed with two decimal places)

```
    Code
```

```
return data.map(it => {
    it.y = (it.y * 100).toFixed(2);
    return it;
});
```

Original data

```
},
{
    "x": "Type C",
    "y": 0.68,
    "s": 1
},
{
    "x": "Type D",
    "y": 0.48,
    "s": 1
},
{
    "x": "Type E",
    "y": 0.7,
    "s": 1
},
{
    "x": "Type F",
    "y": 0.85,
    "s": 1
}
```

Converted data

• Data conversion example 4 (when the returned data is an empty array [], the data is converted into 0 for display)

```
if (Array.isArray(data) && data.length === 0) {
  const item = {};
  item['finalName'] ='Modification times'
  item['finalValue'] = 0;
  data.push(item)
  return data;
} else {
  return data;
}
```

Original data

IJ

```
Converted data
[
{
    "finalName": "Modification times",
    "finalValue": 0
}
]
```

- Data conversion example 5 (variables.cato is referenced in the code to display only the data selected in the drop-down box in the bar chart component)
  - Code return data.filter(it => it.cato === variables.cato);

```
Original data
   "cato": "city A",
   "num": 678,
   "id": "0"
 {
    "cato": "city B",
   "num": 0,
   "id": "0"
 {
  "cato": "city C",
  " 279
   "num": 379,
   "id": "0"
 },
   "cato": "city D",
   "num": 678,
   "id": "0"
 },
   "cato": "city E",
   "num": 6666.0024,
   "id": "0"
{
    "cato": "city F",
    "num": 12345.667,
 },
   "cato": "city G",
   "num": 89080,
   "id": "0"
   "cato": "city H",
"num": 89080,
   "id": "0"
 },
   "cato": "city l",
"num": 654321.3,
   "id": "0"
```

```
Converted data[
```

```
"cato": "city A",
"num": 678,
"id": "0"
}
```

# 12 Component Guide

# **12.1 Line Chart Components**

## 12.1.1 Line Chart

This section describes parameters of a line chart.

#### **Pattern**

- Size/Position
  - Size: width and height of the component. Unit: pixel.
  - Position: position where the component is located in the canvas. Unit: pixel.

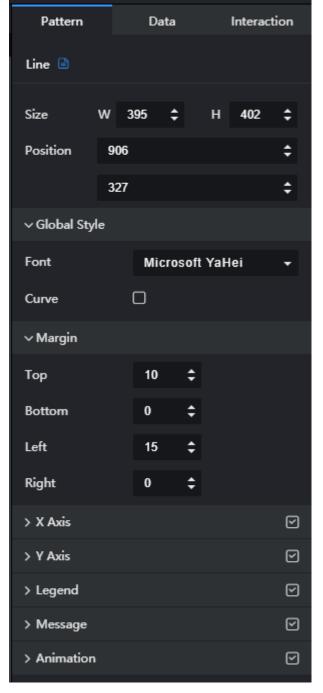


Figure 12-1 Size and position of a line chart

#### Global Style

- **Font**: text font.
- **Curve**: to set a curve by clicking

#### • Margin

Top: spacing between the top sides of the chart and the component layer.
 You can enter a value or click to adjust the spacing.

- Bottom: spacing between the bottom sides of the chart and the component. You can enter a value or click to adjust the spacing.
- Left: spacing between the left sides of the chart and the component. You
   can enter a value or click to adjust the spacing.
- Right: spacing between the right sides of the chart and the component.
   You can enter a value or click to adjust the spacing.

#### X Axis

- X Axis: to show or hide the X axis by clicking or
- Text: text style of the X axis, including Font Size, Color, Font Width, and Angle.
- Data Type: data type of the X axis. The value can be Value, Category, Time, or Log.
- Scales: When Data Type is set to Value or Time, the number of displayed labels is automatically displayed based on the value of Scales. This parameter is invalid when Data Type is set to other values.
- Color: color of the X axis.

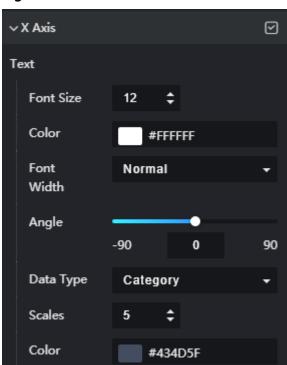


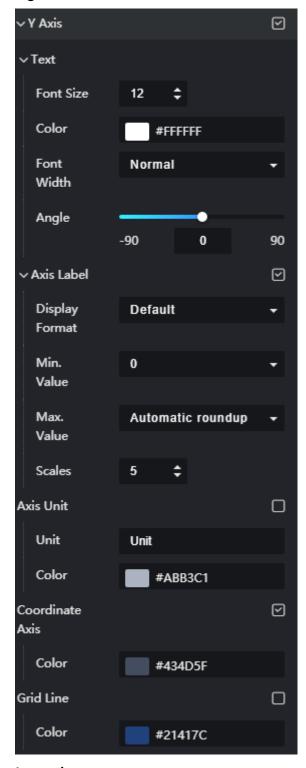
Figure 12-2 X axis of a line chart

#### Y Axis

- Y Axis: to show or hide the Y axis by clicking or
- Text: text style of the Y axis, including Font Size, Color, Font Width,
   Display Format, Angle, and Axis Label.
- Axis Unit: unit of the Y axis.

- Coordinate Axis: color of the Y axis.
- Grid Line: grid line color of the Y axis.

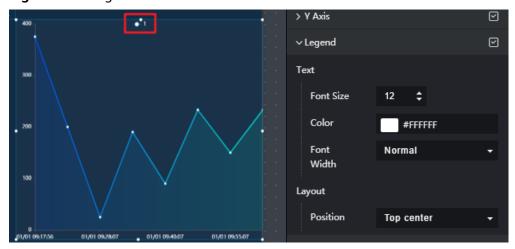
Figure 12-3 Y axis of a line chart



- Legend
  - Legend: to show or hide the legend by clicking or .

- Text: text style of the legend, including Font Size, Color, and Font Width.
- **Layout**: position where the legend is located.

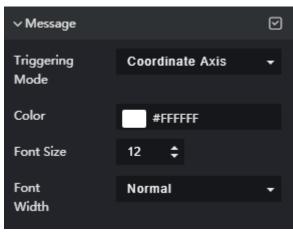
Figure 12-4 Legend of a line chart



#### Message

- Message: If you click , a message will pop up when you hover over a previewed or published component.
- **Triggering Mode**: to set the triggering mode of messages. The options are **Coordinate Axis** and **Data**.
- **Color**: font color of the message.
- **Font Size**: font size of the message.
- Font Width: font width of the message.

Figure 12-5 Message of a line chart

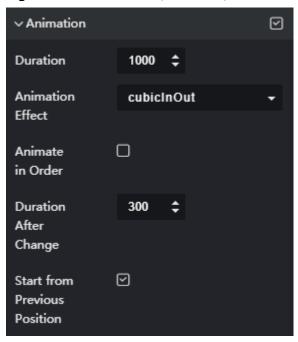


#### Animation

- Click or next to **Animation** to hide or show animation, respectively.
- **Duration**: duration of the first rendering of the component, in ms.

- Animation Effect: The system provides multiple common animation slow-moving effects.
- Animate in Order: If this option is selected, the series are animated in sequence. If this option is deselected, all series are animated at the same time.
- Duration After Change: animation duration when the component data is updated, in ms.
- Start from Previous Position: If this option is selected, the animation is played from the position of the previous data when the component data is updated. If this option is deselected, the animation is played from the initial position when the component data is updated.

Figure 12-6 Animation (line chart)



#### **Data**

For details about how to configure component data, see **Configuring Component Data**.

#### Interaction

For details about whether the component supports the interaction function and how to use the interaction function, see **Configuring Component Interaction**.

## 12.1.2 Dual Y-Axis Line

A dual Y-axis line chart can display the data change trend of multiple series of each category. One category can display the data of multiple series. A dual Y-axis line chart contains two series by default. You can add a series value of a field that represents a series in the source data table to be a series. You can add multiple series. Each series of data is marked on coordinates in the form of points, and connected to points in a line.

This section describes parameters of a dual Y-axis line chart.

59% 🖃 🗕 ₩ 🗗 Data Pattern Interaction Dual Y-Axis Line \$ 1154 \$ Position 181 = ∨ Global Style Font Microsoft YaHei > Margin > X Axis > Y1 Axis > Y2 Axis > Legend  $\square$ > Message > Animation

Figure 12-7 Dual Y-axis line chart

#### **Pattern**

#### Size/Position

- Size: width and height of the component. Unit: pixel.
- Position: position where the component is located in the canvas. Unit: pixel.

#### Global Style

- Font: font of the text.
- Curve: When this function is enabled, the broken lines become curved lines.

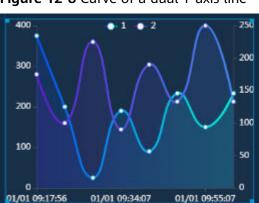


Figure 12-8 Curve of a dual Y-axis line

## Margin

- Top: spacing between the top sides of the chart and the component layer.
   You can enter a value or click to adjust the spacing.
- **Bottom**: spacing between the bottom sides of the chart and the component. You can enter a value or click to adjust the spacing.
- Left: spacing between the left sides of the chart and the component. You
   can enter a value or click to adjust the spacing.
- Right: spacing between the right sides of the chart and the component.
   You can enter a value or click to adjust the spacing.
- X Axis: to show or hide the X axis. When this option is selected, you can set the X axis style.
  - Font Size: font size of the axis label text.
  - Color: font color of the axis label text.
  - **Font Width**: font width of the axis label text.
  - **Angle**: tilt angle of the axis label text.
  - Data Type: data type of the field corresponding to the axis. The value can be Value, Category, Time, or Log.
  - Scales: When Data Type is set to Value or Time, the number of displayed labels is automatically displayed based on the value of Scales. This parameter is invalid when Data Type is set to other values.
  - **Color**: color of the axis.

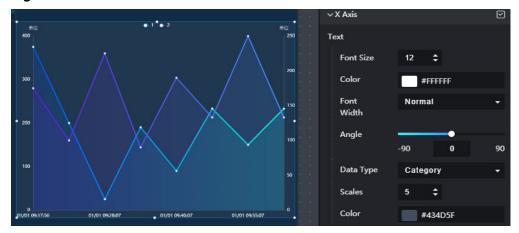


Figure 12-9 X axis of a dual Y-axis line chart

#### Y1 Axis

- **Font Size**: font size of the axis label text.
- Color: font color of the axis label text.
- Font Width: font width of the axis label text.
- Angle: tilt angle of the axis label text.
- Axis Label: to show or hide the axis labels. When this function is enabled, you can set the following parameters:

- Display Format: display format of the scale value on the axis.
- Min. Value: the minimum value of the axis. You can enter a value or select a value from the drop-down list. When this parameter is set to the minimum value, the start value of the axis is the minimum value in the current data.
- Max. Value: the maximum value of the axis. You can enter a value or select a value from the drop-down list. When this parameter is set to the maximum value, the start value of the axis is the maximum value in the current data.
- Scales: intervals of data items on the coordinate axis.
- Axis Unit: to show or hide the axis unit. When this function is enabled, the axis unit is displayed on the top of the chart. The unit can be displayed only when Top under Margin is set to a value greater than or equal to 40.
  - Unit: unit of the coordinate axis, for example, kilometer, byte/second, or GB.
  - Color: font color of the text.
- Coordinate Axis: to show or hide the axis. You can set the color of the axis when you select this option.
- Grid Line: to show or hide the grid lines. You can set the color of the grid lines when you select this option.

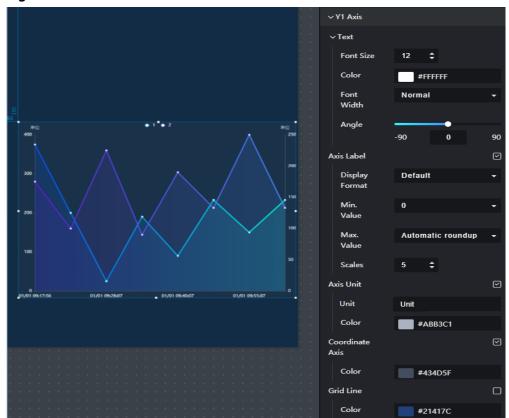


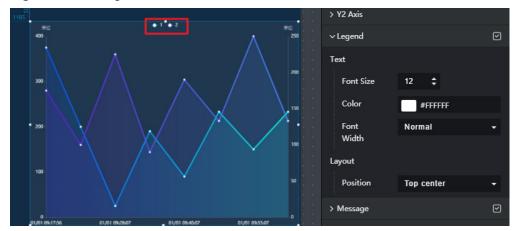
Figure 12-10 Y1 axis of a dual Y-axis line chart

#### Y2 Axis

The Y2 axis is the Y axis on the right. The configuration items are the same as those of the Y1 axis. For details, see the description of Y Axis.

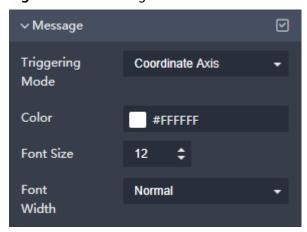
- **Legend**: to show or hide the legend. When this option is selected, you can set the legend style.
  - Text: text style of the legend, including Font Size, Color, and Font Width.
  - Layout
    - Position: position of the legend.

Figure 12-11 Legend of a dual Y-axis line chart



- Message: to show or hide the prompt information. After this function is enabled, a message is displayed when you mouse over or click on the screen during the screen preview.
  - **Triggering Type**: type of the prompt message.
  - **Color**: font color of the message.
  - Font Size: font size of the message.
  - **Font Width**: font width of the message.

Figure 12-12 Message



Animation

- Click or next to **Animation** to hide or show animation, respectively.
- **Duration**: duration of the first rendering of the component, in ms.
- Animation Effect: The system provides multiple common animation slow-moving effects.
- Animate in Order: If this option is selected, the series are animated in sequence. If this option is deselected, all series are animated at the same time.
- Duration After Change: animation duration when the component data is updated, in ms.
- Start from Previous Position: If this option is selected, the animation is played from the position of the previous data when the component data is updated. If this option is deselected, the animation is played from the initial position when the component data is updated.

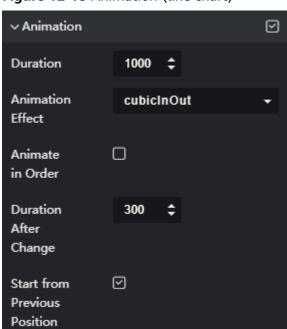


Figure 12-13 Animation (line chart)

#### Data

- Data Source Type: to select the data source of the chart. Multiple data sources are provided for you to select. You need to add data sources first. For details, see Data Connection Overview.
- **Converter**: Select a converter to convert data into the data that meets the display requirements. For details, see **Using a Converter**.
- **Data Mapping**: The data format of a dual Y-axis line chart consists of the following fields:
  - **x**: category, corresponding to the X axis. The data type of this field must be the same as that of the **X** Axis.
  - y: data, corresponding to Y1 axis or Y2 axis.

- s: series. You can set a value of the s field to a series. You can add multiple series. The value of each series can be mapped to different Y coordinates.
  - Click on the right of **s** to add a series. To delete an added series, click on the right of the series.

Add a series as follows:

- Series Value: Enter a value of the s field. If the series value is empty, the value of the corresponding s field is used by default.
- **Series Name**: self-definable. If the series name is empty, the series value is used as the series name by default.
- **Shape**: shape of the points on the line.
- **Color**: color of the line.
- Width: line width of the line.
- **Opaque**: opacity of the area covered by the broken line. A larger value indicates lower transparency.
- Reference Axis: Y1 axis or Y2 axis.
- Value Tag: to show or hide the value tag. After selecting this option, you can set the font size, color, font width, and position of the value tag.
- **Link**: target link to which the web page points when a data item in component widget is clicked.
- Link Mode:
  - **New window**: The target link opens a new browser window.
  - **Current page**: The target link opens a window in the current browser window.
  - **Floating panel**: The target link opens a floating window in the center of the current screen.
- **Automatic Update**: If you select **Automatic Update** and set **Update Interval**, the data is automatically updated based on the interval.
- **Preview Result**: Click **Preview Result** to view the information about the selected data source. You can click **Update Query** to manually update the component data when the data source changes.

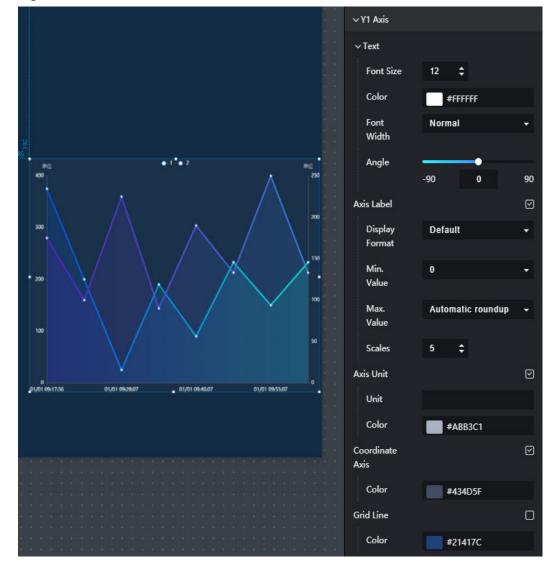


Figure 12-14 Data of the dual Y-axis line chart

## Interaction

For details about whether the component supports the interaction function and how to use the interaction function, see **Configuring Component Interaction**.

# 12.1.3 WT Line Chart

This section describes parameters of a WT line chart.

## **Pattern**

The pattern configuration of a WT line chart is similar to that of a line chart. For details, see **Pattern**.

## **Data**

The data configuration of a WT line chart is similar to that of a line chart. For details, see **Data**.

#### Interaction

For details about whether the component supports the interaction function and how to use the interaction function, see **Configuring Component Interaction**.

# 12.1.4 Dual Y-Axis Line (WT)

A WT dual Y-axis line chart is a chart component of the wide table (WT) type. It can be used to display the data change trend of multiple series under each category. One category can display the data of multiple series. A WT dual Y-axis line chart contains two series by default. You can add a series value of a field that represents a series in the source data table to be a series. You can add multiple series. Each series of data is marked on coordinates in the form of points, and connected to points in a line.



Figure 12-15 WT dual Y-axis line chart

#### **Pattern**

## Size/Position

- **Size**: width and height of the component. Unit: pixel.
- Position: position where the component is located in the canvas. Unit: pixel.

## • Global Style

- Font: font of the text.
- Curve: When this function is enabled, the broken lines become curved lines.

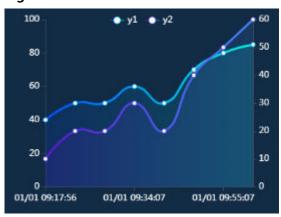


Figure 12-16 Curve of a WT dual Y-axis line

#### Margin

- **Top**: spacing between the top sides of the chart and the component layer.

  You can enter a value or click to adjust the spacing.
- **Bottom**: spacing between the bottom sides of the chart and the component. You can enter a value or click to adjust the spacing.
- Left: spacing between the left sides of the chart and the component. You can enter a value or click to adjust the spacing.
- Right: spacing between the right sides of the chart and the component.
   You can enter a value or click to adjust the spacing.
- **X Axis**: to show or hide the X axis. When this option is selected, you can set the X axis style.
  - **Font Size**: font size of the axis label text.
  - Color: font color of the axis label text.
  - Font Width: font width of the axis label text.
  - **Angle**: tilt angle of the axis label text.
  - Data Type: data type of the field corresponding to the axis. The value can be Value, Category, Time, or Log.
  - Scales: When Data Type is set to Value or Time, the number of displayed labels is automatically displayed based on the value of Scales. This parameter is invalid when Data Type is set to other values.
  - Color: color of the axis.

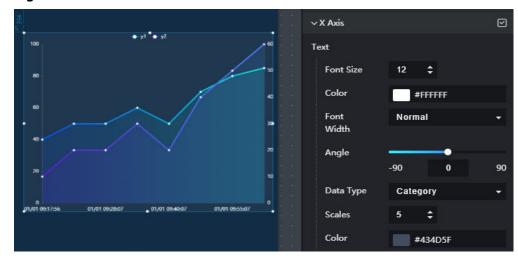


Figure 12-17 X axis of a WT dual Y-axis line chart

#### Y1 Axis

- **Font Size**: font size of the axis label text.
- Color: font color of the axis label text.
- Font Width: font width of the axis label text.
- **Angle**: tilt angle of the axis label text.
- Axis Label: to show or hide the axis labels. When this function is enabled, you can set the following parameters:
  - **Display Format**: display format of the scale value on the axis.
  - Min. Value: the minimum value of the axis. You can enter a value or select a value from the drop-down list. When this parameter is set to the minimum value, the start value of the axis is the minimum value in the current data.
  - Max. Value: the maximum value of the axis. You can enter a value or select a value from the drop-down list. When this parameter is set to the maximum value, the start value of the axis is the maximum value in the current data.
  - Scales: intervals of data items on the coordinate axis.
- Axis Unit: to show or hide the axis unit. When this function is enabled, the axis unit is displayed on the top of the chart. The unit can be displayed only when **Top** under **Margin** is set to a value greater than or equal to 40.
  - Unit: unit of the coordinate axis, for example, kilometer, byte/second, or GB.
  - **Color**: font color of the text.
- Coordinate Axis: to show or hide the axis. You can set the color of the axis when you select this option.
- Grid Line: to show or hide the grid lines. You can set the color of the grid lines when you select this option.

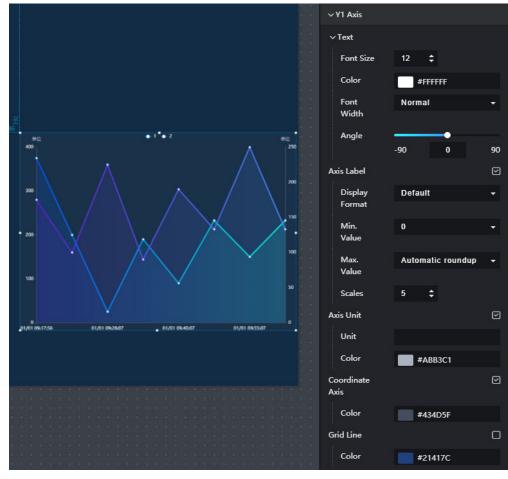


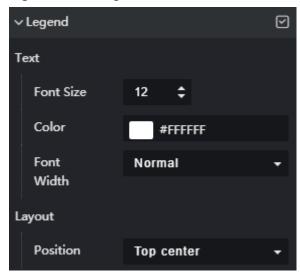
Figure 12-18 Y1 axis of a WT dual Y-axis line chart

## Y2 Axis

The Y2 axis is the Y axis on the right. The configuration items are the same as those of the Y1 axis. For details, see the description of Y Axis.

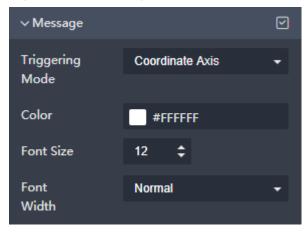
- **Legend**: to show or hide the legend. When this option is selected, you can set the legend style.
  - Text: text style of the legend, including Font Size, Color, and Font Width.
  - Layout: position where the legend is located in the component.

Figure 12-19 Legend



- **Message**: to show or hide the prompt information. After this function is enabled, a message is displayed when you mouse over or click on the screen during the screen preview.
  - **Triggering Type**: type of the prompt message.
  - **Color**: font color of the message.
  - **Font Size**: font size of the message.
  - Font Width: font width of the message.

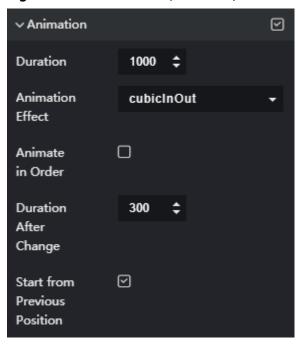
Figure 12-20 Message



- Animation
  - Click or next to **Animation** to hide or show animation, respectively.
  - Duration: duration of the first rendering of the component, in ms.
  - Animation Effect: The system provides multiple common animation slow-moving effects.
  - Animate in Order: If this option is selected, the series are animated in sequence. If this option is deselected, all series are animated at the same time.

- Duration After Change: animation duration when the component data is updated, in ms.
- Start from Previous Position: If this option is selected, the animation is played from the position of the previous data when the component data is updated. If this option is deselected, the animation is played from the initial position when the component data is updated.

Figure 12-21 Animation (line chart)



## Data

The data format of the WT dual Y-axis line chart is a wide table structure. The related fields are placed in the same table to form a database table with many fields. The WT dual Y-axis line chart contains three fields by default: x, y1, and y2.

- Data Source Type: to select the data source of the chart. Multiple data sources are provided for you to select. You need to add data sources first. For details, see Data Connection Overview.
- x: category of a line chart or bar chart, corresponding to the X axis.
- y:

By default, the following two series are included:

- y1: data of the y1 series. y1 is the field name in the mapped source data.
   y1 corresponds to the left Y1 axis by default.
- y2: data of the y2 series. y2 is the field name in the mapped source data.
   y2 corresponds to the right Y2 axis by default.

Click  $\blacksquare$  on the right of  $\mathbf{y}$  to add a series. To delete an added series, click  $\blacksquare$  on the right of the series.

Add a series as follows:

Series Value: field name in the mapped source data.

- **Series Name**: self-definable. If the series name is empty, the series value is used as the series name by default.
- **Shape**: shape of the points on the line.
- Color: color of the line.
- Width: line width of the line.
- Opaque: opacity of the area covered by the broken line. A larger value indicates lower transparency.
- Reference Axis: Y1 axis or Y2 axis.
- **Value Tag**: to show or hide the value tag. After selecting this option, you can set the font size, color, font width, and position of the value tag.
- Link: target link to which the web page points when a data item in component widget is clicked.
- Link Mode:
  - **New window**: The target link opens a new browser window.
  - Current page: The target link opens a window in the current browser window.
  - **Floating panel**: The target link opens a floating window in the center of the current screen.
- Automatic Update: If you select Automatic Update and set Update Interval, the data is automatically updated based on the interval.
- **Preview Result**: Click **Preview Result** to view the information about the selected data source. You can click **Update Query** to manually update the component data when the data source changes.

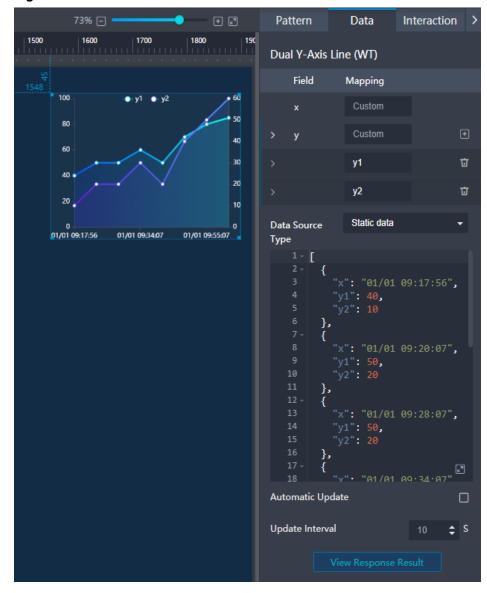


Figure 12-22 Data of the WT dual Y-axis line chart

## Interaction

For details about whether the component supports the interaction function and how to use the interaction function, see **Configuring Component Interaction**.

# 12.1.5 Step Line

A step line chart can show the change of irregular and stepped jump values, and the change is not linear and coherent. This topic describes the configuration items of the step line component.

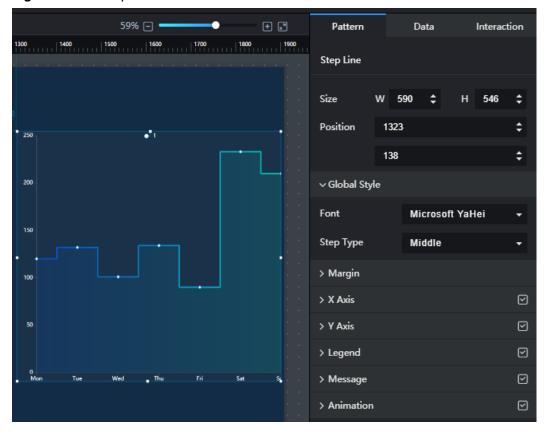


Figure 12-23 Step line

#### **Pattern**

#### Size/Position

- Size: width and height of the component. Unit: pixel.
- Position: position where the component is located in the canvas. Unit: pixel.

#### Global Style

- Font: font of the text.
- Step Type: position of a data point on the step line.

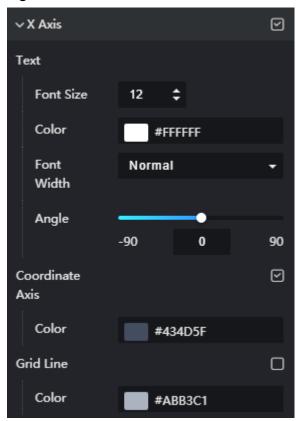
#### Margin

- Top: spacing between the top sides of the chart and the component layer.

  You can enter a value or click to adjust the spacing.
- **Bottom**: spacing between the bottom sides of the chart and the component. You can enter a value or click to adjust the spacing.
- Left: spacing between the left sides of the chart and the component. You
   can enter a value or click to adjust the spacing.
- Right: spacing between the right sides of the chart and the component.
   You can enter a value or click to adjust the spacing.
- X Axis: to show or hide the X axis. When this option is selected, you can set the X axis style.

- Font Size: font size of the axis label text.
- Color: font color of the axis label text.
- Font Width: font width of the axis label text.
- **Angle**: tilt angle of the axis label text.
- Coordinate Axis: to show or hide the axis.
  - Color: color of the axis.
- Grid Line: to show or hide the grid lines.
  - Color: color of the axis.

Figure 12-24 X axis

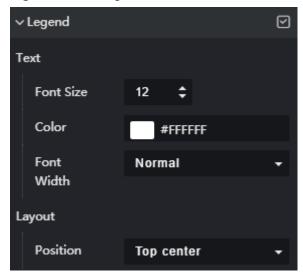


• Y Axis: to show or hide the Y axis. When this option is selected, you can set the Y axis style.

The configuration items of the Y axis are similar to those of the X axis. For details, see **X Axis**.

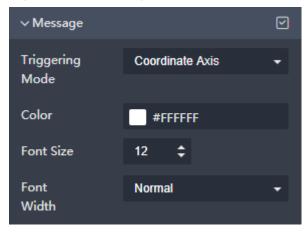
- **Legend**: to show or hide the legend. When this option is selected, you can set the legend style.
  - Text: text style of the legend, including Font Size, Color, and Font Width.
  - Layout: position where the legend is located in the component.

Figure 12-25 Legend



- **Message**: to show or hide the prompt information. After this function is enabled, a message is displayed when you mouse over or click on the screen during the screen preview.
  - **Triggering Type**: type of the prompt message.
  - **Color**: font color of the message.
  - **Font Size**: font size of the message.
  - Font Width: font width of the message.

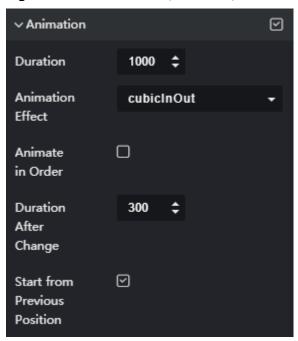
Figure 12-26 Message



- Animation
  - Click or next to **Animation** to hide or show animation, respectively.
  - Duration: duration of the first rendering of the component, in ms.
  - Animation Effect: The system provides multiple common animation slow-moving effects.
  - Animate in Order: If this option is selected, the series are animated in sequence. If this option is deselected, all series are animated at the same time.

- Duration After Change: animation duration when the component data is updated, in ms.
- Start from Previous Position: If this option is selected, the animation is played from the position of the previous data when the component data is updated. If this option is deselected, the animation is played from the initial position when the component data is updated.

Figure 12-27 Animation (line chart)



### **Data**

- Data Source Type: to select the data source of the chart. Multiple data sources are provided for you to select. You need to add data sources first. For details, see Data Connection Overview.
- Converter: Select a converter to convert data into the data that meets the display requirements. For details, see Using a Converter.
- **Data Mapping**: The data format of the line step consists of the following fields:
  - x: category, corresponding to the X axis.
  - **y**: data, corresponding to the Y axis.
  - s: series. You can set a value of the s field to a series. You can add multiple series. The value of each series can be mapped to different Y coordinates.

Click on the right of **s** to add a series. To delete an added series, click on the right of the series.

Add a series as follows:

• **Series Value**: Enter a value of the **s** field. If the series value is empty, the value of the corresponding **s** field is used by default.

- **Series Name**: self-definable. If the series name is empty, the series value is used as the series name by default.
- Shape: shape of the points on the line.
- Color: color of the axis.
- Width: line width of the line.
- Opaque: opacity of the area covered by the broken line. A larger value indicates lower transparency.
- Value Tag: to show or hide the value tag. After selecting this option, you can set the font size, color, font width, and position of the value tag.
- Automatic Update: If you select Automatic Update and set Update
   Interval, the data is automatically updated based on the interval.
- Preview Result: Click Preview Result to view the information about the selected data source. You can click Update Query to manually update the component data when the data source changes.

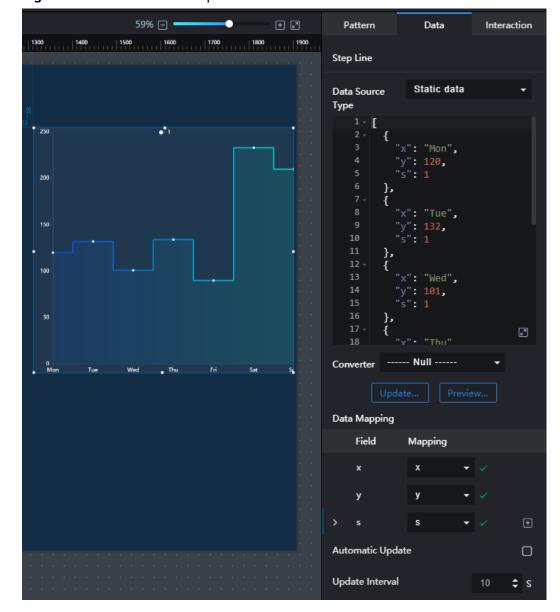


Figure 12-28 Data of the step line

## Interaction

For details about whether the component supports the interaction function and how to use the interaction function, see **Configuring Component Interaction**.

# 12.2 Bar Charts

# 12.2.1 Bar Chart

This section describes parameters of a bar chart.

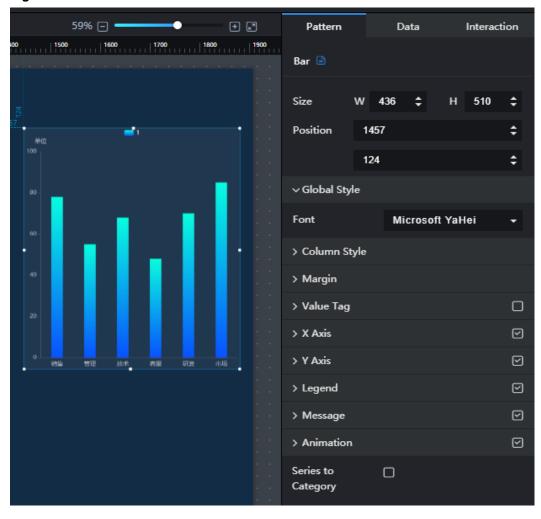


Figure 12-29 Bar chart

## **Pattern**

## Size/Position

- **Size**: width and height of the component. Unit: pixel.
- Position: position where the component is located in the canvas. Unit: pixel.

## • Global Style

**Font**: text font.

#### Column Style

- Column Width: width of the column.
- **Column Angle**: round-corner angle of the column.
- Series Spacing: distance between series.

#### Margin

- Top: spacing between the top sides of the chart and the component layer.

  You can enter a value or click to adjust the spacing.
- **Bottom**: spacing between the bottom sides of the chart and the component. You can enter a value or click to adjust the spacing.

- Left: spacing between the left sides of the chart and the component. You
   can enter a value or click to adjust the spacing.
- Right: spacing between the right sides of the chart and the component.
   You can enter a value or click to adjust the spacing.

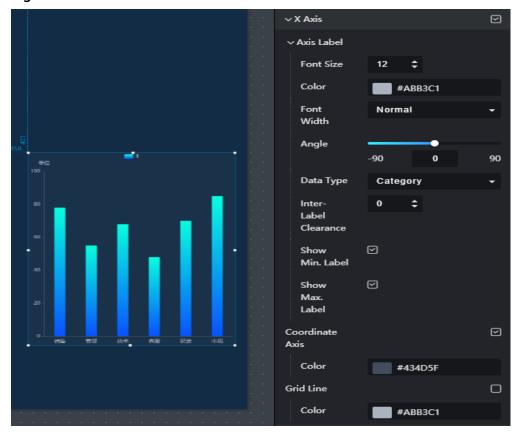
## Value Tag

- Value Tag: to show or hide the value tag by clicking or
- **Font Size**: font size of the value tag.
- **Color**: font color of the value tag.
- Font Width: font width of the value tag.
- Position: position of the value tag. The options are Top, Align right, Inside, Align left, Bottom, Inside left, Inside right, Inside top, and Inside bottom.

#### X Axis

- X Axis: to show or hide the X axis by clicking or or
- Axis Label: text style of the X axis, including Data Type, Font Size, Color, Font Width, Angle, Inter-Label Clearance, Show Min. Label, and Show Max. Label.
- Coordinate Axis: color of the X axis.
- Grid Line: grid line color of the X axis.

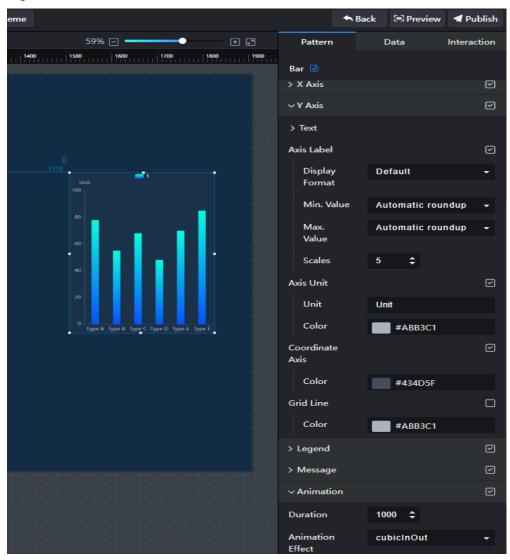
Figure 12-30 X axis of a bar chart



#### Y Axis

- Y Axis: to show or hide the Y coordinate by clicking or ...
- Text: text style of the Y axis, including Font Size, Font Color, Font Width, and Angle.
- Axis Label: text style of the Y axis, including Display Format, Min. Value, Max. Value, and Scales.
- Axis Unit: unit of the Y axis.
- Coordinate Axis: color of the Y axis.
- **Grid Line**: grid line color of the Y axis.

Figure 12-31 Y axis of a bar chart

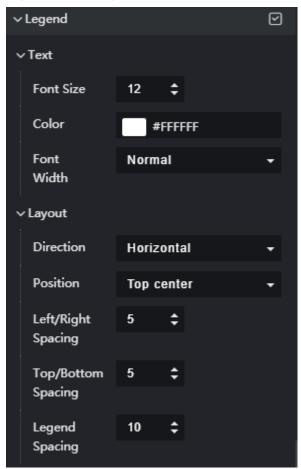


## Legend

- Legend: to show or hide the legend by clicking or
- Text: text style of the legend, including Font Size, Color, and Font Width.

- **Layout**: position where the legend is located.





#### Message

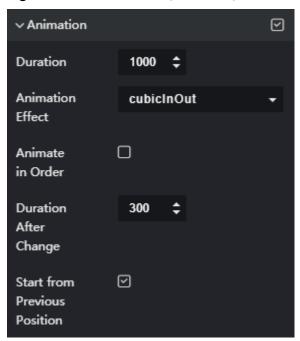
- Message: If you click , a message will pop up when you hover over a previewed or published component.
- **Triggering Mode**: to set the triggering mode of messages. The options are **Coordinate Axis** and **Data**.
- **Color**: font color of the message.
- **Font Size**: font size of the message.
- **Font Width**: font width of the message.

#### Animation

- Click or next to Animation to hide or show animation, respectively.
- Duration: duration of the first rendering of the component, in ms.
- Animation Effect: The system provides multiple common animation slow-moving effects.
- Animate in Order: If this option is selected, the series are animated in sequence. If this option is deselected, all series are animated at the same time.

- Duration After Change: animation duration when the component data is updated, in ms.
- Start from Previous Position: If this option is selected, the animation is played from the position of the previous data when the component data is updated. If this option is deselected, the animation is played from the initial position when the component data is updated.

Figure 12-33 Animation (line chart)



#### Series to Category

To convert series to category, click

- Display category: all series are displayed on the coordinate axis by category.
- Display series: all categories are displayed on the coordinate axis by series

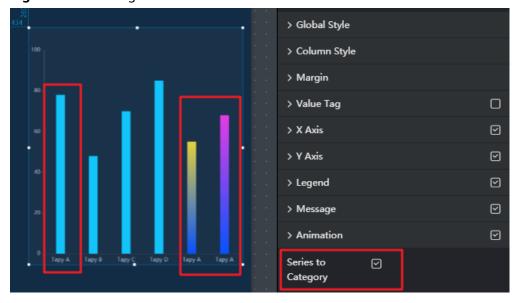
Assume that the first three records of the static data are modified as follows:

On the **Data** panel, add three series whose values are 1, 2, and 3, and set different colors for the three series. **Figure 12-34** shows the series, and **Figure 12-35** shows the categories.

> Global Style > Column Style > Margin > Value Tag  $\odot$ > X Axis  $\odot$ > Y Axis  $\square$ > Legend  $\odot$ > Message > Animation Series to Category

Figure 12-34 Series of a bar chart

Figure 12-35 Categories of a bar chart



#### Data

- **Data Source Type**: to select the data source of the chart. Multiple data sources are provided for you to select. You need to add data sources first. For details, see **Data Connection Overview**.
- Converter: Select a converter to convert data into the data that meets the display requirements. For details, see Using a Converter.
- **Data Mapping**: The data format contains the following fields by default. Set the field names in the data source to which each field is mapped. If the field

names are left empty, the field names are the same as those in the data source to which each field is mapped.

- x: category, corresponding to the X axis.
- **y**: data of series, corresponding to the Y axis.
- s: series. You can set a value of the s field to a series. Multiple series can be added.

Click on the right of **s** to add a series. To delete an added series, click on the right of the series.

Add a series as follows:

- Series Value: Enter a value of the s field. If the series value is empty, the value of the corresponding s field is used by default.
- Series Name: self-definable. If the series name is empty, the series value is used as the series name by default.
- Color: color of the column in the series.
- **Stack**: stack name. You can enter a user-defined name. If the same stack name is set for different series (with different s values) of the same category (with the same x value), the series data is displayed in the stack.
- **Link**: target link to which the web page points when a data item in component widget is clicked.
- Link Mode:
  - **New window**: The target link opens a new browser window.
  - Current page: The target link opens a window in the current browser window.
  - **Floating panel**: The target link opens a floating window in the center of the current screen.
- Automatic Update: If you select Automatic Update and set Update Interval, the data is automatically updated based on the interval.
- Preview Result: Click Preview Result to view the information about the selected data source. You can click Update Query to manually update the component data when the data source changes.

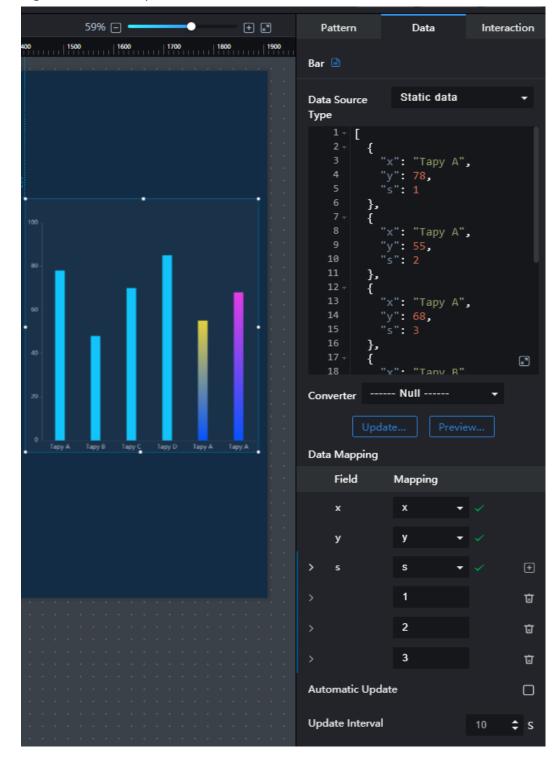


Figure 12-36 Data panel of a bar chart

## Interaction

For details about whether the component supports the interaction function and how to use the interaction function, see **Configuring Component Interaction**.

## 12.2.2 Radial Bar

The radial bar chart is a type of bar chart, which is used to compare data of different series. This section describes parameters of a radial bar.

59% 🖃 • **+** ₽ Pattern Data Interaction 1300 | 1400 | 1500 | 1600 | 1700 | 1800 | 1900 Radial Bar 518 **‡ ‡** Position 1295 Properties 10 Inter spacing Radian 270 360 Inner o 100 30 Outer Radius 100 Start #004EFF Color **End Color** #00FFDE > Text Style > Grid Line > Message  $\square$ > Animation

Figure 12-37 Radial bar

## **Pattern**

#### • Size/Position

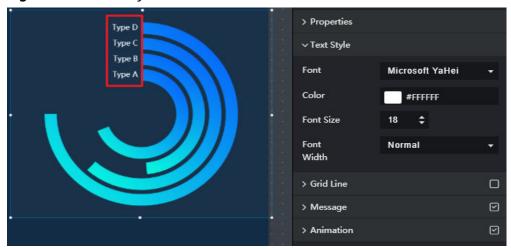
- **Size**: width and height of the component. Unit: pixel.
- Position: position where the component is located in the canvas. Unit: pixel.

## Properties

- Inter-Column Spacing: distance between columns. Unit: pixel.
- Max. Radian: maximum radian of a circular column, that is, a radian of a circular column whose value is the largest in the radial bar. The radians of other circular columns decrease proportionally according to the values. When this parameter is set to 360, the largest ring-shaped column is displayed as a circle. The unit is degree (°).
- Inner Radius: radius of the inner circle of a circular column.

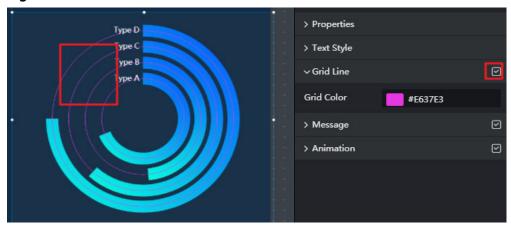
- Outer Radius: radius of the outer circle of a circular column.
- **Start Color**: color of the start point of a circular column.
- End Color: color of the end point of a circular column.
- Text Style

Figure 12-38 Text style of a radial bar



• **Grid Line**: to show or hide the grid lines. **Figure 12-39** shows the grid lines. **Grid Color**: color of the grid lines.

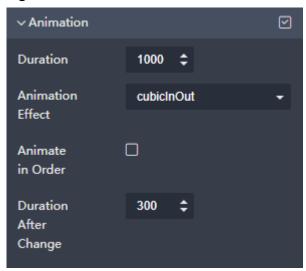
Figure 12-39 Grid lines of a radial bar



- Message: to show or hide the prompt information. After this function is enabled, a message is displayed when you mouse over or click on the screen
  - during the screen preview. You can click in the upper right corner of the page to preview the page.
  - Color: font color of the message.
  - **Font Size**: font size of the message.
  - Font Width: font width of the message.
- **Animation**: After this function is enabled, the animation effect of the radial bar is displayed.
  - Duration: duration of the animation when the radial bar is displayed for the first time. Unit: ms.

- Animation Effect: different animation effects available in the drop-down list.
- Animate in Order: After the function is enabled, the circular columns of each series are animated in sequence. If this option is deselected, all circular columns are animated at the same time.
- Duration After Change: animation duration of the circular columns after data is updated. Unit: ms.

Figure 12-40 Animation of a radial bar chart



#### Data

For details about how to configure component data, see **Configuring Component Data**.

## Interaction

For details about whether the component supports the interaction function and how to use the interaction function, see **Configuring Component Interaction**.

## 12.2.3 Horizontal Bar Chart

This section describes parameters of a horizontal bar chart.

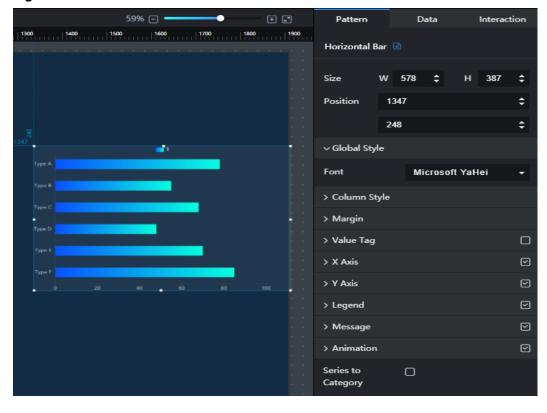


Figure 12-41 Horizontal bar chart

#### **Pattern**

#### Size/Position

- Size: width and height of the component. Unit: pixel.
- Position: position where the component is located in the canvas. Unit: pixel.

## Global Style

Font: text font.

## Column Style

- **Column Width**: width of the column.
- **Column Angle**: round-corner angle of the column.
- Series Spacing: distance between series.

#### Margin

- Top: spacing between the top sides of the chart and the component layer.

  You can enter a value or click to adjust the spacing.
- **Bottom**: spacing between the bottom sides of the chart and the component. You can enter a value or click to adjust the spacing.
- **Left**: spacing between the left sides of the chart and the component. You can enter a value or click to adjust the spacing.
- Right: spacing between the right sides of the chart and the component.
   You can enter a value or click to adjust the spacing.

## • Value Tag

- Value Tag: to show or hide the value tag by clicking or
- **Font Size**: font size of the value tag.
- **Color**: font color of the value tag.
- Font Width: font width of the value tag.
- Position: position of the value tag. The options are Top, Align right, Inside, Align left, Bottom, Inside left, Inside right, Inside top, and Inside bottom.

#### X Axis

- X Axis: to show or hide the X axis by clicking or
- Text: text style of the X axis, including Font Size, Color, Font Width, and Angle.
- **Axis Label**: to set the display format, maximum value, and minimum value of the X axis.
- Axis Unit: to set the unit and font color of the X axis.
- Coordinate Axis: color of the X axis.
- **Grid Line**: grid line color of the X axis.

∨ X Axis ∨ Text Font Size Font #ABB3C1 Color Normal Width Anale -90 90  $\odot$ ∨ Axis Label Display Default Format Max. Automatic roundup Value Scales **‡** ∨ Axis Unit Unit Unit Color #ABB3C1 ∨ Coordinate Axis #434D5F ∨ Grid Line Color #ABB3C1

Figure 12-42 X axis of a horizontal bar chart

#### Y Axis

- Y Axis: to show or hide the Y axis by clicking a or
- **Label**: text style of the Y axis, including **Font Size**, **Color**, **Font Width**, and **Angle**.
- Coordinate Axis: color of the Y axis.
- **Grid Line**: grid line color of the Y axis.

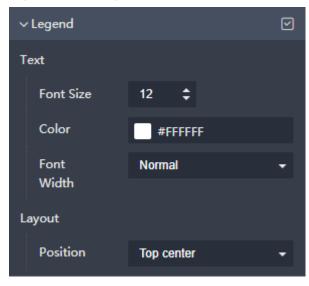
Figure 12-43 Y axis of a horizontal bar chart



## • Legend

- Legend: to show or hide the legend by clicking or
- Text: text style of the legend, including Font Size, Color, and Font Width.
- Layout: position where the legend is located.

Figure 12-44 Legend of a horizontal bar chart



#### Message

- **Message**: If you click , a message will pop up when you hover over a previewed or published component.
- **Triggering Mode**: to set the triggering mode of messages. The options are **Coordinate Axis** and **Data**.
- **Interactive Effect**: The bar effect is displayed when the prompt message is triggered.
- Color: font color of the message.
- **Font Size**: font size of the message.
- Font Width: font width of the message.

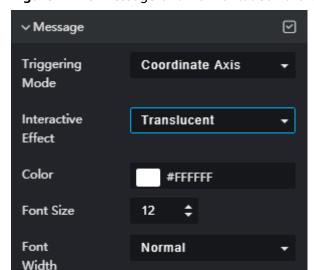


Figure 12-45 Message of a horizontal bar chart

## Data

- **Data Source Type**: to select the data source of the chart. Multiple data sources are provided for you to select. You need to add data sources first. For details, see **Data Connection Overview**.
- **Converter**: Select a converter to convert data into the data that meets the display requirements. For details, see **Using a Converter**.
- **Data Mapping**: The data format contains the following fields by default. Set the field names in the data source to which each field is mapped. If the field names are left empty, the field names are the same as those in the data source to which each field is mapped.
  - **x**: category, corresponding to the X axis.
  - **y**: data of series, corresponding to the Y axis.
  - s: series. You can set a value of the s field to a series. Multiple series can be added.

Click on the right of **s** to add a series. To delete an added series, click on the right of the series.

Add a series as follows:

- Series Value: Enter a value of the s field. If the series value is empty, the value of the corresponding s field is used by default.
- **Series Name**: self-definable. If the series name is empty, the series value is used as the series name by default.
- Color: color of the column in the series.
- **Stack**: stack name. You can enter a user-defined name. If the same stack name is set for different series (with different s values) of the same category (with the same x value), the series data is displayed in the stack.
- **Link**: target link to which the web page points when a data item in component widget is clicked.

#### Link Mode:

- New window: The target link opens a new browser window.
- **Current page**: The target link opens a window in the current browser window.
- **Floating panel**: The target link opens a floating window in the center of the current screen.
- Automatic Update: If you select Automatic Update and set Update
   Interval, the data is automatically updated based on the interval.
- Preview Result: Click Preview Result to view the information about the selected data source. You can click Update Query to manually update the component data when the data source changes.

#### Interaction

For details about whether the component supports the interaction function and how to use the interaction function, see **Configuring Component Interaction**.

# 12.2.4 Horizontal Bi-Directional Bar Chart

This section describes parameters of a horizontal bi-directional bar chart.

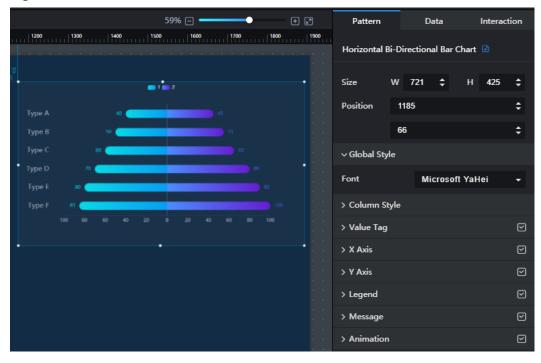


Figure 12-46 Horizontal bi-directional bar chart

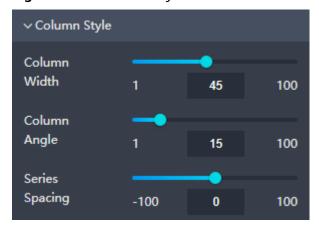
#### **Pattern**

- Size/Position
  - **Size**: width and height of the component. Unit: pixel.
  - Position: position where the component is located in the canvas. Unit: pixel.
- Global Style

Font: text font.

- Column Style
  - **Column Width**: width of the column.
  - Column Angle: round-corner angle of the column.
  - **Series Spacing**: distance between series.

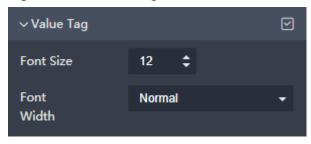
Figure 12-47 Column style of a horizontal bi-directional bar chart



#### Value Tag

- Value Tag: to show or hide the value tag by clicking or .
- **Font Size**: font size of the value tag.
- Font Width: font width of the value tag.

Figure 12-48 Value tags of a horizontal bi-directional bar chart



#### X Axis

- X Axis: to show or hide the X axis by clicking or or
- Text: text style of the X axis, including Font Size, Color, Font Width, and Angle.
- Axis Label: to set the maximum value, minimum value, and scales of the X axis.
- **Axis Unit**: to set the unit and font color of the X axis.
- Coordinate Axis: color of the X axis.
- **Scale**: to show or hide the scales by clicking or ...
- **Grid Line**: grid line color of the X axis.

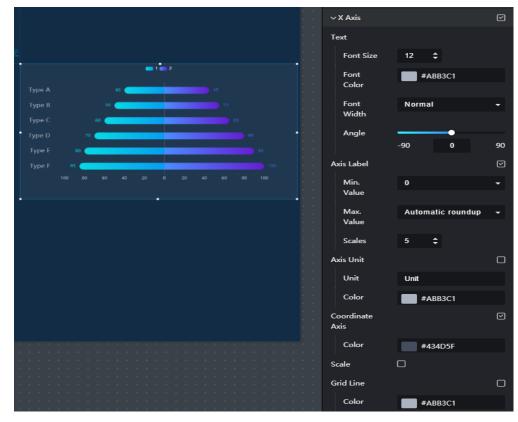


Figure 12-49 X axis of a horizontal bi-directional bar chart

#### Y Axis

- Y Axis: to show or hide the Y axis by clicking or
- Text: text style of the Y axis, including Font Size, Color, Font Width, and Angle.
- **Coordinate Axis**: color of the Y axis.
- **Grid Line**: grid line color of the Y axis.

Type A 40 45
Type B 50 53
Type C 60
Type E 80 90
Type E 85 100 80 60 40 20 0 20 40 60 80 100

Coordinate Axis

Color #434D5F

Grid Line

Color #438B3C1

Figure 12-50 Y axis of a horizontal bi-directional bar chart

## Legend

- Legend: to show or hide the legend by clicking or
- Text: text style of the legend, including Font Size, Color, and Font Width.
- Layout: layout style of the legend, including Left/Right Spacing, Top/ Bottom Spacing, and Position.

Figure 12-51 Legends of a horizontal bi-directional bar chart



#### Message

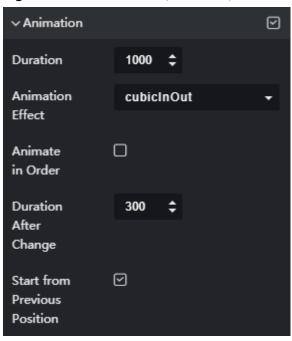
- Message: If you click , a message will pop up when you hover over a previewed or published component.
- **Triggering Mode**: to set the triggering mode of messages. The options are **Coordinate Axis** and **Data**.
- Color: font color of the message.
- Font Size: font size of the message.
- **Font Width**: font width of the message.

#### Animation

- Click or next to Animation to hide or show animation, respectively.
- **Duration**: duration of the first rendering of the component, in ms.
- Animation Effect: The system provides multiple common animation slow-moving effects.
- Animate in Order: If this option is selected, the series are animated in sequence. If this option is deselected, all series are animated at the same time.

- Duration After Change: animation duration when the component data is updated, in ms.
- Start from Previous Position: If this option is selected, the animation is played from the position of the previous data when the component data is updated. If this option is deselected, the animation is played from the initial position when the component data is updated.

Figure 12-52 Animation (line chart)



## **Data**

For details about how to configure component data, see **Configuring Component Data**.

#### Interaction

For details about whether the component supports the interaction function and how to use the interaction function, see **Configuring Component Interaction**.

## 12.2.5 Stacked Bar Chart

This section describes parameters of a stacked bar chart.



Figure 12-53 Stacked bar chart

#### **Pattern**

#### Size/Position

- Size: width and height of the component. Unit: pixel.
- Position: position where the component is located in the canvas. Unit: pixel.

#### Global Style

- Font: text font.
- Series Spacing: spacing between chart series.

### Margin

- Top: spacing between the top sides of the chart and the component layer.
  You can enter a value or click to adjust the spacing.
- Bottom: spacing between the bottom sides of the chart and the component. You can enter a value or click to adjust the spacing.
- Left: spacing between the left sides of the chart and the component. You
   can enter a value or click to adjust the spacing.
- Right: spacing between the right sides of the chart and the component.
   You can enter a value or click to adjust the spacing.

#### Value Tag

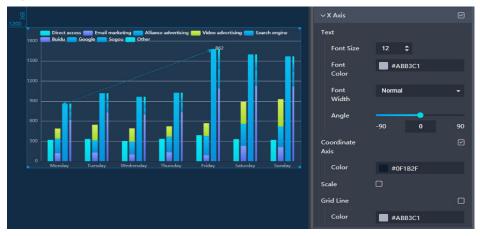
- **Value Tag**: to show or hide the value tag by clicking or or
- Font Size: font size of the value tag.
- Font Width: font width of the value tag.

- Color: font color of the value tag.
- Position: position of the value tag. The options are Top, Align right, Inside, Align left, Bottom, Inside left, Inside right, Inside top, and Inside bottom.

#### X Axis

- X Axis: to show or hide the X axis by clicking or
- Text: text style of the X axis, including Font Size, Color, Font Width, and Angle.
- Coordinate Axis: color of the X axis.
- **Scale**: to show or hide the scales by clicking or or
- Grid Line: grid line color of the X axis.

Figure 12-54 X axis of a stacked bar chart



#### Y Axis

- Y Axis: to show or hide the Y axis by clicking or
- Text: text style of the Y axis, including Font Size, Color, Font Width, Angle, and Axis Label.
- **Coordinate Axis**: color of the Y axis.
- **Grid Line**: grid line color of the Y axis.
- **Axis Unit**: to set the unit and font color of the Y axis.



Figure 12-55 Y axis of a stacked bar chart

## • Legend

- Legend: to show or hide the legend by clicking or or
- Text: text style of the legend, including Font Size, Color, and Font Width.
- Spacing: distance between legends, including Left/Right Spacing and Top/Bottom Spacing.

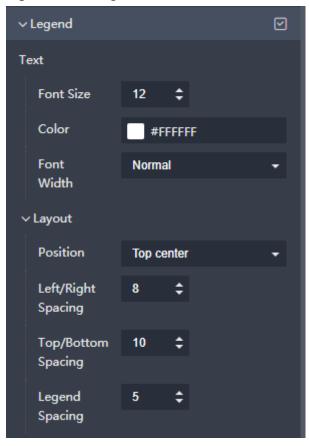


Figure 12-56 Legends of a stacked bar chart

#### Message

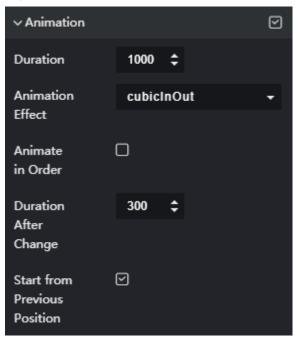
- Message: If you click , a message will pop up when you hover over a previewed or published component.
- **Triggering Mode**: to set the triggering mode of messages. The options are **Coordinate Axis** and **Data**.
- Color: font color of the message.
- Font Size: font size of the message.
- Font Width: font width of the message.

## Animation

- Click or next to Animation to hide or show animation, respectively.
- **Duration**: duration of the first rendering of the component, in ms.
- Animation Effect: The system provides multiple common animation slow-moving effects.
- Animate in Order: If this option is selected, the series are animated in sequence. If this option is deselected, all series are animated at the same time.
- Duration After Change: animation duration when the component data is updated, in ms.
- **Start from Previous Position**: If this option is selected, the animation is played from the position of the previous data when the component data

is updated. If this option is deselected, the animation is played from the initial position when the component data is updated.

Figure 12-57 Animation (line chart)



#### Data

For details about how to configure component data, see **Configuring Component Data**.

## Interaction

For details about whether the component supports the interaction function and how to use the interaction function, see **Configuring Component Interaction**.

# 12.2.6 Horizontal Capsule Bar

The horizontal capsule bar is a type of bar chart, which is used to compare data of different series. This section describes parameters of a horizontal capsule bar.

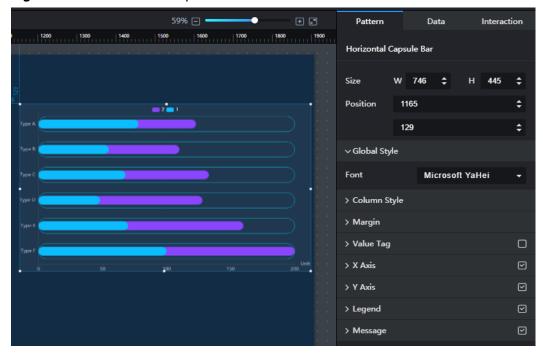


Figure 12-58 Horizontal capsule bar

#### **Pattern**

#### Size/Position

- Size: width and height of the component. Unit: pixel.
- Position: position where the component is located in the canvas. Unit: pixel.

## Global Style

**Font**: font of the text.

#### Column Style

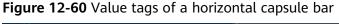
- Column Width: width of the column.
- **Padding**: distance between the capsule and the border line
- Border Color: color of the border line of the capsule.
- **Border Width**: width of the border line of the capsule. Unit: pixel.
- Background Color: fill color of the column.



Figure 12-59 Column style of a horizontal capsule bar

## • Margin

- Top: spacing between the top sides of the chart and the component layer.
   You can enter a value or click to adjust the spacing.
- Bottom: spacing between the bottom sides of the chart and the component. You can enter a value or click to adjust the spacing.
- Left: spacing between the left sides of the chart and the component. You
   can enter a value or click to adjust the spacing.
- Right: spacing between the right sides of the chart and the component.
   You can enter a value or click to adjust the spacing.
- Value Tag: to show or hide the value tag. Figure 12-60 shows the value tags. The value tag has the following configuration items:
  - Font Size: font size of the value tag.
  - **Color**: font color of the value tag.
  - Font Width: font width of the value tag.
  - Position: position where the value tag is displayed.
  - Distance: distance display based on the position of the value tag. Unit: pixel.





- X Axis: to show or hide the X axis. When this option is selected, you can set the X axis style.
  - **Font Size**: font size of the axis label text.
  - Font Color: font color of the axis label text.
  - **Font Width**: font width of the axis label text.
  - Angle: tilt angle of the axis label text.
  - Axis Label: to show or hide the axis labels. When this function is enabled, you can set the following parameters:
    - Display Format: display format of the scale value on the axis.
    - Min. Value: the minimum value of the axis. You can enter a value or select a value from the drop-down list. When this parameter is set to the minimum value, the start value of the axis is the minimum value in the current data.
    - Max. Value: the maximum value of the axis. You can enter a value or select a value from the drop-down list. When this parameter is set to the maximum value, the start value of the axis is the maximum value in the current data.
    - Scales: intervals of data items on the coordinate axis.
  - Axis Unit: to show or hide the axis unit. When this function is enabled, the axis unit is displayed on the right of the X axis. The unit can be displayed only when Right under Margin is set to a value greater than or equal to 40.
    - Unit: unit of the coordinate axis, for example, kilometer, byte/second, or GB.
    - Color: font color of the text.
  - Coordinate Axis: to show or hide the axis. You can set the color of the axis when you select this option.
  - **Grid Line**: to show or hide the grid lines. You can set the color of the grid lines when you select this option.

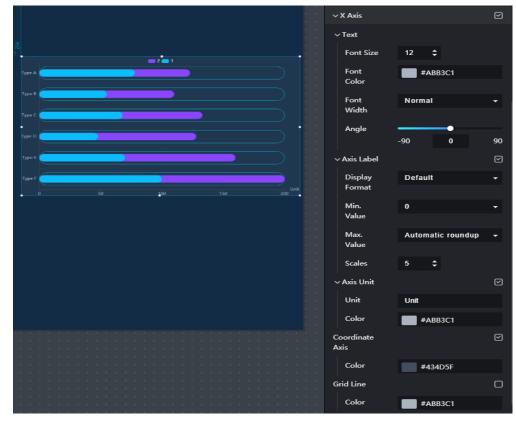


Figure 12-61 X axis of a horizontal capsule bar chart

#### Y Axis

- Font Size: font size of the axis label text.
- Font Color: font color of the axis label text.
- Font Width: font width of the axis label text.
- Angle: tilt angle of the axis label text.
- Coordinate Axis: to show or hide the axis. You can set the color of the axis when you select this option.
- **Grid Line**: to show or hide the grid lines. You can set the color of the grid lines when you select this option.



Figure 12-62 Y axis of a horizontal capsule bar chart

- **Legend**: to show or hide the legend. When this option is selected, you can set the legend style.
  - **Font Size**: font size of the legend text.
  - Color: font color of the legend text.
  - Font Width: font width of the legend text.
  - Layout
    - Direction: direction of the legend.
    - **Position**: position of the legend.
    - Left/Right Spacing: distance between the legend and the left boundary of the component. This parameter does not take effect when Position is set to Top center or Bottom center.
    - **Left/Right Spacing**: distance between the legend and the top boundary of the component.
    - Legend Spacing: distance between two adjacent legends.

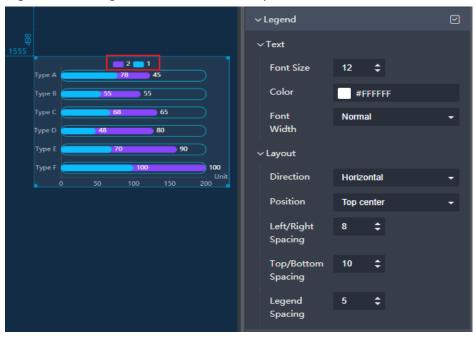


Figure 12-63 Legends of a horizontal capsule bar chart

- **Message**: to show or hide the prompt information. After this function is enabled, a message is displayed when you mouse over or click on the screen during the screen preview.
  - **Color**: font color of the message.
  - Font Size: font size of the message.
  - **Font Width**: font width of the message.

### **Data**

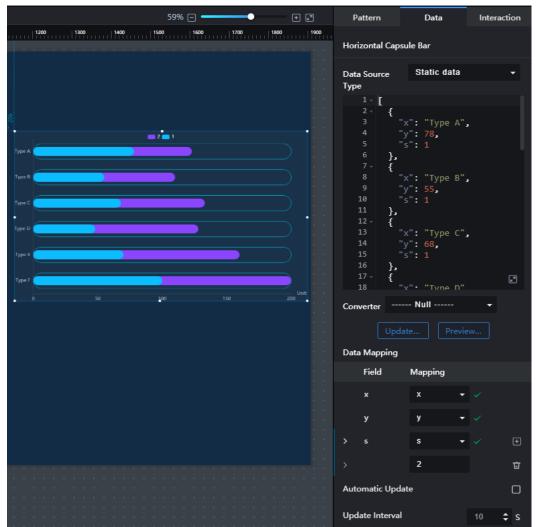


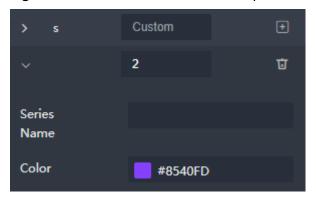
Figure 12-64 Data of a horizontal capsule bar chart

- Data Source Type: Select the data source of the chart. Multiple data sources
  are provided for you to select. You need to add data sources first. For details,
  see Data Connection Overview.
- **Converter**: Select a converter to convert data into the data that meets the display requirements. For details, see **Using a Converter**.
- Data Mapping: The data format consists of the following fields:
  - **x**: category, corresponding to the X axis. The data type of this field must be the same as that of the **X** Axis.
  - y: data, corresponding to the Y axis.
  - s: series. You can set a value of the s field to a series. You can add multiple series. The value of each series can be mapped to different Y coordinates.
    - Click on the right of **s** to add a series. To delete an added series, click on the right of the series.

Add a series as follows:

- Series Value: Enter a value of the s field. If the series value is empty, the value of the corresponding s field is used by default.
- **Series Name**: self-definable. If the series name is empty, the series value is used as the series name by default.
- Color: color of the column in the series.

Figure 12-65 Series of a horizontal capsule bar chart



- Automatic Update: If you select Automatic Update and set Update Interval, the data is automatically updated based on the interval.
- Preview Result: Click Preview Result to view the information about the selected data source. You can click Update Query to manually update the component data when the data source changes.

#### Interaction

For details about whether the component supports the interaction function and how to use the interaction function, see **Configuring Component Interaction**.

## 12.2.7 WT Bar Chart

**Wide Table (WT)** charts differ greatly from other charts in data structure. The data structure of WT charts refers to creating database tables with multiple fields by putting related fields in one table.

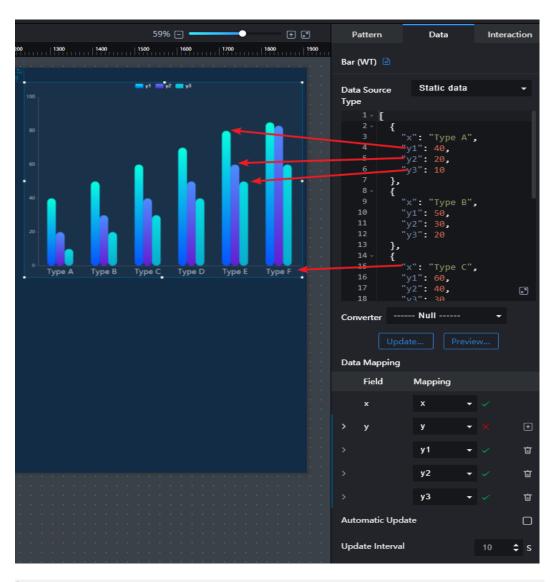
This section describes parameters of a WT bar chart.

#### **Pattern**

The pattern configuration of a WT bar chart is similar to that of a bar chart. For details, see **Pattern**.

#### **Data**

The data structure of the WT bar chart is as follows:



```
"x": "Type E",
    "y1": 80,
    "y2": 60,
    "y3": 50
},
{
"x": "Type F",
    "y1": 85,
    "y2": 83,
    "y3": 60
}
```

- The x field indicates the category.
- The **y** field indicates the data series (group). Y maps different fields to indicate different data series (groups). Data is displayed in groups based on the fields mapped by y.
  - Add a data series: Click Inext to y to add a data series. To delete an added series, click Inext to y to add a data series.

Add a series as follows:

- Series Value: field name in the mapped source data.
- **Series Name**: self-definable. If the series name is empty, the series value is used as the series name by default.
- Color: color of the column in the series.
- Stack: stack name. You can enter a user-defined name. If the same stack name is set for different series of the same category (with the same x value), the series data is displayed in the stack.
- **Link**: target link to which the web page points when a data item in component widget is clicked.
- Link Mode:
  - **New window**: The target link opens a new browser window.
  - Current page: The target link opens a window in the current browser window.
  - **Floating panel**: The target link opens a floating window in the center of the current screen.
- Configure a data series: Click in front of the data series, and then configure the specified style (such as the series name and color) of the series on the expanded panel.

#### Interaction

For details about whether the component supports the interaction function and how to use the interaction function, see **Configuring Component Interaction**.

## 12.2.8 WT Horizontal Bar Chart

This section describes parameters of a WT horizontal bar chart.

#### **Pattern**

The pattern configuration of a WT horizontal bar chart is similar to that of a horizontal bar chart. For details, see **Pattern**.

#### Data

The data configuration of a WT horizontal bar chart is similar to that of a horizontal bar chart. For details, see **Data**.

## Interaction

For details about whether the component supports the interaction function and how to use the interaction function, see **Configuring Component Interaction**.

## 12.2.9 WT Stacked Bar Chart

This section describes parameters of a WT stacked bar chart.

## **Pattern**

The pattern configuration of a WT stacked bar chart is similar to that of a stacked bar chart. For details, see **Pattern**.

#### **Data**

The data configuration of a WT stacked bar chart is similar to that of a stacked bar chart. For details, see **Data**.

#### Interaction

For details about whether the component supports the interaction function and how to use the interaction function, see **Configuring Component Interaction**.

# 12.3 Combination Charts

## 12.3.1 Combination Chart

This section describes parameters of a combination chart.



Figure 12-66 Combination chart

#### **Pattern**

- Size/Position
  - Size: width and height of the component. Unit: pixel.
  - Position: position where the component is located in the canvas. Unit: pixel.
- Global Style

Font: text font.

- Column Style
  - Column Width: width of the column.
  - **Column Angle**: round-corner angle of the column.
  - **Series Spacing**: distance between series.



Figure 12-67 Column style of a combination chart

#### Margin

- Top: spacing between the top sides of the chart and the component layer.

  You can enter a value or click to adjust the spacing.
- Bottom: spacing between the bottom sides of the chart and the component. You can enter a value or click to adjust the spacing.
- **Left**: spacing between the left sides of the chart and the component. You can enter a value or click to adjust the spacing.
- Right: spacing between the right sides of the chart and the component.
   You can enter a value or click to adjust the spacing.

#### X Axis

- X Axis: to show or hide the X axis by clicking or or
- **Text**: text style of the X axis, including **Font Size**, **Color**, and **Font Width**.
- Axis Label: to set the label angle by dragging
- Coordinate Axis: color of the X axis.
- **Grid Line**: grid line color of the X axis.

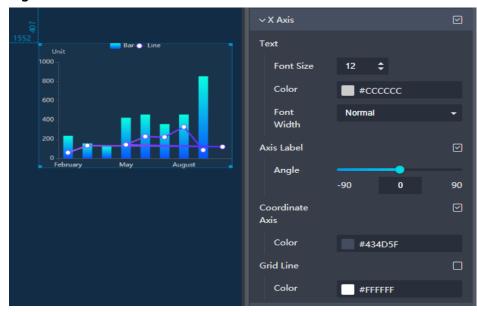


Figure 12-68 X axis of a combination chart

#### Y Axis

- Y Axis: to show or hide the Y axis by clicking or or
- **Text**: text style of the Y axis, including **Font Size**, **Color**, and **Font Width**.
- **Axis Label**: to set the display format, maximum value, and minimum value of the Y axis.
- Axis Unit: to set the unit and font color of the Y axis.
- Coordinate Axis: color of the Y axis.
- **Grid Line**: grid line color of the Y axis.



Figure 12-69 Y axis of a combination chart

## • Legend

- Legend: to show or hide the legend by clicking or
- Text: text style of the legend, including Font Size, Color, and Font Width.
- Layout: layout style of the legend, including Left/Right Spacing, Top/ Bottom Spacing, and Position.

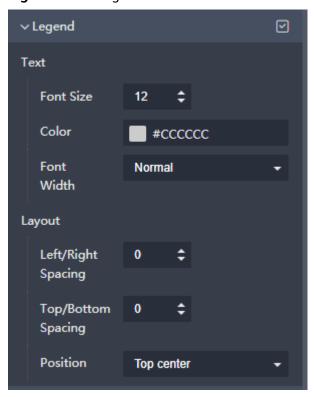


Figure 12-70 Legend of a combination chart

#### Message

- Message: If you click , a message will pop up when you hover over a previewed or published component.
- **Triggering Mode**: to set the triggering mode of messages. The options are **Coordinate Axis** and **Data**.
- Color: font color of the message.
- Font Size: font size of the message.
- **Font Width**: font width of the message.

#### Animation

- Click or next to Animation to hide or show animation, respectively.
- Duration: duration of the first rendering of the component, in ms.
- Animation Effect: The system provides multiple common animation slow-moving effects.
- Animate in Order: If this option is selected, the series are animated in sequence. If this option is deselected, all series are animated at the same time.
- Duration After Change: animation duration when the component data is updated, in ms.
- Start from Previous Position: If this option is selected, the animation is played from the position of the previous data when the component data is updated. If this option is deselected, the animation is played from the initial position when the component data is updated.

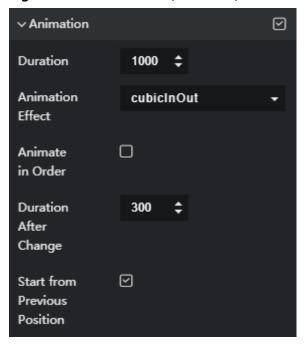


Figure 12-71 Animation (line chart)

## **Data**

- Data Source Type: to select the data source of the chart. Multiple data sources are provided for you to select. You need to add data sources first. For details, see Data Connection Overview.
- **Converter**: Select a converter to convert data into the data that meets the display requirements. For details, see **Using a Converter**.
- **Mapping**: The data format contains the following fields by default. Set the field names in the data source to which each field is mapped. If the field names are left empty, the field names are the same as those in the data source to which each field is mapped.
  - **x**: category of a line chart or bar chart, corresponding to the X axis.
  - y: data of series, corresponding to the Y axis.
  - s: series. You can set a value of the s field to a series. Multiple series can be added. The series data can be displayed in a bar chart or a line chart.
    - Click on the right of **s** to add a series. To delete an added series, click on the right of the series.

Add a series as follows:

- Series Value: Enter a value of the s field. If the series value is empty, the value of the corresponding s field is used by default.
- Bar: whether to display the bar chart. If this parameter is selected, you can set the style of the bar chart. The configuration items are as follows:

**Series Name**: self-definable. If the series name is empty, the series value is used as the series name by default.

**Color**: color of the column in the series.

**Stack**: stack name. You can enter a user-defined name. If the same stack name is set for different series of the same category (with the same x value), the series data is displayed in the stack.

**Value Tag**: to show or hide the value tag. After selecting this option, you can set the font size, color, font width, and position of the value tag.

• **Line**: whether to display the line chart. If this parameter is selected, you can set the style of the line chart.

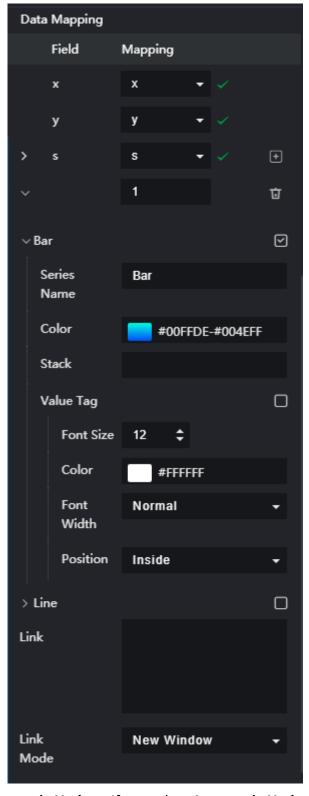


Figure 12-72 Series of a combination chart

• Automatic Update: If you select Automatic Update and set Update Interval, the data is automatically updated based on the interval.

• **Preview Result**: Click **Preview Result** to view the information about the selected data source. You can click **Update Query** to manually update the component data when the data source changes.

## Interaction

For details about whether the component supports the interaction function and how to use the interaction function, see **Configuring Component Interaction**.

## 12.3.2 Dual Y-Axis Combination

A dual Y-axis combination chart consists of a bar chart and a line chart and displays the values of different series under the same category. In a dual Y-axis combination chart, you can view the data comparison between multiple series under each category and the data change trend of each series.

This section describes parameters of a dual Y-axis combination chart.



Figure 12-73 Dual Y-axis combination chart

#### **Pattern**

- Size/Position
  - **Size**: width and height of the component. Unit: pixel.
  - Position: position where the component is located in the canvas. Unit: pixel.
- Global Style

Font: font of the text.

#### Column Style

- Column Width: width of the column.
- Column Angle: round-corner angle of the column.
- Series Spacing: distance between two adjacent series.

#### Margin

- Top: spacing between the top sides of the chart and the component layer.
   You can enter a value or click to adjust the spacing.
- **Bottom**: spacing between the bottom sides of the chart and the component. You can enter a value or click to adjust the spacing.
- Left: spacing between the left sides of the chart and the component. You can enter a value or click to adjust the spacing.
- Right: spacing between the right sides of the chart and the component.
   You can enter a value or click to adjust the spacing.
- X Axis: to show or hide the X axis. When this option is selected, you can set the X axis style.
  - **Font Size**: font size of the axis label text.
  - Color: font color of the axis label text.
  - Font Width: font width of the axis label text.
  - Axis Label: to show or hide the axis labels. When this function is enabled, you can set the angle of the axis label text.
  - Coordinate Axis: to show or hide the axis. You can set the color of the axis when you select this option.
  - **Grid Line**: to show or hide the grid lines. You can set the color of the grid lines when you select this option.

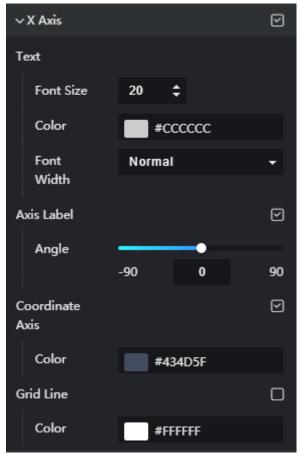


Figure 12-74 X axis of a dual Y-axis combination chart

#### Y1 Axis

- Font Size: font size of the axis label text.
- Color: font color of the axis label text.
- Font Width: font width of the axis label text.
- Axis Label: to show or hide the axis labels. When this function is enabled, you can set the following parameters:
  - Display Format: display format of the scale value on the axis.
  - Min. Value: the minimum value of the axis. You can enter a value or select a value from the drop-down list. When this parameter is set to the minimum value, the start value of the axis is the minimum value in the current data.
  - Max. Value: the maximum value of the axis. You can enter a value or select a value from the drop-down list. When this parameter is set to the maximum value, the start value of the axis is the maximum value in the current data.
  - Scales: intervals of data items on the coordinate axis.
- Axis Unit: to show or hide the axis unit. When this function is enabled, the axis unit is displayed on the top of the chart. The unit can be displayed only when Top under Margin is set to a value greater than or equal to 40.

- Unit: unit of the coordinate axis, for example, kilometer, byte/second, or GB.
- Color: font color of the text.
- Coordinate Axis: to show or hide the axis. You can set the color of the axis when you select this option.
- **Grid Line**: to show or hide the grid lines. You can set the color of the grid lines when you select this option.



Figure 12-75 Y1 axis of a dual Y-axis combination chart

#### Y2 Axis

The Y2 axis is the Y axis on the right. The configuration items are the same as those of the Y1 axis. For details, see the description of Y Axis.

- **Legend**: to show or hide the legend. When this option is selected, you can set the legend style.
  - Text: text style of the legend, including Font Size, Color, and Font Width.
  - Layout
    - Legend Spacing: distance between two adjacent legends.
    - Left/Right Spacing: distance between the legend and the top boundary of the component.
    - **Position**: position of the legend.

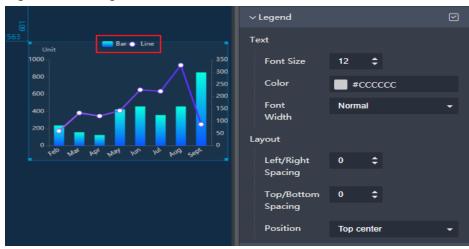
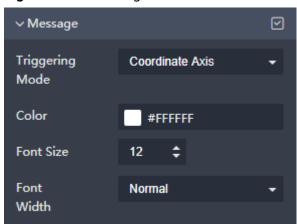


Figure 12-76 Legends of a dual Y-axis combination chart

- **Message**: to show or hide the prompt information. After this function is enabled, a message is displayed when you mouse over or click on the screen during the screen preview.
  - **Triggering Type**: type of the prompt message.
  - **Color**: font color of the message.
  - **Font Size**: font size of the message.
  - **Font Width**: font width of the message.

Figure 12-77 Message

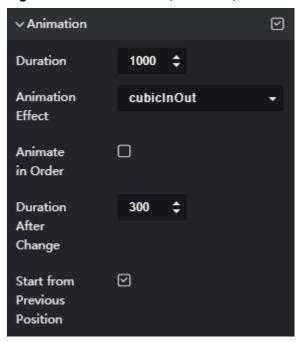


#### Animation

- Click or next to **Animation** to hide or show animation, respectively.
- **Duration**: duration of the first rendering of the component, in ms.
- Animation Effect: The system provides multiple common animation slow-moving effects.
- Animate in Order: If this option is selected, the series are animated in sequence. If this option is deselected, all series are animated at the same time.
- Duration After Change: animation duration when the component data is updated, in ms.

 Start from Previous Position: If this option is selected, the animation is played from the position of the previous data when the component data is updated. If this option is deselected, the animation is played from the initial position when the component data is updated.

Figure 12-78 Animation (line chart)



#### Data

The dual Y-axis combination chart contains three fields by default: x, y, and s.

#### Data Mapping

- x: category of a line chart or bar chart, corresponding to the X axis.
- **y**: data of series, corresponding to Y1 axis or Y2 axis.
- s: series. You can set a value of the s field to a series. You can add multiple series. The value of each series can be mapped to different Y coordinates.

Click on the right of **s** to add a series. To delete an added series, click on the right of the series.

Add a series as follows:

- Series Value: field name in the mapped source data. If the series value is left blank, the value of the corresponding Y field is used by default.
- Bar: whether to display the bar chart. If this parameter is selected, you can set the style of the bar chart. The configuration items are as follows:

**Series Name**: self-definable. If the series name is empty, the series value is used as the series name by default.

**Color**: color of the column in the series.

**Stack**: stack name. You can enter a user-defined name. If the same stack name is set for different series of the same category (with the same x value), the series data is displayed in the stack.

**Value Tag**: to show or hide the value tag. After selecting this option, you can set the font size, color, font width, and position of the value tag.

- **Line**: whether to display the line chart. If this parameter is selected, you can set the style of the line chart.
- Reference Axis: Y1 axis or Y2 axis.
- Data Source Type: to select the data source of the chart. Multiple data sources are provided for you to select. You need to add data sources first. For details, see Data Connection Overview.
- **Converter**: Select a converter to convert data into the data that meets the display requirements. For details, see **Using a Converter**.
- Automatic Update: If you select Automatic Update and set Update Interval, the data is automatically updated based on the interval.
- **Preview Result**: Click **Preview Result** to view the information about the selected data source. You can click **Update Query** to manually update the component data when the data source changes.

#### Interaction

For details about whether the component supports the interaction function and how to use the interaction function, see **Configuring Component Interaction**.

## 12.3.3 WT Combination Chart

This section describes parameters of a WT combination chart.

#### **Pattern**

The pattern configuration of a WT combination chart is similar to that of a combination chart. For details, see **Pattern**.

#### Data

The data configuration of a WT combination chart is similar to that of a combination chart. For details, see **Data**.

#### Interaction

For details about whether the component supports the interaction function and how to use the interaction function, see **Configuring Component Interaction**.

# 12.3.4 Double-Axis Combination (WT)

A WT dual Y-axis combination chart is a type of wide table (WT) component. It consists of a bar chart and a line chart and displays the values of different series under the same category. In a WT dual Y-axis combination chart, you can view the data comparison between multiple series under each category and the data

change trend of each series. A WT dual Y-axis combination chart contains two series by default. You can add a series value of a field that represents a series in the source data table to be a series. You can add multiple series.

This section describes parameters of a WT dual Y-axis combination chart.



Figure 12-79 WT dual Y-axis combination chart

#### **Pattern**

#### Size/Position

- **Size**: width and height of the component. Unit: pixel.
- Position: position where the component is located in the canvas. Unit: pixel.

#### Global Style

Font: font of the text.

#### Column Style

- Column Width: width of the column.
- **Column Angle**: round-corner angle of the column.
- Series Spacing: distance between two adjacent series.

#### Margin

- Top: spacing between the top sides of the chart and the component layer.

  You can enter a value or click to adjust the spacing.
- **Bottom**: spacing between the bottom sides of the chart and the component. You can enter a value or click to adjust the spacing.

- Left: spacing between the left sides of the chart and the component. You
   can enter a value or click to adjust the spacing.
- Right: spacing between the right sides of the chart and the component.
   You can enter a value or click to adjust the spacing.
- X Axis: to show or hide the X axis. When this option is selected, you can set the X axis style.
  - **Font Size**: font size of the axis label text.
  - **Color**: font color of the axis label text.
  - **Font Width**: font width of the axis label text.
  - Axis Label: to show or hide the axis labels. If this option is selected, you can set Angle, Data Type, Inter-Label Clearance, Scales, Show Min. Label, and Show Max. Label.
  - Coordinate Axis: to show or hide the axis. You can set the color of the axis if you select this option.
  - **Grid Line**: to show or hide the grid lines. You can set the color of the grid lines if you select this option.

#### Y1 Axis

- Font Size: font size of the axis label text.
- Color: font color of the axis label text.
- **Font Width**: font width of the axis label text.
- Axis Label: to show or hide the axis labels. When this function is enabled, you can set the following parameters:
  - Display Format: display format of the scale value on the axis.
  - Min. Value: the minimum value of the axis. You can enter a value or select a value from the drop-down list. When this parameter is set to the minimum value, the start value of the axis is the minimum value in the current data.
  - Max. Value: the maximum value of the axis. You can enter a value or select a value from the drop-down list. When this parameter is set to the maximum value, the start value of the axis is the maximum value in the current data.
  - **Scales**: intervals of data items on the coordinate axis.
- Axis Unit: to show or hide the axis unit. When this function is enabled, the axis unit is displayed on the top of the chart. The unit can be displayed only when Top under Margin is set to a value greater than or equal to 40.
  - Unit: unit of the coordinate axis, for example, kilometer, byte/second, or GB.
  - Color: font color of the text.
- Coordinate Axis: to show or hide the axis. You can set the color of the axis when you select this option.

- **Grid Line**: to show or hide the grid lines. You can set the color of the grid lines when you select this option.

∨ Y1 Axis Text Font Size 300 250 Color #ccccc 200 150 Normal Font Width Axis Label Display Default Format Min. Max. Automatic roundup Value Scales **‡ Axis Unit** Unit Unit Color #ABB3C1 Coordinate Axis Color #434D5F Grid Line Color #FFFFFF

Figure 12-80 Y1 axis of a WT dual Y-axis combination chart

#### Y2 Axis

The Y2 axis is the Y axis on the right. The configuration items are the same as those of the Y1 axis. For details, see the description of Y Axis.

- **Legend**: to show or hide the legend. When this option is selected, you can set the legend style.
  - Text: text style of the legend, including Font Size, Color, and Font Width.
  - Layout
    - Legend Spacing: distance between two adjacent legends.
    - **Left/Right Spacing**: distance between the legend and the top boundary of the component.
    - **Position**: position of the legend.

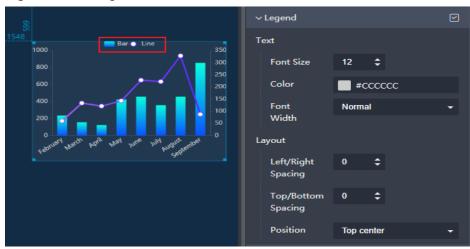


Figure 12-81 Legends of a WT dual Y-axis combination chart

- **Message**: to show or hide the prompt information. After this function is enabled, a message is displayed when you mouse over or click on the screen during the screen preview.
  - **Triggering Type**: type of the prompt message.
  - Color: font color of the message.
  - **Font Size**: font size of the message.
  - Font Width: font width of the message.
- Animation
  - Click or next to **Animation** to hide or show animation, respectively.
  - Duration: duration of the first rendering of the component, in ms.
  - Animation Effect: The system provides multiple common animation slow-moving effects.
  - Animate in Order: If this option is selected, the series are animated in sequence. If this option is deselected, all series are animated at the same time.
  - Duration After Change: animation duration when the component data is updated, in ms.
  - Start from Previous Position: If this option is selected, the animation is played from the position of the previous data when the component data is updated. If this option is deselected, the animation is played from the initial position when the component data is updated.

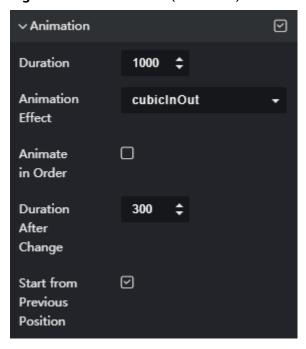


Figure 12-82 Animation (line chart)

#### **Data**

The data format of the WT dual Y-axis combination chart is a wide table structure. The related fields are placed in the same table to form a database table with many fields. The WT dual Y-axis combination chart contains three fields by default: x, y1, and y2.

- **x**: category of a line chart or bar chart, corresponding to the X axis.
- **y**: data series (group). **y** maps different fields to represent different data series (groups). Data is displayed in groups based on the fields mapped by **y**.

By default, the following two series are included:

- y1: data of the y1 series. y1 is the field name in the mapped source data.
   The bar chart is displayed by default, corresponding to the Y1 axis on the left. You can set Bar. Line, and Reference Axis.
- y2: data of the y2 series. y2 is the field name in the mapped source data. The line chart is displayed by default, corresponding to the Y2 axis on the right. You can set Bar, Line, and Reference Axis.

Click  $\blacksquare$  on the right of  $\mathbf{y}$  to add a series. To delete an added series, click  $\blacksquare$  on the right of the series.

Add a series as follows:

- **Series Value**: field name in the mapped source data.
- **Bar**: whether to display the bar chart. If this parameter is selected, you can set the style of the bar chart. The configuration items are as follows:

**Series Name**: self-definable. If the series name is empty, the series value is used as the series name by default.

Color: color of the column in the series.

**Stack**: stack name. You can enter a user-defined name. If the same stack name is set for different series of the same category (with the same x value), the series data is displayed in the stack.

**Value Tag**: to show or hide the value tag. After selecting this option, you can set the font size, color, font width, and position of the value tag.

- **Line**: whether to display the line chart. If this parameter is selected, you can set the style of the line chart.
- **Reference Axis**: Y1 axis or Y2 axis.
- Data Source Type: to select the data source of the chart. Multiple data sources are provided for you to select. You need to add data sources first. For details, see Data Connection Overview.
- **Converter**: Select a converter to convert data into the data that meets the display requirements. For details, see **Using a Converter**.
- Automatic Update: If you select Automatic Update and set Update Interval, the data is automatically updated based on the interval.
- Preview Result: Click Preview Result to view the information about the selected data source. You can click Update Query to manually update the component data when the data source changes.

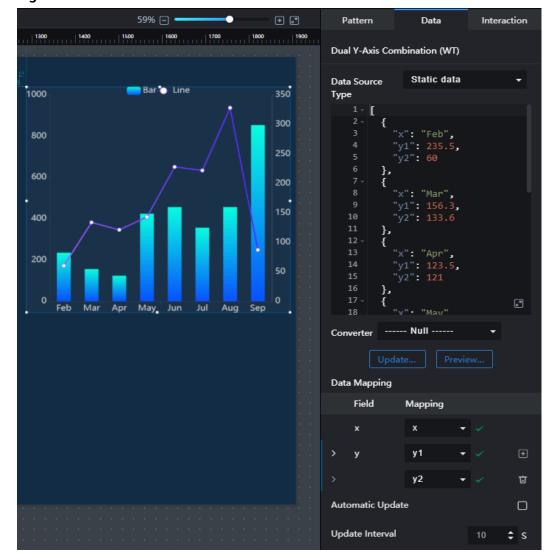


Figure 12-83 Data of a WT dual Y-axis combination chart

## Interaction

For details about whether the component supports the interaction function and how to use the interaction function, see **Configuring Component Interaction**.

# 12.4 Pie Charts

## 12.4.1 Pie Chart

This section describes parameters of a pie chart.

### **Pattern**

## • Size/Position

- Size: width and height of the component. Unit: pixel.
- Position: position where the component is located in the canvas. Unit: pixel.

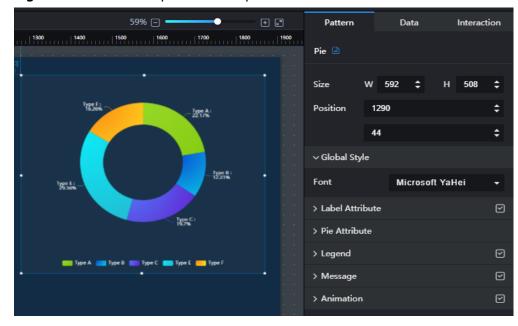


Figure 12-84 Size and position of a pie chart

## • Global Style

Font: text font.

#### Label Attribute

- Label Attribute: to show or hide label attributes, click
- **Horizontal**: horizontal stretch length of the leader line.
- Radiating: radiating stretch length of the leader line.
- **Font Size**: font size of the tag value.
- **Color**: font color of the tag value.
- **Font Width**: font width of the tag value.
- **Data Name**: whether to display the data name.
- **Data Value**: whether to display the data value
- Percentage Display: whether to display percentage. To display the label value in percentage, click ; to display the label value in data, click .

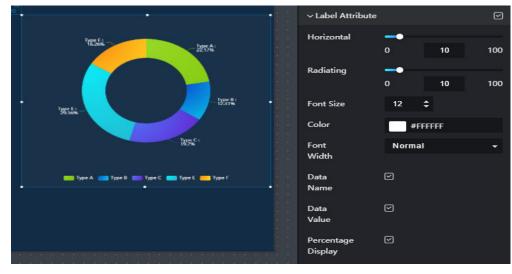


Figure 12-85 Label attributes of a pie chart

#### • Pie Attribute

- Inner Radius: to set the inner radius of the pie chart by entering a value or dragging
- Outer Radius: to set the outer radius of the pie chart by entering a value or dragging
- Horizontal Moving: to set the horizontal position of the pie chart center by entering a value or dragging
- Vertical Moving: to set the vertical position of the pie chart center by entering a value or dragging

### Legend

- Legend: to show or hide the legend by clicking or
- Data Value: whether to display the data value in the legend
- **Percentage Display**: whether to display percentage in the legend
- **Font Size**: font size of the legend text.
- Color: font color of the legend text.
- **Font Width**: font width of the label text.
- **Direction**: direction of the legend.
- **Position**: position of the legend.
- Left/Right Spacing: to set the spacing between legends by entering a value or clicking
- **Top/Bottom Spacing**: to set the spacing between the legend and the bottom edge of the container by entering a value or clicking.
- Legend Spacing: Set the spacing between legends by entering a value or clicking to adjust the value.

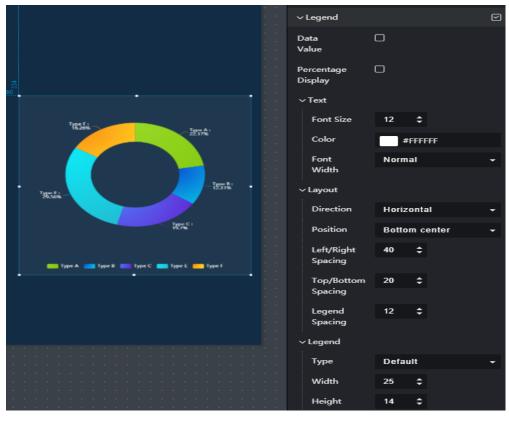


Figure 12-86 Legend of a pie chart

#### Message

- Message: If you click , a message will pop up when you hover over a previewed or published component.
- Data Name: If you click , data names will be displayed when you hover over a previewed or published component.
- **Color**: font color of the message.
- **Font Size**: font size of the message.
- Font Width: font width of the message.

#### Animation

- Click or next to Animation to hide or show animation, respectively.
- **Duration**: duration of the first rendering of the component, in ms.
- Animation Effect: The system provides multiple common animation slow-moving effects.
- Duration After Change: animation duration when the component data is updated, in ms.
- Start from Previous Position: If this option is selected, the animation is played from the position of the previous data when the component data is updated. If this option is deselected, the animation is played from the initial position when the component data is updated.

#### **Data**

For details about how to configure component data, see **Configuring Component Data**.

## Interaction

For details about whether the component supports the interaction function and how to use the interaction function, see **Configuring Component Interaction**.

# 12.4.2 Percentage

This section describes parameters of a percentage chart.

### **Pattern**

### • Size/Position

- **Size**: width and height of the component. Unit: pixel.
- Position: position where the component is located in the canvas. Unit: pixel.

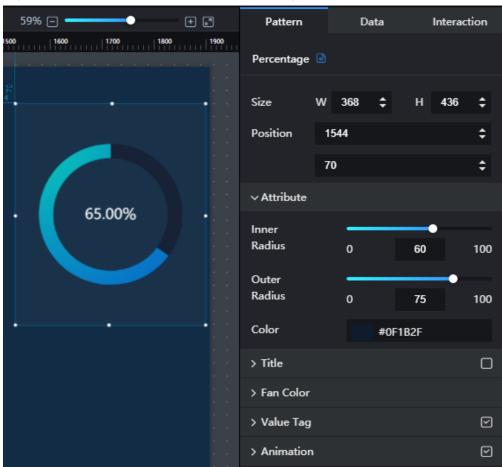


Figure 12-87 Size and position of a percentage chart

#### Attribute

 Inner Radius: to set the inner radius of the percentage chart by entering a value or dragging .

- Outer Radius: to set the outer radius of the percentage chart by entering a value or dragging .
- **Color**: color of the remaining fan.

#### • Title

- **Title**: to show or hide the title by clicking or ...
- Title Name: name of the title.
- **Font Size**: font size of the title.
- **Color**: font color of the title.
- Font Width: font width of the title.
- Font: font of the title.

#### Fan Color

Color: color of the fan displayed in percentage.

#### Value Tag

- Value Tag: to show or hide the value tag by clicking or .
- Value Size: font size of the percentage.
- **Value Color**: font color of the percentage.
- Percent Size: size of the percent.
- **Percent Color**: font color of the percent.
- Left/Right Spacing: to set the spacing between the number and percent by entering a value or dragging
- Font Width: font width of the number.
- Font: font of the number.
- Decimal Places: the number of decimal places in a percentage.

#### Data

For details about how to configure component data, see **Configuring Component Data**.

## Interaction

For details about whether the component supports the interaction function and how to use the interaction function, see **Configuring Component Interaction**.

## 12.4.3 Rose Chart

This section describes parameters of a rose chart.

#### **Pattern**

#### • Size/Position

- Size: width and height of the component. Unit: pixel.
- Position: position where the component is located in the canvas. Unit: pixel.

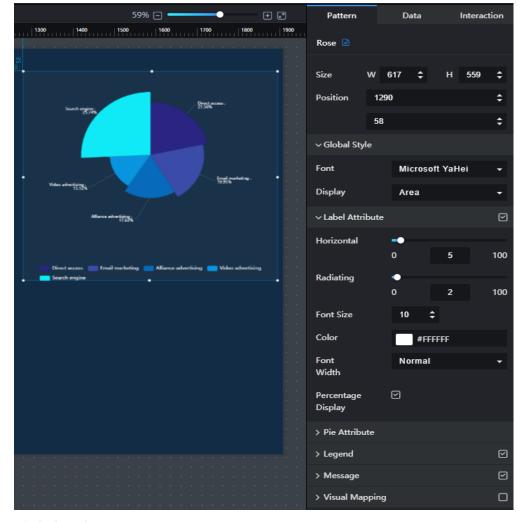


Figure 12-88 Size and position of a rose chart

### Global Style

- Font: text font.
- Display: The options are Radius and Area.
  - **Radius**: The data value is in direct proportion to the radius of each fan.
  - Radius and Center Angle: The data size is displayed by area.

#### • Label Attribute

- **Label Attribute**: to show or hide label attributes, click or click or
- Horizontal: horizontal stretch length of the leader line.
- **Radiating**: radiating stretch length of the leader line.
- Font Size: font size of the label value.
- **Color**: font color of the label value.
- Font Width: font width of the label value.
- Percentage Display: whether to display percentage. To display the label value in percentage, click ; to display the label value in data, click

#### • Pie Attribute

- Inner Radius: to set the inner radius of the pie chart by entering a value or dragging
- Outer Radius: to set the outer radius of the pie chart by entering a value or dragging .
- Horizontal Moving: to set the horizontal position of the pie chart center by entering a value or dragging
- Vertical Moving: to set the vertical position of the pie chart center by entering a value or dragging

## Legend

- Legend: to show or hide the legend by clicking or legend.
- Font Size: font size of the legend text.
- **Color**: font color of the legend text.
- **Font Width**: font width of the label text.
- Left/Right Spacing: to set the spacing between legends by entering a value or clicking
- Top/Bottom Spacing: to set the spacing between the legend and the bottom edge of the component by entering a value or clicking.
- Position: position of the legend.

#### Message

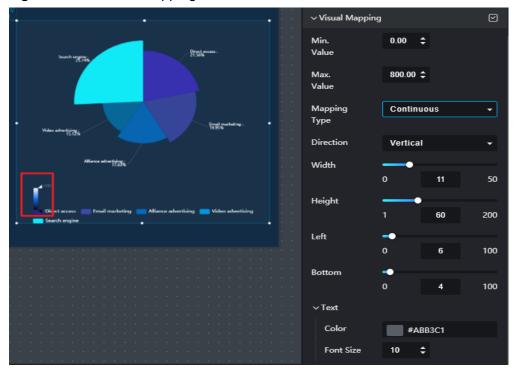
- Message: If you click , a message will pop up when you hover over a previewed or published component.
- **Data Name**: If you click , data names will be displayed when you hover over a previewed or published component.
- **Color**: font color of the message.
- Font Size: font size of the message.
- **Font Width**: font width of the message.

## • Visual Mapping

- **Visual Mapping**: to show or hide virtual mapping by clicking or
- Min. Value: to set the minimum value of visual mapping by clicking
- **Max. Value**: to set the maximum value of visual mapping by clicking
- Mapping Type: type of the mapping. The options are Segment-based and Continuous.
- Direction: direction of the mapping. The options are Horizontal and Vertical.
- **Width**: to set the width of the mapping by entering a value or dragging
- **Height**: to set the height of the mapping by entering a value or dragging
- Left: to set the distance between the mapping and the left side of the component by entering a value or dragging

- **Bottom**: to set the distance between the mapping and the bottom of the component by entering a value or dragging .
- **Text**: color and font size of the mapping text.

Figure 12-89 Visual mapping of a rose chart



#### Data

For details about how to configure component data, see **Configuring Component Data**.

## Interaction

For details about whether the component supports the interaction function and how to use the interaction function, see **Configuring Component Interaction**.

# 12.5 Scatter Charts

## 12.5.1 Scatter Chart

This section describes parameters of a scatter chart.

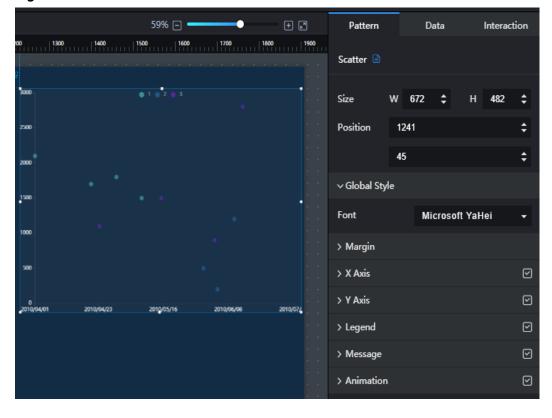


Figure 12-90 Scatter chart

#### **Pattern**

#### Size/Position

- **Size**: width and height of the component. Unit: pixel.
- Position: position where the component is located in the canvas. Unit: pixel.

### • Global Style

Font: text font.

#### Margin

- Top: spacing between the top sides of the chart and the component layer.

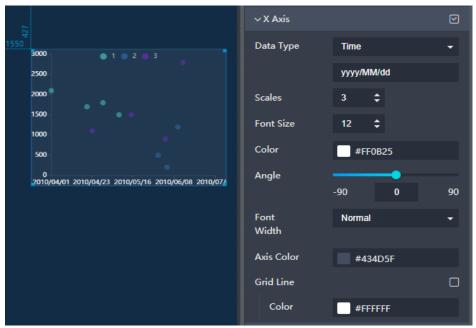
  You can enter a value or click to adjust the spacing.
- **Bottom**: spacing between the bottom sides of the chart and the component. You can enter a value or click to adjust the spacing.
- **Left**: spacing between the left sides of the chart and the component. You can enter a value or click to adjust the spacing.
- Right: spacing between the right sides of the chart and the component.
   You can enter a value or click to adjust the spacing.

#### X Axis

- X Axis: to show or hide the X axis by clicking or
- Data Type: data type of the X axis. The value can be Value, Category, Time, or Log.

- Scales: When Data Type is set to Value or Time, the number of displayed labels is automatically displayed based on the value of Scales. This parameter is invalid when Data Type is set to other values.
- **Font Size**: font size of the X axis text.
- Color: font color of the X axis text.
- **Angle**: angle of the X axis text.
- Font Width: font width of the X axis text.
- Axis Color: color of the X axis.
- Grid Color: grid line color of the X axis.

Figure 12-91 X axis of a scatter chart



#### Y Axis

- Y Axis: to show or hide the Y axis by clicking or
- Font Size: font size of the Y axis text.
- Color: font color of the Y axis text.
- **Font Width**: font width of the Y axis text.
- **Angle**: angle of the Y axis text.
- Axis Label: to set the display format, maximum value, minimum value, and scales of the Y axis.
- **Axis Color**: color of the Y axis.
- **Grid Color**: grid line color of the Y axis.
- **Axis Unit**: to set the unit and font color of the Y axis.

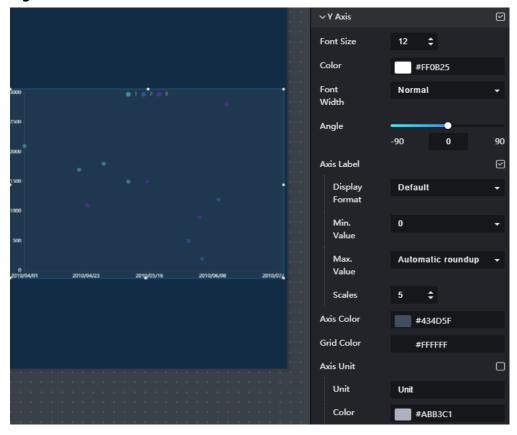


Figure 12-92 Y axis of a scatter chart

## Legend

- Legend: to show or hide the legend by clicking or
- Text: text style of the legend, including Font Size, Color, and Font Width.
- Layout: layout style of the legend, including Position, Left/Right
   Spacing, Top/Bottom Spacing, and Legend Spacing.

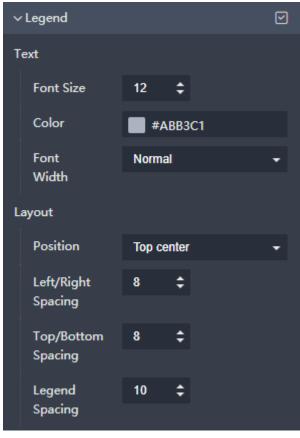
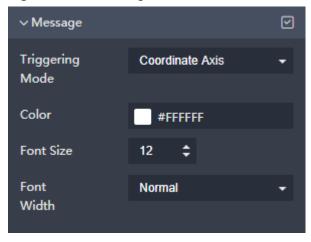


Figure 12-93 Legends of a scatter chart

## Message

- Message: If you click , a message will pop up when you hover over a previewed or published component.
- **Triggering Mode**: to set the triggering mode of messages. The options are **Coordinate Axis** and **Data**.
- **Color**: font color of the message.
- **Font Size**: font size of the message.
- Font Width: font width of the message.

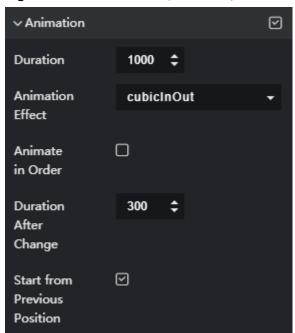
Figure 12-94 Message of a scatter chart



#### Animation

- Click or next to Animation to hide or show animation, respectively.
- **Duration**: duration of the first rendering of the component, in ms.
- Animation Effect: The system provides multiple common animation slow-moving effects.
- Animate in Order: If this option is selected, the series are animated in sequence. If this option is deselected, all series are animated at the same time.
- Duration After Change: animation duration when the component data is updated, in ms.
- Start from Previous Position: If this option is selected, the animation is played from the position of the previous data when the component data is updated. If this option is deselected, the animation is played from the initial position when the component data is updated.

Figure 12-95 Animation (line chart)



### Data

For details about how to configure component data, see **Configuring Component Data**.

#### Interaction

For details about whether the component supports the interaction function and how to use the interaction function, see **Configuring Component Interaction**.

## 12.5.2 WT Scatter Chart

This section describes parameters of a WT scatter chart.

#### **Pattern**

The pattern configuration of a WT scatter chart is similar to that of a scatter chart. For details, see **Pattern**.

#### **Data**

The data configuration of a WT scatter chart is similar to that of a scatter chart. For details, see **Data**.

## Interaction

For details about whether the component supports the interaction function and how to use the interaction function, see **Configuring Component Interaction**.

# 12.5.3 Bubble Chart

This section describes parameters of a bubble chart.

59% 🖃 🕈 + 2 Pattern Data Interaction 1300 | 1400 | 1500 | 1600 | 1700 | 1800 | 1900 Bubble 🖹 Size **‡** 575 1253 **‡ Position** 46 **‡** ∨ Global Style Microsoft YaHei > Margin > X Axis  $\square$ > Y Axis > Legend  $\square$ > Message > Animation

Figure 12-96 Bubble chart

### **Pattern**

- Size/Position
  - **Size**: width and height of the component. Unit: pixel.
  - Position: position where the component is located in the canvas. Unit: pixel.
- Global Style

Font: text font.

### • Margin

- Top: spacing between the top sides of the chart and the component layer.
   You can enter a value or click to adjust the spacing.
- Bottom: spacing between the bottom sides of the chart and the component. You can enter a value or click to adjust the spacing.
- Left: spacing between the left sides of the chart and the component. You
   can enter a value or click to adjust the spacing.
- Right: spacing between the right sides of the chart and the component.
   You can enter a value or click to adjust the spacing.

### X Axis

- X Axis: to show or hide the X axis by clicking or or
- Data Type: data type of the X axis. The options are Value, Category, Time, and Log.
- Scales: When Data Type is set to Value or Time, the number of displayed labels is automatically displayed based on the value of Scales. This parameter is invalid when Data Type is set to other values.
- Font Size: font size of the X axis text.
- Color: font color of the X axis text.
- **Font Width**: font width of the X axis text.
- **Angle**: angle of the X axis text.
- Axis Color: color of the X axis.
- **Grid Color**: grid line color of the X axis.
- Axis Unit: to set the unit, font size, and font color of the X axis.

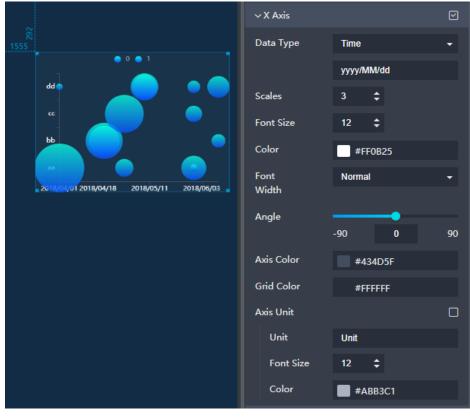


Figure 12-97 X axis of a bubble chart

#### Y Axis

- Y Axis: to show or hide the Y axis by clicking or
- **Data Type**: data type of the Y axis. The options are **Value** and **Category**.
- Scales: When Data Type is set to Value, the number of displayed labels
  is automatically displayed based on the value of Scales. This parameter is
  invalid when Data Type is set to Category.
- **Font Size**: font size of the Y axis text.
- **Color**: font color of the Y axis text.
- **Font Width**: font width of the Y axis text.
- **Angle**: angle of the Y axis text.
- Axis Label: to set the display format, maximum value, and minimum value of the Y axis.
- **Axis Color**: color of the Y axis.
- **Grid Color**: grid line color of the Y axis.
- **Axis Unit**: to set the unit and font color of the Y axis.

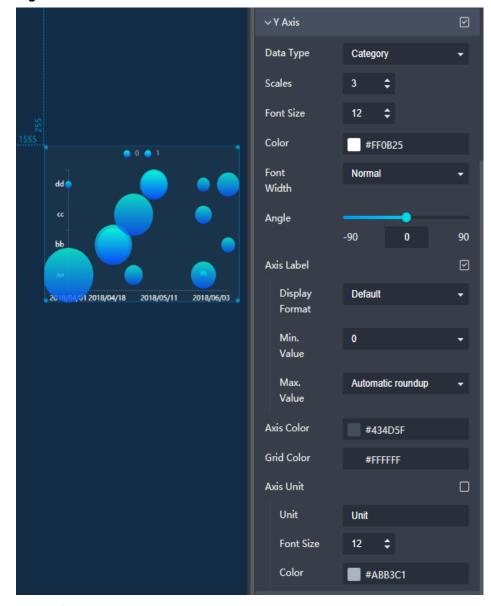


Figure 12-98 Y axis of a bubble chart

## Legend

- Legend: to show or hide the legend by clicking are or
- Text: text style of the legend, including Font Size, Color, and Font Width.
- Layout: layout style of the legend, including Position, Left/Right
   Spacing, Top/Bottom Spacing, and Legend Spacing.

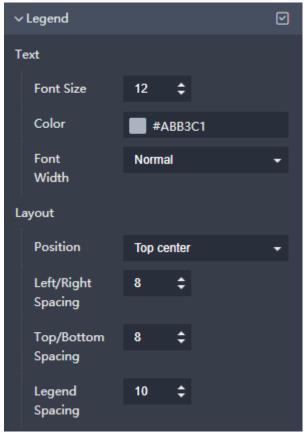


Figure 12-99 Legends of a bubble chart

## Message

- Message: If you click , a message will pop up when you hover over a previewed or published component.
- **Triggering Mode**: to set the triggering mode of messages. The options are **Coordinate Axis** and **Data**.
- Color: font color of the message.
- **Font Size**: font size of the message.
- Font Width: font width of the message.

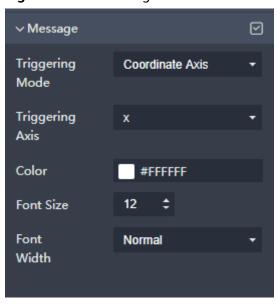


Figure 12-100 Message of a bubble chart

#### Animation

- Click or next to **Animation** to hide or show animation, respectively.
- **Duration**: duration of the first rendering of the component, in ms.
- Animation Effect: The system provides multiple common animation slow-moving effects.
- Animate in Order: If this option is selected, the series are animated in sequence. If this option is deselected, all series are animated at the same time.
- **Duration After Change**: animation duration when the component data is updated, in ms.
- Start from Previous Position: If this option is selected, the animation is played from the position of the previous data when the component data is updated. If this option is deselected, the animation is played from the initial position when the component data is updated.

Animation  $\odot$ Duration 1000 Animation cubicInOut Effect Animate in Order Duration 300 After Change  $\odot$ Start from Previous Position

Figure 12-101 Animation (line chart)

#### **Data**

For details about how to configure component data, see **Configuring Component Data**.

### Interaction

For details about whether the component supports the interaction function and how to use the interaction function, see **Configuring Component Interaction**.

# 12.6 Other Charts

# 12.6.1 Radar Chart

This section describes parameters of a radar chart.

## **Pattern**

- Size/Position
  - Size: width and height of the component. Unit: pixel.
  - Position: position where the component is located in the canvas. Unit: pixel.

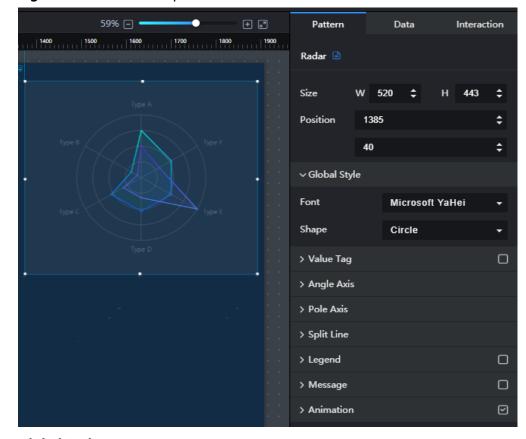


Figure 12-102 Size and position of a radar chart

#### Global Style

- Font: text font.
- **Shape**: shape of the image. The options are **Circle** and **Polygon**.

## Value Tag

- **Value Tag**: to show or hide value tags by clicking **u** or **u**
- Font Size: font size of the label value.
- Color: font color of the tag value.
- Font Width: font width of the tag value.

#### Angle Axis

- Text: to set the font size, color, and font width of the text.
- **Rotation Angle**: to set the rotation angle by entering a value or dragging

#### Pole Axis

- Axis Label: to set the maximum and minimum values of the pole axis.
- **Color**: color of the pole axis.
- Width: width of the pole axis.

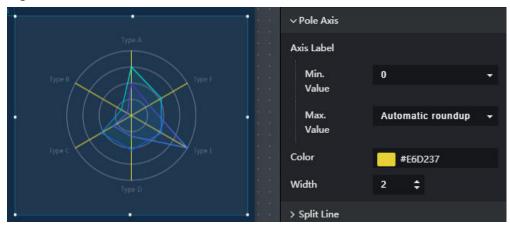


Figure 12-103 Polar axes of a radar chart

#### Split Line

- **Color**: color of the split line.
- **Lines**: to set the number of the split lines by entering a value or clicking
- Line Style: style of split lines. The options are Solid line, Dotted line, and Dash-dot line.
- Line Width: to set the width of the split lines by entering a value or clicking.

Color #E6D237
Lines 4 \$
Line Style Solid line 
Line Width

Line Style 2 \$

Width

Line Width

Message

Figure 12-104 Split lines of a radar chart

## Legend

- Legend: to show or hide the legend by clicking or
- **Text**: to set the font size, color, and width of the legend.
- Layout: to set the legend position, left/right spacing, top/bottom spacing, and inter-legend spacing.

#### Message

- Message: If you click , a message will pop up when you hover over a previewed or published component.
- Color: font color of the message.

- Font Size: font size of the message.
- Font Width: font width of the message.

#### Animation

- Click or next to Animation to hide or show animation, respectively.
- **Duration**: duration of the first rendering of the component, in ms.
- Animation Effect: The system provides multiple common animation slow-moving effects.
- Duration After Change: animation duration when the component data is updated, in ms.
- Start from Previous Position: If this option is selected, the animation is played from the position of the previous data when the component data is updated. If this option is deselected, the animation is played from the initial position when the component data is updated.

#### **Data**

For details about how to configure component data, see **Configuring Component Data**.

#### Interaction

For details about whether the component supports the interaction function and how to use the interaction function, see **Configuring Component Interaction**.

# 12.6.2 WT Radar Chart

This section describes parameters of a WT radar chart.

#### **Pattern**

The pattern configuration of a WT radar chart is similar to that of a radar chart. For details, see **Pattern**.

#### Data

The data configuration of a WT radar chart is similar to that of a radar chart. For details, see **Data**.

### Interaction

For details about whether the component supports the interaction function and how to use the interaction function, see **Configuring Component Interaction**.

# 12.6.3 Liquid Chart

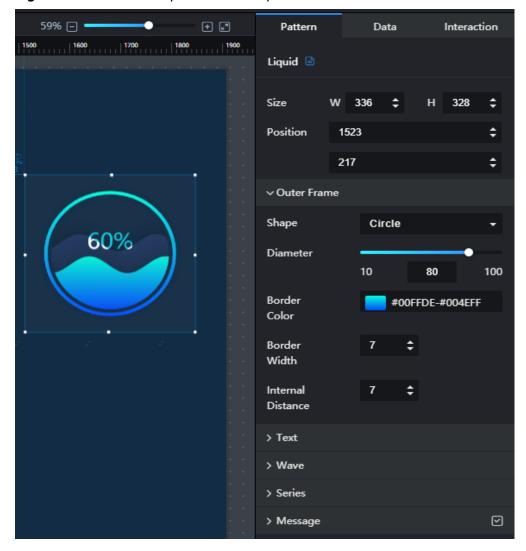
This section describes parameters of a liquid chart.

### **Pattern**

#### • Size/Position

- **Size**: width and height of the component. Unit: pixel.
- Position: position where the component is located in the canvas. Unit: pixel.

Figure 12-105 Size and position of a liquid chart



#### Outer Frame

- **Shape**: shape of the outer frame.
- Diameter: to set the diameter of the outer frame by entering a value or dragging .
- **Border Color**: border color of the outer frame.
- **Border Width**: border width of the outer frame.
- **Internal Distance**: distance between the wave and outer frame.

#### Text

Font: text font.

- **Color**: font color of the text.
- Overlap Color: overlap color between the wave and text.
- **Font Size**: font size of the text.
- **Font Width**: font width of the text.
- Relative Position: Relative position of the text in the liquid chart. The options are Top, Vertical center, and Bottom.

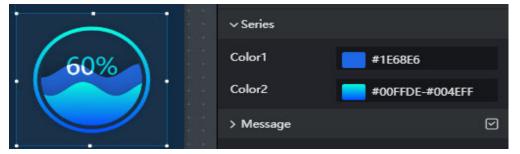
#### Wave

- Wavelength: to set wavelength by entering a value or dragging
- **Amplitude**: to set the wave amplitude by entering a value or dragging
- **Cycle**: to set a cycle by entering a value or dragging <a></a>
- Animation: to set whether to display animation effect and the animation direction.

#### Series

**Color**: to set the wave color by clicking the color editor.

Figure 12-106 Series of a liquid chart



### Message

- Message: If you click , a message will pop up when you hover over a previewed or published component.
- Color: font color of the message.
- Font Size: font size of the message.
- Font Width: font width of the message.

#### Data

For details about how to configure component data, see **Configuring Component Data**.

#### Interaction

For details about whether the component supports the interaction function and how to use the interaction function, see **Configuring Component Interaction**.

# 12.6.4 Region Ranking

This section describes parameters of a region ranking chart.

#### **Pattern**

#### Size/Position

- Size: width and height of the component. Unit: pixel.
- Position: position where the component is located in the canvas. Unit: pixel.

#### Global Style

- Font: text font.
- Font Size: font size of the text.
- **Color**: font color of the text.
- **Icon**: to show or hide the icon by clicking **I** or **I**.
- Icon Size: to set the icon size.

## Column Style

- **Height**: height of the column.
- Quantity: number of the displayed columns.
- Color: to set the column color by clicking the color editor.

### **Data**

- **Data Source Type**: to select the data source of the chart. Multiple data sources are provided for you to select. You need to add data sources first. For details, see **Data Connection Overview**.
- **Converter**: Select a converter to convert data into the data that meets the display requirements. For details, see **Using a Converter**.
- Mapping: The data format contains the following fields. Set the field names
  in the data source to which each field is mapped. If the field names are left
  empty, the field names are the same as those in the data source to which
  each field is mapped.
  - area: name of the area.
  - num data.
  - **img**: custom style name of the icon. This field is optional.
    - Click on the right of the **img** field to add a custom icon style. To delete an added custom style, click on the right of the series. To add a custom style, do as follows:
    - Series Value: Enter a value of the img field. If the img field of a region in the source data is the same as the value of this parameter, the icon of the custom style is displayed in the region ranking. If the img field of a region in the source data is not specified or does not match the series value of the custom style, the default icon style is displayed in the region ranking.
    - **Icon**: to show or hide the icon.
    - Custom Style to set a custom icon. You can click to upload a local icon or click to delete the icon.

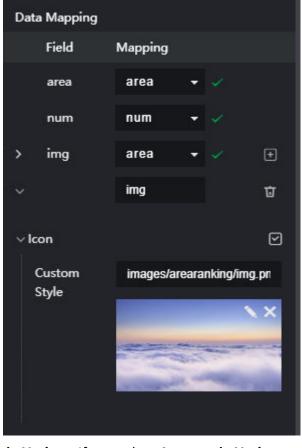


Figure 12-107 Adding an icon style

- Automatic Update: If you select Automatic Update and set Update Interval, the data is automatically updated based on the interval.
- Preview Result: Click Preview Result to view the information about the selected data source. You can click Update Query to manually update the component data when the data source changes.

### Interaction

For details about whether the component supports the interaction function and how to use the interaction function, see **Configuring Component Interaction**.

# 12.6.5 Scanning Radar

This section describes parameters of a scanning radar chart.

#### **Pattern**

- Size/Position
  - Size: width and height of the component. Unit: pixel.
  - Position: position where the component is located in the canvas. Unit: pixel.

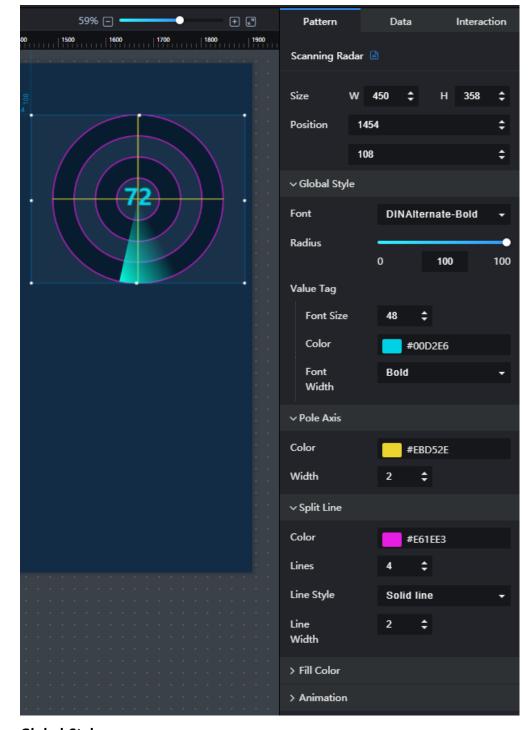


Figure 12-108 Size and position of a scanning radar chart

## Global Style

- **Font**: text font.
- Radius: to set the radius size by entering a value or dragging <</li>
- Value Tag: to set the text style, including Font Size, Color, and Font Width.

### • Pole Axis

- **Color**: to set the color of the pole axes by clicking the color editor.

**Width**: to set the width of the pole axes by entering a value or clicking

## **Split Line**

- **Color**: to set the color of the split lines by clicking the color editor.
- **Lines**: to set the number of the split lines by entering a value or clicking
- Line Style: to select a style for split lines from the drop-down list.
- **Line Width**: to set the width of the split lines by entering a value or clicking

#### Fill Color

**Color**: to set the color of each area by clicking the color editor.

#### **Animation**

- **Color**: to set the color of the scanning area by clicking the color editor.
- **Play Duration**: to set the play duration by entering a value or clicking



### **Data**

For details about how to configure component data, see Configuring Component Data.

#### Interaction

For details about whether the component supports the interaction function and how to use the interaction function, see **Configuring Component Interaction**.

# **12.6.6 Heatmap**

This section describes parameters of a heatmap.

| Pattern | Data | Data

Figure 12-109 Heatmap

### **Pattern**

### • Size/Position

- Size: width and height of the component. Unit: pixel.
- Position: position where the component is located in the canvas. Unit: pixel.

# Global Style

- Font: text font
- Background Color: to set the background color of the chart by clicking the color editor.
- Opacity: to set the chart opacity by entering a value or dragging

### Margin

- Top: spacing between the top sides of the chart and the component layer.
   You can enter a value or click to adjust the spacing.
- **Bottom**: spacing between the bottom sides of the chart and the component. You can enter a value or click to adjust the spacing.
- Left: spacing between the left sides of the chart and the component. You
   can enter a value or click to adjust the spacing.
- Right: spacing between the right sides of the chart and the component.
   You can enter a value or click to adjust the spacing.

### X Axis

- X Axis: to show or hide the X axis by clicking or a.

- Font Size: font size of the X axis text.
- Color: font color of the X axis text.
- Font Width: font width of the X axis text.
- Angle: to set the offset angle of the X axis text by entering a value or dragging .
- **Inter-Label Clearance**: to set the clearance between X axis texts by entering a value or dragging ...
- Show Min. Label: to show or hide the minimum label by clicking or
- Show Max. Label: to show or hide the maximum label by clicking or
- Min. Value: the minimum value of the X axis.
- Max. Value: the maximum value of the X axis.
- **Grid Line**: grid line color and width of the X axis.
- Coordinate Axis: color and width of the X axis.
- Axis Unit: to set the unit, color, and offset of the X axis.

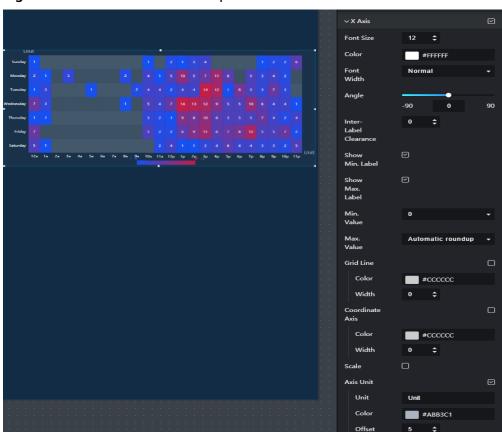


Figure 12-110 X axis of a heatmap

### Y Axis

- Y Axis: to show or hide the Y axis by clicking or .
- **Font Size**: font size of the Y axis text.
- Color: font color of the Y axis text.
- **Font Width**: font width of the Y axis text.
- Angle: to set the offset angle of the Y axis text by entering a value or dragging
- **Inter-Label Clearance**: to set the clearance between Y axis texts by entering a value or dragging ...
- **Show Min. Label**: to show or hide the minimum label by clicking or
- **Show Max. Label**: to show or hide the maximum label by clicking or
- Min. Value: the minimum value of the Y axis.
- Max. Value: the maximum value of the Y axis.
- Grid Line: grid line color and width of the Y axis.
- Coordinate Axis: color and width of the Y axis.
- **Scale**: to show or hide the scales by clicking or or
- Axis Unit: to set the unit, color, and offset of the Y axis.

### Visual Mapping

- Min. Value: to set the minimum value of visual mapping by clicking
- Max. Value: to set the maximum value of visual mapping by clicking
- **Fill Color**: to set the color of visual mapping by clicking the color editor.
- Mapping: to show or hide the mapping by clicking a or .
- Mapping Type: type of the mapping. The options are Segment-based and Continuous.
- Direction: direction of the mapping. The options are Horizontal and Vertical
- **Width**: to set the width of the mapping by entering a value or dragging
- Height: to set the height of the mapping by entering a value or dragging
- Left: to set the distance between the mapping and the left side of the component by entering a value or dragging
- **Bottom**: to set the distance between the mapping and the bottom of the component by entering a value or dragging .
- **Text**: color and font size of the mapping text.

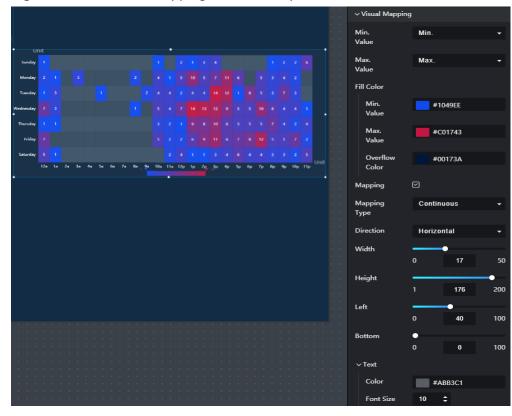


Figure 12-111 Visual mapping of a heatmap

# Message

- Message: If you click , a message will pop up when you hover over a previewed or published component.
- **Triggering Mode**: to set the triggering mode of messages. The options are **Coordinate Axis** and **Data**.
- Color: font color of the message.
- **Font Size**: font size of the message.
- Font Width: font width of the message.

# **Data**

For details about how to configure component data, see **Configuring Component Data**.

# Interaction

For details about whether the component supports the interaction function and how to use the interaction function, see **Configuring Component Interaction**.

# **12.7 Maps**

# 12.7.1 Basic 2D Map

This section describes parameters of a basic 2D map.

### **Precautions**

In the static data of the DLV map component, the longitude and latitude information is only for format demonstration. You need to provide your real-world longitude and latitude information when required.

### **Pattern**

### • Size/Position

- Size: width and height of the component. Unit: pixel.
- Position: position where the component is located in the canvas. Unit: pixel.

# Subcomponents

The following subcomponents can be added to a basic 2D map: Flying Lines, Scatters, Advanced Scatter Layer, Drilldown, Heatmap Layer, Hover Text, and Carousel Video.

The following operations can be performed on those subcomponents:

# Adding subcomponents

In the **Pattern** panel, click **Add Subcomponent**. In the displayed menu, select a subcomponent. After the subcomponent is added, the name of the added subcomponent is displayed under **Add Subcomponent**, for example, fly line.

# - Editing subcomponents

After clicking a component, you can edit it.

# - Deleting subcomponents

### Global Style

- Map: to select a country from the drop-down list.
- **Map Center**: location of the map center on the canvas.
- Zoom Range: to set zooming ratio of the map center.

### Filling

- **Fill Color**: color and transparency.
- Borderline: color and width of the borderline.

### Label

- Label: to show or hide the label by clicking or
- Font: fill color and transparency.
- Color: font color of the label.
- Font Size: font size of the label.
- Font Width: font width of the label.

### Visual Mapping

- Visual Mapping: to show or hide virtual mapping by clicking or .
- Mapping Type: to select a mapping type from the drop-down list. The value can be Segment-based or Continuous.

- Direction: to select a mapping direction from the drop-down list. The value can be Vertical or Horizontal.
- Width: width of the visual mapping.
- **Height**: height of the visual mapping.
- Left: distance between the visual mapping and the left side of the map component.
- **Bottom**: distance between the visual mapping and the bottom of the map component.
- Text: font color and font size of the text in the visual mapping.

### Selected Style

- Color: to set the color by clicking the color editor.
- Data Name: to show or hide the data name by clicking or
- Text
  - Text Style: text color, font size, and font width.
  - Prompt Dialog Box: You can set Margin, Background Color, Customize Size, Border Color, and Border Width for a prompt dialog box.
- **Scale**: After this function is enabled, when viewing or previewing the screen, you can zoom in or zoom out the map on the screen.
- **Move**: After this function is enabled, when viewing or previewing the screen, you can move the map on the screen
- Initial Value: initial value of the name field on the Interaction panel.



The example data in the preceding figure is as follows:

```
[
{
"name": "Beijing",
    "value": 900
},
{
"name": "Shanghai",
    "value": 1200
},
{
"name": "Tianjin",
```

```
"value": 1200
 },
{
"name": "Chongqing",
  "value": 1200
 },
"name": "Shanxi",
  "value": 1400
"name": "Shaanxi",
  "value": 1800
 {
"name": "Xinjiang",
  "value": 2400
 {
"name": "Shandong",
  "value": 5000
},
{
"name": "Zhejiang",
  "value": 2500
 {
"name": "Fujian",
  "value": 2600
{
"name": "Guangdong",
  "value": 2800
},
{
"name": "Guangxi",
  "value": 2900
 {
"name": "Tibet",
  "value": 3300
 },
 {
"name": "Inner Mongolia",
  "value": 3300
"name": "Henan",
 "value": 3500
 },
{
"name": "Jiangsu",
  "value": 3600
{
"name": "Hainan",
"value": 3700
"name": "Taiwan",
  "value": 3800
 },
{
"name": "Yunnan",
  "value": 3900
 {
"name": "Guizhou",
"value": 3900
```

```
},
 {
"name": "Sichuan",
  "value": 4100
 {
"name": "Hebei",
  "value": 4400
 {
"name": "Jilin",
  "value": 4700
 },
"name": "Anhui",
  "value": 5000
"name": "Hong Kong",
  "value": 5000
 {
"name": "Macao",
  "value": 5100
"name": "Liaoning",
  "value": 5400
 },
 {
"name": "Gansu",
  "value": 5800
 {
"name": "Qinghai",
  "value": 5800
 {
"name": "Jiangxi",
  "value": 5800
 },
"name": "Hubei",
  "value": 5300
 {
"name": "Heilongjiang",
  "value": 5300
 },
 {
"name": "Hunan",
  "value": 5300
"name": "Ningxia",
  "value": 5300
]
```

- name: name of the area displayed on the map component.
- value: value of the area. The value matches the Max. Value, Min. Value, and No Data in the Filling to determine the area color.

# Interaction

For details about whether the component supports the interaction function and how to use the interaction function, see **Configuring Component Interaction**.

# **Flying Lines**

A flying line dynamically connects two geographical locations on the map.

### Pattern

- Flying Line Style
  - Flare Size: The unit is pixel.
  - Speed: speed at a flare flies.
  - Length: length of a flying line. The distance between the start point and the end point is one unit.
  - Track Color: color of the flight path.
  - Track Width: The unit is pixel.
  - **Curvature**: curvature of a flying line. When the curvature is 0, the flying line is a straight line.

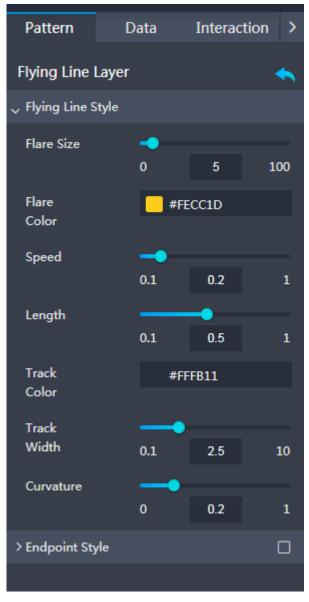


Figure 12-112 Flying line layer

 Endpoint Style: to show or hide the start and end points. By default, the start and end points are hidden. After this function is enabled, you can set the start point style and end point style.

# Start/End Point Style

- Pattern: shape of an endpoint. Multiple patterns are available.
- Inner Ring Color: color of the inner ring of the endpoint.
- Outer Ring Color: color of the outer ring of the endpoint.
- Animation Effect: animation effect of the endpoint.
- Animation Range: range of the dynamic animation of an endpoint. This configuration is invalid when Animation Effect is set to No fill.
- **Animation Speed**: speed of the animation.
- Size: size of an endpoint.

- Field and Mapping: The data format contains the following fields. Set
  the field names in the data source to which each field is mapped. If the
  field names are left empty, the field names are the same as those in the
  data source to which each field is mapped.
  - from: longitude and latitude of the start point of a flying line. The longitude and latitude are separated by commas (,).
  - **to**: longitude and latitude of the end point of a flying line. The longitude and latitude are separated by commas (,).

The data source is in JSON format. The following is an example:

- Data Source Type: to select the data source of the chart. Multiple data sources are provided for you to select. You need to add data sources first. For details, see Data Connection Overview.
- Automatic Update: If you select Automatic Update and set Update
   Interval, the data is automatically updated based on the interval.
- Preview Result: Click Preview Result to view the information about the selected data source. You can click Update Query to manually update the component data when the data source changes.

### Interaction

For details about whether the component supports the interaction function and how to use the interaction function, see **Configuring Component**Interaction.

### **Scatters**

Data information about geographical locations on the map can be displayed by scatters.

### Pattern

- Pattern: shape of a scatter. Multiple patterns are available.
- Animation Effect: animation effect of scatters.
- **Size**: size of a scatter.
- Animation Range: A larger value leads to a wider animation range. This
  configuration is invalid when Animation Effect is set to No fill.
- Animation Speed: A larger value leads to a faster animation speed. This
  configuration is invalid when Animation Effect is set to No fill.
- Inner Ring Color: color of the inner ring of a scatter.
- **Outer Ring Color**: color of the outer ring of a scatter.
- Selected Style: style displayed when you move over a scatter during screen preview or viewing. After setting the selected style, you can click

in the upper right corner of the page to view the selected style. Expand **Selected Style** and set the following parameters:

**Color**: color of a scatter when you mouse over the scatter.

**Data Value**: to show or hide the value of the **name** field.

Data Name: to show or hide the data name.

**Text Style**: color, font size, and font width of the text displayed when you mouse over a scatter.

### Data

- Field and Mapping: The data format contains the following fields. Set
  the field names in the data source to which each field is mapped. If the
  field names are left empty, the field names are the same as those in the
  data source to which each field is mapped.
  - **lon**: longitude of a scatter.
  - lat: latitude of a scatter.
  - name: name of the geographical location represented by a scatter.
  - value: value of a scatter. The value and the scatter size in the style determine the scatter size together. A larger value leads to a larger scatter.
- Data Source Type: to select the data source of the chart. Multiple data sources are provided for you to select. You need to add data sources first. For details, see Data Connection Overview.
- Automatic Update: If you select Automatic Update and set Update
   Interval, the data is automatically updated based on the interval.
- Preview Result: Click Preview Result to view the information about the selected data source. You can click Update Query to manually update the component data when the data source changes.

### Interaction

For details about whether the component supports the interaction function and how to use the interaction function, see **Configuring Component**Interaction.

# **Advanced Scatter Layer**

Compared with the scatters on the map, the advanced scatters support the mapping of data values to the scatter size and the customization of scatter icons.

### Pattern

- **Pattern**: shape of a scatter. Multiple patterns are available.
- Data Mapping: If this option is selected, the scatter color and size vary according to the data volume. A larger scatter indicates a larger data volume. Min. Value, Max. Value, and No Data under Color and Size are customized. The unit of the scatter size is pixel.
- Animation Effect: animation effect of scatters.
- **Animation Range**: A larger value leads to a wider animation range.

- Animation Speed: A larger value leads to a faster animation speed.
- Label: If this option is selected, the label is displayed at the scatter. Set the label as follows:

**Mapping Field**: to set this parameter to a field name on the **Data** panel instead of the field name of the source data. When **Label** is selected, the value of the selected field is displayed at the scatter.

Font: label font.
Color: label color.

Font Size: font size of the label.
Font Width: font width of the label.

Position: position of the label relative to a scatter.

**Horizontal Shift**: horizontal offset to the right of the configured position. The unit is pixel.

**Vertical Shift**: vertical offset to the bottom of the configured position. The unit is pixel.

 Selected Style: style displayed when you move over a scatter during screen preview or viewing. After setting the selected style, you can click

in the upper right corner of the page to view the selected style. Expand **Selected Style** and set the following parameters:

**Color**: color of a scatter when you mouse over the scatter.

Data Value: to show or hide the value of the name field.

**Data Name**: to show or hide the data name.

**Text Style**: color, font size, and font width of the text displayed when you mouse over a scatter.

Initial Value: initial value of the name field on the Interaction panel.

### Data

- Field and Mapping: The data format contains the following fields. Set the field names in the data source to which each field is mapped. If the field names are left empty, the field names are the same as those in the data source to which each field is mapped.
  - lon: longitude of a scatter.
  - lat: latitude of a scatter.
  - name: name of the geographical location represented by a scatter.
  - value: value of a scatter. The value and the scatter size in the style determine the scatter size together. A larger value leads to a larger scatter.
  - **type**: Click to add a series value. You can select a value of the **type** field as a series and set the display style of the scatter of the series. If the type field is set to other values, the corresponding scatter is displayed in the default style of the type field.

For example, if the type of a scatter is type":"snack", click to set the series value to **snack**.

- **img**: path of the custom scatter icon. You can set this parameter to the path of the image stored in OBS or the public network image path. If this parameter is not set, the default icon is used.
- Data Source Type: to select the data source of the chart. Multiple data sources are provided for you to select. You need to add data sources first.
   For details, see Data Connection Overview.
- Automatic Update: If you select Automatic Update and set Update
   Interval, the data is automatically updated based on the interval.
- Preview Result: Click Preview Result to view the information about the selected data source. You can click Update Query to manually update the component data when the data source changes.

### Interaction

**Click** and **Mouseover** are supported. For details about how to use component interaction, see **Configuring Component Interaction**.

# Drilldown

Data information about geographical locations on the map can be displayed by drilldown.

#### Pattern

- Color: color of the target area.
- **Transparency**: transparency of the target area.
- Borderline
  - Color: borderline color of the target area.
  - Width: borderline width of the target area.
  - Line Style: border line style of the target area.
  - **Shadow Color**: color of the borderline shadow of the target area.
- Label: to show or hide a label. You can set the font, color, font size, and font width of the label text.
- Zoom Range: zooming ratio of the target area.

### Data

- Field and Mapping: The data format contains the following field. Set the
  field name in the data source to which each field is mapped. If the field
  name is left empty, the field name is the same as that in the data source
  to which the field is mapped.
  - **name**: name of the target region.
- Data Source Type: to select the data source of the chart. Multiple data sources are provided for you to select. You need to add data sources first. For details, see Data Connection Overview.
- Automatic Update: If you select Automatic Update and set Update
   Interval, the data is automatically updated based on the interval.
- Preview Result: Click Preview Result to view the information about the selected data source. You can click Update Query to manually update the component data when the data source changes.

### Interaction

For details about whether the component supports the interaction function and how to use the interaction function, see **Configuring Component Interaction**.

# **Heatmap Layer**

Data information about geographical locations on the map can be displayed by heapmap.

### Pattern

- Min. transparency: minimum transparency of heat points.
- Max. transparency: maximum transparency of heat points.
- **Fuzzy Radius**: fuzzy radius of a heat point.
- **Radius**: radius of a heat point.
- Color: You can set five color bands from color 1 to color 5 for heat points from outside to inside.

#### Data

- Field and Mapping: The data format contains the following fields. Set the field names in the data source to which each field is mapped. If the field names are left empty, the field names are the same as those in the data source to which each field is mapped.
  - lat: latitude of an area.
  - **lon**: longitude of an area.
  - value: value of the heatmap point corresponding to the region.
- Data Source Type: to select the data source of the chart. Multiple data sources are provided for you to select. You need to add data sources first. For details, see Data Connection Overview.
- Automatic Update: If you select Automatic Update and set Update
   Interval, the data is automatically updated based on the interval.
- Preview Result: Click Preview Result to view the information about the selected data source. You can click Update Query to manually update the component data when the data source changes.

### Interaction

For details about whether the component supports the interaction function and how to use the interaction function, see **Configuring Component**Interaction.

### **Hover Text**

Data information about geographical locations on the map can be displayed by hover text.

### Pattern

Borderline

- Pattern: borderline style of the hover text box.
- Width: width of the borderline of the hover text box.
- Text Style: font, font size, and font width of the hover text. The text displayed in the hover text box is the value of the text field on the Data panel.
- Constant-Speed Play: After this function is enabled, the hover text will be played at a fixed speed based on the following settings: This function is disabled by default.
  - Hover Boxes: number of hover text boxes displayed each time the constant-speed play is enabled.
  - Appearance Duration: time spent before the hover text appears. Unit: microsecond.
  - Stay Duration: period when the hover text stays on the map. Unit: microsecond.
  - Disappearance Duration: time spent before the hover disappears.

- Field and Mapping: The data format contains the following fields. Set the field names in the data source to which each field is mapped. If the field names are left empty, the field names are the same as those in the data source to which each field is mapped.
  - lat: latitude of an area.
  - **lon**: longitude of an area.
  - **text**: hover text above an area.
- Data Source Type: to select the data source of the chart. Multiple data sources are provided for you to select. You need to add data sources first. For details, see Data Connection Overview.
- Automatic Update: If you select Automatic Update and set Update
   Interval, the data is automatically updated based on the interval.
- Preview Result: Click Preview Result to view the information about the selected data source. You can click Update Query to manually update the component data when the data source changes.

# • Interaction

For details about whether the component supports the interaction function and how to use the interaction function, see **Configuring Component Interaction**.

# **Carousel Video**

A carousel video subcomponent plays different geographical locations in turn. The video format can be MP4 or FLV.

### Pattern

Mute: to enable or disable the mute mode.

- **Control Bar**: to show or hide the progress bar in the video player.
- Adjust Volume: to adjust the video volume.
- **Custom**: to enable or disable the custom playback time.
- **Play Duration**: duration when a video is played. Unit: microsecond.
- Width: width of the video player. Unit: pixel.
- **Background Color**: background color of the video player.
- Dot Color: color of the dot representing a geographic location on the map.
- **Borderline**: to set the pattern, width, and color of the borderline of the video player.
- Text Style: to set the color, font, font size, and font width of the text displayed over the video player. The displayed text is the value of the text field on the Data panel.

- Field and Mapping: The data format contains the following fields. Set the field names in the data source to which each field is mapped. If the field names are left empty, the field names are the same as those in the data source to which each field is mapped.
  - lat: latitude of an area.
  - lon: longitude of an area.
  - video: video address. Video addresses stored in OBS or public network video addresses are supported. The video format can be MP4 and FLV.
  - **text**: title displayed over the video player.
- Data Source Type: to select the data source of the chart. Multiple data sources are provided for you to select. You need to add data sources first. For details, see Data Connection Overview.
- Automatic Update: If you select Automatic Update and set Update
   Interval, the data is automatically updated based on the interval.
- Preview Result: Click Preview Result to view the information about the selected data source. You can click Update Query to manually update the component data when the data source changes.

# • Interaction

For details about whether the component supports the interaction function and how to use the interaction function, see **Configuring Component Interaction**.

# 12.7.2 World Map

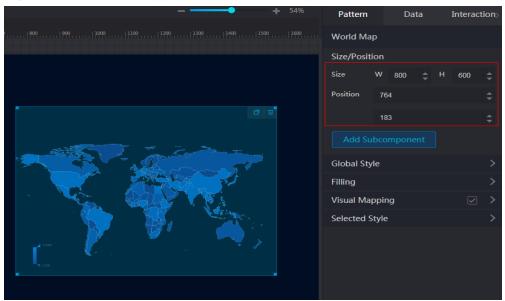
This section describes parameters of a world map.

### **Pattern**

Size/Position

- Size: width and height of the component. Unit: pixel.
- Position: position where the component is located in the canvas. Unit: pixel.

Figure 12-113 Size and position of a world map



# • Add Subcomponent

The following subcomponents can be added to a world map:

- Flying line: The configuration method is similar to that of the flying lines on the basic 2D map. For details, see Flying Lines.
- **Scatter**: The configuration method is similar to that of the scatters on the basic 2D map. For details, see **Scatters**.
- Advanced scatter: The configuration method is similar to that of the advanced scatters on the basic 2D map. For details, see Advanced Scatter Layer.

# **Ⅲ** NOTE

The advanced scatter layer on the basic 2D map supports the interaction function, but the advanced scatter layer on the world map does not support the interaction function.

 Heatmap: The configuration method is similar to that of the heatmap layer in the basic 2D map. For details, see Heatmap Layer.

The following operations can be performed on those subcomponents:

### Adding subcomponents

In the **Pattern** panel, click **Add Subcomponent**. In the displayed menu, select a subcomponent. After the subcomponent is added, the name of the added subcomponent is displayed under **Add Subcomponent**, for example, fly line.

### Editing subcomponents

After clicking a component, you can edit it.

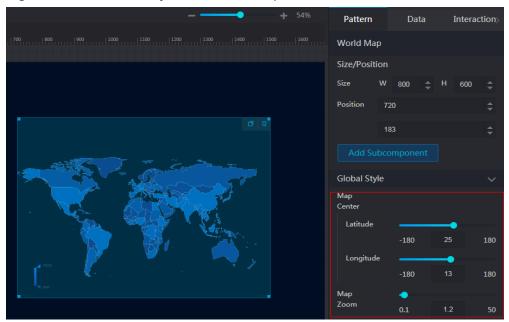
### Deleting subcomponents

To delete a subcomponent, click 🔟.

# Global Style

- **Map Center**: location of the map center on the canvas.
- Map Zoom: to set zooming ratio of the map center.

Figure 12-114 Global style of a world map



# Filling

- **Fill Color**: color and transparency.
- **Borderline**: color and width of the borderline.

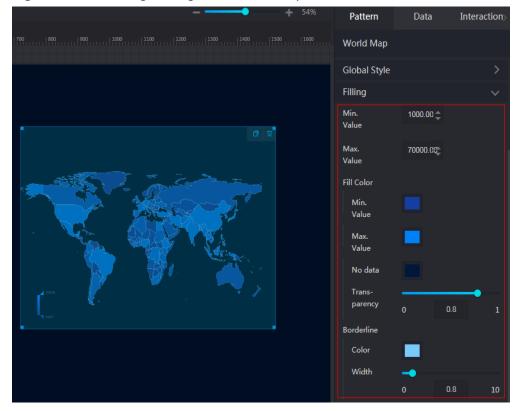


Figure 12-115 Filling settings of a world map

# Visual Mapping

- Visual Mapping: to show or hide virtual mapping by clicking or
- Mapping Type: to select a mapping type from the drop-down list. The value can be Segment-based or Continuous.
- Direction: to select a mapping direction from the drop-down list. The value can be Vertical or Horizontal.
- Width: width of the visual mapping.
- **Height**: height of the visual mapping.
- Left: distance between the visual mapping and the left side of the map component.
- Bottom: distance between the visual mapping and the bottom of the map component.
- **Text**: font color and font size of the text in the visual mapping.

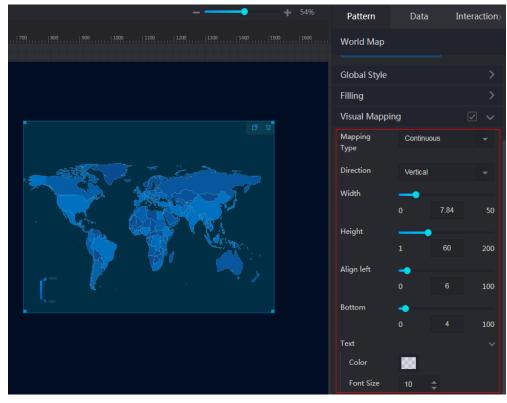


Figure 12-116 Visual mapping of a world map

# Selected Style

- **Color**: to set the color by clicking the color editor.
- Label Color: to set the label color by clicking the color editor.
- Data Value: to show or hide the data value by clicking or
- Data Name: to show or hide the data name by clicking or or
- Text Style: text color, font size, and font width.

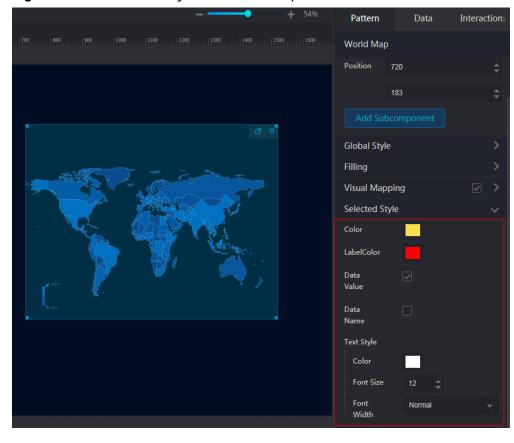


Figure 12-117 Selected style of a world map

The data configuration of the world map is similar to that of the basic 2D map. For details, see **Data**.

# Interaction

For details about whether the component supports the interaction function and how to use the interaction function, see **Configuring Component Interaction**.

# 12.7.3 3D World Map

This section describes parameters of a 3D world map.

### **Pattern**

- Size/Position
  - **Size**: width and height of the component. Unit: pixel.
  - Position: position where the component is located in the canvas. Unit: pixel.

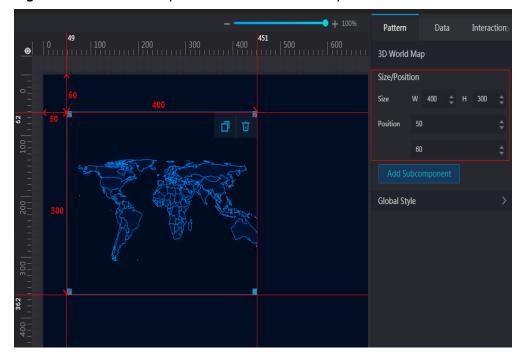


Figure 12-118 Size and position of a 3D world map

### • Add Subcomponent

Subcomponents of the component include flying lines, scatters, and columns.

### Flying Lines

Two geographic locations on the map can be connected by dynamic flying lines. The following describes how to configure the pattern and data of flying lines.

i. Click Add Subcomponent to add flying lines.

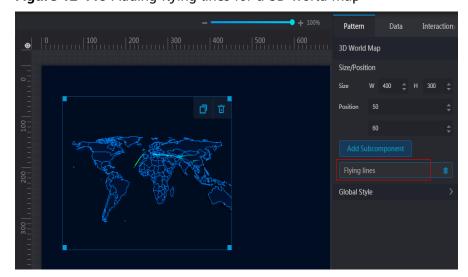
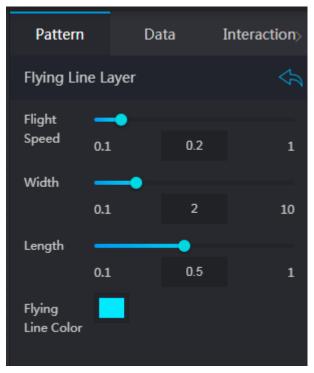


Figure 12-119 Adding flying lines for a 3D world map

ii. Click Flying line. The page for configuring flying lines is displayed.On the Pattern tab page, configure the Speed, Width, Length, and Color of flying lines.



**Figure 12-120** Configuring the flying line pattern for a 3D world map

On the **Data** tab page, set the longitudes and latitudes of the start and end points of flying lines.

- **Field** and **Mapping**: **from** specifies the start point of the flying line, and **to** specifies the end point of the flying line.
- Automatic Update: If you select Automatic Update and set Update Interval, the dynamic data is automatically updated based on the interval.

### Scatters

Geographical locations on the map can be marked using scatters. The following describes how to configure the pattern and data of scatters.

i. Click **Add Subcomponent** to add scatters.

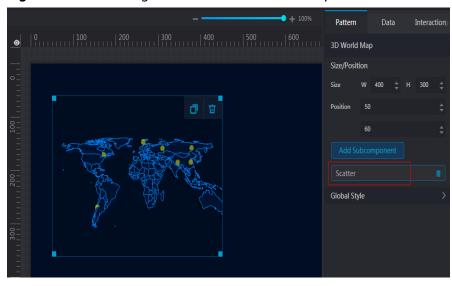


Figure 12-121 Adding scatters for a 3D world map

ii. Click Scatter. The page for configuring scatters is displayed.On the Pattern tab page, configure the Size, Style, Color, and Transparency of scatters.

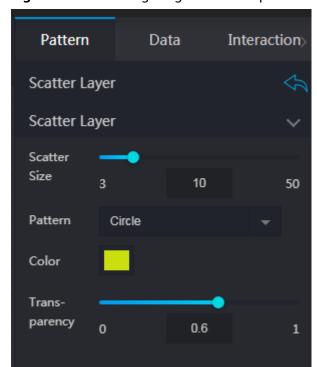


Figure 12-122 Configuring the scatter pattern for a 3D world map

On the **Data** tab page, configure the latitudes, longitudes, and size of scatters.

lon specifies the longitude of a scatter. lat specifies the latitude
of a scatter. value specifies a scatter value and determines the
scatter size together with Size on the Pattern tab page. A larger
value leads to a larger scatter.

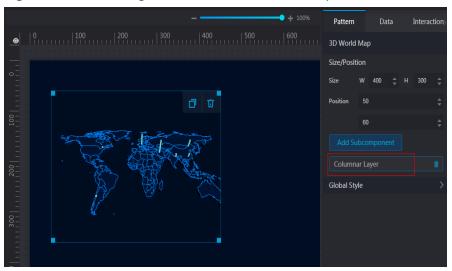
 Automatic Update: If you select Automatic Update and set Update Interval, the dynamic data is automatically updated based on the interval.

### - Column

Geographical locations on the map can be marked using columns. The following describes how to configure the pattern and data of columns.

i. Click **Add Subcomponent** to add columns.

Figure 12-123 Adding columns for a 3D world map



ii. Click Column. The page for configuring columns is displayed.On the Pattern tab page, configure the Width, Min Height, Max. Color, Min. Color, and Transparency of the columns.

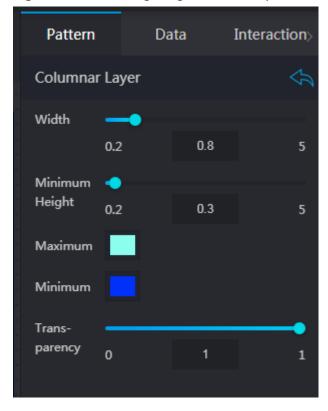


Figure 12-124 Configuring the column pattern for a 3D world map

On the **Data** tab page, configure the latitudes, longitudes, and height of columns.

- o **lon** specifies the longitude of a column. **lat** specifies the latitude of a column. **value** specifies a column value. A larger value leads to a higher column.
- Automatic Update: If you select Automatic Update and set Update Interval, the dynamic data is automatically updated based on the interval.

### Global Style

- **Map Center**: location of the map center on the canvas.
- Globe Rotation: to set Scaling, Horizontal, and Vertical of the map.
- Map Color: fill color of the area blocks on the map.
- **Borderline**: color and width of the borderline on the map.

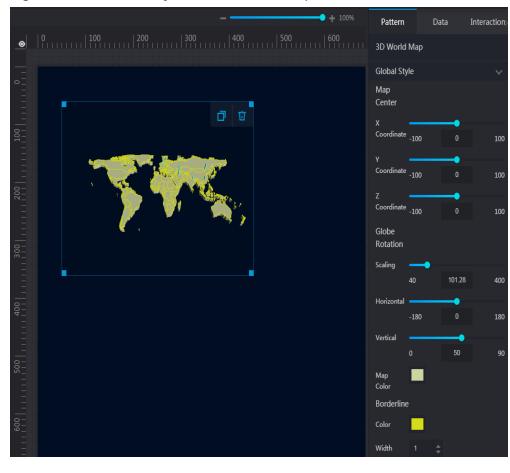


Figure 12-125 Global style for a 3D world map

This component does not have data events.

# Interaction

For details about whether the component supports the interaction function and how to use the interaction function, see **Configuring Component Interaction**.

# 12.7.4 3D China Map

This section describes parameters of a 3D China map.

# **Pattern**

# Size/Position

- Size: width and height of the component. Unit: pixel.
- Position: position where the component is located in the canvas. Unit: pixel.

# Add Subcomponent

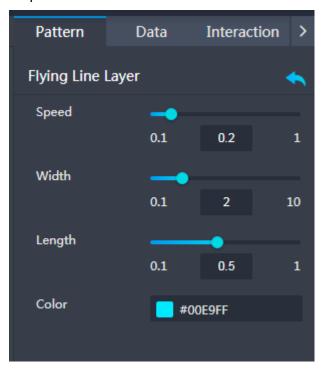
Subcomponents of the component include flying lines, scatters, and columns.

- Flying Lines

Two geographic locations on the map can be connected by dynamic flying lines. The following describes how to configure the pattern and data of flying lines.

- i. Click Add Subcomponent to add flying lines.
- ii. Click Flying line. The page for configuring flying lines is displayed.On the Pattern tab page, configure the Speed, Width, Length, and Color of flying lines.

**Figure 12-126** Configuring the flying line pattern for a 3D China map



On the **Data** tab page, set the longitudes and latitudes of the start and end points of flying lines.

- **Field** and **Mapping**: **from** specifies the start point of the flying line, and **to** specifies the end point of the flying line.
- Automatic Update: If you select Automatic Update and set Update Interval, the dynamic data is automatically updated based on the interval.

### Scatters

Geographical locations on the map can be marked using scatters. The following describes how to configure the pattern and data of scatters.

- i. Click **Add Subcomponent** to add scatters.
- Click Scatter. The page for configuring scatters is displayed.
   On the Pattern tab page, configure the scatter size, style, color, transparency, and color of the selected style, and the color, font size, and font width of the message.

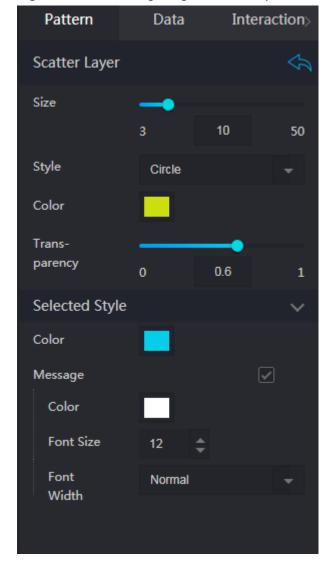


Figure 12-127 Configuring the scatter pattern for a 3D China map

On the **Data** tab page, configure the latitudes, longitudes, and size of scatters.

- lon specifies the longitude of a scatter. lat specifies the latitude
  of a scatter. value specifies a scatter value and determines the
  scatter size together with Size on the Pattern tab page. A larger
  value leads to a larger scatter.
- Automatic Update: If you select Automatic Update and set Update Interval, the dynamic data is automatically updated based on the interval.

### Column

Geographical locations on the map can be marked using columns. The following describes how to configure the pattern and data of columns.

- i. Click **Add Subcomponent** to add columns.
- ii. Click Column. The page for configuring columns is displayed.On the Pattern tab page, configure the Width, Min Height, Max. Color, Min. Color, and Transparency of the columns.

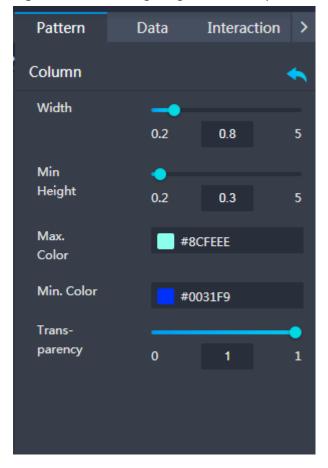


Figure 12-128 Configuring the column pattern for a 3D China map

On the **Data** tab page, configure the latitudes, longitudes, and height of columns.

- o **lon** specifies the longitude of a column. **lat** specifies the latitude of a column. **value** specifies a column value. A larger value leads to a higher column.
- Automatic Update: If you select Automatic Update and set Update Interval, the dynamic data is automatically updated based on the interval.

### Global Style

- **Map Center**: location of the map center on the canvas.
- Globe Rotation: to set Scaling, Horizontal, and Vertical of the map.
- Map Color: fill color of the area blocks on the map.
- **Borderline**: color and width of the borderline on the map.

### Data

This component does not have data events.

### Interaction

For details about whether the component supports the interaction function and how to use the interaction function, see **Configuring Component Interaction**.

# 12.7.5 3D World Map (2019)

This section describes parameters of a 3D world map (2019).

# **Pattern**

# • Size/Position

- Size: width and height of the component. Unit: pixel.
- Position: position where the component is located in the canvas. Unit: pixel.

### Global Style

- Map Center: location of the map center on the canvas.
- Globe Rotation: to set Scaling, Horizontal, and Vertical of the map.
- Map Color: fill color of the area blocks on the map.
- Borderline: color and width of the borderline on the map.

### Subcomponents

You can add subcomponents **Flying Lines**, **Scatters**, and **Columns** to a 3D world map (2019).

The operations can be performed on those subcomponents:

### Adding subcomponents

In the **Pattern** panel, click **Add Subcomponent**. In the displayed menu, select a subcomponent. After the subcomponent is added, the name of the added subcomponent is displayed under **Add Subcomponent**, for example, fly line.

### Editing subcomponents

After clicking a subcomponent, you can edit it.

# Deleting subcomponents

To delete a subcomponent, click

### Data

The following figure shows the data of the 3D world map (2019):

- **Field** and **Mapping**: The data format contains two fields by default.
  - value: value of the area displayed on the map. It determines the map color together with Max. Value, Min. Value, and No Data in Map Color under Global Style.
  - name: name of the area displayed on the map component.
- Data Source Type: to select the data source of the chart. Multiple data sources are provided for you to select. You need to add data sources first. For details, see Data Connection Overview.
- Automatic Update: If you select Automatic Update and set Update Interval, the data is automatically updated based on the interval.
- **View Response Result**: to view the data information of the selected data source.

### Interaction

For details about whether the component supports the interaction function and how to use the interaction function, see **Configuring Component Interaction**.

# Flying Lines

A flying line dynamically connects two geographical locations on the map.

### Pattern

- Dotted Line: style of dotted lines.
- **Height**: curve height of flying lines. When the value is 1, a flying line is approximately a straight line.
- Speed: speed of flying lines
- Width: width of flares.
- Color: color of flying lines.

### Data

- Field and Mapping: The data format contains the following fields. Set
  the field names in the data source to which each field is mapped. If the
  field names are left empty, the field names are the same as those in the
  data source to which each field is mapped.
  - from: longitude and latitude of the start point of a flying line. The longitude and latitude are separated by commas (,).
  - **to**: longitude and latitude of the end point of a flying line. The longitude and latitude are separated by commas (,).

The data source is in JSON format. The following is an example:

- Data Source Type: to select the data source of the chart. Multiple data sources are provided for you to select. You need to add data sources first. For details, see Data Connection Overview.
- Automatic Update: If you select Automatic Update and set Update
   Interval, the data is automatically updated based on the interval.
- View Response Result: to view the data information of the selected data source.

### Interaction

For details about whether the component supports the interaction function and how to use the interaction function, see **Configuring Component**Interaction.

### **Scatters**

Data information about geographical locations on the map can be displayed by scatters.

### Pattern

- Size: size of scatters.
- Color: color of scatters.

### Data

- Field and Mapping: The data format contains the following fields. Set the field names in the data source to which each field is mapped. If the field names are left empty, the field names are the same as those in the data source to which each field is mapped.
  - lat: latitude of a scatter.
  - lon: longitude of a scatter.
  - value: value of a scatter. The value and the scatter size in the style determine the scatter size together. A larger value leads to a larger scatter.

The data source is in JSON format. The following is an example:

```
[
    "lat": 62.103883,
    "lon": -106.523438,
    "value": 51
},
{
    "lat": 50.064192,
    "lon": -74.179688,
    "value": 94
}
]
```

- Data Source Type: to select the data source of the chart. Multiple data sources are provided for you to select. You need to add data sources first. For details, see Data Connection Overview.
- Automatic Update: If you select Automatic Update and set Update
   Interval, the data is automatically updated based on the interval.
- View Response Result: to view the data information of the selected data source.

### Interaction

For details about whether the component supports the interaction function and how to use the interaction function, see **Configuring Component**Interaction.

# **Columns**

Data information about geographical locations on the map can be displayed by column.

### Pattern

Height: height of columns. Unit: pixel.

Color: color of columns.

- Field and Mapping: The data format contains the following fields. Set the field names in the data source to which each field is mapped. If the field names are left empty, the field names are the same as those in the data source to which each field is mapped.
  - lat: latitude of a column.
  - **lon**: longitude of a column.

The data source is in JSON format. The following is an example:

- Data Source Type: to select the data source of the chart. Multiple data sources are provided for you to select. You need to add data sources first. For details, see Data Connection Overview.
- Automatic Update: If you select Automatic Update and set Update
   Interval, the data is automatically updated based on the interval.
- View Response Result: to view the data information of the selected data source.

### Interaction

For details about whether the component supports the interaction function and how to use the interaction function, see **Configuring Component Interaction**.

# 12.7.6 3D China Map (2019)

This section describes parameters of a 3D China map (2019).

### **Pattern**

### Size/Position

- Size: width and height of the component. Unit: pixel.
- Position: position where the component is located in the canvas. Unit: pixel.

# • Global Style

- Map Center: location of the map center on the canvas.
- Globe Rotation: to set Scaling, Horizontal, and Vertical of the map.
- Map Color: fill color of the area blocks on the map.
- **Borderline**: color and width of the borderline on the map.

### Subcomponents

You can add subcomponents **Flying Lines**, **Scatters**, and **Columns** to a 3D China map (2019).

The operations can be performed on those subcomponents:

#### Adding subcomponents

In the **Pattern** panel, click **Add Subcomponent**. In the displayed menu, select a subcomponent. After the subcomponent is added, the name of the added subcomponent is displayed under **Add Subcomponent**, for example, fly line.

#### Editing subcomponents

After clicking a subcomponent, you can edit it.

#### Deleting subcomponents

To delete a subcomponent, click ...

#### **Data**

The following figure shows the data of a 3D China map (2019):

- Field and Mapping: The data format contains the following fields by default:
  - **adcode**: administrative area code. This is a reserved field.
  - **name**: name of the area displayed on the map component.
  - value: value of the area displayed on the map. It determines the map color together with Max. Value, Min. Value, and No Data in Map Color under Global Style.
- **Data Source Type**: to select the data source of the chart. Multiple data sources are provided for you to select. You need to add data sources first. For details, see **Data Connection Overview**.
- Automatic Update: If you select Automatic Update and set Update Interval, the data is automatically updated based on the interval.
- **View Response Result**: to view the data information of the selected data source.

# Interaction

For details about whether the component supports the interaction function and how to use the interaction function, see **Configuring Component Interaction**.

# Flying Lines

A flying line dynamically connects two geographical locations on the map.

# Pattern

- Dotted Line: style of dotted lines.
- **Height**: curve height of flying lines. When the value is 1, a flying line is approximately a straight line.
- Speed: speed of flying lines
- Width: width of flares. Unit: pixel.
- **Color**: color of flying lines.

#### Data

 Field and Mapping: The data format contains the following fields. Set the field names in the data source to which each field is mapped. If the field names are left empty, the field names are the same as those in the data source to which each field is mapped.

- **from**: longitude and latitude of the start point of a flying line. The longitude and latitude are separated by commas (,).
- **to**: longitude and latitude of the end point of a flying line. The longitude and latitude are separated by commas (,).

The data source is in JSON format. The following is an example:

- Data Source Type: to select the data source of the chart. Multiple data sources are provided for you to select. You need to add data sources first. For details, see Data Connection Overview.
- Automatic Update: If you select Automatic Update and set Update
   Interval, the data is automatically updated based on the interval.
- View Response Result: to view the data information of the selected data source.

#### Interaction

For details about whether the component supports the interaction function and how to use the interaction function, see **Configuring Component Interaction**.

#### **Scatters**

Data information about geographical locations on the map can be displayed by scatters.

#### Pattern

- Size: size of scatters.
- Color: color of scatters.

#### Data

- Field and Mapping: The data format contains the following fields. Set the field names in the data source to which each field is mapped. If the field names are left empty, the field names are the same as those in the data source to which each field is mapped.
  - lon: longitude of a scatter.
  - lat: latitude of a scatter.
  - value: value of a scatter. The value and the scatter size in the style determine the scatter size together. A larger value leads to a larger scatter.

The data source is in JSON format. The following is an example:

```
[
    "lat": 62.103883,
    "lon": -106.523438,
    "value": 51
},
{
    "lat": 50.064192,
    "lon": -74.179688,
    "value": 94
}
]
```

- Data Source Type: to select the data source of the chart. Multiple data sources are provided for you to select. You need to add data sources first. For details, see Data Connection Overview.
- Automatic Update: If you select Automatic Update and set Update
   Interval, the data is automatically updated based on the interval.
- View Response Result: to view the data information of the selected data source.

For details about whether the component supports the interaction function and how to use the interaction function, see **Configuring Component**Interaction.

# **Columns**

Data information about geographical locations on the map can be displayed by column.

#### Pattern

Height: height of columns. Unit: pixel.

Color: color of columns.

#### Data

- Field and Mapping: The data format contains the following fields. Set the field names in the data source to which each field is mapped. If the field names are left empty, the field names are the same as those in the data source to which each field is mapped.
  - lon: longitude of a column.
  - lat: latitude of a column.

The data source is in JSON format. The following is an example:

 Data Source Type: to select the data source of the chart. Multiple data sources are provided for you to select. You need to add data sources first. For details, see Data Connection Overview.

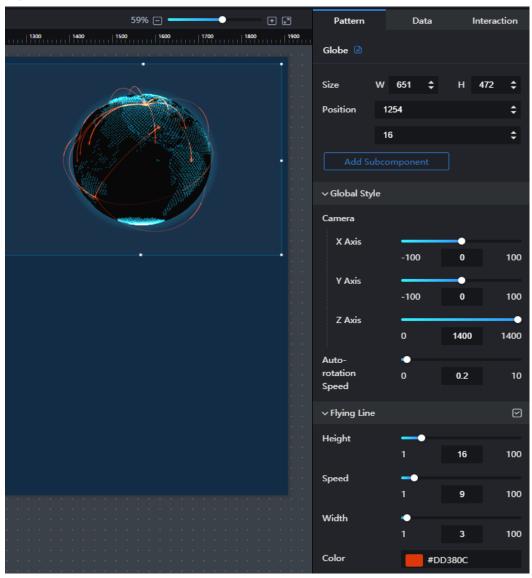
- Automatic Update: If you select Automatic Update and set Update
   Interval, the data is automatically updated based on the interval.
- View Response Result: to view the data information of the selected data source.

For details about whether the component supports the interaction function and how to use the interaction function, see **Configuring Component Interaction**.

# 12.7.7 Globe

This section describes parameters of a globe component.

Figure 12-129 Globe



# **Pattern**

• Size/Position

- Size: width and height of the component. Unit: pixel.
- Position: position where the component is located in the canvas. Unit: pixel.

# • Add Subcomponent

The subcomponents of the component include the flying line and heatmap point.

# - Flying Lines

Two geographic locations on the map can be connected by dynamic flying lines. The following describes how to configure the pattern and data of flying lines.

i. Click **Add Subcomponent** to add flying lines.

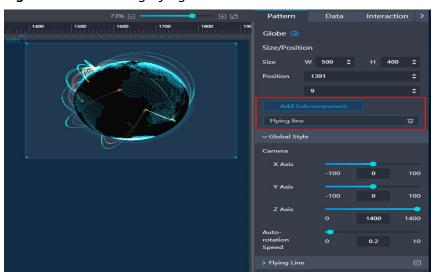


Figure 12-130 Adding flying lines

ii. Click Flying line. The page for configuring flying lines is displayed.
On the Pattern tab page, set the height, speed, width, and color of the flying lines.

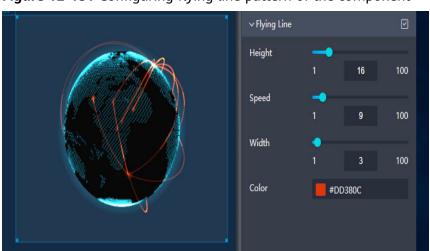


Figure 12-131 Configuring flying line pattern of the component

On the **Data** tab page, set the longitudes and latitudes of the start and end points of flying lines.

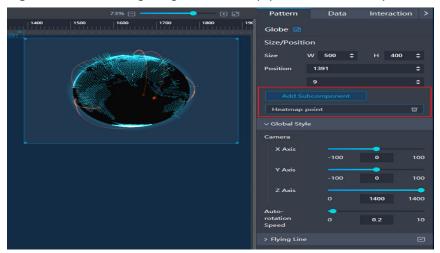
- **Field** and **Mapping**: **from** specifies the start point of the flying line, and **to** specifies the end point of the flying line.
- Automatic Update: If you select Automatic Update and set Update Interval, the dynamic data is automatically updated based on the interval.

# - Heatmap point

Geographical locations on the map can be marked using heatmap points. The following describes how to configure the pattern and data of the heatmap points.

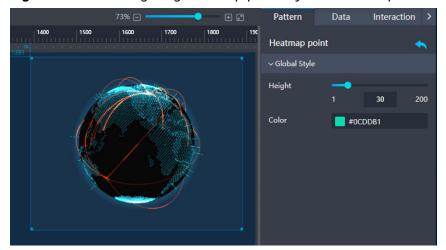
i. Click **Add Subcomponent** to add heatmap points

Figure 12-132 Configuring the heatmap points of the component



ii. Click **Heatmap point** to enter the configuration page.On the **Pattern** tab page, configure the height and color of the heatmap points.

**Figure 12-133** Configuring heatmap point style of the component



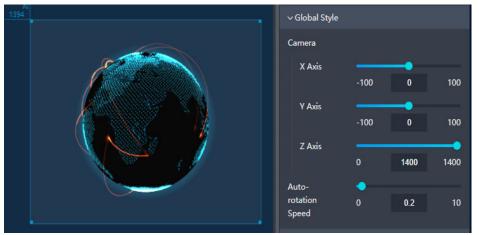
On the **Data** tab page, configure the latitudes, longitudes, and size of the heatmap points.

- Field and Mapping: lon specifies the longitude of the heatmap point. lat specifies the latitude of the heatmap point. value specifies the value of the heatmap point. Type specifies the type of the heatmap point.
- Automatic Update: If you select Automatic Update and set Update Interval, the dynamic data is automatically updated based on the interval.

# • Global Style

- **Camera**: to set the X axis, Y axis, and Z axis of the camera by dragging
- Auto-Rotation Speed: to set the auto-rotation speed of the component by dragging .

Figure 12-134 Global style of the component



#### Flying Line

- **Flying Line**: to show or hide flying lines by clicking or or
- Height: to set the height of the flying line by entering a value or dragging
- **Speed**: to set the speed of the flying line by entering a value or dragging
- **Width**: to set the width of the flying line by entering a value or dragging
- **Color**: to set the flying line color by clicking the color editor.

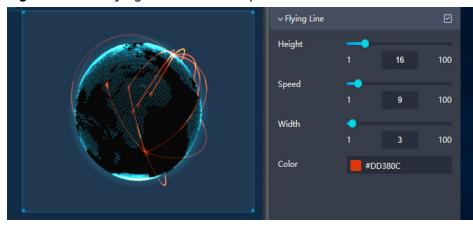
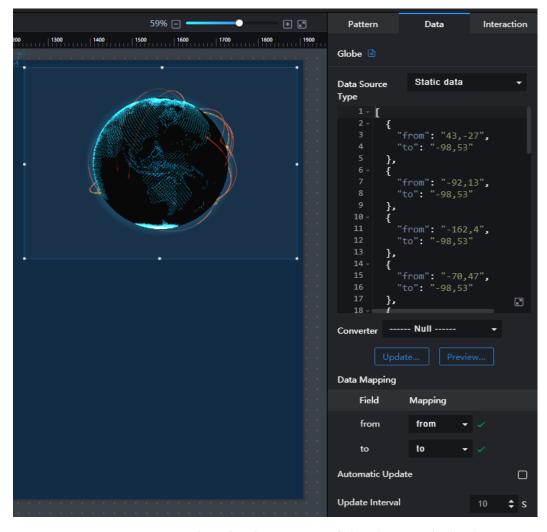


Figure 12-135 Flying lines of the component

# **Data**



- Data Source Type: to select the data source of the chart. Multiple data sources are provided for you to select. You need to add data sources first. For details, see Data Connection Overview.
- **Converter**: Select a converter to convert data into the data that meets the display requirements. For details, see **Using a Converter**.

- **from**: the start position of the flying line.
- to: the end position of the flying line.

For details about whether the component supports the interaction function and how to use the interaction function, see **Configuring Component Interaction**.

# 12.7.8 Globe (Advanced)

This section describes parameters of a globe (advanced) component.

# **Pattern**

# • Size/Position

- Size: width and height of the component. Unit: pixel.
- Position: position where the component is located in the canvas. Unit: pixel.

+ 2 Data Interaction Pattern Globe (advanced) 472 = 1260 ∨ Global Style Globe Satellite Туре X Axis 0 100 Y Axis -100 0 100 1100 1400 rotation 0.2 Speed > Light > Backlight > Flying Line

Figure 12-136 Size and position of the component

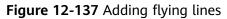
# • Add Subcomponent

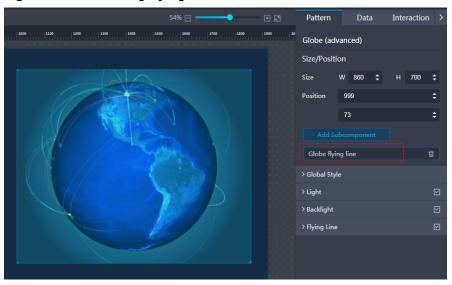
The subcomponents of the component include the flying line and heatmap point.

- Flying Lines

Two geographic locations on the map can be connected by dynamic flying lines. The following describes how to configure the pattern and data of flying lines.

i. Click Add Subcomponent to add flying lines.





ii. Click Flying line. The page for configuring flying lines is displayed.On the Pattern tab page, set the height, speed, width, and color of the flying lines.

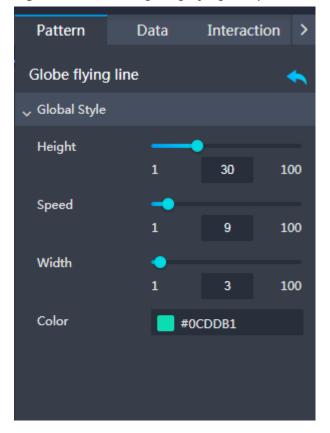


Figure 12-138 Configuring flying line pattern of the component

On the **Data** tab page, set the longitudes and latitudes of the start and end points of flying lines.

- Field and Mapping: from specifies the start point of the flying line, and to specifies the end point of the flying line.
- Automatic Update: If you select Automatic Update and set Update Interval, the dynamic data is automatically updated based on the interval.

# - Heatmap point

Geographical locations on the map can be marked using heatmap points. The following describes how to configure the pattern and data of the heatmap points.

i. Click **Add Subcomponent** to add heatmap points

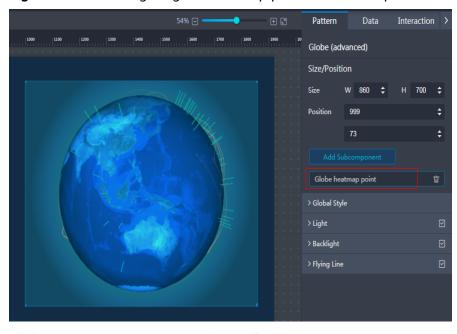


Figure 12-139 Configuring the heatmap points of the component

Click **Heatmap point** to enter the configuration page.
 On the **Pattern** tab page, configure the height and color of the heatmap points.

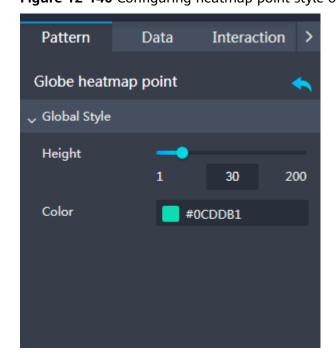


Figure 12-140 Configuring heatmap point style of the component

On the **Data** tab page, configure the latitudes, longitudes, and size of the heatmap points.

• **Field** and **Mapping**: **Ion** specifies the longitude of the heatmap point. **lat** specifies the latitude of the heatmap point. **value** 

- specifies the value of the heatmap point. **Type** specifies the type of the heatmap point.
- Automatic Update: If you select Automatic Update and set Update Interval, the dynamic data is automatically updated based on the interval.

# • Global Style

- **Globe Type**: to select a globe type from the drop-down list. The value can be **Particle**, **District**, or **Satellite**.
- X Axis: to set the X axis of the globe by entering a value or dragging
- Y Axis: to set the Y axis of the globe by entering a value or dragging <
- Z Axis: to set the Z axis of the globe by entering a value or dragging
- Auto-Rotation Speed: to set the auto-rotation speed of the globe by entering a value or dragging . A larger value leads to a faster autorotation speed.

#### Light

- Light: to show or hide light by clicking or
- Intensity: to set the light intensity by entering a value or dragging . A larger value leads to more intense light.
- Color: to set the light color by clicking the color editor.

# Backlight

- Backlight: to show or hide backlight by clicking or
- Size: to set the radiation scope of the light by entering a value or dragging . A larger value leads to a larger radiation scope.
- Z Axis: to set the light shadow of the globe by entering a value or dragging . A smaller value leads to a larger light shadow and a larger value leads to a smaller light shadow.
- **Color**: to set the backlight color by clicking the color editor.

# • Flying Line

- **Flying Line**: to show or hide flying lines by clicking **a** or **a**.
- Height: to set the height of the flying line by entering a value or dragging . A larger value leads to a higher flying line.
- Speed: to set the speed of the flying line by entering a value or dragging
   A larger value leads to a faster flying speed.
- **Width**: to set the width of the flying line by entering a value or dragging ... A larger value leads to a thicker flying line.
- **Color**: to set the flying line color by clicking the color editor.

#### **Data**

The data configuration of the globe (advanced) map is similar to that of the basic 2D map. For details, see **Data**.

For details about whether the component supports the interaction function and how to use the interaction function, see **Configuring Component Interaction**.

# 12.8 Media

# 12.8.1 Image

This section describes parameters of an image component.

#### **Pattern**

#### • Size/Position

- Size: width and height of the component. Unit: pixel.
- Position: position where the component is located in the canvas. Unit: pixel.

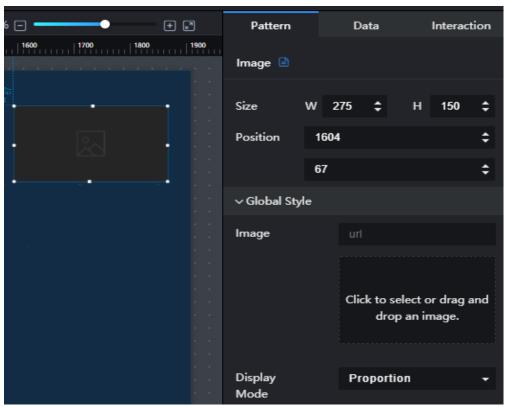


Figure 12-141 Size and position of an image component

# • Global Style

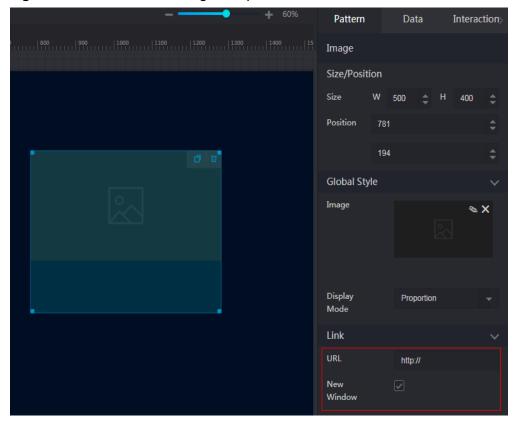
- Image: You can load an image to the screen in one of the following three ways:
  - i. Enter the address of the image in the **url** text box.
  - ii. Click the dotted-line box below **Image** to select an image.

- iii. Drag an image to the dotted-line box below Image.
- After selecting an image, you can edit and delete it. To delete or modify the image by clicking **X** or in the upper right corner of the image.
- Display Mode: to set the display mode of the image. The value can be Default, Proportion, Crop, or Stretch.

#### • Link

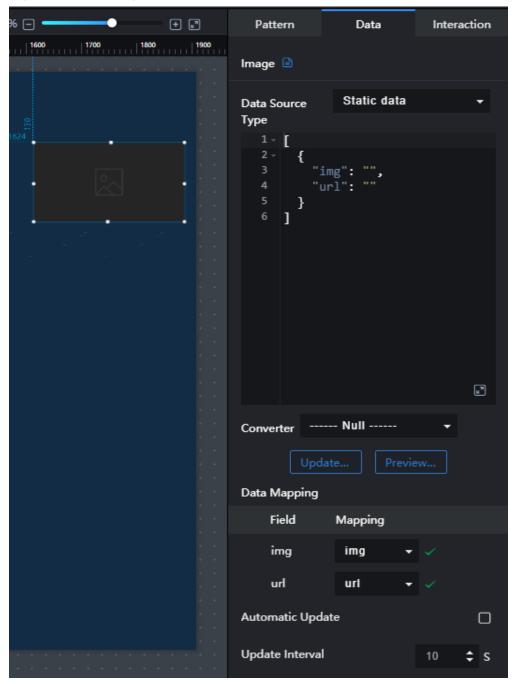
- URL: When the URL is set for an image, you can preview or view the image after it is published by clicking on it.
- New Window: to show or hide a new window by clicking or left or l

Figure 12-142 Link of an image component



# **Data**





- Data Source Type: to select the data source of the chart. Multiple data sources are provided for you to select. You need to add data sources first. For details, see Data Connection Overview.
- **Converter**: Select a converter to convert data into the data that meets the display requirements. For details, see **Using a Converter**.
- **img**: public network address of the image.
- url: URL of the image.

- Automatic Update: If you select Automatic Update and set Update Interval, the data is automatically updated based on the interval.
- **Preview Result**: Click **Preview Result** to view the information about the selected data source. You can click **Update Query** to manually update the component data when the data source changes.

For details about whether the component supports the interaction function and how to use the interaction function, see **Configuring Component Interaction**.

# 12.8.2 Video

This section describes parameters of a video component.

#### **Pattern**

- Size: width and height of the component. Unit: pixel.
- **Position**: position where the component is located in the canvas. Unit: pixel.
- **Autoplay**: when **Autoplay** is selected, the video is automatically played.
- Cycleplay: when Cycleplay is selected, the video is played cyclically.
- **Control Bar**: when **Control Bar** is selected, the control bar is displayed during video playout.
- **Mute**: If this option is selected, the video is muted.

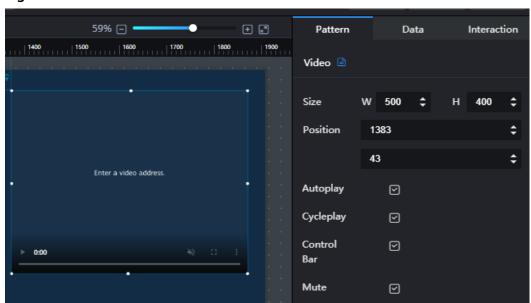
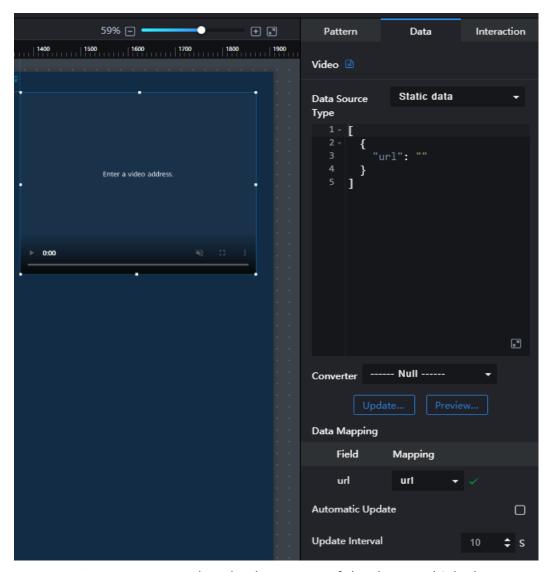


Figure 12-144 Video

#### Data



- Data Source Type: to select the data source of the chart. Multiple data sources are provided for you to select. You need to add data sources first. For details, see Data Connection Overview.
- **Converter**: Select a converter to convert data into the data that meets the display requirements. For details, see **Using a Converter**.
- **url**: Access address of the video. The value must end with mp4, for example, **http://**xxx.**mp4** (xxx indicates the video URL).
- Automatic Update: If you select Automatic Update and set Update Interval, the data is automatically updated based on the interval.
- **Preview Result**: Click **Preview Result** to view the information about the selected data source. You can click **Update Query** to manually update the component data when the data source changes.

# Interaction

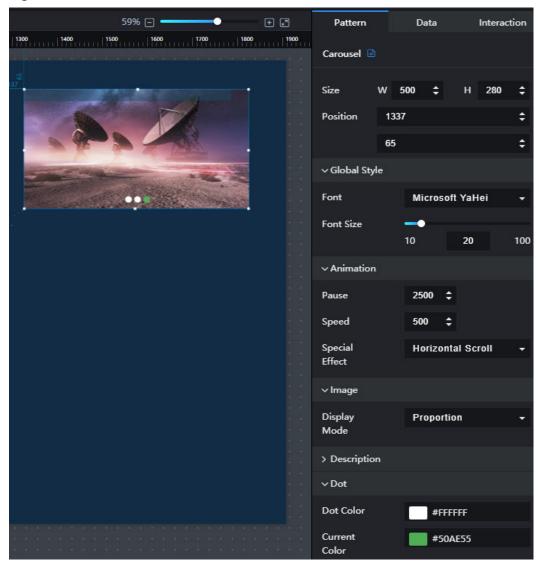
For details about whether the component supports the interaction function and how to use the interaction function, see **Configuring Component Interaction**.

# 12.8.3 Carousel Chart

This section describes parameters of a carousel chart.

#### **Pattern**

Figure 12-145 Carousel chart



# • Size/Position

- Size: width and height of the component. Unit: pixel.
- Position: position where the component is located in the canvas. Unit: pixel.

# • Global Style

In Global Style, you can set the font and font size of an image title.

#### Animation

Pause: image pause duration.

- **Speed**: image switch speed.
- Special Effect: image switch effect. The value can be Horizontal scrolling or Vertical scrolling.

#### Image

You can set **Display Mode** of an image to **Default**, **Proportion**, **Crop**, or **Stretch**.

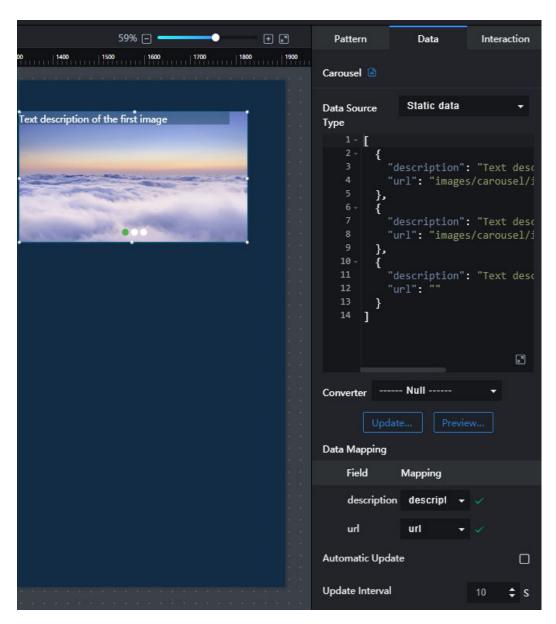
# • Description

- Background Color: background color of the image title.
- **Font Color**: font color of the image title.
- Font Width: font width of the image title.
- Length (%): length of the image title.
- Width (%): width of the image title.
- **Top Margin (px)**: spacing between the image title and the upper edge of the image.
- Left Margin (px): spacing between the image title and the left edge of the image.
- Alignment: alignment mode of the image title. The value can be Align center, Align left, or Align right.

#### Dot

- Dot Color: color of the dot in the lower part of the image that will be displayed.
- Current Color: color of the dot in the lower part of the image that is currently displayed.

# **Data**



The example data in the preceding figure is as follows:

- **description**: description of an image.
- **url**: image URL address. Image addresses in the OBS bucket are supported. The public read policy must be set for images in the OBS bucket.

- Data Source Type: to select the data source of the chart. Multiple data sources are provided for you to select. You need to add data sources first. For details, see Data Connection Overview.
- **Converter**: Select a converter to convert data into the data that meets the display requirements. For details, see **Using a Converter**.
- Automatic Update: If you select Automatic Update and set Update Interval, the data is automatically updated based on the interval.
- **Preview Result**: Click **Preview Result** to view the information about the selected data source. You can click **Update Query** to manually update the component data when the data source changes.

For details about whether the component supports the interaction function and how to use the interaction function, see **Configuring Component Interaction**.

# 12.8.4 FLV Stream Player

This section describes parameters of an FLV stream player.

Interaction + 2 Pattern Data FLV Player Size ₾ **Position** 1398 **‡** 36 **‡** Adjust Volume ٥ 0 100

Figure 12-146 FLV stream player

# **Pattern**

- Size/Position
  - **Size**: width and height of the component. Unit: pixel.
  - Position: position where the component is located in the canvas. Unit: pixel.
- Adjust Volume: to adjust the video volume.

# **Data**

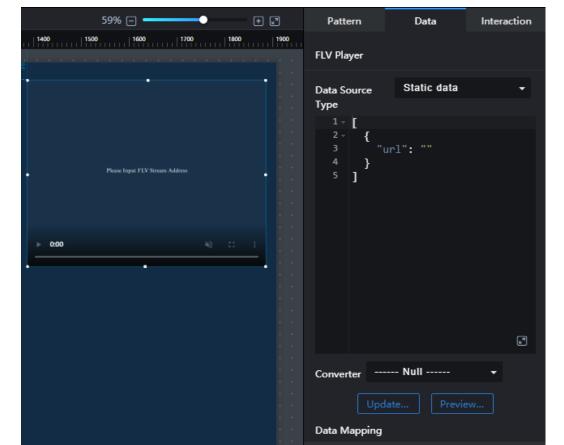


Figure 12-147 FLV video stream player - Data

• **url**: public network address of the FLV video stream in the format of **https://** *domain name/directory/file name.flv*.

Field

url

**Automatic Update** 

Update Interval

Mapping

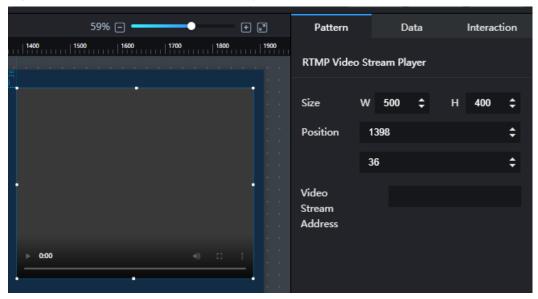
- **Data Source Type**: to select the data source of the chart. Multiple data sources are provided for you to select. You need to add data sources first. For details, see **Data Connection Overview**.
- **Converter**: Select a converter to convert data into the data that meets the display requirements. For details, see **Using a Converter**.
- Automatic Update: If you select Automatic Update and set Update Interval, the data is automatically updated based on the interval.
- **Preview Result**: Click **Preview Result** to view the information about the selected data source. You can click **Update Query** to manually update the component data when the data source changes.

For details about whether the component supports the interaction function and how to use the interaction function, see **Configuring Component Interaction**.

# 12.8.5 RTMP Video Stream Player

This section describes the configuration items of the RTMP video stream player component.

Figure 12-148 RTMP video stream player

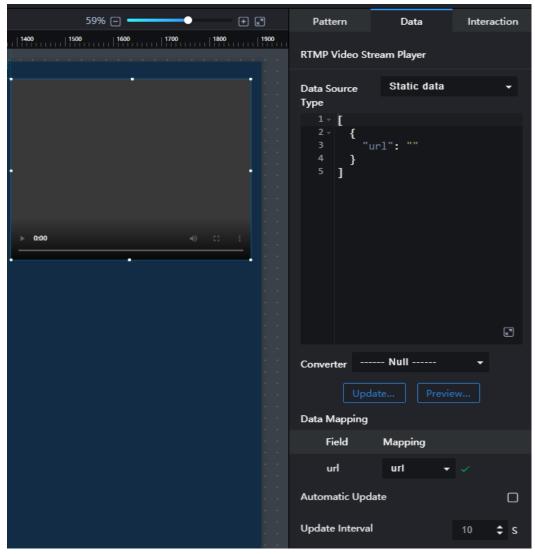


# **Pattern**

- Size/Position
  - Size: width and height of the component. Unit: pixel.
  - Position: position where the component is located in the canvas. Unit: pixel.
- Video Stream Address: public network address of the video stream.

# **Data**





- **url**: public network address of the video stream.
- **Data Source Type**: to select the data source of the chart. Multiple data sources are provided for you to select. You need to add data sources first. For details, see **Data Connection Overview**.
- **Converter**: Select a converter to convert data into the data that meets the display requirements. For details, see **Using a Converter**.
- Automatic Update: If you select Automatic Update and set Update Interval, the data is automatically updated based on the interval.
- **Preview Result**: Click **Preview Result** to view the information about the selected data source. You can click **Update Query** to manually update the component data when the data source changes.

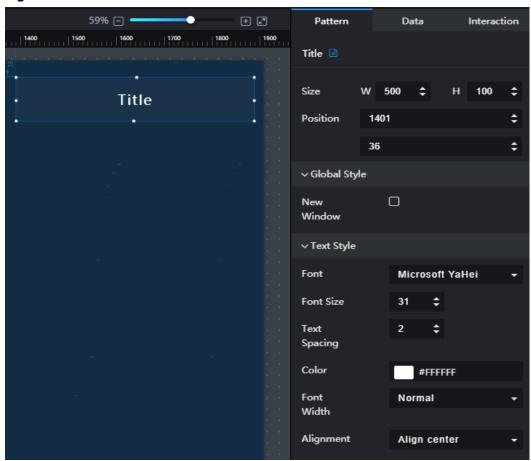
For details about whether the component supports the interaction function and how to use the interaction function, see **Configuring Component Interaction**.

# 12.9 Text

# 12.9.1 Title

This section describes parameters of a title component.

Figure 12-150 Title



# **Pattern**

#### • Size/Position

- **Size**: width and height of the component. Unit: pixel.
- Position: position where the component is located in the canvas. Unit: pixel.

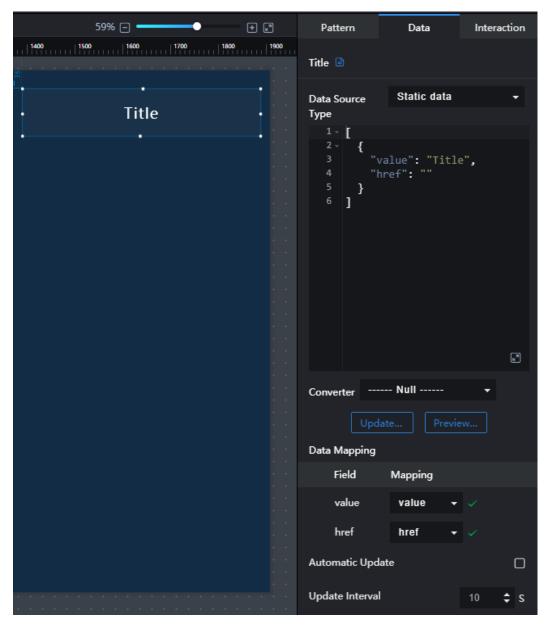
# • Global Style

**New Window**: to show or hide a new window by clicking or when **New Window** is selected and href is configured on the **Data** tab page, you can open a new window by clicking the title component.

# • Text Style

- Font: font of the title.
- **Font Size**: font size of the title.
- **Text Spacing**: spacing of the text in the title.
- **Color**: font color of the title.
- **Font Width**: font width of the title.
- Alignment: alignment mode of the title. The value can be Align center, Left, or Right.

# **Data**



The example data in the preceding figure is as follows:

```
[
{
"value": "Title",
```

```
"href": ""
}
```

- value: text displayed on the previewed or published screen.
- href: text link address. When previewing or publishing a screen, you can click **value** to go to the corresponding link address.
- **Data Source Type**: to select the data source of the chart. Multiple data sources are provided for you to select. You need to add data sources first. For details, see **Data Connection Overview**.
- **Converter**: Select a converter to convert data into the data that meets the display requirements. For details, see **Using a Converter**.
- Automatic Update: If you select Automatic Update and set Update Interval, the data is automatically updated based on the interval.
- **Preview Result**: Click **Preview Result** to view the information about the selected data source. You can click **Update Query** to manually update the component data when the data source changes.

For details about whether the component supports the interaction function and how to use the interaction function, see **Configuring Component Interaction**.

# 12.9.2 Text

This section describes parameters of a text component.

#### **Pattern**

#### Size/Position

- Size: width and height of the component. Unit: pixel.
- Position: position where the component is located in the canvas. Unit: pixel.

59% 🖃 🕶 + 2 Pattern Data Interaction 1400 1500 1600 1700 1800 1900 Text 🖹 DLV aims to clearly and effectively transfer **‡** Size information in graphical mode. **‡** Position 1388 54 **‡** ∨ Global Style Overflow Scrolling Scrolling 50 **‡** Duration ∨ Text Style Font Microsoft YaHei Font Size **‡** 14 Text **‡** Color #FFFFFF Normal Width Alignment Left Height 100 First Line Indent 100

Figure 12-151 Text

# Global Style

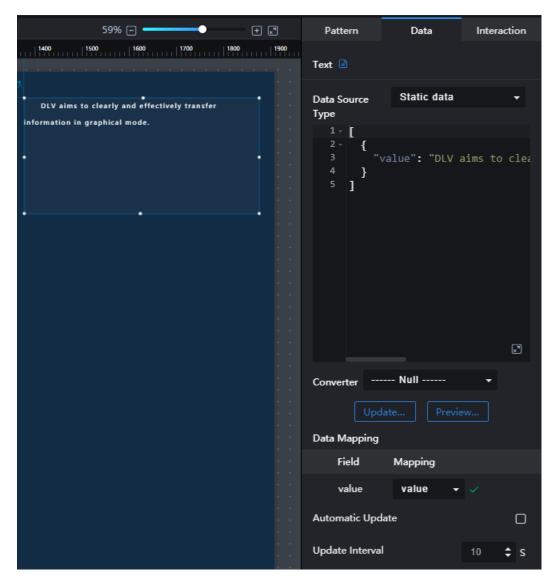
- Overflow Scrolling: if you select Overflow Scrolling, the system plays the text in rotation if the text overflows.
- Scrolling Duration: to set the text scrolling duration by entering a value or clicking . Scrolling Duration is valid only when Overflow Scrolling is selected.

#### Text Style

- Font: font of the text.
- **Font Size**: font size of the text.
- **Text Spacing**: spacing of the content in the text.
- Color: font color of the text.
- **Font Width**: font width of the text component.
- Alignment: alignment mode of the text. The value can be Align center,
   Left, or Right.
- Row Height: to adjust the spacing between lines in the text by entering a value or dragging .

- **First Line Indent**: to adjust the first line indent of the text by entering a value or dragging ...

#### **Data**



- value: text displayed on the screen.
- **Data Source Type**: to select the data source of the chart. Multiple data sources are provided for you to select. You need to add data sources first. For details, see **Data Connection Overview**.
- **Converter**: Select a converter to convert data into the data that meets the display requirements. For details, see **Using a Converter**.
- Automatic Update: If you select Automatic Update and set Update Interval, the data is automatically updated based on the interval.
- **Preview Result**: Click **Preview Result** to view the information about the selected data source. You can click **Update Query** to manually update the component data when the data source changes.

For details about whether the component supports the interaction function and how to use the interaction function, see **Configuring Component Interaction**.

# 12.9.3 Word Cloud

This section describes parameters of a world cloud component.

#### Pattern

#### • Size/Position

- Size: width and height of the component. Unit: pixel.
- Position: position where the component is located in the canvas. Unit: pixel.

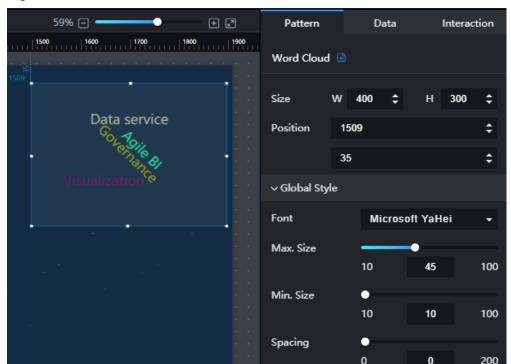


Figure 12-152 Word cloud

#### Global Style

- **Font**: font of the component text.
- Max. Size: to set the maximum font size of the component text by entering a value or dragging . It defines the maximum text size with the largest value in the data.
- Min. Size: to set the minimum font size of the component text by entering a value or dragging . It defines the text size with the smallest value in the data.
- **Spacing**: to adjust the spacing between lines in the text by entering a value or dragging ...

#### Data

- name: text content displayed on the screen.
- value: weight of a component. A larger value indicates a larger font size.
- Data Source Type: to select the data source of the chart. Multiple data sources are provided for you to select. You need to add data sources first. For details, see Data Connection Overview.
- **Converter**: Select a converter to convert data into the data that meets the display requirements. For details, see **Using a Converter**.
- Automatic Update: If you select Automatic Update and set Update
   Interval, the data is automatically updated based on the interval.
- **Preview Result**: Click **Preview Result** to view the information about the selected data source. You can click **Update Query** to manually update the component data when the data source changes.

#### Interaction

For details about whether the component supports the interaction function and how to use the interaction function, see **Configuring Component Interaction**.

# 12.9.4 Timer

This section describes parameters of a timer component.

#### **Pattern**

- Size/Position
  - Size: width and height of the component. Unit: pixel.
  - Position: position where the component is located in the canvas. Unit: pixel.

59% 🖃 🗕 Data + ₽ Pattern Interaction 1400 | 1500 | 1600 | 1700 | 1800 | 1900 Timer 🖹 Size 500 52 **‡** © 2021-01-15 Friday 11:38:07 **‡** Position 1410 **‡** 106  $\odot$ ∨ lcon Font Size 30 Color #FFFFFF Right Margin 100 10 ∨ Timer Font Microsoft YaHei Font Size Color #FFFFFF Font Normal Width Format yyyy-MM-dd w hh:mm:ss

Figure 12-153 Timer

#### Icon Style

- Font Size: Size of the icon.
- Color: color of the icon.
- Right Margin: to adjust the margin between the icon and the left side of the text.

#### Timer

- **Font**: font of the component text.
- Font Size: font size of the component text.
- Color: to set the font color of the component text by clicking the color editor.
- Font Width: to select a font width from the drop-down list.
- **Format**: time display format.

#### Data

This component does not have data events.

# Interaction

For details about whether the component supports the interaction function and how to use the interaction function, see **Configuring Component Interaction**.

# 12.9.5 Carousel Table

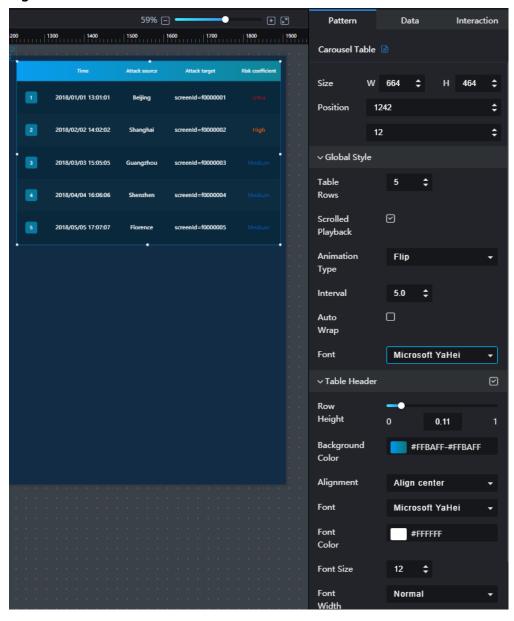
This section describes parameters of a carousel table component.

#### **Pattern**

#### Size/Position

- Size: width and height of the component. Unit: pixel.
- Position: position where the component is located in the canvas. Unit: pixel.

Figure 12-154 Carousel table



# Global Style

 Table Rows: to set the number of rows to be displayed in the table by entering a value or clicking

- Rotate: if Rotate is selected, the content in the table is played in rotation. If this parameter is not selected, the table content is not played in rotation. If the number of rows in the table exceeds the specified number, a scroll bar is displayed. You can slide the scroll bar to view the table data.
- Animation Type: to select an animation type from the drop-down list.
   The value can be Flip, Marquee, or Beat.
- **Interval**: to set the interval for rotating the content in the table by entering a value or clicking .
- Automatic Line Feed: If this option is selected, the content in the cell is automatically fed. If this parameter is not selected, the cell content is not automatically wrapped. If the content is too long, only part of the content is displayed.
- Font: to set the font style of the table text from the drop-down list.

#### • Table Header

- Table Header: to show or hide the table header by clicking or
- **Row Height**: to set the row height of the table header by entering a value or dragging ...
- Background Color: to set the background color of the table header by clicking the color editor.
- Alignment: alignment mode of the text in the table header. The value can be Align center, Left, or Right.
- Font: to select a font style from the drop-down list.
- Font Color: to set the font color by clicking the color editor.
- **Font Size**: to select a font size from the drop-down list.
- Font Width: to select a font width from the drop-down list.

#### Row Settings

- Odd-numbered Row Background: to set the background color of the odd-numbered rows in the table by clicking the color editor.
- Even-numbered Row Background: to set the background color of the even-numbered rows in the table by clicking the color editor.

#### SN

- **SN**: to show or hide the SN by clicking lacksquare or lacksquare.
- **Background Color**: to set the background color of the SN by clicking the color editor.
- Round Corner: to set the round corner angle of the SN icon by entering a value or clicking
- **Column Width Ratio (%)**: to set the width of the SN column by entering a value or dragging ...
- Radius: to set the radius size of the SN icon by entering a value or dragging
- **Font Color**: to set the font color of the SN by clicking the color editor.
- Font Size: to set the font size of the SN by entering a value or clicking

Font Width: to set the font width of the SN.

#### **Data**

For details about how to configure component data, see **Configuring Component Data**.

# Interaction

For details about whether the component supports the interaction function and how to use the interaction function, see **Configuring Component Interaction**.

# 12.9.6 Ticker Board

This section describes parameters of a ticker board.

#### **Pattern**

- Size/Position
  - **Size**: width and height of the component. Unit: pixel.
  - Position: position where the component is located in the canvas. Unit: pixel.

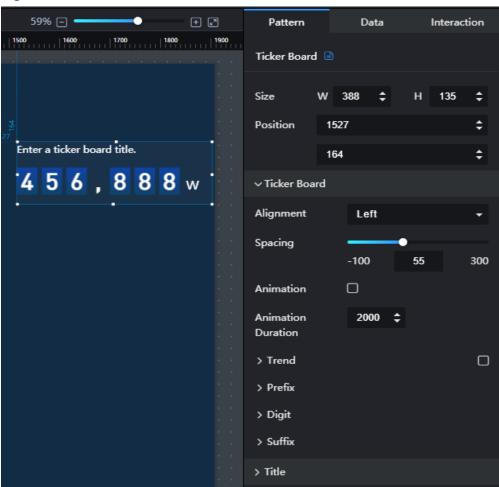


Figure 12-155 Ticker board

#### Ticker Board

- Alignment: alignment mode of the ticker board. The value can be Align center, Left, or Right.
- Spacing: distance between the digits and the upper edge of the component.
- **Animation**: After this function is enabled, the number on the ticker board changes dynamically as the data changes.
- Animation Duration: set the duration for playing animation once by entering a value or clicking. The unit is milliseconds.
- Trend: to show or hide Trend by clicking or ☑. The value can be Up or Down. When the value in the subsequent validator is greater than the current value, the value increases. When the value in the subsequent flier is smaller than the current value, the trend is reduced. The trend icon is customizable.
- **Prefix**: to set the prefix content, font, font size, font color, and font width.
- Digit: to set the digit style, including the decimal control, font, size, color, width, spacing, horizontal padding, vertical padding, and background color.
- **Suffix**: to set the suffix content, font, size, color, and width.

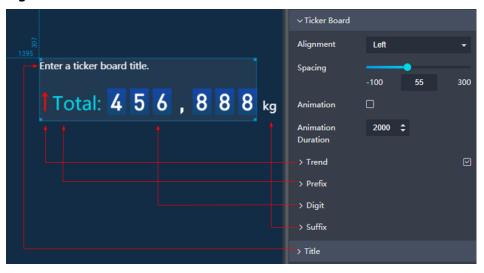


Figure 12-156 Ticker board

#### Title

- Alignment: title alignment mode of the title. The value can be Top center, Top left, Top right, Bottom center, Bottom left, or Bottom right.
- Title Name: title name.
- Font: font of the title.
- **Font Size**: font size of the title.
- **Color**: font color of the title.
- **Font Width**: font width of the title.

- name: name of the component title.
  - If you set a **name**, the name that you have set is displayed.
  - If you do not set a name, Title Name under Title on the Pattern tab page is displayed.
  - If you do not set **Title Name**, no title is displayed.
- value: value displayed on a component.
- Data Source Type: to select the data source of the chart. Multiple data sources are provided for you to select. You need to add data sources first. For details, see Data Connection Overview.
- **Converter**: Select a converter to convert data into the data that meets the display requirements. For details, see **Using a Converter**.
- Automatic Update: If you select Automatic Update and set Update
   Interval, the data is automatically updated based on the interval.
- **Preview Result**: Click **Preview Result** to view the information about the selected data source. You can click **Update Query** to manually update the component data when the data source changes.

## Interaction

For details about whether the component supports the interaction function and how to use the interaction function, see **Configuring Component Interaction**.

# 12.9.7 Marquee

This section describes components of a marquee component.

- Size/Position
  - **Size**: width and height of the component. Unit: pixel.
  - Position: position where the component is located in the canvas. Unit: pixel.

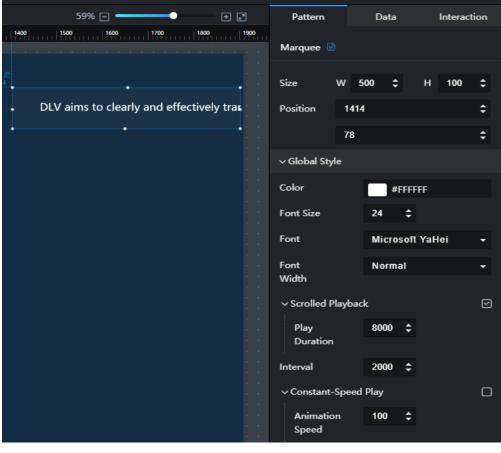
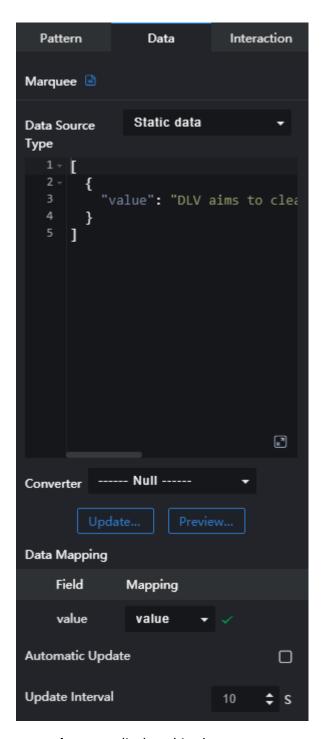


Figure 12-157 Marquee

#### Global Style

- Color: to set the font color of the component text by clicking the color editor.
- **Font Size**: font size of the component text.
- **Font**: font of the component text.
- **Font Width**: font width of the component text.
- Scrolled Playback: when Scrolled Playback is selected, the text will be scrolled. You can set the duration for playing the animation by entering a value or clicking. The unit is milliseconds.
- **Interval**: to set the interval for scrolling the text by entering a value or clicking . The unit is milliseconds.
- Constant-Speed Play: when Constant-Speed Play is selected, the text is played at a specified speed. You can set the playback speed by entering a value or clicking



- value: text displayed in the component.
- Data Source Type: to select the data source of the chart. Multiple data sources are provided for you to select. You need to add data sources first. For details, see Data Connection Overview.
- **Converter**: Select a converter to convert data into the data that meets the display requirements. For details, see **Using a Converter**.
- Automatic Update: If you select Automatic Update and set Update
   Interval, the data is automatically updated based on the interval.

• **Preview Result**: Click **Preview Result** to view the information about the selected data source. You can click **Update Query** to manually update the component data when the data source changes.

#### Interaction

For details about whether the component supports the interaction function and how to use the interaction function, see **Configuring Component Interaction**.

## 12.9.8 Carousel Bar Chart

This section describes parameters of a carousel bar chart.

#### **Pattern**

- Size/Position
  - Size: width and height of the component. Unit: pixel.
  - Position: position where the component is located in the canvas. Unit: pixel.

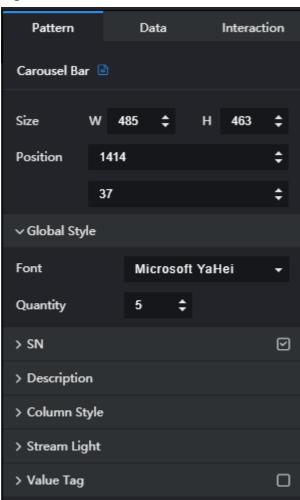


Figure 12-158 Carousel bar chart

• Global Style

- Font: font of the component text.
- Quantity: to set the number of rows in the component by entering a value or clicking

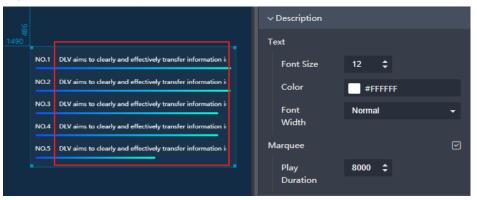
#### SN

- **SN**: to show or hide the SN by clicking **a** or **a**
- **Text**: text style of the SN, including the font size, color, and width.
- **Column Width Ratio (%)**: to set the width of the SN column by entering a value or dragging ...

#### Content

- Text: text style of the component, including the font size, color, and width.
- Marquee: When Marquee is selected, the text is scrolled in marquee mode. You can set the duration for playing the animation by entering a value or clicking.
   The unit is milliseconds.

Figure 12-159 Description of a carousel bar chart



#### Column Style

- Background: background color of the column.
- Color: to set the column color by clicking the color editor.
- Height: to set the column height by entering a value or clicking

#### Stream Light

- Color: to set the stream light by clicking the color editor.
- **Length**: length of the stream light.
- **Height**: height of the stream light.
- **Value Tag**: to show or hide the value tag. The value of the **value** field in the data is displayed as a tag in the chart.
  - Font Size: font size of the value tag.
  - **Color**: font color of the value tag.
  - Font Width: font width of the value tag.

NO.1 DLV aims to clearly and effectively transfer

NO.2 DLV aims to clearly and effectively transfer

NO.3 DLV aims to clearly and effectively transfer

NO.4 DLV aims to clearly and effectively transfer

NO.5 DLV aims to clearly and effectively transfer

1314529403.31

Font Size

Color

#00749B

Font

Normal

Width

Figure 12-160 Value tag of a carousel bar chart

- value: weight of a column chart. A larger weight leads to a longer column and a larger percentage.
- content: description of the text displayed in each bar chart.
- Data Source Type: to select the data source of the chart. Multiple data sources are provided for you to select. You need to add data sources first. For details, see Data Connection Overview.
- **Converter**: Select a converter to convert data into the data that meets the display requirements. For details, see **Using a Converter**.
- Automatic Update: If you select Automatic Update and set Update Interval, the data is automatically updated based on the interval.
- **Preview Result**: Click **Preview Result** to view the information about the selected data source. You can click **Update Query** to manually update the component data when the data source changes.

## Interaction

For details about whether the component supports the interaction function and how to use the interaction function, see **Configuring Component Interaction**.

## 12.9.9 Key-Value Table

This section describes parameters of a key-value table component.

#### **Pattern**

#### Size/Position

- Size: width and height of the component. Unit: pixel.
- Position: position where the component is located in the canvas. Unit: pixel.

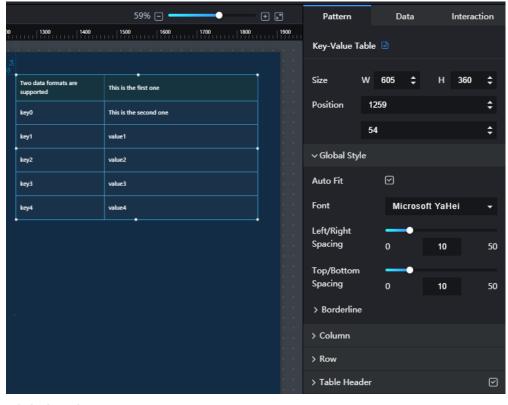


Figure 12-161 Key-value table

#### Global Style

- Auto Fit: when Auto Fit is selected, the table will automatically adapt to the height of the component.
- **Font**: font of the component text.
- Left/Right Spacing: to set the left and right spacing of the table by entering a value or dragging
- Top/Bottom Spacing: to set the top and bottom spacing of the table by entering a value or dragging
- Borderline: to set the width and color of the borderline.

#### Column

- **Split Line**: width and color of the split line.
- **Column 1**: to set the width of the first column and the font, font color, font size, alignment background color of the text in the column.
- **Column 2**: to set the font, font color, font size, alignment, and background color of the text in the column.

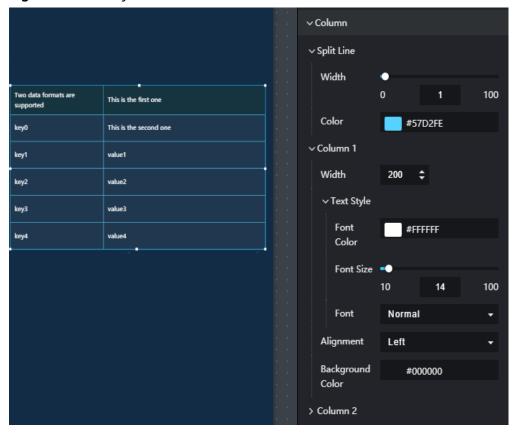


Figure 12-162 Key-value table

## Row

- Split Line: width and color of the split line.
- Odd/Even Row: when Odd/Even Row is selected, rows will be divided into odd and even rows. To set the color of odd and even rows, click the color editor.

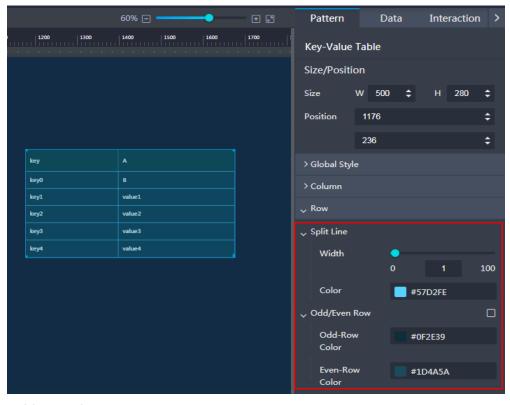


Figure 12-163 Rows of a key-value table

#### Table Header

- Height: to adjust the height of the table header by entering a value or clicking
- **Text Style**: font, font color, and font size of the text in the text header.
- Color: to set the background color of the table header by clicking the color editor.

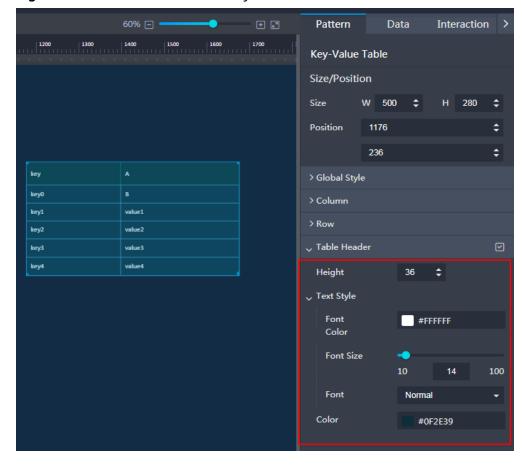


Figure 12-164 Table header of a key-value table

- label: content of the first column header.
- value: content of the second column header.
- **Data Source Type**: to select the data source of the chart. Multiple data sources are provided for you to select. You need to add data sources first. For details, see **Data Connection Overview**.
- **Converter**: Select a converter to convert data into the data that meets the display requirements. For details, see **Using a Converter**.
- Automatic Update: If you select Automatic Update and set Update Interval, the data is automatically updated based on the interval.
- **Preview Result**: Click **Preview Result** to view the information about the selected data source. You can click **Update Query** to manually update the component data when the data source changes.

#### Interaction

For details about whether the component supports the interaction function and how to use the interaction function, see **Configuring Component Interaction**.

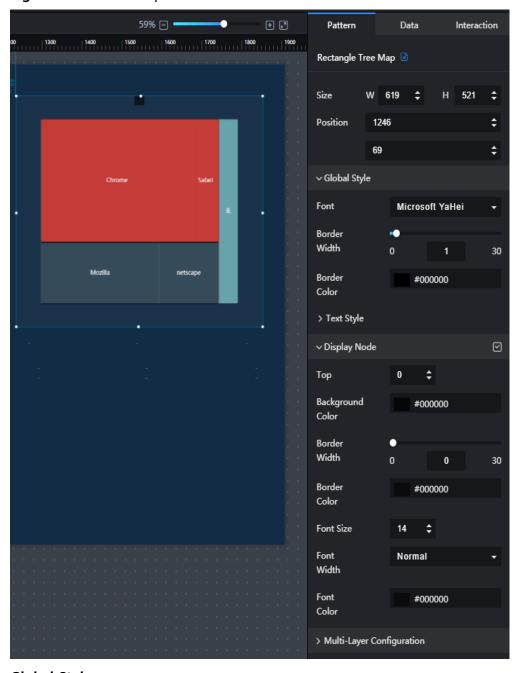
## 12.9.10 Treemap

This section describes parameters of a treemap.

### **Pattern**

- Size/Position
  - **Size**: width and height of the component. Unit: pixel.
  - Position: position where the component is located in the canvas. Unit: pixel.

Figure 12-165 Treemap



## • Global Style

- **Font**: font of the component text.
- Border Width: to set the border width of the component by entering a value or dragging

- Border Color: to set the border color of the component by clicking the color editor.
- Text Style: to set the font size, font color, and font width of the component.

#### • Display Node Path

- **Display Node**: to show or hide the node by clicking **I** or
- **Top**: to set the distance between the node and the top of the component.
- Background Color: to set the background color of the node by clicking the color editor.
- Border Width: to set the border width of the node by entering a value or dragging .
- Border Color: to set the border color of the node by clicking the color editor.
- Font Size: font size of the node text.
- Font Width: font width of the node text.
- **Font Color**: font color of the node text.

#### • Multi-Layer Configuration

- Rectangle Border Width: to set the rectangle border width by entering a value or dragging
- Inter-Subrectangle Clearance: to set the clearance between subrectangles by entering a value or dragging .

#### Data

- name: name of a node path.
- value: value of a node path. A larger value leads to a larger area occupied by the rectangle.
- children: child node, which contains **name** and **value** fields.
  - name: name of a child node. A child node name is displayed in the rectangle.
  - value: weight of a subnode. A larger value leads to a larger area occupied by the subnode rectangle.
- Data Source Type: to select the data source of the chart. Multiple data sources are provided for you to select. You need to add data sources first. For details, see Data Connection Overview.
- **Converter**: Select a converter to convert data into the data that meets the display requirements. For details, see **Using a Converter**.
- Automatic Update: If you select Automatic Update and set Update Interval, the data is automatically updated based on the interval.
- **Preview Result**: Click **Preview Result** to view the information about the selected data source. You can click **Update Query** to manually update the component data when the data source changes.

For details about whether the component supports the interaction function and how to use the interaction function, see **Configuring Component Interaction**.

# 12.10 Relationship Network

## 12.10.1 Relationship Network

This section describes parameters of a relationship network component.

- Size/Position
  - Size: width and height of the component. Unit: pixel.
  - Position: position where the component is located in the canvas. Unit: pixel.

59% 🖃 • + 2 Data Interaction Pattern 1500 1600 1700 1800 Relationship Network Size **‡ ‡ Position** 1475 37 **‡** √ Text Label Font Microsoft YaHei Font Size **‡** Color #FF0B25 Normal Width Position Top Connection Line Color #FF0B25 Width 15 Length 100 Solid line Type > Legend

Figure 12-166 Relationship network

#### Text Label

- Text Label: to show or hide text labels by clicking or .
- Font: label font.
- **Font Size**: font size of the label.
- Color: font color of the label.
- **Font Width**: font width of the label.
- **Position**: position of the label.

#### • Connection Line

- **Color**: color of the connection line.
- **Width**: width of the connection line.
- **Length**: length of the connection line.
- Type: type of the connection line. The value can be Solid line, Dotted line, or Dash-dot line.

### Legend

- **Legend**: to show or hide legends by clicking or or
- **Text**: font size, color, and width of the legend.
- **Layout**: to set the position, margin, and spacing of the legends.

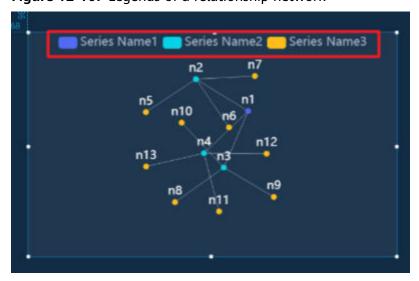


Figure 12-167 Legends of a relationship network

#### Data

- nodes: a node that contains the following fields:
  - name: label name of a node.
  - imgPath: URL of an image. If a node needs to use an image, set this parameter to the link address of the image. If this parameter is left blank, the node is displayed as the default circle.
  - category: data series field of a node. Data is grouped based on the value of the category field.

- Add a data series: Click Inext to s to add a data series.
- Configure a data series: Click > in front of the data series, and configure the specified style of the data series on the expanded panel, including the column name, radius, filling color, stroke color, and stroke width.
- links: a link that contains the following two fields:
  - source: the source node of the connection line. The value is the name of the source node.
  - target: the destination node of the connection line. The value is the name value of the target node.
- Data Source Type: to select the data source of the chart. Multiple data sources are provided for you to select. You need to add data sources first. For details, see Data Connection Overview.
- **Converter**: Select a converter to convert data into the data that meets the display requirements. For details, see **Using a Converter**.
- Automatic Update: If you select Automatic Update and set Update Interval, the data is automatically updated based on the interval.
- **Preview Result**: Click **Preview Result** to view the information about the selected data source. You can click **Update Query** to manually update the component data when the data source changes.

For details about whether the component supports the interaction function and how to use the interaction function, see **Configuring Component Interaction**.

## 12.11 Design

## 12.11.1 Border

This section describes parameters of a border component.

- Size/Position
  - Size: width and height of the component. Unit: pixel.
  - Position: position where the component is located in the canvas. Unit: pixel.

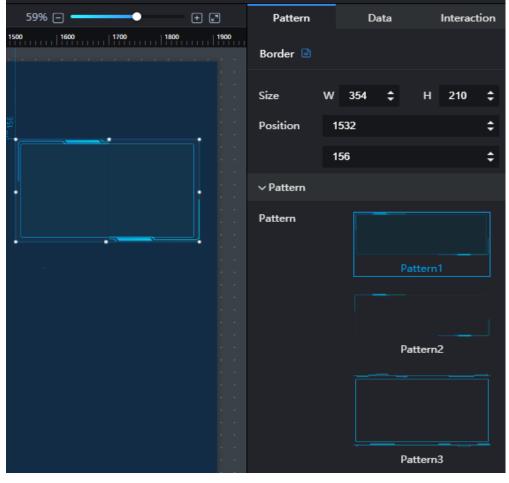


Figure 12-168 Border

#### Pattern

DLV provides various preset border patterns for you to select.

#### **Data**

This component does not have data events.

#### Interaction

For details about whether the component supports the interaction function and how to use the interaction function, see **Configuring Component Interaction**.

## 12.11.2 Decoration

This section describes parameters of a decoration component.

#### **Pattern**

#### • Size/Position

- Size: width and height of the component. Unit: pixel.
- Position: position where the component is located in the canvas. Unit: pixel.

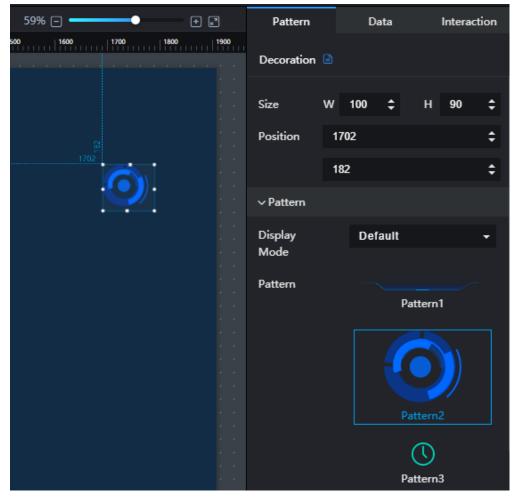


Figure 12-169 Decoration

#### Pattern

- Display Mode: to set the display mode of the decoration component. The value can be Default, Proportion, Crop, or Stretch.
- Pattern: pattern of the decoration component. DLV provides various preset border patterns for you to select.

### Data

This component does not have data events.

#### Interaction

For details about whether the component supports the interaction function and how to use the interaction function, see **Configuring Component Interaction**.

## 12.11.3 Custom Background

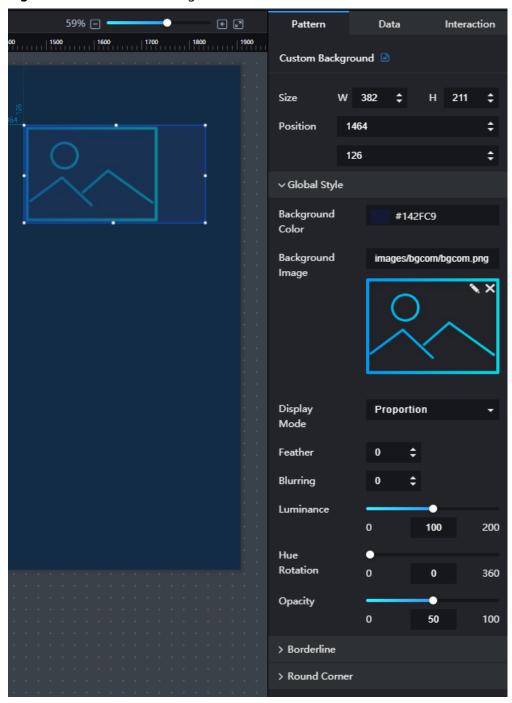
This section describes parameters of a custom background component.

#### **Pattern**

• Size/Position

- Size: width and height of the component. Unit: pixel.
- Position: position where the component is located in the canvas. Unit: pixel.

Figure 12-170 Custom background



## • Global Style

- Background Color: to set the background color of the component by clicking the color editor.
- Background Image: to set the background image of the component by clicking to upload an image from the local computer.

- **Display Mode**: to set the display mode of the background image. The value can be **Default**, **Proportion**, **Crop**, or **Stretch**.
- **Feather**: to set the edge blurring degree of the component by entering a value or clicking. When the value is set to **0**, the edge will not be blurred. A larger value leads to a blurrier edge.
- **Blurring**: to set the blurring degree of the component by entering a value or clicking . When the value is set to **0**, the background will not be blurred. A larger value leads to a blurrier background.
- Luminance: to set the color brightness of the background component by entering a value or clicking . When the value is set to 0, the background is dark. A larger value leads to a brighter background component.
- **Hue Rotation**: to set the hue value of the background component by entering a value or dragging . The value range of the hue indicates the angle range of the color wheel. When the value is set to **0**, the color does not change.
- Opacity: to set the opacity of the background component by entering a value or dragging . When the value is set to 0, the background is completely transparent. When the value is set to 100, the background is opaque.

#### Borderline

- Pattern: borderline style of the background component. The value can be
   Solid line, Dotted line, or Dash-dot line.
- Width: borderline width of the background component. When the value is set to **0**, the borderline is hidden. The greater the value is, the thicker the borderline is.
- Color: borderline color of the background component.

#### Round Corner

- Upper-Left Corner: to set the angle of the upper-left corner of the background component. A larger value leads to a larger round-corner angle. The value ranges from 0% to 50%.
- Upper-Right Corner: to set the angle of the upper-right corner of the background component. A larger value leads to a larger round-corner angle. The value ranges from 0% to 50%.
- Lower-Right Corner: to set the angle of the lower-right corner of the background component. A larger value leads to a larger round-corner angle. The value ranges from 0% to 50%.
- Lower-Left Corner: to set the angle of the lower-left corner of the background component. A larger value leads to a larger round-corner angle. The value ranges from 0% to 50%.

#### Data

- **bg**: address of the background image.
  - If you set **bg**, the image configured by **bg** is preferentially displayed on the screen.
  - If you do not set **bg**, the **Background Image** under **Global Style** on the **Pattern** tab page is displayed on the screen.

- If you do not set Background Image, only a blue background frame is displayed on the screen.
- Data Source Type: to select the data source of the chart. Multiple data sources are provided for you to select. You need to add data sources first. For details, see Data Connection Overview.
- **Converter**: Select a converter to convert data into the data that meets the display requirements. For details, see **Using a Converter**.
- Automatic Update: If you select Automatic Update and set Update Interval, the data is automatically updated based on the interval.
- **Preview Result**: Click **Preview Result** to view the information about the selected data source. You can click **Update Query** to manually update the component data when the data source changes.

For details about whether the component supports the interaction function and how to use the interaction function, see **Configuring Component Interaction**.

## 12.12 Interaction

## 12.12.1 Full Screen

This section describes parameters of a full screen component.

- Size/Position
  - Size: width and height of the component. Unit: pixel.
  - Position: position where the component is located in the canvas. Unit: pixel.

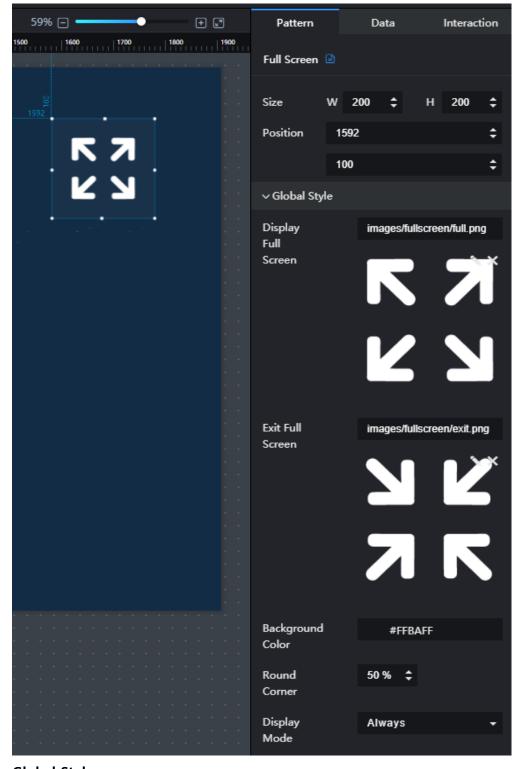


Figure 12-171 Full screen

## Global Style

- **Display Full Screen**: full screen display icon that is user-definable.
- **Exit Full Screen**: full screen exit icon that is user-definable.
- Background Color: background color of the icon.

- **Round Corner**: shape of the icon background. If the round corner value is 50%, a circle is displayed. If the round value is 0%, a square is displayed.
- Display Mode: mode of displaying or exiting the full screen when you are browsing a screen. The value can be Always or Hover. Always indicates that the button is always displayed on the screen. Hover indicates that the button is hidden by default and is displayed only when you hover over it.

This component does not have data events.

#### Interaction

For details about whether the component supports the interaction function and how to use the interaction function, see **Configuring Component Interaction**.

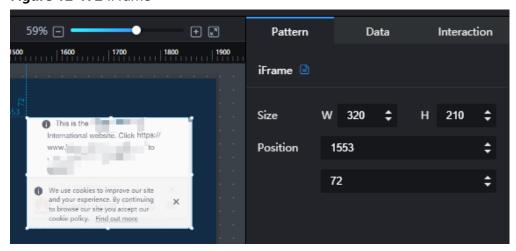
## 12.12.2 iFrame

This section describes parameters of an iFrame component.

#### **Pattern**

- Size/Position
  - Size: width and height of the component. Unit: pixel.
  - Position: position where the component is located in the canvas. Unit: pixel.

Figure 12-172 iFrame



#### Data

- **url**: URL of the iFrame component.
- Data Source Type: to select the data source of the chart. Multiple data sources are provided for you to select. You need to add data sources first. For details, see Data Connection Overview.
- **Converter**: Select a converter to convert data into the data that meets the display requirements. For details, see **Using a Converter**.

- Automatic Update: If you select Automatic Update and set Update Interval, the data is automatically updated based on the interval.
- **Preview Result**: Click **Preview Result** to view the information about the selected data source. You can click **Update Query** to manually update the component data when the data source changes.

For details about whether the component supports the interaction function and how to use the interaction function, see **Configuring Component Interaction**.

## 12.12.3 Search

This section describes parameters of a search component.

- Size/Position
  - Size: width and height of the component. Unit: pixel.
  - Position: position where the component is located in the canvas. Unit: pixel.

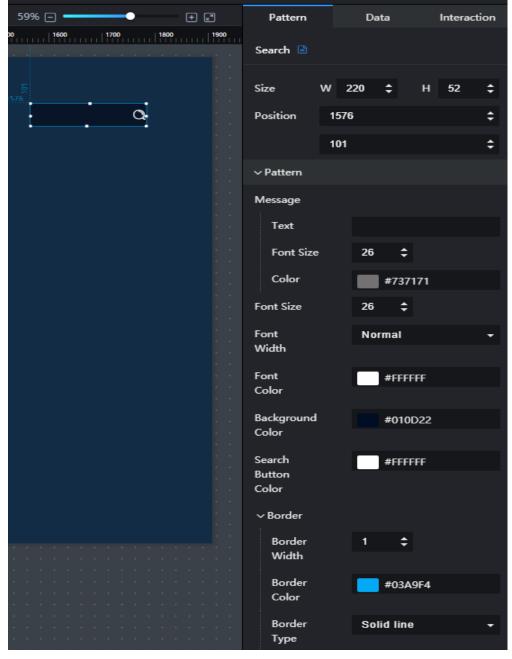


Figure 12-173 Search

- Text: when value on the Data panel is not configured, the system displays the value in the text box. When value is configured, the system displays the value of value.
- Font Size: font size of the component text.
- **Font Width**: font width of the component text.
- Color: to set the font color of the component text by clicking the color editor.
- Background Color: to set the background color of the component by clicking the color editor.

- Search Button Color: to set the color of the search button by clicking the color editor.
- Border: width, color, and type of the component border. The border type can be Solid line, Dotted line, or Dash-dot line.

- **value**: text that is displayed by default in the search box.
- Data Source Type: to select the data source of the chart. Multiple data sources are provided for you to select. You need to add data sources first. For details, see Data Connection Overview.
- **Converter**: Select a converter to convert data into the data that meets the display requirements. For details, see **Using a Converter**.
- **Automatic Update**: If you select **Automatic Update** and set **Update Interval**, the data is automatically updated based on the interval.
- **Preview Result**: Click **Preview Result** to view the information about the selected data source. You can click **Update Query** to manually update the component data when the data source changes.

#### Interaction

For details about whether the component supports the interaction function and how to use the interaction function, see **Configuring Component Interaction**.

## 12.12.4 Timeline

This section describes parameters of a timeline component.

- Size/Position
  - Size: width and height of the component. Unit: pixel.
  - Position: position where the component is located in the canvas. Unit: pixel.

Figure 12-174 Timeline

#### Global Style

- Font: font type of the component text.
- Scrolled Playback: when Scrolled Playback is selected, the text will be scrolled.
- **Interval**: to set the interval for scrolling the text by entering a value or clicking . **Interval** is valid only when **Scrolled Playback** is selected.
- Pause Duration: to set the play pause duration by entering a value or clicking Pause Duration is valid only when Scrolled Playback is selected.
- Left/Right Margin: to set the left and right margins of the component by entering a value or clicking

#### Event Node

- Type: event node type, including Time, Category, and Value.
- Shape: shape of the node, including Rhombus, Circle, Upright triangle, Inverted triangle, Square, and Cross.
- **Size**: to set the node size by entering a value or clicking
- Default Style: default style of the node, including Fill Color, Border Color, and Border Width.
- Selected Style: style of the selected node, including Fill Color, Border Color, and Border Width.

#### Lower Label

- Offset: offset of the text below the node label.
- Default Style: default style of the text below the node label, including the font size, color, and font width.

 Selected Style: selected style of the text below the node label, including the font size, color, and font width.

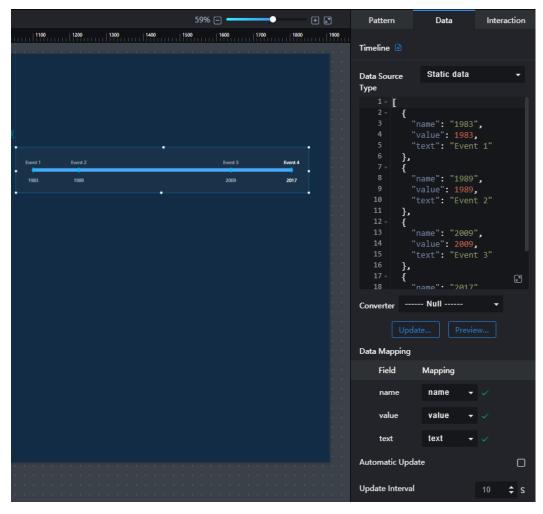
#### Upper Label

- Offset: offset of the text above the node label.
- Default Style: default style of the text above the node label, including the font size, color, and font width.
- **Selected Style**: selected style of the text below the node label, including the font size, color, and font width.

#### Background

- **Width**: to set the width of the background by entering a value or clicking
- Default Style: to set the default background color by clicking the color editor.
- Selected Style: to set the selected background color by clicking the color editor.

#### **Data**



The example data in the preceding figure is as follows:

```
[
{
```

```
"name": "1983",
  "value": 1983,
"text": " Event 1"
 },
"name": "1989",
  "value": 1989,
"text": " Event 2"
 {
"name": "2009",
  "value": 2009,
"text": " Event 3"
 {
"name": "2017",
  "value": 2017,
"text": " Event 4"
]
```

- name: text displayed below the time axis node label.
- value: value of the event node.
- text: text displayed above the time axis node label.

For details about whether the component supports the interaction function and how to use the interaction function, see **Configuring Component Interaction**.

## 12.12.5 Tab List

This section describes parameters of a timeline component.

- Size/Position
  - Size: width and height of the component. Unit: pixel.
  - Position: position where the component is located in the canvas. Unit: pixel.

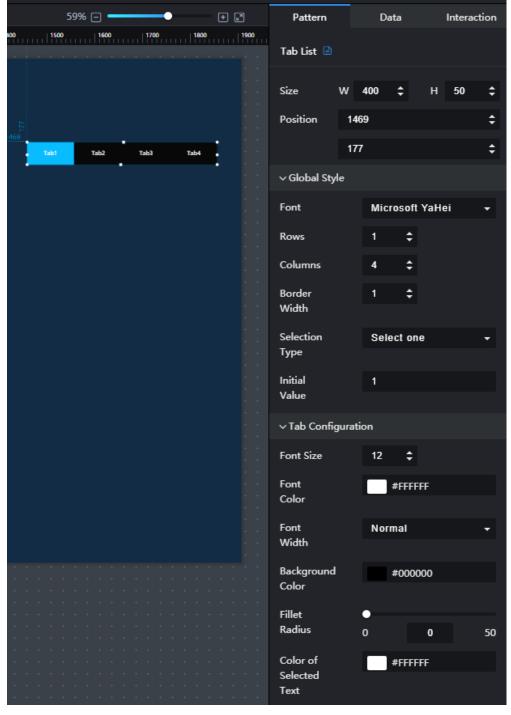


Figure 12-175 Tab List

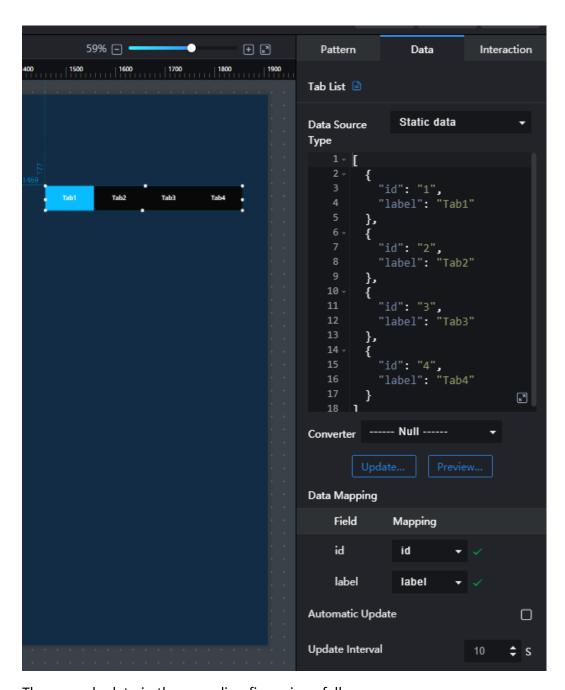
## • Global Style

- Font: font type of the component text.
- Rows: to set the number of rows to be displayed by entering a value or clicking
- Columns: to set the number of columns to be displayed by entering a value or clicking

- Selection Type: to set a selection type from the drop-down list. The value can be Select one or Select more.
- **Initial Value**: to enter an initial value. The initial value is the same as the ID on the **Data** tab.
  - If Selection Type is set to Select one and Initial Value is set to 1, the Tab1 column is highlighted.
  - If Selection Type is set to Select more and Initial Value is set to 1;2, the Tab1 and Tab2 columns are both highlighted.

## • Tab Configuration

- Font Size: font size of the component text.
- Font Color: font color of the component text.
- Font Width: font width of the component text.
- Background Color: to set background color of the tab list by clicking the color editor.
- Fillet Radius: to set the fillet radius of the tab list by entering a value or dragging .
- Hover Background Color: to set the hover background color by clicking the color editor.
- Color of Selected Text: to set the color of the selected text in the tab list by clicking the color editor.
- Background Color of Selected Tab: to set the background color when the tab is highlighted by clicking the color editor.
- Radio Carousel: to play the option on the screen based on the carousel interval.



The example data in the preceding figure is as follows:

```
[
    "id": "1",
    "label": "Tab1"
},
{
    "id": "2",
    "label": "Tab2"
},
{
    "id": "3",
    "label": "Tab3"
}
]
```

- id: ID of a tab. Initial Value requires this parameter value to define a tab.
- label: label text displayed on the tab.

For details about whether the component supports the interaction function and how to use the interaction function, see **Configuring Component Interaction**.

## 12.12.6 Tab Bookmark

This section describes the configuration items of the tab bookmark component.

- Size/Position
  - Size: width and height of the component. Unit: pixel.
  - Position: position where the component is located in the canvas. Unit: pixel.

Data Interaction Pattern Tab Bookmark Size w 535 340 **‡** Position 691 369 ∨ Global Style Layout Crosswise Alignment Top left Tab Slice Auto Width Tab Slice 35 **‡** Height Tab Slice 0 Spacing Initial Setting Preview Hidden > Unselected Tab Style > Selected Style > Animation ∨ Tab Slice Config Tab Slice Tab1 Name

Figure 12-176 Tab Bookmark

#### Global Style

- Layout: layout of the tab bookmark. The value can be Crosswise or Lengthways.
- Alignment: title alignment mode of the tab bookmark. The value can be Top center, Top left, Top right, Bottom center, Bottom left, or Bottom right.
- **Tab Slice Width**: width of a tab slice.
- **Tab Slice Height**: height of a tab slice.
- **Tab Slice Spacing**: distance between tab slices.
- Initial Setting: initial tab slice value. The initial value must be the same as the value of id on the Data tab. For example, if the initial value is 1, the Tab1 column is highlighted.
- **Font**: font type of the component text.
- Preview Hidden: whether to hide the component during preview.
- Unselected Tab Style: background color, background image, text color, and font size of unselected tabs.
- Selected Style: background color, background image, text color, and font size of the selected tab.
- Animation: After this function is enabled, the tab pane dynamically changes with the specified animation duration.
- **Tab Slice Config**: Set the number and names of tabs. To add a tab, click **.** To delete a tab, click **.**

## Data

This component does not have data events.

You can double-click the inside of a tab pane to add or remove other components to display different data. For details about how to use the added components, see the operation guide of the corresponding component.

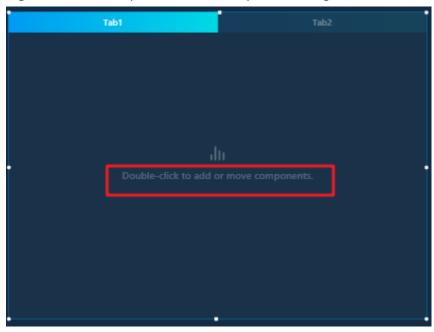
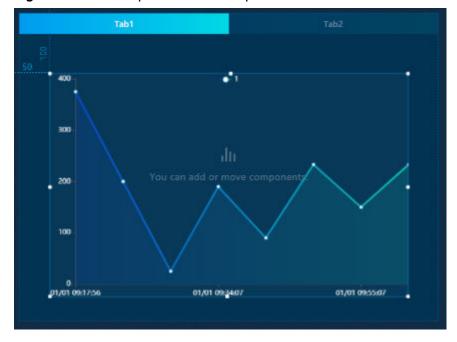


Figure 12-177 Tab pane without component being added

Figure 12-178 Tab pane with a component added



This component does not support interaction.

# 12.12.7 Geographical Search

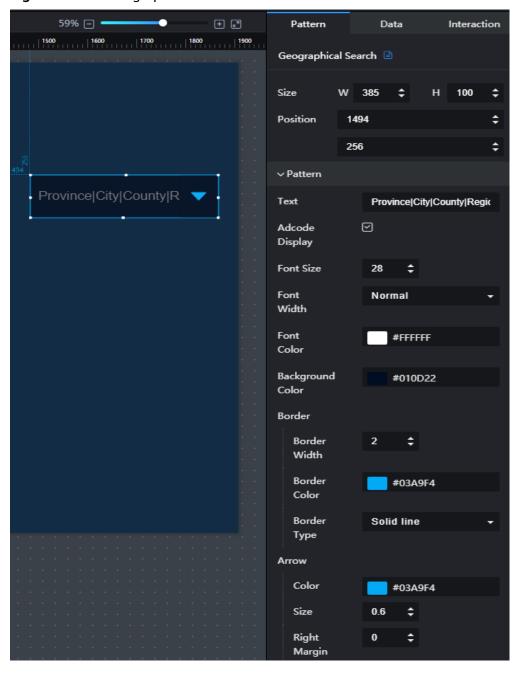
This section describes parameters of a geographical search component.

#### **Pattern**

#### • Size/Position

- **Size**: width and height of the component. Unit: pixel.
- Position: position where the component is located in the canvas. Unit: pixel.

Figure 12-179 Geographical search



#### Pattern

- **Text**: prompt information of the component.
- adcode: If this option is selected, the code of the geographical location is displayed.

- Font Size: font size of the component text.
- Font Width: font width of the component text.
- **Font Color**: font color of the component text.
- Background Color: to set the background color of the component by clicking the editor.
- Border: to set the border style of the component, including the border width, border color, and border type.
- Arrow: Set Color, Size, and Right Margin of arrows.

#### Drop-Down List Style

- Max. Height: the maximum height of the drop-down list box when the component is expanded.
- Font Color: font color of the text in the drop-down list when the component is expanded.
- Font Size: font size of the text in the drop-down list box when the component is expanded.
- Background Color: background color of the drop-down list when the component is expanded.

#### Initial Setting

- Initial Setting: When this function is enabled, the area specified by Initial Value is displayed by default during preview or sharing.
- Initial Value: You can enter the name of a province, city, or county, or enter the region code.

#### Data

The example data in the preceding figure is as follows:

```
{
"name": "Beijing"
   "adcode": "110000",
"level": "province",
"parent": "PRC"
 },
"name": "Tianjin",
   "adcode": "120000",
   "level": "province",
"parent": "PRC"
 },
 {
"name": "Hebei",
   "adcode": "130000",
   "level": "province",
"parent": "PRC"
 },
 {
"name": "Shanxi",
   "adcode": "140000",
"level": "province",
"parent": "PRC"
1
```

- name: name of the region.
- adcode: code of the region.

- level: level of the region.
- parent: upper-level city of the region.

#### Interaction

For details about whether the component supports the interaction function and how to use the interaction function, see **Configuring Component Interaction**.

#### **12.13 Others**

#### 12.13.1 Time Selector

This section describes parameters of a time selector.

#### **Pattern**

- Size/Position
  - Size: width and height of the component. Unit: pixel.
  - Position: position where the component is located in the canvas. Unit: pixel.

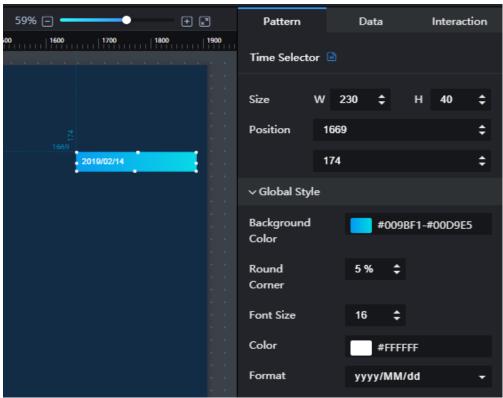


Figure 12-180 Time selector

#### • Global Style

 Background Color: to set the background color of the time selector by clicking the editor.

- Round Corner: to set the round corner angle of the component by clicking . A larger value leads to a larger angle. The value ranges from 0% to 50%.
- Font Size: to set the font size of the component text by entering a value or clicking.
- Color: to set the font color of the component text by clicking the color editor.
- **Format**: to set the time display format.

#### Data

date: default time displayed on the component.

#### Interaction

For details about whether the component supports the interaction function and how to use the interaction function, see **Configuring Component Interaction**.

#### 12.13.2 Gauge

This section describes parameters of a gauge.

#### **Pattern**

- Size/Position
  - Size: width and height of the component. Unit: pixel.
  - Position: position where the component is located in the canvas. Unit: pixel.

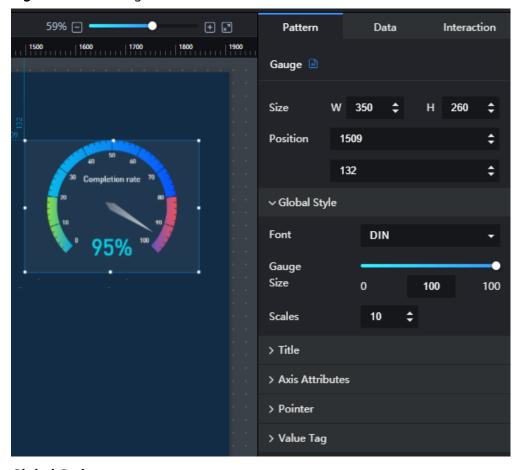


Figure 12-181 Gauge

#### Global Style

In **Global Style**, you can set the font, size, and scales of a gauge.

#### • Title

In **Title**, you can set the font size, width, and color of the title in a gauge.

#### Axis Attributes

- Coordinate Axis: width of the axis.
- **Scale**: length, width, and color of the axis.
- Split Line: length, width, and color of the split line.
- Axis Label: the maximum value, minimum value, font size, width, and color of the axis label.

#### Pointer

In **Pointer**, you can set the length, width, and color of a pointer.

#### Value Tag

In **Value Tag**, you can set the unit, font size, width, color, and position of a value tag.

#### Data

For details about how to configure component data, see **Configuring Component Data**.

- value: value to which the component pointer points.
- name: name of the component title.

#### Interaction

For details about whether the component supports the interaction function and how to use the interaction function, see **Configuring Component Interaction**.

#### 12.13.3 Funnel Chart

This section describes parameters of a funnel chart.

#### **Pattern**

#### • Size/Position

- **Size**: width and height of the component. Unit: pixel.
- Position: position where the component is located in the canvas. Unit: pixel.

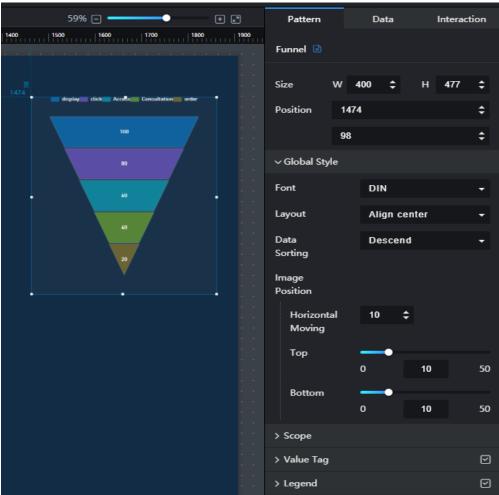


Figure 12-182 Funnel chart

• Global Style

- Font: font type of the component text.
- Layout: layout of the component. The value can be Align left, Align right, or Align center.
- Data Sorting: data sorting of the component. The value can be Ascend,
   Descend, or Data sequence.
- Image Position: position of the component. Specific settings include Horizontal Moving, Top, and Bottom.

#### Range

- Min. Value: to set the minimum value by entering a value or clicking
- Max. Value: to set the maximum value by entering a value or clicking
- Bottom Width: to set the bottom width of the component by entering a value or dragging . A smaller value leads to a narrower bottom width.
- Top Width: to set the top width of the component by entering a value or dragging . A smaller value leads to a wider top width.

#### Value Tag

- Value Tag: to show or hide the value tag by clicking or
- Text Style: text style of the value tag, including Font Size, Color, Font Width, and Position.

#### Legend

- Text Style: text style of the legend, including Font Size, Color, and Font Width.
- Layout: layout style of the legend, including Position, Left/Right Spacing, and Top/Bottom Spacing.

#### Data

For details about how to configure component data, see **Configuring Component Data**.

- value: value label displayed on each layer in the funnel chart.
- s: The s field is a data series field. Data is grouped based on the value of the s field.
  - Add a data series: Click Inext to s to add a data series.
  - Configure a data series: Click > in front of the data series, and then configure the specified style of the series on the expanded panel.

#### Interaction

For details about whether the component supports the interaction function and how to use the interaction function, see **Configuring Component Interaction**.

# 13 Screen Combination

You can combine two or more screens into one screen so that you can view multiple screens in one screen at the same time. After creating a combined screen, you can publish it and share its link with other users. Other users can access the combined screen through the screen link in the browser or application. When viewing a combined screen on a browser, you can switch between multiple screens.

#### **Prerequisites**

At least two screens are prepared for screen combination. For details about how to publish screens, see **Publishing Screens**.

#### **Combining Screens**

- Step 1 Log in to the DLV console.
- **Step 2** Click the workspace drop-down list in the upper left corner of the page. On the displayed workspace panel, click the workspace that you want to switch to.

Screens | Screen Combination

Created: 1; Remaining: 49 ③

+ New Screen

Figure 13-1 Switching a workspace

- **Step 3** On the **Screen Combination** page, click **Create Screen Combination**.
- **Step 4** Select at least two screens and click **Next**.
- **Step 5** Click or to adjust the screen sequence, and then click **Next**.
- **Step 6** Set the name and related parameters of the combined screen and click **Submit**.
  - A combined screen name can contain only letters, digits, underscores (\_), and hyphens (-), and cannot exceed 32 characters.
  - Horizontal scrolling: If this option is selected, you can click the buttons on the left and right sides of the screen to switch between screens.
  - **Bottom navigation**: If this option is selected, you can click the navigation button at the bottom of the screen to switch between screens

#### □ NOTE

Select at least one of the preceding two options. Otherwise, the screens cannot be switched.

----End

#### **Publishing Combined Screens**

- **Step 1** Log in to the DLV console.
- **Step 2** On the **Screen Combination** page, locate the combined screen to be published and click on the screen.

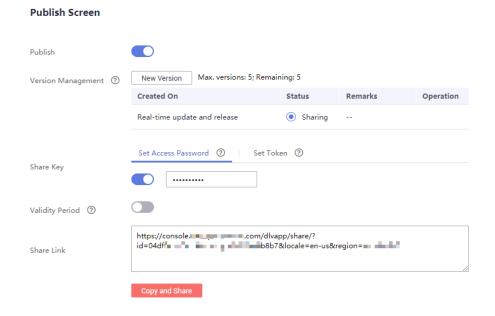
+ Create Screen Combination

\*\*Published\*\*

Figure 13-2 Publishing a combined screen

**Step 3** On the displayed page, configure publish parameters.

Figure 13-3 Configuring publish parameters



#### **Publish**

Specifies whether others can share your created screens (see **Figure 13-3**). After the screen is published, other users can access the screen without logging in to DLV. They only need to open the browser and enter the shared link in the address box to access the screen.

#### Version management

Specifies a sharable version.

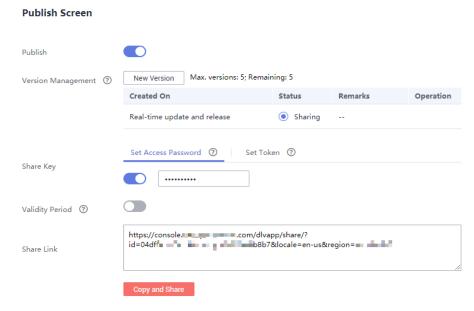
- Real-time version: When the current version of screen is modified, users who are sharing it can synchronously use the latest version of screen. It is the default option and cannot be deleted.
- Historical version: When the current version of screen is modified, users who
  are sharing it cannot use the latest version of screen but can only use the
  original one.

#### **Share Key**

Specifies a screen sharing mode.

- Public sharing: If a user does not configure password access or token authentication for a screen, the screen is accessed through the shared link. The basic edition of DLV supports only the public sharing mode.
- Password access: On the Set Access Password tab page, enable password
  access and set a password. After the password is set successfully, other users
  need to enter the password each time when they want to access the screen
  through the shared link.

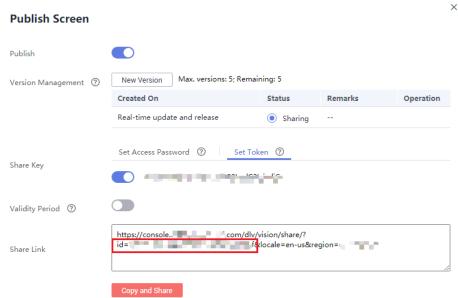
Figure 13-4 Setting an access password



• Token access: On the **Set Token** tab page, enable token verification.

The system randomly generates a token. You need to record it for future use.

Figure 13-5 Setting a token



After the token for the screen is generated, you have to perform the following steps before accessing the screen:

#### □ NOTE

To prevent replay attacks, ensure that your server time is GMT +08:00. DLV allows only one minute difference. If the time difference exceeds one minute, authentication fails.

- a. Publish the screen and record the shared screen code (a character string behind **share** in the shared link).
- b. Connect the screen code with the current time (millisecond) and separate them with a vertical bar (|).
- Use the token to encrypt the character string in Step 3.b through HMAC-SHA256 base64.
- Name the time and the encrypted signature dlv\_time and dlv\_signature, respectively.
- e. Add them to querystring of the shared link.

An example is provided as follows:

#### Java:

```
package com.test;
import java.security.*;
import javax.crypto.*;
import javax.crypto.spec.SecretKeySpec;
import org.apache.commons.codec.binary.Base64;
import java.net.URLEncoder;

public class ShareWithTokenTest {

   public static void main(String[] args) throws Exception {
        System.out.println(getShareUrlWithToken("b668e3b44722467a9477b5b888211bca",
"nrU4iher1tyy1C7Jenni3pzJxellPz8P"));
   }

   public static String getShareUrlWithToken(String shareID, String token){
        long time = System.currentTimeMillis();
   }
}
```

```
String data = shareID + "|" + time;
     String signature = HMACSHA256(data.getBytes(), token.getBytes());
     String url = "https://console.huaweicloud.com/dlv/vision/combo/share/?id="+shareID
+"&dlv_time="+time+"&dlv_signature="+ signature+"&locale=zh-cn&region=cn-north-4";
     return url;
  }
  //Use HmacSHA256 for signature.
  public static String HMACSHA256(byte[] data, byte[] key)
     try {
        SecretKeySpec signingKey = new SecretKeySpec(key, "HmacSHA256");
        Mac mac = Mac.getInstance("HmacSHA256");
        mac.init(signingKey);
        return URLEncoder.encode(Base64.encodeBase64String(mac.doFinal(data)));
     } catch (NoSuchAlgorithmException e) {
        e.printStackTrace();
     } catch (InvalidKeyException e) {
        e.printStackTrace();
     return null;
  }
```

#### **Ⅲ** NOTE

Replace the following parameters in the preceding code based on the site requirements: b668e3b44722467a9477b5b888211bca in

System.out.println(getShareUrlWithToken("b668e3b44722467a9477b5b888211bca",
"nrU4iher1tyy1C7Jenni3pzJxellPz8P") is the parameter after share in the shared link, and
nrU4iher1tyy1C7Jenni3pzJxellPz8P is the parameter in the shared key.

In String url = "https://console.huaweicloud.com/dlv/vision/combo/share/?id="+shareID
+"&dlv\_time="+time+"&dlv\_signature="+ signature+"&locale=zh-cn&region=cn-north-4, locale=zh-cn
indicates the language ID, en-us indicates the English language, and region=cn-north-4 indicates the
area where the service is deployed.

----End

#### **Editing Screen Combinations**

- **Step 1** Log in to the DLV console.
- **Step 2** On the **Screen Combination** page, mouse over the required screen combination. A row of operation buttons are displayed on the screen.

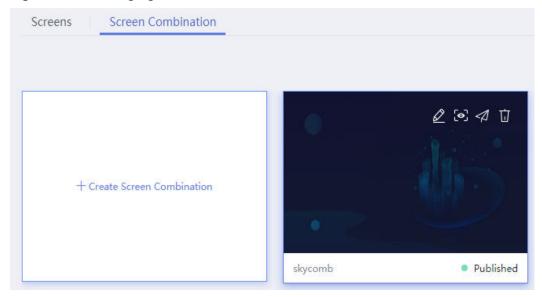


Figure 13-6 Managing a combined screen

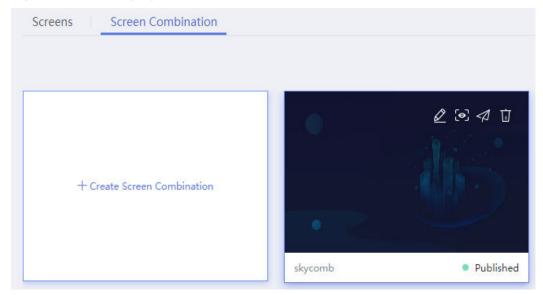
- **Step 3** Click The page for editing the combined screen is displayed.
- **Step 4** The procedure for editing a combined screen is similar to that for creating a combined screen. For details, see **Combining Screens**.

----End

#### **Previewing Combined Screens**

- **Step 1** Log in to the DLV console.
- **Step 2** On the **Screen Combination** page, mouse over the required screen combination. A row of operation buttons are displayed on the screen.

Figure 13-7 Managing a combined screen

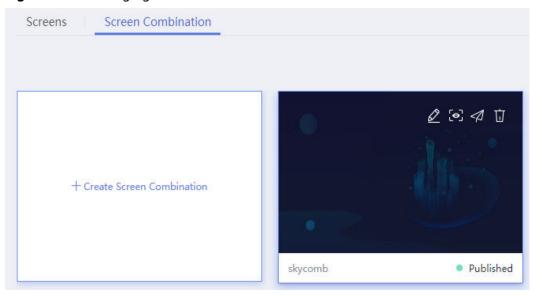


Step 3 Click to preview the combined screen.
----End

#### **Deleting Combined Screens**

- **Step 1** Log in to the DLV console.
- **Step 2** On the **Screen Combination** page, mouse over the required screen combination. A row of operation buttons are displayed on the screen.

Figure 13-8 Managing a combined screen



Step 3 Click

**Step 4** In the displayed dialog box, click **Yes**.

----End

# 14 Integrating DLV into Third-Party Systems

Open management provides a unified key for embedding multiple screens into third-party applications, avoiding the need to maintain the mapping between a screen and a key when a user adds or deletes a screen.

#### **Prerequisites**

Before using AppKey to integrate a screen into a third-party application, ensure that the screen is in the published state and token verification has been enabled during screen publishing.

#### **Creating Applications**

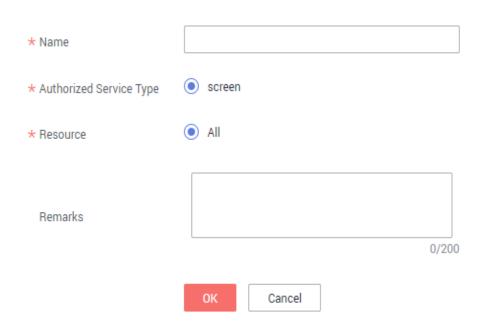
- **Step 1** Log in to the DLV console.
- **Step 2** In the navigation tree on the left, choose **Control Center > Open Management**.
- **Step 3** On the **Open Management** page, click **Create Application**.
- **Step 4** In the **Create Application** dialog box, set the following parameters and click **OK**.

**Table 14-1** Application parameters

Parameter	Description	
Name	An application name can contain only letters, digits, underscores (_), and hyphens (-), and cannot exceed 32 characters.	
Authorized Service Type	The default value is <b>screen</b> .	
Resource	The default value is <b>All</b> .	
Remarks	Enter application description.	

Figure 14-1 Creating an application

#### Create Application



----End

#### Viewing the AppKey and Key of an Application

- **Step 1** Log in to the DLV console.
- **Step 2** In the navigation tree on the left, choose **Control Center > Open Management**.
- Step 3 In the application list on the **Open Management** page, find the required application and view the AppKey and secret of the application. To copy them, mouse over the AppKey or secret and click

Figure 14-2 Application list



----End

#### Generating a URL for Integrating a Screen with a Third-Party System

A screen URL for integrating a third-party system must contain the AppKey and secret of the application. DLV screens and combined screens can be integrated into third-party systems. The following uses a DLV screen as an example to describe how to generate the URL of the screen integrated into a third-party system.

Publish the screen by following the instructions in section **Publishing Screens**. During the publishing, enable token authentication and obtain the link to the screen. The link format is as follows:

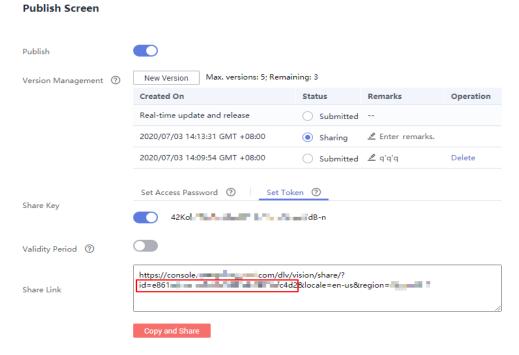
 $\label{locale} https://console-intl.huaweicloud.com/dlv/vision/share/? \textbf{id}=*******c5c6343cab********fdfcb4& \textbf{locale}=zhcn& \textbf{region}=ap-southeast-1$ 

The link address of the screen to be embedded in the third-party system needs to add some extra parameters. The format of the embedded link address is as follows:

https://console-intl.huaweicloud.com/dlv/vision/share/?
id=a33b74ac5c6343cab47ae3386efdfcb4&dlv\_time={current system time}&app\_id={AppKey on the Open Management page}&dlv\_signature={signature}&locale=zh-cn&region=ap-southeast-1

• **id**: indicates the share ID. When publishing a screen, obtain the ID next to share in the screen sharing link, as shown in the red box in **Figure 14-3**.





- dlv\_time: current system time, which can be obtained by calling a system function in the application code.
   long time = System.currentTimeMillis();
- app\_id: AppKey of the application. For details about how to obtain the AppKey, see Viewing the AppKey and Key of an Application.
- **dlv\_signature**: signature. The signature must be generated through code. The procedure for generating the signature is as follows:

Use the application key to generate a signature using the HMACSHA256 encryption algorithm.

```
String data = shareID + "|" + time + "|" + appld;
String signature = HMACSHA256(data.getBytes()), token.getBytes());
```

a. Use vertical bars (|) to separate **id** (variable shareID), **dlv\_time** (variable time), and **app\_id** (variable appId) as the data for generating the signature.

- b. On the **Open Management** page, obtain the application key and define it as the variable token in the application code.
  - For details about how to obtain the AppKey and key, see Viewing the AppKey and Key of an Application.
- **locale**: language identifier. **zh-cn** indicates Chinese and **en-us** indicates English.
- **region**: region where the service is used. Set this parameter based on the region where the screen is located.

If you need to integrate a combined screen into a third-party system, publish the combined screen by referring to the instructions in **Publishing Combined Screens**. During the publishing, enable token verification and obtain the link to the combined screen. Set **dlv\_time** and **app\_id** parameters to obtain the link address of the combined screen to be integrated with the third-party system.

### Integrating a DLV Screen into a Third-Party System (Using Java Sample Code)

The following is Java sample code for integrating a DLV screen into a third-party system. For details about how to generate a screen URL in the code, see **Generating a URL for Integrating a Screen with a Third-Party System**.

```
public static void main(String[] args) {
  String token = "********
  String shareId = "*****************
  String appld = "********************
  System.out.println(getShareUrlWithToken(shareId, token, appId));
public static String getShareUrlWithToken(String shareID, String token, String appld){
  long time = System.currentTimeMillis();
  String data = shareID + "|" + time + "|" + appld;
  String signature = HMACSHA256(data.getBytes()); token.getBytes());
  String url = "https://console-intl.huaweicloud.com/dlv/vision/share/?id="+ shareID +
"&dlv_time="+time+"&dlv_signature="+ signature+"&region=ap-southeast-1" + "&app_id=" + appld;
  return url:
public static String HMACSHA256(byte[] data, byte[] key) {
try {
  SecretKeySpec signingKey = new SecretKeySpec(key, "HmacSHA256");
  Mac mac = Mac.getInstance("HmacSHA256");
  mac.init(signingKey);
  byte[] var1 = mac.doFinal(data);
  String var2 = byteArrayToHexString(var1);
  return var2:
} catch (NoSuchAlgorithmException e) {
  e.printStackTrace();
 catch (InvalidKeyException e) {
  e.printStackTrace();
  return null;
public static String byteArrayToHexString(byte[] b) {
  StringBuilder strBuilder = new StringBuilder();
  String tmp;
  for (int n = 0; b!=null && n < b.length; <math>n++) {
     tmp = Integer.toHexString(b[n] & 0XFF);
     if (tmp.length() == 1)
     strBuilder.append('0');
     strBuilder.append(tmp);
```

```
}
return strBuilder.toString().toUpperCase();
}
```

#### **DLV SDK Introduction**

DLV provides two SDK packages: **dlv.js** and **dlv.min.js**. The two SDK packages implement the same functions in different ways.

- dlv.js: modular SDK package, which is imported through require and import.
   Download address: https://dlv-dev-tools2.obs.ap-southeast-3.myhuaweicloud.com/cli/dlv.js
- **dlv.min.js**: non-modular SDK package, which is imported externally, for example, <script src='dlv.min.js'></script>.

Download address: https://dlv-dev-tools2.obs.ap-southeast-3.myhuaweicloud.com/cli/dlv.min.js

Currently, the DLV SDK provides only the embedded(option) method and does not return any value. **Table 14-2** describes the input parameters.

**Table 14-2** option parameter description

Paramet er	Man dato ry	Туре	Description
url	Yes	string	URL of the screen embedded in the third-party system, which is obtained by invoking the API in the preceding steps.
container	Yes	domEle ment	dom node where the screen is embedded.
paramete rs	No	object	Pass parameter of the screen. The default value of the variable is set by setting the hash parameter in the URL.
scrolling	No	string	Specifies whether the screen can be scrolled. The options are <b>no</b> , <b>yes</b> , and <b>auto</b> . The default value is <b>no</b> .
height	No	string	Percentage of the screen height (pixel) in the current container. The default value is 100%.
width	No	string	Percentage of the screen width (pixel) in the current container. The default value is 100%.

## Calling the DLV SDK by a Third-Party System to Integrate a Screen (Using Node JS Sample Code)

The following uses the **dlv.js** SDK package as an example to describe how to call the SDK provided by DLV to integrate a DLV screen into a third-party application.

The following is an example of Node JS:

**Step 1** In the server code of the third-party application, create a \*.js file, define an API, and generate a DLV screen URL by referring to the instructions in **Generating a URL for Integrating a Screen with a Third-Party System**.

The following is an example of the server code getDlyURL.is: /\* Code of the user server, defining the API /app (taking the koa framework as an example) Input parameter: shareId: screen sharing ID Response: url: URL for integrating a third-party system with a screen const router = require('koa-router')(); var CryptoJS = require("crypto-js"); router.get('/app', async (ctx) => { var {shareId} = ctx.query; // screen sharing ID, which is transferred as a parameter when the API is called //For example, shareId = '6320803b882b4e2a91d973b3a5d71625';. var secret = \textstyle \textstyl var time = new Date().getTime(); // Current system time var data = shareId + "|" + time + "|" + appId; var hash = CryptoJS.HmacSHA256(data, secret); var signature = (CryptoJS.enc.Base64.stringify(hash)); // Signature. The signature must be generated using code and the application key through the HMACSHA256 encryption algorithm. var url = `https:///dlv/vision/share/?id=\${ shareId }&dlv\_time=\${ time }&app\_id=\${ appId }&dlv\_signature= \${ signature }&locale=zh-cn&region=ap-southeast-1`;

Step 2 Download a DLV SDK package. For details about the download addresses, see DLV SDK Introduction. Save the downloaded SDK file (for example, dlv.js) to the directory where the third-party application client code is located.

For example, ./sdk/dlv.js.

url

module.exports = router;

ctx.body = { //Result returned by the API

**Step 3** In the code of the third-party application client, call the API defined in **Step 1** to obtain the screen URL, and then call the DLV SDK API to embed and integrate the URL.

Currently, the DLV SDK provides only the embedded(option) method. In the API input parameters, the **parameters** parameter can be used to transfer the URL hash parameter of the screen and set the default value of the parameter.

The following is an example of the client code EmbedDlvSreen.js:

```
/*
The following is the sample code for using the DLV SDK. The dlv.js SDK package is used as an example.
*/
import DLV from './sdk/dlv.js';

// Use the AJAX of jQuery as an example. Call the API/application for obtaining the screen URL and then call the DLV SDK API to embed the URL into the screen.
$.ajax({
    type: "GET",
    url: "/app",
    data: { shareId: '*******882b4e2a91d9*******81625' },
    dataType: "json",
    success: function(data){
        var url = data.url;
        // options is the parameter of the embed method.
```

```
var options = {
    url: url, //URL for integrating a third-party system with a screen, which is obtained by calling the
API in the preceding step.
    container: document.getElementById("id-test"), // dom node where the screen is embedded
    parameters: { //Input parameter of the screen. The default value of the variable is set by setting the
hash parameter in the URL.
    name: 'admin' // the value of name is 'admin', that is, `https:///dlv/vision/share/?
id=********99c454882602********&locale=zh-cn&region=ap-southeast-1#name=admin`;
    },
    scrolling: "no", //Specifies whether the screen can be scrolled.
    height: "100%", //Height of the screen.
    width: "100%" //Width of the screen.
};
//Call the DLV SDK API to integrate with the screen.
DLV.embed(options);
}
});
```

----End

#### **Resetting Application Keys**

- **Step 1** Log in to the DLV console.
- **Step 2** In the navigation tree on the left, choose **Control Center > Open Management**.
- **Step 3** In the application list on the **Open Management** page, locate the desired application and click **Reset** in the **Operation** column.
- **Step 4** In the displayed dialog box, click **Yes**.

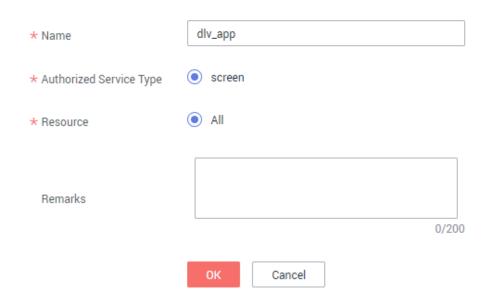
----End

#### **Editing Applications**

- **Step 1** Log in to the DLV console.
- **Step 2** In the navigation tree on the left, choose **Control Center > Open Management**.
- **Step 3** In the application list on the **Open Management** page, locate the desired application and click **Edit** in the **Operation** column.
- **Step 4** In the displayed dialog box, modify the configuration parameters and click **OK**.

Figure 14-4 Editing applications

#### **Edit Application**



----End

#### **Deleting Applications**

- Step 1 Log in to the DLV console.
- **Step 2** In the navigation tree on the left, choose **Open Management**.
- **Step 3** In the application list on the **Open Management** page, locate the desired application and click **Delete** in the **Operation** column.
- **Step 4** In the displayed dialog box, click **Yes** to delete the data.

----End