Alibaba Cloud DataV

Manage Data Sources

Issue: 20200624

Legal disclaimer

Alibaba Cloud reminds you to carefully read and fully understand the terms and conditions of this legal disclaimer before you read or use this document. If you have read or used this document, it shall be deemed as your total acceptance of this legal disclaimer.

1. You shall download and obtain this document from the Alibaba Cloud website or other Alibaba Cloud-authorized channels, and use this document for your own legal business activities only. The content of this document is considered confidential information of Alibaba Cloud. You shall strictly abide by the confidentiality obligations. No part of this document shall be disclosed or provided to any third party for use without the prior written consent of Alibaba Cloud.
2. No part of this document shall be excerpted, translated, reproduced, transmitted, or disseminated by any organization, company, or individual in any form or by any means without the prior written consent of Alibaba Cloud.
3. The content of this document may be changed due to product version upgrades, adjustments, or other reasons. Alibaba Cloud reserves the right to modify the content of this document without notice and the updated versions of this document will be occasionally released through Alibaba Cloud-authorized channels. You shall pay attention to the version changes of this document as they occur and download and obtain the most up-to-date version of this document from Alibaba Cloud-authorized channels.
4. This document serves only as a reference guide for your use of Alibaba Cloud products and services. Alibaba Cloud provides the document in the context that Alibaba Cloud products and services are provided on an "as is", "with all faults" and "as available" basis. Alibaba Cloud makes every effort to provide relevant operational guidance based on existing technologies. However, Alibaba Cloud hereby makes a clear statement that it in no way guarantees the accuracy, integrity, applicability, and reliability of the content of this document, either explicitly or implicitly. Alibaba Cloud shall not bear any liability for any errors or financial losses incurred by any organizations, companies, or individuals arising from their download, use, or trust in this document. Alibaba Cloud shall not, under any circumstances, bear responsibility for any indirect, consequential, exemplary, incidental, special, or punitive damages, including lost profits arising from the use or trust in this document, even if Alibaba Cloud has been notified of the possibility of such a loss.

5. By law, all the contents in Alibaba Cloud documents, including but not limited to pictures, architecture design, page layout, and text description, are intellectual property of Alibaba Cloud and/or its affiliates. This intellectual property includes, but is not limited to, trademark rights, patent rights, copyrights, and trade secrets. No part of this document shall be used, modified, reproduced, publicly transmitted, changed, disseminated, distributed, or published without the prior written consent of Alibaba Cloud and/or its affiliates. The names owned by Alibaba Cloud shall not be used, published, or reproduced for marketing, advertising, promotion, or other purposes without the prior written consent of Alibaba Cloud. The names owned by Alibaba Cloud include, but are not limited to, "Alibaba Cloud", "Aliyun", "HiChina", and other brands of Alibaba Cloud and/or its affiliates, which appear separately or in combination, as well as the auxiliary signs and patterns of the preceding brands, or anything similar to the company names, trade names, trademarks, product or service names, domain names, patterns, logos, marks, signs, or special descriptions that third parties identify as Alibaba Cloud and/or its affiliates.
6. Please contact Alibaba Cloud directly if you discover any errors in this document.

Document conventions

Style	Description	Example
	A danger notice indicates a situation that will cause major system changes, faults, physical injuries, and other adverse results.	 **Danger:** Resetting will result in the loss of user configuration data.
	A warning notice indicates a situation that may cause major system changes, faults, physical injuries, and other adverse results.	 **Warning:** Restarting will cause business interruption. About 10 minutes are required to restart an instance.
	A caution notice indicates warning information, supplementary instructions, and other content that the user must understand.	 **Notice:** If the weight is set to 0, the server no longer receives new requests.
	A note indicates supplemental instructions, best practices, tips, and other content.	 **Note:** You can use Ctrl + A to select all files.
>	Closing angle brackets are used to indicate a multi-level menu cascade.	Click **Settings** > **Network** > **Set network type**.
Bold	Bold formatting is used for buttons, menus, page names, and other UI elements.	Click **OK**.
`Courier font`	Courier font is used for commands.	Run the `cd /d C:/window` command to enter the Windows system folder.
Italic	Italic formatting is used for parameters and variables.	`bae log list --instanceid` *Instance_ID*
[] or [a|b]	This format is used for an optional value, where only one item can be selected.	`ipconfig [-all|-t]`

Style	Description	Example
{} or {a|b}	This format is used for a required value, where only one item can be selected.	switch {active|stand}

Contents

1 Configure a database whitelist

This topic describes how to configure a database whitelist in DataV. Before you add a data source in DataV, you must add the IP addresses in the whitelist of the target region to that of your data source so that DataV can access your database.

- If you are using an ApsaraDB for RDS database as the data source, add the IP addresses listed in the following table to the whitelist of your ApsaraDB for RDS database. For more information, see #unique_4.
- If you are using a user-created database hosted on an Alibaba Cloud ECS instance as the data source, you must add the IP addresses listed in the following table to the security group rules of the ECS instance, system firewall, and your database whitelist.
- If you are using a database hosted on a local physical machine as the data source, you must add the IP addresses listed in the following table to the system firewall of the physical machine, network firewalls, and your database whitelist.

The following table lists the IP addresses in whitelists in different regions. You can configure your database whitelist based on the database type.

Whitelist for the Internet

Region	Whitelist IP addresses
Singapore	47.88.235.235/0,47.74.136.56/0,47.88.250.141/0,47.88.235.217/0,47.74.136.64/0,47.74.136.22/0,47.74.136.12/0,47.88.235.207/0
Malaysia (Kuala Lumpur)	47.254.212.25/0
Japan (Tokyo)	47.91.9.73/0,47.91.13.92/0,47.91.9.1/0,47.91.9.42/0
Germany (Frankfurt)	47.91.83.106/0,47.91.82.104/0,47.91.84.120/0,47.91.84.16/0,47.91.84.36/0
China (Hong Kong)	47.90.68.215/0,47.75.228.154/0,47.91.171.160/0,47.90.68.160/0,47.75.228.234/0,47.91.172.161/0,47.91.172.151/0
US (Silicon Valley)	47.88.99.201/0,47.254.58.179/0,47.88.99.83/0,47.88.108.155/0,47.88.99.128/0
US (Virginia)	47.89.170.94/0,47.89.170.79/0,47.89.170.80/0,47.89.170.71/0,47.89.170.97/0

Whitelist for an internal network (classic network)

Region	Whitelist IP addresses
Singapore	11.193.8.8/0,11.192.152.94/0,11.193.8.55/0,11.193.8.59/0,10.152.165.219/0,11.192.152.89/0,11.192.152.117/0,11.193.8.60/0
Malaysia (Kuala Lumpur)	11.193.189.75/0,11.193.189.69/0,11.193.189.73/0,11.193.189.72/0
Japan (Tokyo)	11.192.149.155/0,11.192.149.118/0,11.192.147.75/0,11.192.149.66/0
Germany (Frankfurt)	11.192.169.2/0,11.192.168.143/0,11.193.107.16/0,11.192.170.80/0,11.192.170.221/0
China (Hong Kong)	11.193.118.80/0,11.193.118.65/0,11.193.12.4/0,11.193.118.48/0,11.193.118.86/0,11.193.11.239/0,11.193.11.200/0
US (Silicon Valley)	11.193.216.239/0,11.193.216.224/0,11.193.216.227/0,11.193.216.234/0,11.193.216.184/0
US (Virginia)	10.152.235.192/0,10.152.235.29/0,10.152.235.171/0,10.152.235.194/0,10.152.235.191/0

Notice:

When you configure a whitelist for an internal network (classic network), IP addresses on the 11.x.x.x network segments may be inaccessible. For more information, see Troubleshoot inaccessible IP addresses on the 11.x.x.x network segments.

Whitelist for an internal network (VPC)

Region	Whitelist IP addresses
Singapore	100.104.13.0/24
Malaysia (Kuala Lumpur)	100.104.133.64/26
Japan (Tokyo)	100.104.175.0/24
Germany (Frankfurt)	100.104.244.192/26
China (Hong Kong)	100.104.188.0/24
US (Silicon Valley)	100.104.144.0/26
US (Virginia)	100.104.89.64/26

Troubleshoot inaccessible IP addresses on the 11.x.x.x network segments

If IP addresses on the 11.x.x.x network segments are inaccessible, run the following command to add a route to the /etc/rc.local file.

```
sudo route add -net 11.0.0.0/8 gw 10.152.28.247
```

Note:

The IP address after gw is the gateway IP address of your server.

If the problem persists, submit a ticket to ECS technical personnel.

2 Add data sources

2.1 Overview

This topic describes the data sources supported by DataV for you to develop projects.

Log on to the DataV console, and click the **Data Sources** tab. On the tab that appears, you can centrally manage the accessed data sources.

The following table describes the data sources supported by DataV.

Data source type	Data source	Description
Databases  **Note:** If you are not in an Alibaba Cloud region or if you are not using an Alibaba Cloud database and want to use a user-created database, you must use the public IP address of the database for connection. DataV does not support IP address whitelists. If you are concerned about security issues, you can use the proxy tool provided by Alibaba Cloud. For more information, see #unique_8.	AnalyticDB for MySQL	None.
	RDS for MySQL	None.
	RDS for PostgreSQL	None.
	RDS for SQLServer	None.
	TableStore	None.
	Oracle	None.
	MySQL-compatible database	None.
	OSS	None.

Data source type	Data source	Description
Files **Note:** DataV cannot read large data files from other file stores.	CSV files	None.
	Static JSON	None.
API operations	OpenAPI	None.
Other data sources	DataV Proxy	The DataV Proxy service is an open-source database proxy service that can be deployed on ECS instances. This service reduces the risks that may arise from exposing the public IP addresses of your databases. For more information about how to deploy the DataV Proxy service, see #unique_8.
	Log Service	None.

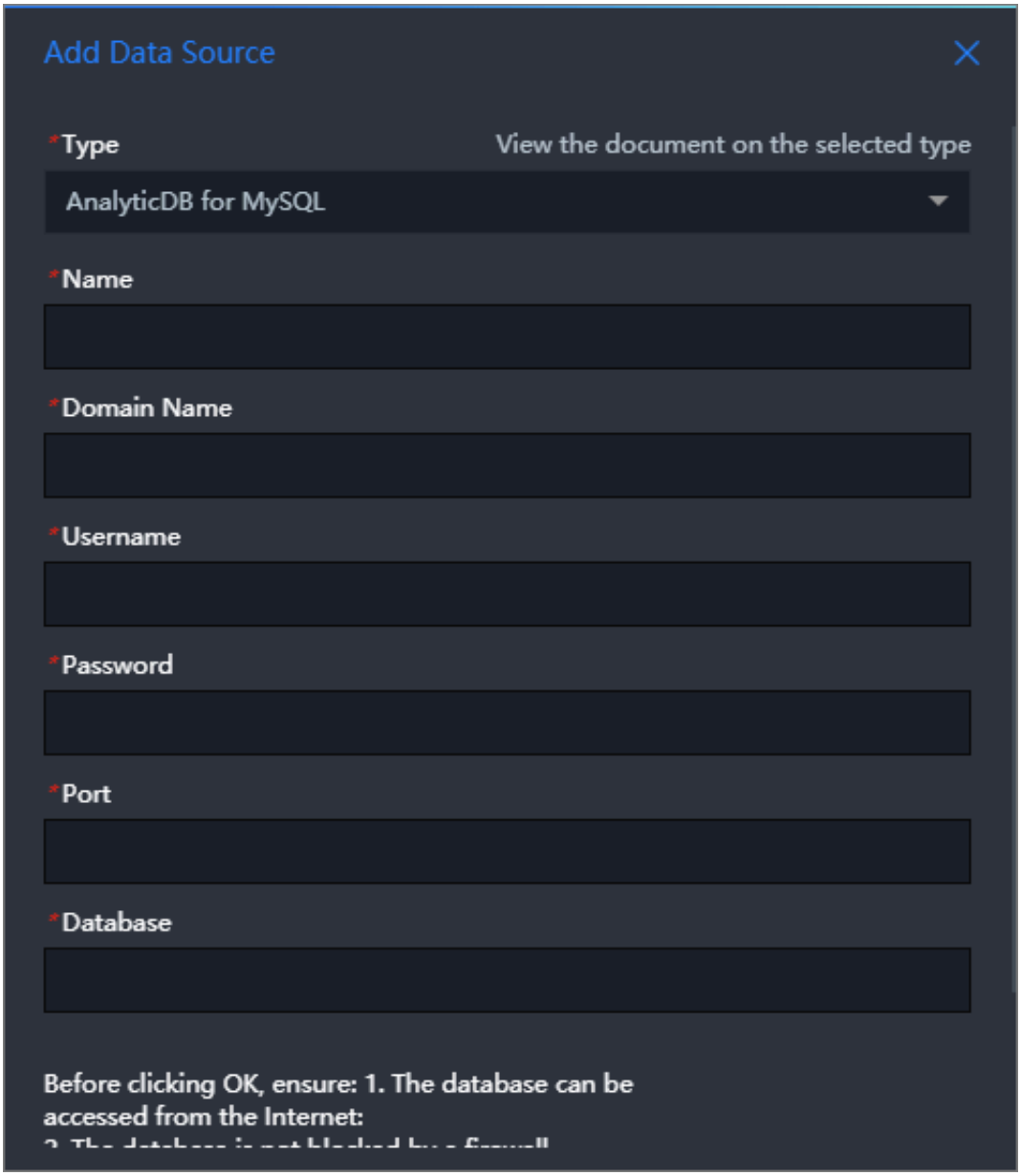
2.2 Add an AnalyticDB for MySQL data source

This topic describes how to add an AnalyticDB for MySQL data source in DataV.

Procedure

1. Log on to the DataV console.
2. Click the **Data Sources** tab and then **Add Source**.
3. Select **AnalyticDB for MySQL** from the **Type** drop-down list.

4. Enter database information.



Parameter	Description
Name	The name that you want to display for the data source.

Parameter	Description
Domain Name	The domain name or IP address that is used to connect to the database. **Notice:** The DataV server can use the domain name or IP address to access your database over the Internet or an internal network in some regions of Alibaba Cloud. If you need to access an AnalyticDB for MySQL database over the Internet, an example of the domain name is am-bp1uxxxxxxxxxxxxx0o.ads.aliyuncs.com. You can log on to the AnalyticDB console and view the required information on the Clusters page.
Username	The username that is used to connect to the database.
Password	The password that is used to connect to the database.
Port	The port that is used to connect to the database.
Database	The database that you want to use as the data source.

After you enter the database information, DataV automatically tests whether the database can be connected.

5. After the connectivity test is complete, click **OK**.

   The added data source is displayed in the data source list.

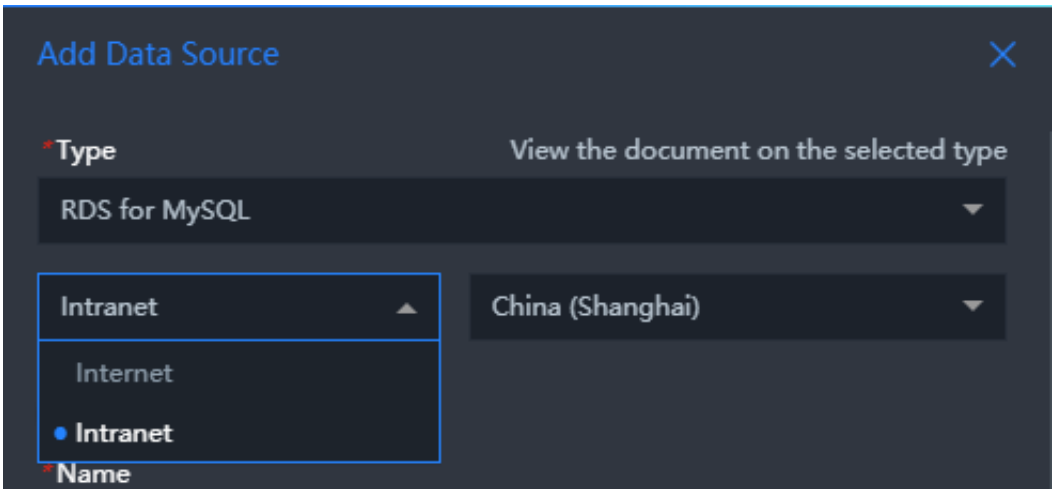
2.3 Add an ApsaraDB RDS for MySQL data source

This topic describes how to add an ApsaraDB RDS for MySQL data source in DataV.

Add an ApsaraDB RDS for MySQL data source over an internal network

1. Log on to the DataV console.
2. Click the **Data Sources** tab and then **Add Source**.
3. Select **RDS for MySQL** from the **Type** drop-down list.

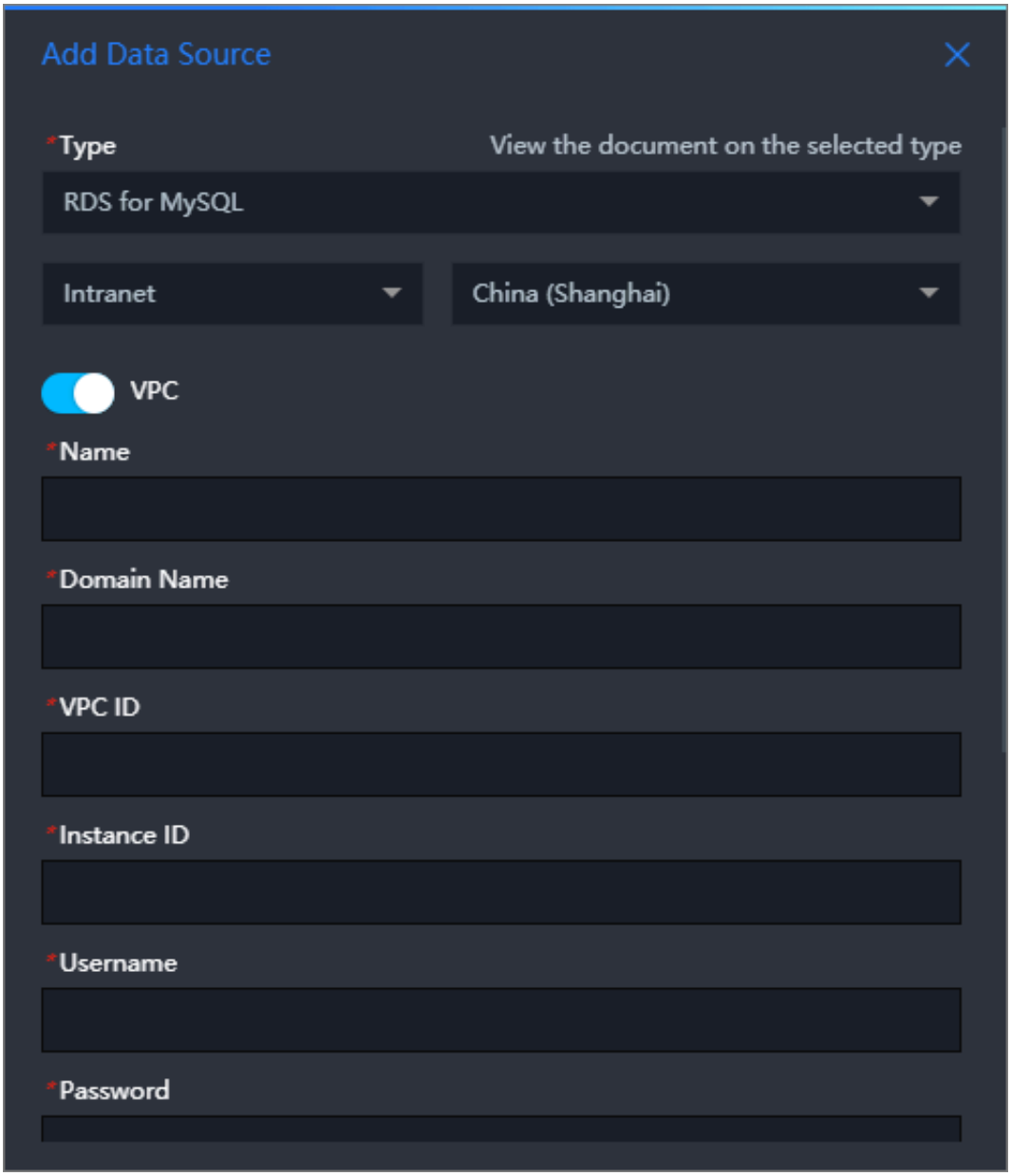
4. Select **Intranet** from the network type drop-down list, and select the region where the target ApsaraDB RDS for MySQL instance resides from the region drop-down list.



5. Specify a network type for the internal network of the database, such as **VPC** or **classic network**.

   - **VPC**

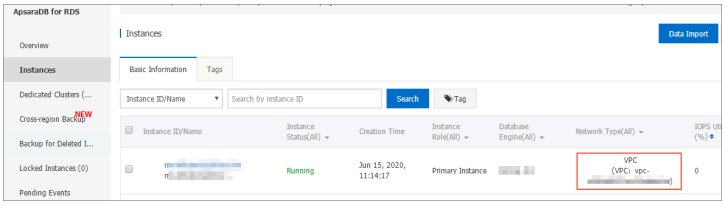
     a. Turn on **VPC** to enter the **VPC** mode.



     b. Enter database information.

Note:

If you need to create a database, see #unique_24.

Parameter	Description
Name	The name that you want to display for the data source .
Domain Name	The domain name or IP address that is used to connect to the database. **Notice:** The DataV server can use the domain name or IP address to access your database over the Internet or an internal network in some regions of Alibaba Cloud. If you need to access an ApsaraDB RDS for MySQL database over an internal network, an example of the domain name is rm-bpxxxxxxxxx33150.mysql.rds.aliyuncs.com. You can log on to the ApsaraDB for RDS console and view the required information on the Instances page.
VPC ID	The ID of the VPC to which your ApsaraDB RDS for MySQL instance belongs. You can log on to the ApsaraDB for RDS console and navigate to **Instances** > **Basic Information** to view the VPC ID of the target ApsaraDB RDS for SQL Server instance in the **Network Type** column. 
Instance ID	The ID of the database instance in the VPC. You can log on to the ApsaraDB for RDS console and view the ID of the target database instance on the Instances page.
Username	The username that is used to connect to the database .
Password	The password that is used to connect to the database .
Port	The port that is used to connect to the database.

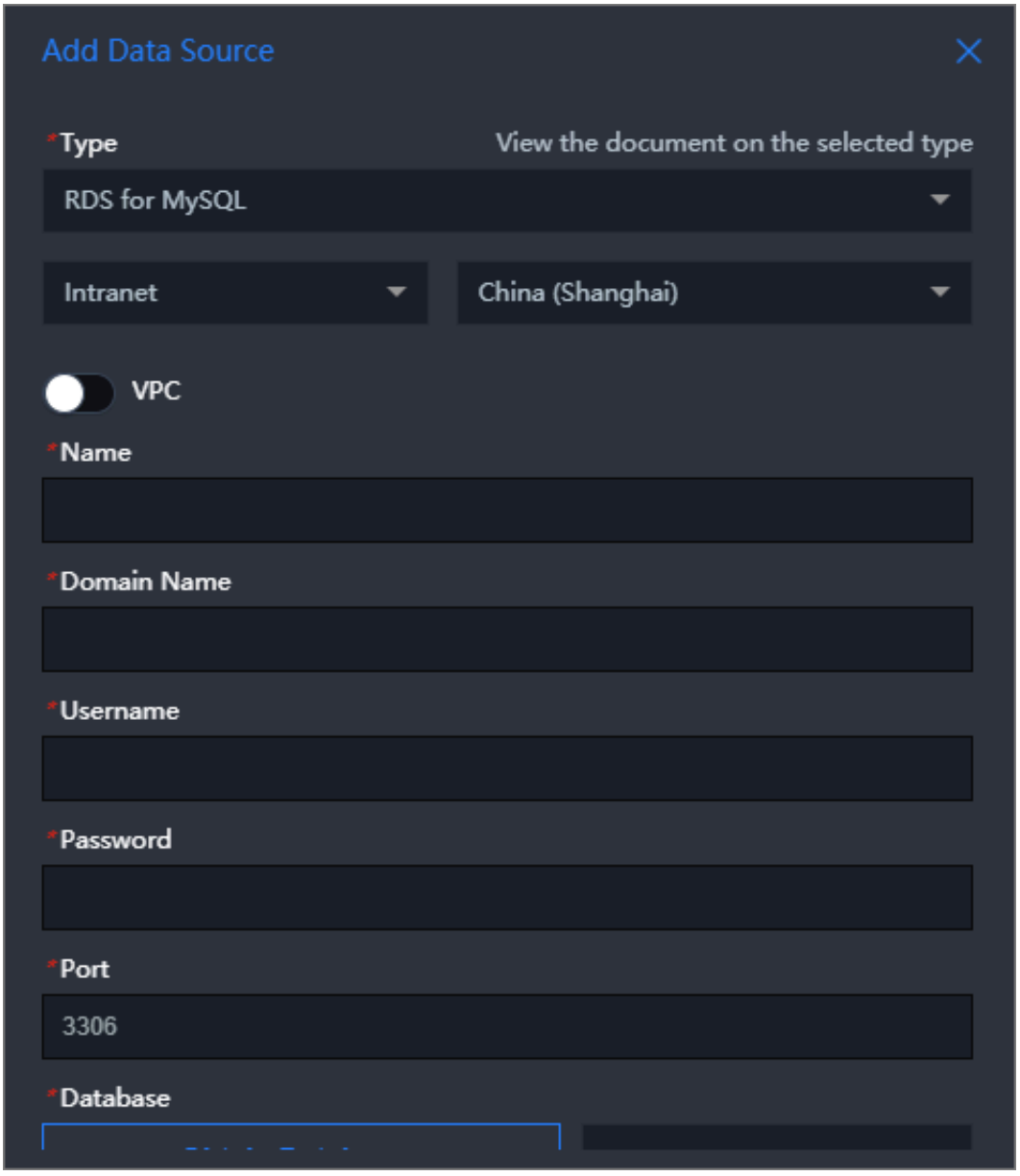
Parameter	Description
Database	The database that you want to use as the data source .

c. After you enter the database information, DataV automatically tests whether the database can be connected.

- **Classic network**

a. Turn off **VPC** to enter the **classic network** mode.

b. Enter database information.



Note:

If you need to create a database, see #unique_24.

Parameter	Description
Name	The name that you want to display for the data source .
Domain Name	The domain name or IP address that is used to connect to the database. **Notice:** The DataV server can use the domain name or IP address to access your database over the Internet or an internal network in some regions of Alibaba Cloud. If you need to access an ApsaraDB RDS for MySQL database over an internal network, an example of the domain name is rm-bpxxxxxxxxx33150.mysql.rds.aliyuncs.com. You can log on to the ApsaraDB for RDS console and view the required information on the Instances page.
Username	The username that is used to connect to the database .
Password	The password that is used to connect to the database .
Port	The port that is used to connect to the database.
Database	The database that you want to use as the data source .

c. After you enter the database information, DataV automatically tests whether the database can be connected.

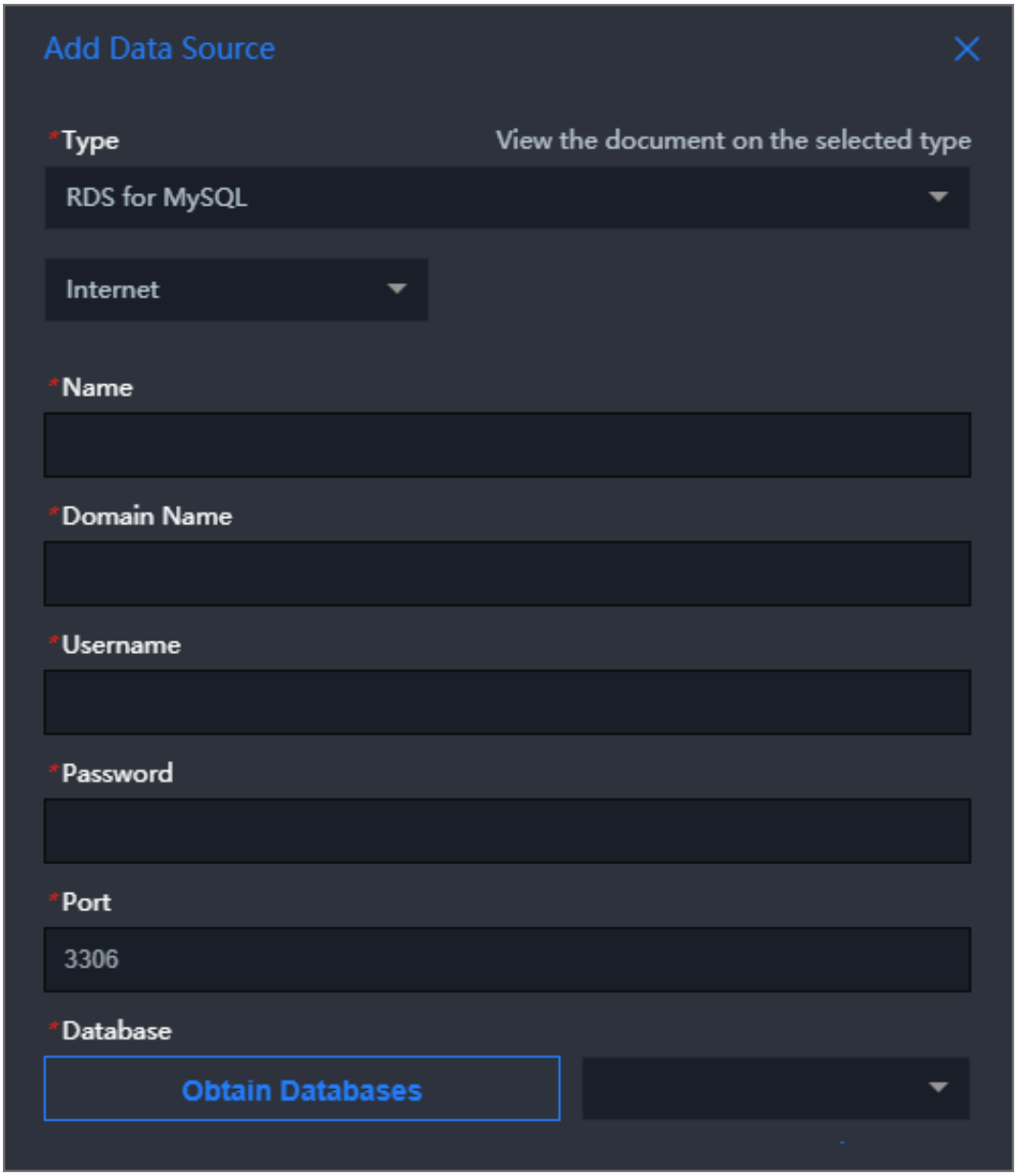
6. After the database passes the connectivity test, click **OK**.

   The added data source is displayed in the data source list.

Add an ApsaraDB RDS for MySQL data source over the Internet

1. Log on to the DataV console.
2. Click the **Data Sources** tab and then **Add Source**.
3. Select **RDS for MySQL** from the **Type** drop-down list.
4. Select **Internet** from the network type drop-down list.

5. Enter database information.



Parameter	Description
Name	The name that you want to display for the data source.

Parameter	Description
Domain Name	The domain name or IP address that is used to connect to the database. **Notice:** The DataV server can use the domain name or IP address to access your database over the Internet or an internal network in some regions of Alibaba Cloud. If you need to access an ApsaraDB RDS for MySQL database over the Internet, an example of the domain name is rm-bpxxxxxxxxxco.mysql.rds.aliyuncs.com. You can log on to the ApsaraDB for RDS console and view the required information on the Instances page.
Username	The username that is used to connect to the database.
Password	The password that is used to connect to the database.
Port	The port that is used to connect to the database.
Database	The database that you want to use as the data source.

After you enter the database information, DataV automatically tests whether the database can be connected.

6. After the database passes the connectivity test, click **OK**.

   The added data source is displayed in the data source list.

2.4 Add an ApsaraDB RDS for PostgreSQL data source

This topic describes how to add an ApsaraDB RDS for PostgreSQL data source in DataV.

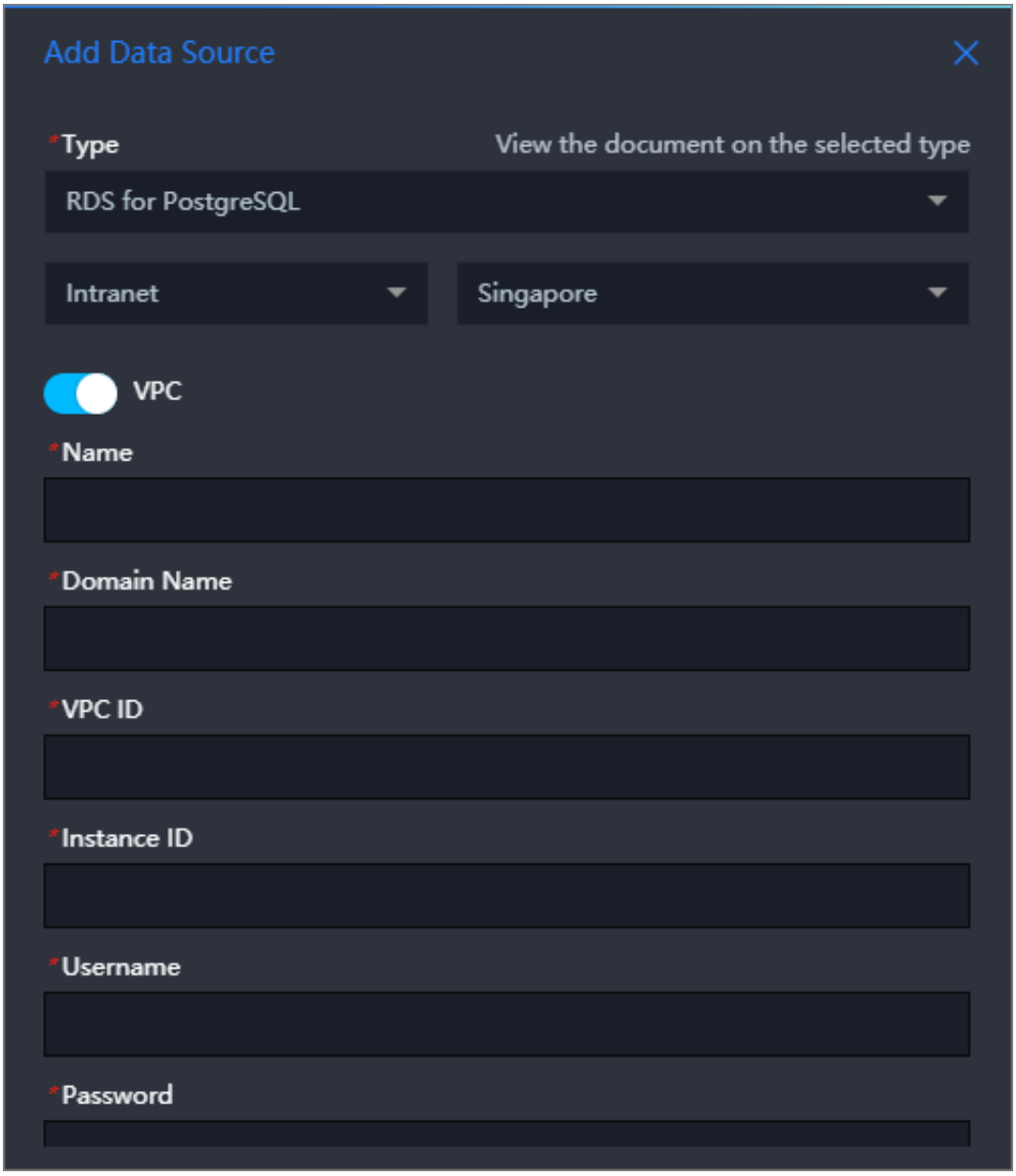
Add an ApsaraDB RDS for PostgreSQL data source over an internal network

1. Log on to the DataV console.
2. Click the **Data Sources** tab and then **Add Source**.
3. Select **RDS for PostgreSQL** from the **Type** drop-down list.
4. Select **Intranet** from the network type drop-down list, and select the region where the target ApsaraDB RDS for PostgreSQL instance resides from the region drop-down list.

5. Specify a network type for the internal network of the database, such as **VPC** or **classic network**.

   - **VPC**

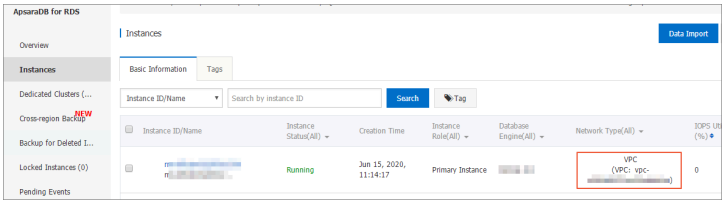
     a. Turn on **VPC** to enter the **VPC** mode.



     b. Enter database information.

> **Note:**
> If you need to create a database, see #unique_24.

Parameter	Description
Name	The name that you want to display for the data source .

Parameter	Description
Domain Name	The domain name or IP address that is used to connect to the database. **Notice:** The DataV server can use the domain name or IP address to access your database over the Internet or an internal network in some regions of Alibaba Cloud. If you need to access an ApsaraDB RDS for PostgreSQL database over an internal network, an example of the domain name is pgm-bpxxxxxxxxxxxxxx15970.pg.rds.aliyuncs.com. You can log on to the ApsaraDB for RDS console and view the required information on the Instances page.
VPC ID	The ID of the VPC to which your ApsaraDB RDS for PostgreSQL instance belongs. You can log on to the ApsaraDB for RDS console and navigate to **Instances** > **Basic Information** to view the VPC ID of the target ApsaraDB RDS for PostgreSQL instance in the **Network Type** column. 
Instance ID	The ID of the database instance in the VPC. You can log on to the ApsaraDB for RDS console and view the ID of the target database instance on the Instances page.
Username	The username that is used to connect to the database .
Password	The password that is used to connect to the database .
Port	The port that is used to connect to the database.

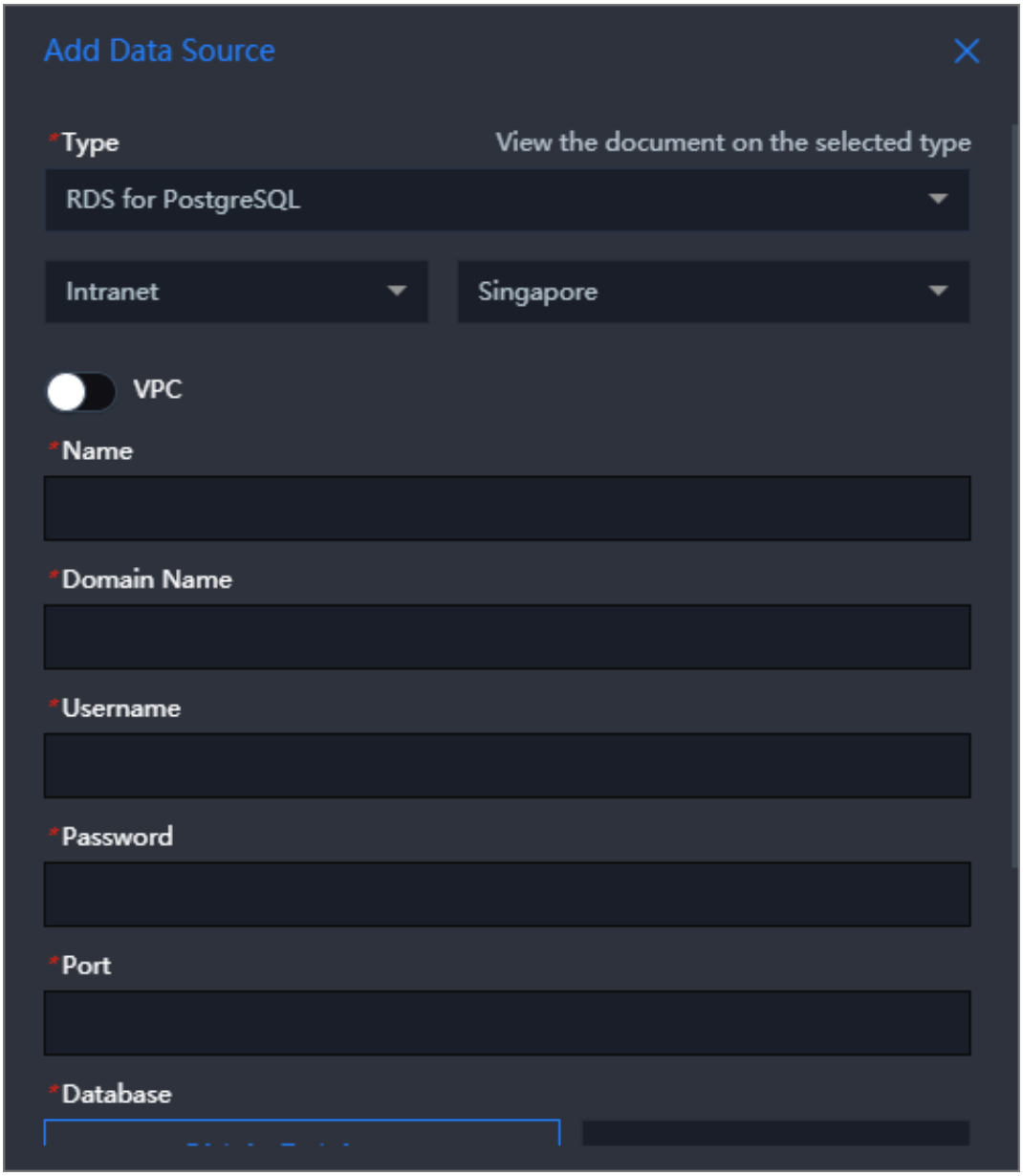
Parameter	Description
Database	The database that you want to use as the data source .

c. After you enter the database information, DataV automatically tests whether the database can be connected.

- **Classic network**

a. Turn off **VPC** to enter the **classic network** mode.

b. Enter database information.



Note:

If you need to create a database, see #unique_24.

Parameter	Description
Name	The name that you want to display for the data source .
Domain Name	The domain name or IP address that is used to connect to the database. **Notice:** The DataV server can use the domain name or IP address to access your database over the Internet or an internal network in some regions of Alibaba Cloud. If you need to access an ApsaraDB RDS for PostgreSQL database over an internal network, an example of the domain name is pgm-bpxxxxxxxxxxxxxx15970.pg.rds.aliyuncs.com. You can log on to the ApsaraDB for RDS console and view the required information on the Instances page.
Username	The username that is used to connect to the database .
Password	The password that is used to connect to the database .
Port	The port that is used to connect to the database.
Database	The database that you want to use as the data source .

c. After you enter the database information, DataV automatically tests whether the database can be connected.

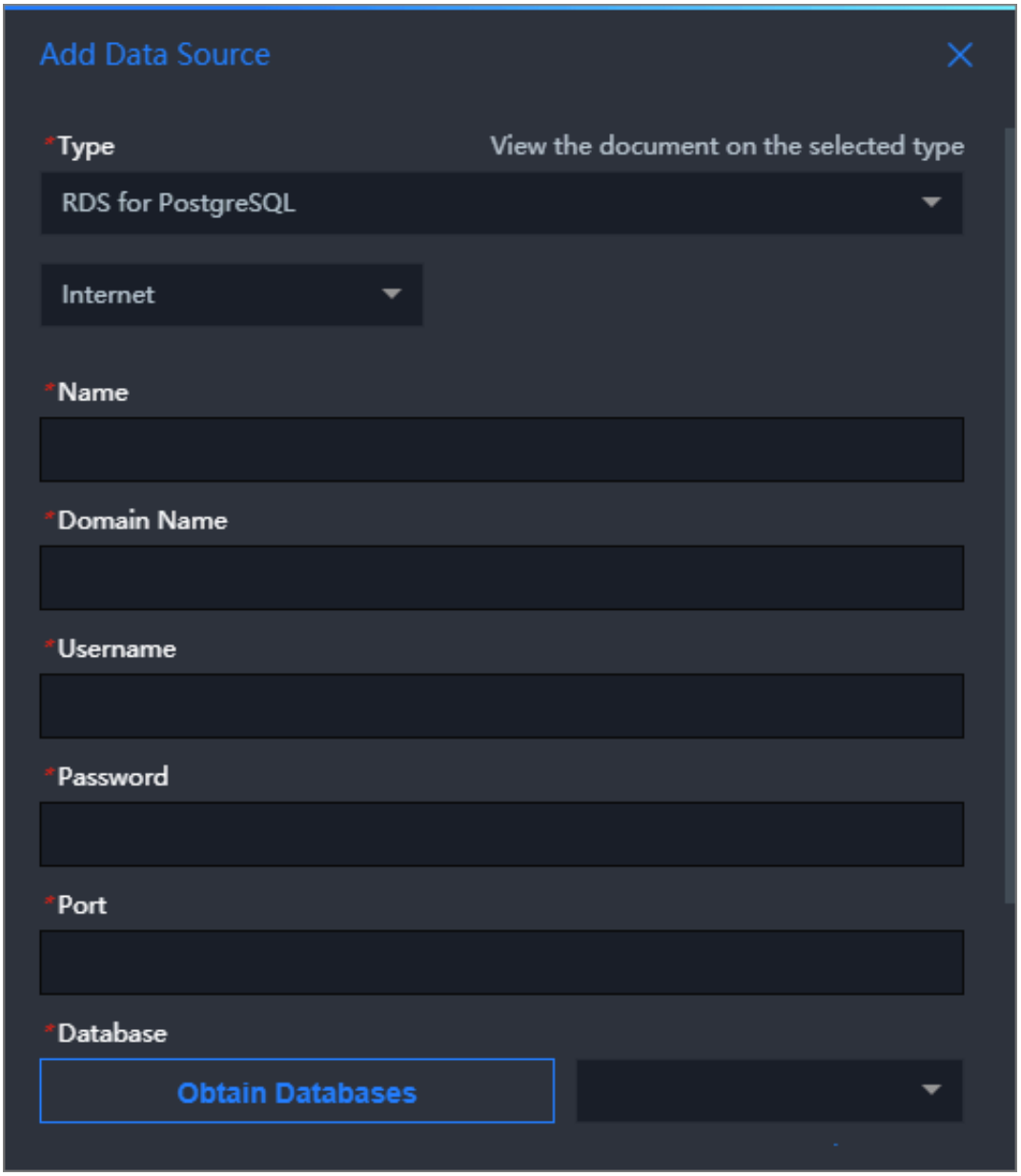
6. After the connectivity test is complete, click **OK**.

   The added data source is displayed in the data source list.

Add an ApsaraDB RDS for PostgreSQL data source over the Internet

1. Log on to the DataV console.
2. Click the **Data Sources** tab and then **Add Source**.
3. Select **RDS for PostgreSQL** from the **Type** drop-down list.
4. Select **Internet** from the network type drop-down list.

5. Enter database information.



Parameter	Description
Name	The name that you want to display for the data source.

Parameter	Description
Domain Name	The domain name or IP address that is used to connect to the database. **Notice:** The DataV server can use the domain name or IP address to access your database over the Internet or an internal network in some regions of Alibaba Cloud. If you need to access an ApsaraDB RDS for PostgreSQL database over the Internet, an example of the domain name is pgm-bpxxxxxxxxxxxxxxqo.pg.rds.aliyuncs.com. You can log on to the ApsaraDB for RDS console and view the required information on the Instances page.
Username	The username that is used to connect to the database.
Password	The password that is used to connect to the database.
Port	The port that is used to connect to the database.
Database	The database that you want to use as the data source.

After you enter the database information, DataV automatically tests whether the database can be connected.

6. After the database passes the connectivity test, click **OK**.

   The added data source is displayed in the data source list.

2.5 Add an ApsaraDB RDS for SQL Server data source

This topic describes how to add an ApsaraDB RDS for SQL Server data source in DataV.

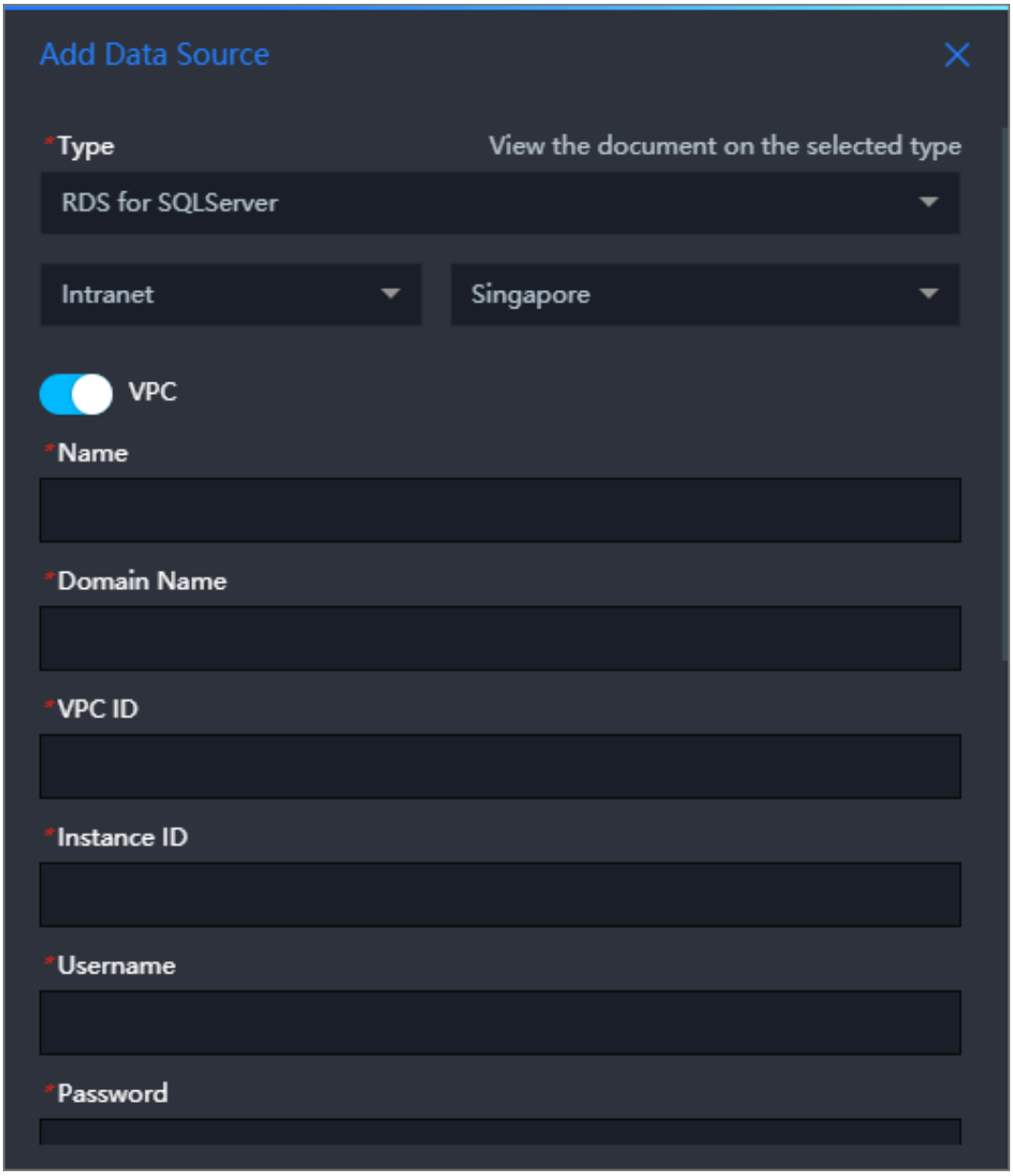
Add an ApsaraDB RDS for SQL Server data source over an internal network

1. Log on to the DataV console.
2. Click the **Data Sources** tab and then **Add Source**.
3. Select **RDS for SQLServer** from the **Type** drop-down list.
4. Select **Intranet** from the network type drop-down list, and select the region where the target ApsaraDB RDS for SQL Server instance resides from the region drop-down list.

5. Specify a network type for the internal network of the database, such as **VPC** or **classic network**.

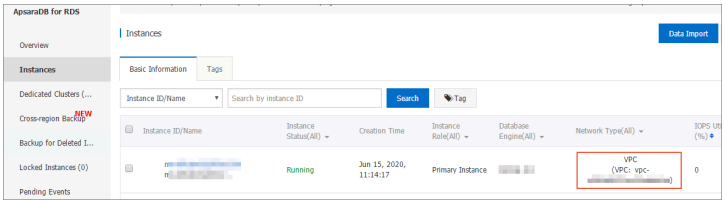
   - **VPC**

     a. Turn on **VPC** to enter the **VPC** mode.



     b. Enter database information.

Parameter	Description
Name	The name that you want to display for the data source .

Parameter	Description
Domain Name	The URL that is used to connect to the database. **Notice:** The DataV server can use the URL to access the database over the Internet or an internal network in some regions of Alibaba Cloud. If you need to access an ApsaraDB RDS for SQL Server database over an internal network, an example of the domain name is rm-bpxxxxxxxxx33150.sqlserver.rds.aliyuncs.com. You can log on to the ApsaraDB for RDS console and view the required information on the Instances page.
VPC ID	The ID of the VPC to which your ApsaraDB RDS for SQL Server instance belongs. You can log on to the ApsaraDB for RDS console and navigate to **Instances** > **Basic Information** to view the VPC ID of the target ApsaraDB RDS for SQL Server instance in the **Network Type** column. 
Instance ID	The ID of the database instance in the VPC. You can log on to the ApsaraDB for RDS console and view the ID of the target database instance on the Instances page.
Username	The username that is used to connect to the database .
Password	The password that is used to connect to the database .
Port	The port that is used to connect to the database.
SQL Server Version	Optional. If you use a SQL Server version that is earlier than SQL Server 2012, select this option.
Database	The database that you want to use as the data source .

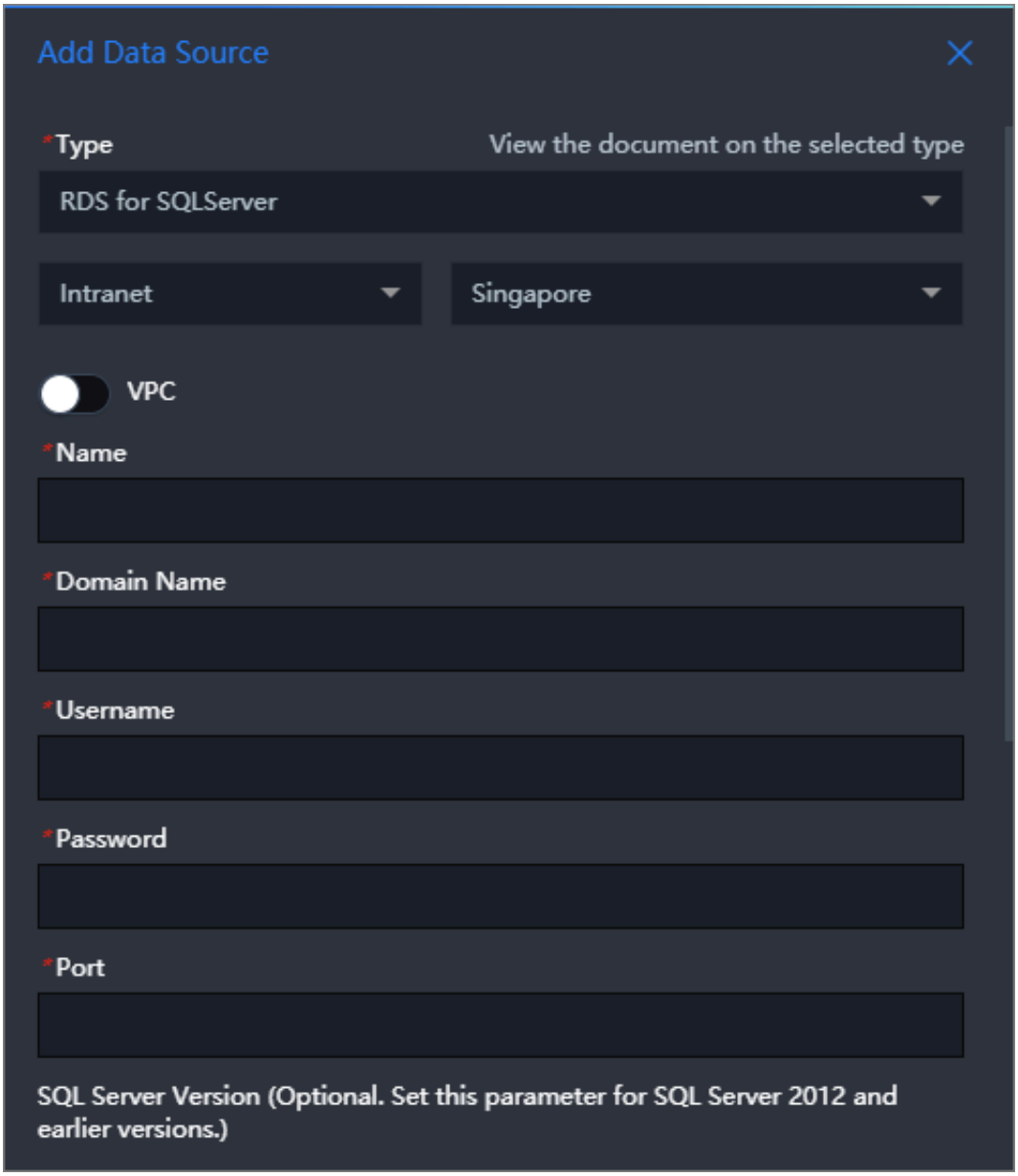
Parameter	Description
encrypt	If you enable this feature, you can use a Microsoft Azure SQL Server database as the data source.

c. After you enter the database information, DataV automatically tests whether the database can be connected.

- **Classic network**

a. Turn off **VPC** to enter the **classic network** mode.

b. Enter database information.



Parameter	Description
Name	The name that you want to display for the data source .

Parameter	Description
Domain Name	The URL that is used to connect to the database.  **Notice:** The DataV server can use the URL to access your database over the Internet or an internal network in some regions of Alibaba Cloud. If you need to access an ApsaraDB RDS for SQL Server database over an internal network, an example of the domain name is rm-bpxxxxxxxxx33150.sqlserver.rds.aliyuncs.com. You can log on to the ApsaraDB for RDS console and view the required information on the Instances page.
Username	The username that is used to connect to the database .
Password	The password that is used to connect to the database .
Port	The port that is used to connect to the database.
SQL Server Version	Optional. If you use a SQL Server version that is earlier than SQL Server 2012, select this option.
Database	The database that you want to use as the data source .
encrypt	If you enable this feature, you can use a Microsoft Azure SQL Server database as the data source.

c. After you enter the database information, DataV automatically tests whether the database can be connected.

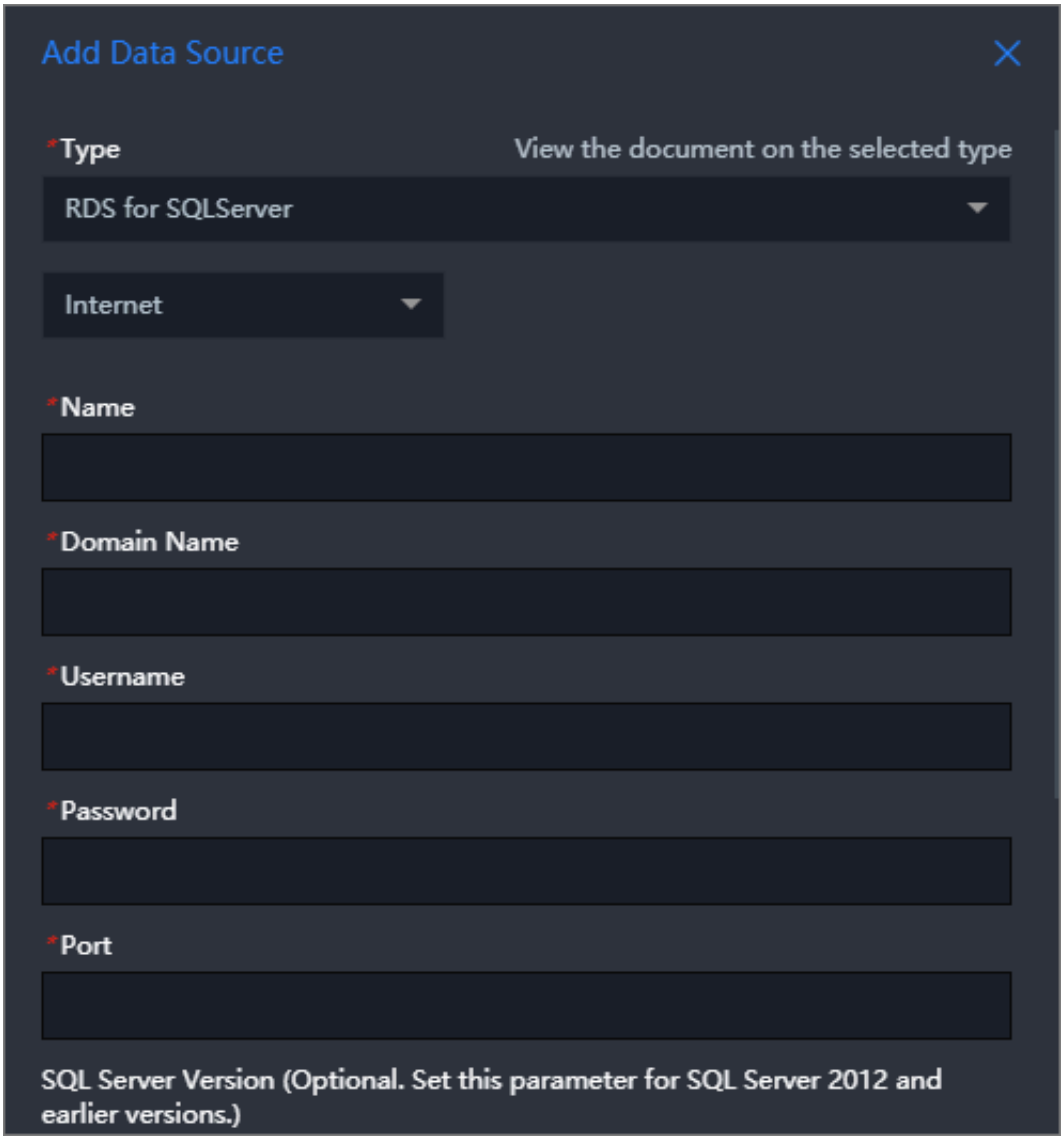
6. After the connectivity test is complete, click **OK**.

   The added data source is displayed in the data source list.

Add an ApsaraDB RDS for SQL Server data source over the Internet

1. Log on to the DataV console.
2. Click the **Data Sources** tab and then **Add Source**.
3. Select **RDS for SQLServer** from the **Type** drop-down list.
4. Select **Internet** from the network type drop-down list.

5. Enter database information.



Parameter	Description
Name	The name that you want to display for the data source.
Domain Name	The URL that is used to connect to the database. **Notice:** The DataV server can use the URL to access your database over the Internet or an internal network in some regions of Alibaba Cloud.
Username	The username that is used to connect to the database.
Password	The password that is used to connect to the database.
Port	The port that is used to connect to the database.

Parameter	Description
SQL Server Version	Optional. If you use a SQL Server version that is earlier than SQL Server 2012, select this option.
Database	The database that you want to use as the data source.
encrypt	If you enable this feature, you can use a Microsoft Azure SQL Server database as the data source.

After you enter the database information, DataV automatically tests whether the database can be connected.

6. After the database passes the connectivity test, click **OK**.

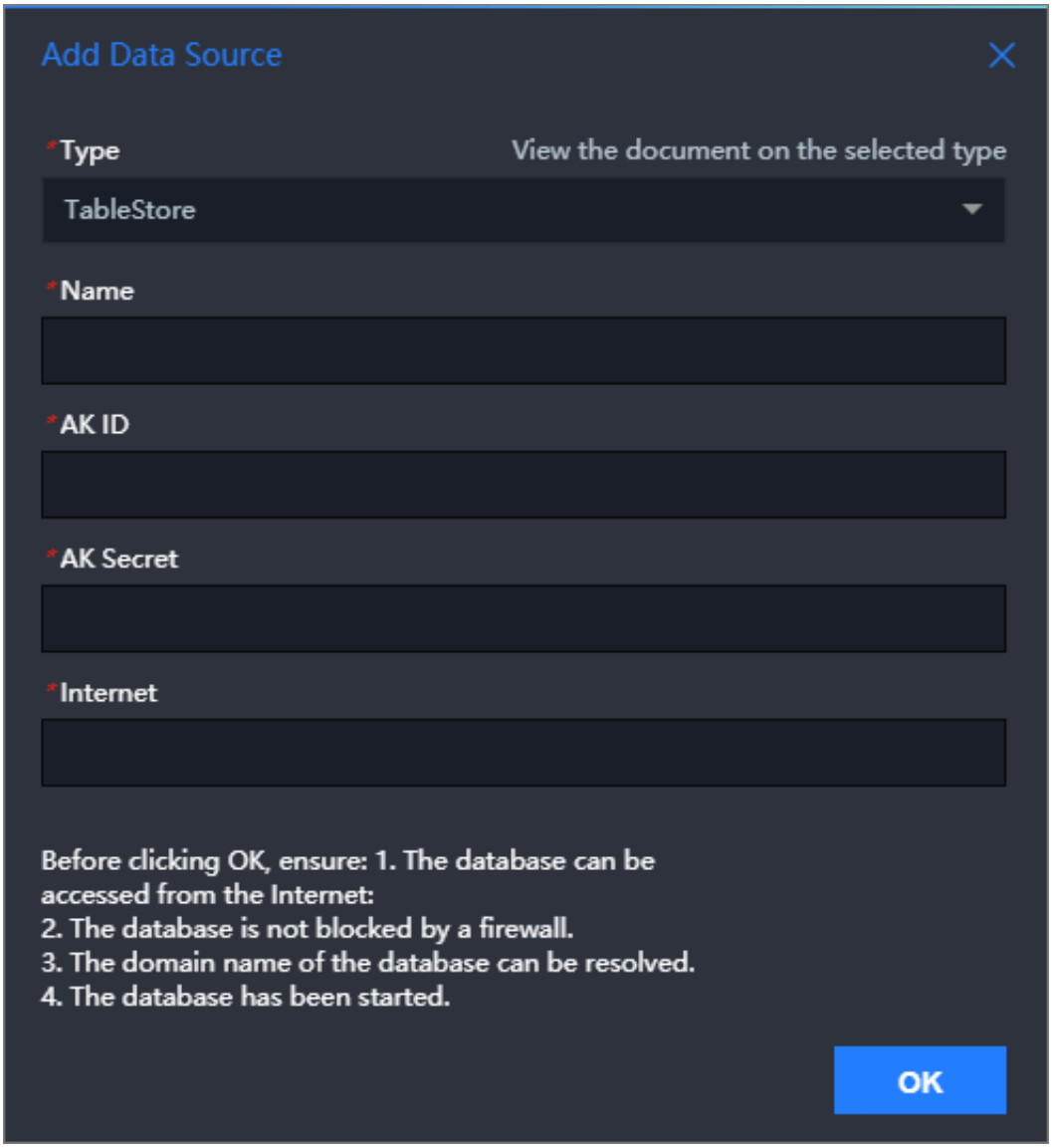
   The added data source is displayed in the data source list.

2.6 Add a Tablestore data source

This topic describes how to add a Tablestore data source in DataV.

1. Log on to the DataV console.
2. Click the **Data Sources** tab and then **Add Source**.
3. Select **TableStore** from the **Type** drop-down list.

4. Enter Tablestore information.



Parameter	Description
Name	The name that you want to display for the data source.
AK ID	The AccessKey ID of the account that has permissions to access the target Tablestore instance.
AK Secret	The AccessKey secret of the account that has permissions to access the target Tablestore instance.
Internet	Enter the endpoint of the target Tablestore instance. For more information, see #unique_28.

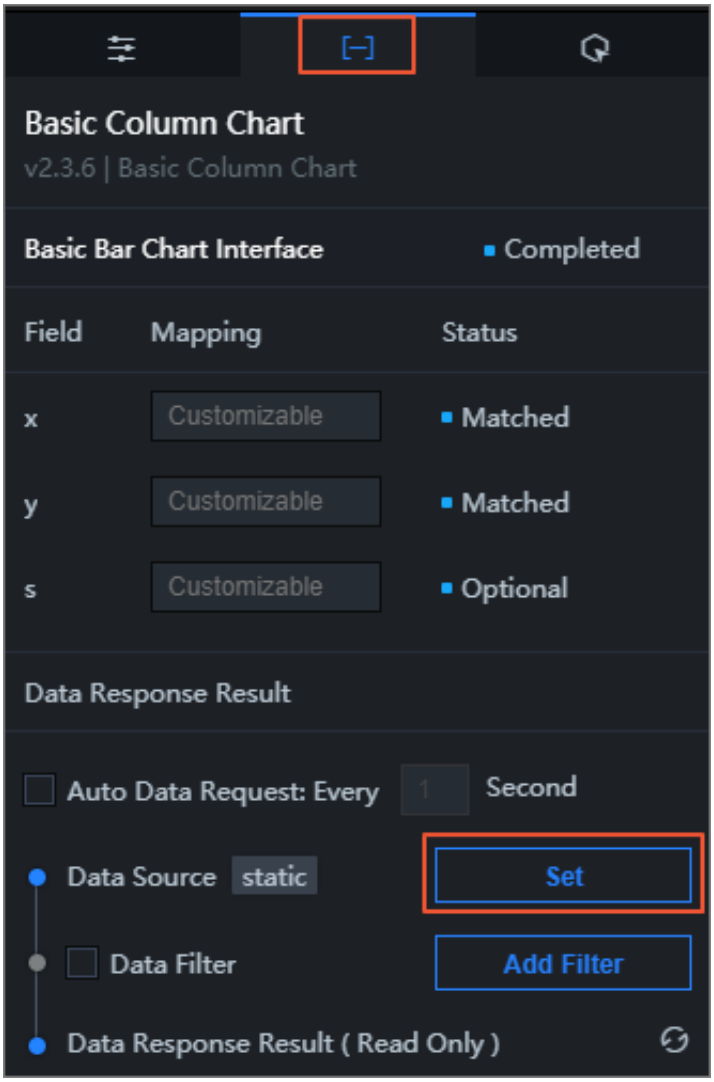
5. After you enter the Tablestore information, click **OK**.

   The added data source is displayed in the data source list.

Use the Tablestore data source

1. Log on to the DataV console.
2. On the **Projects** tab, move the pointer over the project that you want to edit and click **Edit**.
3. On the edit page of the canvas, click a widget.

   If no widget is added to the canvas, add a widget first. For more information, see #unique_29.
4. In the right-side configuration pane, click the **Data** tab and then **Set**.



5. In the **Set Data Source** pane, select **TableStore** from the **Data Source Type** drop-down list.
6. In the **Select Data Source** section, select the configured Tablestore data source.

7. In the **Select Action** section, select the operation that you want to perform.

   The system supports the following operations:

   - `getRow`: indicates the **GetRow** operation of Tablestore. For more information, see GetRow.
   - `getRange`: indicates the **GetRange** operation of Tablestore. For more information, see GetRange.

8. In the edit box of the **Select Action** section, enter query statements.

   - Query parameters must be JSON objects.
   - If you select the `getRow` operation, a single row of data is read based on the specified primary key.

     The parameters are in the following format:

     ```
     {
     "table_name": "test",
     "rows": {
     "id": 2
     },
     "columns": [
     "id",
     "test"
     ]
     }
     ```

Parameter	Description
table_name	Enter the name of the table that you want to query.
rows	Set filter conditions to return the rows that meet the filter conditions. If you want to add columns as query conditions in the rows parameter, make sure that the columns to be added have been indexed.
columns	The names of the columns that you want to return.

   - If you select the `getRange` operation, a single row of data is read based on the specified primary key. The parameters are in the following format:

     ```
     {
     "table_name": "test",
     "direction": "FORWARD",
     "columns": [
     "id",
     "test"
     ],
     "range": {
     "limit": 4,
     "start": {
     "id": "InfMin"
     ```

```
},
"end": {
"id": 3
}
}
}
```

Parameter	Description
table_name	Enter the name of the table that you want to query.
direction	The query direction.
columns	The names of the columns that you want to return.
limit	The maximum number of rows that can be returned.
start	The start column to be read. The start column is included in the returned result and must be indexed.
end	The end column to be read. The end column is included in the returned result and must be indexed.

Note:

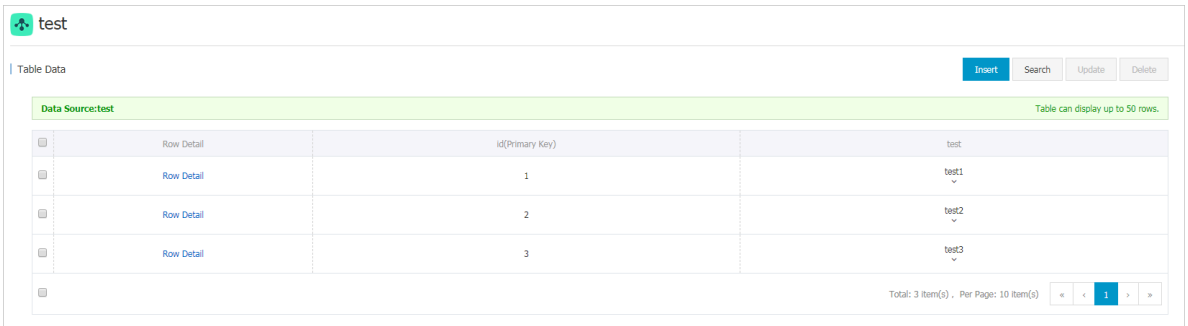
For the **start** and **end** parameters, you can use **InfMin** to indicate the minimum value and use **InfMax** to indicate the maximum value.

9. Click **Preview Data Response** to view the returned data.

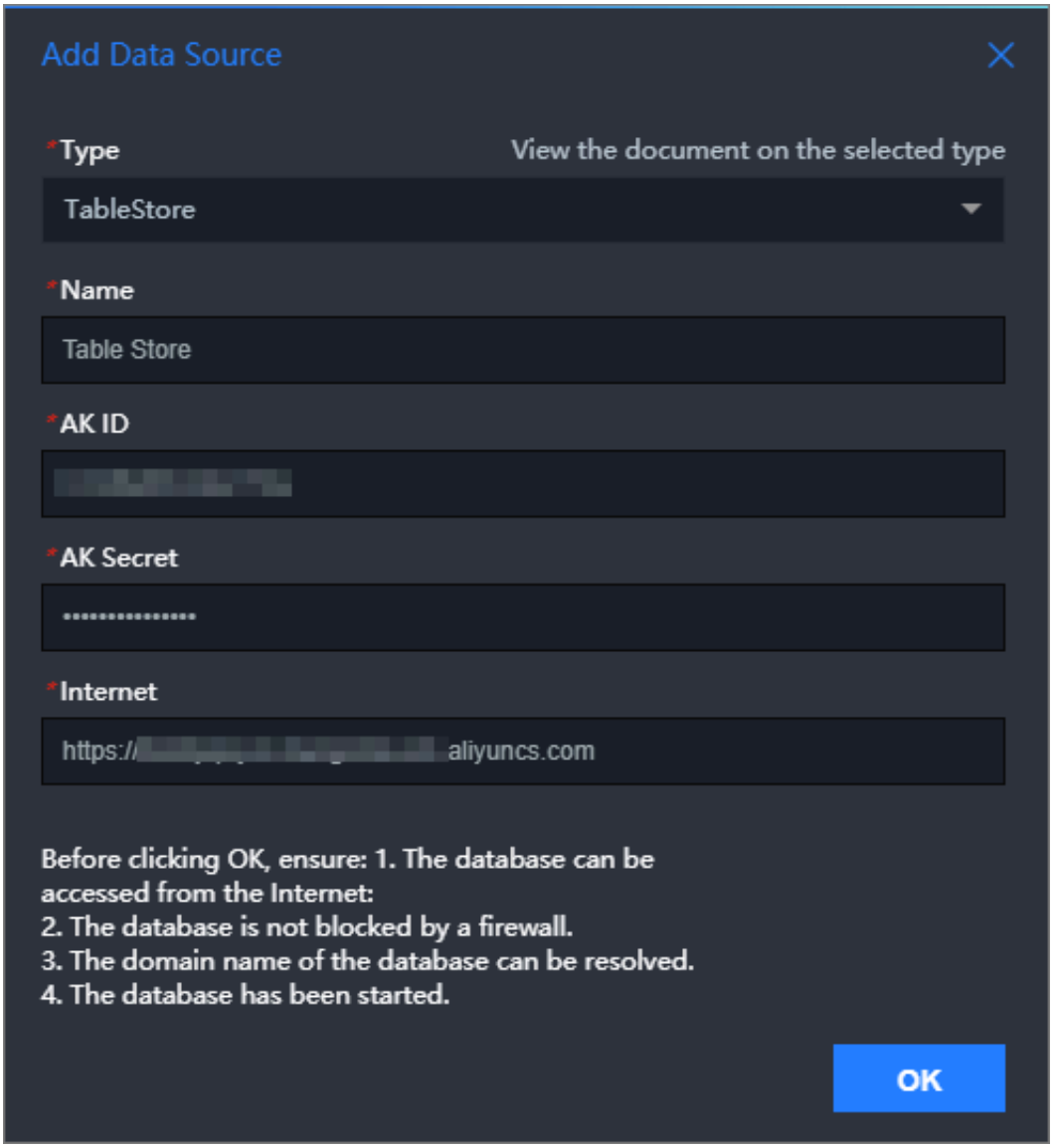
Example

1. Prepare Tablestore data.

   You must log on to the Tablestore console to create an instance and store data first. For more information, see Create an instance and Store data. The following figure creates an instance named **test1948**, which contains three rows of data and two columns: id(primary key, integer) and test(string).

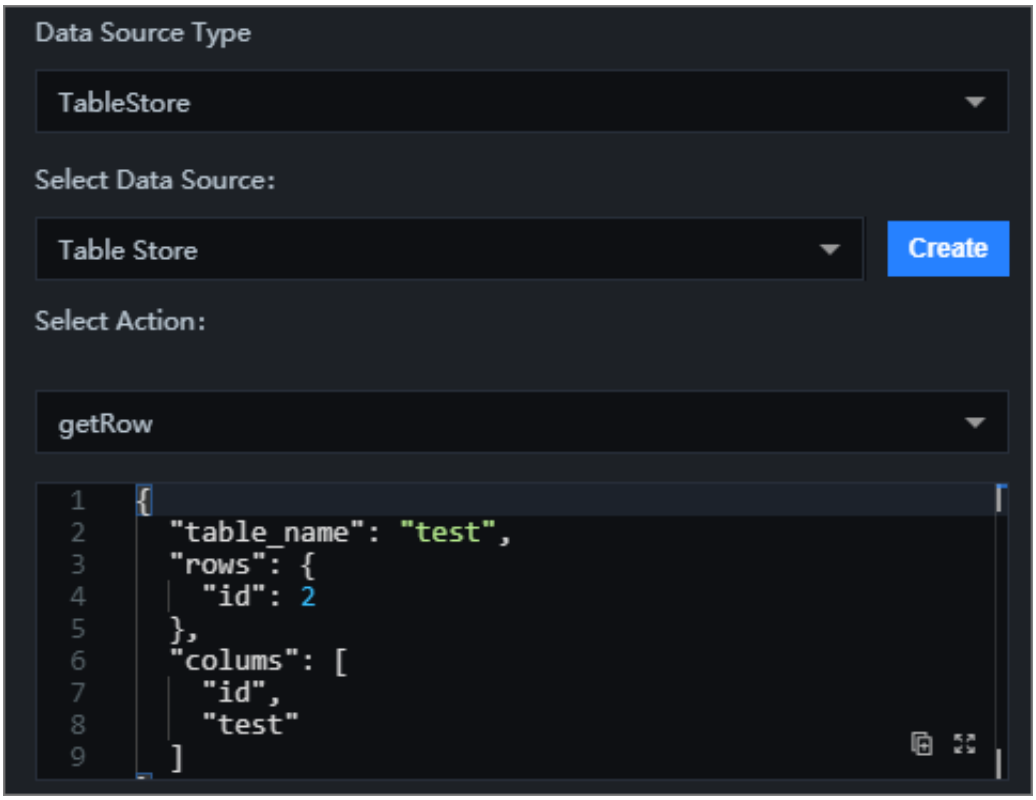


2. Configure a data source.



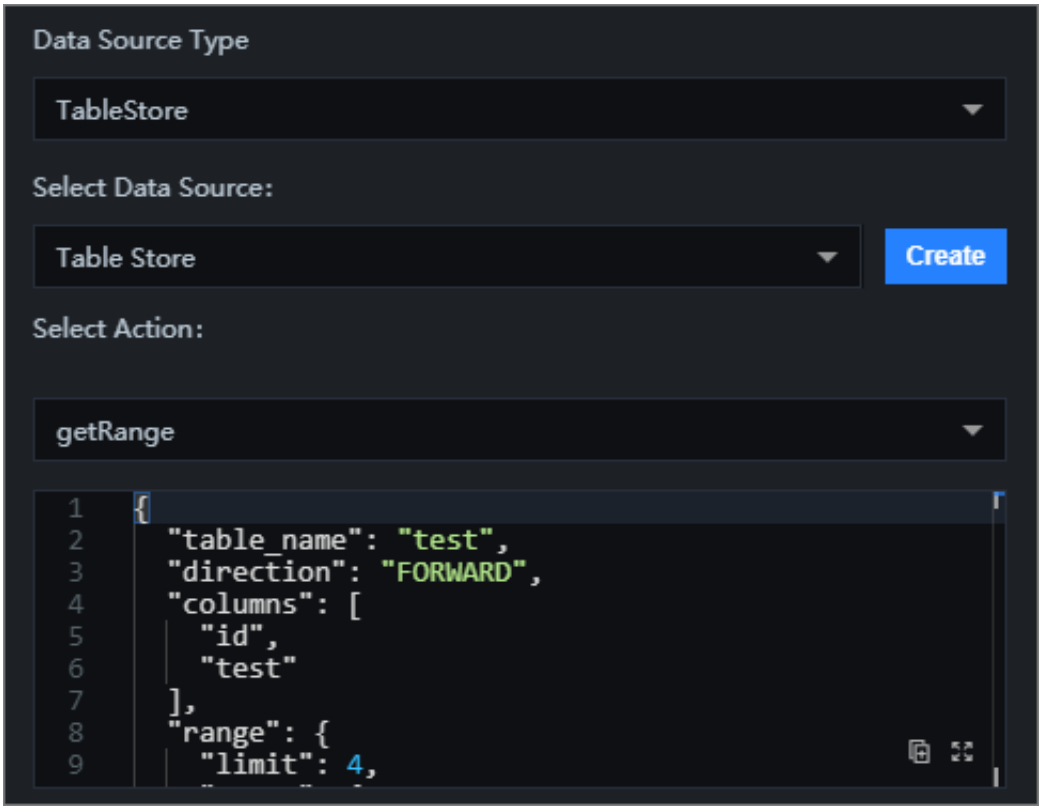
3. Query parameters.

   - Query data by using `getRow`.

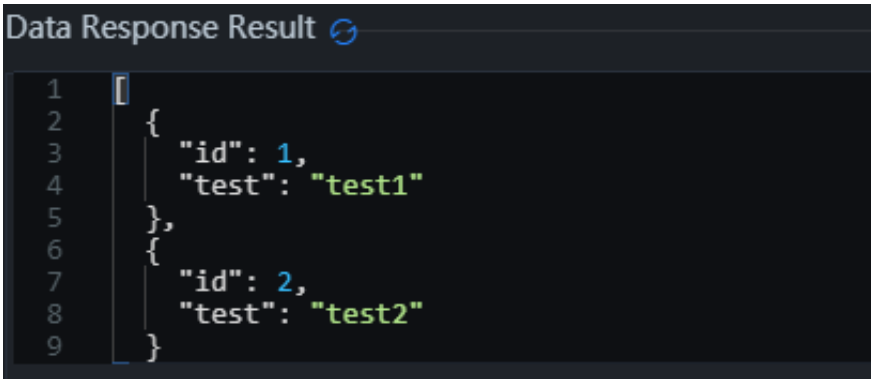


   The response results are as follows.

   - Query data by using `getRange`.



The response results are as follows.



Note:

When you query data by using **getRange**, **start** is id: InfMin, and **end** is id: 3. Therefore, data of the row with **id** of 1 and the row with id of **2** is obtained. This is because **getRange** neither contains the **end** row nor the row with **id** of 3.

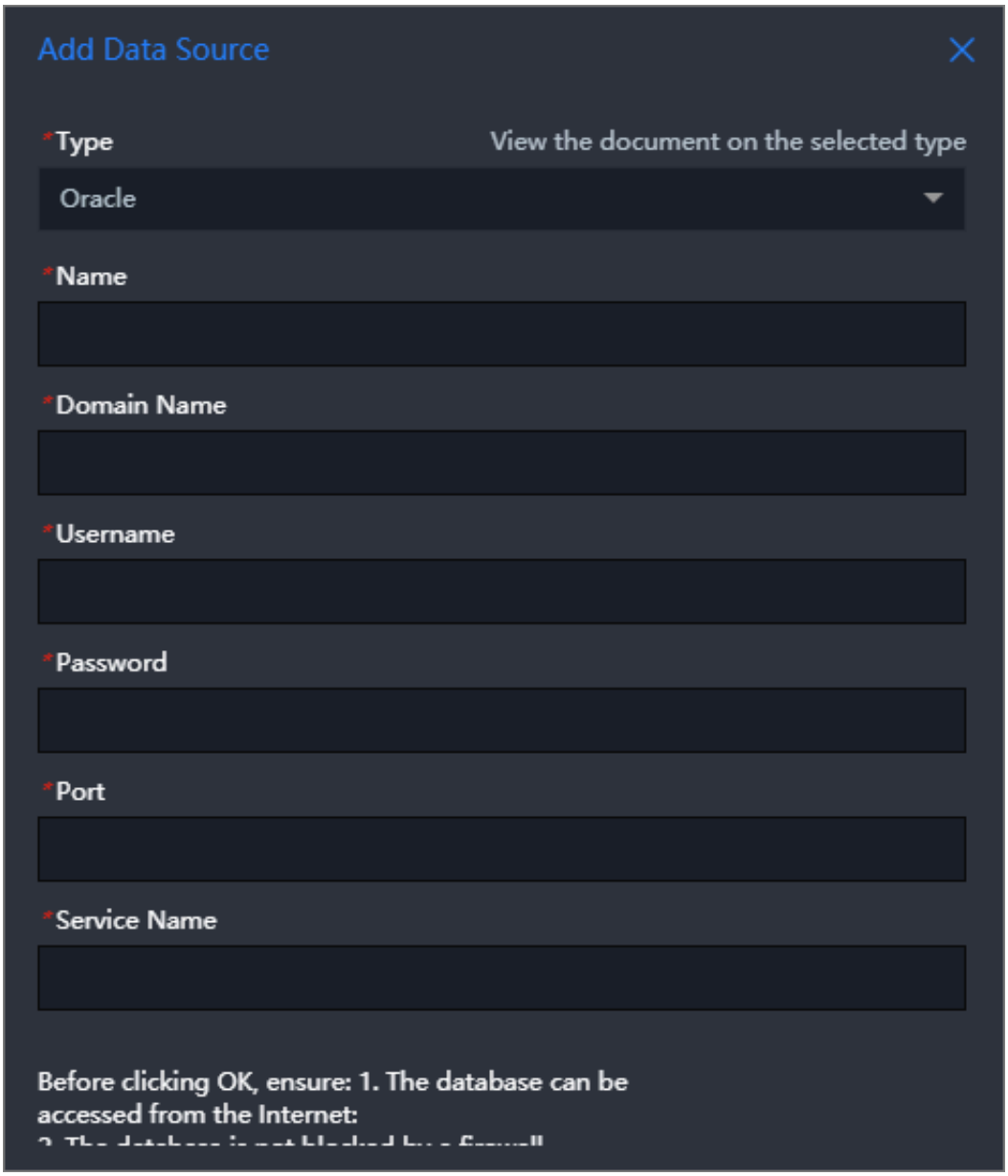
2.7 Add an Oracle data source

This topic describes how to add an Oracle data source in DataV.

Procedure

1. Log on to the DataV console.

2. Click the **Data Sources** tab and then **Add Source**.
3. Select **Oracle** from the **Type** drop-down list.
4. Enter database information.



Parameter	Description
Name	The name that you want to display for the data source.
Domain Name	The domain name or IP address that is used to connect to the database. **Notice:** The DataV server can use the domain name or IP address to access your database over the Internet or an internal network in some regions of Alibaba Cloud.

Parameter	Description
Username	The username that is used to connect to the database.
Password	The password that is used to connect to the database.
Port	The port that is used to connect to the database.
Service Name	The service name of the selected database.

After you enter the database information, DataV automatically tests whether the database can be connected.

5. After the database passes the connectivity test, click **OK**.

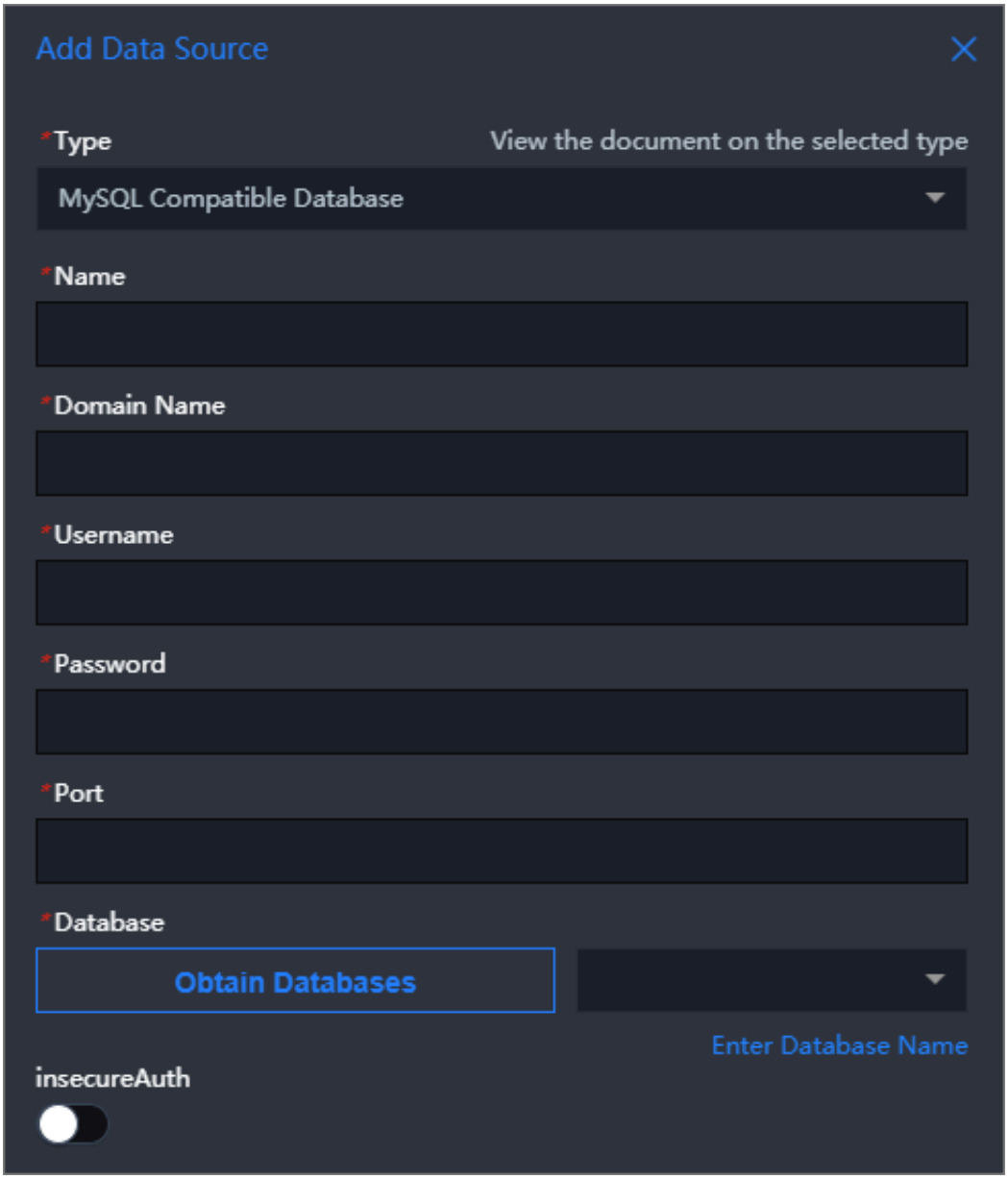
2.8 Add a MySQL-compatible data source

This topic describes how to add a MySQL-compatible data source in DataV. After you add such a data source, you can use a MySQL database of a version earlier than MySQL 5.2 as a data source of the widgets in your DataV project.

Procedure

1. Log on to the DataV console.
2. Click the **Data Sources** tab and then **Add Source**.
3. Select **MySQL Compatible Database** from the **Type** drop-down list.

4. Enter database information.



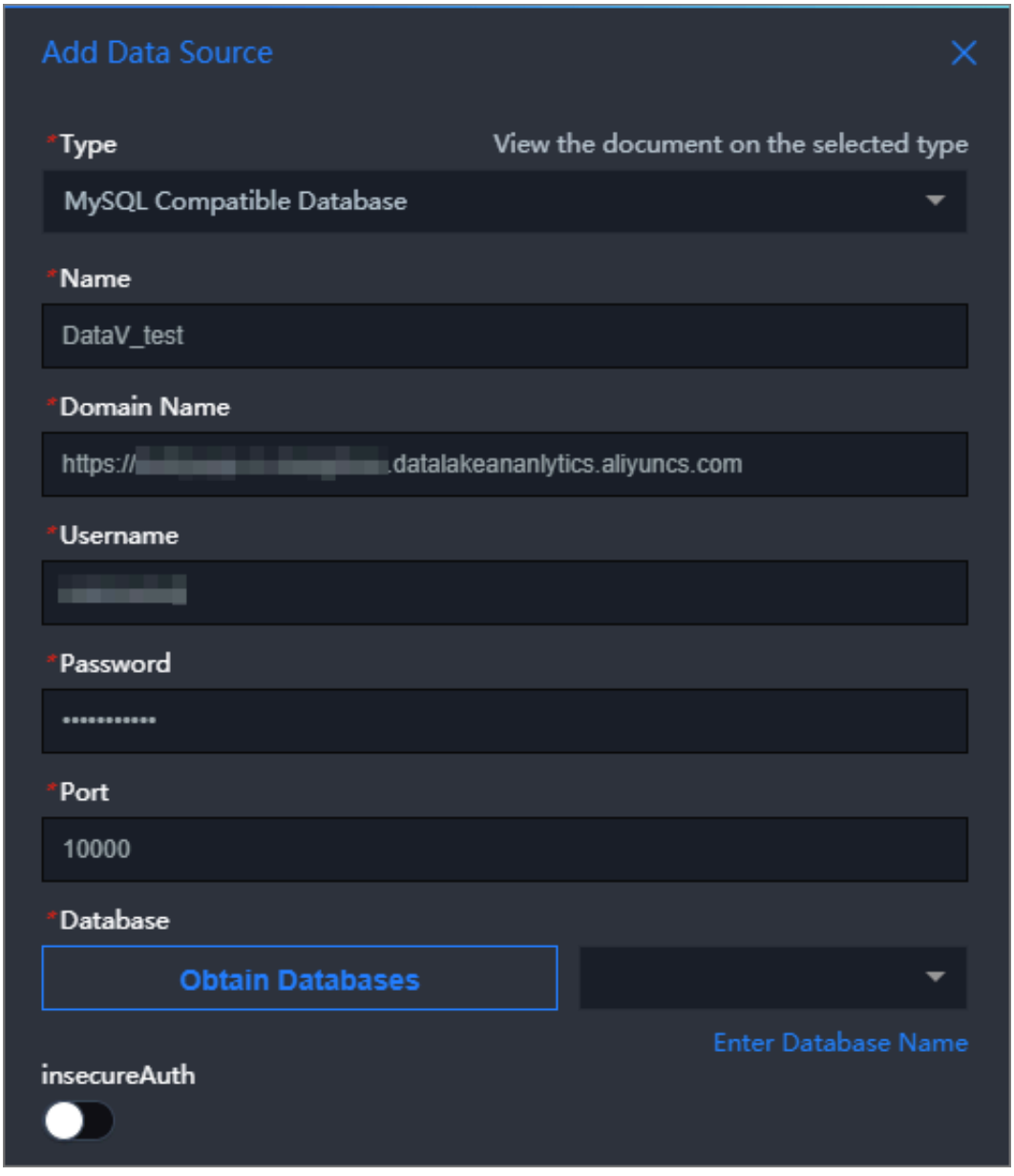
Parameter	Description
Name	The name that you want to display for the data source.

Parameter	Description
Domain Name	The domain name or IP address that is used to connect to the database.  **Notice:** The DataV server can use the domain name or IP address to access your database over the Internet or an internal network in some regions of Alibaba Cloud. If you need to access a Data Lake Analytics database over the Internet, an example of the domain name is umxxxxxxxx-31xxxxxx.cn-hangzhou.datalakeanalytics.aliyuncs.com.
Username	The username that is used to connect to the database.
Password	The password that is used to connect to the database.
Port	The port that is used to connect to the database.
Database	The database that you use as the data source.
insecureAuth	If you enable this feature, MySQL databases of versions earlier than MySQL 5.2 are supported, but not all these databases are fully compatible.

Parameter	Description
Compatible with Azure Database for MySQL	If you enable this feature, you can use a Microsoft Azure Database for MySQL database as the data source.

After you enter the database information, DataV automatically tests whether the database can be connected.

The following figure shows the information of a Data Lake Analytics database.



5. After the database passes the connectivity test, click **OK**.

2.9 Add a DataV Proxy data source

This topic describes how to add a DataV Proxy data source. DataV Proxy allows you to connect to an on-premises database without exposing the public IP address of the database to the Internet. This ensures data security.

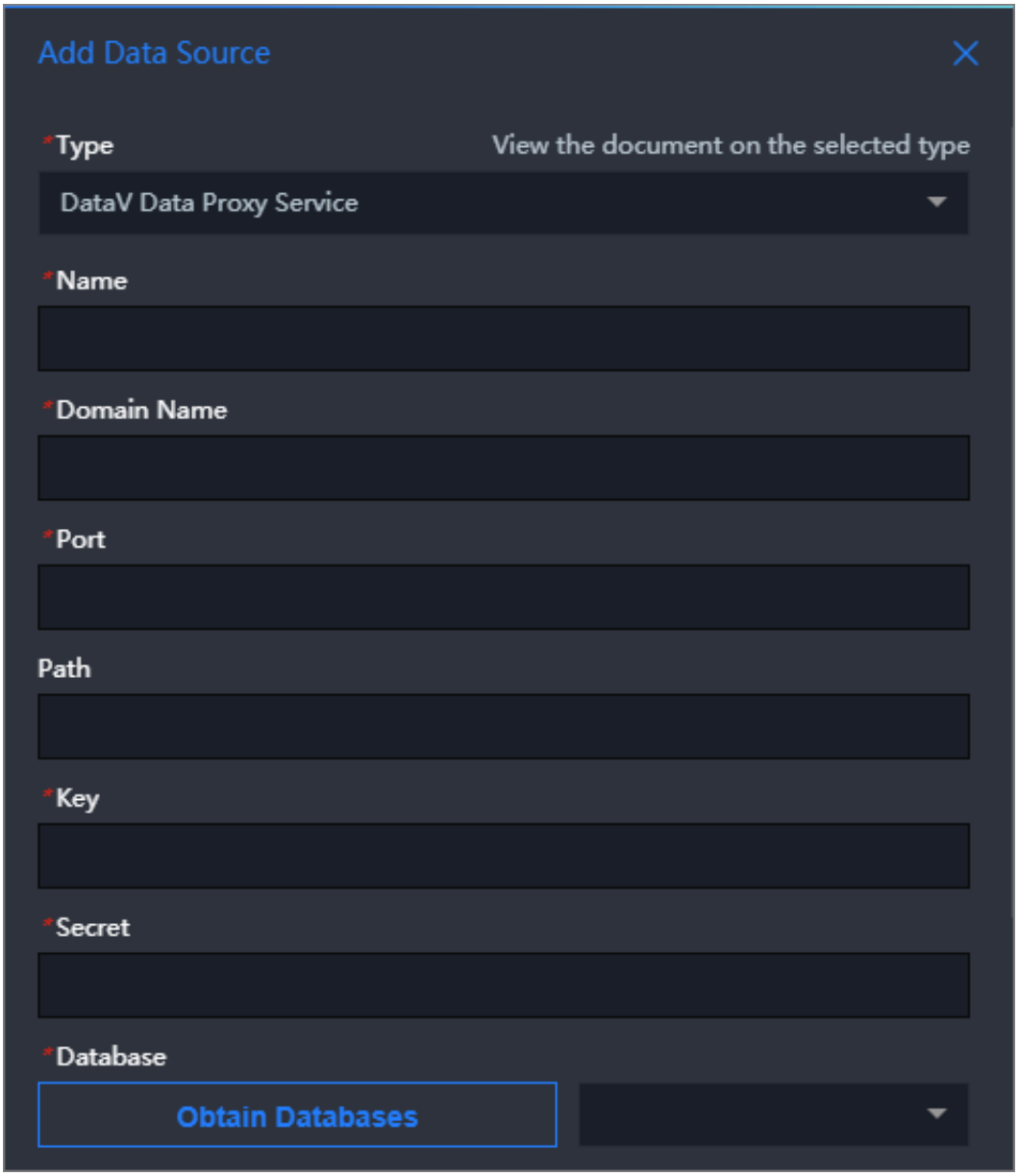
Procedure

1. Log on to the DataV console.
2. Click the **Data Sources** tab and then **Add Source**.
3. Select **DataV Data Proxy Service** from the **Type** drop-down list.

Notice:

- The SDK of DataV Proxy provides services only over HTTP. If you want the SDK of DataV Proxy to provide services over HTTPS, apply for an HTTPS certificate recognized by Google Chrome.
- Before you use the SDK of DataV Proxy to provide services over HTTPS, make sure that the DataV console is opened by using HTTP.

4. Enter database information.



Parameter	Description
Name	The name that you want to display for the data source.
Domain Name	The IP address or domain name of the DataV Proxy server. If DataV Proxy is deployed on an ECS instance, set this value to the public IP address of the ECS instance. For more information, see #unique_8.
Port	The port that is used to connect to DataV Proxy. Default port: 8001. For more information, see #unique_8.
Key	After DataV Proxy is installed, a key is generated. For more information, see #unique_8.

Parameter	Description
Secret	After DataV Proxy is installed, a secret is generated. For more information, see #unique_8.
Database	The ID of the database that is added as the data source to the DataV Proxy application.

After you enter the database information, DataV automatically tests whether the database can be connected.

5. After the database passes the connectivity test, click **OK**.

2.10 Add a CSV file

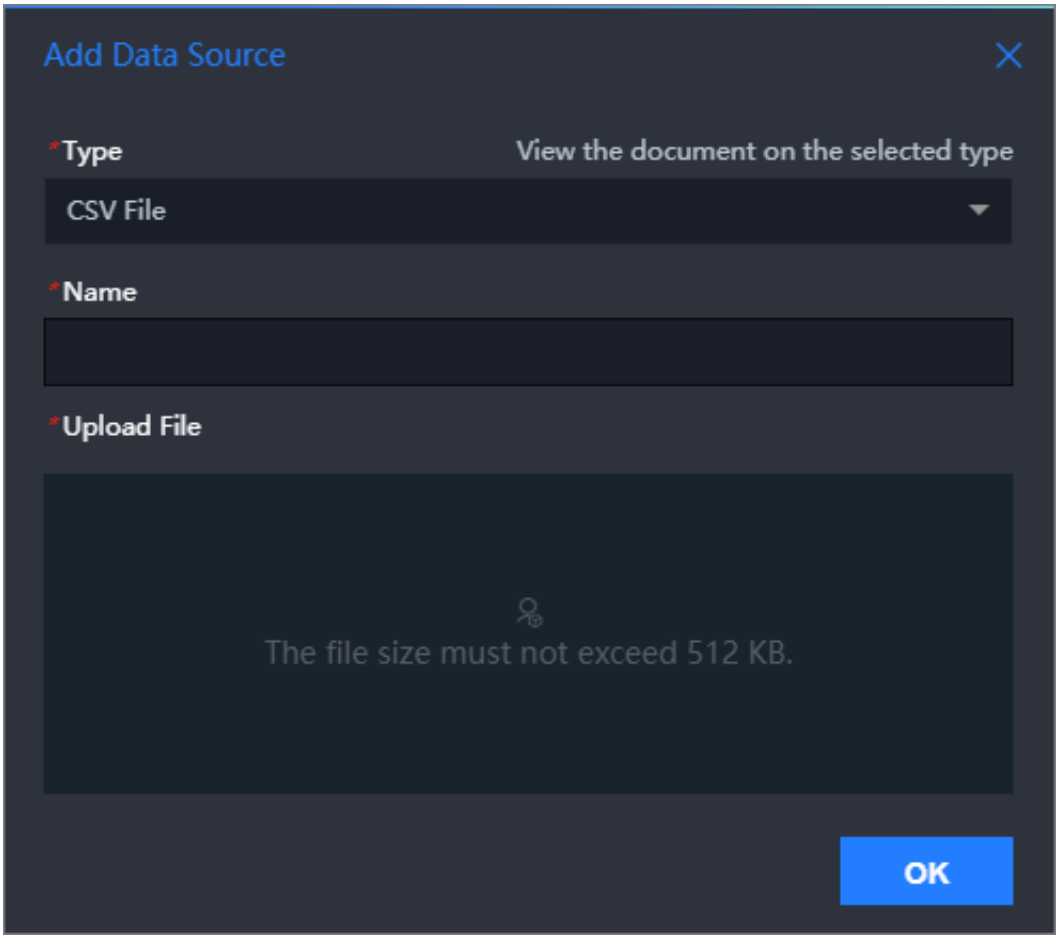
This topic describes how to add a CSV file as a data source in DataV.

Procedure

1. Log on to the DataV console.
2. Click the **Data Sources** tab and then **Add Source**.
3. Select **CSV File** from the **Type** drop-down list.
4. Upload a CSV file.

Note:

The size of the CSV file cannot exceed 512 KB.



5. Click **OK**.

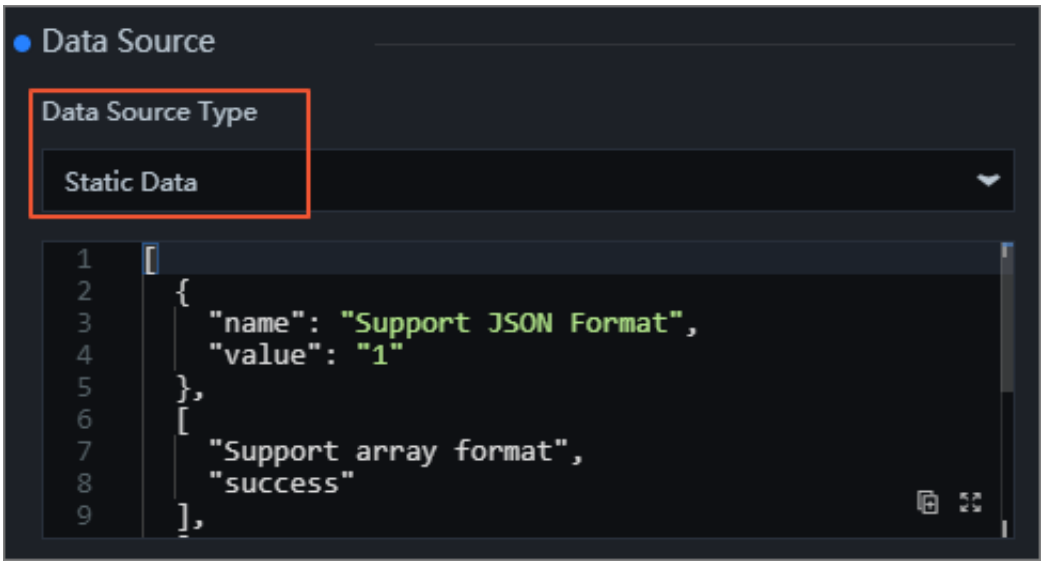
2.11 Add a static JSON file

This topic describes how to add a static JSON file as the data source in DataV.

Procedure

1. Log on to the DataV console.
2. Create a project. For more information, see #unique_39.
3. On the edit page of the template project, click a widget in the application canvas. In the right-side configuration pane, click the **Data** tab.
4. On the **Data** tab, click **Set**.

5. In the **Set Data Source** pane, select **Static Data** from the **Data Source Type** drop-down list.



6. Paste the content of the JSON file to the data section shown in this figure.

> **Notice:**
> The file size must be less than 512 KB.

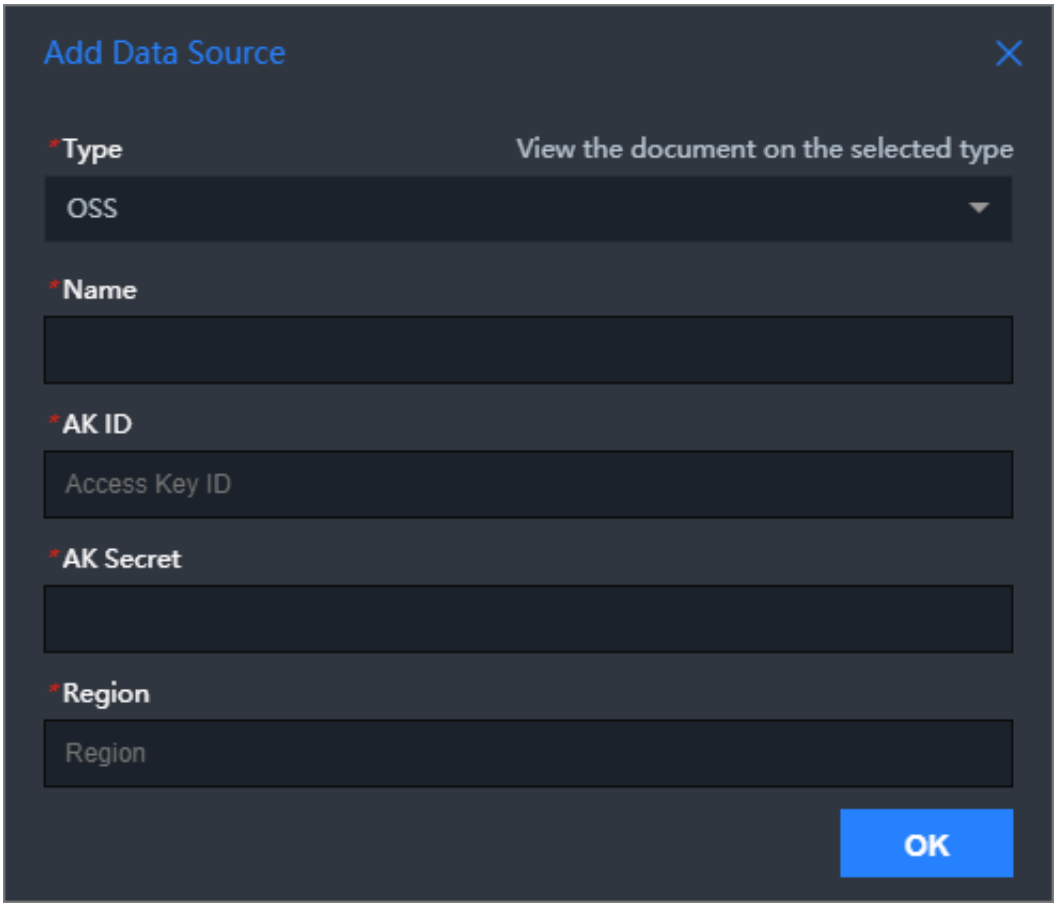
7. Click **Preview Data Response** to view the response style of the data source.

2.12 Add an OSS data source

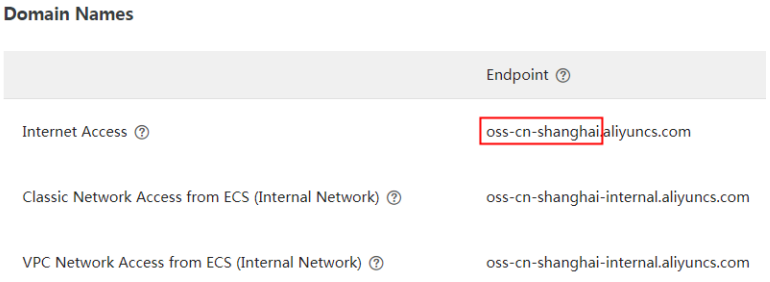
This topic describes how to add an Object Storage Service (OSS) data source in DataV. Alibaba Cloud OSS allows you to store and use unstructured data such as text, image, audio, and video files over the Internet at any time.

1. Log on to the DataV console.
2. Click the **Data Sources** tab and then **Add Source**.
3. Select **OSS** from the **Type** drop-down list.

4. Enter OSS information.



Parameter	Description
Name	The name that you want to display for the data source.
AK ID	The AccessKey ID of the account that has permissions to access the target OSS bucket.
AK Secret	The AccessKey secret of the account that has permissions to access the target OSS bucket.

Parameter	Description
Region	The region information of the target OSS bucket. Log on to the OSS console. Then, click your bucket name to obtain the required information.  In this figure, the OSS bucket is located in the China (Shanghai) region. Therefore, you must set **Region** to **oss-cn-shanghai**.

5. After you enter the OSS information, click **OK**.

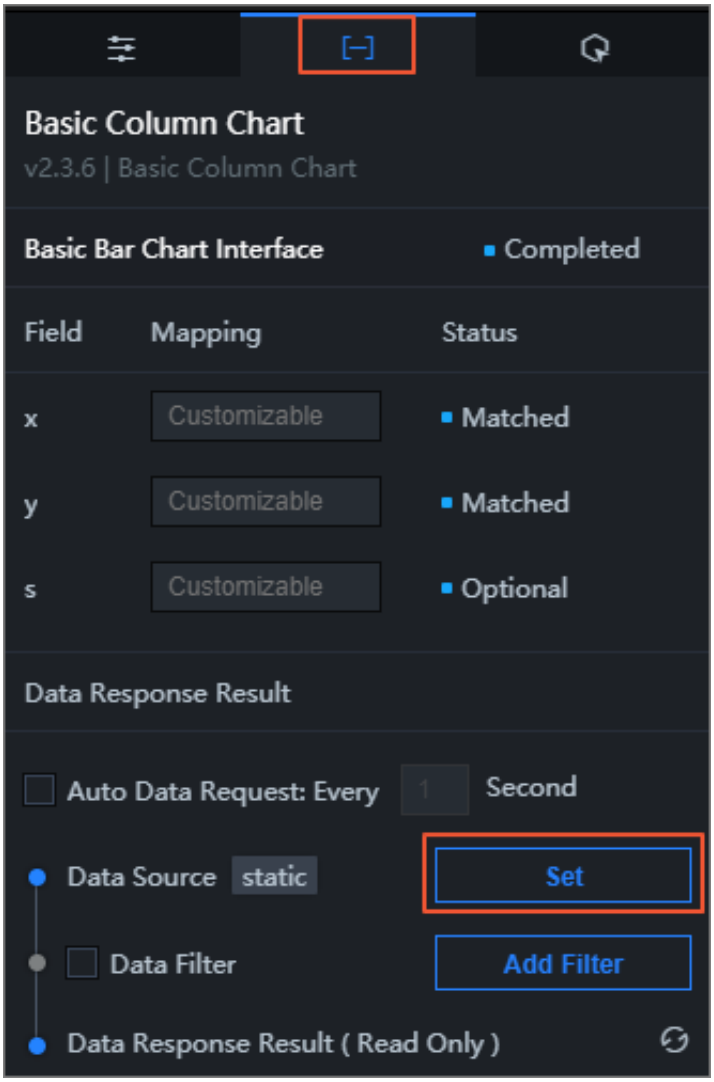
   The added data source is displayed in the data source list.

Use the OSS data source

1. Log on to the DataV console.
2. On the **Projects** tab, move the pointer over the project that you want to edit and click **Edit**.
3. On the edit page of the canvas, click a widget.

   If no widget is added to the canvas, add a widget first. For more information, see #unique_29.

4. In the right-side configuration pane, click the **Data** tab and then **Set**.



5. In the **Set Data Source** pane, select **OSS** from the **Data Source Type** drop-down list.
6. In the **Select Data Source** section, select the configured **OSS** data source.
7. In the **File Path** section, enter the target file path.
8. Click **Preview Data Response** to view the returned data.

   The file must meet the following requirements:

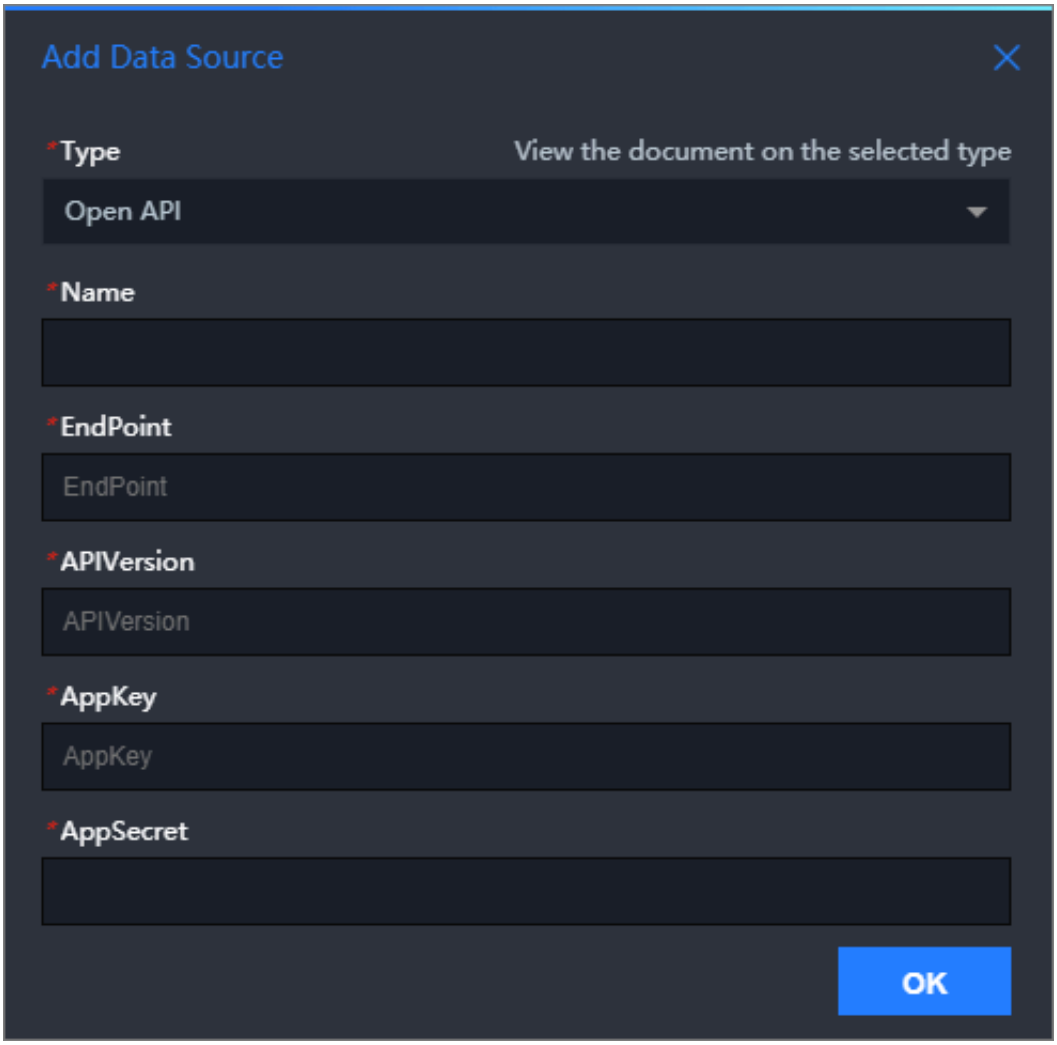
   - The file is in the JSON text format.
   - The file path is in the **oss://bucket/file** format. If your OSS bucket is named **myBucket** and the file is **test.json**, the file path must be **oss://myBucket/test.json**.

2.13 Add an OpenAPI Explorer data source

This topic describes how to add an OpenAPI Explorer data source in DataV. OpenAPI Explorer provided by Alibaba Cloud allows you to call API operations of cloud products for

easy query and control. In DataV, OpenAPI Explorer is often used to call API operations of other Alibaba Cloud products to obtain and display data.

1. Log on to the DataV console.
2. Click the **Data Sources** tab and then **Add Source**.
3. Select **Open API** from the **Type** drop-down list.
4. Enter OpenAPI Explorer information.



Parameter	Description
Name	The name that you want to display for the data source.
EndPoint	The endpoint of OpenAPI Explorer. You can obtain this information from the API documentation of the related cloud product. For example, the endpoint of OpenAPI Explorer for ECS is ecs.aliyuncs.com, and the endpoint of OpenAPI Explorer for CloudMonitor in the China (Hangzhou) region is metrics.cn-hangzhou.aliyuncs.com.

Parameter	Description
APIVersion	The API version of a cloud product. You can obtain this information from the API documentation of the related cloud product. For example, the API version for CloudMonitor is `2017-03-01`.
AppKey	The AccessKey ID of the account that has permissions to call API operations by using OpenAPI Explorer.
AppSecret	The AccessKey secret of the account that has permissions to call API operations by using OpenAPI Explorer.

5. After you enter the OpenAPI Explorer information, click **OK**.

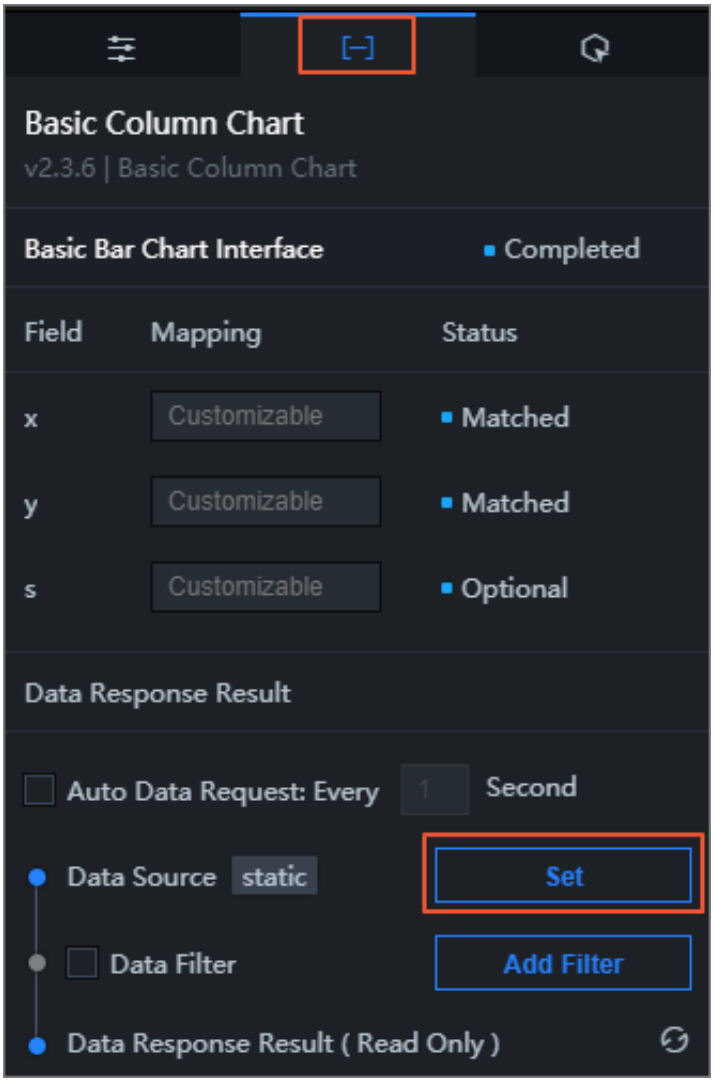
   The added data source is displayed in the data source list.

Use the OpenAPI Explorer data source

1. Log on to the DataV console.
2. On the **Projects** tab, move the pointer over the project that you want to edit and click **Edit**.
3. On the edit page of the canvas, click a widget.

   If no widget is added to the canvas, add a widget first. For more information, see #unique_29.

4. In the right-side configuration pane, click the **Data** tab and then **Set**.



5. In the **Set Data Source** pane, select **Open API** from the **Data Source Type** drop-down list.
6. In the **Select Data Source** section, select the configured **Open API** data source.
7. Specify **Interface Name**.

   Enter the name of the API operation that you want to call. The operation name is the value of the Action parameter that you specify to call the operation. You can obtain the value from the API operation list of the related cloud product, such as `QueryMetricList` for CloudMonitor.
8. Optional: Enter **Path of Responses**.

   Use part of the results returned by OpenAPI Explorer as the value of this parameter.

   The following example shows the results returned by OpenAPI Explorer:

```
{
  "data": [
    {
```

```
        "x": 1,
        "y": 2
      },
      {
        "x": 2,
        "y": 4
      }
    ]
}
```

If you enter **data** in **Path of Responses**, the response results are as follows:

```
[
  {
    "x": 1,
    "y": 2
  },
  {
    "x": 2,
    "y": 4
  }
]
```

Note:

This conversion can be performed by using the filter. The Path of Responses parameter can be left blank.

9. Enter query parameters in the edit box under the Path of Responses parameter.

   - The query parameters are OpenAPI Explorer parameters, which are configured as JSON objects.
   - For more information about the parameter names, see the descriptions of the input parameters in the API documentation of the related cloud product.
   - Enter the callback ID in the value of a JSON object.

   The following example shows the query parameters of the API operation **QueryMetricList** for CloudMonitor.

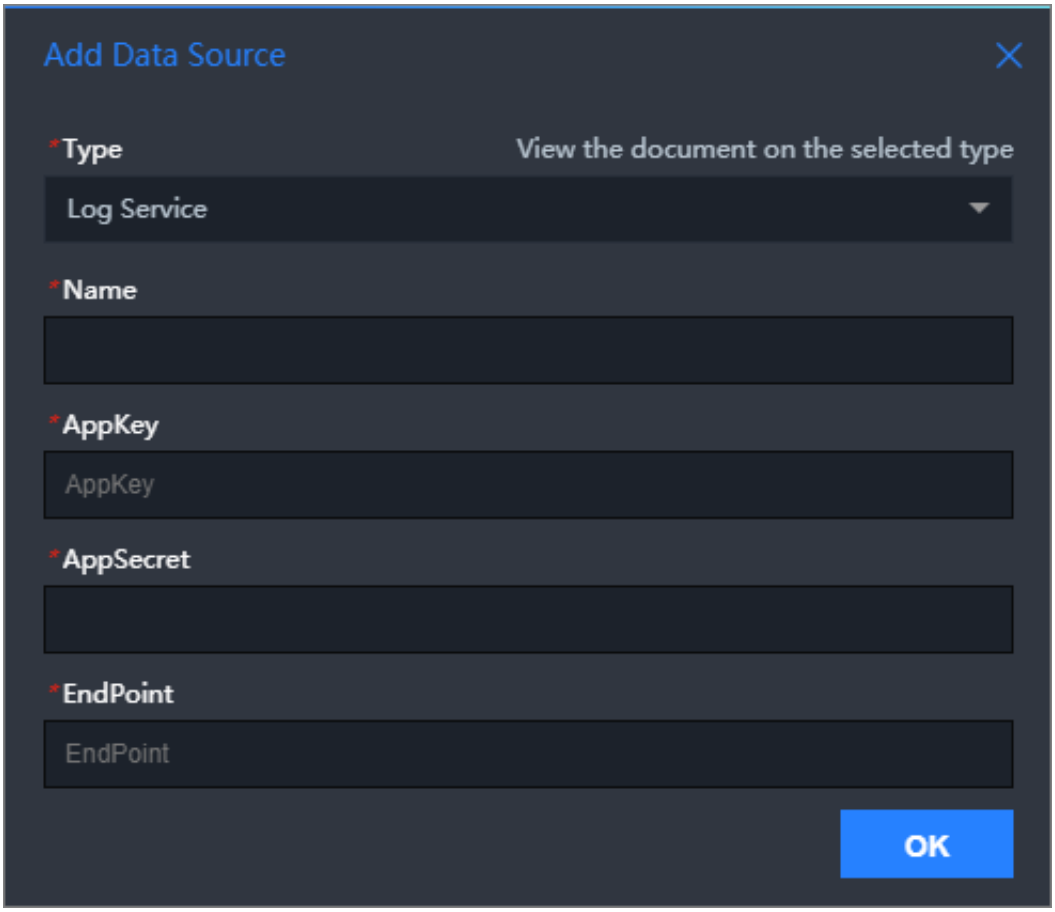
```
// Use the callback ID myInstanceId.
        {
         "Period": 600,
         "StartTime": "2018-11-20 11:30:00",
         "EndTime": "2018-11-21 11:30:00",
         "Metric": "cpu_idle",
         "Project": "acs_ecs_dashboard",
         "Dimensions": "{instanceId:':myInstanceId'}"
        }
```

10. Click **Preview Data Response** to view the returned data.

2.14 Add a Log Service data source

This topic describes how to add a Log Service data source in DataV. Log Service (formerly known as SLS) is an end-to-end service for real-time data management.

1. Log on to the DataV console.
2. Click the **Data Sources** tab and then **Add Source**.
3. Select **Log Service** from the **Type** drop-down list.
4. Enter Log Service information.



Parameter	Description
Name	The name that you want to display for the data source.
AppKey	The AccessKey ID of the account that has permissions to access the target Log Service instance.
AppSecret	The AccessKey secret of the account that has permissions to access the target Log Service instance.

Parameter	Description
EndPoint	Enter the endpoint of Log Service. You can enter an endpoint based on the network type and region of the target Log Service instance. For more information, see Service endpoint. If your Log Service instance is deployed in a VPC in the China (Shanghai) region, enter **https://cn-shanghai-intranet.log.aliyuncs.com** in **EndPoint**.

5. After you enter the Log Service information, click **OK**.

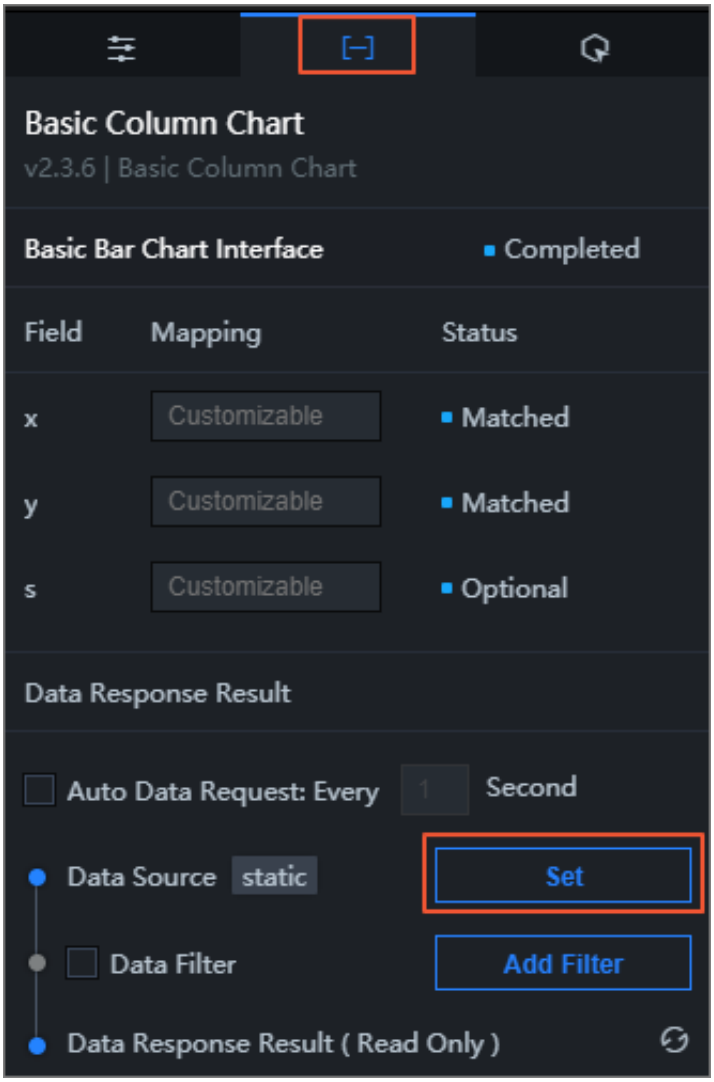
   The added data source is displayed in the data source list.

Use the Log Service data source

1. Log on to the DataV console.
2. On the **Projects** tab, move the pointer over the project that you want to edit and click **Edit**.
3. On the edit page of the canvas, click a widget.

   If no widget is added to the canvas, add a widget first. For more information, see #unique_29.

4. In the right-side configuration pane, click the **Data** tab and then **Set**.



5. In the **Set Data Source** pane, select **Log Service** from the **Data Source Type** drop-down list.
6. In the **Select Data Source** section, select the configured Log Service data source.
7. Enter query parameters in the edit box under **Query**.

   Query parameters can be configured as JSON objects. The following example shows the supported query parameters:

```
{
"projectName": "test",
"logStoreName": "access-log",
"topic": "test",
"from": 1509897600,
"to": 1509984000,
"query": "" ,
"line": 100,
"offset": 0
```

```
}
```

Note:

For more information about the query syntax, see #unique_46.

8. Click **Preview Data Response** to view the returned data.

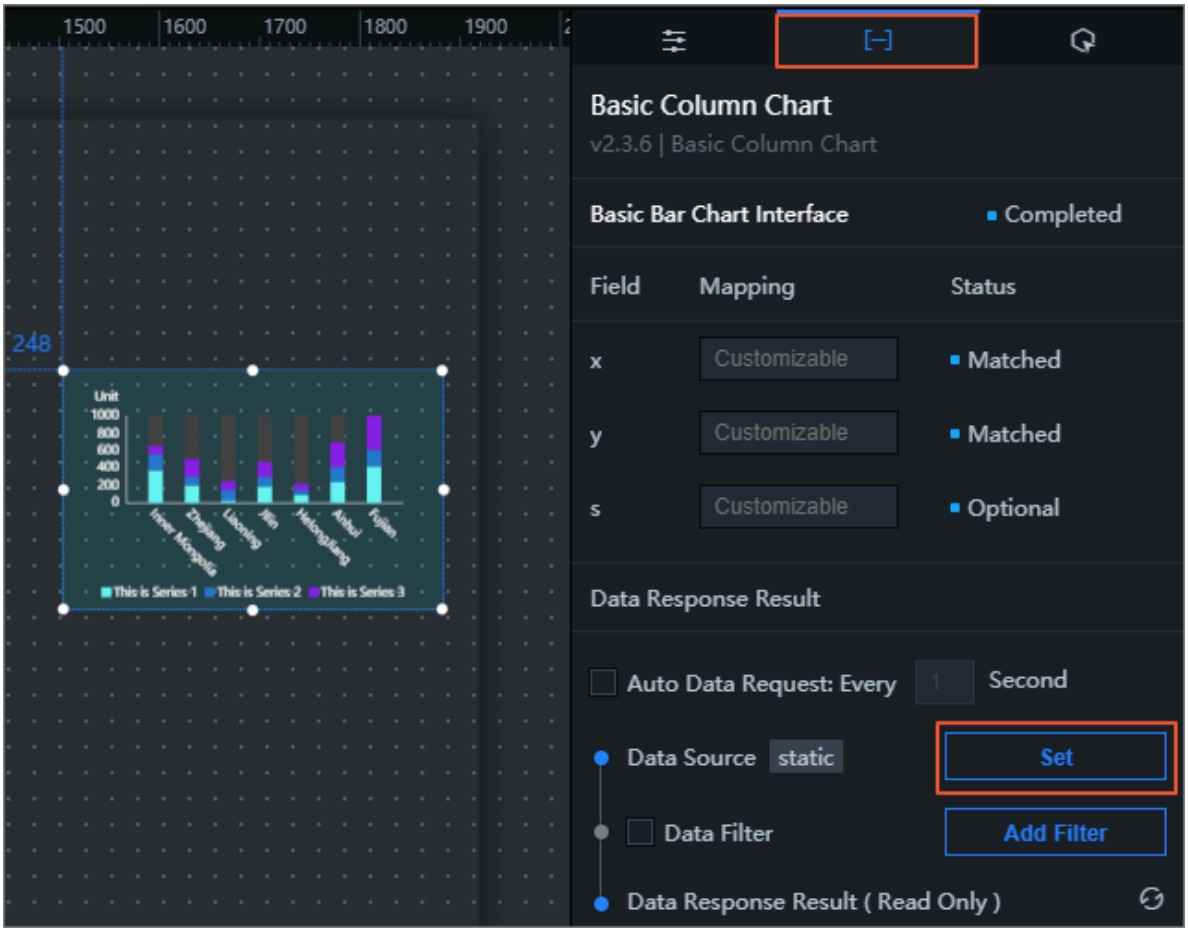
3 Edit a data source

This topic describes how to edit a data source. After you add a data source, you can edit the content of the data source based on your display requirements.

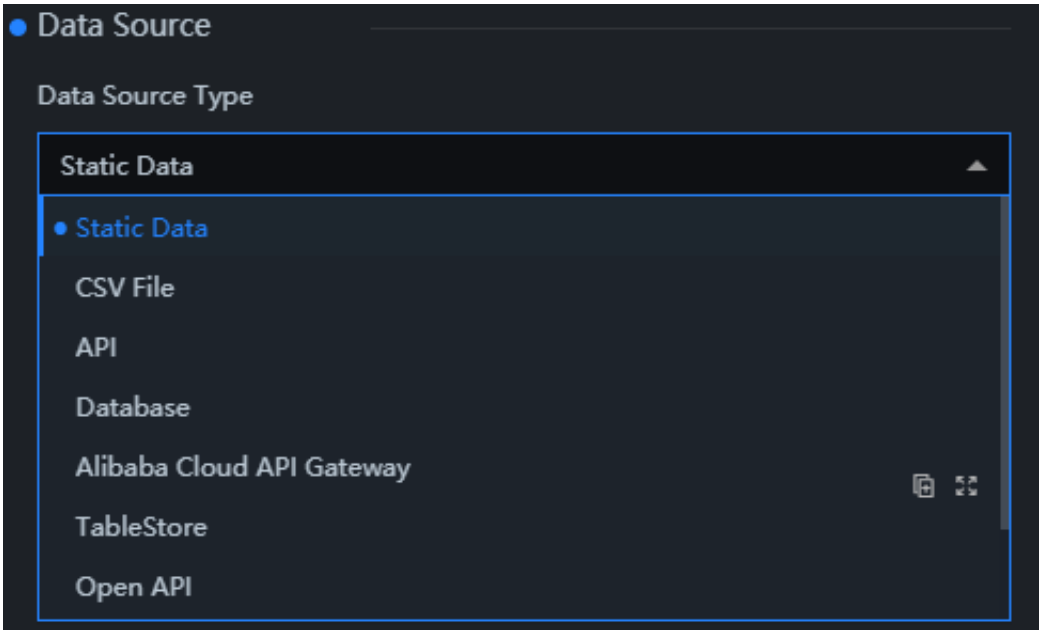
We recommend that you edit a data source on the canvas editor page. You can also configure data mapping, add a filter, and set the automatic data update time on this page. For more information, see Data mapping, Add a filter, and Automatic update.

Procedure

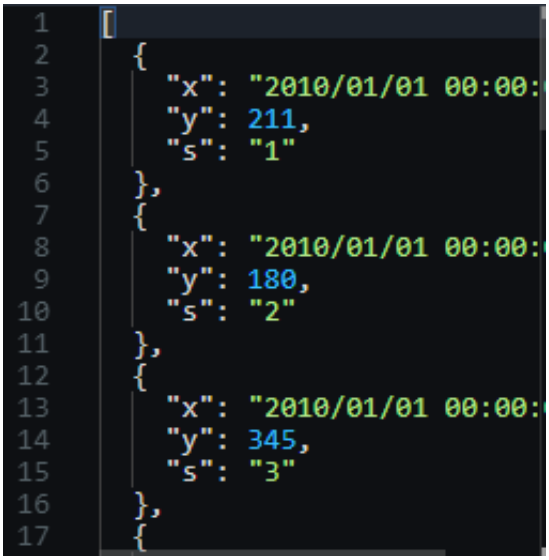
1. Log on to the DataV console.
2. Create a project. For more information, see #unique_48.
3. Click a widget in the canvas.
4. In the right-side configuration pane, click the **Data** tab and then **Set**.



5. In the **Set Data Source** pane, select a required data source from the **Data Source Type** drop-down list.



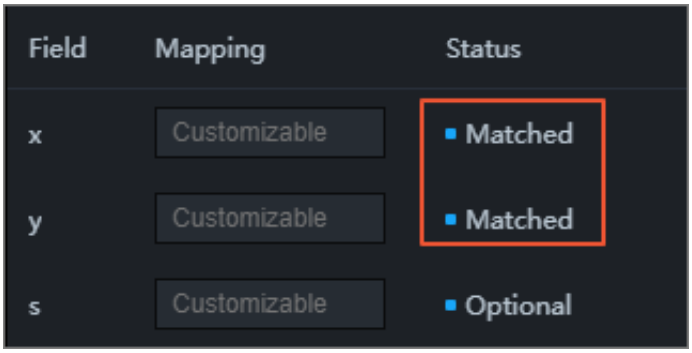
6. Edit the data source content as shown in the example.



Data mapping

In most cases, the system can automatically match categories with values of a data source. For complex data types, you must manually enter the fields to complete data mapping.

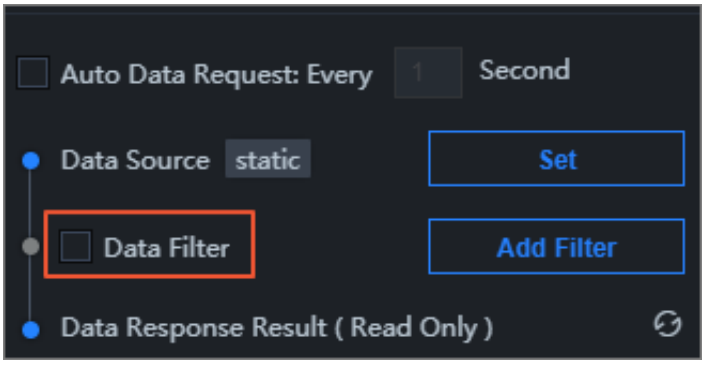
After data mapping is complete, the system displays **Matched**.



Add a filter

You can add a filter for a data source to display data clearly. For more information, see Use the data filter.

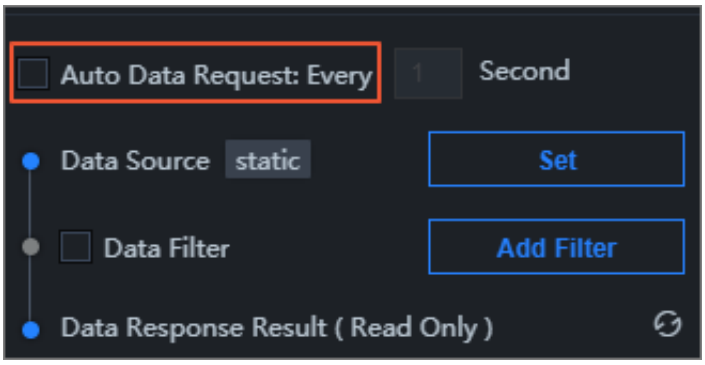
Clear **Data Filter** to disable the filter feature.



Automatic update

You can use the automatic update feature to automatically update data. You can also manually enter the time interval for data update.

Clear **Auto Data Request** to disable the automatic update feature.

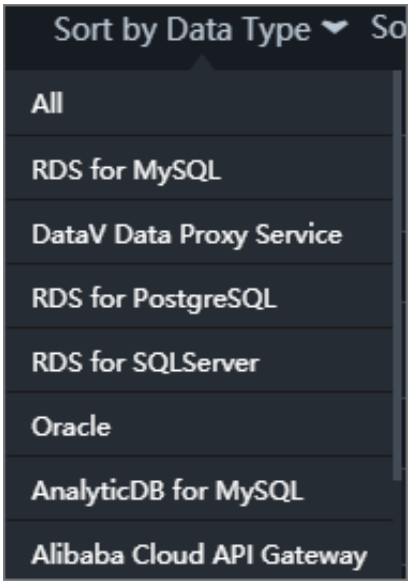


4 Filter data sources

This topic describes how to filter data sources by type in DataV.

Procedure

1. Log on to the DataV console.
2. Click the **Data Sources** tab and then **Data Sources** in the left-side part of the tab.
3. On the **Data Sources** tab, move the pointer over **Sort by Data Type** in the right-side part of the tab.



4. Select the target data source from the Sort by Data Type drop-down list to filter data sources.

5 Sort data sources

This topic describes how to sort data sources in DataV. You can sort data sources by name, creation time, or modification time.

Procedure

1. Log on to the DataV console.
2. Click the **Data Sources** tab and then **Data Sources** in the left-side part of the tab.
3. On the **Data Sources** tab, move the pointer over **Sort by Modification Time** (displayed by default) in the right-side part of the tab.

4. Select the required sorting method from the Sort by Modification Time drop-down list to sort data sources.

> **Note:**
> DataV supports **Sort by Name**, **Sort by Creation Time**, and **Sort by Modification Time**.

6 Delete a data source

This topic describes how to delete a data source in DataV.

Warning:
You cannot recover data sources after they are deleted. Exercise caution when you perform this operation.

Procedure

1. Log on to the DataV console.
2. Click the **Data Sources** tab and then **Data Sources** in the left-side part of the tab.
3. On the **Data Sources** tab, move the pointer over the data source that you want to delete.
4. In the left-side part of the tab, click the **Delete** icon.