Data Admin Service

Best Practices

Issue	01
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Contents

1 How Do I Use DAS to Log In to an Instance Using a Read-Only Account?

System permission policies of Data Admin Service (DAS) do not support read-only accounts. However, you can create a custom policy on the IAM console and assign the read-only permission on DAS.

Differences Between IAM Permissions and Database Permissions

As a management plane service, DAS does not allow users to add, delete, or modify instances. Only adding, deleting, and modifying instance login information are allowed on the DAS console.

IAM permission control applies to DAS only before you log in to an instance. After you have logged in to the instance, permissions are assigned by your database account.

You can use IAM **Permissions Management** to control whether IAM users can add, delete, and modify instance logins and whether they can log in to an instance. After a user logs in to an instance, only the database account controls whether the user can execute SQL statements.

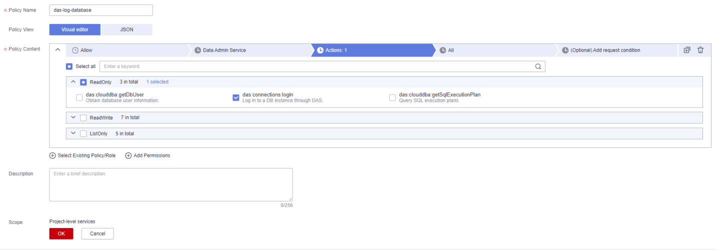
Procedure

Step 1 Log in to the IAM console using a Huawei ID account.

Step 2 Create a custom permission policy.

1. In the navigation pane, choose **Permissions** > **Policies/Roles** and click **Create Custom Policy**.
2. Configure parameters.

Figure 1-1 Configuring a custom permission policy



* Policy Name: das-log-database

Policy View: Visual editor

* Policy Content: Allow | Data Admin Service | Actions: 1 | All | (Optional) Add request condition

■ Select all

■ ReadOnly 3 in total 1 selected

□ das:clouddba:getDbUser Obtain database user information.

☑ das:connections:login Log in to a DB instance through DAS.

□ das:clouddba:getSqlExecutionPlan Query SQL execution plans.

□ ReadWrite 7 in total

□ ListOnly 5 in total

Description: Enter a brief description. 0/256

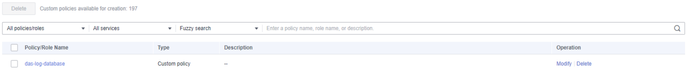
Scope: Project-level services

Table 1-1 Parameter description

Parameter	Description	Example
Policy Name	Customize a name.	das-log-database
Policy View	Select **Visual editor** or **JSON**.	Visual editor
Policy Content	Choose DAS and add the read-only permission as required. Take the **das:connections:login** permission as an example. A user or user group with this permission can only log in to an instance using DAS.	das:connections:login

3. Click **OK**. You can then view the created custom permission policy on the **Policies/Roles** page.

Figure 1-2 The created custom permissions policy



Delete Custom policies available for creation: 197

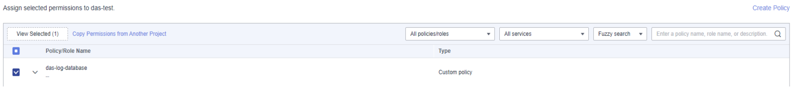
All policies/roles | All services | Fuzzy search | Enter a policy name, role name, or description.

□	Policy/Role Name	Type	Description	Operation
□	das-log-database	Custom policy	--	Modify | Delete

Step 3 Create a user group and assign the custom permission policy created in **Step 2** to the user group.

1. In the navigation pane on the left, choose **User Groups**. Then, click **Create User Group**. In the displayed dialog box, specify the user group name and click **OK**.
2. Locate the target user group and click **Authorize** in the **Operation** column. On the displayed page, select the custom policy created in **Step 2**.

Figure 1-3 Authorization



Assign selected permissions to das-test.

Create Policy

View Selected (1) Copy Permissions from Another Project | All policies/roles | All services | Fuzzy search | Enter a policy name, role name, or description.

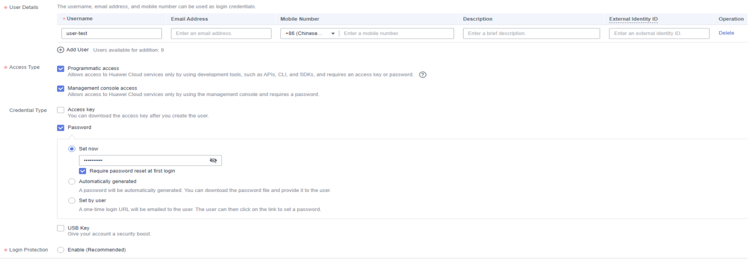
■		Policy/Role Name	Type
☑	⌄	das-log-database --	Custom policy

3. Click **Next**, select **All resources**, click **OK**, and complete subsequent operations.

Step 4 Create a user and add it to the user group.

1. In the navigation pane, choose **Users** and click **Create**. On the displayed page, set user basic information.

Figure 1-4 Setting user basic information



* User Details: The username, email address, and mobile number can be used as login credentials.

* Username	Email Address	Mobile Number	Description	External Identity ID	Operation
user-test	Enter an email address.	+86 (Chinese... Enter a mobile number.	Enter a brief description.	Enter an external identity ID.	Delete

⊕ Add User Users available for addition: 9

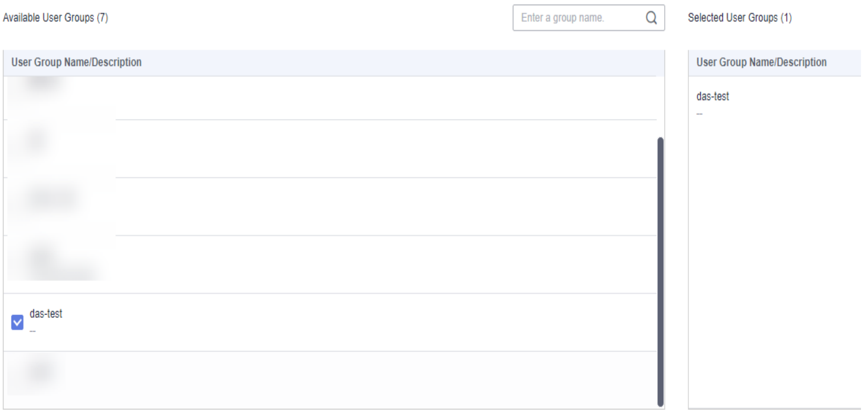
* Access Type
☑ Programmatic access
Allows access to Huawei Cloud services only by using development tools, such as APIs, CLI, and SDKs, and requires an access key or password.
☑ Management console access
Allows access to Huawei Cloud services only by using the management console and requires a password.

Credential Type
□ Access key
You can download the access key after you create the user.
☑ Password
● Set now
••••••••••
☑ Require password reset at first login
○ Automatically generated
A password will be automatically generated. You can download the password file and provide it to the user.
○ Set by user
A one-time login URL will be emailed to the user. The user can then click on the link to set a password.
□ USB Key
Give your account a security boost.

* Login Protection ○ Enable (Recommended)

2. Click **Next** to add the current user to the user group created in **Step 3**.

Figure 1-5 Adding a user to a user group



Available User Groups (7) Enter a group name.

User Group Name/Description

☑ das-test
--

Selected User Groups (1)

User Group Name/Description

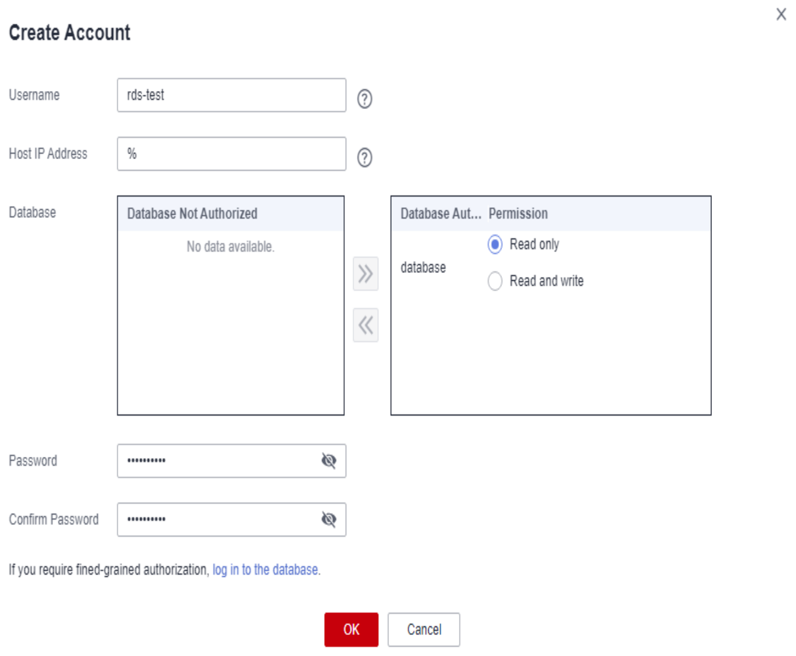
das-test
--

3. Click **Create User** to create an IAM user. The user has only the permission to log in to the instance on DAS.

Step 5 Create a read-only account. An RDS for MySQL instance is used in this example.

1. Log in to the RDS console.
2. On the **Instances** page, locate the target instance and click its name.
3. In the navigation tree on the left, choose **Accounts**. On the displayed page, click **Create Account**.

Figure 1-6 Creating a read-only account



Create Account

Username: rds-test

Host IP Address: %

Database

Database Not Authorized
No data available.

Database Aut...	Permission
database	● Read only ○ Read and write

Password: ••••••••••

Confirm Password: ••••••••••

If you require fined-grained authorization, log in to the database.

NOTE

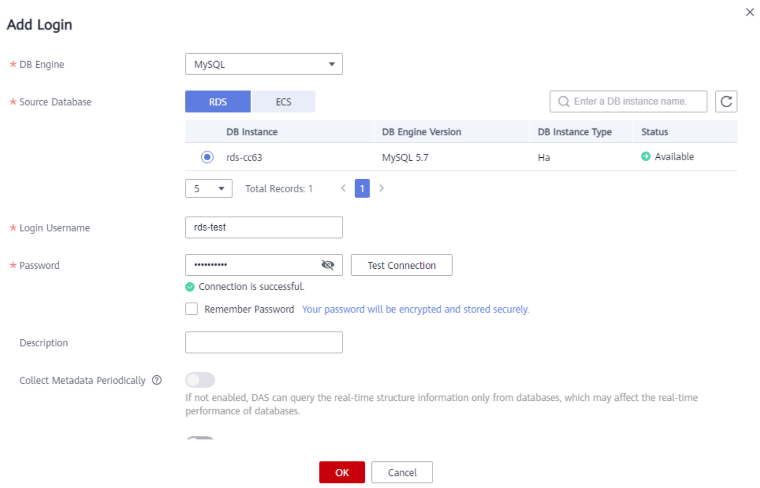
You can also log in to the RDS for MySQL instance and run the following commands to create a read-only account:

```
CREATE USER 'db_read_only'@'%' IDENTIFIED BY '**********';
GRANT SELECT ON *.* TO 'db_read_only'@'%';
FLUSH PRIVILEGES;
```

Step 6 Authorize the read-only permission to the IAM user.

1. Log in to the DAS console using the Huawei ID account.
2. Use the read-only account to add a login.

   In the navigation tree on the left, choose **Development Tool**. On the **My DB Instance Logins** tab page, click **Add Login**.



Add Login

* DB Engine: MySQL

* Source Database: RDS | ECS

	DB Instance	DB Engine Version	DB Instance Type	Status
●	rds-cc63	MySQL 5.7	Ha	Available

5 Total Records: 1 < 1 >

* Login Username: rds-test

* Password: •••••••••• Test Connection

Connection is successful.

□ Remember Password Your password will be encrypted and stored securely.

Description

Collect Metadata Periodically

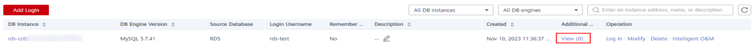
If not enabled, DAS can query the real-time structure information only from databases, which may affect the real-time performance of databases.

The login username is the read-only account created in Step 5.

3. Share the login information of the read-only account with the IAM user.

   Locate the target instance and click the number in the **Additional Users** column.

   Figure 1-7 Sharing a login with an IAM user

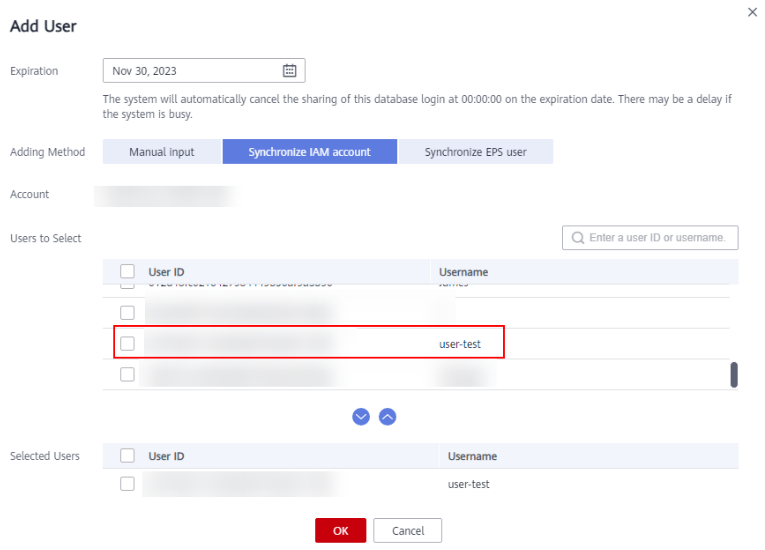
   Add Login

   All DB instances ▾ | All DB engines ▾ | Enter an instance address, name, or description.

DB Instance	DB Engine Version	Source Database	Login Username	Remember ...	Description	Created	Additional ...	Operation
rds-cc63[redacted]	MySQL 5.7.41	RDS	rds-test	No	--	Nov 10, 2023 11:36:37 ...	View (0)	Log In | Modify | Delete | Intelligent O&M

   Click **Add User**. On the displayed page, specify the expiration time, select **Synchronize IAM account** for **Adding Method**, then select the IAM account created in **Step 4** for **Users to Select**, and click **OK**.

   Figure 1-8 Adding a user

   Add User

   Expiration: Nov 30, 2023

   The system will automatically cancel the sharing of this database login at 00:00:00 on the expiration date. There may be a delay if the system is busy.

   Adding Method: Manual input | **Synchronize IAM account** | Synchronize EPS user

   Account: [redacted]

   Users to Select: Enter a user ID or username.

	User ID	Username
□	[redacted]	[redacted]
□	[redacted]	[redacted]
□	[redacted]	user-test
□	[redacted]	[redacted]

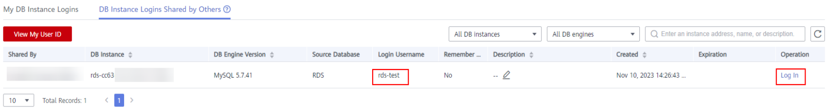
   Selected Users

	User ID	Username
□	[redacted]	user-test

   OK | Cancel

Step 7 Log in to DAS using the IAM account created in **Step 4**, and verify that it has the read-only permission.

Figure 1-9 Verifying the read-only permission



My DB Instance Logins | DB Instance Logins Shared by Others

View My User ID

All DB instances ▾ | All DB engines ▾ | Enter an instance address, name, or description.

Shared By	DB Instance	DB Engine Version	Source Database	Login Username	Remember ...	Description	Created	Expiration	Operation
[redacted]	rds-cc63[redacted]	MySQL 5.7.41	RDS	rds-test	No	--	Nov 10, 2023 14:26:43 ...		Log In

10 ▾ Total Records: 1 ‹ 1 ›

After logging in to DAS as the IAM user, choose **Development Tool** > **DB Instance Logins Shared by Others** to view the logins shared by the Huawei account. Only **Log In** is displayed in the **Operation** column.

----End

2 How Do I Check and Optimize Tables by Checking Top SQL?

Example Problem

A user found in the exported logs that it took more than 2s for a SELECT statement to query information of table **test** and the lock wait duration was long.

Suggestion

- Add indexes.
- Optimize tables

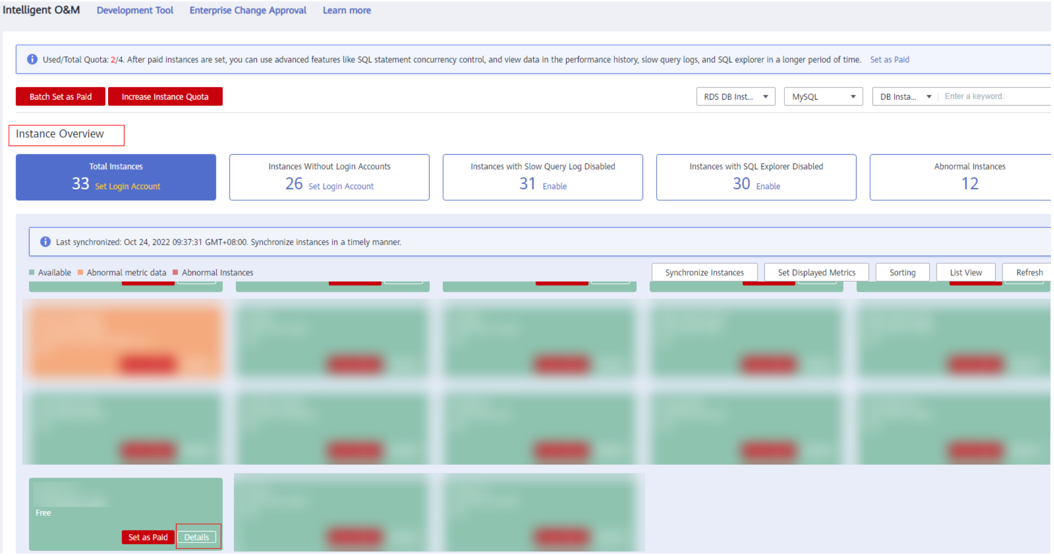
Procedure

Step 1 Log in to the DAS console.

Step 2 Choose **Intelligent O&M** > **Instance List**.

Step 3 On the **Instance Overview** page, locate the instance you want to view and click **Details**.

Figure 2-1 Intelligent O&M instance overview page



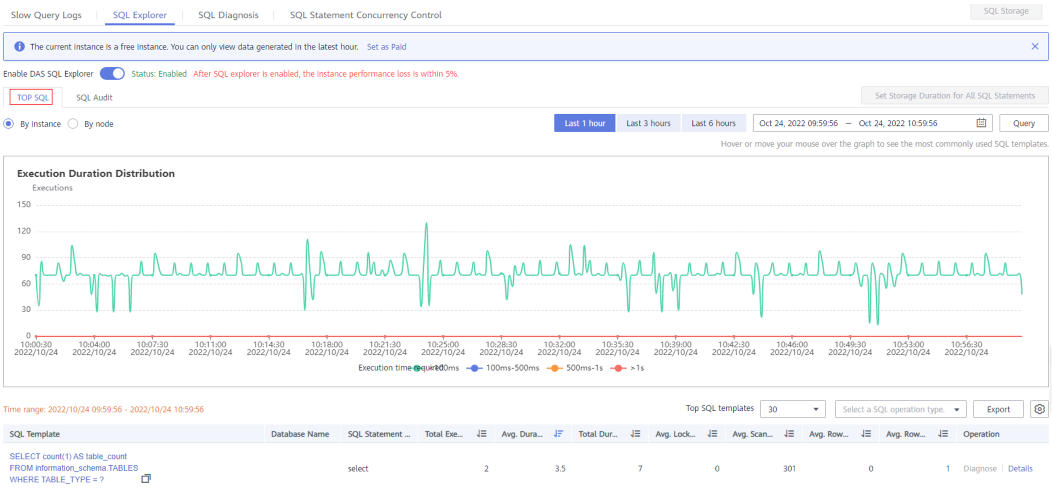
Used/Total Quota: 2/4. After paid instances are set, you can use advanced features like SQL statement concurrency control, and view data in the performance history, slow query logs, and SQL explorer in a longer period of time. Set as Paid

Last synchronized: Oct 24, 2022 09:37:31 GMT+08:00. Synchronize instances in a timely manner.

Step 4 On the displayed page, choose **SQL** > **SQL Explorer**.

Step 5 Click the **TOP SQL** tab.

Figure 2-2 TOP SQL



The current instance is a free instance. You can only view data generated in the latest hour.

Status: Enabled After SQL explorer is enabled, the instance performance loss is within 5%.

● By instance ○ By node

Oct 24, 2022 09:59:56 – Oct 24, 2022 10:59:56

Hover or move your mouse over the graph to see the most commonly used SQL templates.

Time range: 2022/10/24 09:59:56 - 2022/10/24 10:59:56

Top SQL templates 30

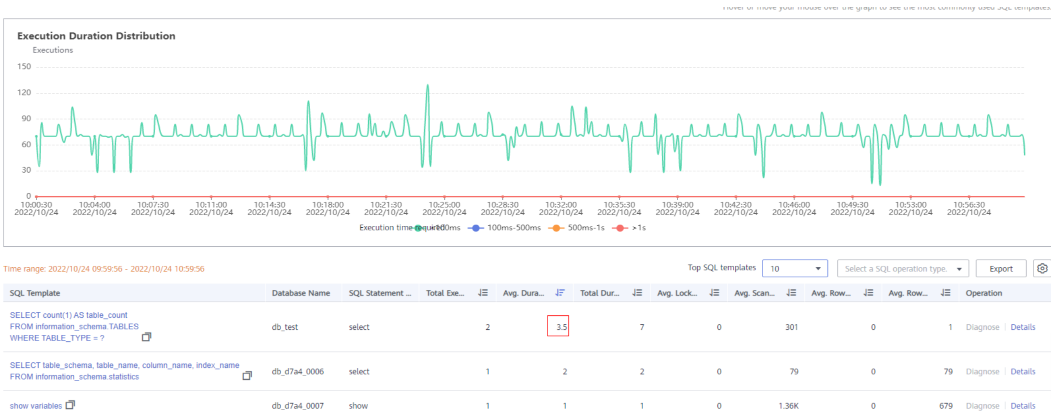
SQL Template	Database Name	SQL Statement ...	Total Exe...	Avg. Dura...	Total Dur...	Avg. Lock...	Avg. Scan...	Avg. Row...	Avg. Row...	Operation

SELECT count(1) AS table_count
FROM information_schema.TABLES
WHERE TABLE_TYPE = ?
		select	2	3.5	7	0	301	0	1	Diagnose | Details

Step 6 In the template list, locate the required SELECT template and click **Details** in the **Operation** column.

Step 7 In the SQL statement list, locate database **db_test** whose template execution took over 2s.

Figure 2-3 SQL statements



Hover or move your mouse over the graph to see the most commonly used SQL templates.

Time range: 2022/10/24 09:59:56 - 2022/10/24 10:59:56

Top SQL templates 10

SQL Template	Database Name	SQL Statement ...	Total Exe...	Avg. Dura...	Total Dur...	Avg. Lock...	Avg. Scan...	Avg. Row...	Avg. Row...	Operation

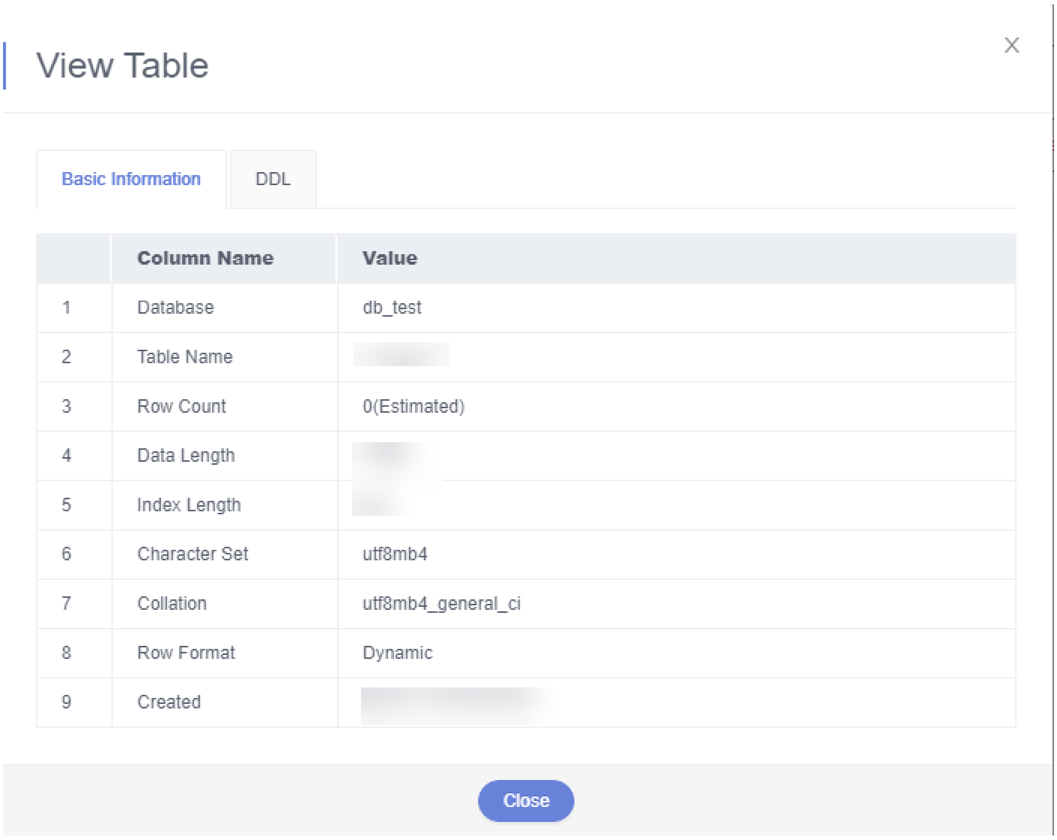
SELECT count(1) AS table_count
FROM information_schema.TABLES
WHERE TABLE_TYPE = ?
	db_test	select	2	3.5	7	0	301	0	1	Diagnose | Details

SELECT table_schema, table_name, column_name, index_name
FROM information_schema.statistics
	db_d7a4_0006	select	1	2	2	0	79	0	79	Diagnose | Details

show variables	db_d7a4_0007	show	1	1	1	0	1.36K	0	679	Diagnose | Details

Step 8 Log in to the target instance on the **Development Tool** page and choose **Database Management**. Select the database found in **Step 7**. Choose **Tables** in the navigation pane on the left, locate the table that you want to view, and click **View** in the **Operation** column. View the index length and row count in the table.

Figure 2-4 Viewing table details

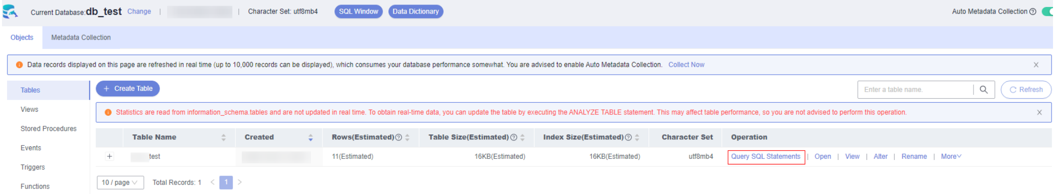


View Table

	Column Name	Value
1	Database	db_test
2	Table Name	[redacted]
3	Row Count	0(Estimated)
4	Data Length	[redacted]
5	Index Length	[redacted]
6	Character Set	utf8mb4
7	Collation	utf8mb4_general_ci
8	Row Format	Dynamic
9	Created	[redacted]

Step 9 (Example) If there are few indexes, click **Alter** and add indexes. Return to the **Tables** tab and click **Query SQL Statements**.

Figure 2-5 SQL Window



Current Database:db_test Change | [redacted] | Character Set: utf8mb4

Data records displayed on this page are refreshed in real time (up to 10,000 records can be displayed), which consumes your database performance somewhat. You are advised to enable Auto Metadata Collection. Collect Now

Statistics are read from information_schema.tables and are not updated in real time. To obtain real-time data, you can update the table by executing the ANALYZE TABLE statement. This may affect table performance, so you are not advised to perform this operation.

	Table Name	Created	Rows(Estimated)	Table Size(Estimated)	Index Size(Estimated)	Character Set	Operation
+	[redacted]test	[redacted]	11(Estimated)	16KB(Estimated)	16KB(Estimated)	utf8mb4	Query SQL Statements | Open | View | Alter | Rename | More

10 / page Total Records: 1 1

----End