Data Security Center

Best Practices

Issue	01
Date	2024-10-09

HUAWEI CLOUD COMPUTING TECHNOLOGIES CO., LTD.

Trademarks and Permissions


and other Huawei trademarks are the property of Huawei Technologies Co., Ltd.
All other trademarks and trade names mentioned in this document are the property of their respective holders.

Notice

The purchased products, services and features are stipulated by the contract made between Huawei Cloud and the customer. All or part of the products, services and features described in this document may not be within the purchase scope or the usage scope. Unless otherwise specified in the contract, all statements, information, and recommendations in this document are provided "AS IS" without warranties, guarantees or representations of any kind, either express or implied.

The information in this document is subject to change without notice. Every effort has been made in the preparation of this document to ensure accuracy of the contents, but all statements, information, and recommendations in this document do not constitute a warranty of any kind, express or implied.

Huawei Cloud Computing Technologies Co., Ltd.

Address: Huawei Cloud Data Center Jiaoxinggong Road
Qianzhong Avenue
Gui'an New District
Gui Zhou 550029
People's Republic of China

Website: https://www.huaweicloud.com/intl/en-us/

Contents

1 How Do I Prevent Personal Sensitive Data From Being Disclosed During Development and Testing?

Sensitive data refers to the data that may bring serious harm to the society or individuals after being leaked.

NOTE

For individuals, privacy information, such as ID card numbers, home addresses, workplace information, and bank card numbers, is sensitive data. For enterprises or organizations, core information, such as customer information, financial information, technical information, and major decisions, is sensitive data.

Huawei Cloud Data Security Center (DSC) can perform **static data masking** on a large amount of data in one operation based on anonymization rules. Static anonymization is usually used when sensitive data in the production environment needs to be transferred to the development, test, or outside environment. It is applicable to scenarios such as development and test, data sharing, and data research.

Common Causes of Data Breaches

- Insider leakage
  - Laptops or mobile devices are lost or stolen.
  - Sensitive data or storage is accessed by unauthorized personal
  - Data is stolen by employees.
  - Sensitive data is sent, printed, and copied by employees.
  - Sensitive data is accidentally transmitted out.
- Leakage caused by external attacks
  - Data access is uncontrollable, or there are security vulnerabilities in the data storage system.
  - Improper configurations allow external attacks.
  - Sensitive data or storage is accessed by unauthorized personal

Scenario

Assume that the **dsc_yunxiaoke** table in the **rsd-dsc-test** database stores the information of the following bank employees:

Figure 1-1 Bank employee information

Name	Birthday	Email	Address
San Zhang	1999/6/3	XXXXXX@163.com	Chengdu, Sichuan
Si Li	1996/3/6	55XXXX@qq.com	Beijing

To identify and mask sensitive data in the table, you can identify sensitive data and generate the identification result, and then mask the identified sensitive data using the SHA256 algorithm in **Hash**.

Step 1 Identifying Sensitive Data

Step 1 Buy DSC.

Step 2 Log in to the management console.

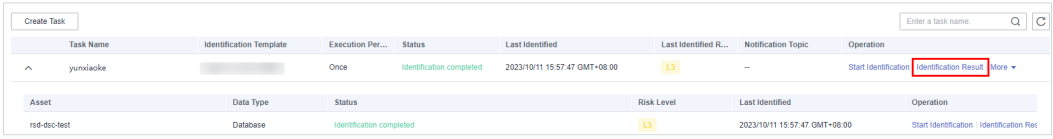
Step 3 In the left navigation page, click , and choose **Security** > **Data Security Center**.

Step 4 In the left navigation pane, choose **Sensitive Data Identification** > **Identification Task**.

Step 5 Click **Create Task**. In the displayed dialog box, configure the basic parameters.

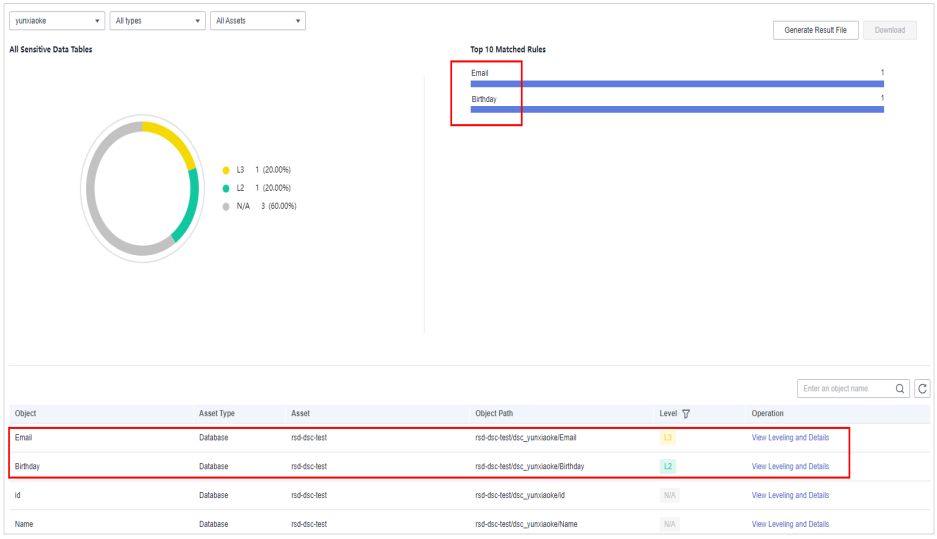
Step 6 Click **OK**. The sensitive data identification task list is displayed.

Figure 1-2 Sensitive data identification task list



Step 7 When the status of the identification task changes to **Identification completed**. Click **View Result** in the **Operation** column to go to the result details page.

Figure 1-3 Identification result details



The birthday dates and email addresses are identified as sensitive data, as shown in **Figure 1-3**.

Step 8 Perform operations described in **Step 2. Masking Sensitive Data** to mask the sensitive data in the **Birthday** and **Email** columns of the **dsc_yunxiaoke** table in the **rds-dsc-test** database.

----End

Step 2. Masking Sensitive Data

DSC allows you to create masking tasks for various data sources such as databases and Elasticsearch. The masking methods are similar. This section describes how to create a static masking task for a database. For details about other masking methods, see the following:

- **Creating and Running an Elasticsearch Data Masking Task**
- **Creating and Running an MRS Data Masking Task**.
- **Creating and Running a Hive Masking Task**.
- **Creating and Running an HBase Masking Task**.
- **Creating a DLI Masking Task**.

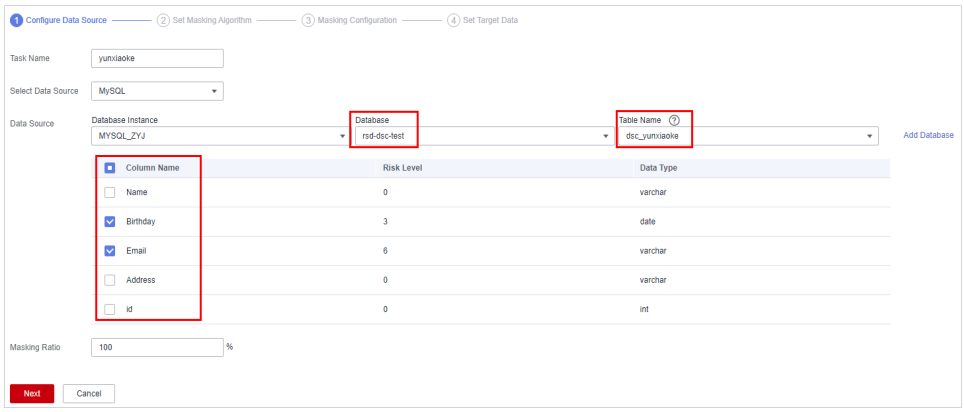
Step 1 In the left navigation pane, choose **Data Asset Protection** > **Static Data Masking**. The **Data Masking** page is displayed.

Step 2 Set **Mask Sensitive RDS Data** to  .

Step 3 Click **Create Task** to configure the data source.

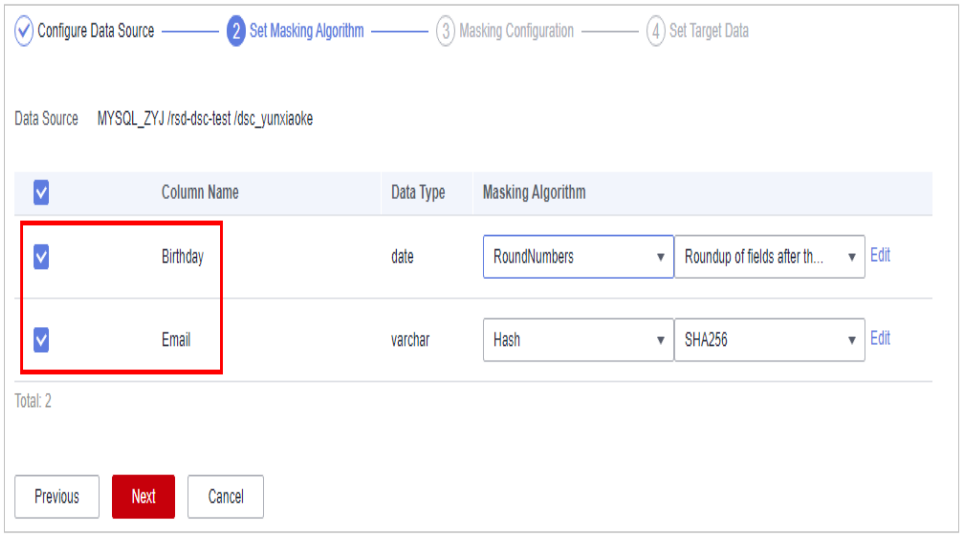
Select all data types if you want a complete table that contains all types of data after the data masking is completed.

Figure 1-4 Data source configuration



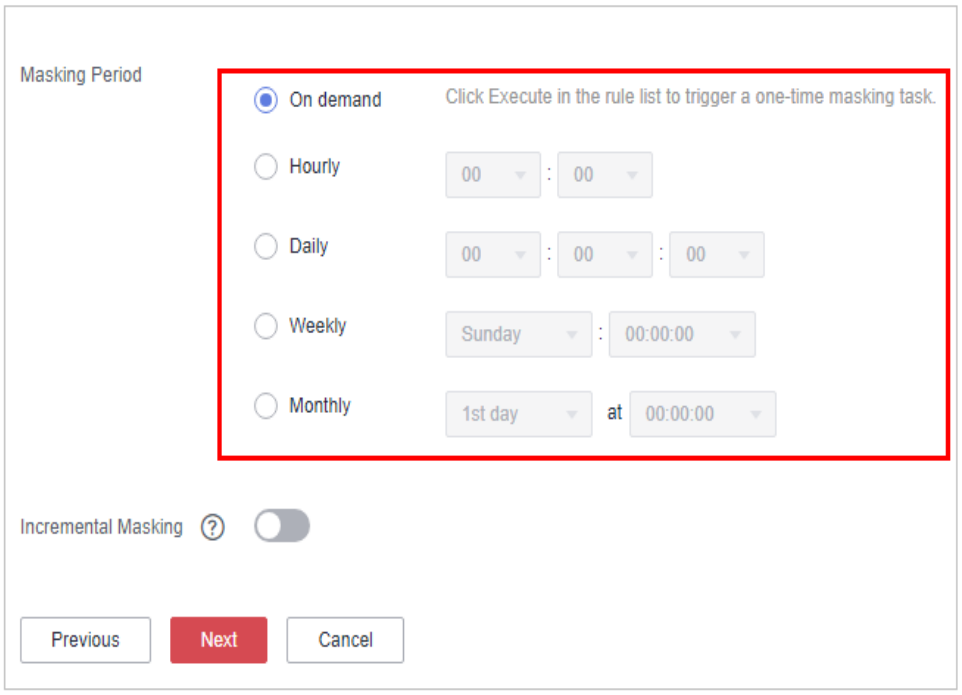
Step 4 Click **Next** to switch to **Set Masking Algorithm**.

Figure 1-5 Configuring the data masking algorithm



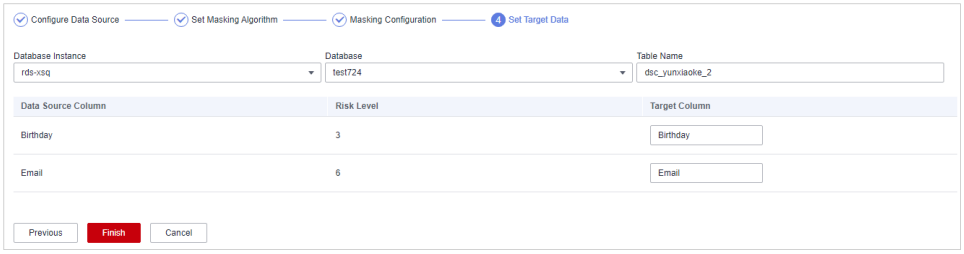
Step 5 Click **Next** to switch to the **Configure Data Masking Period** page and configure the data masking period.

Figure 1-6 Configuring data masking period



Step 6 Click **Next** to the **Set Target Data** page and configure the storage location of the table generated after data masking.

Figure 1-7 Configuring the storage location of the table generated after data masking

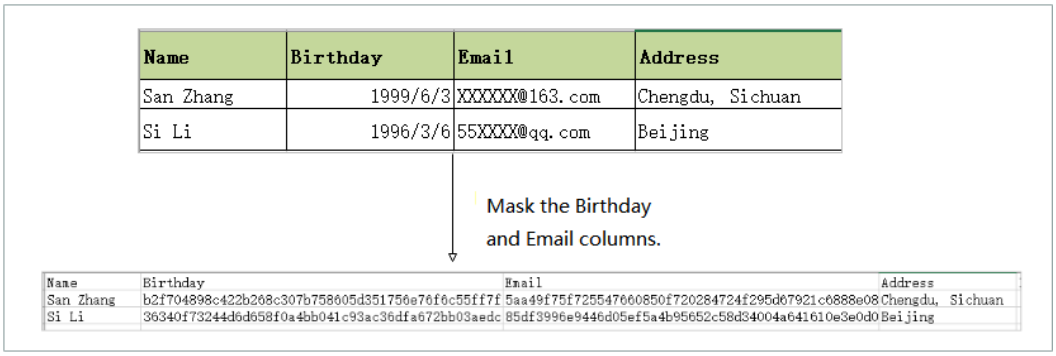


Step 7 Click **Finish** to return to the database data masking task list. Click  to enable the masking task and then **Execute** in the **Operation** column to execute the task.

If the status changes to **Completed**, the data masking task has been successfully executed.

----End

Verifying the Result



2 Best Practices of OBS Data Security Protection

This document describes how to use the Data Security Center (DSC) to identify, classify, and protect sensitive data stored in OBS.

Overview

Sensitive data includes personal privacy information, passwords, keys, sensitive images, and other high-value data. Such data is usually stored in your OBS bucket in different formats. Once the data is leaked, enterprises will suffer significant economic and reputation losses.

After you authorize DSC to perform identification on the data source, DSC quickly identifies sensitive data from your massive data stored in OBS, classify the sensitive data and display it. DSC also traces the usage of sensitive data, and protects and audits data based on predefined security policies. In this way, DSC allows you to learn about the security status of your OBS data assets at any time.

Application Scenario

- Sensitive data identification

  OBS stores a large amount of data and files. However, it is difficult to have a clear knowledge of the sensitive information contained in OBS.

  You can use the built-in algorithm rules of DSC or customize industry rules to scan, classify, and grade data stored in OBS, and take further security protection measures based on the scanning results. For example, you can use the access control and encryption functions of OBS.

- Anomaly detection and audit

  The DSC can detect access, operation, and management anomalies related to sensitive data and send alarms to you for you to confirm and handle the anomalies. The following behaviors are regarded as anomalies:

  – Unauthorized users access and download sensitive data.
  – Authorized users access, download, and modify sensitive data, as well as change and delete permissions.
  – Authorized users change or delete permissions granted for buckets that contain sensitive data.

- Users who accessed sensitive files fail to log in to the device.

Procedure

Step 1 Buy DSC.

Step 2 Log in to the management console.

Step 3 Click ☰ and choose **Security** > **Data Security Center**.

Step 4 In the upper left corner of the **Asset Map** page, click **Modify**. The **Allow Access to Cloud Assets** page is displayed.

Step 5 Locate the row that contains the OBS asset, click  in the **Operation** column to enable authorization.

Step 6 For details about how to add OBS assets, see **Adding OBS Assets**.

Step 7 In the navigation tree on the left, choose **Sensitive Data Identification** > **Identification Task**. Click **Create Task** to configure a sensitive data scanning task.

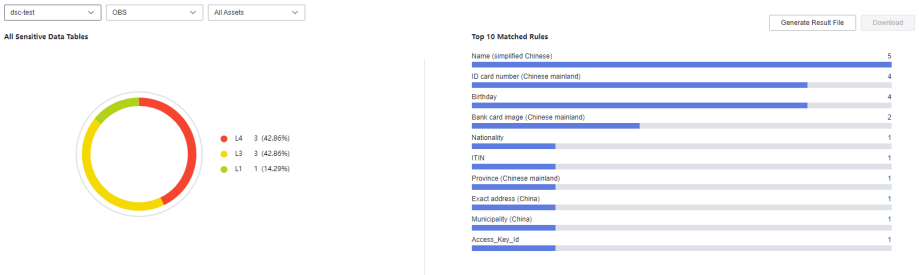
Select **OBS** for **Data Type** and select the OBS asset added in section **Step 6**. For details about other configurations, see section **Creating a Task**.

Step 8 In the navigation pane, choose **Sensitive Data Identification** > **Identification Task**.

Step 9 Click **Identification Result** in the **Operation** column to view the Identification result.

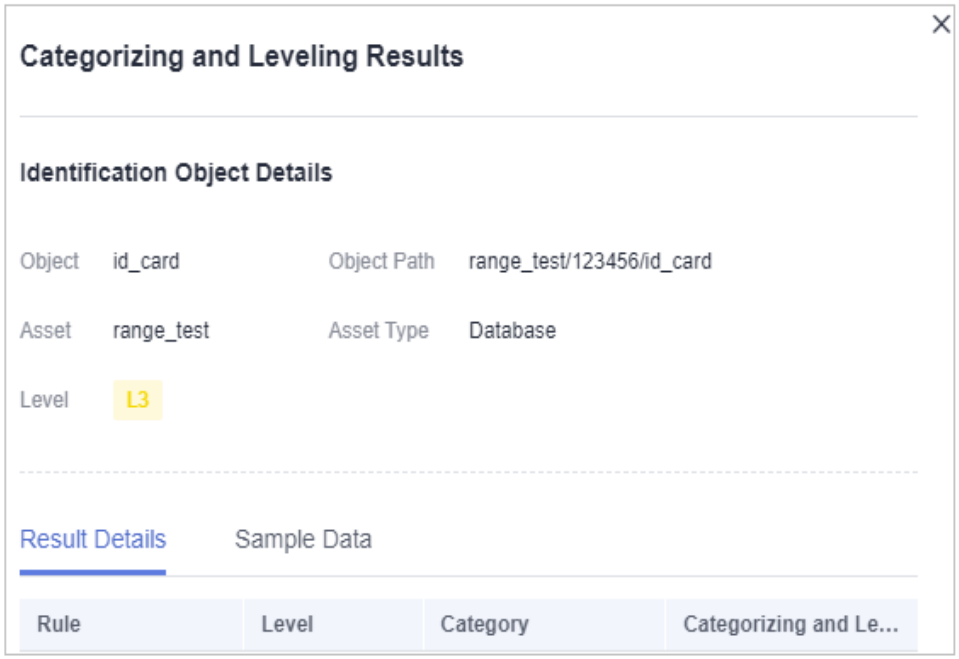
In the upper left corner of the page, set **Task Name** to **dsc-test**, **Data Type** to **OBS**, and **Asset types** to **All Assets** to filter the OBS sensitive data identification result.

Figure 2-1 Identification result details



Step 10 In the row containing the desired scan object, click **View Categorizing and Leveling Result Details** in the **Operation** column. The **Categorizing and Leveling Result Details** dialog box is displayed.

Figure 2-2 Categorizing and leveling results



1. In the alarm list, view anomalies based on the risk level and check whether there are high-risk events. For operation details, see **OBS Usage Auditing**.
2. On OBS Console, modify the read and write permissions of the risky buckets or files. For details, see **Bucket Policy**.

----End

