

Solution

CDN for Download Acceleration

Issue 1.0.0
Date 2023-04-30



Copyright © Huawei Technologies Co., Ltd. 2023. All rights reserved.

No part of this document may be reproduced or transmitted in any form or by any means without prior written consent of Huawei Technologies Co., Ltd.

Trademarks and Permissions



HUAWEI and other Huawei trademarks are trademarks 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 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.

Contents

1 Solution Overview.....	1
2 Resource Planning and Costs.....	3
3 Procedure.....	4
3.1 Preparations.....	4
3.2 Quick Deployment.....	7
3.3 Getting Started.....	12
3.4 Quick Uninstallation.....	13
4 Appendix.....	15
5 Change History.....	16

1 Solution Overview

Scenarios

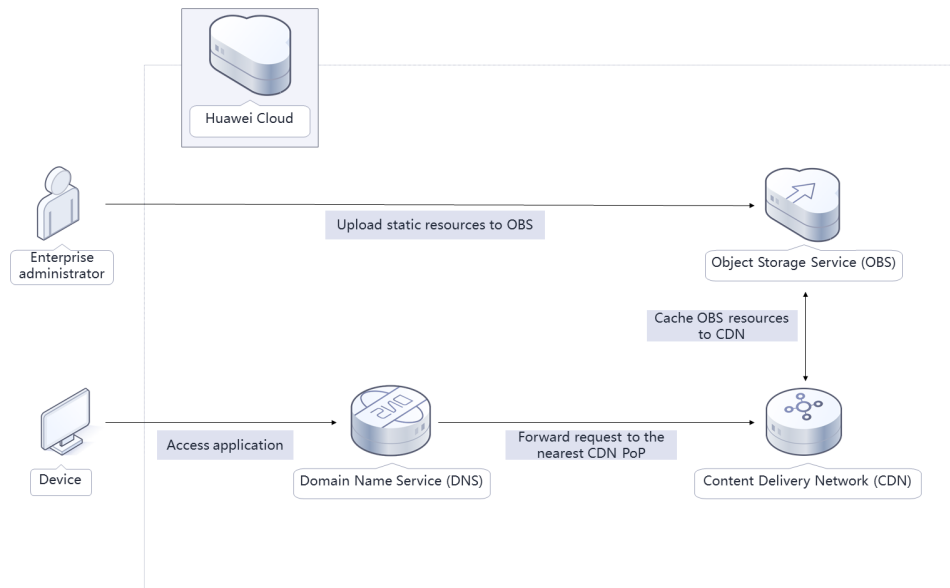
With Huawei Cloud [Content Delivery Network \(CDN\)](#) and [Object Storage Service \(OBS\)](#), this solution automatically caches data stored in OBS to CDN points of presence (PoPs) in different regions on demand. It accelerates the access and download of static resources such as images, videos, and software packages in applications and reduces bandwidth and traffic costs. It is suitable for the following scenarios:

- File download: websites that provide download services based on HTTP or HTTPS, game clients, and app stores
- Audio and video on demand: online education, video sharing, and music or video on demand
- Image loading: portal websites, e-commerce platforms, news apps, and user-generated content (UGC) applications

Architecture

This solution can create a download acceleration environment for CDN and configure businesses. It allows you to create and associate CDN and OBS resources in one click.

Figure 1-1 Architecture



This solution will:

- Create an **OBS bucket** to store static resources such as images, videos, and software packages of websites, forums, apps, and games.
- Set the OBS bucket as the origin server of the acceleration domain name in CDN, so that data in the bucket can be cached to CDN points of presence (PoPs), accelerating the access and download of static application resources and reducing bandwidth and traffic costs.

Advantages

- **Low cost**
OBS bucket resources are cached on CDN PoPs and do not need to be downloaded via the Internet, reducing costs.
- **High efficiency**
Huawei Cloud CDN has abundant acceleration resources and widely distributed PoPs. It ensures that user requests are precisely scheduled to the optimal PoP for effective and stable acceleration.
- **Easy deployment**
This solution can be deployed in one click within 5 minutes.

Constraints

- Before deploying this solution, you have registered an account with access to the target region.
- You have registered a domain name.
- Before uninstalling the solution, clear all data in the OBS bucket. Otherwise, uninstallation fails.

2 Resource Planning and Costs

Using OBS and CDN may generate fees. For details, see [Table 2-1](#). The estimated fee of this solution is for reference only. Check bills for actual fees.

Table 2-1 Billing

Huawei Cloud Service	Description	Monthly Fee (10 GB Data, 100 Requests, and 1000 GB Traffic)
CDN	You are billed by the traffic used per hour. Tiered-pricing is used and the billing cycle is one calendar month. You can also purchase traffic packages. For details, see CDN Pricing Details . Prices for the International service area are as follows: <ul style="list-style-type: none">0 TB to 10 TB (included): \$0.115 USD/GB10 TB to 50 TB (included): \$0.11 USD/GB> 50 TB: \$0.095 USD/GB	\$115 USD
OBS	You are billed for storage space, requests, and traffic. For details, see OBS Pricing Details . <ol style="list-style-type: none">Storage space: \$0.025 USD/GB/monthRequests: \$0.0004 USD per thousand requestsPull traffic: free	\$0.25 USD
Total		\$115.25 USD

3 Procedure

- [3.1 Preparations](#)
- [3.2 Quick Deployment](#)
- [3.3 Getting Started](#)
- [3.4 Quick Uninstallation](#)

3.1 Preparations

Creating the rf_admin_trust Agency

- Step 1** Log in to Huawei Cloud official website, open the [console](#), hover over the account name, and choose **Identity and Access Management**.

Figure 3-1 Console

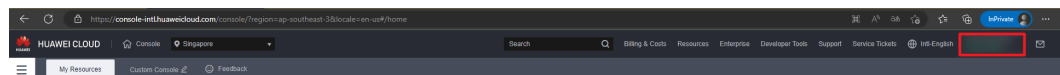
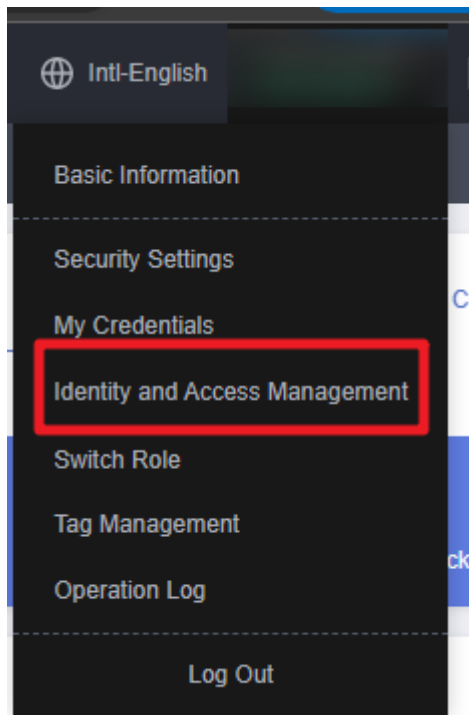
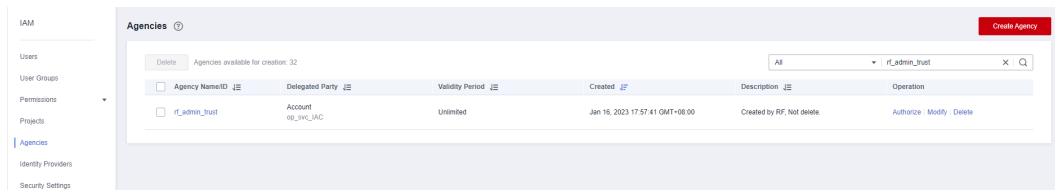


Figure 3-2 Identity and Access Management



Step 2 Choose **Agencies** in the navigation pane and search for the **rf_admin_trust** agency.

Figure 3-3 Agencies



- If the agency is found, skip the following steps.
- If the agency is not found, perform the following steps to create it.

Step 3 Click **Create Agency** in the upper right corner of the page. On the displayed page, enter **rf_admin_trust** for **Agency Name**, select **Cloud service** for **Agency Type**, select **RFS** for **Cloud Service**, and click **Next**.

Figure 3-4 Creating an agency

Agencies / Create Agency

* Agency Name

* Agency Type Account
Delegate another HUAWEI CLOUD account to perform operations on your resources.
 Cloud service
Delegate a cloud service to access your resources in other cloud services.

* Cloud Service

* Validity Period

Description
0/255

Step 4 Search for **Tenant Administrator**, select it in the search results, and click **Next**.

Figure 3-5 Selecting a policy

Authorize Agency

1 Select Policy/Role 2 Select Scope 3 Finish

Assign selected permissions to rf_admin_trust1. Create Policy

Policy/Role Name	Type
<input type="checkbox"/> DME AdministratorAccess Data Model Engine tenant administrator with full permissions.	System-defined policy
<input checked="" type="checkbox"/> Tenant Administrator Tenant Administrator (Exclude IAM)	System-defined role
<input type="checkbox"/> CS Tenant Admin Cloud Stream Service Tenant Administrator, can manage multiple CS users	System-defined role

Step 5 Select **All resources** and click **OK**.

Figure 3-6 Selecting a scope

Authorize Agency

1 Select Policy/Role 2 Select Scope 3 Finish

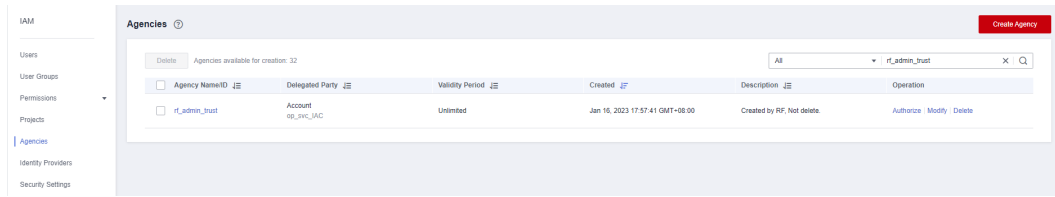
i The following are recommended scopes for the permissions you selected. Select the desired scope requiring minimum authorization.

Scope

All resources
IAM users will be able to use all resources, including those in enterprise projects, region-specific projects, and global services under your account based on assigned permissions.
[Show More](#)

Step 6 Check that the **rf_admin_trust** agency is displayed in the agency list.

Figure 3-7 Agencies



----End

3.2 Quick Deployment

Quickly deploy the CDN for download acceleration solution.

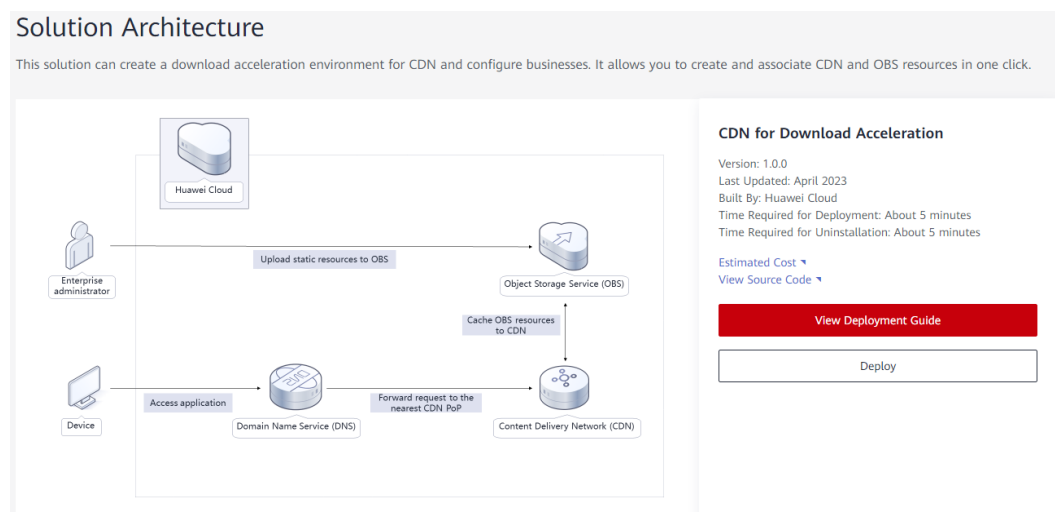
Table 3-1 Parameter description

Parameter	Type	Mandatory	Description	Default Value
bucket_name	string	Yes	Name of the OBS bucket used to store application data, which is globally unique. Enter 3 to 63 characters, including lowercase letters, digits, hyphens (-), and periods (.).	None
accelerate_domain	string	Yes	Domain name used to access the application to accelerate. You are advised to use a level-2 domain name of the public domain specified by publicZone_domain . A domain name consists of one or more parts, representing domains at different levels. These parts, technically known as labels, are concatenated and delimited by periods (.). A label contains letters, digits, and hyphens (-). A domain name can contain up to 75 characters. Do not start or end a domain name with a hyphen (-). Example: download.game-apk1.com.	None

Parameter	Type	Mandatory	Description	Default Value
publicZone_domain	string	Yes	Public domain used by the user service system to provide services. A domain name consists of one or more parts, representing domains at different levels. These parts, technically known as labels, are concatenated and delimited by periods (.). A label contains letters, digits, and hyphens (-). A domain name can contain up to 75 characters. Do not start or end a domain name with a hyphen (-). Example: game-apk1.com.	None
service_type	string	Yes	Acceleration service type. Values: download (file download acceleration, default value); web (website acceleration); video (on-demand service acceleration).	download

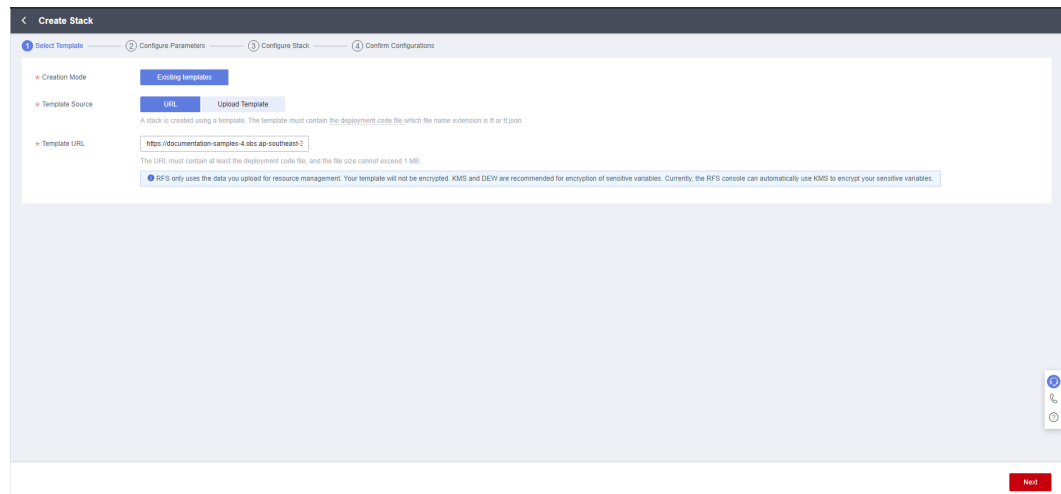
Step 1 Log in to Huawei Cloud Solution Best Practices, choose **CDN for Download Acceleration**, and click **Deploy**. The **Create Stack** page is displayed.

Figure 3-8 Deploying the solution



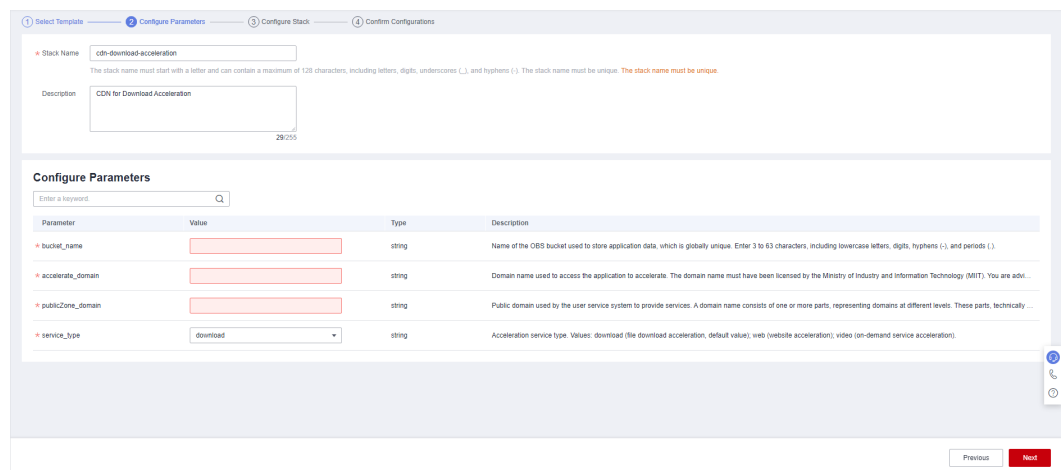
Step 2 On the **Select Template** page, click **Next**.

Figure 3-9 Selecting a template



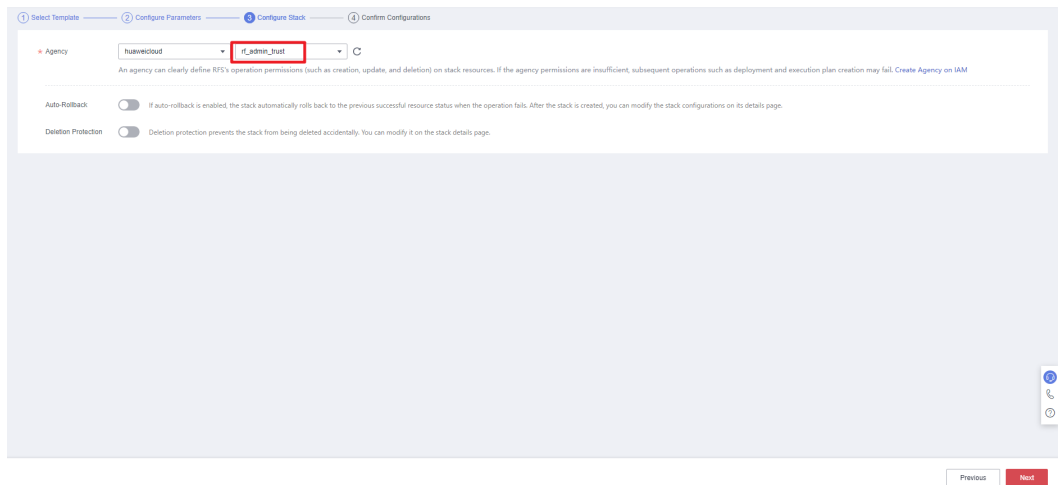
Step 3 On the **Configure Parameters** page, enter the stack name, set configuration parameters based on the [Table 3-1](#), and click **Next**.

Figure 3-10 Configuring parameters



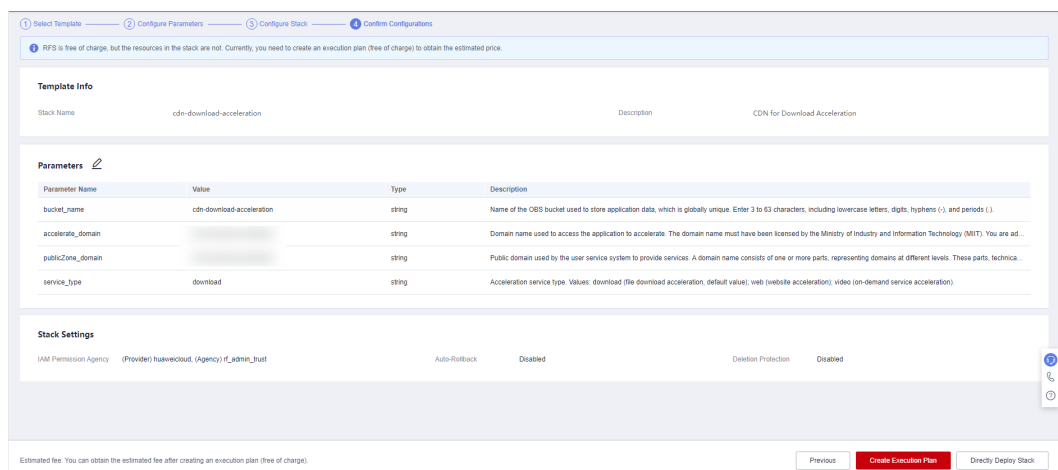
Step 4 On the **Configure Stack** page, select **rf_admin_trust** from the **Agency** drop-down list and click **Next**.

Figure 3-11 Configuring the stack



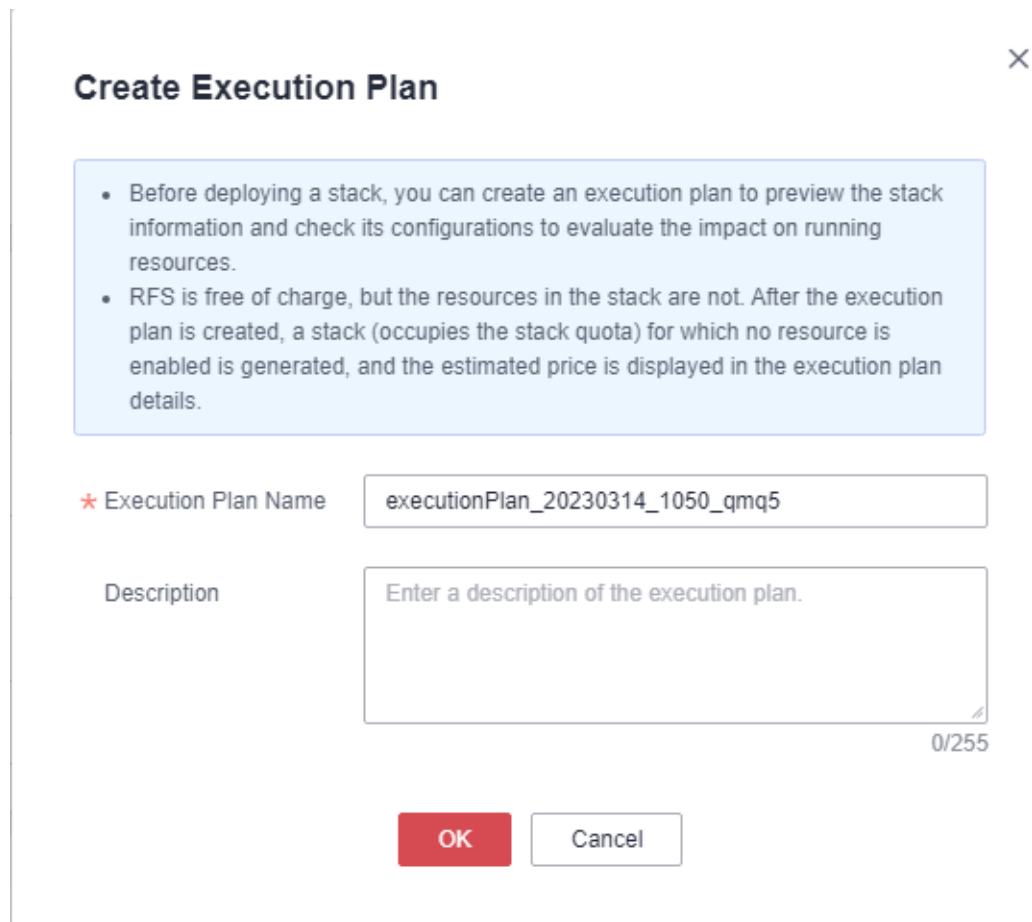
Step 5 On the **Confirm Configurations** page, click **Create Execution Plan**.

Figure 3-12 Confirming configurations



Step 6 In the **Create Execution Plan** dialog box, enter the execution plan name and click **OK**.

Figure 3-13 Creating an execution plan



Step 7 Click **Deploy** in the row containing the target execution plan. In the displayed dialog box, click **Execute** for resource deployment.

Figure 3-14 Execution plan

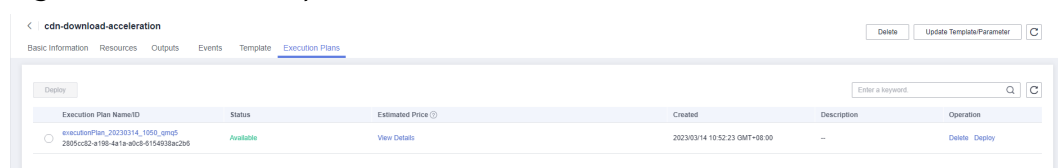
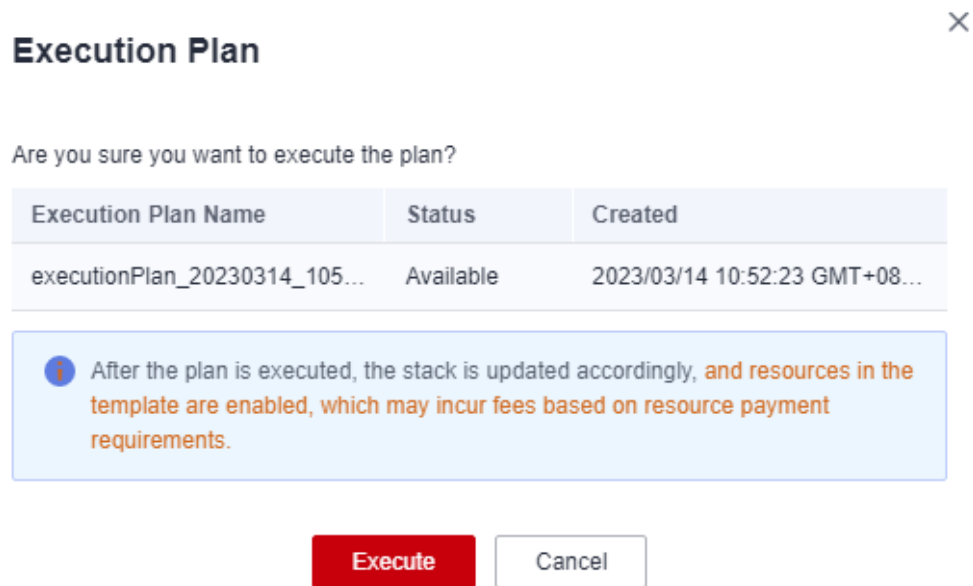
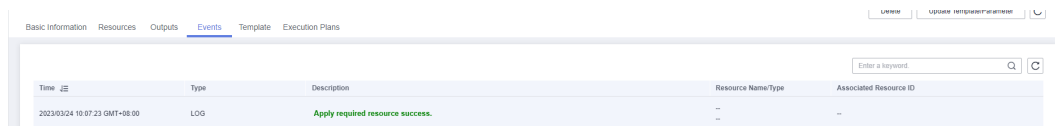


Figure 3-15 Confirming the execution plan



Step 8 Click the **Events** tab and check whether the message "Apply required resource success" is displayed. If yes, the solution is successfully deployed.

Figure 3-16 Solution deployed



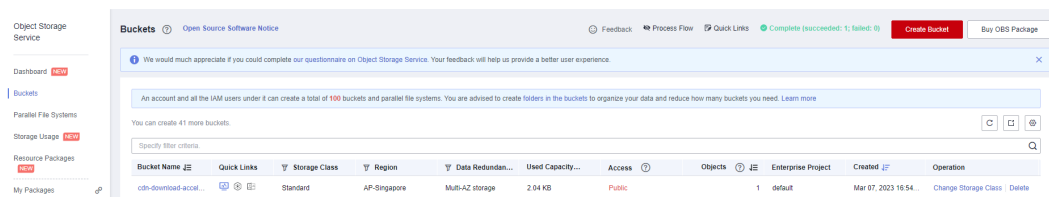
----End

3.3 Getting Started

Using the Huawei Cloud Console

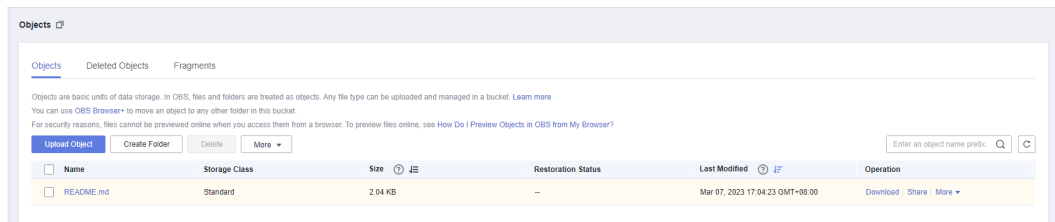
Step 1 Log in to Huawei Cloud **Object Storage Service** Console and view the bucket list.

Figure 3-17 Viewing the bucket list



Step 2 Select the bucket created during solution deployment and upload resources to be accelerated. The **cdn-download-acceleration** bucket is used as an example.

Figure 3-18 Uploading resources



----End

Verifying Services

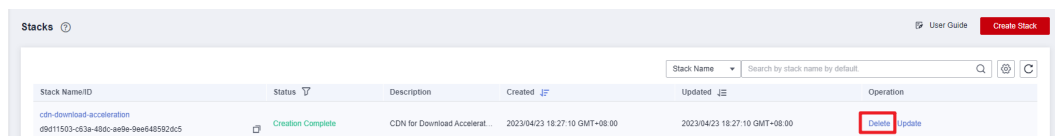
Step 1 Visit the acceleration domain name on a client. If an accelerated resource can be downloaded, the acceleration configuration is successful.

----End

3.4 Quick Uninstallation

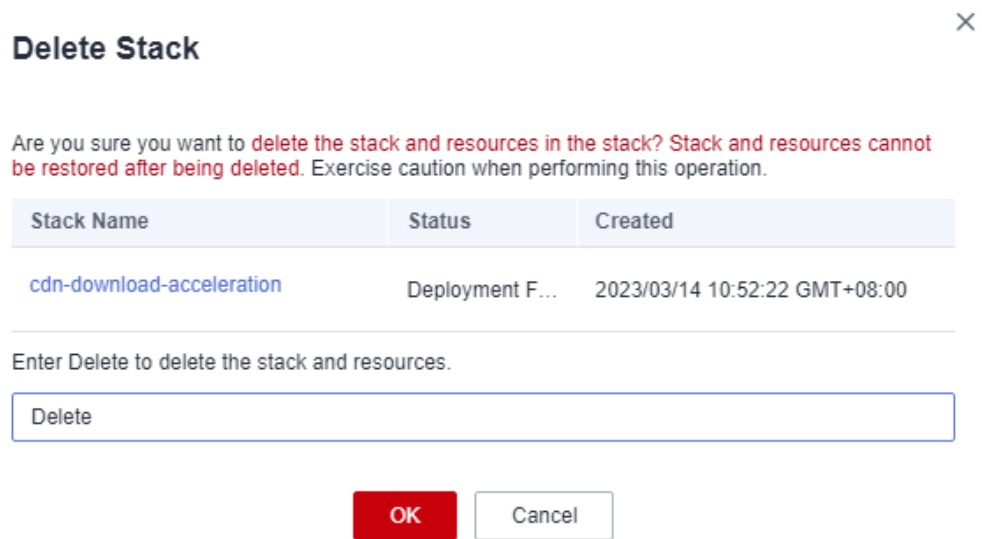
Step 1 Click **Delete** in the row containing the solution stack.

Figure 3-19 Uninstalling the solution



Step 2 In the **Delete Stack** dialog box, enter **Delete** and click **OK** to uninstall the solution.

Figure 3-20 Confirming the uninstallation



----End

4 Appendix

Terms

- **Object Storage Service (OBS):** OBS provides stable, secure, efficient, and easy-to-use cloud storage that lets you store virtually any volume of unstructured data in any format and access it from anywhere using REST APIs.
- **Content Delivery Network (CDN):** CDN massively speeds up website load-times, high-quality video streams, and file download times. Built upon a global network of 2,800+ edge nodes, huge bandwidth, and smart cache technology, CDN makes your apps faster and more reliable for users in every part of the world.

5 Change History

Table 5-1 Change history

Released On	Description
2023-04-30	This issue is the first official release.