Practical Application of Huawei Cloud Solutions

Global Data Transfer Acceleration

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HUAWEI TECHNOLOGIES CO., LTD.

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1 Solution Overview

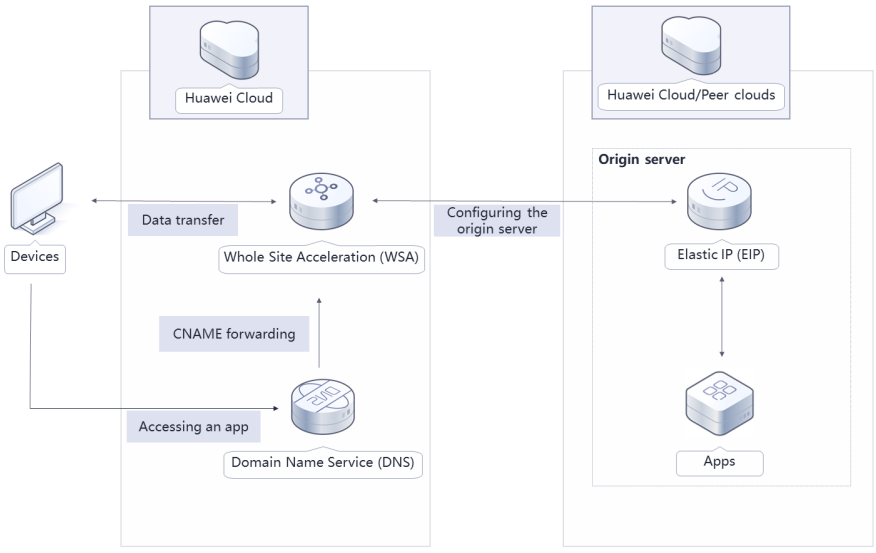
Scenarios

This solution uses the Whole Site Acceleration (WSA) to pull content from the origin server through the possible fastest route, so dynamic pages can load faster. This solution is a good option for websites that have both dynamic and static content and that need to handle a large number of ASP, JSP, or PHP requests.

Architecture

This solution allows you to quickly deploy Whole Site Acceleration (WSA) and **Domain Name Service (DNS)** resources and configure your origin server.

Figure 1-1 Architecture



This solution will:

- Add a WSA domain name and set your application server as the origin server.

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- Configure a CNAME record for the domain name for the local DNS server to redirect requests to CDN.

Advantages

- Intelligent routing

  WSA intelligently calculates the optimal route to the origin server in real time based on the access location, carrier, network quality, and node load.

- Protocol optimization

  WSA uses Huawei-developed protocol optimization algorithms to reduce the packet loss rate and latency for users with weak networks.

- Global presence

  Huawei Cloud CDN has over 2,000 points of presence (PoPs) in the Chinese mainland and over 800 PoPs outside the Chinese mainland. The network-wide bandwidth reaches 150 Tbit/s.

Constraints

- Before deploying this solution, ensure that you have an account with access to the target region.
- You must purchase a public domain name from Huawei Cloud DNS and obtain an ICP license from the Ministry of Industry and Information Technology (MIIT).
- Poor network quality may cause the solution deployment to fail. If this happens, uninstall the solution and then re-deploy it.

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2 Resource and Cost Planning

Whole site acceleration pricing includes a basic fee for site acceleration and fee for value-added services listed in the **Table 2-1**. The costs are only estimates and may differ from the final prices. For details, see **pricing details**.

Table 2-1 Estimated costs (only for reference)

Huawei Cloud Service	Description	Monthly Cost
Whole Site Acceleration (WSA)	WSA fee = Basic traffic/bandwidth fee + Billing on the number of whole site acceleration requests. This solution is billed on a tiered pricing basis by default. You can also buy traffic packages. For details, see **pricing details**. 1. Basic fee: By default, you are billed based on traffic tiers by the traffic used per hour. The billing cycle is one calendar month. Prices outside the Chinese mainland: 1. Site traffic ≤ 10 TB: $0.115 USD/GB 2. 10 TB < site traffic ≤ 50 TB: $0.11 USD/GB 3. 50 TB < site traffic ≤ 100 TB: $0.095 USD/GB 4. 100 TB < site traffic ≤ 1 PB: $0.076 USD/GB 5. Site traffic > 1 PB: $0.067 USD/GB 2. Value-added fee: Number of whole site acceleration requests x Unit price ($0.023 USD per 10,000 requests). The fee cannot be deducted from traffic packages and will be deducted from your account balance.	$11.523 USD (10,000 requests +100 GB traffic used)
Total		$11.523 USD

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3 Procedure

3.1 Preparations
3.2 Quick Deployment
3.3 Quick Uninstallation

3.1 Preparations

Creating the rf_admin_trust Agency

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

Figure 3-1 Console page

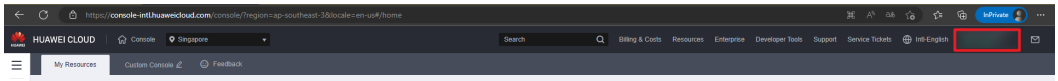

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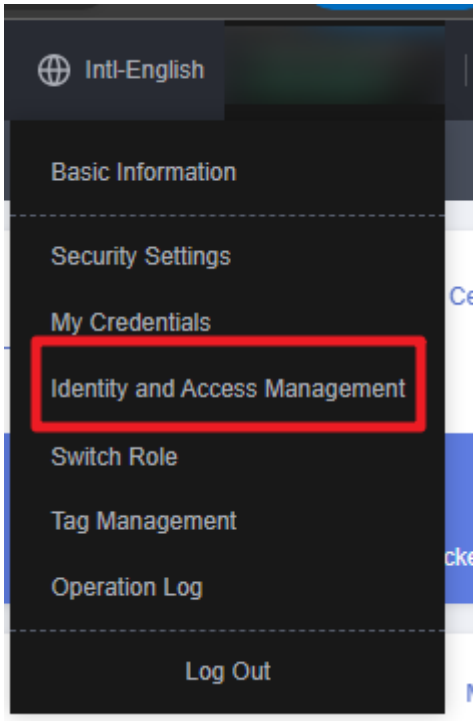
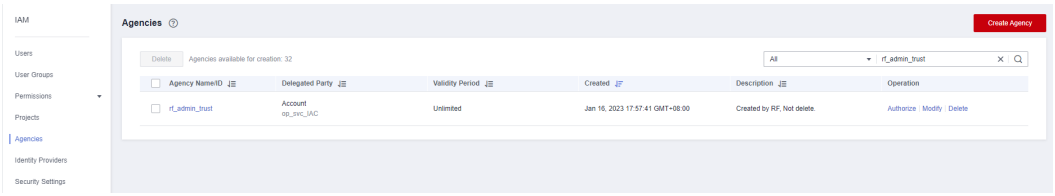
Figure 3-2 Identity and access management page



Step 2 Choose **Agencies** in the left 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** and **RFS** for **Cloud Service**, and click **Next**.

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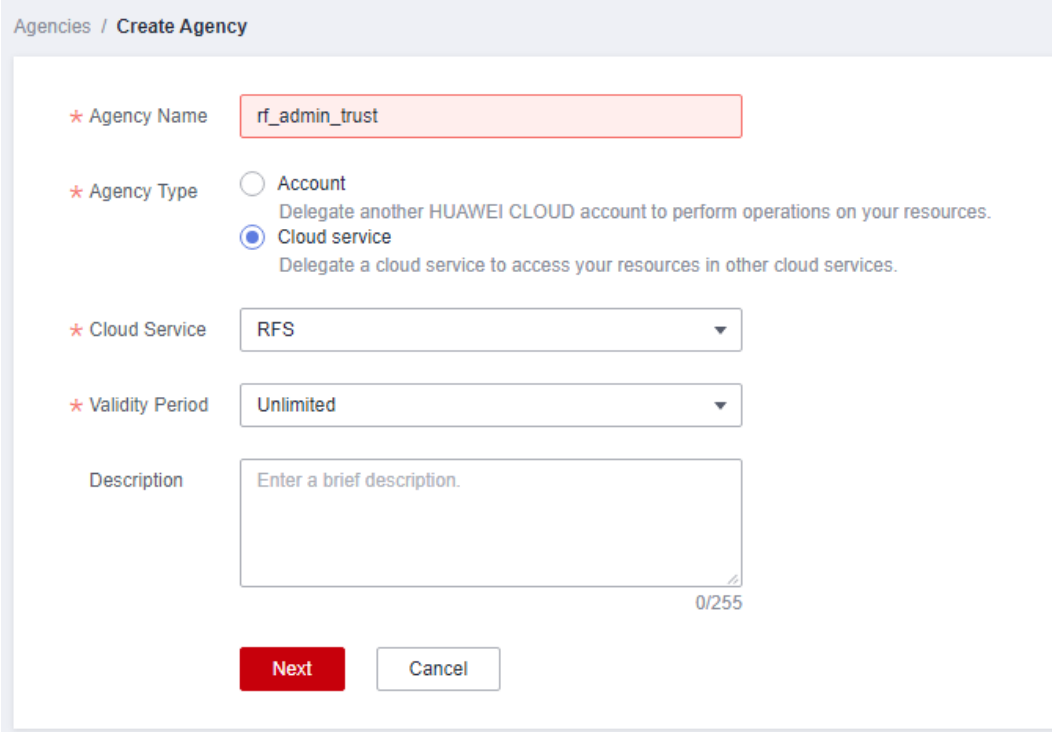
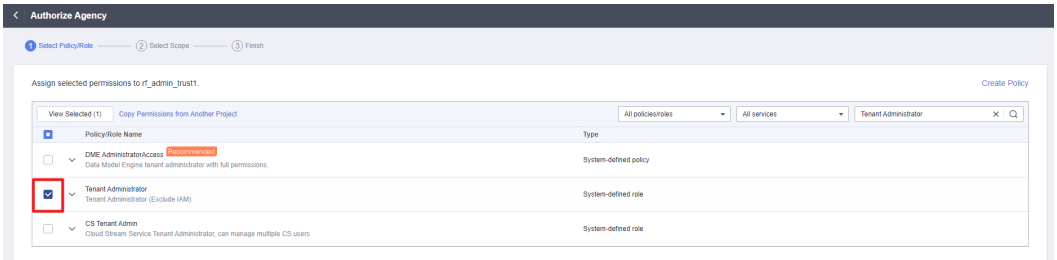
Figure 3-4 Creating the **rf_admin_trust** agency



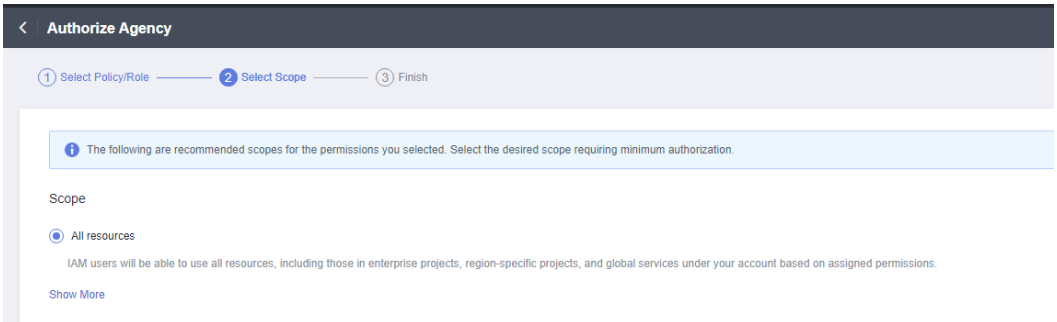
Step 4 Search for **Tenant Administrator** and select it in the search result.

Figure 3-5 Selecting a policy/role



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

Figure 3-6 Setting the authorization scope



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

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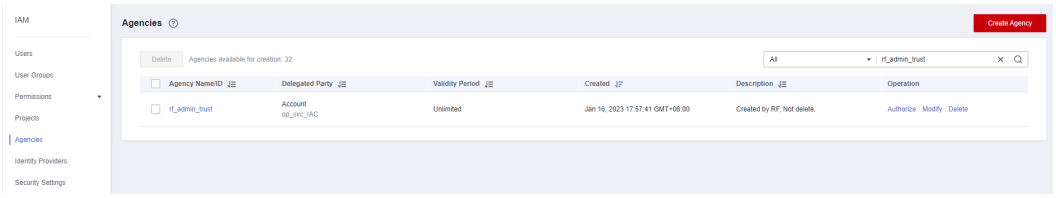
Figure 3-7 Agencies



----End

3.2 Quick Deployment

This section helps you quickly deploy the global data transfer acceleration solution.

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Table 3-1 Parameters for deploying the global data transfer acceleration solution

Parameter	Type	Mandatory	Description	Default Value
accelerate_domain	string	Yes	Specifies the domain name used to access the application to accelerated. The domain name must have been licensed by the Ministry of Industry and Information Technology (MIIT). You are advised to use a level-2 domain name of the public domain specified by **public_zone_domain**. A domain name must consist of one or more labels, representing domains at different levels. These labels are concatenated and delimited by dots (.). A label consists of letters A to Z, or a to z, not case sensitive, digits 0 to 9, and hyphens (-). The length of a domain name is within 75 characters. Do not start or end a domain name with hyphens (-). Example: download.game-apk1.com.	Left blank

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Parameter	Type	Mandatory	Description	Default Value
public_zone_domain	string	Yes	Specifies the public domain used by the user service system to provide services that can be accessed frm the Internet. A domain name must consist of one or more labels, representing domains at different levels. These labels are concatenated and delimited by dots (.). A label consists of letters A to Z, or a to z, not case sensitive, digits 0 to 9, and hyphens (-). The length of a domain name is within 75 characters. Do not start or end a domain name with hyphens (-). Example: game-apk1.com.	Left blank

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Parameter	Type	Mandatory	Description	Default Value
service_area	string	Yes	Specifies the service area. The default value is **outside_mainland_china**. You can select one of the following as required by your services: 1. **mainland_china**: areas in the Chinese mainland 2. **outside_mainland_china**: areas outside the Chinese mainland 3. **global**: global areas	outside_mainland_china

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Parameter	Type	Mandatory	Description	Default Value
origin_server_address	string	Yes	Specifies the origin server address. The address type can be IP address or domain name. If the origin server address type is IP address, only IPv4 addresses are supported. If there are multiple IP addresses, multiple objects must be specified to pass these addresses respectively, and the values of the parameters except the IP address in these objects must be the same. Up to 15 IP addresses can be specified for the primary or standby origin server. If the origin server address type is domain name, only one domain name is supported. The address type can be either IP address or domain name.	Left blank
origin_server_type	string	Yes	Specifies the address type of the origin server. The default value is **ipaddr**. You can select either of the following as required by your services: 1. **ipaddr**: IP address 2. **Domain**: domain name	ipaddr

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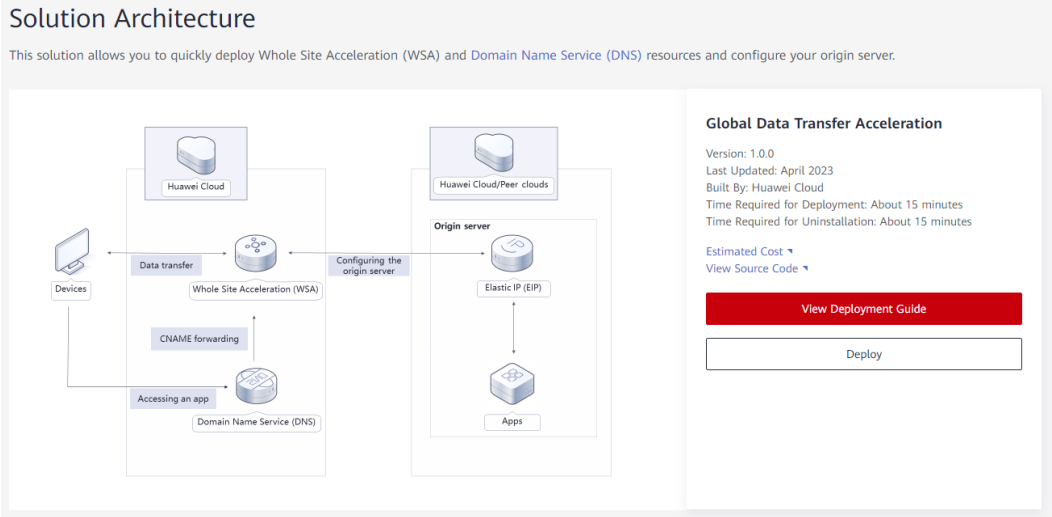
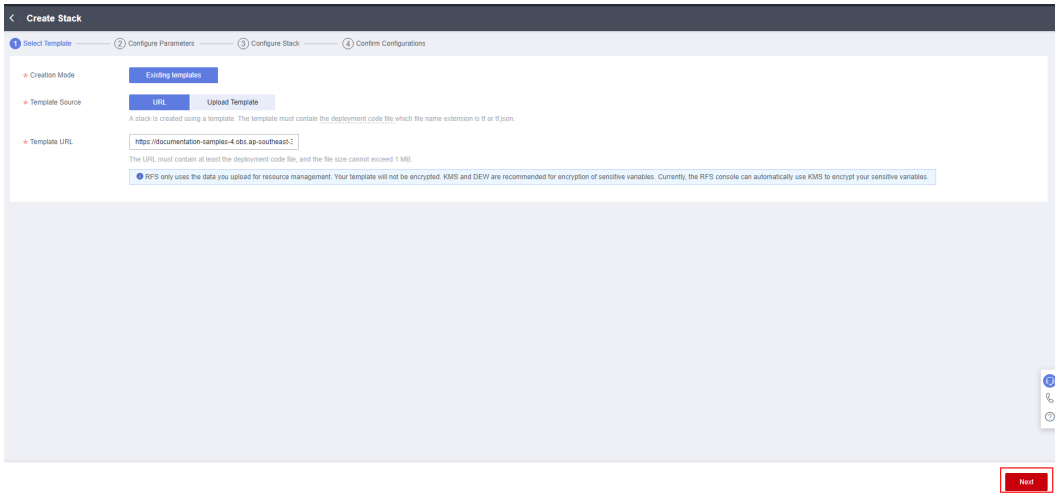
Step 1 Log in to Huawei Cloud Solution Best Practices, choose **Global Data Transfer Acceleration**, and click **Deploy**.

Figure 3-8 Selecting a solution



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

Figure 3-9 Selecting a template



Step 3 On the **Configure Parameters** page, enter a stack name, configure parameters based on **Table 3-1**, and click **Next**.

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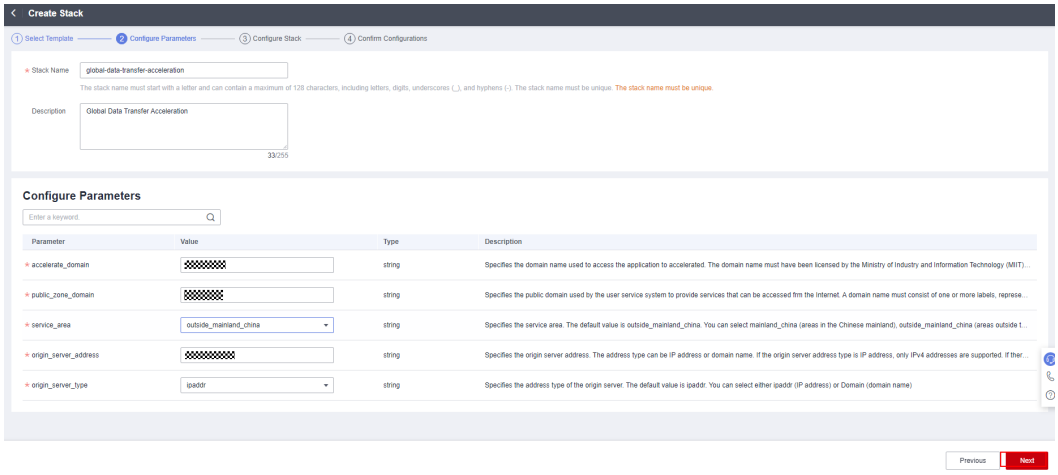
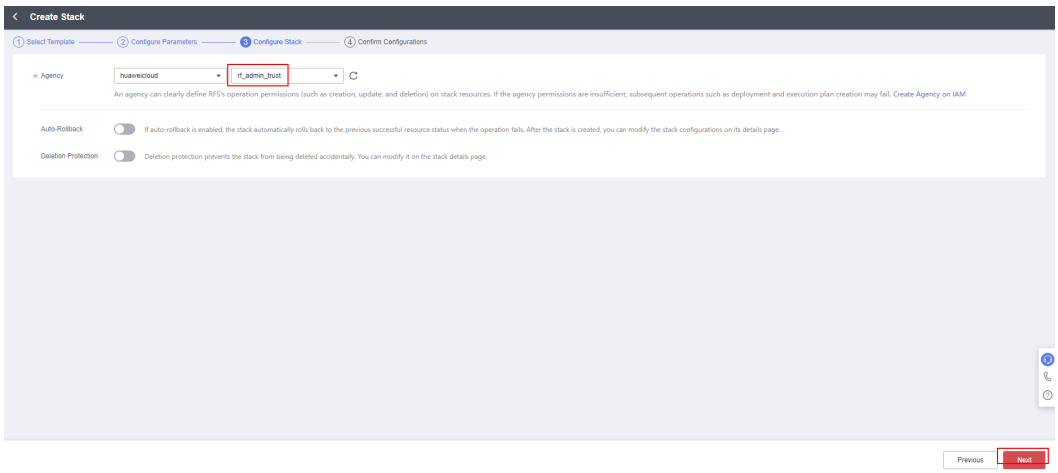
Figure 3-10 Configuring parameters



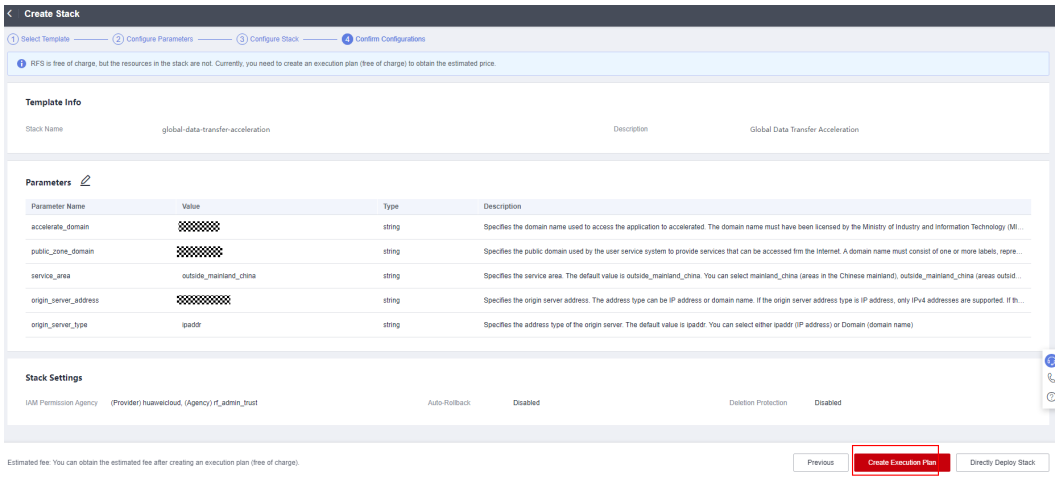
Step 4 On the **Configure Stack** page, select the **rf_admin_trust** agency and click **Next**.

Figure 3-11 Configuring a stack



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

Figure 3-12 Confirming the configurations



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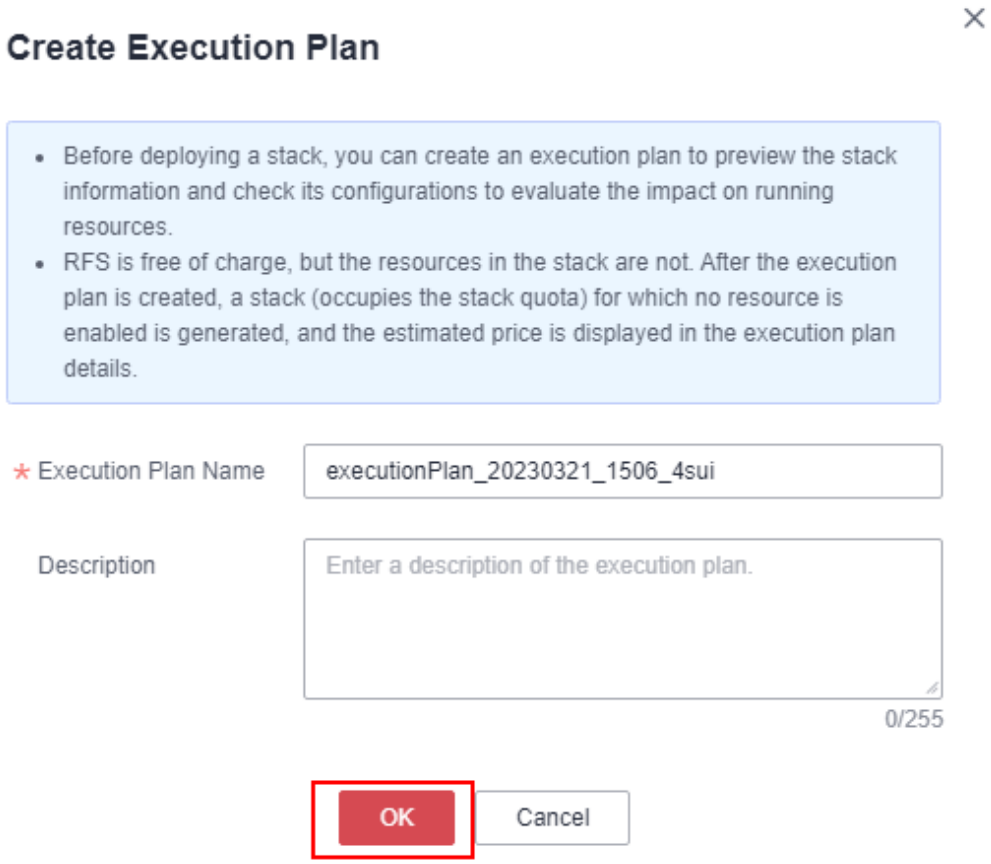
Step 6 In the displayed **Create Execution Plan** dialog box, enter an execution plan name and click **OK**.

Figure 3-13 Creating an execution plan



Step 7 Wait until the status of the execution plan changes to **Available** and click **Deploy** in the **Operation** column. In the displayed dialog box, click **Execute**.

Figure 3-14 Execution plan page

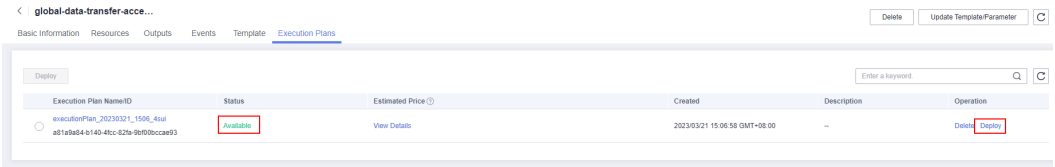


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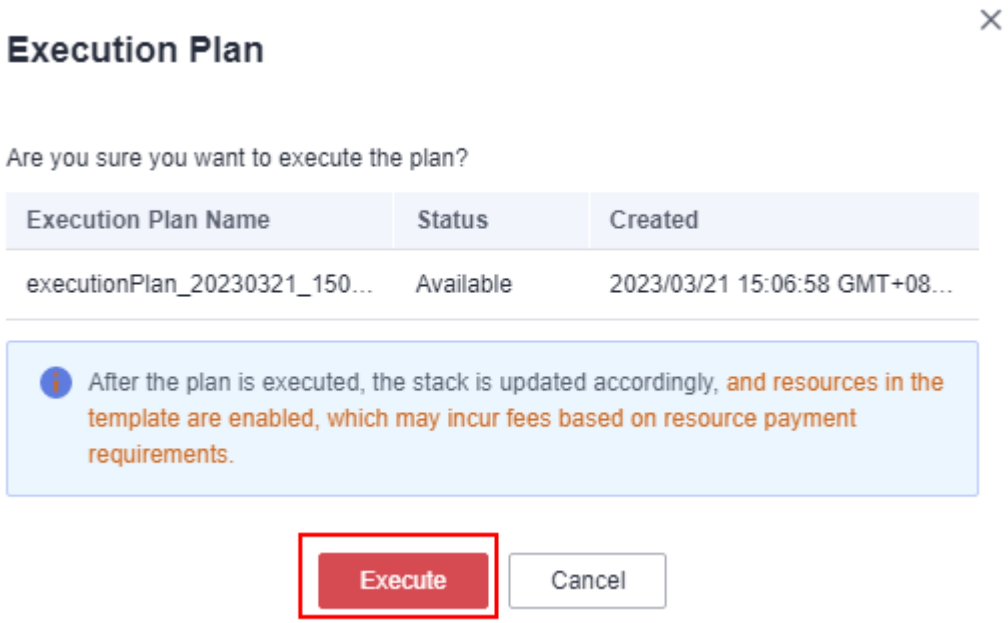
Figure 3-15 Confirming the execution plan



Step 8 Wait until the automatic deployment is complete, and click the **Events** tab to view details.

Figure 3-16 Resources created

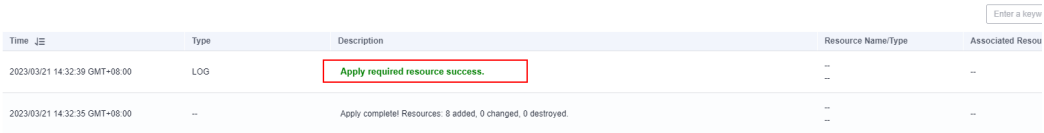
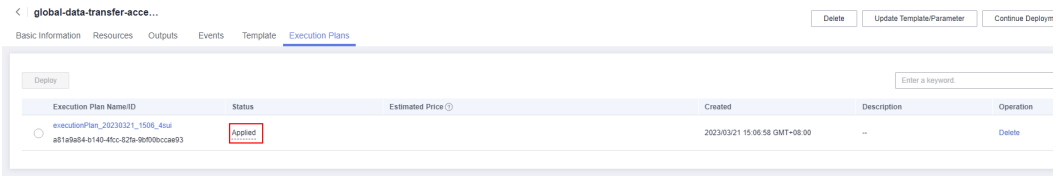


Figure 3-17 Execution deployed

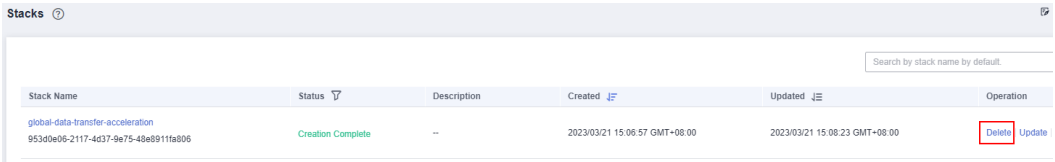


----End

3.3 Quick Uninstallation

Step 1 Click **Delete** in the row where the solution stack is.

Figure 3-18 Uninstalling the solution



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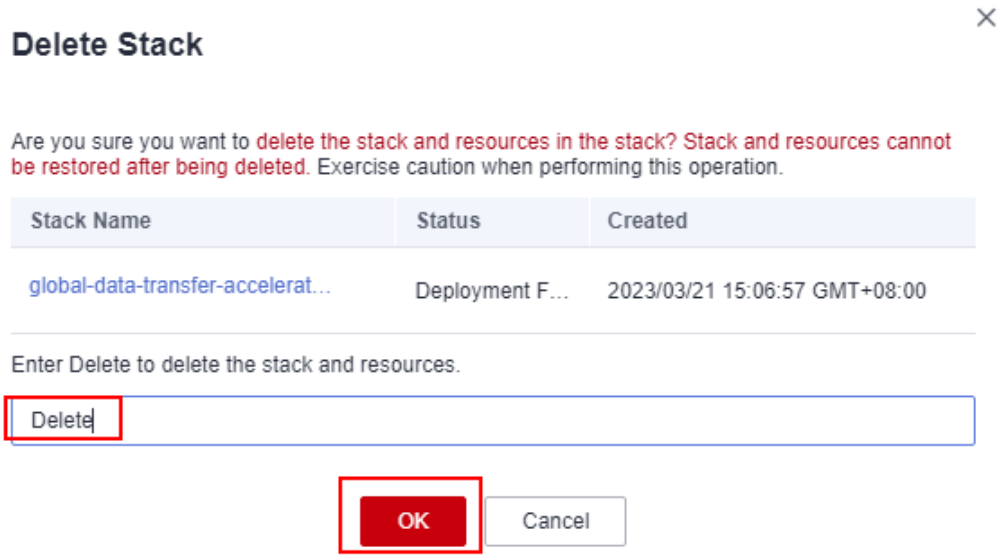
Step 2 Enter **Delete** and click **OK**.

Figure 3-19 Confirming the uninstallation



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4 Appendix

Terms

- **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.
- **Domains**: A service that helps you register, authenticate, and manage domain names. All domain names are registered with Xinnet and hosted on Huawei Cloud DNS. You need to pay for the use of a domain name for a period of time.
- **Whole Site Acceleration (WSA)**: WSA is a website acceleration solution that integrates dynamic and static content acceleration. CDN's whole site acceleration accelerates both dynamic and static content. Static content can be served from nearby nodes, whereas dynamic content is pulled from the origin server through the fastest possible route, so that CDN can load dynamic pages more quickly by bypassing congested routes.

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5 Change History

Table 5-1 Change history

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

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