### Solution

# Serverless Real-Time Log Analysis

 Issue
 1.0.0

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# Solution Overview

#### Scenarios

This solution helps you collect, analyze, and archive Elastic Cloud Server (ECS) logs with a serverless architecture. It uses Log Tank Service (LTS) to collect ECS logs, FunctionGraph LTS trigger to obtain logs and analyze alarms in logs, Simple Message Notification (SMN) to push alarms to users, and Object Storage Service (OBS) to archive alarms.

#### **Solution Architecture**

This solution uses LTS to collect ECS logs, FunctionGraph LTS trigger to obtain logs and analyze alarms in logs, SMN to push alarms, and OBS to archive alarms. This solution architecture is illustrated below.

Huawei Cloud		
1. Collectiogs 2. Trigger funct	ion 3. Store	results
Elastic Cloud Server (ECS) Log Tank Service (LTS)	FunctionGraph 4. Send alarms	Object Storage Service (OBS)
	Simple Message Notification (SMN)	

Figure 1-1 Architecture

This solution will:

- Create an OBS bucket to store alarm logs.
- Create a FunctionGraph function.
- Create an SMN topic to push alarms in logs.
- Create an LTS log group and log stream to manage collected logs.

#### Advantages

• Serverless architecture

LTS collects ECS logs, FunctionGraph analyzes and dumps logs, and SMN pushes alarms.

- Customization based on open source
   This solution is open-source and free for commercial use. You can also make custom development based on source code.
- Easy deployment
   You can deploy a real-time log analysis system in just a few clicks.

#### Constraints

- Before deploying this solution, ensure that you have an account with access to the target region and sufficient balance for purchasing the resources listed in **Table 2-1**.
- Ensure that OBS buckets are empty before deleting them.

# **2** Resource and Cost Planning

This solution deploys the resources listed in the following table. The costs are only estimates and may differ from the final prices. For details, see **pricing details**.

Huawei Cloud Service	Example Configuration	Estimated Monthly Cost (1000 Requests)		
FunctionGraph	<ul> <li>Region: AP-Singapore</li> <li>Pricing tier:</li> <li>≤ 1 million requests: \$0 USD</li> <li>per 1 million requests</li> </ul>	\$0 USD		
	<ul> <li>&gt; 1 million requests: \$0.2 USD</li> <li>per 1 million requests</li> </ul>			
	<ul> <li>Metering duration: ≤ 400,000 GB-seconds: \$0 USD per GB-second</li> </ul>			
	> 400,000 GB-seconds: \$0.00001667 USD per GB- second			
Log Tank Service (LTS)	<ul> <li>Region: AP-Singapore</li> <li>Log Management: log groups Free creation for log groups; billing by log volume</li> </ul>	\$0 USD		

 Table 2-1 Resource and cost planning (pay-per-use)

Huawei Cloud Service	Example Configuration	Estimated Monthly Cost (1000 Requests)
Object Storage Service (OBS)	<ul> <li>Region: AP-Singapore</li> <li>Billing Mode: Pay-per-use</li> <li>Product Type: Object storage</li> <li>Storage Class: Standard</li> <li>Data Redundancy Policy: Multi- AZ storage</li> <li>Pay per Use Pricing, Standard (USD): 0.0250/GB per month Traffic: Upload traffic to OBS: Free</li> </ul>	It is estimated that 1 GB data will be added every month, which will cost \$0.025 USD. The storage cost of this solution is low. For details, see the monthly bill.
Simple Message Notification (SMN)	<ul> <li>Region: AP-Singapore</li> <li>Protocol: Email         <ul> <li>≤ 1000: \$0 USD per 1000             emails             <li>&gt;1000: \$2 USD per 1000 emails</li> </li></ul> </li> </ul>	\$0 USD
Total	-	About \$0.025 USD

# **3**<sub>Procedure</sub>

- 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 page





Figure 3-2 Identity and Access Management

**Step 2** Choose **Agencies** in the left navigation pane and search for the **rf\_admin\_trust** agency.

#### Figure 3-3 Agency list

IAM	Agencies ①						
Users	Delete Agencies available for cr	ation: 36		All	▼   rf_admin_trust	X Q	
User Groups	Agency Name/ID ↓≣	Delegated Party J≣	Validity Period ↓Ξ	Created 4F	Description ↓Ξ	Operation	
Permissions • Projects	rt_edmin_trust	Cloud service RFS	Unimited	Mar 13, 2023 14:49:16 GMT+08:00	-	Authorize   Modify   Delete	
Agencies							
Identity Providers							
Security Settings							

- 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

ncies / Create Agen	су
* Agency Name	rf_admin_trust
★ Agency Type	<ul> <li>Account         Delegate another HUAWEI CLOUD account to perform operations on your resources     </li> <li>Cloud service         Delegate a cloud service to access your resources in other cloud services.     </li> </ul>
* Cloud Service	RFS
* Validity Period	Unlimited -
Description	Enter a brief description.
	0/255
	Next Cancel

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

#### Figure 3-5 Selecting a policy

< Authorize Agency								
Socied PalloyRoles (2) Select Scope (3) Fields								
Assign selected permissions to rf_admin_thust1.								
View Selected (1) Copy Permissions from Another Project	All policies/toiles							
Policy/Role Name	Туре							
DATE AdministratorAccess Enconventions Data Model Engine Innant administrator with full permissions.	System-defined policy							
Tenant Administrator Tenant Administrator (Exclude I/M)	System-defined role							
CBurd Stream Service Tenant Administrator, can manage multiple CS users	Stystem-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
() 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 Agency list								
IAM	Aç	jencies ③					c	reate Agency
Users User Groups		Delete Agencies available for	creation: 32			Al	▼ rf_admin_trust	× Q
		Agency NameID ↓≣	Delegated Party ↓≣	Validity Period ↓≣	Created 4F	Description J≣	Operation	
Projects		rt_edmin_trust	Account op_svc_IAC	Unlimited	Jan 16, 2023 17:57:41 GMT+08:00	Created by RF, Not delete.	Authorize   Modify   Delete	
Agencies								
Identity Providers								
Security Settings								

----End

#### Creating the IAM Agency Management FullAccess Policy

Step 1 Choose Identity and Access Management.



Figure 3-8 Identity and Access Management

**Step 2** Choose **Permissions** > **Authorization**, enter **IAM Agency Management FullAccess** in the search box, and check whether this policy exists.

Figure 3-9 Permission list

IAM	Aut	Authorization 🕥							
Users		Delete Authorization records (IAM pr	ojects): 1; (enterprise projects): 0	]	Policy/Role name : IAM A @	earch by policy/role name.	×Q	By IAM Project	By Enterprise Project
User Groups		Policy/Role	Policy/Role Description	Project [Region]	Principal	Principal Description		Principal Type	Operation
Authorization		IAM Agency Management FullAcces	-	All resources (Existing and future projects)	rf_admin_trust	-		Agency	Delete

- If the policy is found, you do not need to create it.
- If the policy is not found, create it.

**Step 3** Choose **Permissions** > **Policies/Roles**, and click **Create Custom Policy**.

#### Figure 3-10 Clicking Create Custom Policy

Polic	ies/Roles ⑦					Feedback     Create Custom Policy
	Delete Custom policies available for creation: 179			All policies/roles	• All services	Enter a policy name, role name, or description. Q
	Policy/Role Name	Туре	Description			Operation

**Step 4** Enter policy name **IAM Agency Management FullAccess**, select **JSON**, enter the following JSON code in the **Policy Content** text box, and click **OK**.

#### Figure 3-11 Creating a custom policy

* Policy Name	IAM Agency Manage	ment FullAccess	
Policy View	Visual editor	JSON	
* Policy Content	1 × [{]         2 × "Staten         4 ×         5         6 ×         7         8         9         10         11         12         13         14         15         16         17         18         19         20         21         22         23         24         25	<pre>on": "1.1", ment": [ "Effect": "Allow", "Action": [ "iam:gencies:updateAgency", "iam:permissions:listRolesForAgencyOnDomain", "iam:permissions:listRolesForAgency", "iam:noles:listRolesForAgency", "iam:noles:listRolesForAgency", "iam:permissions:checkRoleForAgency", "iam:gencies:deleteAgency", "iam:permissions:checkRoleForAgencyOnProject", "iam:permissions:checkRoleForAgency", "iam:permissions:checkRoleForAgencyOnProject", "iam:permissions:checkRoleForAgencyOnDomain", "iam:permissions:checkRoleForAgencyOnDomain", "iam:permissions:grantRoleToAgencyOnProject", "iam:gencies:getAgency", "iam:gencies:createAgency", "iam:permissions:grantRoleToAgencyOnProject", "iam:permissions:revokeRoleFromAgencyOnProject", "iam:permissions:grantRoleToAgency", "iam:permissions:grantRoleToAgency", "iam:permissions:grantRoleToAgency", "iam:permissions:grantRoleToAgency", "iam:permissions:grantRoleToAgency", "iam:permissions:revokeRoleFromAgency",</pre>	
Description	Enter a brief descript	tion.	0/256
Scope	Global services	ncel	
{     "Version": "1.1"     "Statement": [         {             "Action":             "iamag             "ia	, gencies:createAger gencies:listAgencie gencies:getAgency gencies:deleteAger gencies:updateAge ermissions:revokef ermissions:revokef ermissions:grantRo ermissions:grantRo ermissions:grantRo	ncy", <sup>25</sup> ", ", ncy", ency", RoleFromAgencyOnProject", RoleFromAgencyOnDomain", RoleFromAgency", oleToAgencyOnDomain", oleToAgencyOnProject", oleToAgency",	



**Step 5** If no error message is displayed, the **IAM Agency Management FullAccess** policy is successfully created.

----End

# Assigning the IAM Agency Management FullAccess Policy to Agency rf\_admin\_trust



Intl-English

Basic Information

Security Settings

My Credentials

Identity and Access Management

Switch Role

Tag Management

Operation Log

Figure 3-12 Identity and Access Management

**Step 2** Choose **Agencies** in the left navigation pane and select the **rf\_admin\_trust** agency.

#### Figure 3-13 Agency list

Ag	encies ③						Create Agency
	Delete Agencies available for creat	ion: 31			All	rf_admin_trust	X Q
	Agency Name/ID J⊟	Delegated Party ↓Ξ	Validity Period ↓⊟	Created 4F	Description ↓≡	Operation	
_	rf_admin_trust	Cloud service RFS	Uniimited	Jan 16, 2023 17:57:41 GMT+08:00	Created by RF, Not delete.	Authorize   Modify   Delete	

**Step 3** Click the **Permissions** tab and click **Authorize**.

#### Figure 3-14 Permissions

IAM	Agencies / rf_admin_trust						
Users	Basic Information Permissions						
User Groups	Delete Authorize Autho	rization records (IAM projects): 6; (enterprise pr	ojects): 0	Agency name: rf_admin_t	Search by policy/role name. Q	By IAM Project	By Enterprise Project
Permissions -	Policy/Role	Policy/Role Description	Project [Region]	Principal	Principal Description	Principal Ty	pe Operation
Projects	IAM Agency Management FullA.		All resources [Existing and	future proj rf_admin_trust	Created by RF, Not delete	Agency	Delete
Identity Providers	GaussDB FullAccess	Full permissions for GaussDB.	All resources [Existing and	future proj rf_admin_trust	Created by RF, Not delete	Agency	Delete
Security Settings	SMS FullAccess	Full permissions for Server Migration S	All resources [Existing and	future proj rf_admin_trust	Created by RF, Not delete	Agency	Delete
	iam	-	All resources [Existing and	future proj rf_admin_trust	Created by RF, Not delete	Agency	Delete
	IAM FullAccess		All resources [Existing and	future proj rf_admin_trust	Created by RF, Not delete	Agency	Delete
	Tenant Administrator	Tenant Administrator (Exclude IAM)	All resources (Existing and	future proj rf_admin_trust	Created by RF, Not delete	Agency	Delete

**Step 4** Enter **IAM Agency Management FullAccess** in the search box, select the policy, click **Next**, and then click **OK**.

Figure 3-15 Configuring the IAM Agency Management FullAccess policy

	·	reate
View Selected (1) Copy Permissions from Another Project	All policies/roles   All services   IAM Agency Management FullAcces	×
Policy/Role Name	Туре	
IAM Agency Management FullAcces1	Custom policy	
V V IAM Agency Management FullAccess	Custom policy	

**Step 5** Check that the **rf\_admin\_trust** agency has the **Tenant Administrator** and **IAM Agency Management FullAccess** permissions.

asic Information Permissions Delete Authorize Authorize Policy/Role AM Agency Management FullA.	ation records (IAM projects): 5; (enterprise pr Policy/Role Description	ojects): 0 Project [Region] All resources [Existing and futu	Agency name: rf_admin_t	Search by policy/role name. Q Principal Description	By IAM Project B Principal Type	y Enterprise Project Operation
Delete Authorize Authorize Policy/Role IAM Agency Management FullA.	ation records (IAM projects): 6; (enterprise pro Policy/Role Description	ojects): 0 Project [Region] All resources [Existing and futt	Agency name: rf_admin_t  Principal reactions from the statement of admin trust	Search by policy/role name. Q Principal Description	By IAM Project E	by Enterprise Projec Operation
Policy/Role     IAM Agency Management FullA	Policy/Role Description	Project [Region] All resources [Existing and futu	Principal	Principal Description	Principal Type	Operation
IAM Agency Management FullA	-	All resources [Existing and futu	ure proj di admini trust	Constant by DE Mar delate		Delate
			are proj in _ueanin _uean	Created by Kr, Not delete.	Agency	Delete
Tenant Administrator	Tenant Administrator (Evolude IAM)	All resources (Evistion and fut	uranmi nfarlmin trust	Created by RE Not delete	Anency	Delata
	Tenant Administrator	Tenant Administrator Tenant Administrator (Exclude IAM)	Tenant Administrator Tenant Administrator (Exclude IAM) All resources (Existing and ful	Tenant Administrator         Tenant Administrator (Exclude (AM)         All resources (Existing and future projrf_admin_trust	Tenant Administrator         Tenant Administrator (Exclude IAM)         All resources (Existing and future projrl_wdmin_trust         Created by RF, Not delete.	Tenunt Administrator         Tenunt Administrator (Exclude IAM)         All resources [Existing and future pro]rtwome, trust         Created by RF, Not delete.         Agency



----End

### **3.2 Quick Deployment**

This section describes how to deploy the Serverless Real-Time Log Analysis solution.

Paramete r	Туре	Mandator y	Description	Default Value
function_n ame	String	Yes	Function name, which identifies a function and serves as the prefix of other resource names. It must be unique and can contain 2 to 53 characters, including letters, digits, underscores (_), and hyphens (-). Start with a letter.	serverles s-real- time- log- analysis- demo
lts_bucket _name	String	Yes	Name of an OBS bucket to upload alarm logs to. It must be unique and can contain 3 to 59 characters, including lowercase letters, digits, hyphens (-), and periods (.).	Left blank
lts_name	String	Yes	Log group and log stream prefix. It must be unique and can contain 1 to 57 characters, including letters, digits, hyphens (-), underscores (_), and periods (.). Do not start with a period or underscore, or end with a period.	serverles s-real- time- log- analysis- demo

Table 3-1 Parameter description

Paramete r	Туре	Mandator y	Description	Default Value
smn_name	String	Yes	Topic name, which cannot be modified once the topic is created. The name can contain 1 to 255 characters, including letters, digits, hyphens (-), and underscores (_), and must start with a letter or digit. Modifying this parameter will create a resource.	serverles s-real- time- log- analysis- demo
email	String	Yes	Email address for receiving alarms.	Left blank

Step 1 Log in to Huawei Cloud Solution Best Practices, choose Serverless Real-Time Log Analysis, and click Deploy.

#### Figure 3-17 Selecting a solution



Step 2 On the Select Template page, click Next.



<   Create Stack		
Select Template	(2) Configure Parameters (3) Configure Stack (4) Configurations	
* Creation Mode	Existing templates	
* Template Source	URL Upload Template	
	A stack is created using a template. The template must contain the deployment code file which file name extension is if or til joon.	
* Template URL	https://documentation-campies-4.abs.ap-southeast-3	
	The URL must contain at least the deployment code file, and the file size cannot exceed 1 M8.	
	• RFS only uses the data you upload for resource management. Your template will not be encrypted. KMS and DEW are recommended for encryption of sensitive variables. Currently, the RFS consele can automatically use KMS to encrypt your sensitive variables.	
		0
		C
		0
		Next

Step 3 On the Configure Parameters page, configure parameters by referring to Table 3-1 and click Next.

Figure 3-19 Configuring parameters

		U	
Itack Name serverless-real	time-log-analysis		
The stack name	nust start with a letter and can contain a maximum of 128 cha	racters, including letters, digits, underscores (_), a	and hyphens (-). The stack name must be unique. The stack name must be unique.
Enter a description	lion of the stack.		
	0/255		
onfigure Paramete	rs		
iter a keyword.	Q		
arameter	Value	Type	Description
inction_name	serverless-real-time-log-analysis-demo	string	Function name, which identifies a function and serves as the prefix of other resource names. It must be unique and can contain 2 to 53 characters, including letters, digits, unders
s_bucket_name	serverless-real-time-log-analysis-demo	string	Name of an OBS bucket to upload alarm logs to. It must be unique and can contain 3 to 63 characters, including lowercase letters, digits, hyphens (-), and periods (-). Do not start
s_name	serverless-real-time-log-analysis-demo	string	Log group and log stream prefix. It must be unique and can contain 1 to 57 characters, including letters, digits, hyphens (-), undercorres (_), and periods (.). Do not start with a periods (.).
mn_name	serverless-real-time-log-analysis-demo	string	Topic name, which cannot be modified once the topic is created. The name can contain 1 to 255 characters, including letters, digits, hyphens (-), and underscores (_), and must s
mail		string	Email address for receiving alarms.

**Step 4** On the **Configure Stack** page, select the **rf\_admin\_trust** agency and click **Next**.

Figure 3-20 Advanced settings

Create Stack	
) Select Template	- (2) Configure Parameters
* Agency	Instructiond         If:         C         How to Draste an Agency?           An agency can chearly define HPS's operation permissions (such as creation, update, and deficing) on tack resources. If the agency permissions are insufficient, subsequent operations such as deployment and resourcion plan creation may fail. Create Agency on MAM
Auto-Rollback	I stato-rollback is enabled, the stack automatically rolls lack to the previous successful resource status when the operation fails. After the stack is created, you can modify the stack configurations on its details page.
Deletion Protection	Deletion protection prevents the stack from being deleted accidentally. You can modify it on the stack details page.
	Protos

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

Figure 3-21	Confirming	configurations
-------------	------------	----------------

A bit is the decays, but he rescues is here is due and to group is to data the well and to data the decays is due and the d	lect Template (2) C	Configure Parameters ③ Configure Stack	Confirm Configurations			
Partials Info     Description	RFS is free of charge, but the res	sources in the stack are not. Currently, you need to create an execution	n plan (free of charge) to obtain the estimat	ad prica.		
Bottom in and and and and and and and and and an	emplate Info					
Parameter &     Note     Type     Description       Indicot_name     devides related to each gradings devides     dring     Reliden and excess to be prefix of define sources names. It must be unique and can contain 10 50 Journation must be devide to upon and can contain 10 50 Journation must be devide to upon and can contain 10 50 Journation. To upon and of an oppon and to grading and gradi	tack Name	serverless-real-time-log-analysis		Descrip	don	
Parameter Name     Value     Type     Description       Instruction, same     servites and lame big analysis demo     sing     Instruction name, which identifies a landice and serves as the prefit of dear resource insers. It must be unique and can contrain 2 to 51 characters, molding latters, dipt.       Its_bodie	arameters 🖉					
handaga kana kana bandaga kang kang kang kang kang kang kang k	Parameter Name	Vatue	Туре	Description		
http://doi.org/imm     immediate-immedia	function_name	serverless-real-time-log-analysis-demo	string	Function name, which identifies a function and ser	ves as the prefix of other resource names. It must be unique and can contain 2 to 53 characters, including letters, digits, un	ders
Int_zame     servetes read-me tog analysis-demo     string     Log proug and tog stream prefix. It must be unique and can contain 1 to 57 characters, including latters, digits, hypheres (), underscores (), and previous () to end tark we and y analysis-demo       annyamis     servetes read-me tog analysis-demo     string     Tops rame, which cannot be modified once the tog is a centeral. To 57 characters, including latters, digits, hypheres (), and andrescores (), and a	lts_bucket_name	serverless-real-time-log-analysis-demo	string	Name of an OBS bucket to upload alarm logs to. It	must be unique and can contain 3 to 63 characters, including lowercase letters, digits, hyphens (-), and periods (.). Do not	star
ami, ami evinetias realisione loganajojas demo da fing Topic name, velici carnet la modified nota the topic is realised. The name can contain 1 to 255 characters, including letters, digits, hypheres (.), and underscores () and email diversion for nociving starms.	lts_name	serverless-real-time-log-analysis-demo	string	Log group and log stream prefix. It must be unique	and can contain 1 to 57 characters, including letters, digits, hyphens (-), underscores (_), and periods (.). Do not start with	8 p
anal gladmantäljähuuni-gathes.com öring Enal äddess for nooving alarms.	smn_name	serveriess-real-time-log-analysis-demo	string	Topic name, which cannot be modified once the to	pic is created. The name can contain 1 to 255 characters, including letters, digits, hyphens (-), and underscores (_,), and mu	st s
tack Settings M Permission Agency (Pervder) haveedoud, (Agency) rf_admit_fred Auto-Rollaud: Disabled Deletion Protection Disabled	email	qiaohuan5@huawei-partners.com	string	Email address for receiving alarms.		
M Permission Agency (Previder) haveedicad, (Agency) ("Jadren", "Jvat Auto Fisiback. Disabled Deletion Protection Disabled	tack Settings					
	M Permission Agency (Provid	der) huaweicloud, (Agency) rf_admin_trust	Auto-Rollback	Disabled	Detection Protection Disabled	

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

#### Figure 3-22 Creating an execution plan

<ul> <li>Before deploying a star information and check resources.</li> <li>RFS is free of charge, plan is created, a stack enabled is generated, a details.</li> </ul>	ck, you can create an execution plan to preview the stack its configurations to evaluate the impact on running but the resources in the stack are not. After the execution (occupies the stack quota) for which no resource is and the estimated price is displayed in the execution plan
* Execution Plan Name	executionPlan_20230417_1608_zugr
Description	Enter a description of the execution plan.
	0/25
	OK Cancel

Basic Information Resources Outputs Even	ts Template Execution Plans				
Deploy				Enter a keyword.	QC
Execution Plan Name/ID	Status	Estimated Price ()	Created	Description	Operation
executionPlan_20230417_1608_zugr a226cfda-214f-471e-881e-5b5d2437f8d4	Available	View Details	2023/04/17 16:09:20 GMT+08:00	-	Deploy Delete

#### **Step 7** Click **Deploy**. In the displayed dialog box, click **Execute**.

#### Figure 3-24 Confirming the execution plan

Execution Plan			×
Are you sure you want to execute th	e plan?		
Execution Plan Name	Status	Created	
executionPlan_20230417_160	Available	2023/04/17 16:09:20 GMT+08	
After the plan is executed, the template are enabled, which requirements.	ie stack is updated may incur fees ba	accordingly, and resources in the sed on resource payment	
Ex	ecute Car	ncel	

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

#### Figure 3-25 Resources created

< serverless-real-time-log				Delete Update Template/Parameter C
Basic Information Resources Outputs	Events Template Execu	ution Plans		
			Resour	r ▼ Enter a keyword. Q C
Time J≣	Type 🔽	Description	Resource Name/Type	Associated Resource ID
2023/04/17 16:12:47 GMT+08:00	Log	Apply required resource success.		-
2023/04/17 16:11:42 GMT+08:00	-	Apply complete! Resources: 8 added, 0 changed, 0 destroyed.		
2023/04/17 16:11:42 GMT+08:00	Creation Complete	huaweicloud_fgs_trigger.fgs_trigger: Creation complete after 2s [id-035faa01b6d748e6be6965d61e399574]	fgs_trigger huawelcloud_fgs_trigger	035faa01b6d748e6be6965d61e399574
2023/04/17 16:11:40 GMT+08:00	Creation In Progress	humweicloud_fgs_trigger.fgs_trigger: Creating	fgs_trigger huawelcloud_fgs_trigger	
2023/04/17 16:11:40 GMT+08:00	Creation Complete	huaweicloud_fgs_function.fgs_function: Creation complete after 4s [id=um:fss:ap-southeast. 3:61f8a789b15d42939607bd44a90db0a7:function:default:serverless-real-time-log-analysis-demo_fgs:latest]	fgs_function FunctionGraph	um:tss:ap-southeast-3:618a769b15d42939607bd44a90db0a7:t
2023/04/17 16:11:36 GMT+08:00	Creation in Progress	huaweicloud_fgs_function fgs_function: Creating	fgs_function FunctionGraph	-
2023/04/17 16:11:36 GMT+08:00	Creation Complete	husweicloud_identity_egency.agency: Creation complete after 1m5s [id=f14c7ec09fed4098b47390e2672d19a7]	agency huaweicloud_identity_agency	114c7ec09fed4098b47390e2672d19a7
2023/04/17 16:11:31 GMT+08:00	Creation In Progress	husweicloud_identity_sgency.still creating[1m0s elapsed]	agency huaweicloud_identity_agency	-
2023/04/17 16:11:21 GMT+08:00	Creation In Progress	hus/weicloud_identity_sgency agency: Still creating [50s elapsed]	agency huaweicloud_identity_agency	-
2023/04/17 16:11:11 GMT+08:00	Creation in Progress	huaweicloud_identity_agency agency: Still creating [40s elapsed]	agency huawelcloud_identify_agency	-

----End

### 3.3 Getting Started

**Step 1** Log in to the LTS console, and view the created log group and log stream.

Log Management		Duick Links + Create Log G
A Dear Huawei users! The old log search page will be offline on March 30, 2023	Please switch to the new page. Thank you for your support to HUAWEI CLOUD!	
Statistics ReadWithe 19.33% 148.726 x/3 148.726 x/3 1	Databa         Alarms         Last 30 minutes         Latest Alarms           >         0         - Critical 0         - Alarms           >         0         - Minor 0         - No data available           • Warning 0         • Warning 0         - No data available	Notices           Transferring tag fields         EXXIII           Cri 30, 2022 196.08.0 CMT+0.80.0         CMT+0.80.0           Colecting rafiles         Konemes contains           Cole 30, 2022 196.08.0 CMT+08.00         Saving axisting dashboards as templa           Cri 30, 2022 196.08.0 CMT+08.00         Saving axisting dashboards as templa
Log Applications           ELB Log Center         APIG Log Center           ELB layer.7 access log analysis         APIG access log analysis	Enter a keyword.	Q My Favorites v
Citck here to choose a filter condition Citck fore to choose a filter condition Log Group Name Log Reten	Log Strea Created By Tags Created JF Operation	C

Step 2 Choose Host Management and click Install ICAgent. For details, see Installing ICAgent.

Figure 3-27 Installing an ICAgent

g Tank Service	Host Management				Quick Links     Create Host Group	Install ICAge
Management	<ol> <li>You can now manage hosts in addition</li> </ol>	to agents, add host groups,	and edit configurations in	batches. Learn more		
aboards Beta	Host Groups Hosts					
Ingestion	Delete				Enter a host group name.	Q
Management					Updated .↓ <del></del>	Operation
ransfer					Mar 10, 2023 17:15:39 GMT+08:00	208
obs Beta					Mar 10, 2023 17:09:32 GMT+08:00	∠ŭ₿
uration Center					Mar 10, 2023 16:48:19 GMT+08:00	∠ŭ₿
					Nov 24, 2022 10:40:03 GMT+08:00	∠ŭ₿
					Nov 2, 2022 15:20:08 GMT+08:00	∠ġ₿

Step 3 Choose Log Ingestion and click Elastic Cloud Server (ECS). For details, see Ingesting Logs to Log Streams.

#### Figure 3-28 Ingesting logs

Log Tank Service	Access Data POwek Links
Log Management	All Cloud Services Self-Built software APIs/SDKs Others Q Enter a keyword.
Dashboards Beta	🔗 Elastic Cloud Server (ECS) 🔗 Cloud Container Engine (CCI 🔥 Elastic Load Balance (ELB) 🥽 API Gateway (APIG)
Alarms	le de de de de d
Log Ingestion	
Host Management	Cloud Firewall (CFW) 🔄 🥑 Web Application Firewall (W) 🏐 FunctionGraph
Log Transfer	
Log Jobs Beta	ingestion configurations

**Step 4** Choose **Log Management**, click the created log group, and view the collected logs in the **Content** area.

#### Figure 3-29 Viewing logs

< serverless-real-time-log-analy	ysis-demo_gr	roup ~												⊡ Old \	Version
Log Stream Favorited Quick Search	< serverle	ess-real-time-log-analysis-de	mo_stream ©												>
Q Enter a log stream name.	serverles	ss-real-time-log-analysi	is-demo_stream	1 🟠					Dashboard	s 🌣	2	🕮 1 hour(From	now) 🔻	0   •	۲
Serverless-real-time-log-analysi	Q Enter a k	eyword in the log. Exact or f Visualization Beta Rea	luzzy search by key Il-Time Logs	word. Example:	"error", "er?or", "m	'o*", "er*r"							0 [	] Se	arch
	Quick Analysis	⑦ ۞ ۞ Collapse	2					Total:2							
		TQ	15:56	16:02	16:08	16:14	16:20	16:26	16:32		16:38	16:44	16:50	1	6:56
	No	o fields added.	Collected 3		Content									+-	8
	Set	Quick Analysis	✓ Mar 27, 20 16:52:55.56	23 57 GMT+08:00	content: "ERR" 1	192.168.10.197 1FL,DL;K;DKLM	III ecs-Its	/root/log.bd	LTS 167990	7175567	66b8736b-53	63-4622-a880-0bl	Jed		
			✓ Mar 27, 20 16:52:45.46	23 57 GMT+08:00	content: "ERROF	192.168.10.197 R° 201322545	III ecs-lts	🗷 /root/log.txt	LTS 167990	7165467	66b8736b-53	63-4622-a880-0bl	led		C

**Step 5** Log in to the mailbox for receiving alarms, and click **Confirm Subscription** to receive collected alarms.

#### Figure 3-30 Alarms

Dear Sir or Madam,
Welcome to Simple Message Notification (SMN) service.
You are invited to subscribe to the topic: urn:smn:ap-southeast-3:61f8a789b15d42939607bd44a90db0a7:serverless-real-time-log-analysis-demo
After confirmation, you will receive messages posted to this topic via email. Instructions on how to cancel notifications will be included in these messages.
Click the following URL to confirm your subscription: (If you don't want to subscribe to this topic, please ignore this email) <u>Confirm Subscription</u> This URL is valid only within 48 hours.
This is an automatically generated email. Please do not reply. Official Website: <u>https://www.huaweicloud.com/intl/en-us</u>

#### **Step 6** Log in to the **OBS console** and click the created OBS bucket to view alarm logs.

Object Storage Service		Bucket	s 🕜 Open	Source Software N	otice				Feedback	Reprocess Flow	🕼 Quick Links 🗈 T	ask Center Create	Bucket	Buy OBS Package
		•					Dentes Manda de dest							
Dashboard NEW		0 **	e would much ap	preciate il you could	complete our questionn	aire on Object Storage	Service, four reedback	will neip us provide a t	setter user experience.					^
Buckets		An	account and all t	he IAM users under i	t can create a total of 1	00 buckets and parallel	file systems. You are a	dvised to create folders	in the buckets to organ	nize your data and re	duce how many buckets	you need. Learn more		
Parallel File Systems		You ca	an create 39 mor	e buckets.										с С 🛛
Storage Usage NEW		Spt	cify filter criteria.											Q
Resource Packages		Buc	ket Name J⊒	Quick Links	T Storage Cla	T Region	T Data Redun	Used Capacity	Access ⑦	Objects ⑦ 4	Enterprise Proj	Created 4₽	Operation	
My Packages	do	serv	erless-real-ti	🖾 🖲 🗄	Standard	CN North-Beijing4	Multi-AZ storage	484 bytes	Private		2 default	Mar 13, 2023 10	Change Storage	Class   Delete
Data Express Service	ø													
Cloud Storage Gateway	do ∢													
Media Processing Center	°													
CDN	æ													

#### Figure 3-31 OBS console

#### Figure 3-32 Viewing alarm logs

< serverless-real-tin	ne-log □					Ve	rsioning Disabled Storage Class Standard 🗐 Task Cen
Overview	Objects 🗇						
Objects							
Metrics NEW	Objects Deleted Objects	Fragments					
Permissions +	Objects are basic units of data store	age. In OBS, files and folders are treat	ed as objects. Any file type can be up	loaded and managed in a bucket. Learn	more		
Basic Configurations -	You can use OBS Browser+ to mov For security reasons, files cannot b	e an object to any other folder in this t e previewed online when you access t	ucket. hem from a browser. To preview files	online, see How Do I Preview Objects in	OBS from My Browser?		
Domain Name Mgmt	Upload Object Create	Folder Delete More	•				Enter an object name prefix. Q
Cross-Region	Name	Storage Class	Size ⑦ 4⊟	Encrypted	Restoration Status	Last Modified ③ JF	Operation
Deale la Causa	Eð log		-	-	-	-	Share   Copy Path   More 💌
Back to Source							
Data Processing v							
Inventories							



## **3.4 Quick Uninstallation**

#### NOTICE

Ensure that OBS buckets are empty before deleting them.

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

Figure 3-33 Uninstalling the solution

RFS OBT	Stacks ②					🕼 User Gu	de Create Stack
Dashboard					Stack Name • Search by stack name b	ry default.	Q @ C
Stacks	Stack Name/ID	Status 🖓	Description	Created 4F	Updated J≣	Operation	
	serverless-real-lime-log-analysis 5a029frb-3393-4387-9647-bd2e4162d2f3	Deployment Complete	-	2023/04/17 16:39:49 GMT+08:00	2023/04/17 18:42:18 GMT+08:00	Delete Update	

Step 2 Enter Delete and click OK.

#### Figure 3-34 Confirming the uninstallation

Are you sure you want to delete the sta	ck and resources in t	he stack? Stack and resources cannot
be restored after being deleted. Exercis	e caution when perfo	orming this operation.
Stack Name	Status	Created
serverless-real-time-log-anal	Deployment	2023/04/17 16:39:49 GMT+08:00
Enter Delete to delete the stack and res	ources.	
Delete		
	OK Cance	I

----End

# **4** Appendix

#### Terms

- Log Tank Service (LTS): Aggregate, structure, visualize, and analyze log data for actionable insights into O&M. Query logs with instant results. You can also transfer logs to OBS for long-term storage or to Distributed Message Service (DMS) for data retrieval.
- Object Storage Service (OBS): OBS provides stable, secure, efficient, and easyto-use cloud storage that lets you store virtually any volume of unstructured data in any format and access it from anywhere using REST APIs.
- FunctionGraph: FunctionGraph allows you to run your code without provisioning or managing servers, while ensuring high availability and scalability. All you need to do is upload your code and set execution conditions, and FunctionGraph will take care of the rest. You pay only for what you use and you are not charged when your code is not running.
- Identity and Access Management (IAM): IAM enables you to easily manage users and control their access to Huawei Cloud services and resources.
- Simple Message Notification (SMN): SMN lets you send messages at scale to various endpoints, such as HTTP/HTTPS servers, email addresses, phone numbers, functions, and instant messaging tools. You can use SMN to connect cloud services, reducing system complexity.

# **5** Change History

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