Practical Application of Huawei Cloud Solutions

Quickly Deploying a High-Availability RabbitMQ Cluster

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Contents

1 Solution Overview	1
2 Resource Planning and Costs	3
3 Procedure	5
3.1 Preparations	
3.2 Quick Deployment	
3.3 Getting Started	
3.4 Quick Uninstallation	
4 Appendix	21
5 Change History	

Solution Overview

Scenarios

You can easily create a high-availability **RabbitMQ** cluster on Huawei Cloud Elastic Cloud Servers (ECSs). RabbitMQ is open-source message-oriented middleware developed in Erlang to implement the Advanced Message Queuing Protocol (AMQP). It supports multiple programming languages.

Solution Architecture

This solution helps you quickly create a RabbitMQ cluster on Huawei Cloud ECSs.

Huawei Cloud		
Subnet		Security group
AZ 1 RabbitMQ node 1	AZ 2 RabbitMQ node 2	AZ 3 RabbitMQ node 3

Figure 1-1 Architecture

This solution will:

• Create three Linux ECSs, which will be deployed in different AZs to work as RabbitMQ nodes.

- Create three elastic IP addresses (EIPs), which will be used for internal and external communication.
- Create security groups, which secure the ECS environment by controlling access to ECSs.

Advantages

• High availability

ECSs are deployed across AZs to provide multi-AZ disaster recovery. Failover can be automated and data consistency can be ensured to the greatest possible extent.

• Easy deployment

You can create ECSs running RabbitMQ with just a few clicks.

Open source and customization

This solution is open-source and free for commercial use. You can also make custom development according to the practical requirements.

Constraints

- Before deploying this solution, you need to register with Huawei Cloud. Ensure that your account is not in arrears or frozen. You can estimate the total price according to **Table 2-1**.
- After this solution is successfully deployed, it takes about 10 minutes to set up the RabbitMQ cluster. After the cluster is set up, you can verify the solution by referring to **3.3 Getting Started**.

2 Resource Planning and Costs

This solution will deploy 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
Elastic Cloud Server (ECS)	 Region: AP-Singapore Billing Mode: Yearly/Monthly CPU Architecture: x86 Type: General computing s6.medium.2 1 vCPU 2 GB Image: CentOS 7.6 64bit System Disk: High I/O 40 GiB Data Disk: High I/O 100 GiB Quantity: 3 	\$28.18 USD x 3 = \$84.54 USD
Elastic IP (EIP)	 Region: AP-Singapore Billing Mode: Yearly/Monthly Product Type: Dedicated Routing Type: Dynamic BGP Billed By: Bandwidth Bandwidth: 5 Mbit/s Quantity: 3 	\$57 USD x 3 = \$171.00 USD
Total		\$255.54 USD

Table 2-1	Resource and	l cost	nlanning	(vearly)	monthly	2
	Resource and	LOSE	plaining	(yearty/	monun	y)

Huawei Cloud Service	Example Configuration	Estimated Monthly Cost	
Elastic Cloud Server (ECS)	 Pay-per-use: \$0.05 USD/hour Region: AP-Singapore Billing Mode: Pay-per-use CPU Architecture: x86 Type: General computing s6.medium.2 1 vCPU 2 GB Image: CentOS 7.6 64bit System Disk: High I/O 40 GiB Data Disk: High I/O 100 GiB Quantity: 3 	\$0.05 USD x 24 x 30 x 3 = \$108 USD	
Elastic IP (EIP)	 Pay-per-use: \$0.13 USD/5 Mbit/s/ hour Region: AP-Singapore Billing Mode: Pay-per-use Product Type: Dedicated Routing Type: Dynamic BGP Billed By: Bandwidth Bandwidth: 5 Mbit/s Quantity: 3 	\$0.13 USD x 24 x 30 x 3 = \$270.00 USD	
Total		\$378.00 USD	

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

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**, move your mouse 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 ③						Create Agency
Users	Delete Agen	ncies available for creation: 32			AI	✓ rf_admin_trust	X Q
User Groups	Agency Na	ame/ID ↓≣ Delegated Party ↓≣	Validity Period ↓≡	Created 4F	Description ↓≣	Operation	
Permissions •	rt_admin_tr	ust Account op_svc_IAC	Unlimited	Jan 16, 2023 17:57:41 GMT+08:00	Created by RF, Not delete.	Authorize Modify Delet	•
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, enter RFS for Cloud Service, and click Next.

Figure 3-4 Create Agency

Agencies / Create Agenci	SY
* Agency Name	rf_admin_trust
★ 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	RFS •
* Validity Period	Unlimited •
Description	Enter a brief description.
	0/255 Next Cancel

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

Figure 3-5 Select Policy

< Authorize Agency	
Steled PolicyRole (2) Steled Scope (3) Field	
Assign selected permissions to rf_admin_trust1.	Create Policy
View Selected (1) Copy Permissions from Another Project	All policies/troles All services Tenant Administrator X Q
Policy/Role Name	Туре
DME AdministratorAccess Recommendes Data Model Engine tenant administrator with full permissions.	System-defined policy
Tenant Administrator Tenant Administrator (Exclude IAM)	System-defined role
CB V 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 Select Scope

<	Authorize Agency
	(1) Select Policy/Role (2) Select Scope (3) Finish
	1 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



Figure 3-7 Agency list

IAM	Age	ncies (?)						1	Create Agency
Users		Delete Agencies available for crea	tion: 32				AI	▼ rf_admin_trust	×Q
User Groups		Agency NameID ↓≣	Delegated Party JE	Validity Period ↓≡	Created JF	Descrip	tion J≣	Operation	
Permissions • Projects		rf_admin_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

3.2 Quick Deployment

This section describes how to deploy the solution.

Table 3-1 Parameter description	Table 3-1	Parameter	description
--	-----------	-----------	-------------

Parameter	Туре	Mandatory	Description	Default Value
vpc_name	String	Yes	The prefix of a Virtual Private Cloud (VPC) name. The VPC naming format is {vpc_name}_vpc. This template uses a newly created VPC and the VPC name must be unique. The prefix can contain 1 to 57 characters and can include letters, digits, underscores (_), hyphens (-), and periods (.).	highly- available- rabbitmq- cluster_demo

Parameter	Туре	Mandatory	Description	Default Value
secgroup_name	String	Yes	The prefix of a security group name. The security group naming format is {secgroup_name}_ secgroup. This template uses a newly created security group. For details about how to configure security group rules, see the (Optional) Modifying Security Group Rules. It can contain 1 to 55 characters and can include letters, digits, underscores (_), hyphens (-), and periods (.).	highly- available- rabbitmq- cluster_demo
ecs_name	String	Yes	ECS name, which must be unique. The ECSs are named <i>{ecs_name}</i> - node01, <i>{ecs_name}</i> - node02, and <i>{ecs_name}</i> - node03. It can contain 1 to 57 characters and can include letters, digits, and hyphens (-).	highly- available- rabbitmq- cluster-demo
ecs_flavor	String	Yes	ECS flavor. For more flavors, see A Summary List of x86 ECS Specifications.	s6.medium.2

Parameter	Туре	Mandatory	Description	Default Value
ecs_password	String	Yes	ECS initial password. After an ECS is created, log in to the ECS console and change the password by referring to Resetting the Password for Logging In to an ECS on the Management Console . It can contain 8 to 26 characters and must include at least three of the following character types: uppercase letters, lowercase letters, digits, and special characters (!@\$ %^=+[{}]:,./?). The administrator is root .	Left blank
system_disk_siz e	String	Yes	System disk size, in GiB. The value ranges from 1 to 1024. The system disk size cannot be scaled down.	40
data_disk_size	String	Yes	Data disk size, in GiB. The value ranges from 10 to 32768.	100
charging_mode	String	Yes	Billing mode. By default, fees are automatically deducted. The value can be prePaid (yearly/ monthly) or postPaid (pay-per- use).	prePaid

Parameter	Туре	Mandatory	Description	Default Value
charging_unit	String	Yes	The value can be year or month. This parameter is mandatory when charging_mode is set to prePaid.	month
charging_perio d	number	Yes	When charging_unit is set to year, the value ranges from 1 to 3. When charging_unit is set to month, the value ranges from 1 to 9. This parameter is mandatory when charging_mode is set to prePaid.	1
eip_bandwidth _size	number	Yes	EIP bandwidth size. This template uses an EIP billed by bandwidth. The value ranges from 1 Mbit/s to 2000 Mbit/s.	5
RabbitMQ_user name	String	Yes	RabbitMQ username. It can contain 5 to 16 characters and can include letters and digits.	admin
RabbitMQ_pass word	String	Yes	Password of the RabbitMQ user. After the creation is complete, change the password by following the instructions provided in the deployment guide. It can contain 6 to 12 characters and can include letters, digits, and special characters (!@\$# %^-=+,./?)	Left blank

Step 1Log in to Huawei Cloud Solution Best Practices, choose Quickly Deploying a
High-Availability RabbitMQ Cluster, and click Deploy.



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

Figure 3-9 Select Template

< Create Stack		
Select Template	- ② Configure Parameters	
* Creation Mode	Existing temptates	
* Template Source	URL Used Employe A stack to created using a temptate. The temptate must cardian the diplayment code IIIs which the name extension to if or if point.	
* Template URL	https://documentation-samples-4 dots.ap-southeasts3 The URL must contain at least the deployment code Ibs, and the life size cannot exceed 1 MB.	
	• 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 console can automatically use KMS to encrypt your sensitive variables.	
		Next

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

Figure 3-10 Configure Parameters

1) Select Temptala — 2 Configure Parameters _ (3) Configure Stack _ (4) Confirm Configure Stack						
Stark Name Stark Amme Number RaddRMD-Gutzel The stark name must be virgen. The stark name must be virgen.	Í					
Description Enter a description of the stack. 0255						
Configure Parameters Enter a knyword. Q Entrypt some resources based on the knywine requirements. (b)						
Parameter Value Type Description						
* ypc_name highly-available-stabiling-cluster_demo string	ores (_), hyphen					
securous_name highly-available-rabbitms_cluster_demo string Security group name. This template uses a newly created security group. For details about how to configure a security group nale, see the deployment guide. It can	n contain 1 to 6					
ecc_name highly-available-tabbling-duster-demo string ECS name, which must be unique. The ECSs are named (ecc_name)-eode01, (ecc_name)-eode01, or (ecc_name)-eode01, it can certain 1 to \$7 characters and	can include lett					
ecc_flavor s6 medum 2 string ECS flavor. For more flavors, see the deployment guide. Default: s6 medum 2 (x6 1 vCPU 2 GB).						
* ecc_password . The ccc password After an ECS is created, log in to the ECS console and change the password by referring to the inductors provided in the doptoment guide	le. It can contain					
* system_disk_pize 40 number System_disk size, in GB. The value ranges from 1 to 1024. The system_disk size cannot be scaled down. Dehult 40.						
Pro	revious Next					

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

Figure 3-11 Configure Stack

< Create Stack				
(1) Select Template	— (2) Configure Parameters ——		Gonfirm Configurations	
* Agency	huaweicloud •	rf_admin_trust	C Creater, and deletion on stack resources. If the agency permissions are insufficient, subsequent operations such as deployment and exercution plan creation may fail. Create Agency on UAM	
Auto-Rollback	If auto-rollback is enabled,	the stack automatically rolls back to	the previous successful resource status when the operation fulls. After the stack is orested, you can modify the stack configurations on its details page.	
Deletion Protection	Deletion protection prevent	ts the stack from being deleted accid	kentally. You can modify it on the stack details page.	
				0
			Denim	Mont

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

< Create Stack								
(1) Select Template	(2) Configure Parameters (3) Configure Stack	Confirm Configurations						
RFS is free of charge, but	AriS is the of charge, but the resources in the stack are not. Currently, you need to chaste an execution plan (the of charge) to obtain the estimated price.							
Template Info Stack Name	bulld-a-highly-available-RabbitMQ-cluster	Devolution						
Parameters 🖉								
Parameter Name	Value	Туре	Description					
vpc_name	highly-available-rabbitmq-cluster_demo	string	VPC name. This temptate uses a newly created VPC and the VPC name must be unique. It can contain 1 to 52 characters and can include latters, digits, underscores (_), hy					
secgroup_name	highly-available-rabbitmq-cluster_demo	string	Security group name. This template uses a newly created security group. For details about how to configure a security group rule, see the deployment guide. It can contain 1					
ecs_name	highly-available-rabbitmq-cluster-demo	string	ECS name, which must be unique. The ECSs are named (ecs_name)-node01, (ecs_name)-node02, or (ecs_name)-node03. It can contain 1 to 57 characters and can include					
ecs_flavor	s6.medium.2	string	ECS flavor. For more flavors, see the deployment guide. Default: s6 medium 2 (s6 1 vCPU 2 OIB).					
ecs_password	******	string	ECS initial password. After an ECS is created, log in to the ECS console and change the password by referring to the instructions provided in the deployment guide. It can co					
system_disk_size	40	number	System disk size, in GB. The value ranges from 1 to 1024. The system disk size cannot be scaled down. Default: 40.					
data_disk_size	100	number	Data disk size, in GiB. The value ranges from 10 to 32768. Default: 100.					
charging_mode	postPaid	string	Billing mode. Value options: prePaid (yearly/monthly) or postPaid (pay-per-use). Default: postPaid					
charging_unit	month	string	The value can be year or month. This parameter is mandatory when charging_mode is set to prePaid. Default: month					
Estimated fee: You can obtain the	Estimated tex (Yes can obtain the estimated tex after orealing an execution plan (these of harpo). Direct/Depiloy Stack							

Figure 3-12 Confirm Configurations

 \times

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

Figure 3-13 Create Execution Plan

Create Execution Plan

- Before deploying a stack, you can create an execution plan to preview the stack information and check its configurations to evaluate the impact on running resources.
- RFS is free of charge, but the resources in the stack are not. After the execution
 plan is created, a stack (occupies the stack quota) for which no resource is
 enabled is generated, and the estimated price is displayed in the execution plan
 details.

Execution Plan Name	executionPlan_20230321_1650_29xk	
Description	Enter a description of the execution plan.	
		4
		0/255
	OK Cancel	

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 created

< build-a Basic Inform	a-highly-available nation Resources Outputs Events	Template Execution Plans			Delete Upda	ate Template/Parameter
Deploy					Enter a keyword.	٩
Ex	ecution Plan Name/ID	Status	Estimated Price (?)	Created	Description	Operation
O 3d	ecutionPlan_20230321_1650_29xk 9et28d-3d29-4c3d-81a0-2653b5b0221c	Available	View Details	2023/03/21 16:51:14 GMT+08:00		Delete Deploy

Figure 3-15 Confirming the execution plan

Execution Plan	×
Are you sure you want to execute the plan?	
Execution Plan Name Status Created	
executionPlan_20230321_165 Available 2023/03/21 16:51:14 GMT+08	
After the plan is executed, the stack is updated accordingly, and resources in the template are enabled, which may incur fees based on resource payment requirements.	
Execute Cancel	

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

Figure 3-16 Resources created

E	build-a-highly-available asic Information Resources Outputs	Events Template Execu	tion Plans		Delete Update Templa
		_			Enter a keyword.
	time 1=	Type	Description	Resource Name/Type	Associated Resource ID
	2023/03/21 17:19:40 GMT+08:00	LOG	Apply required resource success.		-
	2023/03/21 17:19:33 GMT+08:00		Apply completel Resources: 3 added, 0 changed, 0 destroyed.		
	2023/03/21 17:19:33 GMT+08:00	Creation Complete	huaweicloud_compute_instance.node02: Creation complete after 1m28s [id=7fd39205-4dtb-4dd0-ac25-af84b50c585e]	node02 ECS	7fd39205-4dfb-4dd0-ac25-af64b50c585e

Figure 3-17 Execution plan complete

< build-a-highly-available				Delete Up	idate Template/Parameter
Basic Information Resources Outputs	Events Template Execution Plans				
Deptoy				Enter a keyword.	Q
Execution Plan Name/ID	Status	Estimated Price ③	Created	Description	Operation
executionPlan_20230321_1714_3x36 ade0c79e-859c-4caa-91b1-44b7f6da3173	Applied		2023/03/21 17:14:29 GMT+08:00	-	Delete

Step 9 Click the Outputs tab to view information about the VIP and ECSs.

Figure 3-18 Outputs

< E	uild-a-highly-available				Delete	Update Template/Parameter
Basic	Information Resources Outputs Events	Template Execution Plans				
					Enter a køyword.	QC
N	sme	Туре	Value	Description		
N	ode_1_access	string	Enter http://190.92.204.170:15672 in the address box of a browser	-		
N	ode_2_access	string	Enter http://119.8.170.173:15672 in the address box of a browser			
N	ode_3_access	string	Enter http://119.8.165.233:15672 in the address box of a browser			
W	rification	string	Deployment complete. Verify the deployment by referring to Getting Started in			

----End

3.3 Getting Started

(Optional) Modifying Security Group Rules

NOTICE

• This solution uses port 22 to remotely log in to the ECS. By default, the VPC subnet created in this solution allows access from port 22. Configure an IP address whitelist by referring to Modifying a Security Group Rule.

A security group is a collection of access control rules for cloud resources, such as cloud servers, containers, and databases, to control inbound and outbound traffic. Cloud resources associated with the same security group have the same security requirements and are mutually trusted within a VPC.

You can modify the security group policy, for example, by adding, modifying, or deleting a TCP port, as follows:

- Adding a security group rule: Add an inbound rule and enable a TCP port if needed.
- Modifying a security group rule: Inappropriate security group settings can be a serious security risk. You can modify security group rules to ensure the network security of your ECSs.
- Deleting a security group rule: If the source or destination IP address of an inbound or outbound security group rule changes, or a port does not need to be enabled, you can **delete the security group rule**.

(Optional) Changing the RabbitMQ Password

Step 1 Log in to the **ECS console**, select any of the ECSs created, and click **Remote Login** or use any other tool to log in to the Linux ECS.

Figure 3-19 ECS console

Ek	astic C	loud Server 💿										Quick Links Buy ECS
	The pa	assword reset plug-in can now be installed after creating an ECS. Let	am how to instal	the plug-in.								
	Star	t Stop Reset Password More •										C 🔘 🖬
	₩ Se	arch by name by default.										@ Q
		Name/ID	Monitoring	Security	AZ 🏹	Status 🍞	Specifications/Image	IP Address	Billing Mode 🍞	Enterprise Project	Tag	Operation
		highty-available-rabbitmq-cluster-demo-node02 7fd39205-4dfb-4dd0-ac25-af64b50c585e	Ø	0	AZ3	8 Running	1 vCPUs 2 GiB s6 CentOS 7.6 64bit	49.0.202.85 (El 172.16.0.31 (P	Pay-per-use Created on Mar 21,	default		Remote Login More +
		highly-available-rabbitmq-cluster-demo-node03 806f999b-7a6e-4a1b-8649-0a5e3e2da653	Ø	0	AZ5	8 Running	1 vCPUs 2 GiB s6 CentOS 7.6 64bit	94.74.86.114 (172.16.0.32 (P	Pay-per-use Created on Mar 21,	default		Remote Login More +
		highly-available-rabbitmq-cluster-demo-node01 60dd7b89-e444-4413-9541-ddeaedac90c4	Ø	0	AZ1	Running	1 vCPUs 2 GiB s6 CentOS 7.6 64bit	119.8.160.236 172.16.0.30 (P	Pay-per-use Created on Mar 21,	default		Remote Login More +



Logging In to a Linux ECS The security group of this ECS does not allow Ports21, Ports22, Ports3389 login to the ECS will fail. Add security group rule View port functions CloudShell-based Login New! Failed to log in? CloudShell-based login allows you to copy-paste data across local and remote PCs. Log In Other Login Modes Log in using Remote Login on the management console. Log In	Feedback Remote Login
The security group of this ECS does not allow Ports21, Ports22, Ports3389 login to the ECS will fail. Add security group rule <u>View port functions</u> CloudShell-based Login New! Ensure that the port used for CloudShell-based logins (port 22 by default) is allowed to access in the security group. CloudShell-based login allows you to copy-paste data across local and remote PCs. Log in Cther Login Modes - Log in using Remote Login on the management console. Log in	×
CloudShell-based Login New! Failed to log in?	•
Ensure that the port used for CloudShell-based logins (port 22 by default) is allowed to access in the security group. CloudShell-based login allows you to copy-paste data across local and remote PCs. Log In Other Login Modes - Log in using Remote Login on the management console.	
Other Login Modes - Log in using Remote Login on the management console. Log In	10 GiB Expand Capacity
- Log in using Remote Login on the management console.	123.249.36.151
- Log in using a tool, such as PuTTY or Xshell. Learn more	
a) Download the remote access tool, such as PuTTY.	
c) Enter username root and password, and click OK.	

Step 2 On the ECS, enter the username and password and press **Enter**.

Figure 3-21 Logging in to an ECS



Step 3 Run **rabbitmqctl change_password** *Username New password* to change the password.





----End

Verifying Deployment of the RabbitMQ Cluster

Step 1 Click the **Outputs** tab and select any node.

Figure 3-23 Outputs

Basic Information Resources Outputs Events	Template Execution Plans			Delete	Update Template/Parameter	С
				Enter a keyword.	Q	С
Name	Туре	Value	Description			
Node_1_access	string	Enter http://190.92.204.170:15672 in the address box of a browser	-			
Node_2_access	string	Enter http://119.8.170.173:15672 in the address box of a browser	-			
Node_3_access	string	Enter http://119.8.165.233:15672 in the address box of a browser	-			
Verification	string	Deployment complete. Verify the deployment by referring to Getting Started in	-			



⊌ RabbitMQ _™					
	Login failed				
Username:		*			
Password:		*			
	Login				

Step 2 Enter the username and password, and click Login.



⊌ RabbitMQ _™				
	Login failed			
Username:	admin	*		
Password:	······] *		
	Login			



Figure 3-26 RabbitMQ cluster page

B Rabbit		3.9.11 Erlang 23.2					R	efreshed 2022-08-26 10:	08:24 Refresh every Virtu
									Cluster rabbit@
Overview Cor	nections Channels	Exchanges (Queues Admin						User ad
Overview									
Queued messages	ast minute ?								
Currently idle									
Message rates last	minute ?								
Currently idle									
Global counts ?									
Connections: 0	Channels: 0 Exchan	ges: 7 Queues: 0	Consumers: 0						
▼ Nodes									
Name	File descriptors ?	Socket descriptors ?	Erlang processes	Memory ?	Disk space	Uptime	Info	Reset stats	+/-
rabbit@rm99-node	01 39 65535 available	0 58892 available	352 1048576 availabl	71 MiB	34 GiB er#8at&iB low waterr	1h 20m	basic disc 1 rss	This node All nodes	
rabbit@rm99-node	02 40	0	353	81 MiB	34 GiB	1h 17m	basic disc 1 rss	This node All nodes	
rabbit@rm99-node	03 37	0	353	77 MiB	34 GiB	1h 19m	basic disc 1 rss	This node All nodes	
	60030 available	28847 available	T048576 available	a 730 mile high wab	erandandib (ow watern	nark			

----End

3.4 Quick Uninstallation

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

Figure 3-27 Uninstalling the solution

Stacks ⑦					🕼 User Guide
					Search by stack name by default.
Stack Name	Status 🖓	Description	Created 4=	Updated ↓≡	Operation
build-a-highly-available-RabbitMQ-cluster 1492552c-34fc-45b0-b716-e26c1b38ed44	Deployment Complete	-	2023/03/21 16:51:13 GMT+08:00	2023/03/21 17:19:41 GN	IT+08:00 Delete Update
	Creation Complete	-	2023/03/21 10:28:42 GMT+08:00	2023/03/21 10:28:42 GN	IT+08:00 Delete Update

Step 2 Enter Delete and click OK.

Figure 3-28 Confirming the uninstallation

Are you sure you want to delete the s be restored after being deleted. Exerc	tack and resources in cise caution when perfe	the stack? Stack and resources canno orming this operation.
Stack Name	Status	Created
build-a-highly-available-Rabb	Deployment	2023/03/21 16:51:13 GMT+08:00
Enter Delete to delete the stack and r	esources.	

----End

4 Appendix

Terms

- **Elastic Cloud Server (ECS)**: ECS provides secure, scalable, on-demand compute resources, enabling you to flexibly deploy applications and workloads.
- **Elastic IP (EIP)**: EIP provides static public IP addresses and scalable bandwidths that enable your cloud resources to communicate with the Internet. You can easily bind an EIP to an ECS, BMS, virtual IP address, NAT gateway, or load balancer, enabling immediate Internet access.

5 Change History

Table 5-1 Change history

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