Solution

Routing Traffic to Backend Servers in Different VPCs

 Issue
 1.0.0

 Date
 2023-09-04





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

NUAWEI 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 and Cost Planning	3
3 Procedure	6
3.1 Preparations	
3.2 Quick Deployment	
3.3 Getting Started	
3.4 Quick Uninstallation	
4 Appendix	21
5 Change History	

Solution Overview

Application Scenarios

You can use ELB to route traffic to backend servers in different VPCs connected over a VPC peering connection.

Solution Architecture

The following figure shows the solution architecture.



Figure 1-1 Architecture

To use this solution, you need to:

- Create two ECSs in different VPCs for running services.
- Configure a security group to control traffic to and from the two ECSs.
- Use **Elastic Load Balance (ELB)** to distribute incoming traffic to the two ECSs. To achieve this, create a dedicated load balancer.

Advantages

• Flexibility

You can deploy services across VPCs and use ELB to route requests to servers in different VPCs.

• Robust performance

A dedicated load balancer can handle up to tens of millions of concurrent requests, meeting your requirements for handling a massive number of requests.

• High availability

The health statuses of servers are regularly monitored to ensure that traffic is distributed only to healthy servers.

Constraints

- Before deploying this solution, ensure that you have registered with Huawei Cloud and your account is not in arrears or frozen. You can estimate the total price according to 2 Resource and Cost Planning.
- After this solution is deployed, log in to the ECS console to reset your password. For details, see Resetting the Password for Logging In to an ECS on the Management Console.
- Only IPv4 addresses can be added as backend servers.
- Security group rules configured for IP as backend servers must allow traffic from the subnet of the load balancer. Otherwise, health checks will fail.

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				
Elastic Cloud Server (ECS)	 Region: AP-Singapore Billing Mode: Yearly/Monthly Specifications: x86 computing General computing s6.small.1 1 vCPU 1 GiB Image: CentOS 8.2 64bit System Disk: General Purpose SSD 40 GB Quantity: 2 	\$13.78 USD x 2 = \$27.56 USD				
Elastic IP (EIP)	 Region: AP-Singapore Billing Mode: Yearly/Monthly Routing Type: Dynamic BGP Billed By: Bandwidth Bandwidth: 5 Mbit/s Required Duration: 1 month Quantity: 1 	\$57.00 USD				

Table 2-1 Resource and cost planning (yearly/monthly)

Huawei Cloud Service	Example Configuration	Estimated Monthly Cost
Elastic Load Balance (ELB)	 Create a dedicated load balancer. Number of AZs: 2 Region: AP-Singapore Billing Mode: Yearly/Monthly Specifications: Network load balancing (TCP/UDP): Small I/ Application load balancing (HTTP/HTTPS): Small I Quantity: 1 	\$403.20 USD
Total		\$487.76 USD

Table 2-2 Resource	e planning and	costs (pay-per-use)
--------------------	----------------	---------------------

Huawei Cloud Service	Example Configuration	Estimated Monthly Cost				
Elastic Cloud Server (ECS)	 Pay-per-use: \$0.02 USD/Hour Region: AP-Singapore Billing Mode: Pay-per-use Specifications: x86 computing General computing s6.small.1 1 vCPU 1 GiB Image: CentOS 8.2 64bit System Disk: General Purpose SSD 40 GB Quantity: 2 	\$0.02 USD x 24 x 30 x 2 = \$28.80 USD				
Elastic IP (EIP)	 Pay-per-use: \$0.13 USD/Hour (5 Mbit/s) Region: AP-Singapore Billed By: Bandwidth Routing Type: Dynamic BGP Required Duration: 1 month Quantity: 1 	\$0.13 USD x 24 x 30 = \$93.60 USD				

Huawei Cloud Service	Example Configuration	Estimated Monthly Cost
Elastic Load Balance (ELB)	 Create a dedicated load balancer. Number of AZs: 2 Region: AP-Singapore Billing Mode: Pay-per-use Specifications: Network load balancing (TCP/UDP): Small I/ Application load balancing (HTTP/HTTPS): Small I Quantity: 1 	\$0.28 USD x 24 x 30 = \$403.20 USD
Total		\$525.60 USD

3_{Procedure}

- 3.1 Preparations
- 3.2 Quick Deployment
- 3.3 Getting Started
- 3.4 Quick Uninstallation

3.1 Preparations

(Optional) Creating the rf_admin_trust Agency

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

Figure 3-1 Console page





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

IAM	Age	encies ③						Create Agency			
Users		Delete Agencies available for creat	tion: 32				Al	Ŧ	rf_admin_trust	×Q	
User Groups		Agency Name1D ↓≣	Delegated Party ↓≣	Validity Period ↓≡	Created 4F	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											

- 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.

Figure 3-4 Creating the rf_admin_trust agency

Agencies / Create Agen	су
★ 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 v
* 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/role

< Authorize Agency										
🚯 Salad PalayRala (2) Salad Scope (3) Fitch										
Assign selected permissions to rf_admin_thust1.										
View Selected (1) Copy Permissions from Another Project	All policies/toles All services Tenant Administrator X Q									
Policy/Role Name	Туре									
DME AdministratorAccess Recommended Data Model Engine Innant administrator with full permissions.	System-defined policy									
Tenant Administrator Tenant Administrator (Exclude IVM)	System-defined role									
Cist Stream 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 Setting the authorization scope

<	Authorize Agency
	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 ail 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.

i iguic 5	'	Agencies								
IAM	Age	ncies 💿					Create Agency			
Users		Delete Agencies available for creat	tion: 32				AI	 rf_admin_trust 	X Q	
User Groups			Agency NameID ↓≣	Delegated Party ↓Ξ	Validity Period ↓Ξ	Created JF	Descript	ion J≣	Operation	
Permissions • Projects		rt_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										

Figure 3-7 Agencies

----End

3.2 Quick Deployment

This section describes how you can quickly deploy this solution.

Paramete r	Туре	Mandator y	Description	Default Value
vpc_name	string	Yes	VPC name. This template uses a newly created VPC and the VPC name must be unique. The name can contain 1 to 56 characters, including letters, digits, underscores (_), hyphens (-), and periods (.).	cross- vpc- backend -to-elb- demo
secgroup_ name	string	Yes	Security group name. This template uses a newly created security group. To modify security group rules, see (Optional) Modifying Security Group Rules. The value can contain 1 to 62 characters, including letters, digits, underscores (_), hyphens (-), and periods (.).	cross- vpc- backend -to-elb- demo
ecs_name	string	Yes	ECS name, which must be unique. The name can contain 1 to 59 characters, including letters, digits, underscores (_), hyphens (-), and periods (.)	cross- vpc- backend -to-elb- demo
ecs_flavor	string	Yes	ECS flavor. For more flavors, see A Summary List of x86 ECS Specifications.	

 Table 3-1 Parameters required for deploying this solution

Paramete r	Туре	Mandator y	Description	Default Value
ecs_passw ord	string	Yes	Initial password of the ECS. Log in to the ECS console to change the password by following Resetting the Password for Logging In to an ECS on the Management Console . The password can contain 8 to 26 characters, including at least three of the following character types: uppercase letters, lowercase letters, digits, and special characters (!@\$%^=+ [{}]:,./?). Passwords cannot contain any username or the username spelled backwards. The administrator username is root .	Left blank
charging_ mode	ing_ String Yes Billing mode. The be prePaid (year or postPaid (pay		Billing mode. The value can be prePaid (yearly/monthly) or postPaid (pay-per-use).	postPaid
charging_u nit	harging_u String Yes Bil it ca pa ch pr		Billing period type. The value can be year or month . This parameter is mandatory when charging_mode is set to prePaid .	month
charging_p eriod	number	Yes	Billing period. 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

Step 1 Log in to Practical Application of Huawei Cloud Solutions and select Routing Traffic to Backend Servers in Different VPCs.

Figure 3-8 Selecting a solution



Step 2 On the Select Template page, click Next.

Figure 3-9 Selecting a template

< Create Stack		
1 Select Template	(2) Configure Farameters (3) Configure Stack (4) Confirm Configurations	
* Creation Mode	Existing tempeters Visual Designer	
★ Template Source	My Templates URL Ublack Template A stuck is created using a template. The template musil contain the diplayment code life which life name extension is if or if journ.	
* Template URL	Integration samples 4 dot ap explores13 The URL must contain at least the depayment code tills, and the file size cannot encode 1 MB. IPS only uses the data you upload for resource management. Your temptate will not be encrypted. KMS and DEW are recommended for encryption of sensitive variables. Currently, the RFS console can automatically use KMS to encorpt your sensitive variables.	
		0
		¢.
		Next

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

Figure 3-10 Configuring parameters

Create Stack				
) Select Template 2 Configure Pa	arameters (3) Configure Stack (4) Conf	firm Configurations		
* Stack Name adding-backend-instances-	to-an-etb-across-vpcs			
The stack name must start wi	Ith a letter and can contain a maximum of 128 characters, including I	letters, digits, underscores (_), and hyphens (-). The	tack name must be unique. The stack name must be unique.	
Description Routing Traffic to Backend	Servers in Different VPCs			
	ی 52/255			
Configure Parameters				
Enter a keyword.	Q Encrypt some resources based on the terr	nplate requirements.		
Enter a keyword. Parameter	Q Encrypt some resources based on the terr Value	nplate requirements. ⑦	Description	
Enter a keyword. Parameter * vpc_name	Q Encrypt some resources based on the terr Value cross-vpc-backend-to-eb-demo	rplate requirements. ⑦ Type string	Description Writed Flowle Gloud (VPC) name. This template uses a newly created VPC and the VPC name must be unique. The name can contain 1 to	lo 56 chara
Enter a køyword. Parameter * vpc_name * secgroup_name	Q Chartypt same resources based on the term Value aross-typo-backend-to-etb-demo cross-typo-backend-to-etb-demo	rpitale requirements. () Type string string	Description Writel Physic Groud (VPC) name. This temptate uses a newly created VPC and the VPC name must be unsue. The name can contain 1 to Security group name. This temptate uses a newly created security group. For details about how to contigure a security group nuit, see the de	lo 56 chara deploymer
Enter a keyword. Parameter * vpc_name * secgroup_name * ecc_name	Q It Encrypt same resources based on the tem Value (aross-upc-backand-fore-bi-demo) (aross-upc-backand-fore-bi-demo) (aross-upc-backand-fore-bi-demo)	rpalat negarements. (3)	Description Write Diod (VPC) name. This temptate uses a newly created VPC and the VPC name must be unsue. The name can contain 1 to Security group name. This temptate uses a newly created security group. For details about how to configure a security group name, see the data ECS name, which must be unsue. The name can contain 1 to 55 characters, including leffers, digits, underscores (_) typers (-), and perce	lo 56 chara deploymen riods (.). Ti
Enter a layound. Parameter * ypc_rame * ecc_promp_name * ecc_promp_name * ecc_promp_	Q Brough same resources based on the tem Wate arrows-spc-backand-to-etb-demo arrows-spc-backand-to-etb-demo dot-spc-dackand-to-etb-demo dot-arrows-spc-backand-to-etb-demo dot-arrows-spc-back	hplate requestments. (b)	Description Watal Phote Cloud (VPC) name. This temptate uses a nexty created VPC and the VPC name must be unque. The name can contain 1 to Secontly group name. This temptate uses a nexty created secontly group. For details about hore to contigure a secontly group. For details about hore to contigure a secontly group. For details about hore to contigure a secontly group. For details about hore to contigure a secontly group. For details about hore to contigure a secontly group. For details about hore to contigure a secontly group. For details about hore to contigure a secontly group. For details about hore to contigure a secontly group. For details about hore to contigure a secontly group. For details about hore to contigure a secontly group. For details about hore to contigure a second group hore, sec	to 56 chara deploymen riods (.). Ti
Enter a traywood Parameter * spc_name * sectorum_man * ecc_name * eccc_name * ecc_name * eccc_name * ecc_name * ecc_name * ecc_name	Q It Encrypt same resources based on the term Value cross-spc.backend-to-eb-demo cross-spc.backend-to-eb-demo cross-spc.backend-to-eb-demo sd.amat.1	https://www.initialized.com/initia	Description Vivial Physic Cloud (VPC) same. This Immplifie uses a nexty created VPC and the VPC name must be unique. The name can contain 15 Biscority group name. This Immplifie uses a nexty created security group. For details about how to configure a security group name, then the unique. The name can contain 15 59 ECG name, which must be unique. The name can contain 15 59 characters, including latters, digits, underscores () hyperses () and period ECG name, which must be unique. The name can contain 15 59 characters, including latters, digits, underscores () hyperses () and period ECG name, which must be unique. The name can contain 15 59 characters, including latters, digits, underscores () hyperses () and period ECG favors, for nore flavors, see the deployment guide. The debut favor is dismail 1 (p(t) (-CPU1 0.08)) Intial passend of the ECG, Log in to the ECG conside to charage the password by following the instructions provided in deployment guide. The	to 56 chara deployme riods (.). T The pass
Entre a heywood. Paramoter Paramoter * upc_name * sec_name * edc_name * edc_name * edc_name * edc_name * edc_name	Q Encrypt same resources based on the tem Value arrors-up-backend-to-etb-demo arros-up-backend-to-etb-demo arros-up-backend-to-etb-demo sd.smail.1	rputa regorment: () Type 	Description Withal Physic Cloud (PPC) name. This template uses a newly created VPC and the VPC name must be unsue. The name can contain 1 to Security group name. This template uses a newly created security group Fré details about how to configure a security group name, see the data ECG name, which must be unsue. The name can contain 1 to 95 characters, including leffers, digits, undercores (_) hyphere (-), and period ECG name, which must be unsue. The name can contain 1 to 95 characters, including leffers, digits, undercores (_) hyphere (-), and period ECG favore. For more flavors, see the deployment guide. The default favor is s5 small (-) (01) VCPU(-) COB). Initial password if the ECG. Log in to the ECG context to charaps the password by following the national control of	lo 56 ch deployr riods (.) . The pa

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

Figure 3-11 Configuring a stack

10mV	huaweicloud • Select an agency. • C How to Create an Agency?								
	An agrecy can clearly define R5's operation permissions (such as creation, update, and deletion) on stack resources. If the agrecy permissions are insufficient, subsequent operations such as deployment and execution plan creation may fail. Create Agrecy on IAM								
	Recommended if the agency is configured, RFS will have the permissions of the current over for deployment. An agency limits RFS's permissions on cloud service resources, preventing underlined operations caused by incorrect templates or parameters.								
uto-Rollback	U stato-sultack is enabled, the stack automatically rolis 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.								
eletion Protection	Detection protection prevents the tack from being detected acidentally. You can modify it on the stack details page.								

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

Figure 3-12 Confirming configurations

AWEI CLOUD	Singapore ·		Search Q Billing & Costs Resources Enterprise Developer Tools Support Service Tickets 🌐 Intil-English 🖉							
Create Stack										
Select Template Co	onfigure Parameters ——— 🕑 Configure Stack ——— 🖪	Confirm Configurations								
RFS is free of charge, but the reso	ources in the stack are not. Currently, you need to create an execution plan	tabled price.								
Template Info										
Stack Name	$adding\mbox{-}backend\mbox{-}instances\mbox{-}to\mbox{-}an\mbox{-}elb\mbox{-}across\mbox{-}vpcs$		Description Routing Traffic to Backend Servers in Different VPCs							
Parameters 🖉										
Parameter Name	Value	Туре	Description							
vpc_name	cross-vpc-backend-to-elb-demo	string	Virtual Private Cloud (VPC) name. This template uses a newly created VPC and the VPC name must be unique. The name can contain 1 to 56 characters, including letters, dig							
secgroup_name	cross-vpc-backend-to-elb-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. The value can co							
ecs_name	cross-vpc-backend-to-elb-demo	string	ECS name, which must be unique. The name can contain 1 to 59 characters, including letters, digits, underscores (_), hyphens (-), and periods (.). The default name is cross-v							
ecs_flavor	s6.small.1	string	ECS flavor. For more flavors, see the deployment guide. The default flavor is s6.small.1 (s6(1 vCPU)1 GiB).							
ecs_password		string	Initial password of the ECS. Log in to the ECS console to change the password by following the instructions provided in deployment guide. The password can contain 8 to 28 c							
charging_mode	postPaid	string	Billing mode. The value can be prePaid (yearly/monthly) or postPaid (pay-per-use). The default value is postPaid.							
charging_unit	month	string	Billing period type. The value can be year or month. This parameter is mandatory when charging_mode is set to prePaid. The default value is month.							
charging_period	1	number	Billing period. 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 w							
	Create State Crea	Create State Crea	Create Stack Crea							

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

To preview your res plan.	ource change information, you can create an execution
Execution Plan Name	executionPlan_20230712_1058_7h8p
Description	Enter a description of the execution plan.

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 created

Image: stand	ts Template Execution Plans			Delete	odate Template/Parameter
Destay				Enter a keyword.	QC
Execution Plan Name/ID	Status	Estimated Price (?)	Created	Description	Operation
 executionPlan_20230712_1119_005k c6ac8033-38bf-4985-8813-850186742e63 	Available	View Details	2023/07/12 11:19:27 GMT+08:00		Deploy Delete

Figure 3-15 Executing the plan

Are you sure you want to execute th	e plan?	
Execution Plan Name	Status	Created
executionPlan_20230712_111	Available	2023/07/12 11:19:27 GMT+08
After the plan is executed, the template are enabled, which requirements	ne stack is updated may incur fees ba	accordingly, and resources in the sed on resource payment

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

Figure 3-16 Resources created

E	adding-backend-Instance	Events Template Exec	ution Plans		Delete Update Template/Parameter C
	Your II		Provide a	Resour	Enter a keyword. Q C
	2023/07/12 11:36:11 GMT+08:00	Log	Les angelon	Resource Name/Jype	Associated Resource ID
	2023/07/12 11:36:07 GMT+08:00	-	Apply completel Resources: 20 added, 0 changed, 0 destroyed.	-	-
	2023/07/12 11:36:07 GMT+08:00	Creation Complete	huaweicloud_elb_member.member_1[0]: Creation complete after 0s [id-fe8764d6-e732-4d26-8018- d8704e9efa2a]	member_1 huaweicloud_elb_member	fe 2a

----End

3.3 Getting Started

(Optional) Modifying Security Group Rules

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

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

- Add an inbound rule and configure a TCP port if needed.
- Inappropriate security group settings may cause serious security risks. You can **modify security group rules** to ensure the network security of your ECSs.
- If the source or destination IP address of an inbound or outbound security group rule changes, or a port needs to be disabled, you can **delete the security group rule**.

Viewing Your Resources and Testing Network Connectivity

Step 1 Log in to the **EIP console**, create two EIPs, and bind them to the two ECSs created in **Figure 3-16** respectively.

🜺 HUAWEI CLOUD 🕢 Console		Search Q Billing & Costs [®] Resources Enterprise	Developer Tools Support Service Tickets 🤀 Inti-English
=	🖌 Buy EIP 🕤	Assured Perchase O Hutle bling	
۵	_		
۵	Billing Mode	Yearly/Monthly Pay-per-can	
.00.	Region	AP-Singapore ·	
0		Regions are geographic areas isolated from each other. Resources are region-specific and cannot be used across regions through internal network connections. For low network latency and quick resource access, select the nearest region.	
0			
	EP Type	Dynamic 809* 🕥	
0		S Greater than or equal to 99.00% service availability rate	
4	Billed By	Bandwidth 🙆 Traffic Shared Bandwidth Perlipticharpy fuctuaring traffic Shared Bandwidth	
©		Billed based on total traffic inespective of usage duration: configurable maximum bandwidth size. If a pay-per-use EIP is unbound from an instance, the traffic will not be billed but the EIP will be billed to keep it allocated to your account unless it is released. Pricing details	
6	Bandwidth (Mbitis)	5 10 20 50 100 🕐 Castern - 20 + The value ranges from 1 to 300 Molts.	
·	COoS Protection	Onur Native And CODE Base: Provider up to 1 CADIN of CODE religience supports for the ETH attack to an ETH seconds 5 CADIN, the ETH will be binded:	
	EP Name		
		The BP name cannot be specified when BPs are purchased in batches.	
	Enterprise Project	SAC • Create Enterprise Project	
	Advanced Settings 💌	Sandwidth Name Tog	
	Manitoring	 Brailed by shall Press The care membrahamba hadred hadred and embrahamba hadred hadred and embrahamba hadred hadred and embrahamba hadred hadred	0
	Quantity	- 2 + Main EPP allowed per partname. 50 You can hay 42 more EP1x. Howard quida	c.
	EP Proc. \$0.01 USD/hour	P Rudits Network Traffic Price: \$0.114 USD/cos	

Figure 3-17 Creating EIPs

Step 2 Log in to the two ECSs created in Figure 3-16, deploy the httpd service on each ECS, and run the command below. Note that you can configure the message in the double quotation marks in the second line whatever you like. If the load balancer routes the request to the ECSs, this message will be returned.

yum -y install httpd

echo "www.test01.com" > /var/www/html/index.html

chmod 777 /var/www/html/index.html

systemctl start httpd

curl localhost

Figure 3-18	Logging	in to the ECSs
-------------	---------	----------------

жыланы	HUAWEI CLOUD	ଳ ଦ୍ଧ	nsole	Singapore -				Search	Q Billing &	Costs [®] Resources	Enterprise Developer	Tools Support Se	ervice Tickets	Intl-English	8
=	Cloud Server Console		Ela	stic Cloud Server ③										Quick Links	Buy ECS
	Dashboard			The password reset plug-in can now be installed	after creating an	ECS. Learn how to inst	all the plug-in.								
	Elastic Cloud Server			Start Stop Reset Password	More +									C	0 6
m	Dedicated Host														0.0
0	Bare Metal Server			V Search by name by default.											ΘQ
\bigcirc	Elastic Volume Service	-		NameID	Monitori	Security	AZ 🏹	Status 🖓	Specifications/Image	IP Address	Billing Mode 🍞	Enterprise Project	Tag	Operation	
٢	Dedicated Distributed Storage Service	÷		cross-vpc-backend-to-elb-de f4bc1100-95c9-4bt6-a576-3747cf	0	0	AZ1	Running	1 vCPU 1 GIB s6 CentOS 8.2 64bit	119.13.111.19 172.18.1.104	Pay-per-use Created on Jul 26	SaC	-	Remote Login	More 🕶
© 4	Image Management Service Auto Scaling			cross-vpc-backend-to-eib-de ecbc3795-2768-4cef-897d-39db3	<u>ه</u>	\$	AZ1	Running	1 vCPU 1 G/B s6 CentOS 8.2 64bit	190.92.198.42 172.17.0.25 (Pay-per-use Created on Jul 26	SeC	-	Remote Login	More +
© &	Key Pair ECS Group	۵.		ccs-web-0002	Ø	0	A25	Stopped	1 vCPU 2 GIB s6 CentOS 7.6 64bit	49.0.202.85 (192.168.0.172	Pay-per-use Created on Mar 2	default	-	Remote Login	More 💌
	Security Groups Launch Templates	8		ecs-web-0001 19b85al-732d-4/30-9796-217909	Ø	¢	AZ5	Stopped	1 vCPU 2 GIB s6 CentOS 7.2 64bit	190.92.218.34 192.168.0.100	Pay-per-use Created on Mar 2	default		Remote Login	More 👻
	NEW Auto Launch Groups NEW	8		ecs-for-aws 49b481a1-0070-4237-b74e-f7aa8	Ø	¢	AZ2	Stopped	2 vCPUs 4 GIB c6 CentOS 8.0 64bit	159.138.86.44 192.168.0.108	Pay-per-use Created on Nov 2	default	-	Remote Login	More +
	Cloud Backup and Recovery	c		nin(avan-cl) 21/321d4-4391-46bd-96e9-96895	E	0	AZ2	Stopped	1 vCPU 2 GiB s3 Ubuntu 20.04 server	159.138.89.3 192.168.0.103	Pay-per-use Created on Oct 0	default	-	Remote Login	More -
	Cloud Server Backup Service	ß													
	Elastic Load Balance	в													0
	Elastic IP	e													



Total	23 MB/s 2.1 MB 00:00	
Running transaction check		
Transaction check succeeded.		
Running transaction test		
Transaction test succeeded.		
Running transaction		
Preparing :	1.	$^{\prime 1}$
Installing : apr-1.6.3-12.e18.x86_64	1/	10
Running scriptlet: apr-1.6.3-12.e18.x86_64	1/	10
Installing : apr-util-bdb-1.6.1-6.e18.x86_64	2/	10
Installing : apr-util-openss1-1.b.1-b.e18.x8b_b4	3/	10
Installing : apr-util-1.b.1-b.el8.x8b_b4	4/	10
Kunning Scriptlet: apr-util-1.b.1-b.e18.X86_64	4/.	10
Installing : http://www.installing	.t 301.X86_64 5/.	10
Installing : Malicap-2.1.48-3.e18.noarch	6/.	10
Installing : centos-logos-nttpa-os.o-2.elo.noarcn Pupping conjutiet: httpd filosueten 2 4 27 42 medule el9 E 8.1822	(/.	10
Justalling Scriptiet, https://ileguster.2.4.37-43.module_e10.5.0+1022	-+D3411 301. IUdfCII 0/.	10
Installing		10
Installing \cdot indu_ittp2-1.13.7-3.1000016_610.4.0+770+C37000000	.x00_04	10
Running scriptlet: httpd=2.4.37-43 module e18 5 0+1022+b541f3b1 x	x86_64 19/	10
Uprifuing : an-1.6.3-12.e18. $x86.64$	1/	10 10
Userifying : $apr = 1.0.3 \pm 2.00.300 \pm 0.000$	2/	10 10
Verifuing : am-util-bdb-1.6.1-6.e18.x86.64	3/	10
Verifying : anr-util-openssl-1.6.1-6.el8.x86.64	4/	10
Verifying : http://www.self.self.self.self.self.self.self.self	x86 64 5/	10
Verifuing : httpd-filesustem-2.4.37-43.module e18.5.0+1022	2+b541f3b1.noarch 6/	10
Verifying : httpd-tools-2.4.37-43.module e18.5.0+1022+b541	lf3b1.x86 64 7/	10
Verifying : mod http2-1.15.7-3.module e18.4.0+778+c970deab	9.×86 64 8/	10
Verifying : centos-logos-httpd-85.8-2.e18.noarch	9/	10
Verifying : mailcap-2.1.48-3.e18.noarch	10/	10
Installed		
ann-1 = 6 = 3 - 12 = 18 + 86 = 64	a_{nn} = util_1 6 1-6 e18 v86 64	
$ame_util_bdb=1.6.1=6.e18.v86.64$	a_{nr} util 1.0.1 0.00.00_01	
centos-logos-httpd-85-8-2 el8 noarch	h^{-2} 4 37-43 module el8 5 0+1022+b541f3b1 v86 64	
httnd-filesustem-2 4 37-43 module e18 5 0+1022+b541f3b1 noarch	httpd=tools=2 4 37-43 module el8 5 0+1022+b541f3b1 x86 64	
mailcan-2.1.48-3.e18.noarch	mod http2-1.15.7-3.module e18.4.0+778+c970deab.x86.64	
Complete!		
[root@cross-vpc-backend-to-elb-demo-0001 ~]# echo "www.test01.com"	> /var/www/html/index.html	
Iroot@cross-vpc-backend-to-elb-demo-0001 "1# chmod 777 /var/www/ht	ml/index.html	
Iroot@cross-vpc-backend-to-elb-demo-0001 "1# systemctl start httpd		
Iroot@cross-vpc-backend-to-elb-demo-0001 "1# systemctl start httpd		
<u>lrootUcross-vpc-backend-to-elb-demo-0001 "1# curl localhost</u>		
www.test01.com		
тантиканых жило волскераето веленования на п		

Figure 3-20 Installing the httpd service

Total	22 MB/s I 2.1 MB 00:00
Running transaction check	
Iransaction check succeeded.	
Running transaction test	
Pumping transaction	
Preparing transaction	1.1
Installing : ann-1.6.3-12 el8 x86.64	1/1
Running script let: $anr-1 = 6 = 3-12 = 18 \times 86 = 64$	1/10
Installing : anr-util-bdb-1.6.1-6.el8.x86.64	2/19
Installing : anr-util-menssl-1.6.1-6.el8.x86.64	3/19
Installing : apr-util-1.6.1-6.el8.x86.64	4/10
Bunning scriptlet: apr-util-1.6.1-6.el8.x86.64	4/19
Installing : httpd-tools-2.4.37-43.module e18.5.0+1022+b54	1f3b1.x86 64 5/10
Installing : mailcap-2.1.48-3.el8.noarch	6/10
Installing : centos-logos-httpd-85.8-2.e18.noarch	7/10
Running scriptlet: httpd-filesystem-2.4.37-43.module_e18.5.0+102	2+b541f3b1.noarch 8/10
Installing : httpd-filesystem-2.4.37-43.module e18.5.0+102	2+b541f3b1.noarch 8/10
Installing : mod_http2-1.15.7-3.module_e18.4.0+778+c970dea	b.x86_64 9/10
Installing : httpd-2.4.37-43.module_e18.5.0+1022+b541f3b1.	x86_64 10/10
Running scriptlet: httpd-2.4.37-43.module_e18.5.0+1022+b541f3b1.	x86_64 10/10
Verifying : apr-1.6.3-12.e18.x86_64	1/10
Verifying : apr-util-1.6.1-6.el8.x86_64	2/10
Verifying : apr-util-bdb-1.6.1-6.el8.x86_64	3/10
Verifying : apr-util-openssl-1.6.1-6.el8.x86_64	4/10
Verifying : httpd-2.4.37-43.module_e18.5.0+1022+b541f3b1.	×86_64 5/10
Verifying : httpd-filesystem-2.4.37-43.module_e18.5.0+102	2+b541f3b1.noarch 6/10
Verifying : httpd-tools-2.4.37-43.module_e18.5.0+1022+b54	1f3b1.x86_64 7/10
Verifying : mod_http2-1.15.7-3.module_e18.4.0+778+c970dea	b.x86_64 8/10
Verifying : centos-logos-httpd-85.8-2.e18.noarch	9/10
Verifying : mailcap-2.1.48-3.e18.noarch	10/10
Installed'	
aur-1.6 3-12 e18 v86.64	ame-util-1.6.1-6.e18.v86.64
$apr - util - bdb - 1.6.1 - 6.e18 \times 86.64$	am - util - omenssl - 1.6.1 - 6. el8 x86.64
centos-logos-httpd-85.8-2.e18.poarch	httnd=2.4.37=43.module_e18.5.0+1022+b541f3b1.x86_64
httpd-filesustem-2.4.37-43.module_e18.5.0+1022+b541f3b1_noarch	httpd=tools=2.4.37-43.module_e18.5.0+1022+b541f3b1.x86_64
mailcan-2.1.48-3.e18.noarch	mod http://ib.7-3.module_e18.4.0+778+c970deab.x86_64
Complete!	
[root@cross-vpc-backend-to-elb-demo-0011 ~]# echo "www.test01.com"	> /var/www/html/index.html
[root@cross-vpc-backend-to-elb-demo-0011 ~]# echo "www.test02.com"	> /var/www/html/index.html
[root@cross-vpc-backend-to-elb-demo-0011 ~]# chmod 777 /var/www/h	tml/index.html
[root@cross-vpc-backend-to-elb-demo-0011 ~]# systemctl start httpd	
<pre>[root@cross-vpc-backend-to-elb-demo-0011 ~]# curl localhost</pre>	
www.test02.com	
iroot@cross-vpc-backend-to-elb-demo-0011 ~]#	

Step 3 Unbind the EIPs bound to the two ECSs in **Step 2** and release the EIPs.

Figure 3-21	Unbinding and	d releasing the EIPs	

				•	Protection re	quired for critical o	perations. To	anable the protectio	n, go to Security Settings > 0	Critical Operations > Opera	ation Protection. Enable			×
	HUAWEI CLOUD		sole 오	Singapore +				Sea	rch (Q Billing & Costs [®] F				inglish 📜 🖉
=	Network Console		EIPs)										Cuick Links Buy EIP
0 @ M	Dashboard Virtual Private Cloud	•	Ur V s	bind Modify Bandwidth Renew	More	•								0 I 0 0
0	IP Address Groups			EIP	Monito	Status	Security	EIP Type	Bandwidth	Bandwidth Details	Associated Instance	Billing Mode	Enterprise Project	Operation
0	Routing Control	*		119.13.111.199 4e563d58-1526-4a6d-a9e0-987dd3c01498	Ø	🗐 Bound	0	Dynamic BGP	Bandwidth_2023-07-2	Traffic 20 Mbit/s	cross-vpc-backend-to ECS	Pay-per-use Created at Jul 26, 20	SeC	Bind Unbind More -
© 4	Elastic IP and Bandwidth			190.92.198.42 43d01cb1-9822-4553-afb9-179e5bba8492	Ø	⊗ Bound	0	Dynamic BGP	Bandwidth_2023-07-2	Traffic 20 Mbit/s	cross-vpc-backend-to ECS	Pay-per-use Created at Jul 26, 20	SeC	Bind Unbind More -
© &	EIPs Shared Bandwidths			119.13.100.203 bb10d0f5-2090-4997-994a-27bd73384610	Ø	log Bound	0	Dynamic BGP	cross-vpc-backend-to	Bandwidth 5 Mbit/s	cross-vpc-backend-to Load balancer	Pay-per-use Created at Jul 26, 20	SaC	Bind Unbind More +
	Shared Data Packages NAT Gateway			49.0.201.120 highly-available-mha-mysql-cluster-d at029145-6dtd-480c-b61f-d8557ce4d58d	Ø	S Unbound	0	Dynamic BGP	highly-available-mha	Bandwidth 5 Mbit/s	-	Yearly/Monthly 8 days until expiration	default	Bind Unbind More +
	Elastic Load Balance	• •		49.0.201.133 highly-available-mha-mysql-cluster-d 0fad5ft0-22d7-4b61-8817-889d2850cb01	斑	S Unbound	0	Dynamic BGP	highly-available-mha	Bandwidth 5 Mbit/s	-	Yearly/Monthly 8 days until expiration	default	Bind Unbind More +
	Enterprise Switch Direct Connect			159.138.88.66 highly-available-mha-mysql-cluster-d 5c17e556-b80d-4690-b544-542c01136fea	3	S Unbound	0	Dynamic BGP	highly-available-mha	Bandwidth 5 Mbit/s	-	Yearly/Monthly 8 days until expiration	default	Bind Unbind More +
	Enterprise Router Virtual Private Network	e		190.92.218.34 3eec5767-ea75-4793-a8d7-d74319408263	Ø	log Bound	0	Dynamic BGP	ecs-web1-0001-band	Traffic 20 Mbit/s	ecs-web-0001 ECS	Pay-per-use Created at Mar 23, 20	default	Bind Unbind More +
	Cloud Connect Elastic Cloud Server	8 8		49.0.202.85 548dca9e-96e5-425e-b967-0b5c7790203b	Ø	lound 8000	0	Dynamic BGP	ecs-web1-0002-band	Traffic 20 Mbit/s	ecs-web-0002 ECS	Pay-per-use Created at Mar 23, 20	default	Bind Unbind More +

Step 4 On the ELB console, view the dedicated load balancer you have created for deploying this solution.

sile.	HUAWEI CLOUD	ଲି Cans	iole • Singapore •				Sear	ah Q	Billing & Costs [®] Resources	Enterprise Develope	r Tools Support	Service Tickets 🌐 Inti-En	glish	e 200
Ξ	Network Console	Î	Elastic Load Balance ⑦ 🎕 Process	Flow								P Quick Links	Buy Elastic Load Bala	incer
٢	Dashboard		Dedicated load balancers now provide ela	stic scaling to hand	lie traffic peaks and	troughs. The re	sources needed for scal	ing up are charged per use. Try r	iow .					×
	Virtual Private Cloud 🔹													
	IP Address Groups												CL	
0	Access Control 🔹		V Specify filter criteria.											Q
0	Routing Control *		Name1D	Monit	Status	Туре	Specifications	IP Address and Network	Listener (Frontend Proto	Bandwidth Infor	Billing Mode	Enterprise Project	Operation	
0 0	VPC Flow Logs Elastic IP and		cross-vpc-backend-lo-elb-demo_elb 8d397020-89d6-43bd-80e6-2bc2e61a1592	۲	📀 Running	Dedicated	Network load bal Application load	172.18.1.107 (Private IP 119.13.100.203 (IPv4 EIP) cross-vpc-backend-to-elb	(HTTPI80)	IPv4 5 Mbit/s Pay-per By band	Pay-per-use Created at Jul 26	SaC	Add Listener More 🕶	
4 ©	Bandwidth NAT Gateway 👻		elb-openshift 4807a605-819e-4eed-8fe8-f98d18c9bb22	Ø	🕤 Running	Shared	Guaranteed Perf	192.168.1.146 (Private I osVPC (VPC)	listener-361e (TCP/6443) listener-c16a (TCP/2623) listener-72b0 (TCP/443)	-	Pay-per-use Created at May 2	default	Add Listener More 💌	
చి	Elastic Load Balance 🔺	· •							Incenter-turbi (TCP/IeW)					
	Load Balancers Backend Server Groups Certificates													
	IP Address Groups													
	TLS Security Policies													<u>و</u>
	VPC Endpoint *													C
	Enterprise Switch													
	Direct Connect 🔹													
	Enterprise Router													

Step 5 Enter the EIP address assigned in **Step 4** in the address box of your browser to access the dedicated load balancer. If the following two pages are displayed, the load balancer routes the requests to the two ECSs.

Figure 3-23 Verifying that the request is routed to one ECS

www.test01.com

Figure 3-24 Verifying that the request is routed to the other ECS

www.test02.com

----End

3.4 Quick Uninstallation

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

Figure 3-25 Uninstalling the solution

RFS OBT		Stacks ⑦					(👂 User Guide	Create Stack
Dashboard						Stack Name 👻 Search by stack name by defi	auft.	Q @ C
Stacks		Stack Name/ID	Status 🖓	Description	Created JF	Updated ↓≡	Operation	
Visual Designer Templates	° *	adding-backend-instances-to-an-elb-across-vpcs 1d4 571cb	Deployment Complete	adding-backend-instances-t	2023/07/12 11:34:31 GMT+08:00	2023/07/12 11:36:11 GMT+08:00	Delete Update	

Step 2 Enter Delete and click OK.

Figure 3-26 Confirming the uninstallation

 \times

Delete Stack

Are you sure you want to delete the stack and resources in the stack? Stack and resources cannot be restored after being deleted. Exercise caution when performing this operation.

Stack Name		Status	Created		
adding-backend-instan	ices-to	Deployment	2023/07/12	2 11:34:31 GMT+08:00	
Resources (20)					
Cloud Product N	Physical Res	ource Name/ID		Resource Status	
Elastic Cloud Server	cross-vpc-bac c9cebb66-8be	kend-to-elb-demo_0 0-4d54-ace7-f9eb5f	001 e06d8d	Creation Complete	•
Elastic Cloud Server	cross-vpc-bac c1ca21c1-273	kend-to-elb-demo_0 1-4645-ae0c-310ffe	011 fa6753	Creation Complete	
Elastic Load Bala	9efe410e-300	5-4cbb-87dc-4cbe96	aeaf69	Creation Complete	
Elastic Load Bala	cross-vpc-bac 95534a21-fdb	kend-to-elb-demo_e 7-44d8-ab34-d1934	lb 4b3eed8	Creation Complete	
Elastic Load Bala	fe8764d6-e73	2-4d26-80f8-d8704e	9efa2a	Creation Complete	
Elastic Load Bala	bea3a954-8ec	la-43bb-927c-21dad	d0f87e7	Creation Complete	
					•
Enter Delete to delete th	e stack and reso	ources.			
Enter Delete.					



----End

4 Appendix

Terms

- Virtual Private Cloud (VPC): an isolated and private virtual network environment. You can use VPC, along with EIP, Cloud Connect, and Direct Connect to establish a reliable, secure, and efficient communication channel for your cloud resources to communicate with each other, the internet, and on-premises networks.
- **Elastic Cloud Server (ECS)**: secure, scalable, on-demand computing resources that enable you to flexibly deploy applications and workloads.
- Elastic Load Balance (ELB): automatically distributes incoming traffic across multiple servers to balance workloads, increasing service capabilities and fault tolerance of your applications.
- Elastic IP (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

Released on	Description
2023-07-30	The issue is the first official release.