Distributed Database Middleware

Getting Started

 Issue
 01

 Date
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Contents

ying a DDM Instance and Connecting to a Schema Using DAS	1
ying a DDM Instance and Connecting to a Schema Using a Linux Systen	n4
ying a DDM Instance and Connecting to a Schema Using a Windows Sy	stem
mmon Practices	21

Buying a DDM Instance and Connecting to a Schema Using DAS

Data Admin Service (DAS) is a one-stop management platform that allows you to manage Huawei Cloud databases on a web console. It offers database development, O&M, and intelligent diagnosis, making it easy to use and maintain databases.

This section describes how to buy DDM instances and RDS for MySQL instances, create a DDM account and associate it with RDS for MySQL instances, and connect to a DDM schema using DAS.

Step 1: Buy a DDM Instance

- **Step 1** Go to the **Buy DDM Instance** page.
- **Step 2** On the displayed page, configure the required parameters and click **Next**.

Instance Name ⊕ Status ⊕ Billing Mode Version Connection Address Created ⊕ Enterprise Project Operation

- **Step 3** Perform subsequent operations based on the billing mode you select:
 - If you select **Pay-per-use**, click **Submit**.
 - If you select Yearly/Monthly, click Pay Now.
- **Step 4** View the purchased instance.

Figure 1-1 Instance successfully purchased

----End

Step 2: Buy an RDS for MySQL DB Instance

Step 1 Go to the **Buy DB Instance** page.

Step 2 Configure the instance information and click **Next**.

- A DDM instance can be associated with RDS for MySQL instances of versions 5.7 and 8.0.
- The RDS for MySQL instance must be in the same VPC and subnet as your DDM instance. If they are not in the same subnet, configure routes to ensure network connectivity.
- Specifications of associated RDS for MySQL instances should be greater than that of the DDM instance. Otherwise the performance will be affected.

Figure 1-2 Network configurations

VPC ③	View In-use IP Addresses (Addresses available: 249)
	The VPC an RDS instance is deployed in cannot be changed later, ECSs in different VPCs cannot communicate with each other by default. If you want to create a VPC, go to the VPC console. An EIP is required if you want to access DB instances through a public network. View EIP
Database Port	Default port: 3306 The database port of read replicas (if any) is the same as that of the primary DB instance.
Security Group 💿	C View Security Group
	Ensure that port 3306 of the security group allows traffic from your server IP address to the DB instance. Security Group Rules A Add Inbound Rule

- **Step 3** Confirm the configurations and click **Submit**. Wait 1 to 3 minutes for the RDS instance to be created.
- **Step 4** View the purchased RDS instance.

----End

Step 3: Create a DDM Account and Associate It with an RDS for MySQL Instance

- Step 1 Log in to the DDM console.
- **Step 2** In the instance list, locate the required DDM instance and click its name.
- **Step 3** In the navigation pane, choose **Accounts**.
- **Step 4** On the displayed page, click **Create Account**.
- **Step 5** In the dialog box that is displayed, configure the account information and click **OK**.

The value of the password validity period must be an integer ranging from 0 to 65535, in days. If the value is **0**, the password never expires. If this parameter is not set, the password will always be valid.

- **Step 6** On the **Instances** page, locate the required DDM instance and click **Create Schema** in the **Operation** column.
- **Step 7** On the **Create Schema** page, set required parameters and click **Next**.
- **Step 8** On the displayed page, enter a database account with the required permissions and click **Test Availability**.

Figure 1-3 Testing availability of data nodes

Data Node Availability Test					
 After you create a schema, associate it with an 	account on the Accounts page so that you can acce	ess the schema. DDM ev	enly distributes shards to ea	ch data node.	
Name	Connection Address	Database Username	0	Database Password	
rds-bc37	19	root			0

- **Step 9** After the test is successful, click **Finish**.
- **Step 10** View the associated RDS for MySQL instance.

Figure 1-4 DB instance successfully associated

fou can use a database driver or a load balancer to achieve load balancing within DDM clusters. Do not connect to only one node. For the connection methods, see Connecting to a DDM instance.								
Create Schema Export Schema Information	Import Schema Informatio	in			Creating a sch	ema Connecting to a schema When to configure shards >>	Enter a schema name.	QQ
Schema 🖯	Status 🖯	Connection Address	Sharding Mode	Shards Θ	Created 🖨	Operation	Task Address	
db_7723	Running	View	Sharded	6	May 21, 2024 14:42:52 GMT	-08:00 Configure Shards Manage More ~	-	

----End

Step 4: Use DAS to Connect to a DDM Schema

- Step 1 Log in to the DDM console.
- **Step 2** On the **Instances** page, locate the destination instance, and click **Log In** in the **Operation** column.

The instance login page of the DAS console is displayed.

- **Step 3** On the displayed page, enter username and password of the DDM account.
- Step 4 Click Test Connection and select Remember Password.
- **Step 5** Ensure that all settings are correct and click **Log In**.

----End

2 Buying a DDM Instance and Connecting to a Schema Using a Linux System

This example illustrates how to purchase a DDM schema and connect to it from a Linux ECS over a private network.

Step 1: Buy a DDM Instance

- **Step 1** Go to the **Buy DDM Instance** page.
- **Step 2** On the displayed page, configure the required parameters and click **Next**.
- **Step 3** Perform subsequent operations based on the billing mode you select:
 - If you select **Pay-per-use**, click **Submit**.
 - If you select Yearly/Monthly, click Pay Now.
- **Step 4** View the purchased instance.

Figure 2-1 Instance successfully purchased

Instance Name (i) Status (ii) Billing Mode Version Connection Address Created (ii) Enterprise Project Operation damater 22 Description Created (iii) Creat

----End

Step 2: Buy an RDS for MySQL DB Instance

- Step 1 Go to the Buy DB Instance page.
- **Step 2** Configure the instance information and click **Next**.

- A DDM instance can be associated with RDS for MySQL instances of versions 5.7 and 8.0.
- The RDS for MySQL instance must be in the same VPC and subnet as your DDM instance. If they are not in the same subnet, configure routes to ensure network connectivity.
- Specifications of associated RDS for MySQL instances should be greater than that of the DDM instance. Otherwise the performance will be affected.

Figure 2-2 Network configurations

VPC ③	View In-use IP Addresses (Addresses available: 249)
	The VPC an RDS instance is deployed in cannot be changed later, ECSs in different VPCs cannot communicate with each other by default. If you want to create a VPC, go to the VPC console. An EIP is required if you want to access DB instances through a public network. View EIP
Database Port	Default port: 3306 The database port of read replicas (if any) is the same as that of the primary DB instance.
Security Group 💿	C View Security Group
	Ensure that port 3306 of the security group allows traffic from your server IP address to the DB instance. Security Group Rules A Add Inbound Rule

- **Step 3** Confirm the configurations and click **Submit**. Wait 1 to 3 minutes for the RDS instance to be created.
- **Step 4** View the purchased RDS instance.

----End

Step 3: Create a DDM Account and Associate It with an RDS for MySQL Instance

- Step 1 Log in to the DDM console.
- **Step 2** In the instance list, locate the required DDM instance and click its name.
- **Step 3** In the navigation pane, choose **Accounts**.
- **Step 4** On the displayed page, click **Create Account**.
- **Step 5** In the dialog box that is displayed, configure the account information and click **OK**.

The value of the password validity period must be an integer ranging from 0 to 65535, in days. If the value is **0**, the password never expires. If this parameter is not set, the password will always be valid.

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- **Step 7** On the **Create Schema** page, set required parameters and click **Next**.
- **Step 8** On the displayed page, enter a database account with the required permissions and click **Test Availability**.

Figure 2-3 Testing availability of data nodes

Data Node Availability Test			
After you create a schema, associate it with a	n account on the Accounts page so that you can acc	ess the schema. DDM evenly distributes shards to e	each data node.
Name	Connection Address	Database Username (?)	Database Password
rds-bc37	19	root	

- **Step 9** After the test is successful, click **Finish**.
- **Step 10** View the associated RDS for MySQL instance.

Figure 2-4 DB instance successfully associated

You can use a database driver or a load balancer to achieve load b	alancing within DDM cluste	rs. Do not connect to only one	node. For the connection r	nethods, see	Connecting to a DDM Instance.			
Create Schema Export Schema Information	mport Schema Information	\supset			Creating a schema Connecting to	a schema When to configure shards >>	Enter a schema name.	00
Schema 🖯	Status 😔	Connection Address	Sharding Mode	Shards	Created 😜	Operation	Task Address	
db_7723	😏 Running	View	Sharded	8	May 21, 2024 14:42:52 GMT+08:00	Configure Shards Manage More \sim	-	

----End

Step 2: Buy an ECS

- **Step 1** Go to the **Buy ECS** page.
- **Step 2** Configure basic settings and click **Next: Configure Network**. Keep the region and AZ of the ECS the same as those of the DDM instance to be connected.

An image is an ECS template that contains an OS and applications. In this example, a Linux public image is selected, which is provided by Huawei Cloud by default.

Figure 2-5 Basic settings

Configure Basic Settings	Configure Network	3 Configure Advanced Settings	(4) Confirm						
Region	CN-Heng Keng For low network latency and quick resource as	ccess, select the region nearest to your tar	et users. Learn how to sele	ct a region. ③					
Billing Mode	Yearly/Monthly Pay-per-use	Spot pricing ③							
AZ	Random AZ3 AZ7	AZ2 AZ1 (2)							
	Multi-AZ deployment When ECSs are p	urchased in balches, randomly allocate the	m to different AZs.						
Instance Selection	By Type By Scenario								
CPU Architecture	x85 Kunpeng ③								
	FlexusX launch: Flexible compute with	th 6x the performance and a superlative ex	perience, suitable for genera	al workloads in tech, retail, fin	ance, and gaming industries. Buy F	RecusX Instance			
Specifications	vCPUs -Select vCPUs- v	Memory -Select Memory-	V Flavor Name	Enter a keyword.	Q Hide sold-out specific	ations			
	General computing plus Gen	eral computing Memory-optimiz	ed Large-memory	High-performanc	e computing Disk-intens	ive Ultra-high VO GPU-acce	lerated Al-accelerated	•	
	EC.S Type	Flavor Name	vCPUs 🖯	Memory 😣	CPU 0	Assured / Maximum Bandwidth 🕥 🖯	Packets Per Second ③ 🖯	IPv6	
	General computing-plus c7n	c7n.large.2	2 vCPUs	4 GIB	Intel Ice Lake 2.6GHz	0.8 / 4 Gbil/s	400.000 PPS	Yes	0
	General computing-plus c7n	c7n.large.4	2 vCPUs	8 GIB	Intel Ice Lake 2.6GHz	0.8 / 4 Gbit/s	400,000 PPS	Yes	
	General computing-plus c7n	c7n xlarge.2	4 vCPUs	8 GIB	Intel Ice Lake 2.6GHz	1.6 / 8 Gbit/s	800,000 PPS	Yes	

Figure 2-6 Selecting an image

Image	Public image	Private image	Shared image	Marketplace image	0
	S CentOS	✓ −Select C	OS version-		~ Q
System Disk	Extreme SSD	× – 4	0 + GiB IOPS limi	t: 3,800, IOPS <u>burst limit</u> : 64,	000 ⑦
	🕀 Add Data Disk 🛛 Disk	s you can still add: 23			
	Yearly/monthly data disks	cannot be unsubscribed	or renewed separately.		

Step 3 Configure the ECS network and click **Next: Configure Advanced Settings**.

To download a MySQL client to the ECS, bind an EIP to the ECS. The ECS must be in the same VPC as the DDM instance for mutual communications.

Figure 2-7	Network config	uration							
⊘ Configure Basic Settings –	Configure Network	- 3 Configure Adva	nced Setting	s (4) Cont	firm				
Network	Create VPC	~ Q			Q 💌		- siz-	✓ Available private IP a	addresses: 244 🧑
Extension NIC	Add NIC NICs you can still add: 1								
Source/Destination Check	0								
Security Group	Similar to a firewall, a security group logica Ensure that the selected security group allo Security Group Rules A	ly controls network acces ws access to port 22 (SS	→ Q is. H-based Linu	Create Security Group ux login), 3389 (Windows	() s login), and I	ICMP (ping opera	tion). Configure Sec	urity Group Rules	
	Selected security groups(1) Security Group Name	Organize		Security Group Rules	s Outbound	d Rules			
	1 default	Down Up		Security Group Nar	ne P	Priority	Action	Protocol & Port (?)	Туре
					1		Permit	TCP: 3389	IPv4
					1		Permit	TCP: 22	IPv4
Figure 2-8	Selecting an EIP)	irad @						
EIP	Auto assign O use exis	ting O Not requ	ired (v)						
EIP Type	Dynamic BGP	Prei	nium BGP	0					
	⊘ Greater than or equal to 99.95	5% service availabilit	y rate						
Billed By	Bandwidth if For heavy/stable traffi	c	Traffic For light/sha	arply fluctuating traff	īc	드 Sha For	ared bandwidth staggered peak	hours	
Bandwidth Size		40	400	200	Custom	r	The	handwidth can be from	1 to 500 Mb#/o
Bandwidti 1 3126	1 2 3	10	100	200	Gustom	()	T	oanuwiuun call be ironi	1 to 500 MDI/S.
	Anti-DDoS protection Free								

Step 4 Configure a password for the ECS and click **Next: Confirm**.

< Buy ECS		
○ Configure Basic Settings -	Configure Network — 3 Configure Advanced Settings	(4) Confirm
ECS Name	ecs-f85d Allow duplicate name	wed by a four-digit incremental
Description		
	0/85 1/	
Login Mode	Key pair Password Set password later	0
	The private key will be required for logging in to the ECS and for reinstalling or changing the	OS. Keep it secure.
Key Pair	-Select- V Q Create Key Pair (?)	
Cloud Backup and	To use CBR, you need to purchase a backup vault. A vault is a container that stores backups	s for servers.
Recovery	Create new Use existing Not required (?)	
Vault Name	vault-f75b	
Capacity	□ 80 + GiB ✓	

Figure 2-9 Advanced settings

Step 5 Confirm the configurations and click **Submit**.

	Fiaure	2-10	Confirmina	the	configurations
--	--------	------	------------	-----	----------------

Configure Basic Set	tings — 🕑 Configu	are Network ⓒ Configure Advanced Settings	— 4 Confirm				
Note:	You have opted not to set	a password for logging in to the ECS. You can set the password afte	r the ECS has been created.				
Configuration	Basic & Billing Mode Specifications System Disk	YeanyMonthy General computing-plus c7n.large 2 2 vCPUs 4 GiB Extreme SSD, 49 GiB	Region Image	CN Hong Kong CentOS 8.2 64bt	AZ Host Security	Random HSS basic edition (free)	
	Network 🖉 VPC EIP	Dynamic BGP Billed By: Bandwidth Bandwidth: 5 Mibits	Security Group Source/Destination Check	=, I. Enable	Primary NIC	and comprehension	
Launch Template	Advanced & ECS Name Cloud Backup Vault	Barnana • • • • • • • • • • • • • • • • • • •	Login Mode Backup Policy	Set password later defaultPolcy Enabled Automatically perform weekly full backups	Cloud Eye ECS Group	Monitoring details	
Enterprise Project	-Select-	Create Enterprise Projec	t (?)				
Required Duration	1 2 Auto-renew Billin	3 4 5 6 7	8 9 months	1 year			



----End

Step 5: Connect to a DDM Schema

Step 1 Use a Linux remote connection tool (for example, MobaXterm) to log in to the ECS. Enter the EIP bound to the ECS for **Remote host**.

on sett	ings	cree	a cing t											
	Telpet	<mark>₽</mark> Reb	Xdmcn			S	SETD	Sorial	Q	Shall	Browser	Moch	99 Awe 53	
55H	Teinet	KSII	липер	KDF	VINC	1 IF	SIT	Sella	The	Sheir	Drowser	WOSH	Aws 33	WSL
🛯 Ba	sic SSH s	ettings												
R	Remote hos	st *			⊠ Spe	cify user	name ro	ot	2	P	ort 22			
		N.I 44 ¹		Territeral		•1• N		·	- Deele		·			
				Sec	ure She	I (SSH) sessio	n					•	
				000) 303310							
						OK			Cancel					

Figure 2-11 Creating a session

Step 2 Enter the password set when buying the ECS.

Figure 2-12 Entering the password

		(roo	it)						
Term	ninal	Sessions	View	X server	Tools	Games	Settings	Macros	Help
Qı	uick c	onnect			1	\$ 2.	· (r	oot)	× Đ
"	🤶 Use	er sessions		r	oot@		'S	password	d:
"	9		(root)						
样 Sessions		-							
¥ Tools									
Macros									
*									

Figure 2-13 Successful login

Ter	minal	Sessions	View	X server	Tools	Games	Settings	Macros	Help							
()uick o	connect					\$.	(root))	×	¢					
«	<mark>€</mark> . /root/	. 🕇 🕘 😽		A 📔 🥂				(SSH c	lient	? Moba , X-ser	Xterm ver an	11.1 ? nd networ	king to	ols)		
并 Sessions	Name	 .ssh .cache		Size	(KB)	*	SSH ses ? SSH c ? SSH-b ? X11-f	sion to ompressi rowser orwardir	root(ion : ig :) / / (dis	abled	or not s	upporte	d by se	rver)	
🍯 Tools		.bash_history .history .tcshrc		0 0 1		*	? DISPL	e info,	: ctrl+	click o	n <u>help</u>	or visi	t our <u>w</u> e	<u>ebsite</u>		
Macros	-	.bashrc .bash_profile .bash_logout .cshrc		1 1 1	A	luthoriz	ed users	only. A	All ad	tivitie	s may	be monit	ored and	d report	ted.	
😑 Sftp 🔺					E	root@ec	s-e5d6-t	:est ~]#								

Step 3 Download the **mysql-community-client-8.0.26-1.el6.x86_64.rpm** client installation package by selecting the required product version and operating system.

Figure 2-14 Selecting a version

Product Version:	8.0.26	~
Operating System:	Red Hat Enterprise Linux / Oracle Linux	~
OS Version:	All	~

Figure 2-15 Downloading the client package

Red Hat Enterprise Linux 6 / Oracle Linux 6 (x86, 32-bit), RPM Package Client Utilities (mysql-community-client-8.0.26-1.el6.i686.rpm)	Jul 1, 2021	56.3M	Download
Red Hat Enterprise Linux 6 / Oracle Linux 6 (x86, 64-bit), RPM Package Client Utilities (mysql:community-client80.261-lel6.x86_64.rpm)	Jul 1, 2021	54.8M	Download
Red Hat Enterprise Linux 6 / Oracle Linux 6 (x86, 32-bit), RPM Package Client Plugins (mysql-community-client-plugins-8.0.26-1.el6.i686.rpm)	Jul 1, 2021	5.3M M	Download

Step 4 Upload the client installation package to the ECS.



Figure 2-16 Uploading the client package

Figure 2-17 Package uploaded

«	📧 ≟ 🚹 🕘 幆 📗 😂 👗 📔 /root/		? MobaXterm 11.1 ? (SSH client, X-server and networking tools)
🛝 Macros 🍎 Tools 📫 Sessions	Name S.S. S.S. S.S. S.S.S. S.S.S.S.S.S.S.S.	Size (KB) 56 078 0 1 1 1 1 1 1	 > SSH session to root@ ? SSH compression : . ? SSH-browser : . ? X11-forwarding : x (disabled or not supported by server) ? DISPLAY : > For more info, ctrl+click on <u>help</u> or visit our <u>website</u> Authorized users only. All activities may be monitored and reported.
😣 Sftp			[root@ecs-e5d6-test ~]# ll total 56080 -rw 1 root root 57424168 Nov 1 16:37 mysql-community-client-8.0.26-1.el6.x86_64.rpm [root@ecs-e5d6-test ~]# ∎



rpm -ivh --nodeps mysql-community-client-8.0.26-1.el6.x86_64.rpm

Figure 2-18 Installing a client

Authorized users only. All activities may b	be monitored and reported.		
[root@ecs-e5d6-test ~]# ll total 56080 -rw 1 root root 57424168 Nov 1 16:3 [root@ecs-e5d6-test ~]# rpm -ivhnodeps m warning: mysql-community-client-8.0.26-1.e Verifying ##### Updating / installing 1:mysql-community-client-8.0.26-1.e##### [root@ecs-e5d6-test ~]# ■	37 mysql-community-client-8.0.: mysql-community-client-8.0.26- ls.x86.64.rpm: Header V3 DSA/SI ининийинининининининининининин инининин	26-1.el6.x86_64.rpm 1.el6.x86_64.rpm HA256 Signature, key [100%] [100%]	ID 5072elf5: NOKEY

Step 6 Run the following command to connect to the DDM schema. *IP* is the private IP address of the DDM instance.

mysql -h *<IP>* -u *<userName>* -P 5066 -p

Example:

mysql -h 192.*.*.* -u root -P 5066 -p

Figure 2-19 Connection successful

```
[root@ecs-5b19 bin]# mysql -h - - -u root -P 5066 -p
Enter password:
Welcome to the MySQL monitor. Commands end with ; or \g.
Your MySQL connection id is 1477632
Server version: 5.6.29 DDM
Copyright (c) 2000, 2018, Oracle and/or its affiliates. All rights reserved.
Oracle is a registered trademark of Oracle Corporation and/or its
affiliates. Other names may be trademarks of their respective
owners.
Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.
```

----End

3 Buying a DDM Instance and Connecting to a Schema Using a Windows System

You can connect to your DDM schema using a Windows ECS installed with a database client (for example, MySQL-Front) over a private network.

Step 1: Buy a DDM Instance

- Step 1 Go to the Buy DDM Instance page.
- **Step 2** On the displayed page, configure the required parameters and click **Next**.
- **Step 3** Perform subsequent operations based on the billing mode you select:
 - If you select **Pay-per-use**, click **Submit**.
 - If you select Yearly/Monthly, click Pay Now.
- **Step 4** View the purchased instance.

Figure 3-1 Instance successfully purchased

Instance Name () Status () Billing Mode Version Connection Address Created () Enterprise Project Operation den war 22 Page 24:06 Created on Jul 11, 2024 17:15 27 OMT-08:00 Setual Created Some Log in More -

----End

Step 2: Buy an RDS for MySQL DB Instance

- Step 1 Go to the Buy DB Instance page.
- **Step 2** Configure the instance information and click **Next**.

- A DDM instance can be associated with RDS for MySQL instances of versions 5.7 and 8.0.
- The RDS for MySQL instance must be in the same VPC and subnet as your DDM instance. If they are not in the same subnet, configure routes to ensure network connectivity.
- Specifications of associated RDS for MySQL instances should be greater than that of the DDM instance. Otherwise the performance will be affected.

Figure 3-2 Network configurations

VPC 💿	View In-use IP Addresses (Addresses available: 249)
	The VPC an RDS instance is deployed in cannot be changed later. ECSs in different VPCs cannot communicate with each other by default. If you want to create a VPC, go to the VPC console.
	An Ein is required in you wain to access the instances infougin a public nervolk. View Ein
Database Port	Default port: 3306
	The database port of read replicas (If any) is the same as that of the primary DB instance.
Security Group 🧿	View Security Group
	Ensure that port 3306 of the security group allows traffic from your server IP address to the DB instance.
	Security Group Rules 🔺 Add Inbound Rule

- **Step 3** Confirm the configurations and click **Submit**. Wait 1 to 3 minutes for the RDS instance to be created.
- **Step 4** View the purchased RDS instance.

----End

Step 3: Create a DDM Account and Associate It with an RDS for MySQL Instance

- Step 1 Log in to the DDM console.
- **Step 2** In the instance list, locate the required DDM instance and click its name.
- **Step 3** In the navigation pane, choose **Accounts**.
- **Step 4** On the displayed page, click **Create Account**.
- **Step 5** In the dialog box that is displayed, configure the account information and click **OK**.

The value of the password validity period must be an integer ranging from 0 to 65535, in days. If the value is **0**, the password never expires. If this parameter is not set, the password will always be valid.

- **Step 6** On the **Instances** page, locate the required DDM instance and click **Create Schema** in the **Operation** column.
- **Step 7** On the **Create Schema** page, set required parameters and click **Next**.
- **Step 8** On the displayed page, enter a database account with the required permissions and click **Test Availability**.

Figure 3-3 Testing availability of data nodes

Data Node Availability Test	Data Node Availability Test											
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Name	Connection Address	Database Username 💿	Database Password									
rds-bc37	19	root	📀									

- Step 9 After the test is successful, click Finish.
- **Step 10** View the associated RDS for MySQL instance.

Figure 3-4 DB instance successfully associated

(fou can use a database driver or a load balancer to achieve load b Create Schema Export Schema Information	alancing within DDM cluste mport Schema Information	s. Do not connect to only one i	tode. For the connection	methods, see (Connecting to a	DDM Instance. Creating a schema Connecting to a sci	nema When to configure shards >>	Enter a schema name.	00
	Schema 🖯	Status 😔	Connection Address	Sharding Mode	Shards \varTheta	Created 🖨	Op	eration	Task Address	
	db_7723	Running	View	Sharded	8	May 21, 202	14:42:52 GMT+08:00 Co	nfigure Shards Manage More ~		

----End

Step 2: Buy an ECS

Step 1 Go to the **Buy ECS** page.

Step 2 Configure basic settings and click **Next: Configure Network**. Keep the region and AZ of the ECS the same as those of the DDS instance to be connected.

An image is an ECS template that contains an OS and applications. In this example, the Windows OS image is from the Marketplace and provided by third parties.

< Buy ECS												
Configure Basic Settin	gs (2) Configure Network (3	Configure Advanced Settings (4	Confirm									
Region	Childing long For the reduct latency and guids resource access, select the region nearest to your target users. Learn trev to select a region.											
Billing Mode	Transfuturetty Pay-per-case Spot pricing ()											
AZ	Random A23 A27 A22 A21 (0)											
	Md6+2 deployment When EC/s are purchased in buildner, andomly allocate them is different A2s.											
Instance Selection	M By Type By Scenario											
CPU Architecture	x86 Kunpeng ()											
	FlexusX launch: Flexible compute with 6x	the performance and a superlative experience, s	ultable for general workloads in tech, retail, fina	nce, and gaming industries. Buy FI	exusX Instance							
Specifications	vCPUs -Select vCPUs- V M	lemony -Select Memory-	Flavor Name Enter a keyword.	Q Hide sold-out specifica	tions							
	General computing-plus General c	computing Memory-optimized	Large-memory High-performance	computing Disk-intensiv	ve Ultra-high VO GPU-accel	erated Al-accelerated	0					
	EC\$ Type	Flavor Name vCPUs	θ Memory θ	CPU 0	Assured / Maximum Bandwidth $\bigcirc \Theta$	Packets Per Second ③ 🖯	IPv6					
	General computing-plus c7n	c7n.large.2 2 vCPU	is 4 GIB	Intel Ice Lake 2.6GHz	0.8 / 4 Gbit/s	400,000 PPS	Yes					
	General computing-plus c7n	c7n.large.4 2 vCPI	is 8 GiB	Intel Ice Lake 2.6GHz	0.8 / 4 Gbit/s	400,000 PPS	Yes					
	General computing-plus c7n	c7n.starge.2 4 vCPU	Is 8 GiB	Intel Ice Lake 2.6GHz	1.6/8 Gbt/s	800,000 PPS	Yes					

Figure 3-5 Basic settings





Step 3 Configure the ECS network and click Next: Configure Advanced Settings.

To download a MySQL client to the ECS, bind an EIP to the ECS. The ECS must be in the same VPC as the DDM instance for mutual communications.

< Buy ECS						
Configure Basic Settings	Configure Network 3 Configure	Advanced Settings (4) Confirm				
Network	Create VPC		there are	e sin	Available private IP adds	resses: 244 🏼 🧿
Extension NIC	Add NIC NICs you can still add: 1					
Source/Destination Check	0					
Security Group	Similar to finewal, a scular group logically control network: Ensure that the selected security group allows access to port 22 Security Group Rules	Create Security Group ③ Create Security Group ④ (SSH-based Linux login), 3389 (Windows login) Security Group Rules	, and ICMP (ping oper	ation). Configure Se	curity Group Rules	
	Security Group Name Organize	Inbound Rules Out	bound Rules			
	1 default Down Up	Security Group Name	Priority	Action	Protocol & Port (?)	Туре
			1	Permit	TCP: 3389	IPv4
			1	Permit	TCP: 22	IPv4
Figure 3-8	Selecting an EIP					

Figure 3-7 Network configuration

EIP	 Auto assign Use existing 	g 🔿 Not required	
EIP Type	Dynamic BGP	Premium BGP ()	
	⊘ Greater than or equal to 99.95%	service availability rate	
Billed By	Bandwidth 🖕 For heavy/stable traffic	C Traffic For light/sharply fluctuating traffic	Shared bandwidth For staggered peak hours
	Billed based on usage duration and I	bandwidth size.	
Bandwidth Size	1 2 5	10 100 200 Custor	m - 5 + The bandwidth can be from 1 to 500 Mbit/s
	Anti-DDoS protection Free		

Step 4 Configure a password for the ECS and click **Next: Confirm**.

< Buy ECS			
⊘ Configure Basic Settings -	Ocnfigure Network 3 Configure	re Advanced Settings	(4) Confirm
ECS Name	ecs-f85d If multiple ECSs are created at the same time, the system au ecs-0010 already exists, the name of the first new ECS will b	Allow duplicate name tomatically adds a hyphen follo e ecs-0011.	owed by a four-digit incremental
Description	0/85 2		
Losia Mada		Out account later	0
Login Mode	The private key will be required for logging in to the ECS and	for reinstalling or changing the	e OS. Keep it secure.
Key Pair	-Select- V	Q Create Key Pair (?)	
Cloud Backup and Recovery	To use CBR, you need to purchase a backup vault. A vault is Create new Use existing Not requ	a container that stores backup	is for servers.
Vault Name	vault-175b		
Capacity	(─ 80 +) (GiB ∨		

Figure 3-9 Advanced settings



Figure 3-10 Confirming the configurations

1 Configure Basic Se	ttings — 2 0	onfigure Network ③ Configure Advanced Settings	— 🚺 Confirm			
Configuration	Basic 🖉 Billing Mode Specifications Data Disk	Payperuse General computing I s2 Jurge 2 (2 vCPUs) 4 08 1 disks (High V0, 100 08	Region Image	Hong-Kong Windows Server 2016 Standard 64bit English	AZ System Disk	AZ2 High I/0,40 GB
	Network 🖉 VPC EIP	vpc Dynamic BGP Billed By: Bandwidth Bandwidth: 10 Mbit/s	Security Group	default	Primary NIC	subnet
	Advanced 🖉 ECS Name ECS Group	ecs-d155 -	Login Mode	Key pair	Key Pair	KeyPair-d690
Quantity Agreement	─ 1 + ✓ I have read and a	You can create 19 more ECSs. Learn how to increase quota. gree to the Service Level Agreement and Huawei Image Disclaimer.				

- **Step 6** View the purchased ECS.
- **Step 7** Check whether the ECS and RDS for MySQL instance are in the same region and VPC.
 - If yes, go to Step 5: Connect to a DDM Schema.
 - If they are not in the same region, buy another instance. The ECS and DB instance in different regions cannot communicate with each other. To reduce network latency, deploy your DB instance in the region nearest to your workloads.

• If the ECS and DB instance are in different VPCs, change the VPC of the ECS to that of the DB instance. For details, see **Changing a VPC**.

----End

Step 5: Connect to a DDM Schema

Step 1 Test connectivity and install MySQL-Front.

- 1. Log in to the ECS. For details, see **Login Using VNC** in the *Elastic Cloud Server User Guide*.
- 2. In the instance list, click the name of the target instance to go to the **Basic Information** page.
- 3. In the **Network Information** area, obtain the private IP address and DDM service port.
- 4. Open the cmd window on the ECS and check whether the floating IP address and database port of the DDM instance can be connected.

telnet 192.*.*5066

- If yes, network connectivity is normal.
- If no, check the security group rules.
 - If in the security group of the ECS, there is no outbound rule with Destination set to 0.0.0/0 and Protocol & Port set to All, add an outbound rule for the floating IP address and port of the DDM instance.

Figure 3-11 ECS security group

	< default						G Feedback	Import Rule	C Export Rule
s	ummary Inbound F	Rules Outbound Rule	Associated Instances						
	Some security groups	oup rules will not take effect for	ECSs with certain specifications. Learn more						×
	Add Rule Fa	st-Add Rule Delete	Allow Common Ports Outbound Rule	a: 2 Learn more abou	it security group configuration.				С
	Specify filter criteria.								Q
	Priority (?)	Action ⑦	Protocol & Port (?)	Type	Destination (?)	Description	Last Modified	Operation	
	100	Allow	All	IPv6	::/0		Apr 13, 2022 18:49:17 GMT+08:00	Modity Replicate	Delete
	100	Allow	All	IPv4	0.0.0.00		Apr 13, 2022 18:49:17 GMT+08:00	Modity Replicate	Delete

- If in the security group of the DDM instance, there is no inbound rule allowing the access from the private IP address and port of the ECS, add an inbound rule for the private IP address and port of the ECS.
- 5. Open a browser, and download and install the MySQL-Front tool on the ECS (version 5.4 is used as an example).
- **Step 2** Use MySQL-Front to connect to the DDM schema.
 - 1. Start MySQL-Front.
 - 2. In the displayed dialog box, click **New...**.

Figure 3-12 Connection management

×
Last Login
g
<u>R</u> emove Properties
Open Cancel

3. Enter the information of the DDM schema to be connected and click **Ok**.

Figure 3-13 Adding an account

📄 Add Account	×
Description	·]
Name:	
Connection	
Host:	
Port:	5066 *
Connection Type:	Built-in
Login Information	
User:	root
Password:	
Database:	

Table 3-1 Description

Parameter	Description
Name	Database connection task name. If you do not set this parameter, it will be the same as Host by default.

Parameter	Description
Host	Private IP address of the DDM schema.
Port	Port of the DDM schema. Set this parameter to 5066 .
User	Username used for accessing the DDM instance. The default user is root .
Password	Password of the user who will access the DDM instance.

In the displayed window, select the connection that you have created in Step
 and click Open. If the connection information is correct, the DDM instance is successfully connected.

rigule 3-14 Opening a session	Figure	3-14	Opening	а	session
-------------------------------	--------	------	---------	---	---------

Name	Last Login
🥃 rds	???

----End

4 Common Practices

After a schema is created and connected to a DDM instance, you can use common practices provided by DDM as needed.

Scenario	Practice	Description
SQL Syntax	SQL Standards	This practice describes SQL standards used in DDM.
	DDL	This practice describes common DDL operations in DDM, including creating a database, creating a table, and altering a table.
	DML	This practice describes common DML operations in DDM, such as INSERT, REPLACE, DELETE, UPDATE and SELECT.
Shard Configuration	How Does DDM Perform Sharding?	This practice describes how sharding works and how to configure shards.
Database and Table Sharding	Sharding Database and Table Data of an RDS for MySQL Instance	This practice describes how to shard database and table data of an existing RDS for MySQL instance using DDM.

Table 4-1 Common practices

Scenario	Practice	Description
Data Migration	Migrating Data from an On- Premises MySQL Instance to DDM	You are using an on-premises RDS for MySQL instance and want to use DDM to store data in a distributed manner. This practice describes how to migrate data from an on- premise MySQL instance to DDM.
	Migrating Data from a Third-Party Cloud MySQL Instance to DDM	You are using a third-party MySQL instance and want to use Huawei Cloud DDM for distributed data storage. This practice describes how to migrate data from a third- party cloud MySQL instance to DDM.
	Migrating Data from a Self- Built MySQL Instance to DDM	You have built a MySQL instance on an ECS and want to migrate your data from the instance to DDM for distributed data storage. This practice describes how to migrate data from a self-built MySQL instance to DDM.
	Migrating Data from Huawei Cloud RDS for MySQL to DDM	This practice describes how to migrate data from Huawei Cloud RDS for MySQL to DDM.
	Exporting Data from a DDM Instance	This practice describes how to export DDM instance data to a SQL text file.
	Migrating Data from Heterogeneous Databases to DDM	This practice describes how to migrate data from a heterogeneous database such as Oracle, PostgreSQL, and SQL Server to DDM.
	Migrating an Entire RDS Database to DDM	This practice describes how to migrate an entire RDS instance to an unsharded schema of a DDM instance.
	Migrating an Entire MyCat Database to DDM	This practice describes how to migrate an entire MyCat database to DDM.

Scenario	Practice	Description
Backups and Restorations	Automated Backup	DDM instances cannot be backed up manually. The system backs up them from 02:00 to 03:00 GMT+08:00 every day.
	Restoring data to a new instance	Restoring data to a new instance restores your DDM instance and its data nodes (RDS for MySQL instances). Before the restoration, you need to prepare a new DDM instance and as many new RDS for MySQL instances as there are data nodes.
	Restoring Metadata	Restoring Metadata mainly restores the metadata of your DDM instance to a new DDM instance. It starts after a point-in-time recovery for the associated data nodes is complete.