

Scalable File Service

Troubleshooting

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Contents

1 Mounting a File System Times Out.....	1
2 Mounting a File System Fails.....	4
3 File System Performance Is Poor.....	6
4 Failed to Create an SFS Turbo File System.....	9
5 A File System Is Automatically Disconnected from the Server.....	11
6 A Server Fails to Access a File System.....	12
7 The File System Is Abnormal.....	13
8 Data Fails to Be Written into a File System Mounted to ECSs Running Different Types of Operating Systems.....	14
9 Failed to Mount an NFS File System to a Windows IIS Server.....	16
10 Writing to a File System Fails.....	18
11 Error Message "wrong fs type, bad option" Is Displayed During File System Mounting.....	20
12 Failed to Access the Shared Folder in Windows.....	22

1 Mounting a File System Times Out

Symptom

When a file system is mounted to a cloud server using the **mount** command, message **timed out** is returned.

Possible Causes

- Cause 1: The network is not stable.
- Cause 2: The network connection is abnormal.
- Cause 3: A VPC endpoint is not purchased.
- Cause 4: The DNS configuration of the server is incorrect. As a result, the domain name of the file system cannot be resolved, and the mounting fails. This issue will not occur on SFS Turbo file systems.
- Cause 5: The server that mounts the file system runs Ubuntu18 or later.

Fault Diagnosis

Rectify network faults and mount the file system again.

Solution

- Cause 1 and Cause 2: The network is not stable or the network connection is abnormal.
Remount the file system after the network issue is addressed.
 - If the mount is successful, no further action is required.
 - If the problem persists, see the solution for cause 3.
- Cause 3: A VPC endpoint is not purchased.
Buy a VPC endpoint and then remount the file system. For details, see [Configure a VPC Endpoint](#).
 - If the mount is successful, no further action is required.
 - If the problem persists, see the solution for cause 4.
- Cause 4: The DNS configuration of the server is incorrect. As a result, the domain name of the file system cannot be resolved, and the mounting fails.

- a. Check the DNS configuration of the tenant and run the `cat /etc/resolv.conf` command.
 - If the DNS has not been configured, configure it by referring to [Configuring DNS](#).
 - If the DNS has been configured, run the following command to check whether the configuration is correct:
`nslookup File system domain name`
If the resolved IP address is in network segment **100**, the DNS configuration is correct. If the IP address is in another network segment, the DNS configuration is incorrect. In this case, go to **b**.
- b. Modify the `/etc/resolv.conf` configuration file to configure the correct tenant DNS. Specifically, run `vi /etc/resolv.conf` to edit the `/etc/resolv.conf` file. Add the DNS server IP address above the existing nameserver information. To obtain DNS server IP addresses, see [What Are Private DNS Servers and What Are Their Addresses?](#)

Figure 1-1 Configuring DNS

```
; generated by /sbin/dhclient-script
search openstacklocal
nameserver 100.125.1.250
nameserver 104.204.114.114
nameserver 104.204.115.115
```

The format is as follows:

```
nameserver 100.125.1.250
```

- If the configuration succeeds, go to **c**.
- If the configuration fails, run the `lsattr /etc/resolv.conf` command. If the information shown in [Figure 1-2](#) is displayed, the file is locked.

Figure 1-2 A locked file

```
[root@dhcp125-114-File-Host /]# lsattr /etc/resolv.conf
---i-----e- /etc/resolv.conf
```

Run the `chattr -i/etc/resolv.conf` command to unlock the file. Then, re-configure the DNS and go to **c**.

- c. Press **Esc**, input `:wq`, and press **Enter** to save the changes and exit the vi editor.
- d. Set the correct tenant DNS for the subnet of the VPC where the server belongs. By default, the server inherits the DNS configuration of the VPC every time the server restarts. Changing only the server DNS configuration does not resolve the issue completely.
- e. (Optional) Restart the server.
- f. Run the `mount` command again.
 - If the mount is successful, no further action is required.

- If the problem persists, see the solution for cause 5.
- Cause 5: The server that mounts the file system runs Ubuntu18 or later.
 - a. Reconfigure DNS by referring to [Configuring DNS](#).
 - b. Check whether the server running Ubuntu18 or later was created from a private image.
 - If yes, go to [d](#).
 - If no, go to [c](#).
 - c. Convert the public image server to a private image server.
 - i. Create a private image for the server by referring to section "Creating an Image" in the *Elastic Cloud Server User Guide*.
 - ii. Use the private image obtained in [c.i](#) to create a server or change the server OS to the created private image by referring to section "Changing the OS" in the *Elastic Cloud Server User Guide*.
 - d. Log in to the server and remount the file system.

2 Mounting a File System Fails

Symptom

When a file system is mounted to servers using the **mount** command, message **access denied** is displayed on the server.

Possible Causes

- Cause 1: The file system has been deleted.
- Cause 2: The server and the mounted file system are not in the same VPC.
- Cause 3: The mount point in the **mount** command is incorrect.
- Cause 4: The IP address used for accessing SFS is a virtual IP address.
- Cause 5: The DNS used for accessing the file system is incorrect.
- Cause 6: A CIFS file system is mounted to Linux servers.
- Cause 7: The subdirectory to be mounted does not exist.

Fault Diagnosis

Take troubleshooting measures based on possible causes.

Solution

- Cause 1: The file system has been deleted.
Log in to the management console and check whether the file system has been deleted.
 - If yes, create a file system or select an existing file system to mount. Ensure that the server and the file system reside in the same VPC.
 - If no, go to Cause 2.
- Cause 2: The server and the mounted file system are not in the same VPC.
Log in to the management console and check whether the server and the file system belong to the same VPC.
 - If yes, go to Cause 3.
 - If no, select a file system that resides in the same VPC as the server
- Cause 3: The mount point in the **mount** command is incorrect.

- a. Log in to the management console and check whether the mount point is the same as the one in the **mount** command.
 - b. If the mount point in the **mount** command is incorrectly entered, correct it and run the command again.
- Cause 4: The IP address used for accessing SFS is a virtual IP address.
Log in to the server and run the **ping** command and use the server IP address to access SFS. Check whether the service is reachable. See [Figure 2-1](#).
 - If yes, the network problem has been resolved. Check other possible causes.
 - If no, the server virtual IP address is unable to access SFS due to the network problem. Use the private IP address and run the **ping** command to access SFS and check whether the service is reachable.

Figure 2-1 Running the ping command to access SFS

```
UM-CC_USMCCMRP_01:~ # ping -I 10.57.1.181 100.125.0.20
PING 100.125.0.20 (100.125.0.20) from 10.57.1.181 : 56(84) bytes of data.
64 bytes from 100.125.0.20: icmp_seq=1 ttl=58 time=1.50 ms
64 bytes from 100.125.0.20: icmp_seq=2 ttl=58 time=1.24 ms
64 bytes from 100.125.0.20: icmp_seq=3 ttl=58 time=1.20 ms
^C
--- 100.125.0.20 ping statistics ---
3 packets transmitted, 3 received, 0% packet loss, time 2014ms
rtt min/avg/max/mdev = 1.203/1.317/1.507/0.138 ms
UM-CC_USMCCMRP_01:~ #
UM-CC_USMCCMRP_01:~ # ping -I 10.57.1.221 100.125.0.20
PING 100.125.0.20 (100.125.0.20) from 10.57.1.221 : 56(84) bytes of data.
```

- Cause 5: The DNS used for accessing the file system is incorrect.
Run the following command to check whether the DNS is correct:
nslookup *File system domain name*
Check whether the resolved IP address is in segment **100**.
 - If yes, the DNS configuration is correct. Check other possible causes.
 - If no, the DNS configuration is incorrect. Reconfigure DNS by referring to [Configuring DNS](#).
- Cause 6: A CIFS file system is mounted to Linux servers.
CIFS file systems cannot be mounted to Linux ECSs. Mount the CIFS file system to Windows servers.
- Cause 7: The subdirectory to be mounted does not exist.
Mount the file system to the root directory. Then create a subdirectory, unmount the mounted file system, and [mount the file system to the created subdirectory](#).

3 File System Performance Is Poor

Symptom

Data is written slowly to the file system, the file system performance cannot meet service requirements, or file transfer is slow.

Troubleshooting

Possible causes are sequenced based on their occurrence probability.

If the fault persists after you have ruled out one cause, move on to the next one in the list.

Figure 3-1 Troubleshooting

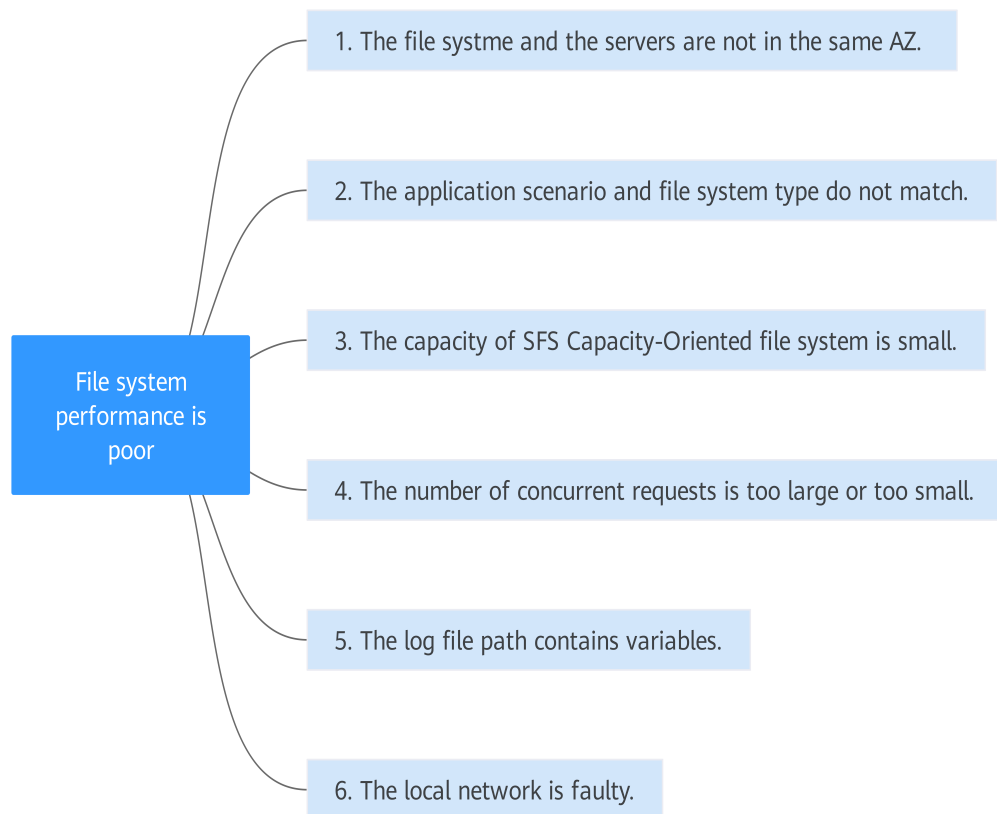


Table 3-1 Troubleshooting

Possible Causes	Solution
The file system and the servers where the file system is mounted are not in the same AZ.	Create a file system in the same AZ as the servers, migrate the data from the original file system to the new file system, and mount the new file system to the servers.
The application scenario does not match the file system type.	Select an appropriate file system type based on your workloads. For details, see File System Types .
The capacity of the SFS Capacity-Oriented file system is small.	The performance of an SFS Capacity-Oriented is related to its capacity. The ratio of the file system bandwidth to the file system capacity is 20 MB/s to 1 TB. The maximum bandwidth of a file system with 100 TB capacity is 2 GB/s. If a higher bandwidth is required, purchase a file system with larger capacity. To obtain higher performance, submit a service ticket .

Possible Causes	Solution
The number of concurrent requests is too large or too small.	When the number of concurrent requests is too large or too small, the file system performance may deteriorate. Submit a service ticket .
The log file path contains variables.	If it takes a long time to write logs to the file system using Nginx, do as follows: <ul style="list-style-type: none">• Delete variables from the access_log directive and use a fixed path to store log files.• Set the log file descriptor cache using the open_log_file_cache command, which improves the performance of the log path containing variables.
The local network is faulty.	Rectify the network fault.

Submitting a Service Ticket

If the problem persists, [submit a service ticket](#).

4 Failed to Create an SFS Turbo File System

Symptom

An SFS Turbo file system fails to be created.

Fault Diagnosis

The following fault causes are sequenced based on their occurrence probability.

If the fault persists after you have ruled out one cause, move on to the next one in the list.

Figure 4-1 Fault diagnosis

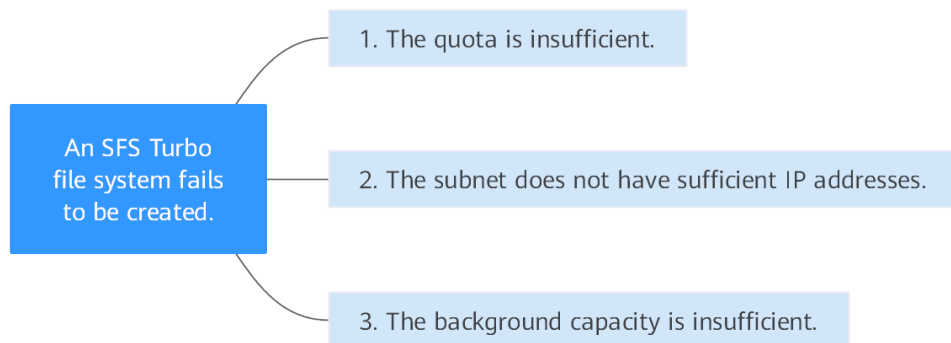


Table 4-1 Fault diagnosis

Possible Cause	Solution
The quota is insufficient.	The number of created file systems has reached the upper limit. Submit a service ticket to increase the quota.
The subnet does not have sufficient IP addresses.	If the subnet IP addresses are insufficient, you can change the subnet or release other IP addresses in the subnet.

Possible Cause	Solution
The background capacity is insufficient.	Submit a service ticket to expand the capacity.

Submitting a Service Ticket

If the problem persists, [submit a service ticket](#).

5 A File System Is Automatically Disconnected from the Server

Symptom

A file system is disconnected from the server and needs to be mounted again.

Possible Causes

Automatic mounting is not configured. The server is automatically disconnected from the file system after restart.

Solution

Configure automatic mounting for the server so that the file system will be automatically mounted to the server after the server restarts. For details, see [Mounting a File System Automatically](#).

Submitting a Service Ticket

If the problem persists, [submit a service ticket](#).

6 A Server Fails to Access a File System

Symptom

A server fails to access a file system. The system displays a message indicating that the access request is denied. All services on the server are abnormal.

Possible Causes

- Cause 1: The file system is abnormal.
- Cause 2: After a forcible unmount operation on the server, mount fails.

Fault Diagnosis

Take troubleshooting measures based on possible causes.

Solution

- Cause 1: The file system is abnormal.
Log in to the management console. On the **Scalable File System** page, check whether the file system is in the **Available** state.
 - If yes, go to Cause 2.
 - If no, see [The File System Is Abnormal](#) to restore the file system to the available state, and then access the file system again.
- Cause 2: After a forcible unmount operation on the server, mount fails.
 - a. This problem is caused by an inherent defect of servers. Restart the server to resolve this problem.
 - b. Check whether the file system can be properly mounted and accessed.
 - If yes, no further action is required.
 - If no, contact technical support.

7 The File System Is Abnormal

Currently, the file system exceptions include deletion error, expansion error, reduction error, and reduction failure. When the file system is in these statuses, refer to the following handling suggestions.

Table 7-1 Measures for handling file system abnormalities

Exception	Suggestion
Deletion error	When the file system is in the deletion error status, it can automatically recover to the available state. If the status cannot be restored to available, contact the administrator.
Expansion error	When the file system is in the expansion error status, it can automatically recover to the available state. If the status cannot be restored to available, contact the administrator.
Reduction error	When the file system is in the reduction error status, it takes approximately five minutes for the file system to restore to the available state.
Reduction failure	When the file system is in the reduction failure status, it takes approximately five minutes for the file system to restore to the available state.

8 Data Fails to Be Written into a File System Mounted to ECSs Running Different Types of Operating Systems

A file system can be mounted to a Linux ECS and a Windows ECS. However, data may fail to be written to the file system.

Symptom

If a file system is mounted to a Linux ECS and a Windows ECS, on the Windows ECS, data cannot be written to the files created by the Linux ECS.

Possible Causes

A shared NFS file system belongs to the root user and cannot be modified. The write permission is granted to a user only when both the values of UID and GID of the user are **0**. You can check your UID using Windows commands. If the value of UID is, for example, **-2**, you do not have the write permission.

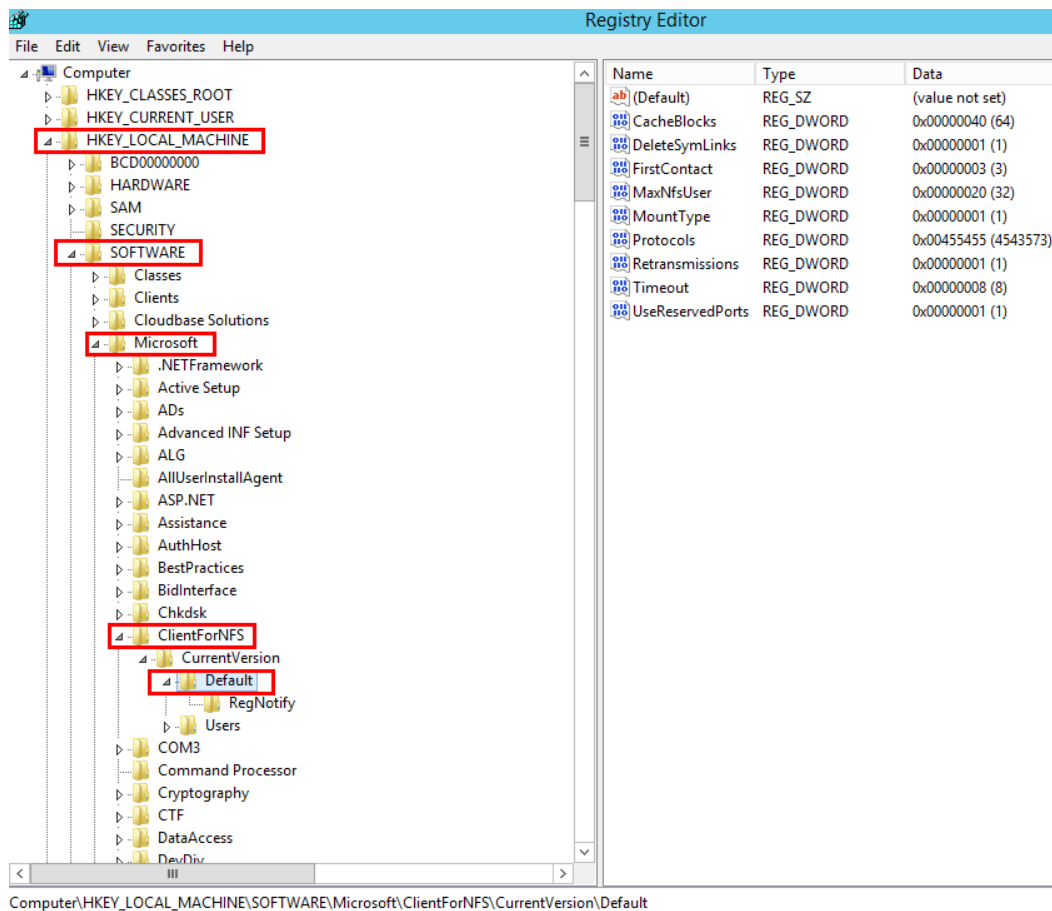
Fault Diagnosis

To address this problem, modify the registry and change both UID and GID values to **0** for NFS accesses from Windows.

Solution

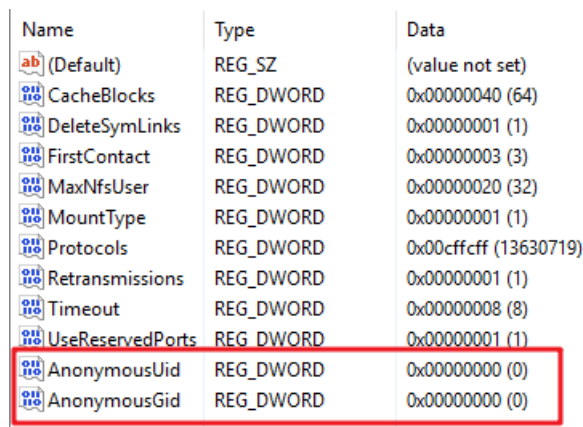
- Step 1** Choose **Start > Run** and enter **regedit** to open the registry.
- Step 2** Enter the **HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\ClientForNFS\CurrentVersion\Default** directory. [Figure 8-1](#) shows an example of the directory.

Figure 8-1 Entering the directory



Step 3 Right-click the blank area and choose **New > DWORD Value** from the shortcut menu. Set **AnonymousUid** and **AnonymousGid** to **0**. Figure 8-2 shows a successful operation.

Figure 8-2 Adding values



Step 4 After modifying the registry, restart the server for the modification to take effect.

----End

9 Failed to Mount an NFS File System to a Windows IIS Server

Symptom

When an NFS file system is mounted to a Windows IIS server, an error message is displayed, indicating that the path format is not supported, and the mounting fails.

Possible Causes

The physical path of the IIS Web server is incorrect.

Fault Diagnosis

Take troubleshooting measures based on possible causes.

Solution

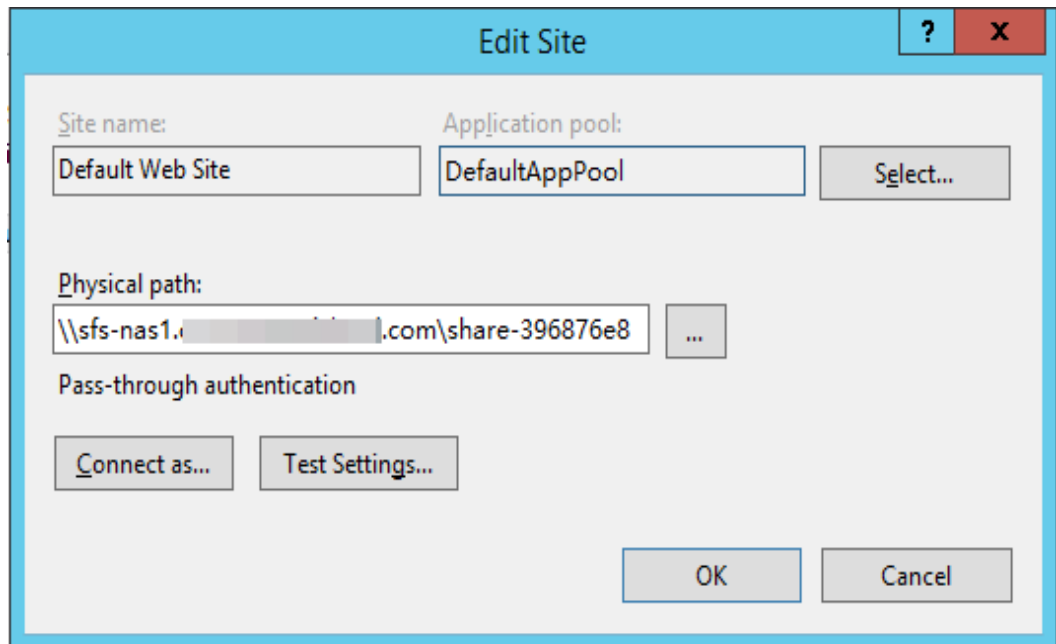
- Step 1** Log in to the ECS. An ECS running Windows Server 2012 R2 is used in this example.
- Step 2** Click **Server Manager** in the lower left corner.
- Step 3** Choose **Tools > Internet Information Services (IIS) Manager**, expand **Sites**, and select the target website.
- Step 4** Click **Basic Settings** to check whether the **Physical path** is correct.
- Step 5** The correct physical path is that of the mount point with the colon (:) deleted.

Figure 9-1 shows the mount point of a file system. You need to enter the physical path `\\sfs-nas1.XXXXXXXXXX.com\share-396876e8`, as shown in **Figure 9-2**.

Figure 9-1 Mount point

Name	AZ	Status	Share Pr...	Available C...	Maximum Capa...	Encrypted	Enterprise...	Shared Path
sfs-name-001	AZ1	Available	NFS	20.00	20.00	No	default	sfs-nas01... /share-396876e8

Figure 9-2 Physical path



----End

10 Writing to a File System Fails

Symptom

Data fails to be written to the file system mounted to ECSs running the same type of OS.

Possible Causes


The ECS security group configuration is incorrect. The port used to communicate with the file system is not enabled.

Fault Diagnosis

Check whether the port of the ECS is enabled and correctly configure the port on the security group console.

Solution

Step 1 Log in to the ECS console.

1. Log in to the management console.
2. Click  in the upper left corner and select your desired region and project.
3. Choose **Compute > Elastic Cloud Server**.

Step 2 On the page displayed, select the target ECS to go to the ECS details page.

Step 3 Click the **Security Groups** tab and select the target security group. Click **Manage Rule** to go to the security group console.

Step 4 On the displayed page, click the **Inbound Rules** tab and click **Add Rule**. The **Add Inbound Rule** page is displayed, as shown in [Figure 10-1](#). Add rules as follows:

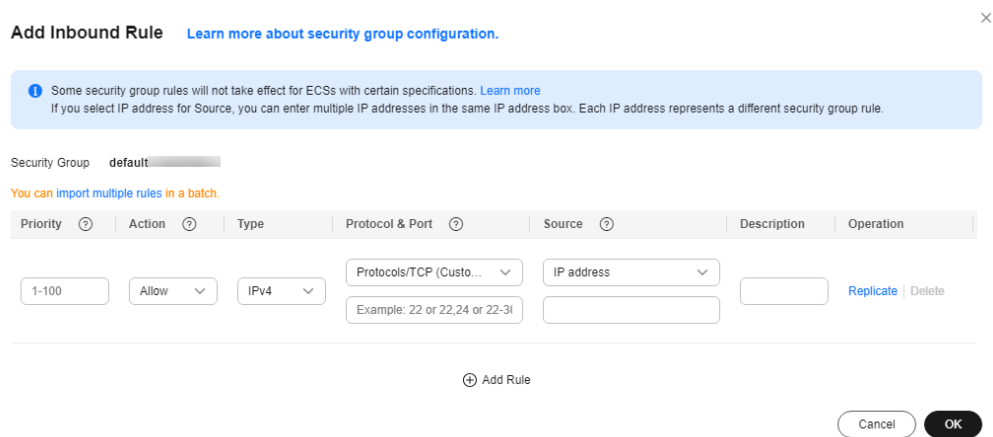
After an SFS Turbo file system is created, the system automatically enables the security group ports required by the NFS protocol. This ensures that the SFS Turbo file system can be successfully mounted to your servers. The inbound ports required by the NFS protocol are ports 111, 2049, 2051, 2052, and 20048. If you need to change the enabled ports, go to the VPC console, choose **Access Control > Security Groups**, locate the target security group, and change the ports.

You are advised to use an independent security group for an SFS Turbo file system to isolate it from service nodes.

You need to add inbound and outbound rules for the security group of an SFS Capacity-Oriented file system. For details, see [Adding a Security Group Rule](#). For an SFS Capacity-Oriented file system, the inbound ports required by the NFS protocol are ports 111, 2049, 2050, 2051, and 2052. The inbound port required by the DNS server is port 53 and those required by the CIFS protocol are ports 445 and 135.

You need to add inbound and outbound rules for the security group of a general purpose file system. For details, see [Adding a Security Group Rule](#). The inbound ports required by NFS are ports 111, 2049, and 2050.

Figure 10-1 Add Inbound Rule



Step 5 Click **OK**. Access the file system again for verification.

----End

11 Error Message "wrong fs type, bad option" Is Displayed During File System Mounting

Symptom

The message "wrong fs type, bad option" is displayed when you run the **mount** command to mount a file system to an ECS running Linux.

Possible Causes

An NFS client is not installed on the Linux ECS. That is, the **nfs-utils** software package is not installed before you execute the **mount** command.

Fault Diagnosis

Install the required **nfs-utils** software package.

Solution

NOTE

Refer to the following steps if your clients run CentOS, Red Hat, Oracle Enterprise Linux, SUSE, EulerOS, Fedora, or OpenSUSE. For other OSs, see [Mounting an NFS File System to ECSs \(Linux\)](#).

Step 1 Log in to the ECS and check whether the **nfs-utils** package is installed. Run the following command. If no command output is displayed, the package is not installed.

```
rpm -qa|grep nfs
```

Figure 11-1 Checking whether the software package has been installed

```
mesg | tail or so.
[root@bcd ~]# rpm -qa | grep nfs
[root@bcd ~]# yum list | grep nfs
libnfsidmap.i686                0.25-15.el7                base
libnfsidmap.x86_64             0.25-15.el7                base
libnfsidmap-devel.i686        0.25-15.el7                base
libnfsidmap-devel.x86_64     0.25-15.el7                base
nfs-utils.x86_64              1:1.3.0-0.33.el7_3        updates
nfs4-acl-tools.x86_64        0.3.3-15.el7              base
nfsometer.noarch             1.7-1.el7                 base
```

- Step 2** Run the following command to install the nfs-utils software package:
`yum -y install nfs-utils`

Figure 11-2 Executing the installation command

```
[root@bcd ~]# yum -y install nfs-utils.x86_64
Loaded plugins: fastestmirror
Loading mirror speeds from cached hostfile
Resolving Dependencies
--> Running transaction check
--> Package nfs-utils.x86_64 1:1.3.0-0.33.el7_3 will be installed
--> Processing Dependency: libtirpc >= 0.2.4-0.7 for package: 1:nfs-utils-1.3.0-0.33.el7_3.x86_64
--> Processing Dependency: gssproxy >= 0.3.0-0 for package: 1:nfs-utils-1.3.0-0.33.el7_3.x86_64
```

Figure 11-3 Successful installation

```
Installed:
nfs-utils.x86_64 1:1.3.0-0.33.el7_3

Dependency Installed:
gssproxy.x86_64 0:0.4.1-13.el7                keyutils.x86_64 0:1.5.8-3.el7                libbasicobjects.x86_64 0:0.1.1-27.el7
libcollection.x86_64 0:0.6.2-27.el7            libevent.x86_64 0:2.0.21-4.el7                libini_config.x86_64 0:1.3.0-27.el7
libnfsidmap.x86_64 0:0.25-15.el7                libpath_utils.x86_64 0:0.2.1-27.el7                libref_array.x86_64 0:0.1.5-27.el7
libtalloc.x86_64 0:2.1.6-1.el7                libtevent.x86_64 0:0.9.28-1.el7                libtirpc.x86_64 0:0.2.4-0.8.el7
libverto-tevent.x86_64 0:0.2.5-4.el7            quota.x86_64 1:4.01-14.el7                    quota-nls.noarch 1:4.01-14.el7
rpcbind.x86_64 0:0.2.0-38.el7                tcp_wrappers.x86_64 0:7.6-77.el7

Complete!
```

- Step 3** Run the **mount** command again to mount the file system to the ECS.
`mount -t nfs -o vers=3,timeo=600,noresvport,nolock Mount point Local path`

- Step 4** Run the following command to view the mounted file system:

```
mount -l
```

If the command output contains the following information, the file system is mounted successfully.

```
example.com:/share-xxx on /local_path type nfs (rw,vers=3,timeo=600,nolock,addr=)
```

----End

12 Failed to Access the Shared Folder in Windows

Symptom

When you mount a file system to an ECS running Windows, the system displays a message "You cannot access this shared folder because your organization's security policies block unauthenticated guest access. These policies help to protect you PC from unsafe or malicious devices on the network."

Possible Causes

Guest access to CIFS file systems is blocked or disabled.

Fault Diagnosis

Solution 1: Manually enable guest access.

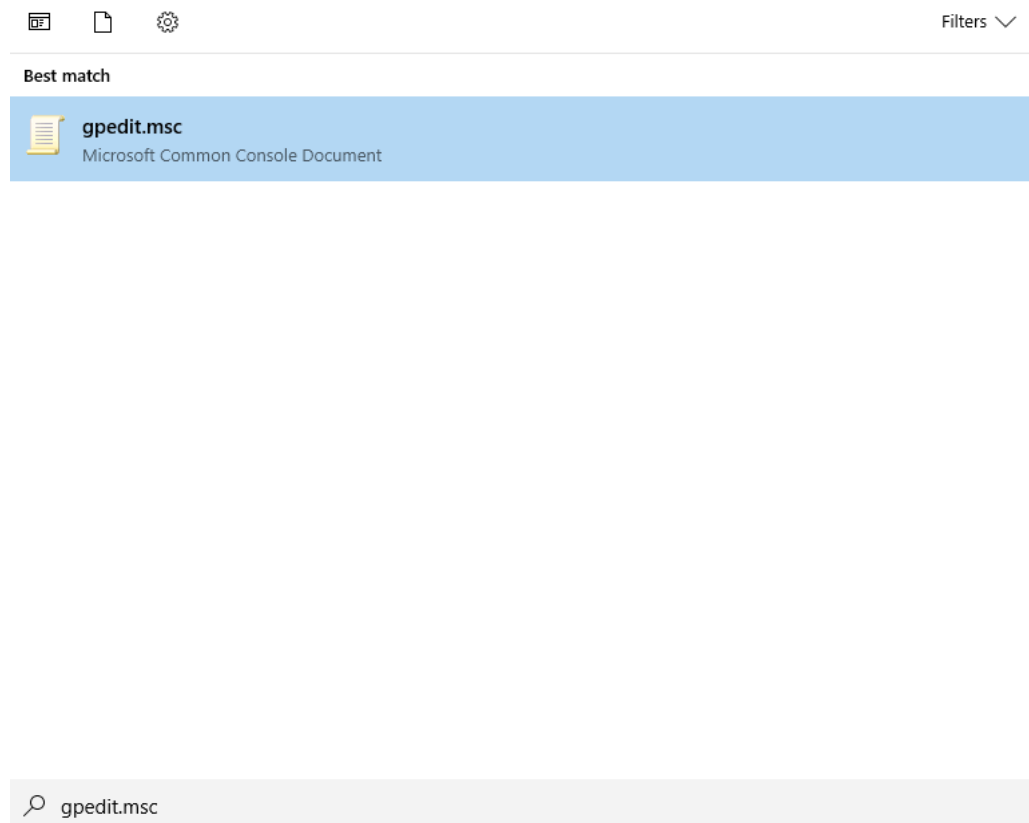
Solution 2: Modify the registry to allow guest access (suitable for versions later than Windows Server 2016).

Solution

Solution 1: Manually enable guest access.

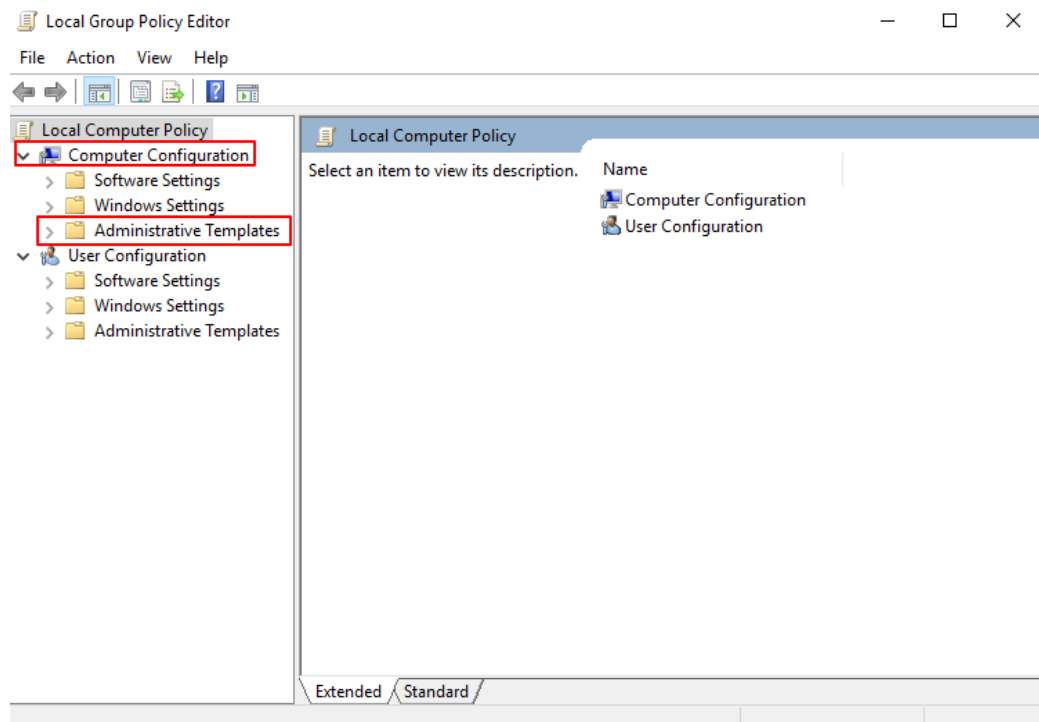
Step 1 Open **Run** command box, enter **gpedit.msc**, and press **Enter** to start **Local Group Policy Editor**.

Figure 12-1 Entering gpedit.msc



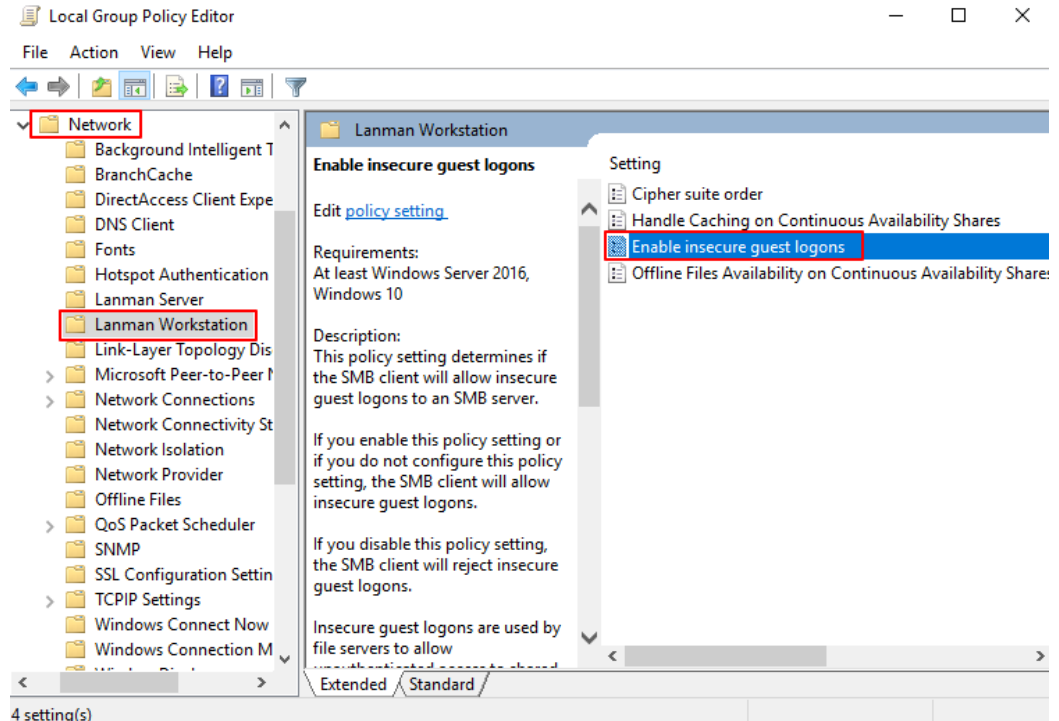
Step 2 On the **Local Group Policy Editor** page, choose **Computer Configuration > Administrative Templates**.

Figure 12-2 Local Group Policy Editor



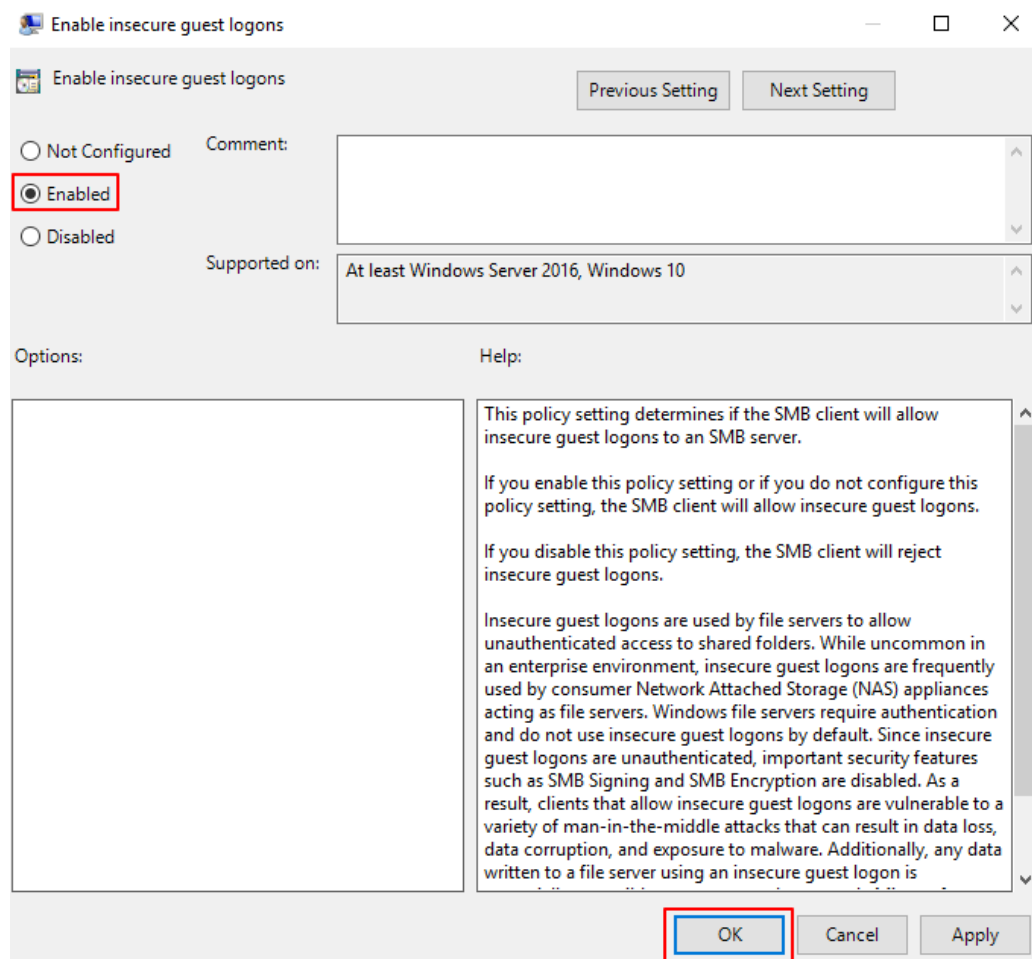
Step 3 Under **Administrative Templates**, choose **Network > Lanman Workstation** and find the option of **Enable insecure guest logons**.

Figure 12-3 Locating the option



Step 4 Double-click **Enable insecure guest logons**. Select **Enabled** and click **OK**.

Figure 12-4 Enabling insecure guest logons



Step 5 After the access is enabled, mount the file system again. If the fault persists, contact technical support.

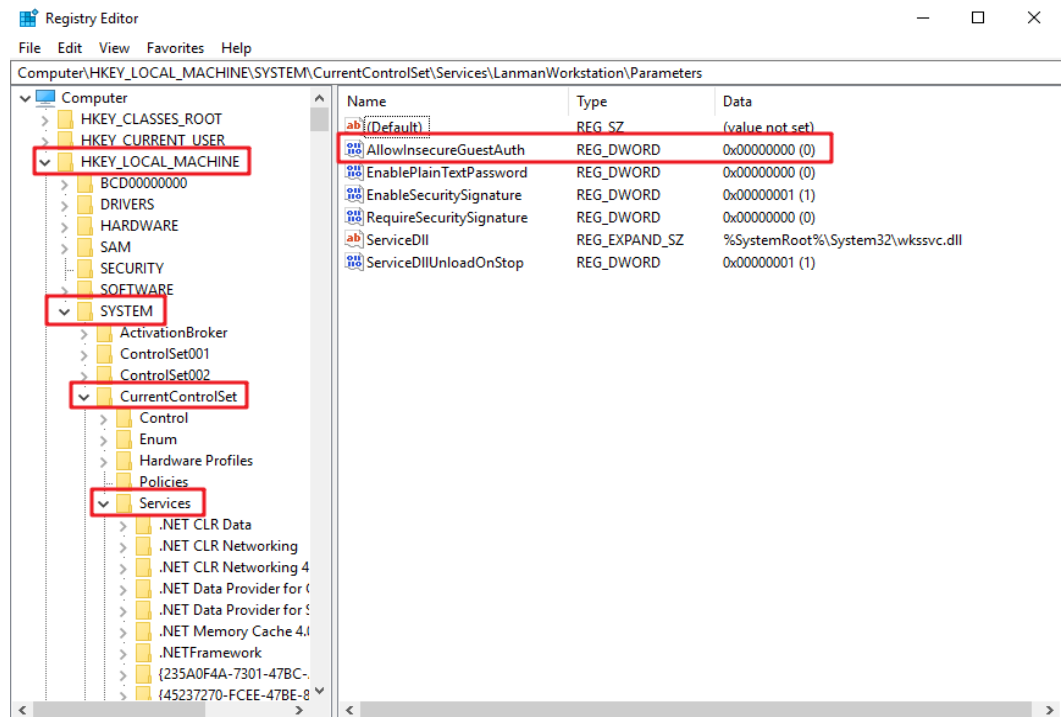
----End

Solution 2: Modify the registry to allow guest access (suitable for versions later than Windows Server 2016).

Step 1 Choose **Start > Run** and enter **regedit** to open the registry.

Step 2 Go to the **HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\LanmanWorkstation\Parameters** directory.

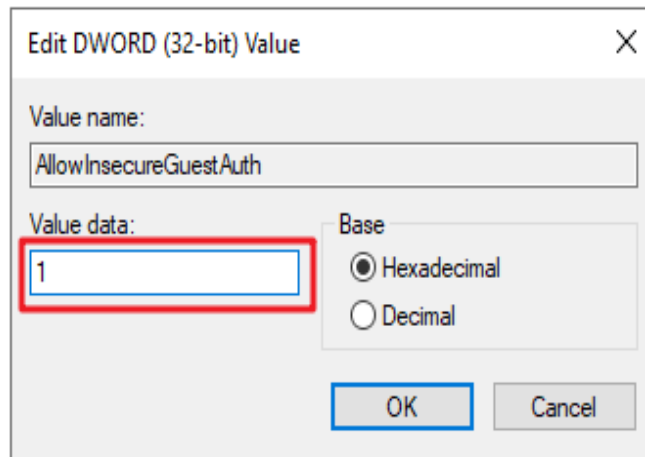
Figure 12-5 Entering the registry



Step 3 Right-click **AllowInsecureGuestAuth** and choose **Modify** from the shortcut menu. In the pop-up window, change the value to 1.

Figure 12-6 Changing the value

Name	Type	Data
(Default)	REG_SZ	(value not set)
AllowInsecureGuestAuth	REG_DWORD	0x00000000 (0)
EnablePlainTextPassword	REG_DWORD	0x00000000 (0)
EnableSecuritySignature	REG_DWORD	0x00000001 (1)
RequireSecuritySignature	REG_DWORD	0x00000000 (0)
ServiceDll	REG_EXPAND_SZ	%SystemRoot%\System32\wkssvc.dll
ServiceDllUnloadOnStop	REG_DWORD	0x00000001 (1)



----End