Scalable File Service

# Troubleshooting

| | |
|---|---|
| **Issue** | 02 |
| **Date** | 2019-03-01 |



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# 1 Mounting a File System Times Out

## Symptom

When the **mount** command is executed to mount a file system to ECSs, the message **timed out** is displayed.

## Possible Causes

- Cause 1: The network status is not stable.
- Cause 2: The network connection is abnormal.
- Cause 3: The DNS configuration of the ECS 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 4: The operating system of the ECS where the file system is to be mounted is Ubuntu18 or a later version.

## Fault Diagnosis

After the network fault is excluded, run the **mount** command again.

## Solution

- Cause 1 and Cause 2: The network status is not stable or the network connection is abnormal.

  Re-mount the file system after the network issue is addressed.

  – If the patch is uninstalled successfully, no further action is required.

  – If the problem persists, see the solution for cause 3.
- Cause 3: The DNS configuration of the ECS 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. For details about how to configure the DNS, see **Configuring DNS**.
  - If the DNS has been configured, run the following command to check whether the DNS is correct:

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**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, configure the correct tenant DNS, and run **vi /etc/resolv.conf** to edit the **/etc/resolv.conf** file. Add the DNS server IP address above the existing nameserver information. The IP address of the DNS server in the CN Northeast region is 100.125.6.250. For IP addresses in other regions, see **What Are the Private DNS Server Addresses Provided by HUAWEI CLOUD DNS?**

**Figure 1-1** Configuring DNS

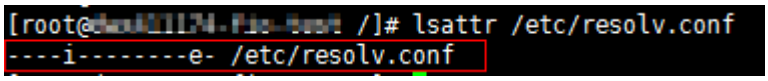



The format is as follows:

```
nameserver 100.125.1.250
nameserver 100.125.17.29
```

- 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




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. The default DNS of the ECS applied by the user is inherited from the VPC to which the ECS belongs. Therefore, when the ECS restarts, the ECS changes synchronously. For this reason, changing configurations of the ECS does not settle the issue completely. You need to modify configurations in the VPC. Set a correct tenant DNS for the subnet of the VPC to which the ECS belongs.

e. (Optional) Restart the ECS.

f. Run the **mount** command again.

- If the problem is solved, no further action is required.
- If the problem persists, see the solution for cause 4.

- Cause 4: The operating system of the ECS where the file system is to be mounted is Ubuntu18 or a later version.

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a. Reconfigure DNS by referring to **Configuring DNS**.
b. Check whether the target ECS running Ubuntu18 or a later version is a private image.
   - If yes, go to **d**.
   - If no, go to **c**.
c. Convert the public image ECS to a private image.
   i. To create a private image based on an existing ECS, see **Creating an Image**.
   ii. Use the private image created in **c.i** to create an ECS or switch the ECS to the private image created in **c.i**. For details, see **Changing the OS**.
d. Log in to the ECS and mount the file system again.


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# 2 Mounting a File System Fails

## Symptom

When running the **mount** command to mount the file system to the ECSs, the message **access denied** is displayed.

## Possible Causes

- Cause 1: The file system has been deleted.
- Cause 2: The ECS on which the **mount** command is executed 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 an ECS running Linux.

## 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. The ECS to which the file system is to be mounted must reside in the same VPC as the mounted file system.
  - If no, go to Cause 2.
- Cause 2: The ECS on which the **mount** command is executed and the mounted file system are not in the same VPC.

  Log in to the management console and check whether the ECS and the file system belong to the same VPC.

  - If yes, go to Cause 3.
  - If no, re-select the file system of the same VPC as the ECS.

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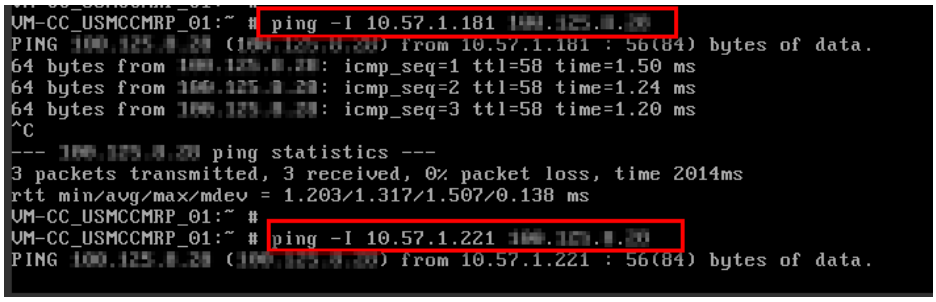
- Cause 3: The mount point in the **mount** command is incorrect.
  a. Log in to the management console and check whether the mount point is the same as the one in the **mount** command.
  b. If the mount point in the **mount** command is incorrectly entered, correct it and run the command again.
- Cause 4: The IP address used for accessing SFS is a virtual IP address.
  Log in to the ECS, run the **ping** command and use the IP address of the ECS 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 ECS 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




- 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 an ECS running Linux.
  CIFS file systems cannot be mounted to ECSs running Linux. Mount the CIFS file system to ECSs running Windows.

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# 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.

## Fault Diagnosis

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

If the fault persists after you have ruled out a cause, check other causes.

**Figure 3-1** Fault diagnosis

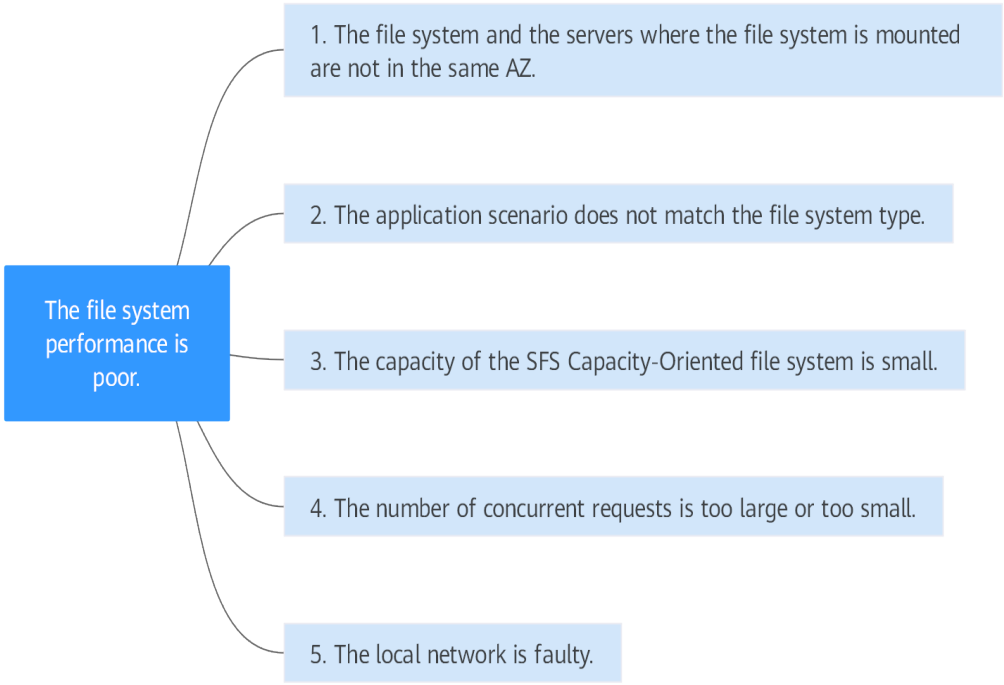


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**Table 3-1** Fault diagnosis

| Possible Cause | 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 a correct file system type based on service requirements. 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**. |
| The number of concurrent requests is too large or too small. | If the number of concurrent requests is too large or too small, the file system performance may deteriorate. Submit **a service ticket**. |
| The local network is faulty. | Rectify the network fault. |

## Submitting a Service Ticket

If the problem persists, **submit a service ticket**.

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# 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 a cause, check other causes.

**Figure 4-1** Fault diagnosis

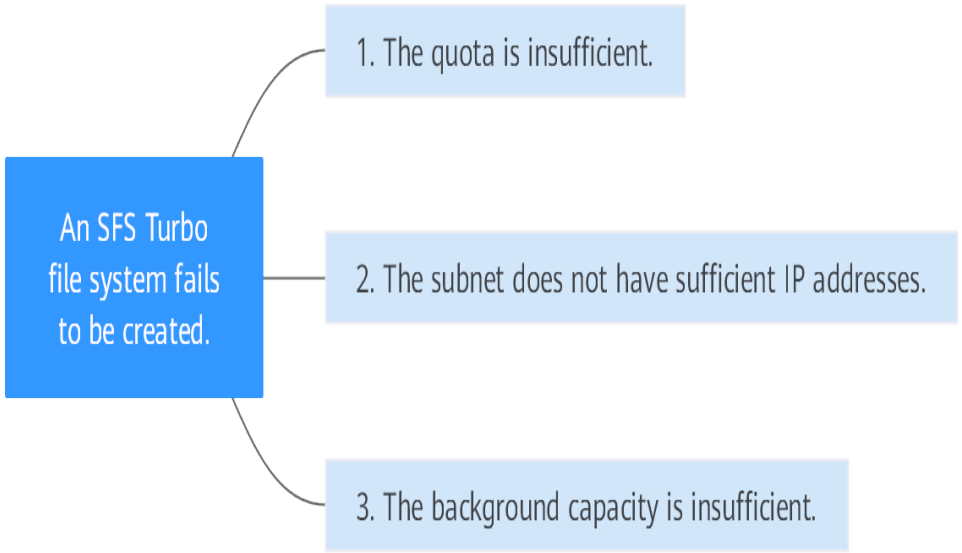



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**Table 4-1** Fault diagnosis

| 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. |
| The background capacity is insufficient. | Submit **a service ticket**. |

## Submitting a Service Ticket

If the problem persists, **submit a service ticket**.


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# 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**.


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# 6 An ECS Fails to Access a File System

## Symptom

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

## Possible Causes

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

  a. This problem is caused by an inherent defect of ECSs. Restart the ECS 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.

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# 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. |

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# 8 Data Fails to Be Written to a File

A file system can be mounted to an ECS running Linux and an ECS running Windows at the same time. However, data may fail to be written to the file system.

## Symptom

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

## 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, you need to modify the registry and change both values of UID and GID of the Windows user accessing NFS to **0**.

## 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.

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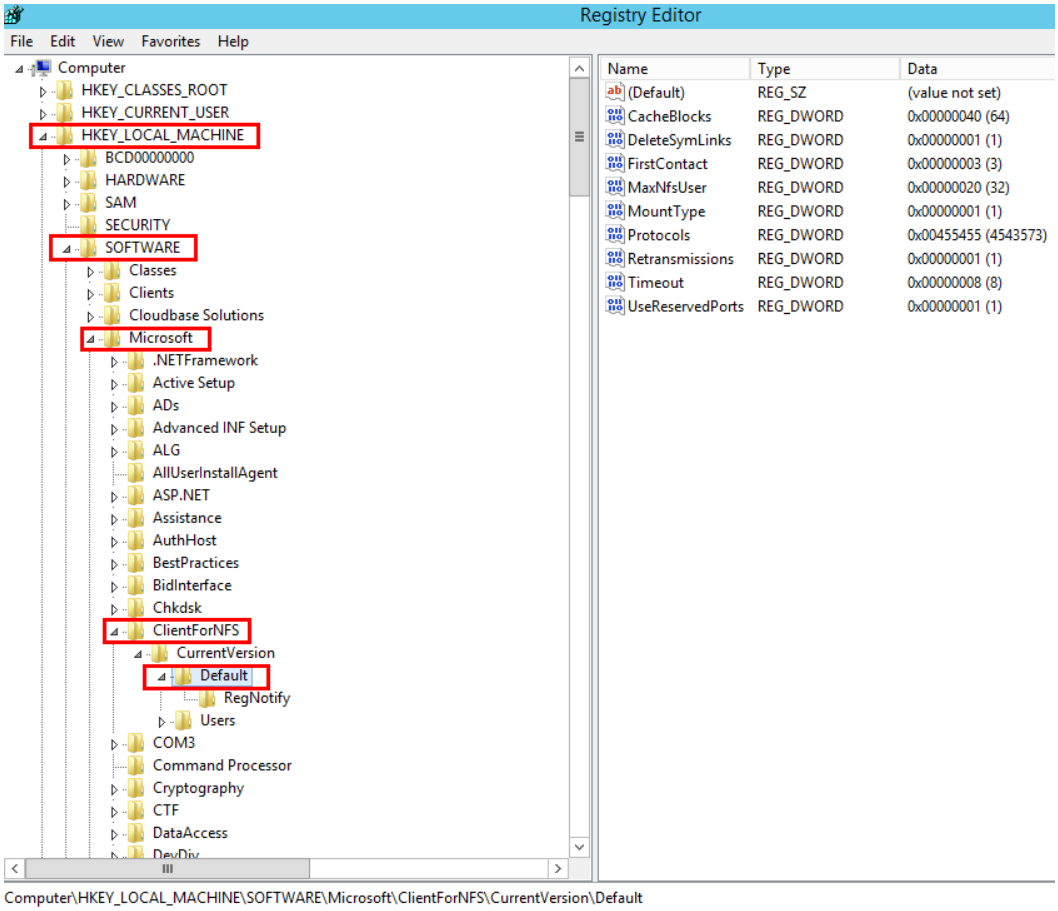
**Figure 8-1** Entering the directory




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

**Figure 8-2** Adding values

| Name | Type | Data |
|---|---|---|
| (Default) | REG_SZ | (value not set) |
| CacheBlocks | REG_DWORD | 0x00000040 (64) |
| DeleteSymLinks | REG_DWORD | 0x00000001 (1) |
| FirstContact | REG_DWORD | 0x00000003 (3) |
| MaxNfsUser | REG_DWORD | 0x00000020 (32) |
| MountType | REG_DWORD | 0x00000001 (1) |
| Protocols | REG_DWORD | 0x00455455 (4543573) |
| Retransmissions | REG_DWORD | 0x00000001 (1) |
| Timeout | REG_DWORD | 0x00000008 (8) |
| UseReservedPorts | REG_DWORD | 0x00000001 (1) |
| AnonymousUid | REG_QWORD | 0x00000000 (0) |
| AnonymousGid | REG_QWORD | 0x00000000 (0) |

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

**----End**

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# 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. The following operations use an ECS running Windows Server 2012 R2 as an 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.XXXXXXXXX.com\share-396876e8**, as shown in Figure 9-2.

**Figure 9-1** Mount point

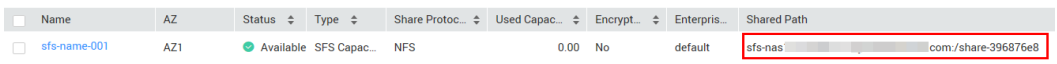


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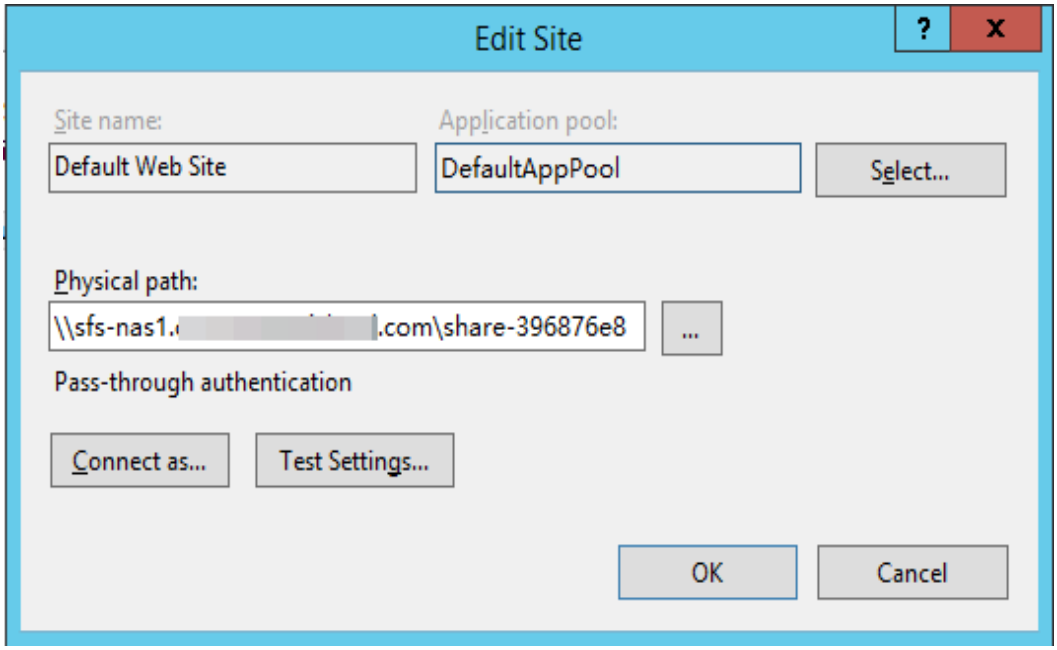
**Figure 9-2** Physical path




**----End**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# 10 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

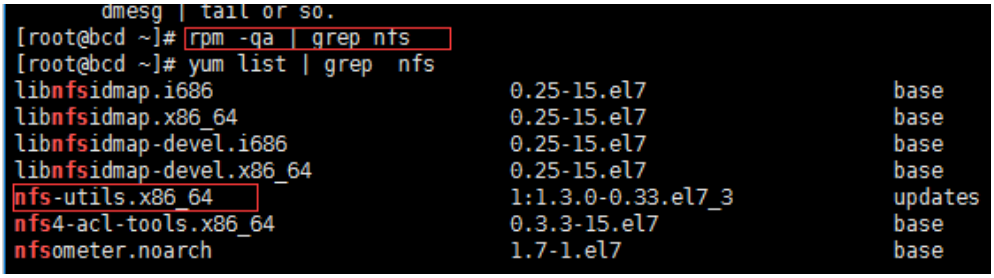
Install the required **nfs-utils** software package.

## Solution

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

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

**Figure 10-1** Checking whether the software package has been installed




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

```
yum -y install nfs-utils
```

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**Figure 10-2** Executing the installation command

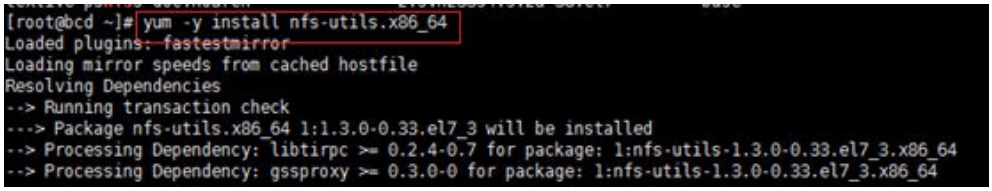
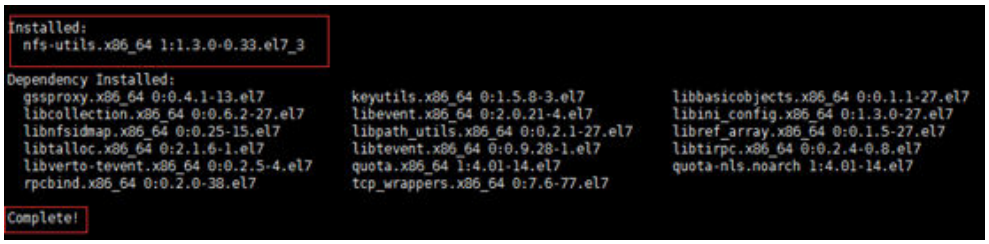



**Figure 10-3** Successful installation




**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**

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# 11 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**.

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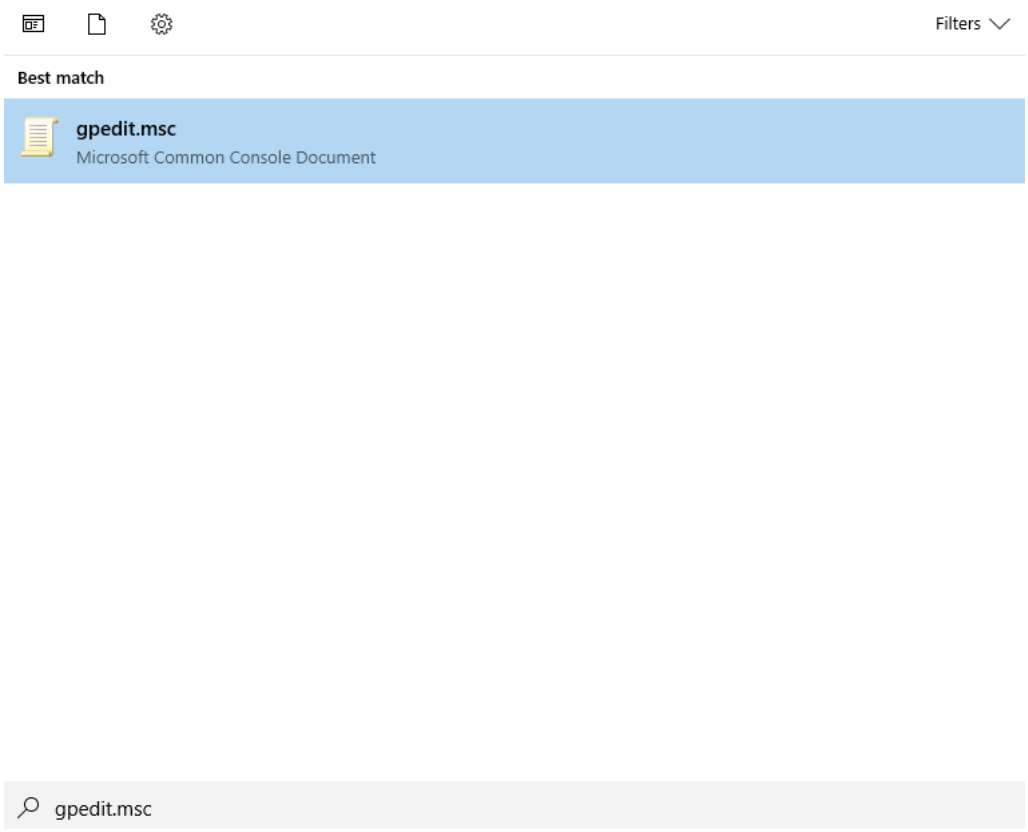
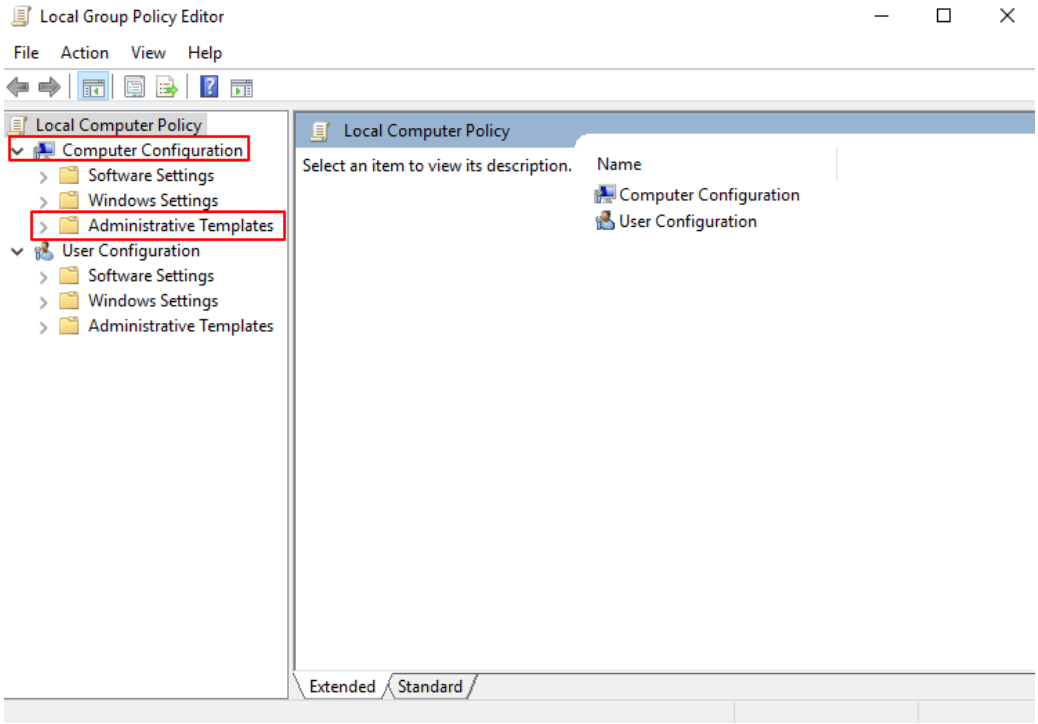
**Figure 11-1** Entering gpedit.msc




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

**Figure 11-2** Local Group Policy Editor

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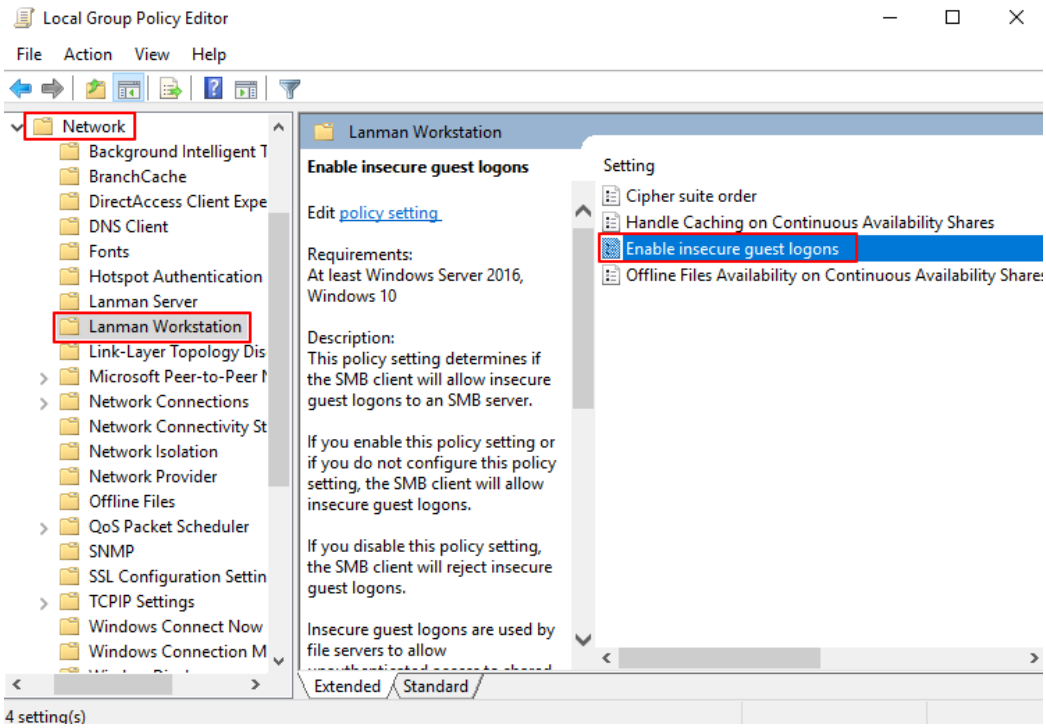
**Step 3** Under **Administrative Templates**, choose **Network** > **Lanman Workstation** and find the option of **Enable insecure guest logons**.

**Figure 11-3** Locating the option




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

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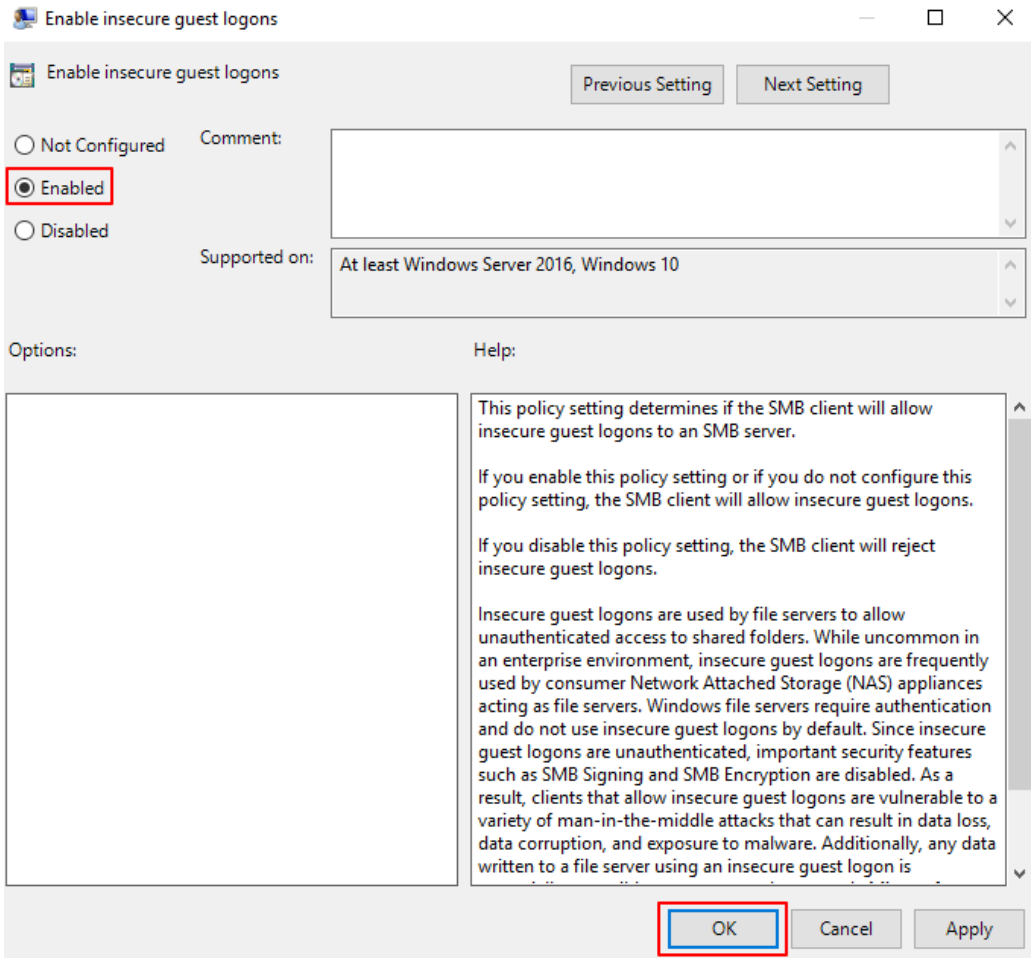
**Figure 11-4** Enabling insecure guest logons




**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** Open **Run** command box and enter **regedit** to open the registry.

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

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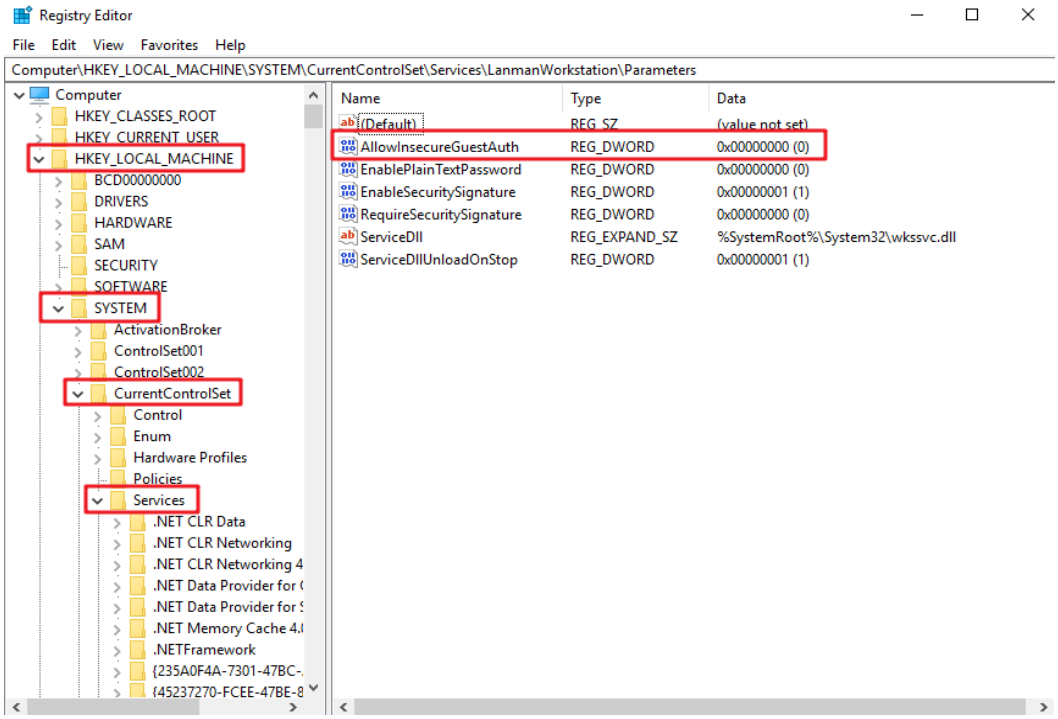
**Figure 11-5** Entering the registry




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

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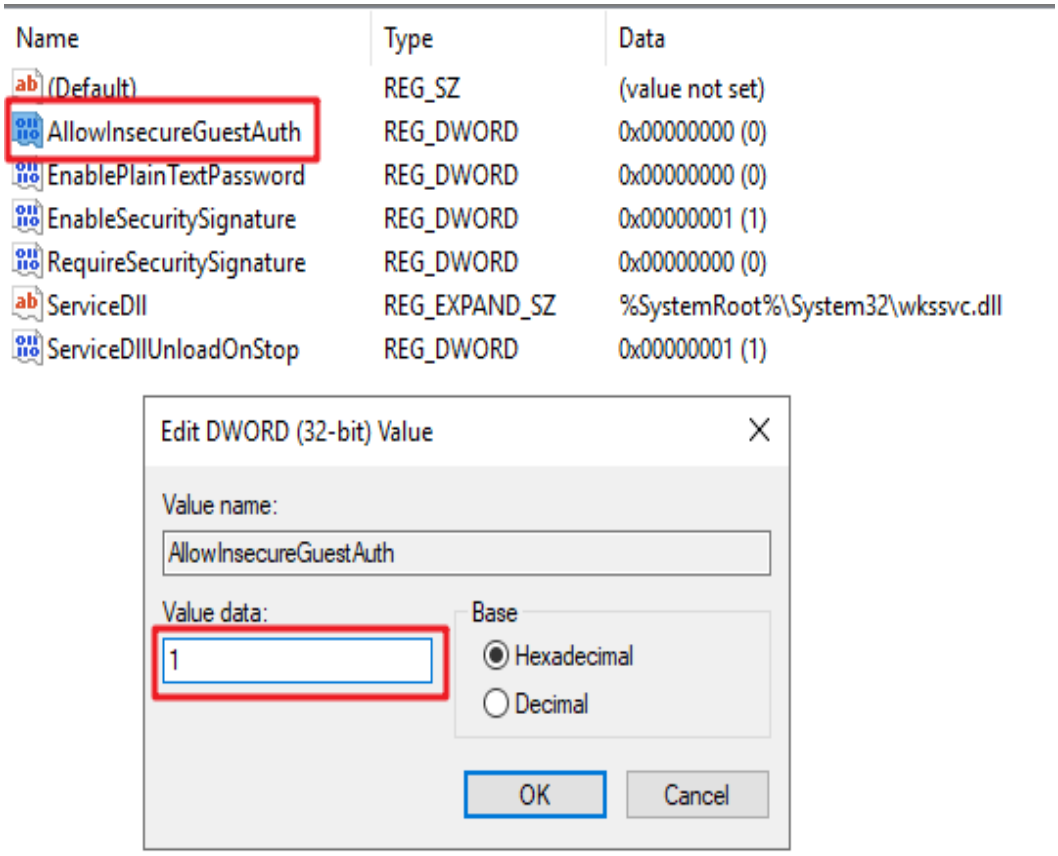
**Figure 11-6** Changing the value




**----End**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# 12 Change History

| Release Date | What's New |
| --- | --- |
| 2020-01-02 | This issue is the fourth official release.<br>Updated the following content:<br>Added section "What Can I Do If a Mapping Cannot Be Created When I Mount a File System to an ECS Running Windows 10?" |
| 2019-11-19 | This issue is the third official release.<br>Updated the following content:<br>Added section "Error Message 'wrong fs type, bad option' Is Displayed During File System Mounting." |
| 2019-03-01 | This issue is the second official release.<br>Updated the following content:<br>Added the "Failure of Mounting an NFS File System to a Windows IIS Server" section. |
| 2019-01-30 | This issue is the first official release. |

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