

Error 53, 67, or 87_Storage

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Tags

[cw.Azure-Files-All-Topics](#)[cw.TSG](#)

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Symptoms

When you try to mount a file share from on-premises or from a different datacenter, you might receive the following errors:

- System error 53 has occurred. The network path was not found.
- System error 67 has occurred. The network name cannot be found.
- System error 87 has occurred. The parameter is incorrect.

Cause

Cause 1: Port 445 is blocked

System error 53 or system error 67 can occur if port 445 outbound communication to an Azure Files datacenter is blocked.

Cause 2: NTLMv1 is enabled

System error 53 or system error 87 can occur if NTLMv1 communication is enabled on the client. Azure Files supports only NTLMv2 authentication. Having NTLMv1 enabled creates a less-secure client. Therefore, communication is blocked for Azure Files.

To determine whether this is the cause of the error, verify that the following registry subkey is set to a value of 3:

HKLM\SYSTEM\CurrentControlSet\Control\Lsa > LmCompatibilityLevel

For more information, see the [LmCompatibilityLevel](#)  topic on TechNet.


Refresher / Training Template

- For the purpose of training or following along with this TSG, you can use the following link to deploy a VM with this scenario built-in. You will need to enable JIT for the VM. This lab is not to be shared with customers. This template will deploy a VM with Error 53. When the deployment is complete it will automatically connect to the deployed storage account and present error 53 in a cmd window. Resolution for cause 2 will fix the issue.



Resolution

Resolution for Cause 1

System error 53 or system error 67 can occur if port 445 outbound communication to an Azure Files datacenter is blocked. See the [summary of ISPs that allow or disallow access from port 445](#) .


To check if your firewall or ISP is blocking port 445, use the [AzFileDiagnostics](#) tool or `Test-NetConnection` cmdlet.

To use the `Test-NetConnection` cmdlet, the Azure PowerShell module must be installed, see [Install Azure PowerShell module](#) for more information. Remember to replace `<your-storage-account-name>` and `<your-resource-group-name>` with the relevant names for your storage account. Check sample script below


Sample script for Test-NetConnection

- Click here to expand or collapse this section

Solution 1: Use Azure File Sync

Azure File Sync can transform your on-premises Windows Server into a quick cache of your Azure file share. You can use any protocol that's available on Windows Server to access your data locally, including SMB, NFS, and FTPS. Azure File Sync works over port 443 and can thus be used as a workaround to access Azure Files from clients that have port 445 blocked. [Learn how to setup Azure File Sync](#) .

Solution 2: Use VPN

By setting up a VPN to your specific Storage Account, the traffic will go through a secure tunnel as opposed to over the internet. Follow the [instructions to setup VPN](#)  to access Azure Files from Windows.

Solution 3: Unblock port 445 with help of your ISP/IT Admin

Work with your IT department or ISP to open port 445 outbound to [Azure IP ranges](#) ☐.

Solution 4: Use REST API based tools like Storage Explorer/PowerShell

Azure Files also supports REST in addition to SMB. REST access works over port 443 (standard tcp). There are various tools that are written using REST API which enable rich UI experience. [Storage Explorer](#) ☐ is one of them. [Download and Install Storage Explorer](#) ☐ and connect to your file share backed by Azure Files. You can also use [PowerShell](#) ☐ which also uses REST API.

Resolution for Cause 2

1. Revert the **LmCompatibilityLevel** value to the default value of 3 in the following registry subkey:
HKLM\SYSTEM\CurrentControlSet\Control\Lsa
2. If you set HKLM\SYSTEM\CurrentControlSet\Control\Lsa > **LmCompatibilityLevel** to 3, and this value reverts back to 1 a minute or two later, that means this setting is controlled by Group Policy.
 1. The policy is Security Options -> **Network security: LAN Manager authentication level**. Further information at [this article](#) ☐.
 2. The GP should be set to **Send NTLMv2 response only**.

Case Coding

Please use one of the following Root Cause buckets when closing a case that was resolved by this TSG:


Root Cause - Windows Azure\Storage\Files\Connectivity or

Root Cause - Windows Azure\Storage\Files\Connectivity\Authentication Errors

More Information

<<https://supportability.visualstudio.com/AzureIaaSVM/wiki/wikis/AzureIaaSVM/496116>
<https://docs.microsoft.com/en-us/azure/storage/files/storage-troubleshoot-windows-file-connection-problems#error-53-error-67-or-error-87-when-you-mount-or-unmount-an-azure-file-share> ☐

Need additional help or have feedback?

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