

# Mount Error 13 Linux VM\_Storage

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## Tags

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## Symptoms

### Symptom 1

You receive "Mount error(13)" when you try to mount the share from Linux system:

```
mount error(13): Permission denied
```

### Symptom 2

You may receive following error messages on Linux system and cannot handle any SMB/CIFS files mounted from Azure Files suddenly.

```
Dec  2 02:16:27 <hostname> kernel: Status code returned 0xc000006d STATUS_LOGON_FAILURE
Dec  2 02:16:27 <hostname> kernel: CIFS VFS: Send error in SessSetup = -13
```

```
dmesg|grep -i cifs
```

```
....
[ 1672.330303] CIFS: VFS: \\a3testgrs.file.core.windows.net Send error in SessSetup = -13
[ 1672.334886] CIFS: Status code returned 0xc0000016 STATUS_MORE_PROCESSING_REQUIRED
[ 1672.336856] CIFS: Status code returned 0xc000006d STATUS_LOGON_FAILURE
[ 1672.336864] CIFS: VFS: \\a3testgrs.file.core.windows.net Send error in SessSetup = -13
[ 1673.012783] CIFS: Status code returned 0xc0000016 STATUS_MORE_PROCESSING_REQUIRED
[ 1673.015360] CIFS: Status code returned 0xc000006d STATUS_LOGON_FAILURE
[ 1673.015372] CIFS: VFS: \\a3testgrs.file.core.windows.net Send error in SessSetup = -13
[ 1675.143255] CIFS: Status code returned 0xc0000016 STATUS_MORE_PROCESSING_REQUIRED
[ 1675.145310] CIFS: Status code returned 0xc000006d STATUS_LOGON_FAILURE
```

While the issue is ongoing, if you check the resolved IP for the current mounts and compare it to the current nslookup results for the same storage account, the IPs will be different:

```
cat /proc/mounts
```

```
...
//a3testgrs.file.core.windows.net/testsbwwithfailover on /mnt/testsbwwithfailover type cifs (rw,relatime,vers=
```

```
# nslookup abc.file.core.windows.net
```

```
...
Non-authoritative answer:
a3testgrs.file.core.windows.net canonical name = file.dub21prdstr02b.store.core.windows.net.
Name:   file.dub21prdstr02b.store.core.windows.net
Address: 52.239.139.151
```

## Causes

### Cause 1

If error have "Permission denied", the the issue is caused by a wrong username and/or password. If it have "STATUS\_LOGON\_FAILURE", check the below causes.

### Cause 2

Storage accounts are hosted on storage cluster. For capacity load balancing purpose, this might be migrated to another storage cluster. At that time, DNS will be upgrade so as to redirect to new clsuter. However, Linux SMB client don't aware of this, and still keep communicate previous cluster. In result, that client failed to access to Azure Files. You can confirm this migration in Xportal (navigate to "Account" > "Basic Info") URL:

<http://aka.ms/xportal> 

FinalizeMigrateCompleteTime	2021-11-30T00:59:39.8623457Z/td>
MigrationLastPrimaryStam	ty1prdstr01a

Otherwise, you can check migration history with below Kusto query (check "Tenant")

```
cluster('xstore.kusto.windows.net').database('xdataanalytics').XStoreAccountPropertiesDaily
| where TimePeriod >= datetime(yyyy-mm-dd hh:mm:ss)
| where Account contains "<storage accountname>" and Subscription == "<subscription ID>"
| summarize arg_min(TimePeriod, *) by Tenant, Account
| project TimePeriod, Tenant, Account
```

### Cause 3

Same as the for Cause 2, except the change of the cluster happened as a result of a failover initiated by the customer on the storage account. For this scenario, 'FinalizeMigrateCompleteTime' might not be updated with the failover timestamp, however, you can confirm that from ASC and Xportal by checking the following:

ASC:

1. Open ASC and browse to the Storage account.
2. Under the 'Summary' tap, scroll down to 'Failover Status' and check the timestamp of the "Last Failover Time":

Failover Status	
Failover Stage	New stage: "PostFailoverCleanupComplete", please send feedback to storage team
Last Failover Time	06/20/2022 18:50:43 (UTC)
Last Failover Type	Customer Initiated - Potential data loss expected

XPortal:

1. Navigate to "Account" > "Basic Info"
2. Check the value of 'GeoReplicationStateTransitionTime'.

## Workarounds

### Workaround for causes 2 & 3

- Reboot the Linux machine/VM.

\* **For AKS:** delete original pod, and smb remount would happen with new azure file server IP. [Source](#) 

## Solutions

### Solution for cause 1

Verify the username and password. The username should be the name of the storage account, and the password has to be the correct Storage Account key.






Example command:

```
sudo mount -t cifs //StorageAccountName.file.core.windows.net/ShareName /mnt_bkp -o vers=3.0,user=StorageAccou
```

More Information: [Mount SMB Azure file share on Linux](#) 

## Solution for Cause 2 & 3

This is know kernel bug which is addressed in following patches.

- <https://git.kernel.org/pub/scm/linux/kernel/git/torvalds/linux.git/commit/?id=4e456b30f78c429b183db420e23b26cde7e03a78> 
- <https://git.kernel.org/pub/scm/linux/kernel/git/torvalds/linux.git/commit/?id=506c1da44fee32ba1d3a70413289ad58c772bba6> 
- <https://git.kernel.org/pub/scm/linux/kernel/git/torvalds/linux.git/commit/?id=4ac0536f8874a903a72bddc57eb88db774261e3a> 
- <https://git.kernel.org/pub/scm/linux/kernel/git/torvalds/linux.git/commit/?id=7be3248f313930ff3d3436d4e9ddbe9fccc1f541> 
- <https://git.kernel.org/pub/scm/linux/kernel/git/torvalds/linux.git/commit/?id=869da64d071142d4ed562a3e909deb18e4e72c4e> 

## RCA (Customer ready message)


### RCA for Cause 2

In Azure Storage customer accounts are hosted on storage clusters, where in each cluster we have 100s of serve  
Several fixes for the Linux SMB kernel client in this regard were recently submitted to the mainline Linux ker  
We apologize for the inconvenience.


### RCA for Cause 3

Due to a bug in the Linux SMB kernel client, the redirection from the old stamp to the new stamp did not take  
Several fixes for the Linux SMB kernel client in this regard were recently submitted to the mainline Linux ker  
As a mitigation, the customer should be able to get continue access to the file shares of the migrated account  
Azure files engineering is already actively working with the Linux open source community and various Linux dis  
Once the backports are included, the customer should be able to get the updated kernel with the fixes as a par

## References

- <https://portal.microsofticm.com/imp/v3/incidents/details/271664167/home> 
- [https://supportability.visualstudio.com/AzureLinuxNinjas/\\_wiki/wikis/AzureLinuxNinjas/214374/How-to-troubleshoot-CIFS-VFS-Send-error-in-SessSetup-13-in-SUSE](https://supportability.visualstudio.com/AzureLinuxNinjas/_wiki/wikis/AzureLinuxNinjas/214374/How-to-troubleshoot-CIFS-VFS-Send-error-in-SessSetup-13-in-SUSE)

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