NetApp Knowledge Base

Error message: Stale Network File System (NFS) file handle

https://kb.netapp.com/Advice_and_Troubleshooting/Data_Storage_Software/ONTAP_OS/Error_messa…

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Applies to

- ONTAP 9.x
- Data ONTAP 8 7-mode
- NFS

Issue

- Error message:

```
client [unix]: NFS write error on host filer: Stale NFS file handle [file
handle: 38c000 f6830500 20000000 4f6f41 52809302 6180000 38c000 f6830500]
```

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- Error message:

  ```
  Stale NFS file handle
  ```

Cause

- Stale file handles occur when a file or directory was held open by an NFS client which was either removed, renamed, replaced or or access to it has been revoked
- For example a file gets removed and a new file is created using the same inode, or if the file was renamed and the inode changed
- NFS file handles may become `stale` when parts of the file handle differ from what the client expects
- **NFS3ERR_STALE**
  - Invalid file handle. The file handle given in the arguments was invalid. The file referred to by that file handle no longer exists or access to it has been revoked

Solution

- The only way to fix the Stale file handle is to force the client process to negotiate new handles.
  - Either open the files again or restart the processes.
  - You can try to unmount and remount the file system , or kill/restart any processes that have open file handles.
- Check the export rules set for that client and allow client access.

> - If the client's access gets restricted after the mount happens, the client might see STALE.
> - If you prefer not to reboot the client machine, you may create a new mount point on the client for the mount point with the Stale NFS file handle.

Additional Information

- When an NFS client gets a `Stale NFS file handle`, it might also print out the file handle of the file or directory it was attempting to access.

- NFS file handle's have eight parts. All values are in hexadecimal, each part is four bytes.

```
38c000             mount point file ID
f6830500         mount point generation number
20000000         snapshot ID
4f6f4f             file ID (inode)
52809302          file generation number
6180000          volume ID
38c000              export point file ID
f6830500         export point generation number
```

1. The mount point file ID is the inode of the mount point (directory) on the NFS client. If the same NFS filesystem is mounted on a different mount point, then the mount point file ID will be different.
2. The mount point generation number will increase by one every time the mount point is modified.
3. The snapshot ID will always be 20000000.
4. The file ID is the inode of an actual file.
5. The file generation number will increase by one every time the file is modified.
6. The volume ID is the WAFL filesystem ID (FSID) of the volume that the file or directory resides on.
7. The export point file ID is the inode of the directory that is being exported to clients.
8. The export point generation number will increase by one every time the export point is modified.

- Converting the file ID (file inode) portion of the NFS file handle from hexidecimal to decimal will give the inode:

```
0x416f4f = 4288335 (decimal)
```

- The decimal inode number can be displayed with `ls -i` or located with a `find` command on the NFS client.

```
For example: # find /mnt -inum 4288335 -print
```

- On the controller, run `priv set advanced;inodepath --inodenumber--` in order to determine the path to an inode
- Troubleshooting Workflow: Stale file handle error (NFSv3 and NFSV4)