

# Configure NFS Write Performance

The default RPC requests configuration can negatively impact performance and memory. To avoid performance and memory issues, configure the number of outstanding RPC requests to the NFS server to be 128. The kernel tunable value `sunrpc.tcp_slot_table_entries` represents the number of simultaneous Remote Procedure Call (RPC) requests. This tunable's default value is 16. Increasing this value to 128 may improve write speeds. Use the command `sysctl -w sunrpc.tcp_slot_table_entries=128` to set the value. Add an entry to your `sysctl.conf` file to make the setting persist across reboots.

Perform the following steps as the root user on each NFS client machine:

1. Issue the following commands to create the `sunrpc.conf` file under `/etc/modprobe.d` with the recommended configuration. This enables the configuration to persist after a reboot of the NFS client machine.

```
echo "options sunrpc tcp_slot_table_entries=128" >> /etc/modprobe.d/sunrpc.conf
echo "options sunrpc tcp_max_slot_table_entries=128" >> /etc/modprobe.d/sunrpc.conf
```

2. Issue the following `echo` commands. This enables the configuration to take effect after you remount the NFS client to the NFS gateway.

```
echo 128 > /proc/sys/sunrpc/tcp_slot_table_entries
echo 128 > /proc/sys/sunrpc/tcp_max_slot_table_entries
```

3. Remount the NFS client to the NFS gateway. Mount the MapR NFS server with a `rsize/wsize` of 128K as this significantly cuts down NFS server requests for a given transfer and improves the overall performance. For example, the following commands unmount and mount the NFS assuming that the cluster is mounted at `/mapr`.

```
# umount /mapr
# mount -o nolock,rsize=131072,wsiz=131072 <hostname>:/mapr /mapr
```

4. After the reboot of the node, if the `/proc/sys/sunrpc` directory is not available or if `rpcidmapd` is not running, start the `rpcidmapd` service using the following command: `service rpcidmapd start`.

**Note:** Failure to configure this property may result in the following error in `/opt/mapr/logs/nfsserver.log` file:

```
ERROR nfsserver[38960] fs/nfsd/requesthandle.cc:791 0.0.0.0[0] cannot allocate more OncRpcContexts: [numDropped=2556001] dropping connection from nfsc=10.13.64.225:0
```

**Note:** NFS write performance varies between different Linux distributions. This suggested change may have no effect, or even a negative effect on your particular cluster.