# Installing and configuring FUSE based POSIX client with secure cluster.

#On the cluster as root:

#verify cluster/server side MFS performance with runRWspeedTest.sh on all nodes.

clush -ab /home/mapr/cluster-validation/post-install/runRWspeedTest.sh |tee mylog

Posix performance will be limited by MFS performance

#Verify network link with iperf. Expect 90-95% of rated bandwidth.

#On one MapR cluster server, as root

iperf3 -s

#On the client machines, as root

iperf3 -c uslxcp85648 -n 50M -P9 -p 5201

#Create the users for Oracle, App-tier, Spark

#Separate doc for creating the users for now, we should be using Centrify

#Create directories on cluster  
#as mapr, create directory and make sure ‘others’ can write

hadoop fs -mkdir /amway/magic/dms/reports/landing-zone

hadoop fs -chmod 777 /amway/magic/dms/reports/landing-zone

#as dmsrptsprk

hadoop fs -mkdir /amway/magic/dms/reports/output-zone

hadoop fs -mkdir /amway/magic/dms/reports/archive-zone

hadoop fs -mkdir /amway/magic/dms/reports/error-zone

#On the edge node as root:

## Should have users in Centrify – until then, use this process

# create user mapr. This must have the same gid and uid as on the cluster

groupadd -r -g 5500 mapr

useradd -g 5500 -u 6000 mapr

#set password

usermod -p $(openssl passwd mapr) mapr

#create the user for Oracle or the application tier – Have to check what users the processes can run under.

#If installing on Oracle server:

groupadd -r -g 10004 dmsrptora

useradd -g 10004 -u 10004 dmsrptora

#If installing on App server

groupadd -r -g 10003 dmsrptusr

useradd -g 10003 -u 10003 dmsrptusr

#Make mount point for POSIX client

mkdir /mapr

#Create a repository entry for yum to find the MapR repository

cd /etc/yum.repos.d

vi mapr.repo

#add the following content

[maprtech]name=MapR Technologies

baseurl=http://package.mapr.com/releases/v6.1.0/redhat/

enabled=1gpgcheck=0protect=1

#Find the RPMs and install

# Verify RPMs in repo

yum search mapr-client mapr-posix-client-platinum

# This will install both packages

yum install mapr-posix-client-platinum

#Verify:

rpm -qa | grep mapr

mapr-client-6.1.0.20180926230239.GA-1.x86\_64

mapr-librdkafka-0.11.3.201803231414-1.noarch

mapr-posix-client-platinum-6.1.0.20180926230239.GA-1.x86\_64

#Configure the POSIX client to connect to the cluster

#The generic command is this:

#/opt/mapr/server/configure.sh -N cluster-name -C <CLDBhosts> -Z <ZooKeeperhosts> -c -secure

/opt/mapr/server/configure.sh -N mgcdevb-na-mapr -C uslxcp85648 uslxcp85649 uslxcp85650 -Z uslxcp85648 uslxcp85649 uslxcp85650 -c -secure

#Export the java path and the mapr library path:

export LD\_LIBRARY\_PATH=/usr/lib/jvm/java-1.8.0-openjdk-1.8.0.181-3.b13.el7\_5.x86\_64/jre/lib/amd64/server/:/opt/mapr/lib

update /opt/mapr/conf/fuse.conf:

vi /opt/mapr/conf/fuse.conf

fuse.mount.point=/mapr

fuse.log.path=/opt/mapr/logs

fuse.client.lib.path=/tmp

fuse.allow.other=1

fuse.big.writes =1

fuse.num.libs=5

fuse.ra.sessions=5

fuse.num.threads=64

fuse.max.readahead=128k

fuse.export=/mgcdevb-na-mapr/amway/magic/dms/reports/

fuse.access.type=rw

#For app tier user fuse.access.type=ro

#update /opt/mapr/hadoop/hadoop-2.7.0/etc/hadoop/core-site.xml:

vi /opt/mapr/hadoop/hadoop-2.7.0/etc/hadoop/core-site.xml

<property>

<name>fs.mapr.fuseshard.chunksize</name>

<value>8388608</value>

<description>setting chunk size</description>

</property>

#As user mapr (we don’t have the root pwd)

#copy the ssl truststorre from a CLDB node:

scp uslxcp85648:/opt/mapr/conf/ssl\_truststore /tmp

#As root:

#copy to the conf directory

mv /tmp/ssl\_truststore /opt/mapr/conf/

#As user mapr

#Run "maprlogin password" to enable interaction with the client

maprlogin password

#verify that you can see the file system with hadoop

hadoop fs -ls /

#### IN THE FUTURE MAY DO THIS ON THE CLUSTER AND COPY TICKET OVER

#generate ticket for the client

#the ticket is different for oracleuser and appuser

maprlogin generateticket -type servicewithimpersonation -out /tmp/maprfuseticket -duration 365:0:0 -renewal 365:0:0 -user dmsrptora

#As root:

#move the ticket to the right place

mv /tmp/maprfuseticket /opt/mapr/conf/maprfuseticket

chmod 444 /opt/mapr/conf/maprfuseticket

#set correct permissions on fusermount

chmod u+s /opt/mapr/bin/fusermount

ll /opt/mapr/bin/fusermount

Output: -rwsr-xr-x 1 root root 39176 Sep 27 03:43 /opt/mapr/bin/fusermount

#Start POSIX Client:

systemctl start mapr-posix-client-platinum.service

#Check status:

systemctl status mapr-posix-client-platinum.service

Output:

● mapr-posix-client-platinum.service - MapR Technologies, Inc. Posix Client Platinum service

Loaded: loaded (/etc/systemd/system/mapr-posix-client-platinum.service; enabled; vendor preset: disabled)

Active: active (running) since Thu 2019-02-07 22:58:04 EST; 22s ago

Process: 106023 ExecStop=/opt/mapr/initscripts/mapr-posix-client-platinum stop (code=exited, status=0/SUCCESS)

Process: 106551 ExecStart=/opt/mapr/initscripts/mapr-posix-client-platinum start (code=exited, status=0/SUCCESS)

Main PID: 106670 (posix-client-pl)

Memory: 734.3M

CGroup: /system.slice/mapr-posix-client-platinum.service

├─106670 /opt/mapr/bin/posix-client-platinum /mapr --log\_path /opt/mapr/logs --client\_lib\_path /tmp -o allow\_other -o big\_writes -o auto\_unmount --num\_libs 5 --ra\_sessions=5 --num\_t...

├─106671 /opt/mapr/bin/posix-client-platinum /mapr --log\_path /opt/mapr/logs --client\_lib\_path /tmp -o allow\_other -o big\_writes -o auto\_unmount --num\_libs 5 --ra\_sessions=5 --num\_t...

└─106780 fusermount -o rw,nosuid,nodev,allow\_other,auto\_unmount,subtype=posix-client-platinum -- /mapr

Feb 07 22:58:03 uslxcp85637 systemd[1]: Starting MapR Technologies, Inc. Posix Client Platinum service...

Feb 07 22:58:04 uslxcp85637 systemd[1]: Started MapR Technologies, Inc. Posix Client Platinum service.

-bash-4.2# ls -al /mapr

total 4

drwxrwxrwx 7 mapr mapr 5 Feb 7 23:58 .

dr-xr-xr-x. 25 root root 4096 Feb 7 22:35 ..

drwxr-xr-x 2 10005 10005 0 Feb 7 23:58 archive-zone

drwxr-xr-x 2 10005 10005 0 Feb 7 23:58 error-zone

drwxrwxrwx 2 mapr mapr 0 Feb 7 23:53 landing-zone

drwxr-xr-x 2 10005 10005 0 Feb 7 23:57 output-zone