Motadata – HA

Configuration Guide

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Pre-requisite

Below are pre-requisite for Motadata HA Functionality.

1. Procure required Server/VM as per deployment scenario.
2. Procure Physical IP and Virtual IP as per deployment scenario.
3. Install Master setup and Slave setup using Motadata Installation guide.
4. Update Master setup and Slave setup License as per requirement.
5. Make sure Slave server has all plugin available in Plugin and Plugin-lib folder, otherwise copy it from Master.
6. Configure email notification to get notified in adversities.
7. Generate key in observer and put in all servers for root login.

Open Points

- Seamless License sync between Master and Slave.

1. Introduction

1.1 About HA

Motadata network monitoring system (NMS) can be configured in master-slave High Availability modes for uninterrupted services. With this feature, your Network is always monitored by NMS even in unforeseen scenarios and system Failures. The whole HA setup is managed through physical connectivity to prevent any data loss or communication failure.

In master-slave mode, all your network is monitored through one NMS server (Master server, master RPE and master Report DB). The master server also updates the slave NMS server (Slave server, slave RPE and slave Report DB) in real time. The slave NMS is always in standby mode for any unfortunate scenario. When the master NMS goes down, the slave NMS takes in charge immediately.

The observer unit monitors the connectivity of master and slave servers. The Observer decides who and when should be treated as a master. When the master server doesn't respond, observer changes the slave server into master server. Clickhouse service needs to be kept in up status for HA to work, or else HA sync will not work properly.

1.2 Terminology

Master Server: The Config DB and GUI components are stored in same server. The Config DB stores the configuration data. Based on its own and RPE inputs, Master server updates the master report DB and slave report DB. The server keeps an updated copy of its data into the slave server.

Slave Server: It is the clone of master server. The server is constantly updated by master server. When master goes down, observer unit makes this as master server.

Master RPE: The RPE unit facilitates faster monitor polling. It takes monitor Information from Config DB and polls them. It forwards the information back into Master server.

Slave RPE: It is the clone of master RPE. When master RPE fails, the slave RPE Works as master RPE.

Master Report DB: Report DB is the main reporting server. It talks to Master server for information sharing.

Slave Report DB: It is the clone of master report DB. It is used in case of failure.

Observer Utility: It monitors the connectivity of servers and takes decision based on it. When master server is down it configures the slave server to act as master.

NSQ Channel: NSQ channels are created on master server for all replication hosts.

2. Configuration of Keepalived

- Please follow below mention steps to install and configure Keepalived in master and slave server

1. curl --progress http://keepalived.org/software/keepalived-1.2.15.tar.gz | tar xz
2. cd keepalived-1.2.15
3. ./configure
4. make
5. sudo make install
6. ln -s /usr/local/sbin/keepalived /usr/sbin/keepalived
7. check by issuing "keepalived --version"
8. vim /etc/init.d/keepalived -> copy from file in folder
9. chmod +x /etc/init.d/keepalived
10. update-rc.d keepalived defaults
11. #cp /usr/local/etc/keepalived/keepalived.conf /etc/keepalived/keepalived.conf
12. mkdir /etc/keepalived/
13. vim /etc/keepalived/keepalived.conf -> copy from file in folder
14. /etc/init.d/keepalived start or "service keepalived start" and "service keepalived stop"

- Please use below configuration for keepalived.conf

```
! Configuration File for Master keepalived

vrrp_instance VI_1 {
   state BACKUP
   nopreempt
   interface ens32
   virtual_router_id 51
   priority 100
   advert_int 1
   authentication {
      auth_type PASS
      auth_pass motadata
   }
   virtual_ipaddress {
      172.16.10.51
   }
}

! Configuration File for Slave keepalived

vrrp_instance VI_1 {
   state BACKUP
   nopreempt
   interface ens32
```

```
    virtual_router_id 51
    priority 50
    advert_int 1
    authentication {
        auth_type PASS
        auth_pass motadata
    }
    virtual_ipaddress {
        172.16.10.51
    }
}
```

- Please use below configuration for keepalived

```
#! /bin/sh
#
# keepalived   LVS cluster monitor daemon.
#
#             Written by Andres Salomon <dilinger@voxel.net>
#
### BEGIN INIT INFO
# Provides:          keepalived
# Required-Start:    $syslog $network
# Required-Stop:     $syslog $network
# Default-Start:     2 3 4 5
# Default-Stop:      1
# Short-Description: Starts keepalived
# Description:       Starts keepalived lvs loadbalancer
### END INIT INFO
PATH=/sbin:/bin:/usr/sbin:/usr/bin
DAEMON=/usr/sbin/keepalived
NAME=keepalived
DESC=keepalived
CONFIG=/etc/keepalived/keepalived.conf
TMPFILES="/tmp/.vrrp /tmp/.healthcheckers"

#includes lsb functions
. /lib/lsb/init-functions

set -e
test -f $CONFIG || exit 0
test -f $DAEMON || exit 0

case "$1" in
  start)
        log_daemon_msg "Starting $DESC" "$NAME"
        for file in $TMPFILES
        do
                test -e $file && test ! -L $file && rm $file
        done
        if start-stop-daemon --start --quiet --pidfile /var/run/$NAME.pid \
```

```
            --exec $DAEMON; then
                log_end_msg 0
        else
                log_end_msg 1
        fi
        ;;
  stop)
        log_daemon_msg "Stopping $DESC" "$NAME"
        if start-stop-daemon --oknodo --stop --quiet --pidfile /var/run/$NAME.pid \
                --exec $DAEMON; then
                log_end_msg 0
        else
                log_end_msg 1
        fi
        ;;
  reload|force-reload)
        log_action_begin_msg "Reloading $DESC configuration..."
        if start-stop-daemon --stop --quiet --signal 1 --pidfile \
              /var/run/$NAME.pid --exec $DAEMON; then
              log_end_msg 0
        else
                log_action_end_msg 1
        fi
        ;;
  restart)
        log_action_begin_msg "Restarting $DESC" "$NAME"

        start-stop-daemon --stop --quiet --pidfile \
                /var/run/$NAME.pid --exec $DAEMON
        sleep 1
        if start-stop-daemon --start --quiet --pidfile \
              /var/run/$NAME.pid --exec $DAEMON; then
              log_end_msg 0
        else
                log_end_msg 1
        fi
        ;;
  *)
        echo "Usage: /etc/init.d/$NAME {start|stop|restart|reload|force-reload}" >&2
        exit 1
        ;;
esac

exit 0
```

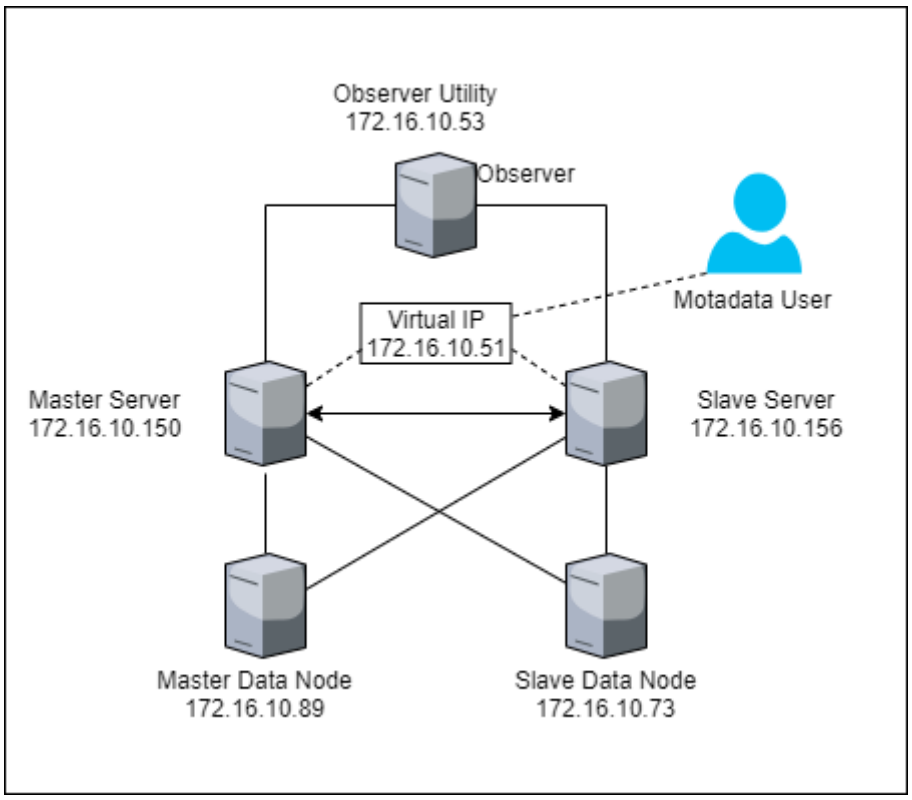
3. Distributed Scenario

3.1 HA Configuration

3.1.1 IP Addresses

- Master Server – 172.16.10.150
- Slave Server – 172.16.10.156
- Master Data Node – 172.16.10.89
- Slave Data Node – 172.16.10.73
- Observer Utility – 172.16.10.53
- Virtual IP – 172.16.10.51

3.1.2 Diagram



3.2 Master – Slave Server Configuration

3.2.1 Master Server Configuration

Please do required configuration in below mention configuration file:

- Cluster-conf.yml file.
- db-engine-conf.yml file.
- nsq-conf.yml file.

3.2.1.1 Cluster-conf.yml file

```
installation-type: 1
target-hosts: 172.16.10.156,172.16.10.73
config-db-host: 172.16.10.150
master-host: 172.16.10.150
current-host: 172.16.10.150
cluster-migration-strict-bind: false
query-backup-duration: 2
```

1. Connect with Master Server – 172.16.10.150.
2. Open /motadata/motadata/config/**cluster-conf.yml** file.
3. Configure installation type to 1.
4. Configure target hosts with slave and slave data Node IP: 172.16.10.156, 172.16.10.73
5. Config-db-host to Master IP: 172.16.10.150
6. Master-host IP: 172.16.10.150
7. Current-host to Master server's IP: 172.16.10.150
8. Save and Exit the file.

3.2.1.2 DB-engine-conf.yml file

1. Open /motadata/motadata/config/**db-engine-conf.yml** file.
2. Configure host IP with Master data node IP: 172.16.10.89.
3. Configuration replication-host with slave data node IP: 172.16.10.73

```
#db engine host
host: 172.16.10.89

#other replicated clickhouse hosts
replication-host: 172.16.10.73

#db engine port
port: 8123

connection-timeout: 60
```

3.2.1.3 Nsq-conf.yml file

1. Open /motadata/motadata/config/nsq-conf.yml file.
2. Configure host with master server's IP: 172.16.10.150.

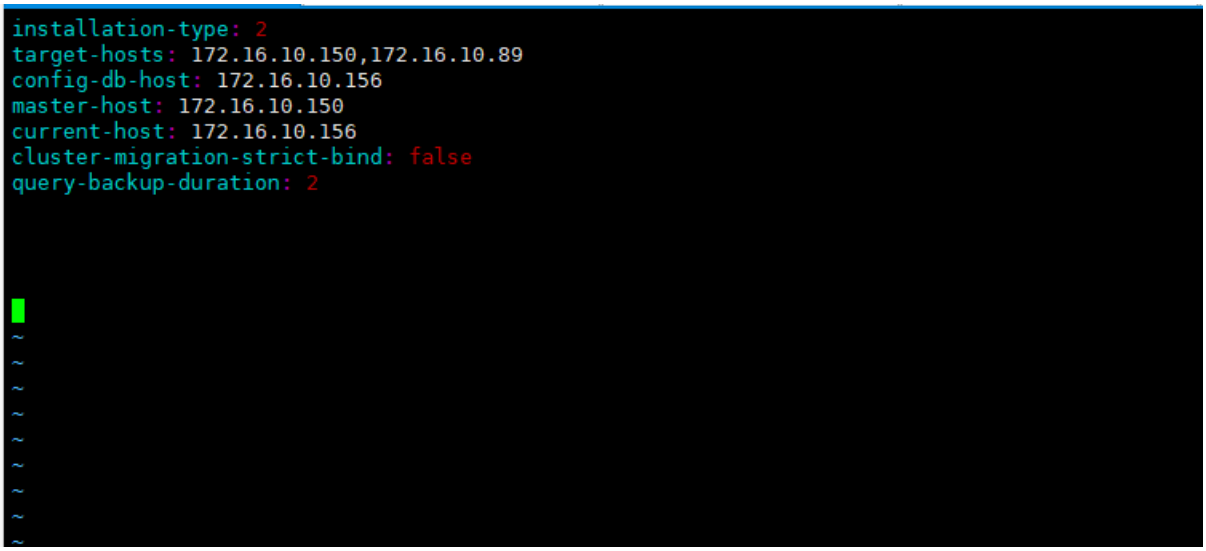
```
# nsq host
host:  172.16.10.150
#nsq port
port: 4150
#nsq lookupd port
lookupd-port: 4160
#nsq lookup port
lookup-port: 4161
#nsq http port
lookup-http-port: 4151
#nsq message in memory
message-queue-size: 20000
#nsq message timeout (seconds)
message-timeout: 600
#nsq message size(bytes)
max-message-size: 200000000
#metric db insert batch size
metric-db-batch-size: 20000
max-message-helper: '4'
cluster-message-queue-size: '0'
ssl-connection: "disabled"
ssl-port: "4152"
```

3.3 Slave Server Configuration

Please do required configuration in below mention configuration file.

- Cluster-conf.yml file.
- db-engine-conf.yml file.
- nsq-conf.yml file.

3.3.1 Cluster-conf.yml



1 Connect with the slave server – 172.16.10.156.
2 Open /motadata/motadata/config/**cluster-conf.yml** file.
3 Configure installation type to **2**
4 Configure target hosts with Master server and Master data node IP: 172.16.10.150,172.16.10.89
5 Configure config-db-host with slave master's IP: 172.16.10.156
6 Configure master-host with master server's IP: 172.16.10.150
7 Configure config-db-host with slave master's IP: 172.16.10.156
8 Save and Exit the file.

3.3.2 DB-engine-conf.yml

1 Open /motadata/motadata/config/db-engine-conf.yml file.
2 Configure host with slave data node IP: 172.16.10.73
3 Configure replication-host with master data node IP: 172.16.10.89

```
#db engine host
host: 172.16.10.73

#other replicated clickhouse hosts
replication-host: 172.16.10.89

#db engine port
port: 8123

connection-timeout: 60
```

3.3.3 Nsq-conf.yml file

1 Open /motadata/motadata/config/**nsq-conf.yml** file.
2 Configure host with slave server's IP: 172.16.10.156.

```
# nsq host
host:  172.16.10.156
#nsq port
port: 4150
#nsq lookupd port
lookupd-port: 4160
#nsq lookup port
lookup-port: 4161
#nsq http port
lookup-http-port: 4151
#nsq message in memory
message-queue-size: 20000
#nsq message timeout (seconds)
message-timeout: 600
#nsq message size(bytes)
max-message-size: 200000000
#metric db insert batch size
metric-db-batch-size: 20000
max-message-helper: '4'
cluster-message-queue-size: '0'
ssl-connection: "disabled"
ssl-port: "4152"
```

3.4 Master – Slave Data Node

3.4.1 Configure Master Data Node

Please do required configuration in below mention configuration file

- Cluster-conf.yml file.

3.4.1.1 Cluster-conf.yml

```
# installation type (0 = stand alone no cluster, 1 = cluster master, 2 = cluster client)
installation-type: 2

# report database ip/host address for (Clickhouse)
report-db-host: 172.16.10.89

# master machine ip/host address
master-host: 172.16.10.150

# current(This) machine ip/host address
current-host: 172.16.10.89

# data backup while failure up to in days (minimum 1 , max 7) (applied on report data only)
query-backup-duration: 2
```

1 Connect with the master data node IP – 172.16.10.89.
2 Open /motadata/motadata/config/**cluster-conf.yml** file.
3 Configure installation type to **2**.
4 Configure report-db-host with master data node IP – 172.16.10.89
5 Configure master-host with master server's IP: 172.16.10.150
6 Configure current-host with master data node IP: 172.16.10.89
7 Save and exit the file.

3.4.2 Configure Slave Data Node

Please do required configuration in below mention configuration file

1. Cluster-conf.yml file.

3.4.2.1 Cluster-conf.yml

```
# installation type (0 = stand alone no cluster, 1 = cluster master, 2 = cluster client)
installation-type: 2

# report database ip/host address for (Clickhouse)
report-db-host: 172.16.10.73

# master machine ip/host address
master-host: 172.16.10.150

# current(This) machine ip/host address
current-host: 172.16.10.73

# data backup while failure up to in days (minimum 1 , max 7) (applied on report data only)
query-backup-duration: 2
```

1 Connect with the slave data node IP – 172.16.10.73.
2 Open /motadata/motadata/config/**cluster-conf.yml** file.
3 Configure installation type to **2**.
4 Configure report-db-host with slave data node IP – 172.16.10.73
5 Configure master-host with master server's IP: 172.16.10.150
6 Configure current-host to slave server's IP: 172.16.10.73
7 Save and Exit the file.

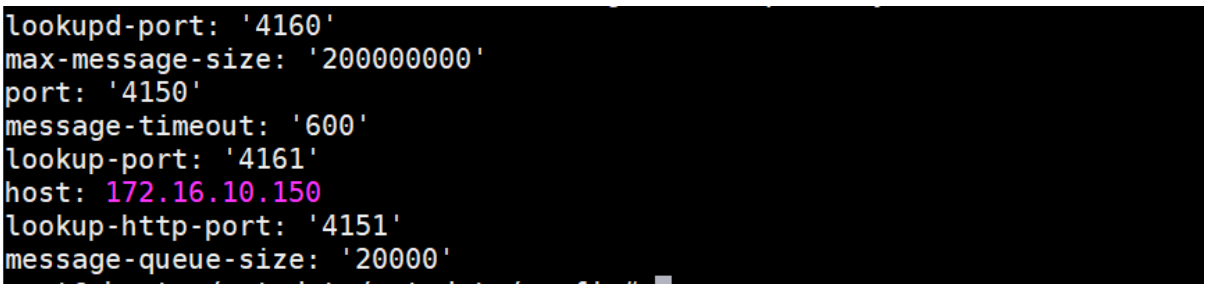
3.5 Configure Observer Utility

3.5.1 Observer-conf.yml file

```
#schedule duration in seconds [check master host connectivity on every provided seconds] (not allowed less then 10 second)
schedule-duration: 10

#all config database hosts
config-db-host: 172.16.10.150,172.16.10.156

#all report database hosts
report-db-host: 172.16.10.89,172.16.10.73

#current system host
current-observer-host: 172.16.10.53

#reconnect time in seconds [consider master as down after this much seconds connectivity not available] (not allowed less then
10 second)
reconnect-time: 60

#currently running or alive as master host
current-master-host: 172.16.10.150:8080

#ssh connection port for all hosts
ssh-port: 22

#master hosts which are not alive as master
target-host: 172.16.10.156:8080

#rpe hosts
rpe-target-host:

#currently down hosts
down-target-host:

#delete logs after days
log-retention-days: 2
```

2. Configure conf-db-host with Master Server IP and Slave Server IPs: 172.16.10.150, 172.16.10.156.
3. Configure report-db-host with master data node IP and slave data node IP: 172.16.10.89, 172.16.10.73.
4. Configure current-observer-host with observers utility's IP: 172.16.10.53.
5. Configure current-master-host with master server IP and port number: 172.16.10.150:8080
6. Configure target-host with slave server IP and port number: 172.16.10.156:8080.

3.5.2 nsq-conf.yml



7. Configure host with master server's IP: 172.16.10.150

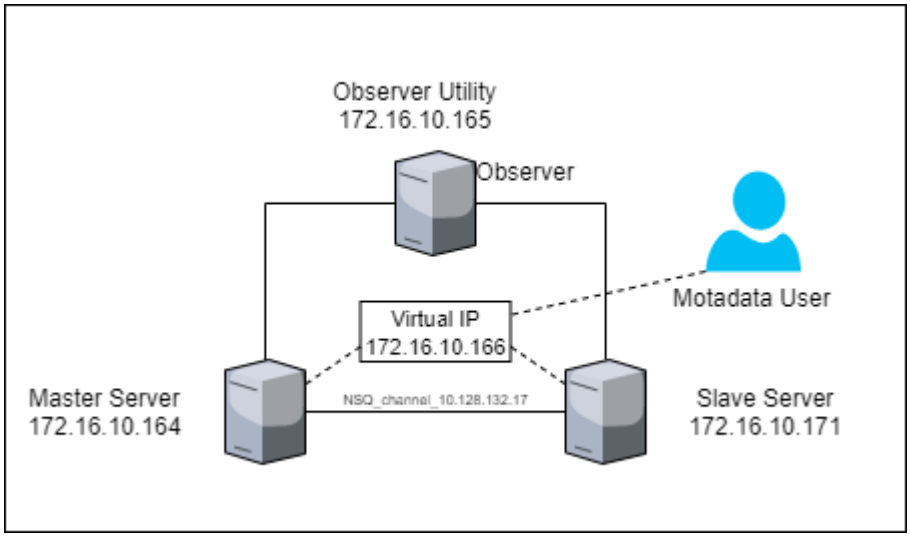
4. Standalone Scenario

4.1 HA Configuration

4.1.1 IP Addresses

- Master Server – 172.16.10.164
- Slave Server – 172.16.10.171
- Observer Utility – 172.16.10.165
- Virtual IP – 172.16.10.166

4.1.2 Diagram



4.2 Master –Server Configuration

4.2.1 Master Server Configuration

Please do required configuration in below mention configuration file:

- Cluster-conf.yml file.
- db-engine-conf.yml file.
- nsq-conf.yml file.

4.2.1.1 Cluster-conf.yml file

```
# installation type (0 = stand alone no cluster, 1 = cluster master, 2 = cluster client)
installation-type: 1

#------------------------------------------------------------- Only for Master Node ----------------------------------------------------------

#required in master server only
target-hosts: 172.16.10.171

#------------------------------------------------------------ Only for Receiver Cluster Node -------------------------------------------------------
# config database ip/host address for (H2)
config-db-host: 172.16.10.164

# report database ip/host address for (click house server for single box HA)
report-db-host: 172.16.10.164

# master machine ip/host address
master-host: 172.16.10.164

# current(This) machine ip/host address
current-host: 172.16.10.164

# data backup while failure up to in days (minimum 1 , max 7) (applied on report data only)
query-backup-duration: 2

cluster-migration-strict-bind": "false"
```

1. Connect with Master Server – 172.16.10.164.
2. Open /motadata/motadata/config/**cluster-conf.yml** file.
3. Configure installation type to 1.
4. Configure target hosts 172.16.10.171
5. Config-db-host: 172.16.10.164
6. report-db-host: 172.16.10.164
7. Master-host IP: 172.16.10.164
8. Current-host: 172.16.10.164
9. Save and Exit the file.

4.2.1.2 DB-engine-conf.yml file

1. Open /motadata/motadata/config/**db-engine-conf.yml** file.
2. Configure host IP: localhost.
3. Configuration replication-host: 172.16.10.171

```
#db engine host
host: localhost

#other replicated clickhouse hosts
replication-host: 172.16.10.171

#db engine port
port: 8123

connection-timeout: 60
```

4.2.1.3 Nsq-conf.yml file

1. Open /motadata/motadata/config/nsq-conf.yml file.
2. Configure host: 172.16.10.164

```
# nsq host
host: 172.16.10.164
#nsq port
port: 4150
#nsq lookupd port
lookupd-port: 4160
#nsq lookup port
lookup-port: 4161
#nsq http port
lookup-http-port: 4151
#nsq message in memory
message-queue-size: 20000
#nsq message timeout (seconds)
message-timeout: 600
#nsq message size(bytes)
max-message-size: 200000000
#metric db insert batch size
metric-db-batch-size: 20000

max-message-helper": "20000"
```

4.3 Slave –Server Configuration

4.3.1 Slave Server Configuration

Please do required configuration in below mention configuration file:

- Cluster-conf.yml file.
- db-engine-conf.yml file.
- nsq-conf.yml file.

4.3.1.1 Cluster-conf.yml file

```
# installation type (0 = stand alone no cluster, 1 = cluster master, 2 = cluster client)
installation-type: 2

#------------------------------------------------------------- Only for Master Node ---------------------------------------------------------

#required in master server only
target-hosts: 172.16.10.164

#------------------------------------------------------- Only for Receiver Cluster Node -----------------------------------------------------
# config database ip/host address for (H2)
config-db-host: 172.16.10.171

# report database ip/host address for (click house server for single box HA)
report-db-host: 172.16.10.171

# master machine ip/host address
master-host: 172.16.10.164

# current(This) machine ip/host address
current-host: 172.16.10.171

# data backup while failure up to in days (minimum 1 , max 7) (applied on report data only)
query-backup-duration: 2

cluster-migration-strict-bind": "false"
```

1. Connect with Slave Server – 172.16.10.171.
2. Open /motadata/motadata/config/**cluster-conf.yml** file.
3. Configure installation type to 2.
4. Configure target hosts 172.16.10.164
5. Config-db-host: 172.16.10.171
6. report-db-host: 172.16.10.171
7. Master-host IP: 172.16.10.164
8. Current-host: 172.16.10.171
9. Save and Exit the file.

4.3.1.2 DB-engine-conf.yml file

1. Open /motadata/motadata/config/**db-engine-conf.yml** file.
2. Configure host IP: localhost.
3. Configuration replication-host: 172.16.0.164

```
#db engine host
host: localhost

#other replicated clickhouse hosts
replication-host: 172.16.10.164

#db engine port
port: 8123

connection-timeout: 60
```

4.3.1.3 Nsq-conf.yml file

1. Open /motadata/motadata/config/nsq-conf.yml file.

2. Configure host: 172.16.10.171

```
# nsq host
host: 172.16.10.171
#nsq port
port: 4150
#nsq lookupd port
lookupd-port: 4160
#nsq lookup port
lookup-port: 4161
#nsq http port
lookup-http-port: 4151
#nsq message in memory
message-queue-size: 20000
#nsq message timeout (seconds)
message-timeout: 600
#nsq message size(bytes)
max-message-size: 200000000
#metric db insert batch size
metric-db-batch-size: 20000

max-message-helper": "20000"
```

4.4 Configure Observer Utility

4.4.1 Observer-conf.yml file

```
1   schedule-duration: '10'
2   config-db-host: 172.16.10.164,172.16.10.171
3   report-db-host: 172.16.10.164,172.16.10.171
4   current-observer-host: 172.16.10.165
5   reconnect-time: '60'
6   current-master-host: 172.16.10.164:8080
7   ssh-port: '22'
8   target-host: 172.16.10.171:8080
9   rpe-target-host: ''
10  down-target-host: ''
11  log-retention-days: '7'
12
```

8. Configure conf-db-host: 172.16.10.164, 172.16.10.171.
9. Configure report-db-host: 172.16.10.164, 172.16.10.171.
10. Configure current-observer-host: 172.16.10.165.
11. Configure current-master-host: 172.16.10.164:8080
12. Configure target-host: 172.16.10.164:8080.

4.4.2 nsq-conf.yml

```
lookupd-port: '4160'
max-message-size: '200000000'
port: '4150'
message-timeout: '600'
lookup-port: '4161'
host: 172.16.10.164
lookup-http-port: '4151'
message-queue-size: '20000'
```

- Configure host: 172.16.10.164

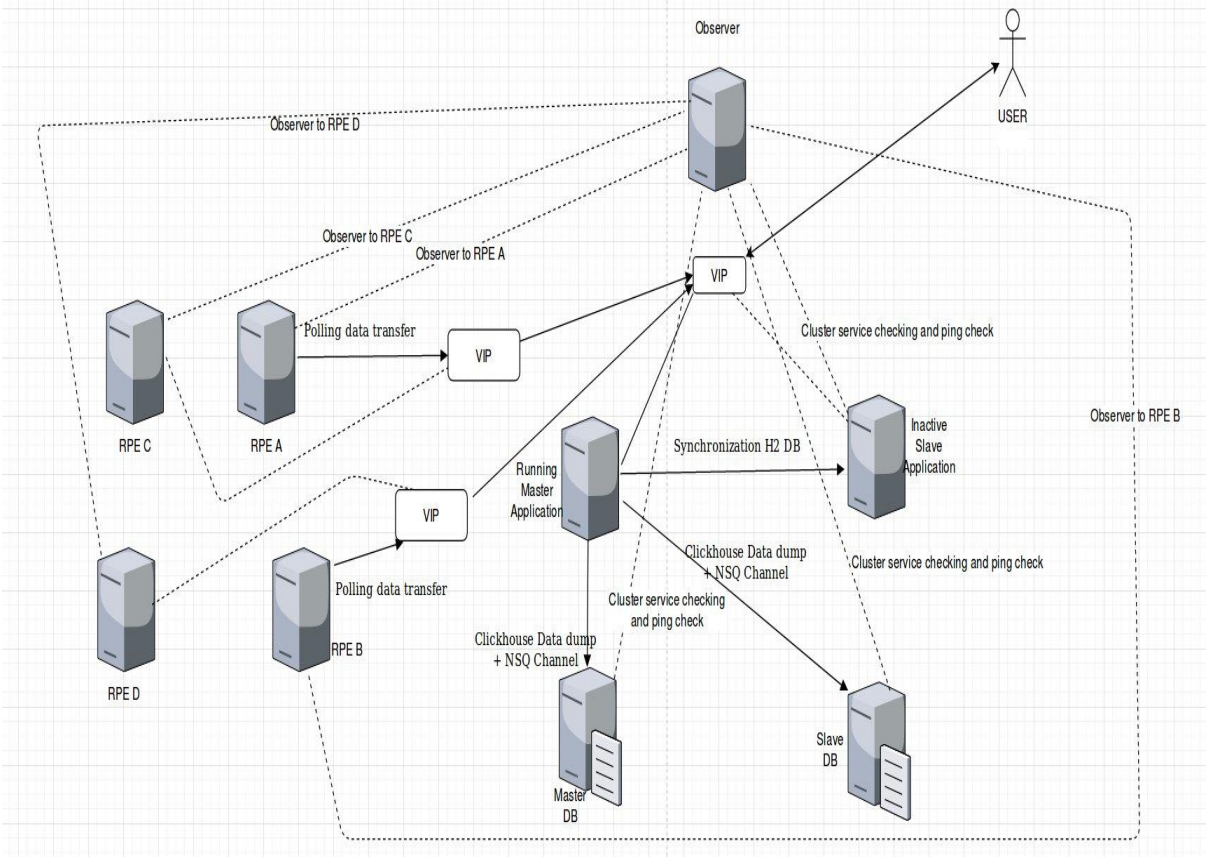
5. RPE-HA Configuration

5.1 IP Addresses

- Master Server – 172.16.8.137
- Slave Server – 172.16.8.122
- Master Data Node – 172.16.10.136
- Slave Data Node – 172.16.8.147
- Observer Utility – 172.16.10.141

- Virtual IP – 172.16.8.253
- Active RPE1 – 172.16.8.152
- Passive RPE1 – 172.16.8.211
- VIP for RPE1 – 172.16.10.251
- Active RPE2 – 172.16.8.245
- Passive RPE2 – 172.16.8.218
- VIP for RPE2 – 172.16.10.252

5.2 Diagram



5.3 Active/Passive RPE Configuration

Please do required configuration in below mention configuration file:

- rpe-conf.yml

Active RPE Configuration

```
#https rpe master host(vip of master)
host: 172.16.8.253

#https rpe master server port
port: 443

#rpe client vip host
rpe-host: 172.16.10.251

#rpe-physical-address(physical ip-address)
rpe-physical-address: 172.16.8.152

#reconnection time in seconds used to try for connection after disconnection from master server
reconnect-time: 30

#disconnection duration in hours, Must be between 1-24,default is 1
disconnect-duration: 1

#certificate file name, used to communicate between rpe master and client
certificate-file-name: keystore.jks

#used to consider rpe-client goes offline. value should be 1-60(minutes), default is 10.
rpe-status-duration: 10
~
~
~
~
```

1. Open /motadata/motadata/config/rpe-conf.yml file.
2. host: 172.16.8.253 (Master Application VIP)
3. rpe-host: 172.16.10.251 (VIP assigned to Active/Passive RPE)
4. rpe-physical-address: 172.16.8.152 (Active RPE server IP)

Passive RPE Configuration

```
#https rpe master host(vip of master)
host: 172.16.8.253

#https rpe master server port
port: 443

#rpe client vip host
rpe-host: 172.16.10.251

#rpe-physical-address(physical ip-address)
rpe-physical-address: 172.16.8.211

#reconnection time in seconds used to try for connection after disconnection from master server
reconnect-time: 30

#disconnection duration in hours, Must be between 1-24,default is 1
disconnect-duration: 1

#certificate file name, used to communicate between rpe master and client
certificate-file-name: keystore.jks

#used to consider rpe-client goes offline. value should be 1-60(minutes), default is 10.
rpe-status-duration: 10

~
~
~
```

1. Open /motadata/motadata/config/rpe-conf.yml file.
2. host: 172.16.8.253 (Master Application VIP)
3. rpe-host: 172.16.10.251 (VIP assigned to Active/Passive RPE)
4. rpe-physical-address: 172.16.8.211 (Active RPE server IP)

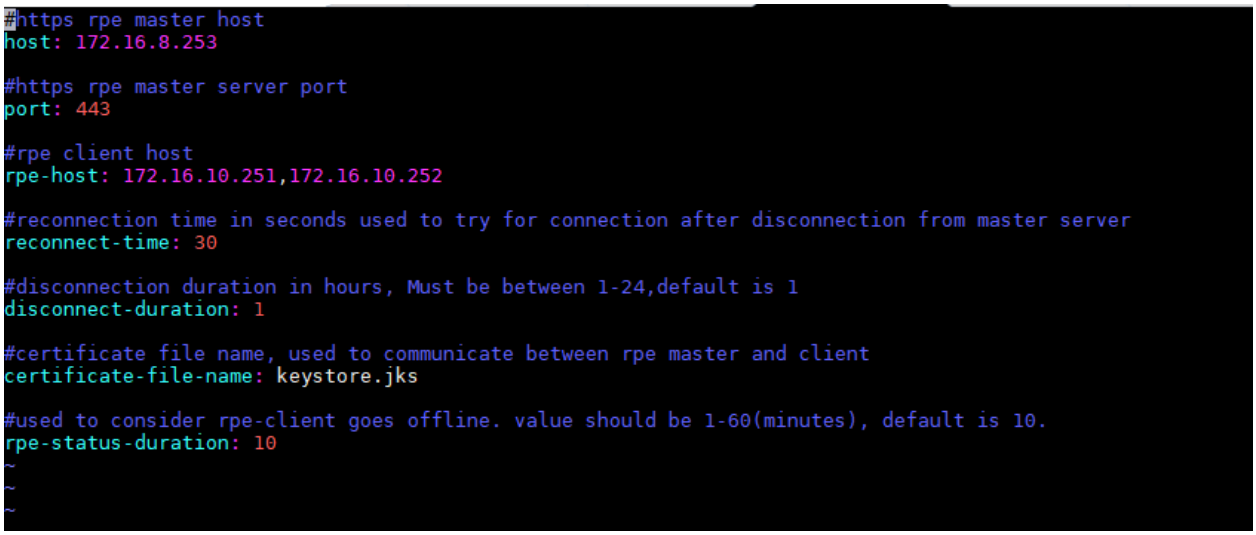
Note: Do the same configuration for multiple RPE's pair. Need to assign vip to active RPE's manually for the first time, before observer is started.

5.4 Master-Slave Server Configuration

Please do required configuration in below mention configuration file:

- motadata-conf.yml
- rpe-conf.yml

1. Open /motadata/motadata/config/motadata-conf.yml file.
2. Installation-type : 1



1. Open /motadata/motadata/config/rpe-conf.yml file.
2. host: 172.16.8.253 (Master Application VIP)
3. rpe-host: 172.16.10.251, 172.16.10.252 (VIP of RPE)

Note: Do all the above same configuration in the slave server also.

5.5 Observer server configuration

Please do required configuration in below mention configuration file:

- observer-conf.yml
- rpe-conf.yml

Observer-conf.yml

```
#schedule duration in seconds [check master host connectivity on every provided seconds] (not allowed less then 10 second)
schedule-duration: 10
#all config database hosts
config-db-host: 172.16.8.137,172.16.8.122
#all report database hosts
report-db-host: 172.16.10.136,172.16.8.147
#current system host <current-master-host>:<ui-port> | ex :[192.168.1.1:8080]
current-observer-host: 172.16.10.141
#reconnect time in seconds [consider master as down after this much seconds connectivity not available] (not allowed less then 10 second)
reconnect-time: 60
#currently running or alive as master host
current-master-host: 172.16.8.137:8080
#ssh connection port for all hosts
ssh-port: 22
#master hosts which are not alive as master <current-master-host>:<ui-port> | ex :[192.168.1.1:8080]
target-host: 172.16.8.122:8080
#rpe hosts
rpe-target-host:
#currently down hosts
down-target-host:
#delete logs after days
log-retention-days: 2
# define all ssh username
ssh-username:
# define observer ssh username
observer-ssh-username:
#define vip
vip-ip: 172.16.8.253
# sample vip-command : ifconfig ens160:2 172.16.8.251 netmask 255.255.255.0 up
vip-command: ifconfig ens160:2 172.16.8.253 netmask 255.255.255.0 up
#rpe-observer -> enable/disable to run observer for rpe(default disable)
rpe-observer-enable: 'enable'
```

1. Open /motadata/motadata/config/observer-conf.yml file.
2. rpe-observer-enable: enable (Add this parameter for observing the RPE for failover)

rpe-conf.yml

```
rpe-host-vips: 172.16.10.251,172.16.10.252
rpe-target-hosts: 172.16.8.211-ens160,172.16.10.218-ens160
max-rpe-ping-check-timeout: '3'
rpe-current-hosts: 172.16.8.152-ens160,172.16.8.245-ens160
rpe-schedule-duration: '10'
reconnect-time: '30'
max-rpe-ping-check-retry-count: '3'
current-master-host: 172.16.8.253
certificate-file-name: keystore.jks
down-target-host: ''
```

1. Open /motadata/motadata/config/rpe-conf.yml file.
2. rpe-host-vips: 172.16.10.251,172.16.10.252 (VIP of pair of Active/Passive RPE)
3. rpe-target-hosts: 172.16.8.211-ens160,172.16.10.218-ens160 (This field is for passive RPE)
4. max-rpe-ping-check-timeout: 3 (Default value is 3. Value less than 3 will not be counted)
5. rpe-current-hosts: 172.16.8.152-ens160,172.16.8.245-ens160 (This field is for active RPE)
6. rpe-schedule-duration: 10 (the heartbeat check time, at this interval the observer will go for verifying services on rpe server)
7. reconnect-time: 30 (time for which the observer will wait , before switching over)
8. max-rpe-ping-check-retry-count: 3 (Default value is 3. Value less than 3 will not be counted)
9. current-master-host: 172.16.8.253 (Master Application VIP)

Note: We need to maintain sequence in rpe-conf.yml in observer server.

6. Troubleshooting Steps

You can check the following configurations for root cause analysis of the issue. Here we are assuming that Motadata is newly deployed with HA functionality and Motadata is working fine.

Both master and slave servers are up and running.

- Motadata service should be running in **Master** machine.
- Motadata-cluster service should be running in **slave, DB1 and DB2** machine.
- Clickhouse service should be running in **DB1 and DB2** machine.

Master server goes down.

- Motadata service should be running in **Slave** machine.
- Motadata-cluster service should be running in **DB1 and DB2** machine.
- Clickhouse service should be running in **DB1 and DB2** machine.

Motadata server comes up.

- Motadata service should be running in **Slave** machine.
- Motadata-cluster service should be running in **Master, DB1 and DB2** machine.
- Clickhouse service should be running in **DB1 and DB2** machine.

Slave goes down.

- Motadata service should be running in **Master** machine.
- Motadata-cluster service should be running in **DB1 and DB2** machine.
- Clickhouse service should be running in **DB1 and DB2** machine.

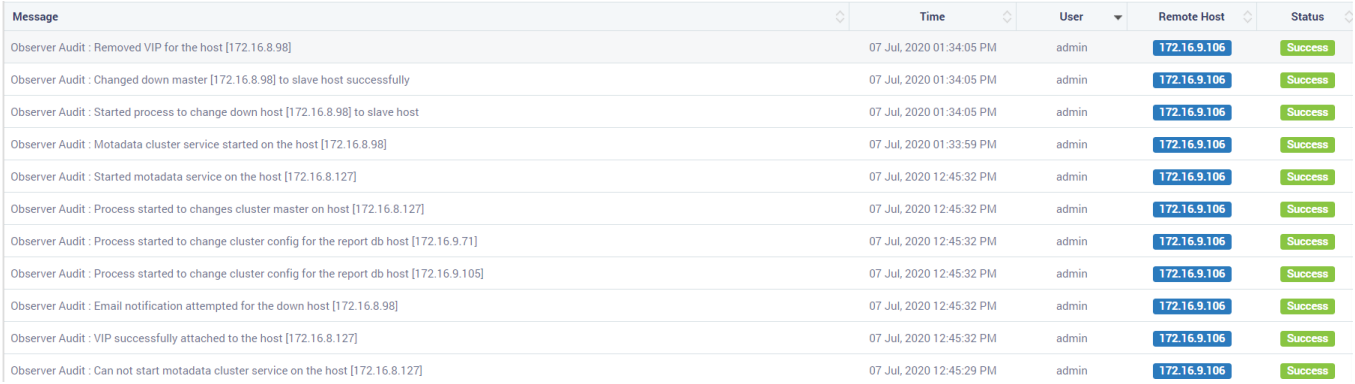
Slave comes up.

- Motadata service should be running in **Master** machine.
- Motadata-cluster service should be running in **Slave, DB1 and DB2** machine.
- Clickhouse service should be running in **DB1 and DB2** machine.

6.1 Audit Logs

- In case of any HA Fail Over or Fail Back, activity can be viewed in the Audit logs

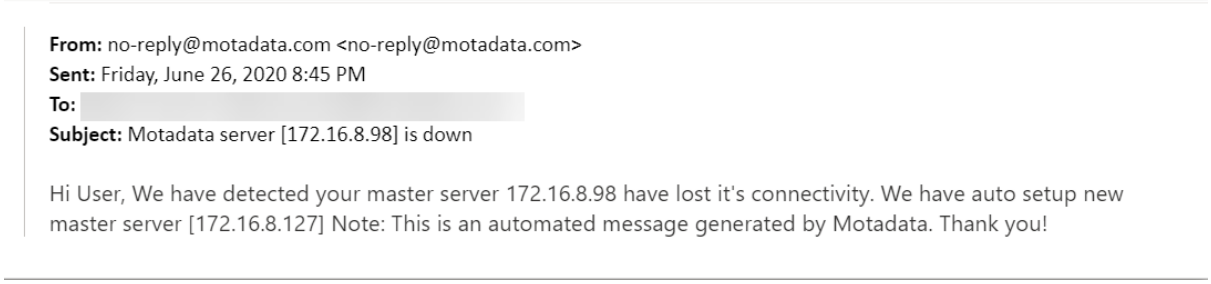
- Go to **Admin** >> **Security** >> **Audit**



Message	Time	User	Remote Host	Status
Observer Audit : Removed VIP for the host [172.16.8.98]	07 Jul, 2020 01:34:05 PM	admin	172.16.9.106	Success
Observer Audit : Changed down master [172.16.8.98] to slave host successfully	07 Jul, 2020 01:34:05 PM	admin	172.16.9.106	Success
Observer Audit : Started process to change down host [172.16.8.98] to slave host	07 Jul, 2020 01:34:05 PM	admin	172.16.9.106	Success
Observer Audit : Motadata cluster service started on the host [172.16.8.98]	07 Jul, 2020 01:33:59 PM	admin	172.16.9.106	Success
Observer Audit : Started motadata service on the host [172.16.8.127]	07 Jul, 2020 12:45:32 PM	admin	172.16.9.106	Success
Observer Audit : Process started to changes cluster master on host [172.16.8.127]	07 Jul, 2020 12:45:32 PM	admin	172.16.9.106	Success
Observer Audit : Process started to change cluster config for the report db host [172.16.9.71]	07 Jul, 2020 12:45:32 PM	admin	172.16.9.106	Success
Observer Audit : Process started to change cluster config for the report db host [172.16.9.105]	07 Jul, 2020 12:45:32 PM	admin	172.16.9.106	Success
Observer Audit : Email notification attempted for the down host [172.16.8.98]	07 Jul, 2020 12:45:32 PM	admin	172.16.9.106	Success
Observer Audit : VIP successfully attached to the host [172.16.8.127]	07 Jul, 2020 12:45:32 PM	admin	172.16.9.106	Success
Observer Audit : Can not start motadata cluster service on the host [172.16.8.127]	07 Jul, 2020 12:45:29 PM	admin	172.16.9.106	Success

6.2 Notification

- A notification for any Failover or Backup will also be received via email to the configured Admin User



From: no-reply@motadata.com <no-reply@motadata.com>
Sent: Friday, June 26, 2020 8:45 PM
To:
Subject: Motadata server [172.16.8.98] is down

Hi User, We have detected your master server 172.16.8.98 have lost it's connectivity. We have auto setup new master server [172.16.8.127] Note: This is an automated message generated by Motadata. Thank you!

7. HA with vMotion

7.1 Pre-requisite

- VMotion feature should be configured in vmWare infrastructure.

This guide will help you to configure HA feature for single box as well as distributed architecture with the help of vMotion feature. Here,

- You don't require to configure observer, as failover and failback functionality will be taken care by vMotion.
- And On all servers, you will need to enable auto-service using below command:

  systemctl enable motadata.service

Note:

1. *For single box, use above command on Master Server and for distributed architecture, use this command for both Master as well as all RPE.*
2. We don't need to follow previous HA feature when we use above vMotion feature

Keep in touch

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About Motadata

Mindarray Systems Pvt. Ltd. a global IT product company, offers state of the art affordable yet powerful product suite - Motadata consisting of Network Management & Monitoring, Log & Flow Management, and IT Service Management Platforms. The platform empowers both IT administrators and CXOs to analyze, track & resolve IT operational issues by effectively monitoring various systems and devices from multiple vendors through a unified and centralized dashboard.

Motadata is industry's first IT ops solution that truly correlates the metric, flow and log events and turns them into actionable insights. Our global customers from Telecom, Government and Enterprise domain, rely on Motadata for proactively monitor their network infrastructure.

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