IPX Rocky Linux maxscale installation guide

Mariadb Mysql master and slave X1 Replication setup

Before we start, make sure you disable the SElinux and the firewalld

Install EPEL Repo on Rocky Linux

```
dnf update -y
dnf install epel-release -y
dnf install innotop -y
```

Mariadb Master server

Set hostname

```
10.0.3.195 MaxscaleMaster.broadlearning.com MaxscaleMaster
10.0.3.196 MaxscsaleSlave1.broadlearning.com MaxscsaleSlave1
```

```
dnf install mariadb -y
dnf install mariadb-server -y
systemctl enable mariadb
systemctl status mariadb
```

Gen key and pass to slave servers

```
ssh-keygen -t rsa -N "" -f ~/.ssh/id_rsa
ssh-copy-id -i ~/.ssh/id_rsa root@10.0.3.196
```

vi /etc/my.cnf.d/mariadb-server.cnf

```
innodb_buffer_pool_size=128M
innodb_log_buffer_size=8M
query_cache_size=128M
query_cache_limit=4M
join_buffer_size=256K
table_cache=16000
max_heap_table_size=32M
max_allowed_packet=8M
max_connections = 300
log-bin=mysql-bin
server-id = 1
port=3306
expire-logs-days=100
```

Start the `mariadb` service

```
systemctl restart mariadb
mysql -V
```

Set mysql password

```
mysql_secure_installation
```

```
[root@MaxscaleMaster eclass]# mysql_secure_installation

NOTE: RUNNING ALL PARTS OF THIS SCRIPT IS RECOMMENDED FOR ALL MariaDB
      SERVERS IN PRODUCTION USE!  PLEASE READ EACH STEP CAREFULLY!

In order to log into MariaDB to secure it, we'll need the current
password for the root user.  If you've just installed MariaDB, and
you haven't set the root password yet, the password will be blank,
so you should just press enter here.

Enter current password for root (enter for none):
OK, successfully used password, moving on...

Setting the root password ensures that nobody can log into the MariaDB
root user without the proper authorisation.

Set root password? [Y/n] y
New password:
Re-enter new password:
Password updated successfully!
Reloading privilege tables..
 ... Success!


By default, a MariaDB installation has an anonymous user, allowing anyone
to log into MariaDB without having to have a user account created for
them.  This is intended only for testing, and to make the installation
go a bit smoother.  You should remove them before moving into a
production environment.

Remove anonymous users? [Y/n] y
 ... Success!

Normally, root should only be allowed to connect from 'localhost'.  This
ensures that someone cannot guess at the root password from the network.

Disallow root login remotely? [Y/n] n
 ... skipping.

By default, MariaDB comes with a database named 'test' that anyone can
access.  This is also intended only for testing, and should be removed
before moving into a production environment.

Remove test database and access to it? [Y/n] y
 - Dropping test database...
 ... Success!
 - Removing privileges on test database...
 ... Success!

Reloading the privilege tables will ensure that all changes made so far
will take effect immediately.

Reload privilege tables now? [Y/n] y
 ... Success!

Cleaning up...

All done!  If you've completed all of the above steps, your MariaDB
installation should now be secure.

Thanks for using MariaDB!
```

Set the replication user **drslaveuser**

```
mysql -uroot -pklbsyres2 -e "GRANT SELECT,SUPER,REPLICATION SLAVE ON *.* TO 'drslaveuser'@'%'
IDENTIFIED BY 'DR2020SynDB';FLUSH TABLES WITH READ LOCK;"
```

Stop the master mysql service

```
systemctl stop mariadb
```

Mariadb Slave1 setup

Set hostname for **slave1**

```
10.0.3.195 MaxscaleMaster.broadlearning.com MaxscaleMaster
10.0.3.196 MaxscsaleSlave.broadlearning.com MaxscsaleSlave
```

```
dnf update -y
dnf install epel-release -y
dnf install innotop -y
dnf install mariadb -y
dnf install mariadb-server -y
systemctl enable mariadb
systemctl status mariadb
```

vi /etc/my.cnf.d/mariadb-server.cnf

```
innodb_buffer_pool_size=128M
innodb_log_buffer_size=8M
query_cache_size=128M
query_cache_limit=4M
join_buffer_size=256K
table_cache=16000
max_heap_table_size=32M
max_allowed_packet=8M
max_connections = 300
server-id = 2    <<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<
log-bin = mysql-bin
relay-log=mysql-relay-bin
relay_log_space_limit=4G
slave-parallel-threads=8
```

```
read-only=on
```

tar the master `/var/lib/mysql` and copy replace to **slave1** `/var/lib`

```
cd /var/lib
tar -cvf mysql.tar mysql
```

untar the tarball in **slave1**

```
tar -xvf mysql.tar
```

Start the **mariadb** service in both **master1** and **slave1**

```
systemctl start mariadb
```

Then in **Slave1**, login to mysql and run

```
mysql -uroot -pklbsyres2
STOP SLAVE; CHANGE MASTER TO MASTER_HOST='10.0.3.195',
MASTER_USER='drslaveuser',MASTER_PASSWORD='DR2020SynDB', MASTER_LOG_FILE='mysql-bin.000003',
MASTER_LOG_POS=342; START SLAVE; SHOW SLAVE STATUS\G;
```

Verify replication ok

```
show SLAVE STATUS\G;
```

```
Read_Master_Log_Pos: 342
                Relay_Log_File: mysql-relay-bin.000002
                 Relay_Log_Pos: 555
         Relay_Master_Log_File: mysql-bin.000003
              Slave_IO_Running: Yes <<<<< OK
             Slave_SQL_Running: Yes  <<<< OK
               Replicate_Do_DB:
...
□□ Seconds_Behind_Master: 0   <<< check replication have delay/lag or not
https://www.missf.top/post/2c9da2f4.html
```

MariaDB MaxScale setup

Install Maxscale in **master1**

```
wget https://downloads.mariadb.com/MaxScale/2.5.5/centos/8/x86_64/maxscale-2.5.5-1.rhel.8.x86_64.rpm
yum -y install maxscale-2.5.5-1.rhel.8.x86_64.rpm
systemctl enable maxscale
```

```
maxkeys
Permissions of '/var/lib/maxscale/.secrets' set to owner:read.
Ownership of '/var/lib/maxscale/.secrets' given to maxscale.

maxpasswd /var/lib/maxscale/ eCklbMaxs
66F83675B1C2900457BCA889EDECC239DA1AEBE099C70250E885C350DC468DE8
```

MaxScale setting

Copy and replace the password generated above

```
cp -rpf /etc/maxscale.cnf /etc/maxscale.cnf.org
sed -i
's/password=.*/password=66F83675B1C2900457BCA889EDECC239DA1AEBE099C70250E885C350DC468DE8/g'
/etc/maxscale.cnf
```

Login to master db and create the needed user

```
CREATE USER 'maxscale'@'%' IDENTIFIED BY 'eCklbMaxs';
GRANT SELECT ON `mysql`.* TO 'maxscale'@'%';
GRANT SHOW DATABASES ON *.* TO 'maxscale'@'%';

CREATE USER 'maxscale_mon'@'%' IDENTIFIED BY 'eCklbMaxs';
GRANT REPLICATION CLIENT ON *.* TO 'maxscale_mon'@'%';

flush privileges;

CREATE USER ecmaxscale@'%' IDENTIFIED BY "eCklbMaxs";
GRANT replication slave, replication client ON *.* TO ecmaxscale@'%';
GRANT SELECT ON mysql.* TO ecmaxscale@'%';
GRANT ALL ON ecmaxscale_schema.* TO ecmaxscale@'%';
GRANT SHOW DATABASES ON *.* TO ecmaxscale@'%';
GRANT SELECT ON mysql.user TO 'ecmaxscale'@'%';
GRANT SELECT ON mysql.db TO 'ecmaxscale'@'%';
```

```
GRANT SELECT ON mysql.tables_priv TO 'ecmaxscale'@'%';
GRANT SELECT ON mysql.columns_priv TO 'ecmaxscale'@'%';
GRANT SELECT ON mysql.proxies_priv TO 'ecmaxscale'@'%';
GRANT SELECT ON mysql.roles_mapping TO 'ecmaxscale'@'%';
GRANT SHOW DATABASES ON *.* TO 'ecmaxscale'@'%';
flush privileges;
```

vi /etc/maxscale.cnf

```
[maxscale]
threads=auto
admin_host=0.0.0.0
admin_port=8080
admin_secure_gui=false
ms_timestamp=1
syslog=1
maxlog=1
log_warning=1
log_notice=1
log_info=1
log_debug=0
log_augmentation=1

################################################################################

[server1]
type=server
address=10.0.3.195
port=3306
protocol=MariaDBBackend

[server2]
type=server
address=10.0.3.196
port=3306
protocol=MariaDBBackend

########################################################################

[MariaDB-Monitor]
```

```
type=monitor
module=mariadbmon
servers=server1,server2
user=ecmaxscale
password=8C6436A369460B84919DB62D9F0E7C00DE69AB2FA38DD8AFD89CA7A17F4C082F
monitor_interval=2000

#############################################################################

#[Read-Only-Service]
#type=service
#router=readconnroute
#servers=server1
#user=myuser
#password=8C6436A369460B84919DB62D9F0E7C00DE69AB2FA38DD8AFD89CA7A17F4C082F
#router_options=slave

[Read-Write-Service]
type=service
router=readwritesplit
servers=server1,server2
user=ecmaxscale
password=8C6436A369460B84919DB62D9F0E7C00DE69AB2FA38DD8AFD89CA7A17F4C082F

#############################################################################

#[Read-Only-Listener]
#type=listener
#service=Read-Only-Service
#protocol=MariaDBClient
#port=4008

[Read-Write-Listener]
type=listener
service=Read-Write-Service
protocol=MariaDBClient
port=4006
```

Start maxscale service

```
systemctl start maxscale
```

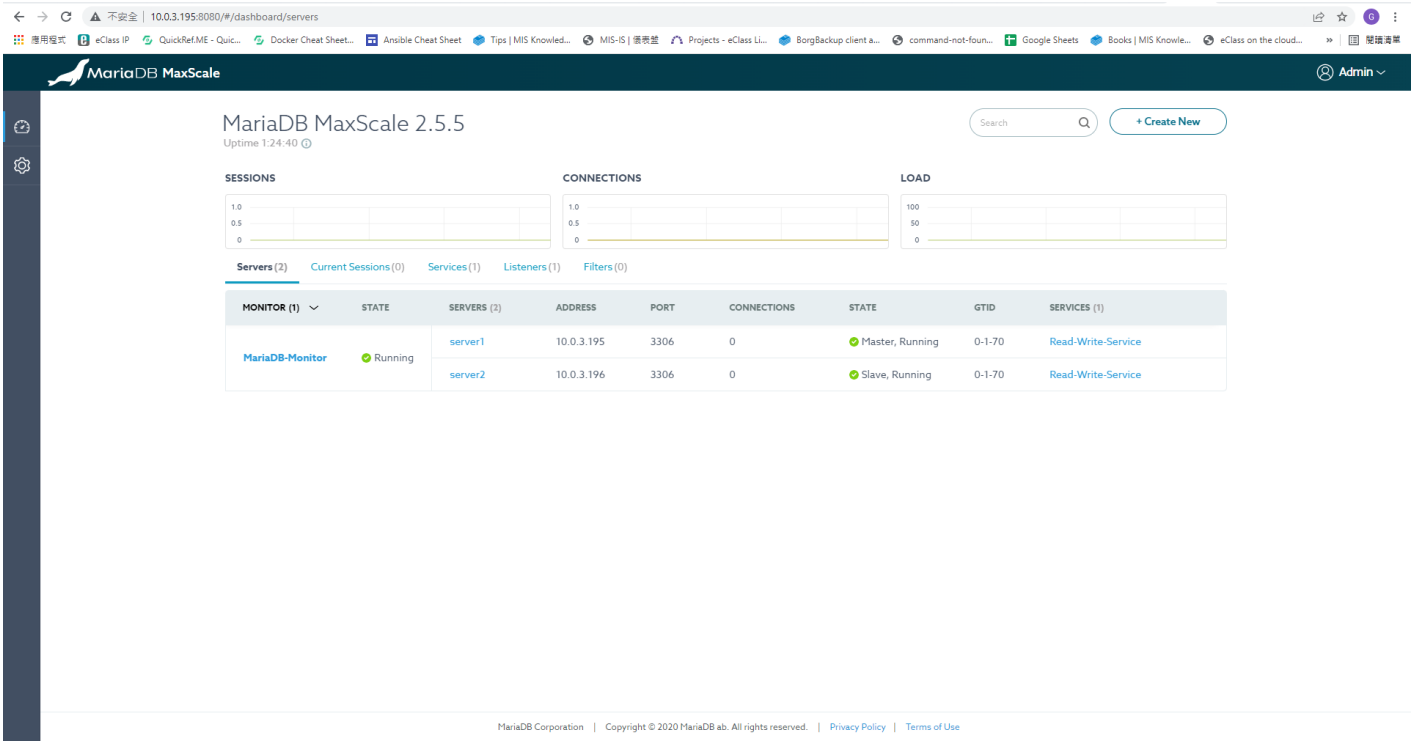
Check servers

```
maxctrl -h 127.0.0.1:8080 list servers
```

```
[root@MaxscaleMaster ~]# maxctrl -h 127.0.0.1:8080 list servers
```

Server	Address	Port	Connections	State	GTID
server1	10.0.3.195	3306	0	Master, Running	0-1-70
server2	10.0.3.196	3306	0	Slave, Running	0-1-70

Also you can login to the maxscale gui page by http://10.0.3.195:8080



When we want to upgrade Maxscale to a newer version. We can download the new version from https://mariadb.com/downloads/community/maxscale/

```
wget https://dlm.mariadb.com/1963403/MaxScale/6.2.1/yum/centos/8/x86_64/maxscale-6.2.1-1.rhel.8.x86_64.rpm
```

Stop the Maxscale service first then perform the upgrade

```
systemctl stop maxscale
rpm -Uvh maxscale-6.2.1-1.rhel.8.x86_64.rpm
systemctl start maxscale
```

Re-login to the web portal, then you will find that the upgraded version is shown.

Change password for the Admin user for accessing GUI

List the current user

```
maxctrl -h 127.0.0.1:8080 list users
```

Change the password or the user

```
maxctrl -h 127.0.0.1:8080 alter user admin klbsyres2
```

For more information about **maxctrl**, can visit the following link:

https://mariadb.com/kb/en/mariadb-maxscale-22-maxctrl/#alter

Remark:

When adding a new node to the DB cluster, the new node may complain about cannot add user to database. We need to remove the users in the master node first , then add the new node to the cluster. Finally we can redo the create user procedures.

Ref: https://mis-kb.eclass.hk/books/installation-and-setup/page/ipx-centos8-maxscale-installation-guide

How to remove mysql binary log:

https://logs.paulooi.com/how-to-remove-mysql-binary-log.php

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