**Install & Config MariaDB Galera Cluster trên Centos 8**

**Node 01: 192.168.254.125**

**Node 02: 192.168.254.130**

**Node 03: 192.168.254.129**

1. **Cài đặt MySQL (v8.0.21)**
2. **Disable SE Linux**

vi /etc/sysconfig/selinux

1. **Mount file iso**

mount /dev/cdrom /mnt/

1. **Tạo file repo local**

mv /etc/yum.repos.d/\*.repo /tmp/

vi /etc/yum.repos.d/local.repo

[LocalRepo\_BaseOS]

name=LocalRepository\_BaseOS

baseurl=file:///mnt/BaseOS

enabled=1

gpgcheck=1

gpgkey=file:///etc/pki/rpm-gpg/RPM-GPG-KEY-centosofficial

[LocalRepo\_AppStream]

name=LocalRepository\_AppStream

baseurl=file:///mnt/AppStream

enabled=1

gpgcheck=1

gpgkey=file:///etc/pki/rpm-gpg/RPM-GPG-KEY-centosofficial

1. **Download các Package cần thiết của MariaDB và Galera tại Link (Lưu ý: dùng các Build Number giống nhau) copy vào Server**

<https://archive.mariadb.org//mariadb-10.4.13/yum/>

galera-4-26.4.3-1.rhel8.0.el8.x86\_64.rpm

MariaDB-backup-10.4.13-1.el8.x86\_64.rpm

MariaDB-backup-debuginfo-10.4.13-1.el8.x86\_64.rpm

MariaDB-client-10.4.13-1.el8.x86\_64.rpm

MariaDB-client-debuginfo-10.4.13-1.el8.x86\_64.rpm

MariaDB-common-10.4.13-1.el8.x86\_64.rpm

MariaDB-common-debuginfo-10.4.13-1.el8.x86\_64.rpm

MariaDB-compat-10.4.13-1.el8.x86\_64.rpm

MariaDB-connect-engine-10.4.13-1.el8.x86\_64.rpm

MariaDB-connect-engine-debuginfo-10.4.13-1.el8.x86\_64.rpm

MariaDB-cracklib-password-check-10.4.13-1.el8.x86\_64.rpm

MariaDB-cracklib-password-check-debuginfo-10.4.13-1.el8.x86\_64.rpm

MariaDB-devel-10.4.13-1.el8.x86\_64.rpm

MariaDB-devel-debuginfo-10.4.13-1.el8.x86\_64.rpm

MariaDB-gssapi-server-10.4.13-1.el8.x86\_64.rpm

MariaDB-gssapi-server-debuginfo-10.4.13-1.el8.x86\_64.rpm

MariaDB-rocksdb-engine-10.4.13-1.el8.x86\_64.rpm

MariaDB-rocksdb-engine-debuginfo-10.4.13-1.el8.x86\_64.rpm

MariaDB-server-10.4.13-1.el8.x86\_64.rpm

MariaDB-server-debuginfo-10.4.13-1.el8.x86\_64.rpm

MariaDB-shared-10.4.13-1.el8.x86\_64.rpm

MariaDB-shared-debuginfo-10.4.13-1.el8.x86\_64.rpm

Oct 19 09:39 MariaDB-test-10.4.13-1.el8.x86\_64.rpm

MariaDB-test-debuginfo-10.4.13-1.el8.x86\_64.rpm

MariaDB-tokudb-engine-10.4.13-1.el8.x86\_64.rpm

MariaDB-tokudb-engine-debuginfo-10.4.13-1.el8.x86\_64.rpm

1. **Cài đặt các gói cần thiết**

dnf install -y compat-openssl10 libnsl unixODBC perl-Memoize perl-Time-HiRes

dnf install -y galera

1. **Trỏ tới thư mục chưa package của MariaDB và Galera dùng lệnh rpm để cài đặt:**

rpm –ivh \*

1. **Khởi động mariadb và đổi mật khẩu “root”**

systemctl start mariadb

mysql -u root –p

ALTER USER 'root'@'localhost' IDENTIFIED BY 'P@ssword123';

flush privileges;

exit

1. **Tạo rule open port cần thiết cho quá trình cấu hình cluster trên cả 3 Node**

firewall-cmd --zone=public --permanent --add-port 3306/tcp

firewall-cmd --zone=public --permanent --add-port 4567/tcp

firewall-cmd --zone=public --permanent --add-port 4568/tcp

firewall-cmd --zone=public --permanent --add-port 4444/tcp

firewall-cmd –reload

1. **Sửa file hosts thêm các dòng sau (Trên cả 3 node)**

vi /etc/hosts

192.168.254.125 mariadb01

192.168.254.130 mariadb02

192.168.254.129 mariadb03

1. **Stop service của MariaDB trên 3 Node**

systemctl stop mariadb

1. **Sửa file cấu hình trên Node 01**

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

# These groups are read by MariaDB server.

# Use it for options that only the server (but not clients) should see

#

# See the examples of server my.cnf files in /usr/share/mysql/

#

# this is read by the standalone daemon and embedded servers

[server]

# this is only for the mysqld standalone daemon

[mysqld]

bind-address=192.168.254.125

#

# \* Galera-related settings

#

[galera]

# Mandatory settings

wsrep\_on=ON

wsrep\_provider=/usr/lib64/galera-4/libgalera\_smm.so

# Galera Cluster Configuration

wsrep\_cluster\_address=gcomm://192.168.254.125,192.168.254.130,192.168.254.129

wsrep\_node\_name=mariadb01

wsrep\_sst\_method=rsync

binlog\_format=row

default\_storage\_engine=InnoDB

innodb\_autoinc\_lock\_mode=2

wsrep\_cluster\_name=portal\_cluster

#

# Allow server to accept connections on all interfaces.

#

bind-address=192.168.254.125

wsrep\_node\_addres=192.168.254.125

wsrep\_node\_name=mariadb01

#

# Optional setting

#wsrep\_slave\_threads=1

#innodb\_flush\_log\_at\_trx\_commit=0

# this is only for embedded server

[embedded]

# This group is only read by MariaDB servers, not by MySQL.

# If you use the same .cnf file for MySQL and MariaDB,

# you can put MariaDB-only options here

[mariadb]

# This group is only read by MariaDB-10.4 servers.

# If you use the same .cnf file for MariaDB of different versions,

# use this group for options that older servers don't understand

[mariadb-10.4**]**

1. Làm tương tự trên Node 02 và 03

Sửa dòng

bind-address=<ip-node>

wsrep\_node\_addres=<ip-node>

wsrep\_node\_name=<hostname>

1. **Khởi động cluster trên Node 01**

galera\_new\_cluster

systemctl start mariadb

1. **Khởi động trên Node 02 và 03**

systemctl start mariadb

1. **Kiểm tra kết quả trên 3 node**

MariaDB [(none)]> show status like "wsrep%";

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| Variable\_name | Value |

+-------------------------------+------------------------------------------------------------------------------------------------------------------------------------------------+

| wsrep\_local\_state\_uuid | d408a9c9-1381-11eb-8166-e6b7ebf0c215 |

| wsrep\_protocol\_version | 10 |

| wsrep\_last\_committed | 3 |

| wsrep\_replicated | 0 |

| wsrep\_replicated\_bytes | 0 |

| wsrep\_repl\_keys | 0 |

| wsrep\_repl\_keys\_bytes | 0 |

| wsrep\_repl\_data\_bytes | 0 |

| wsrep\_repl\_other\_bytes | 0 |

| wsrep\_received | 4 |

| wsrep\_received\_bytes | 456 |

| wsrep\_local\_commits | 0 |

| wsrep\_local\_cert\_failures | 0 |

| wsrep\_local\_replays | 0 |

| wsrep\_local\_send\_queue | 0 |

| wsrep\_local\_send\_queue\_max | 2 |

| wsrep\_local\_send\_queue\_min | 0 |

| wsrep\_local\_send\_queue\_avg | 0.333333 |

| wsrep\_local\_recv\_queue | 0 |

| wsrep\_local\_recv\_queue\_max | 2 |

| wsrep\_local\_recv\_queue\_min | 0 |

| wsrep\_local\_recv\_queue\_avg | 0.25 |

| wsrep\_local\_cached\_downto | 2 |

| wsrep\_flow\_control\_paused\_ns | 0 |

| wsrep\_flow\_control\_paused | 0 |

| wsrep\_flow\_control\_sent | 0 |

| wsrep\_flow\_control\_recv | 0 |

| wsrep\_cert\_deps\_distance | 0 |

| wsrep\_apply\_oooe | 0 |

| wsrep\_apply\_oool | 0 |

| wsrep\_apply\_window | 0 |

| wsrep\_commit\_oooe | 0 |

| wsrep\_commit\_oool | 0 |

| wsrep\_commit\_window | 0 |

| wsrep\_local\_state | 4 |

| wsrep\_local\_state\_comment | Synced |

| wsrep\_cert\_index\_size | 0 |

| wsrep\_causal\_reads | 0 |

| wsrep\_cert\_interval | 0 |

| wsrep\_open\_transactions | 0 |

| wsrep\_open\_connections | 0 |

| wsrep\_incoming\_addresses | AUTO,AUTO,AUTO |

| wsrep\_cluster\_weight | 3 |

| wsrep\_desync\_count | 0 |

| wsrep\_evs\_delayed | |

| wsrep\_evs\_evict\_list | |

| wsrep\_evs\_repl\_latency | 0/0/0/0/0 |

| wsrep\_evs\_state | OPERATIONAL |

| wsrep\_gcomm\_uuid | 6fd29377-1383-11eb-9e14-5af96dfd94ab |

| wsrep\_applier\_thread\_count | 1 |

| wsrep\_cluster\_capabilities | |

| wsrep\_cluster\_conf\_id | 3 |

| wsrep\_cluster\_size | 3 |

| wsrep\_cluster\_state\_uuid | d408a9c9-1381-11eb-8166-e6b7ebf0c215 |

| wsrep\_cluster\_status | Primary |

| wsrep\_connected | ON |

| wsrep\_local\_bf\_aborts | 0 |

| wsrep\_local\_index | 0 |

| wsrep\_provider\_capabilities | :MULTI\_MASTER:CERTIFICATION:PARALLEL\_APPLYING:TRX\_REPLAY:ISOLATION:PAUSE:CAUSAL\_READS:INCREMENTAL\_WRITESET:UNORDERED:PREORDERED:STREAMING:NBO: |

| wsrep\_provider\_name | Galera |

| wsrep\_provider\_vendor | Codership Oy <info@codership.com> |

| wsrep\_provider\_version | 26.4.3(r4535) |

| wsrep\_ready | ON |

| wsrep\_rollbacker\_thread\_count | 1 |

| wsrep\_thread\_count | 2 |

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