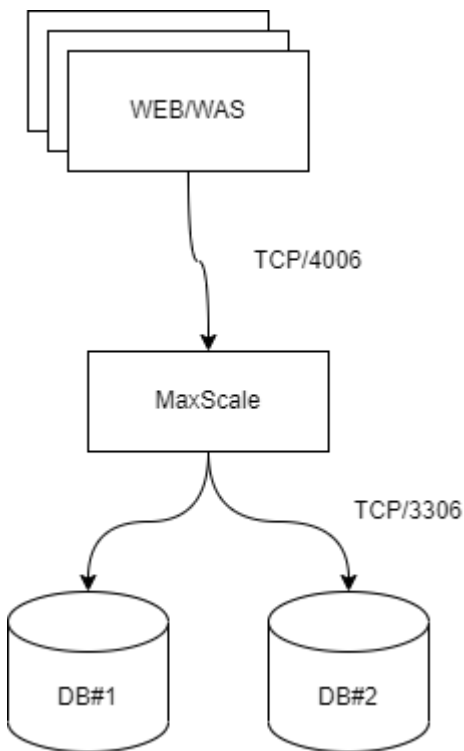


??

[illegible]

1. `mmcrd` replication `mmcrd` read / write `mmcrd` replication `mmcrd` `mmcrd` `mmcrd`
2. `mmcrd` `mmcrd` (latest `mmcrd` 2.2.1 `mmcrd` 12 `mmcrd`)
3. `mmcrd` `mmcrd` failover / failback `mmcrd` `mmcrd` `mmcrd`

Maxscale ??



- Mariadb ☐ ☐ ☐ DB ☐ ☐
- gluster cluster ☐ ☐ ☐ ☐ , maxscale ☐ ☐ db proxy ☐ ☐ ☐
- ☐ ☐ BSD ☐ ☐ ☐ ☐ , BSD ☐ ☐ S/W ☐ ☐ ☐
☐ GPL ☐ ☐ ☐

1. BSD 라이선스 : 3개 노드 , 2개 maxscale
노드 노드 노드 노드 노드 노드 노드

2. GPL 라이선스 : 1개 노드

3. '22년 2월 1일부터 BSD 라이선스 적용 .

- 1. 2.0 → 2019-01-01 (BSD 라이선스 적용 , 2개 노드)
- 2. 2.1 → 2019-07-01 (BSD 라이선스 적용 , 2개 노드)
- 3. 2.2 → 2020-01-01 (BSD 라이선스 적용 , 2개 노드)
- 4. 2.3 → 2024-06-02
- 5. 2.4 → 2026-01-04
- 6. 2.5 → 2027-10-10
- 7. 6.2 → 2026-03-08
- 8. 6.3 - 2026-05-03
- 9. 6.4 - 2027-11-30
- 10. 23.0.8 - 2027-11-30

4. 링크 : <https://github.com/mariadb-corporation/MaxScale> 링크

4. 특징 : 1. scale out environment - DB 노드 , read / write split

2. High availability - read transaction

3. Secure database - app DB maxscale

4. Secure database - app DB maxscale

5. MMM / Maxscale

구분	Mysql + Mysql-MMM	Mariadb + Maxscale
노드 구성	2(DB) + 1(monitor)	3(DB) + 1(Maxscale)
DB	Mysql	Mariadb 10
복제 방식	replication	galera cluster
모니터링	monitor → agent db	maxscale → DB

□ □	Mysql + Mysql-MMM	Mariadb + Maxscale
failover□□	1. monitor□□ db health check 2. Active DB □□□ 3. Active DB□ □□ VIP□□ 4. Standby DB□ VIP □□	1. maxscale□□ □ DB health check 2. Active DB □□□ 3. DB □□ □□

S/W ?????

1. □□□ □□□

1. maxscale : 192.168.0.101
2. db1 : 192.168.0.102
3. db2 : 192.168.0.103

2. Maxscale □□ □□

1. □□□□□ □□

```
$> vi /etc/yum.repos.d/mariadb.repo
[mariadb-main]
name = MariaDB Server
baseurl = https://~/~/downloads.mariadb.com/MariaDB/mariadb-10.5/yum/rhel/7/x86_64
gpgkey = file:~/~/etc/pki/rpm-gpg/MariaDB-Server-GPG-KEY
gpgcheck = 1
enabled = 1

[mariadb-maxscale]
# To use the latest stable release of MaxScale, use "latest" as the version
# To use the latest beta (or stable if no current beta) release of MaxScale, use
"beta" as the version
name = MariaDB MaxScale
baseurl = https://~/~/d1m.mariadb.com/repo/maxscale/latest/yum/rhel/7/x86_64
gpgkey = file:~/~/etc/pki/rpm-gpg/MariaDB-MaxScale-GPG-KEY
gpgcheck = 1
enabled = 1

[mariadb-tools]
name = MariaDB Tools
baseurl = https://~/~/downloads.mariadb.com/Tools/rhel/7/x86_64
```

```
gpgkey = file:~/../etc/pki/rpm-gpg/MariaDB-Enterprise-GPG-KEY
gpgcheck = 1
enabled = 1
```

3. `yum` `install` `maxscale` `-y`

```
$> yum install maxscale -y
...
$> vi /etc/maxscale.cnf
# MaxScale documentation:
# https://mariadb.com/kb/en/mariadb-maxscale-25/
# Global parameters
#
# Complete list of configuration options:
# https://mariadb.com/kb/en/mariadb-maxscale-25-mariadb-maxscale-configuration-
guide/
[maxscale]
threads=auto
# Server definitions
#
# Set the address of the server to the network
# address of a MariaDB server.
#
[server1]
type=server
address=192.168.0.102
port=3306
protocol=MariaDBBackend
[server2]
type=server
address=192.168.0.103
port=3306
protocol=MariaDBBackend
[server3]
type=server
address=192.168.0.101
port=3306
protocol=MariaDBBackend
# Monitor for the servers
```

```

#
# This will keep MaxScale aware of the state of the servers.
# MariaDB Monitor documentation:
# https://mariadb.com/kb/en/maxscale-25-monitors/
[MariaDB-Monitor]
type=monitor
#module=mariadbmon      #Replication  MariaDB  Galera
module=galeramon        #GaleraCluster  MariaDB  Galera
servers=server1,server2,server3
user=maxscale            #maxscale  db  MariaDB  Galera
password=maxscale        #maxscale  db  MariaDB  Galera
monitor_interval=2000
# Service definitions
#
# Service Definition for a read-only service and
# a read/write splitting service.
#
# ReadConnRoute documentation:
# https://mariadb.com/kb/en/mariadb-maxscale-25-readconnroute/
[Read-Only-Service]
type=service
router=readconnroute
servers=server1
user=myuser
password=mypwd
router_options=slave
# ReadWriteSplit documentation:
# https://mariadb.com/kb/en/mariadb-maxscale-25-readwritesplit/
[Read-Write-Service]
type=service
router=readwritesplit
servers=server1,server2  #read / write  MariaDB  Galera
user=maxscale            #maxscale  db  MariaDB  Galera
password=maxscale        #maxscale  db  MariaDB  Galera
# Listener definitions for the services
#
# These listeners represent the ports the
# services will listen on.
#

```

```

[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

```

4. Mariadb `[[[]]]`

1. `[[[]]]` `[[[]]]`

```

$> wget https://downloads.mariadb.org/interstitial/mariadb-10.5.11/bintar-
linux-x86_64/mariadb-10.5.11-linux-x86_64.tar.gz -O mariadb-10.5.11-linux-
x86_64.tar.gz

```

2. DB`[[[]]]` `[[[]]]` galera clutser `[[[]]]`

```

$> tar -zxvf mariadb-10.5.11-linux-x86_64.tar.gz -C /usr/local/
...
$> vi /etc/my.cnf
[galera]
# Mandatory settings
wsrep_on=ON
wsrep_provider=/usr/local/mariadb/lib/galera-4/libgalera_smm.so
wsrep_cluster_address=gcomm://192.168.0.102,192.168.0.103,192.168.0.101
binlog_format=row
default_storage_engine=InnoDB
innodb_autoinc_lock_mode=2
wsrep_node_address=192.168.0.101
#
# Allow server to accept connections on all interfaces.
#
bind-address=0.0.0.0
#
# Optional setting

```

```
#wsrep_slave_threads=1
#innodb_flush_log_at_trx_commit=0
```

5. 创建 Galera cluster master 节点 (mariadb 节点 3 个)

```
$>> galera_new_cluster
```

6. 启动 mariadb 节点

```
$>> ./mariabdb-safe
```

7. DB 用户 创建

```
MariaDB [(none)]> grant select on mysql.* to maxscale@'%' identified by 'maxscale' with grant option;
```

????

1. maxscale 启动

```
$>> systemctl start maxscale
```

2. maxscale 节点 列表

```
$>> maxctrl list servers
```

Server	Address	Port	Connections	State	GTID
server1	192.168.0.102	3306	2	Slave, Synced, Running	
server2	192.168.0.103	3306	0	Slave, Synced, Running	
server3	192.168.0.101	3306	0	Master, Synced, Running	

3. 服务 列表

```
$>> maxctrl list services
```

Service	Router	Connections	Total Connections	Servers
---------	--------	-------------	-------------------	---------

Read-Write-Service	readwritesplit	2	4	server1
Read-Only-Service	readconroute	0	0	server1

????

1. DB 状态 检查

1. 检查 DB 状态 是否 正常 检查 "grastate.dat" 文件

```
$>> cat grastate.dat
# GALERA saved state
version: 2.1
uuid:      7d985eca-de63-11eb-87c6-0ad28b9e1f30
seqno:     -1
safe_to_bootstrap: 0
```

2. safe_to_bootstrap 1 表示 正常 状态 galera_new_cluster 检查

safe_to_bootstrap 1 表示 正常 状态 down 表示 master 节点

Revision #6

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