

Cân bng ti RDS Instance (MySQL/Mariadb) bng MaxScale

Khi tin hành m rng qui mô theo chiu ngang (scale out), bn s phát sinh nhu cu cân bng ti cho các node RDS Instance. Ví d, vi mô hình Master-Slave, bn s mun các query Read c phân phi gia các node Slave và ch các query Write mi c gi n node Master. thc hin iu này, phn client trong Application ca bn cn c cu hình rt c bit và phc tp.

n gin hóa vic này, bn có th trin khai thêm mt (hoc mt vài) node cân bng ti gia lp Application và lp Database. Application ca bn ch cn cu hình ti node cân bng ti và không cn quan tâm vic phân phi các query ti các node Database. Khi có s co dân (scale out/in), bn cng không cn phi cu hình li Application.

Bài vit này s hng dn bn s dng MaxScale, mt database proxy/load balancing ph bin.

MaxScale hin ã có mt trên **vMarketPlace** ca VNG Cloud. Bn có th tin hành khi to mt cách n gin và nhanh chóng ti ung link sau:

<https://sdn-portal.vngcloud.vn/mp/app-detail.html?id=247&verId=285>



Maxscale
v2.4.4

LAUNCH ON COMPUTE ENGINE

DESCRIPTION PRICING USAGE SUPPORT

Description

MariaDB MaxScale is a database proxy that extends the high availability, scalability, and security of MariaDB Server while at the same time simplifying application development by decoupling it from underlying database infrastructure.

MariaDB MaxScale is engineered with an extensible architecture to support plugins, extending its functionality beyond transparent load balancing to become, for example, a database firewall. With built-in plugins for multiple routers, filters and protocols, MariaDB MaxScale can be configured to forward database requests and modify database responses based on business and technical requirements – for example, to mask sensitive data or scale reads.

Info

CATEGORY
N/A

VERSION
v2.4.4

OS
Ubuntu Ubuntu-16.04.5x64

Pricing

Marketplace application will be deployed to vServer. The default configuration allows you to run a full features application. You can customize the configuration later when deploying this solution.

The price of Markerplace application is calculated as the price of vServer.

Usage

After your application has a successful notification, to access to your application, you must create a new rule with your application port in security policy.

You can access to your vServer by guideline in your email.

To get more information of your application, you can see in file `*/root/environment*`.

Note: Marketplace application will initialize in a few minutes. Take a tea break then enjoy your apps

Quá trình khi to gn nh khi bn khi to mt vServer. iu lu ý duy nht là MaxScale cn c khi to chung Network (vVPC) vi các node RDS Instance. Bài vit này gi s bn ang chy RDS Instance MySQL/Mariadb mô hình Master-Slave Replication. Nu cha cu hình replication, bn tham kho bài vit sau thc hin: [Cu hình MySQL Replication vi RDS Instance](#).

Sau khi khi to MaxScale thành công, bn ssh vào vServer MaxScale vi thông tin c gi n email. Sau khi setup ban u, bn cu hình MaxScale ti ung dn

`/maxscale_maxscale_conf/maxscale.cnf`

```

[maxscale]
threads=auto
admin_host=0.0.0.0
log_info=1
log_debug=1

[MaxAdmin]
type=service
router=cli

[MaxAdminUnixListener]
type=listener
service=MaxAdmin
protocol=maxscaled
socket=default

#Master
[server1]
type=server
address=10.0.128.5
port=3306
protocol=MariaDBBackend

#Slave
[server2]
type=server
address=10.0.128.6
port=3306
protocol=MariaDBBackend

[Replication-Monitor]
type=monitor
module=mariadbmon
servers=server1, server2
user=maxscale_admin
password=password
monitor_interval=3000ms

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

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

```

trong ó:

- **[server1], [server2]** là thông tin các node RDS Instance ca bn bao gm IP Address, Port tng ng.
- **[read-write-service]** Read Write Service cho phép bn phân tách các query read ch vào các node Slave và query Write ch vào node Master. Bn thay i các thông tin servers, user/password thc hin query cho phù hp.
- **[read-write-listener]** cho phép bn cu hình port ca MaxScale Application connect n. Lu ý: bn cn m thêm Security Group Rule chiu Inbound cho port ã chn Application ca bn có th connect c ti MaxScale.

Tham kho thêm ti: <https://mariadb.com/kb/en/mariadb-maxscale-23-readwritesplit>.

Sau khi cu hình xong, bn start dch v bng lnh

```
systemctl start maxscale.service
```

kim tra hot ng ca MaxScale, bn có th tail log ti: `/maxscale_maxscale_log/maxscale.log`

```
tail /maxscale_maxscale_log/maxscale.log
```

```
root@maxscale-v2-4-4:~# tail /maxscale_maxscale_log/maxscale.log
2019-12-18 09:15:41 info : (8) > Autocommit: [enabled], trx is [not open], cmd: (0x03) COM_QUERY, plen: 23, type: QUERY_TYPE_READ|QUERY_TYPE_SYSVAR_READ, stmt: select @@server_id
2019-12-18 09:15:41 info : (8) [readwritesplit] Route query to slave: server2 [10.0.128.6]:3306 <
2019-12-18 09:15:41 info : (8) [readwritesplit] Reply complete, last reply from server2
2019-12-18 09:15:42 info : (8) > Autocommit: [enabled], trx is [not open], cmd: (0x03) COM_QUERY, plen: 23, type: QUERY_TYPE_READ|QUERY_TYPE_SYSVAR_READ, stmt: select @@server_id
2019-12-18 09:15:42 info : (8) [readwritesplit] Route query to slave: server2 [10.0.128.6]:3306 <
2019-12-18 09:15:42 info : (8) [readwritesplit] Reply complete, last reply from server2
2019-12-18 09:16:29 info : (8) > Autocommit: [enabled], trx is [not open], cmd: (0x03) COM_QUERY, plen: 31, type: QUERY_TYPE_WRITE, stmt: create database abc2130987
2019-12-18 09:16:29 info : (8) [readwritesplit] Route query to master: server1 [10.0.128.5]:3306 <
2019-12-18 09:16:29 info : (8) [readwritesplit] Reply complete, last reply from server1
2019-12-18 09:17:42 info : (8) [readwritesplit] Slave 'server2' failed: #HY000: Lost connection to backend server.
root@maxscale-v2-4-4:~# █
```

giám sát hot ng ca maxscale, bn có th dùng **maxadmin**:

```
docker exec -it maxscale maxadmin
MaxScale> list servers
MaxScale> show service Read-Write-Service
```

```
root@maxscale-v2-4-4:~# docker exec -it maxscale maxadmin
```

```
MaxScale> list servers
```

```
Servers.
```

Server	Address	Port	Connections	Status
server1	10.0.128.5	3306	1	Master, Running
server2	10.0.128.6	3306	1	Slave, Running

```
MaxScale> show service Read-Write-Service
```

```
Service: Read-Write-Service
Router: readwritesplit
State: Started
```

```
use_sql_variables_in: all
slave_selection_criteria: LEAST_CURRENT_OPERATIONS
master_failure_mode: fail_instantly
max_slave_replication_lag: 0
retry_failed_reads: true
strict_multi_stmt: false
strict_sp_calls: false
prune_sescmd_history: false
disable_sescmd_history: false
max_sescmd_history: 50
master_accept_reads: false
connection_keepalive: 300
causal_reads: false
causal_reads_timeout: 10
master_reconnection: false
delayed_retry: false
delayed_retry_timeout: 10
```

```
Number of router sessions: 1
Current no. of router sessions: 1
Number of queries forwarded: 3
Number of queries forwarded to master: 1 (33.33%)
Number of queries forwarded to slave: 2 (66.67%)
Number of queries forwarded to all: 0 (0.00%)
Number of read-write transactions: 0
Number of read-only transactions: 0
Number of replayed transactions: 0
```

Server	Total	Read	Write	Sess Avg:	dur	active	selects
server1	1	0	1		0ns	-nan%	0
server2	2	2	0		0ns	-nan%	0

```
Started: Wed Dec 18 09:01:04 2019
```

```
Root user access: Disabled
```

```
Backend databases:
```

```
[10.0.128.5]:3306 Protocol: MariaDBBackend Name: server1
[10.0.128.6]:3306 Protocol: MariaDBBackend Name: server2
```

```
Total connections: 1
```

```
Currently connected: 1
```

```
MaxScale> █
```