Google Cloud SQL

Telung Pan Ph.D.
telung@mac.com

Google Cloud SQL

MySQL on Cloud

- You have several options for deploying MySQL as part of your Google Cloud Platform project. You can use Google Cloud SQL, Google Cloud Launcher, or manually install MySQL on Google Compute Engine.

    - Google Cloud SQL offers MySQL as a web service. You can use Google Cloud SQL to host your MySQL database in Google's cloud, and let Google Cloud Platform handle administrative duties like replication, patch management, and database management.

    - Google Cloud Launcher provides to install MySQL onto a Compute Engine instance. Cloud Launcher includes not only a stand alone MySQL installation, but also several web development stacks that use MySQL, including LAMP stacks, LEMP stacks, and Percona MySQL clusters.

    - If you prefer to manually install and customize MySQL, you can use Compute Engine to create a MySQL database.

Create a SQL Instance

- gcloud auth login
- gcloud sql tiers list
- gcloud instances create instance0812

Setting	Parameter	Notes
Required parameters		
Database version	`--database-version`	`MYSQL_5_6` or `MYSQL_5_7` (default).
Region	`--region`	See valid values.
Machine type and storage		
Machine type	`--tier`	The machine type determines the number of CPUs and the amount of memory your instance has. See valid values. Learn more.
Storage type	`--storage-type`	Determines whether your instance uses SSD or HDD storage. Learn more.
Storage capacity	`--storage-size`	The amount of storage provisioned for the instance, in GB. Learn more.
Automatic storage increase	`--storage-auto-increase`	Determines whether Cloud SQL automatically provides more storage for your instance when free space runs low. Learn more.

Automatic backups and high availability		
High availability	`--failover-replica-name`	This parameter causes a failover replica to be created for the new instance. Learn more.
Automatic backups	`--backup-start-time`	The window of time when you would like backups to start. Learn more.
Binary logging	`--enable-bin-log`	Binary logging enables replication and point-in-time recovery. Learn more.
Authorize networks		
Authorized networks	`--authorized-networks`	For IP connections, only connections from authorized networks can connect to your instance. Learn more.
Add database flags		
Database flags	`--database-flags`	You can use database flags to control settings and parameters for your instance. Learn more about database flags. Learn more about how to format this parameter.
Set maintenance schedule		
Maintenance window	`--maintenance-window-day`, `--maintenance-window-hour`	Determines a one-hour window when Cloud SQL can perform disruptive maintenance on your instance. If you do not set the window, then disruptive maintenance can be done at any time. Learn more.
Maintenance timing	`--maintenance-release-channel`	Your preferred timing for instance updates, relative to other instances in the same project. Use `preview` for earlier updates, and `production` for later updates. Learn more.

- Set the password for the "root@%" MySQL user: *gcloud sql users set-password root % --instance [INSTANCE_NAME] --password [PASSWORD]*

Viewing Information About Your Cloud SQL Instance

- gcloud sql instances describe [INSTANCE_NAME]

Restarting an instance

- Restarting an instance drains the connections from the instance and stops it. Next, instances with an activation policy of Always restart and are ready to accept new connections. Instances with an activation policy of On Demand remain shut down until there is a new connection request for the instance, at which time the instance is activated and accepts the request.

- *gcloud sql instances restart [INSTANCE_NAME]*

Deleting Instances

Warning: All data on an instance, including backups, is permanently lost when that instance is deleted. To preserve your data, export the instance before you delete it.

- *gcloud sql instances delete [INSTANCE_NAME]*

變數的使用

```
MariaDB [DB_0812]> SELECT @maxid := MAX(id) FROM player0812;
+---------------------+
| @maxid := MAX(id) |
+---------------------+
|                   4 |
+---------------------+
1 row in set (0.00 sec)

MariaDB [DB_0812]> SELECT * FROM player0812 WHERE id = @maxid;
```

MySQL 進階使用

```
MariaDB [DB_0812]> delimiter //
MariaDB [DB_0812]> CREATE PROCEDURE dorepeat(p1 INT)
    -> BEGIN
    ->     SET @x = 0;
    ->     REPEAT SET @x = @x + 1; UNTIL @x > p1 END REPEAT;
    -> END
    -> //
```

```
MariaDB [DB_0812]> delimiter ;
MariaDB [DB_0812]> CALL dorepeat(10000);
Query OK, 0 rows affected (0.01 sec)

MariaDB [DB_0812]> SELECT @x;
+--------+
| @x     |
+--------+
| 10001  |
+--------+
```

使用連續迴圈新增資料

- 使用下面的範例，新增 25 筆資料，使用 select(*) 語法確認資料筆數。

```
MariaDB [DB_0812]> create procedure dorepeat(p1 INT)
    -> begin
    -> set @x = 0;
    -> repeat
    -> insert into pet values('Peter', 'Mary');
    -> set @x = @x +1;
    -> until @x > p1
    -> end repeat;
    -> end
    -> //
```

期中測驗

- 日期:11月10日(五) 13:10 開始
- 方式:上機測驗, Open book
- 內容: 請事先將自己的機器環境設定好，採用 gcloud 介面，在 gcloud compute 上安裝好 mysql 並且可以使用即可，與使用何種帳號無關。