Releem MySQLConfigurer

Description

MySQLConfigurer is a script that will assist you prepare performance optimized configuration of your MySQL server based on MySQL status and system information. We use MySQLTuner to gather information from servers.

Releem is an online service for automatic optimization MySQL configuration to improve performance and reduce costs. Releem analyzes the MySQLTuner report, MySQL status and system information of your server and provides settings recommendations in the form of a MySQL configuration file.

Security

Always store credentials only in `~/.my.cnf` to prevent sending passwords to our service. In other cases MySQLTuner stores manualy entered passwords while running script in "MySQL Client" section of the MySQLTuner report.

To use .my.cnf file create file `~/.my.cnf` with folowing content:

```
[client]
user=root
password=[your password]
```

Compatibility

- MySQL 8.0
- MySQL 5.7
- MySQL 5.6
- MySQL 5.5
- MariaDB 10.1
- MariaDB 10.2
- MariaDB 10.3
- MariaDB 10.4
- MariaDB 10.5

*** MINIMAL REQUIREMENTS *** - Perl 5.6 or later (with perl-doc package) - Perl module JSON - Unix/Linux based operating system (tested on Linux, BSD variants, and Solaris variants) - Unrestricted read access to the MySQL server (OS root access recommended for MySQL < 5.1)

Installation

One step installation to /opt/releem

```
    RELEEM_API_KEY=[YOUR_RELEEM_API_KEY] bash -c "$(curl -L https://releem.s3.amazonaws.com/install.sh)"
```

Usage

1. To run mysqlconfigurer.sh execute folowing command

   ```
   /bin/bash /opt/releem/mysqlconfigurer.sh -k [RELEEM_API_KEY]
   ```

   - Use -m [MYSQL_MEMORY_LIMIT] - to set maximum memory limit for MySQL. Used when there are different applications installed on the server.
2. Recommended MySQL configuration file is /tmp/.mysqlconfigurer/z_aiops_mysql.cnf
3. **Only if you need to increase `open_files_limit` variable.** Perform the folowing steps to safely setup `open_files_limit` in MySQL

   5.1. Find out if any other .conf files are being used with MySQL that overrides the values for open limits. Run `systemctl status mysqld/mysql/mariadb` command and it will show something like this

   ```
       Drop-In:
          /etc/systemd/system/(mysqld/mysql/mariadb).service.d
          └─limits.conf
   ```

   This means there is `/etc/systemd/system/(mysqld/mysql/mariadb).service.d/limits.conf` file which is loaded with MySQL Server. If this file does not exist, you should create create it.

   `mysqld/mysql/mariadb` is selected depending on the name of the running service name on the server, which is also defined in the output of the command `systemctl status mysqld/mysql/mariadb`

   5.2. Edit the file and add the following and change `[table_open_cache]` to your value

```
[Service]
LimitNOFILE=([table_open_cache] * 2)
```

- **`open_files_limit` should be no less than `[table_open_cache] * 2`.**

5.3. Run the following command to apply the changes. `systemctl daemon-reload`

5.4. Reboot your mysql server.

5.5. After the successful reboot of the server, we will again run below SQL Queries.

```
SHOW VARIABLES LIKE 'open_files_limit';
```

You should see the following:

```
+------------------+--------+
| Variable_name    | Value  |
+------------------+--------+
| open_files_limit | 102400 |
+------------------+--------+
1 row in set (0.00 sec)
```

4. Perform the following steps to safely apply recommended configuration:

   WARNING! In case of change 'innodb_log_file_size' only in MySQL 5.6.7 or earlier set parameter 'innodb_fast_shutdown' to 1 (Official documentation), stop MySQL server, copy old log files into a safe place and delete it from log directory, copy recommended configuration and start MySQL server:

   ```
   mysql -e"SET GLOBAL innodb_fast_shutdown = 1"
   service mysql stop
   cp /tmp/.mysqlconfigurer/z_aiops_mysql.cnf  /etc/mysql/conf.d/
   mv /var/lib/mysql/ib_logfile[01] /tmp
   service mysql start
   ```

   In other cases stop MySQL server, copy recommended configuration file and start MySQL server:

   ```
   service mysql stop
   cp /tmp/.mysqlconfigurer/z_aiops_mysql.cnf  /etc/mysql/conf.d/
   service mysql start
   ```

   - The path to `/etc/mysql/conf.d` folder can vary according to Linux distro.

Example of the recommended configuration file /tmp/.mysqlconfigurer/z_aiops_mysql.cnf:

```
[mysqld]
query_cache_type = 1 ### Previous value : OFF
query_cache_size = 128M ### Previous value : 16777216
query_cache_limit = 16M ### Previous value : 1048576
thread_cache_size = 8 ### Previous value : 8
key_buffer_size = 196M ### Previous value : 268435456
sort_buffer_size = 24M ### Previous value : 1048576
bulk_insert_buffer_size = 2M ### Previous value : 8388608
myisam_sort_buffer_size = 24M ### Previous value : 67108864
innodb_buffer_pool_instances = 3 ### Previous value : 1
innodb_buffer_pool_size = 3019898880 ### Previous value : 1073741824
max_heap_table_size = 256M ### Previous value : 16777216
tmp_table_size = 256M ### Previous value : 16777216
join_buffer_size = 8M ### Previous value : 262144
max_connections = 151 ### Previous value : 151
interactive_timeout = 1200 ### Previous value : 28800
wait_timeout = 1200 ### Previous value : 28800
table_open_cache = 65536 ### Previous value : 4096
innodb_flush_log_at_trx_commit = 2 ### Previous value : 2
innodb_log_file_size = 805306368 ### Previous value : 67108864
```