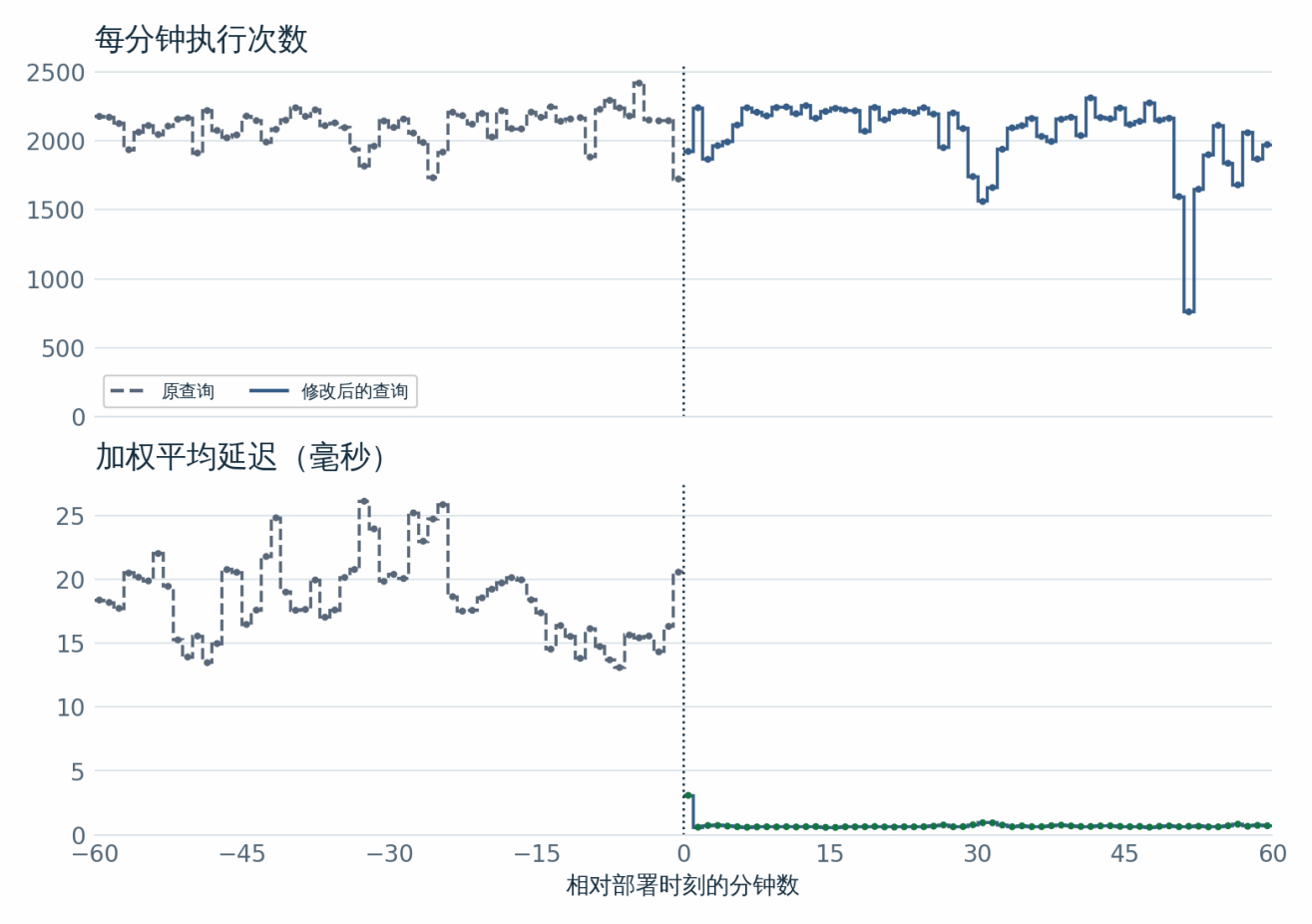
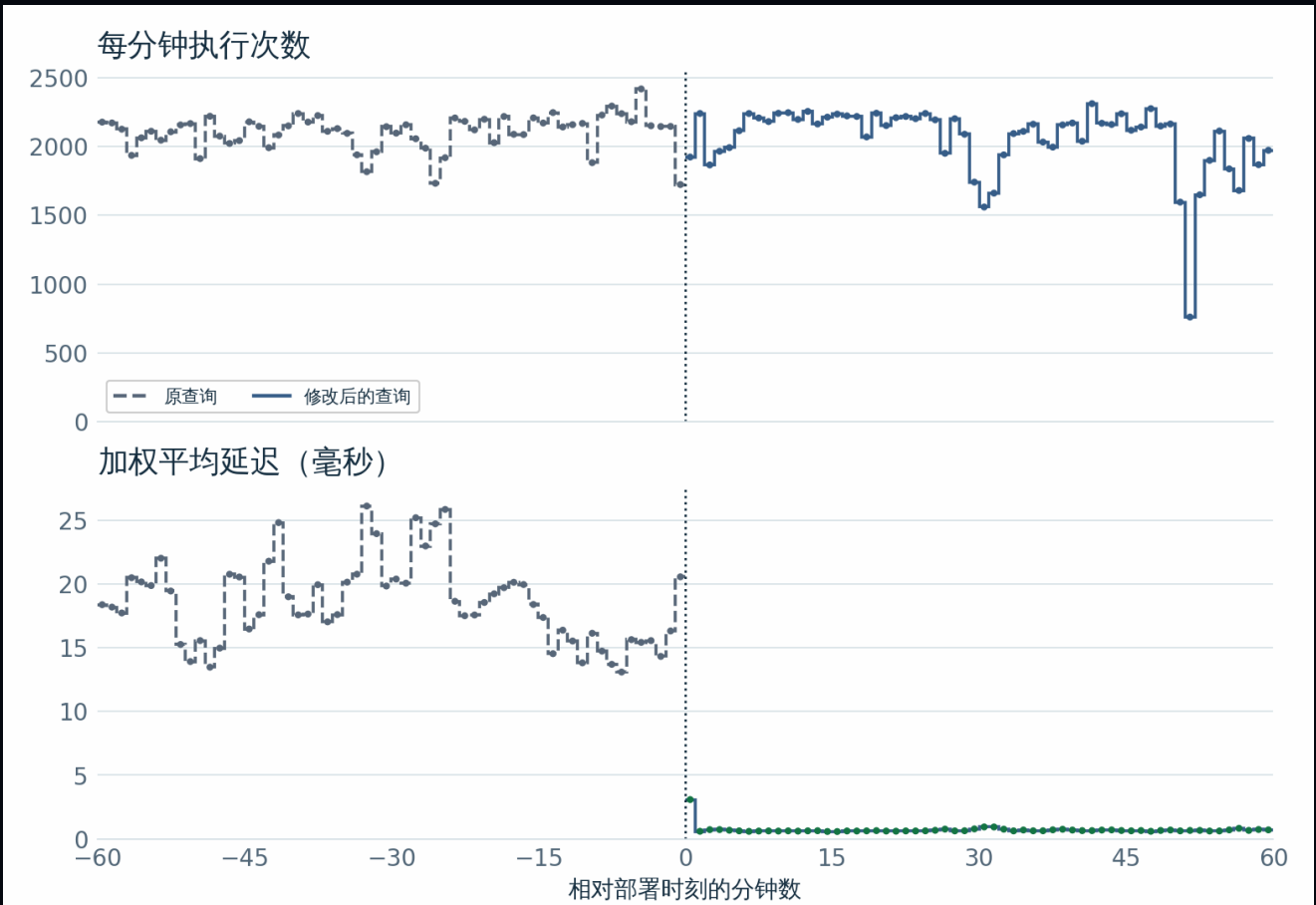
□□□□□□□□□□□□ MariaDB □□□□□□ 18.43 □□ 0.70 □□□

Aurélien LEQUOY · 2026□11□21□

PMACONTROL MARIADB PERFORMANCE SQL BENCHMARK OBSERVABILITY

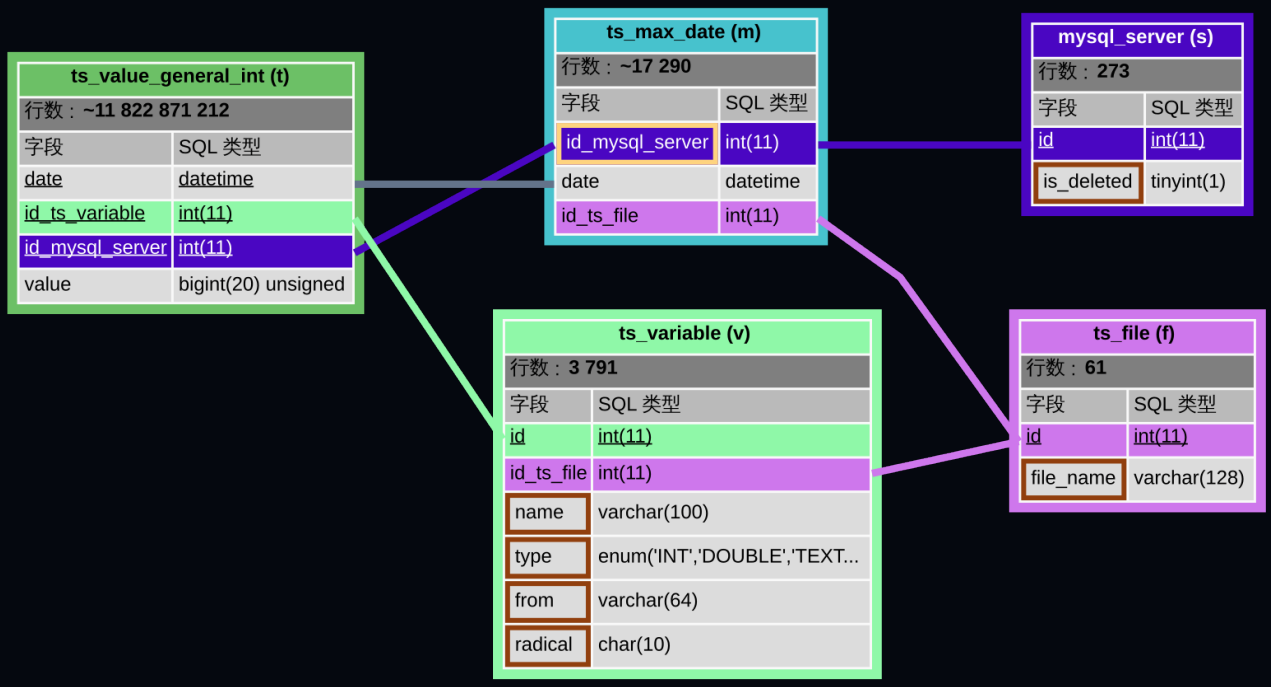


`ts_variable` **3,791** □□□ **3,759** `Name` `Value` `mysql_available` `v.`from` = `mysql_server'` □□□□□□□□□□□□□□□□ **18.43** □□□□□□□□□□□□□□□□


每分钟执行次数
2500
2000
1500
1000
500
0
原查询
修改后的查询
加权平均延迟（毫秒）
25
20
15
10
5
0
−60
−45
−30
−15
0
15
30
45
60
相对部署时刻的分钟数

□□□□ 120 □□□□□

ts_max_date ts_file ts_variable mysql_server NULL



PmaControl ts_variable.from

MariaDB SHOW CREATE TABLE ts_variable UNIQUE KEY

SHOW CREATE TABLE ts_variable;

```
CREATE TABLE `ts_variable` (
  `id` int(11) NOT NULL AUTO_INCREMENT,
  `id_ts_file` int(11) NOT NULL DEFAULT 3,
  `name` varchar(100) NOT NULL,
  `type` enum('INT','DOUBLE','TEXT','JSON','') NOT NULL COMMENT '1 => int, 2 => double, 3 =>
text, 4=> json',
  `from` varchar(64) NOT NULL,
  `radical` char(10) NOT NULL,
  `is_derived` int(11) DEFAULT 1,
  `is_dynamic` int(11) DEFAULT 1 COMMENT 'only for global variables',
  PRIMARY KEY (`id`),
  UNIQUE KEY `name` (`name`,`from`),
  KEY `ts_variable_ibfk_1` (`id_ts_file`),
  KEY `from` (`from`),
  CONSTRAINT `ts_variable_ibfk_1` FOREIGN KEY (`id_ts_file`) REFERENCES `ts_file` (`id`) ON
DELETE CASCADE ON UPDATE CASCADE
```

```
) ENGINE=InnoDB AUTO_INCREMENT=39387 DEFAULT CHARSET=latin1 COLLATE=latin1_swedish_ci;
```

SHOW CREATE TABLE ts_file;

```
CREATE TABLE `ts_file` (
  `id` int(11) NOT NULL AUTO_INCREMENT,
  `file_name` varchar(128) NOT NULL,
  `each` int(11) NOT NULL DEFAULT 1,
  PRIMARY KEY (`id`),
  UNIQUE KEY `file_name` (`file_name`)
) ENGINE=InnoDB AUTO_INCREMENT=25508473 DEFAULT CHARSET=latin1 COLLATE=latin1_swedish_ci;
```

SHOW CREATE TABLE ts_max_date;

```
CREATE TABLE `ts_max_date` (
  `id` int(11) NOT NULL AUTO_INCREMENT,
  `id_mysql_server` int(11) NOT NULL,
  `date` datetime DEFAULT NULL,
  `sample_epoch` bigint(20) unsigned NOT NULL DEFAULT 0,
  `date_p1` datetime DEFAULT NULL,
  `sample_epoch_p1` bigint(20) unsigned NOT NULL DEFAULT 0,
  `date_p2` datetime DEFAULT NULL,
  `sample_epoch_p2` bigint(20) unsigned NOT NULL DEFAULT 0,
  `date_p3` datetime DEFAULT NULL,
  `sample_epoch_p3` bigint(20) unsigned NOT NULL DEFAULT 0,
  `date_p4` datetime DEFAULT NULL,
  `sample_epoch_p4` bigint(20) unsigned NOT NULL DEFAULT 0,
  `id_ts_file` int(11) NOT NULL,
  `last_date_listener` datetime DEFAULT current_timestamp(),
  `last_sample_epoch_listener` bigint(20) unsigned NOT NULL DEFAULT 0,
  PRIMARY KEY (`id`),
  UNIQUE KEY `id_mysql_server_2` (`id_mysql_server`,`id_ts_file`),
  UNIQUE KEY `id_mysql_server` (`id_mysql_server`,`id_ts_file`,`date`),
  UNIQUE KEY `date` (`date`,`id_ts_file`,`id_mysql_server`),
  KEY `id_ts_file` (`id_ts_file`),
  KEY `id_mysql_server_4` (`id_mysql_server`,`date`),
  KEY `date_2` (`date`,`last_date_listener`),
  CONSTRAINT `ts_max_date_ibfk_3` FOREIGN KEY (`id_ts_file`) REFERENCES `ts_file` (`id`)
) ENGINE=InnoDB AUTO_INCREMENT=22859 DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_general_ci;
```

SHOW CREATE TABLE mysql_server;

```
CREATE TABLE `mysql_server` (
  `id` int(11) NOT NULL AUTO_INCREMENT,
  `is_deleted` tinyint(1) NOT NULL DEFAULT 0,
  `created_at` datetime NOT NULL DEFAULT current_timestamp(),
  `updated_at` datetime NOT NULL DEFAULT current_timestamp() ON UPDATE current_timestamp(),
  `id_client` int(11) NOT NULL,
  `id_environment` int(11) NOT NULL,
  `name` varchar(100) CHARACTER SET utf8mb3 COLLATE utf8mb3_general_ci NOT NULL,
  `display_name` varchar(100) NOT NULL,
  `ip` varchar(255) CHARACTER SET latin1 COLLATE latin1_bin NOT NULL,
  `hostname` varchar(200) NOT NULL DEFAULT '',
  `login` varchar(32) CHARACTER SET utf8mb3 COLLATE utf8mb3_general_ci NOT NULL,
  `passwd` varchar(255) CHARACTER SET latin1 COLLATE latin1_bin NOT NULL,
  `database` varchar(64) NOT NULL,
  `is_password_crypted` int(11) NOT NULL,
  `is_ssl` int(11) NOT NULL DEFAULT 0,
  `port` int(11) NOT NULL,
  `ssh_nat` varchar(64) CHARACTER SET latin1 COLLATE latin1_bin NOT NULL DEFAULT '',
  `ssh_port` int(11) NOT NULL DEFAULT 22,
  `ssh_login` text CHARACTER SET latin1 COLLATE latin1_bin NOT NULL DEFAULT '\'\'',
  `is_sudo` int(11) NOT NULL DEFAULT 0,
  `is_root` int(11) NOT NULL DEFAULT 1,
  `is_monitored` int(11) NOT NULL DEFAULT 1,
  `monitoring_disabled_reason` enum('manual','license_quota') DEFAULT NULL,
  `is_proxy` int(11) NOT NULL DEFAULT 0,
  `is_vip` tinyint(1) NOT NULL DEFAULT 0,
  `is_binlog_relay` tinyint(1) NOT NULL DEFAULT 0,
  `is_clickhouse` tinyint(1) NOT NULL DEFAULT 0,
  `errant_gtid_set` text DEFAULT NULL COMMENT '#1280 P0.1 last computed errant GTID set
(canonical form, empty string = no errant)',
  `is_acknowledged` int(11) NOT NULL DEFAULT 0,
  `timeout` int(11) GENERATED ALWAYS AS (case when `is_proxy` = 1 then 11 else 1 end)
VIRTUAL,
  `errant_gtid_sampled_at` datetime DEFAULT NULL COMMENT '#1280 P0.1 wall-clock of the last
successful errant-set computation',
  `errant_gtid_ignore` tinyint(1) NOT NULL DEFAULT 0,
  `replica_lag_sla_seconds` int(11) NOT NULL DEFAULT 30,
  `is_out_of_service` tinyint(1) NOT NULL DEFAULT 0 COMMENT 'operator-flagged HS for reload
from master',
  PRIMARY KEY (`id`),
  UNIQUE KEY `name` (`name`),
```

```
  UNIQUE KEY `ip` (`ip`,`port`),
  KEY `id_client` (`id_client`),
  KEY `id_environment` (`id_environment`),
  KEY `is_monitored` (`id_client`,`is_monitored`,`is_deleted`) USING BTREE,
  KEY `is_deleted` (`is_deleted`)
) ENGINE=InnoDB AUTO_INCREMENT=337 DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_general_ci WITH
SYSTEM VERSIONING
 PARTITION BY SYSTEM_TIME
PARTITIONS 2;
```

SHOW CREATE TABLE ts_value_general_int;

```
CREATE TABLE `ts_value_general_int` (
  `date` datetime NOT NULL,
  `id_ts_variable` int(11) NOT NULL,
  `id_mysql_server` int(11) NOT NULL,
  `value` bigint(20) unsigned DEFAULT NULL,
  PRIMARY KEY (`date`,`id_ts_variable`,`id_mysql_server`),
  KEY `id_mysql_server` (`id_mysql_server`,`id_ts_variable`,`date`)
) ENGINE=ROCKSDB DEFAULT CHARSET=latin1 COLLATE=latin1_swedish_ci
 PARTITION BY RANGE (to_days(`date`))
(PARTITION `p740279` VALUES LESS THAN (740279) ENGINE = ROCKSDB,
 PARTITION `p740280` VALUES LESS THAN (740280) ENGINE = ROCKSDB,
 PARTITION `p740281` VALUES LESS THAN (740281) ENGINE = ROCKSDB,
 PARTITION `p740282` VALUES LESS THAN (740282) ENGINE = ROCKSDB,
 PARTITION `p740283` VALUES LESS THAN (740283) ENGINE = ROCKSDB,
 PARTITION `p740284` VALUES LESS THAN (740284) ENGINE = ROCKSDB,
 PARTITION `p740285` VALUES LESS THAN (740285) ENGINE = ROCKSDB,
 PARTITION `p740286` VALUES LESS THAN (740286) ENGINE = ROCKSDB,
 PARTITION `p740287` VALUES LESS THAN (740287) ENGINE = ROCKSDB,
 PARTITION `p740288` VALUES LESS THAN (740288) ENGINE = ROCKSDB,
 PARTITION `p740289` VALUES LESS THAN (740289) ENGINE = ROCKSDB,
 PARTITION `p740290` VALUES LESS THAN (740290) ENGINE = ROCKSDB,
 PARTITION `p740291` VALUES LESS THAN (740291) ENGINE = ROCKSDB,
 PARTITION `p740292` VALUES LESS THAN (740292) ENGINE = ROCKSDB,
 PARTITION `p740293` VALUES LESS THAN (740293) ENGINE = ROCKSDB,
 PARTITION `p740294` VALUES LESS THAN (740294) ENGINE = ROCKSDB,
 PARTITION `p740295` VALUES LESS THAN (740295) ENGINE = ROCKSDB,
 PARTITION `p740296` VALUES LESS THAN (740296) ENGINE = ROCKSDB,
 PARTITION `p740297` VALUES LESS THAN (740297) ENGINE = ROCKSDB,
 PARTITION `p740298` VALUES LESS THAN (740298) ENGINE = ROCKSDB,
```

```
  PARTITION `p740299` VALUES LESS THAN (740299) ENGINE = ROCKSDB,
  PARTITION `p740300` VALUES LESS THAN (740300) ENGINE = ROCKSDB,
  PARTITION `p740301` VALUES LESS THAN (740301) ENGINE = ROCKSDB,
  PARTITION `p740302` VALUES LESS THAN (740302) ENGINE = ROCKSDB,
  PARTITION `p740303` VALUES LESS THAN (740303) ENGINE = ROCKSDB,
  PARTITION `p740304` VALUES LESS THAN (740304) ENGINE = ROCKSDB,
  PARTITION `p740305` VALUES LESS THAN (740305) ENGINE = ROCKSDB,
  PARTITION `p740306` VALUES LESS THAN (740306) ENGINE = ROCKSDB,
  PARTITION `p740307` VALUES LESS THAN (740307) ENGINE = ROCKSDB,
  PARTITION `p740308` VALUES LESS THAN (740308) ENGINE = ROCKSDB,
  PARTITION `p740309` VALUES LESS THAN (740309) ENGINE = ROCKSDB,
  PARTITION `p740310` VALUES LESS THAN (740310) ENGINE = ROCKSDB);
```

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`ts_variable` □□□□ `name` □ `from` □□□□□□□□□□

(`name`)	3,759	99.16%	3,841 → 3,840
(`name`, `from`)	3,791	100%	3,841 → 3,840
(`from`)	42	1.11%	42 → 42

`name` `from` **3,841** MariaDB

3,729 28 2 `name` (`from`) **32 99.16%** **100% 84** `mysql_available`

```
SELECT rows_per_name, COUNT(*) AS number_of_names
FROM (
    SELECT name, COUNT(*) AS rows_per_name
    FROM ts_variable
    GROUP BY name
) AS names
GROUP BY rows_per_name
ORDER BY rows_per_name;
```

`ts_variable`

21:00 `ANALYZE NO_WRITE_TO_BINLOG TABLE pmacontrol.ts_variable` OK `SHOW INDEX` **3,840**

InnoDB `mysql.innodb_index_stats` `name` `n_diff_pfx01` 3,757 **3,759** `n_diff_pfx02` 3,789 **3,791**

`ts_variable` `EXPLAIN` `ref` `const`

SQL ZIP

`name` `ref` v MariaDB 42 ref 168 const

`ts_file` (f)	1 · `const` · `file_name` · 130 B	1 · `const` · `file_name` · 130 B
`ts_max_date` (m)	2 · `const` · `id_mysql_server_2` · 8 B	3 · `const` · `id_mysql_server_2` · 8 B
`ts_variable` (v)	3 · `ref` · `name` · 102 B	2 · `const` · `name` · 168 B

□	□□□	□□□
`mysql_server` (s)	4 · `ref` · `PRIMARY` · 4 B	5 · `ref` · `PRIMARY` · 4 B
`ts_value_general_int` (t)	5 · `eq_ref` · `PRIMARY` · 13 B	4 · `const` · `PRIMARY` · 13 B

□□□□□□□MariaDB□□ `ts_value_general_int` □□□□□□□ 32 □□□□

□□□□□□□□□CSV□□□CSV□

□□□□□□□□

□□ · 50 □□□□□□□□	□□□	□□□
□□	35.085 ms	✓ **0.261 ms (÷134.27)**
□□□□□□	0.107 ms	0.011 ms
`Statistics` □□	54.983 ms	✓ **0.224 ms (÷245.46)**

□□ `ANALYZE FORMAT=JSON` □ `$statistics` □□ `SHOW PROFILE` □□□

□□ `name` □□MariaDB□ `name` `from` □□□□□□□□□□

□ 50 □□□□□□□□□□

□□□□□□□□ MariaDB 11.8.10 □□□□□ 111 □□□□□ SHOW PROFILES □ 50 □□□□□□□□□□

□□□□	□□□□□□	□□□□□□□
□□□□□□ (50)	0.692	✗ **41.737 (×60.34)**
□ EXISTS (150)	0.617	0.563
□ LIMIT □□□□□ (150)	0.617	0.560
□ LIMIT □□□□□ (150)	0.617	0.602
□□□□□□□□□ (150)	0.617	1.218

□□□□□□□□□□□□ZIP□

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