It’s all about you:  
Innovation That Matters

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(Making MariaDB Better)
Statistics

- Downloads so far:
  - ~37000 downloads since launch (first 40 days)
  - ~3100 uses of our repository config tool (August 2020)

- ~32000 downloads are windows
  - ~28000 are for MSI packages
- ~4500 are tarballs
  - ~4200 are systemd tarballs
MariaDB source
MariaDB Packages from MDBC / MDBF

MariaDB Corporation and MariaDB Foundation produce a variety of packages for Linux distributions and Windows.
Other Non-Linux Distributions Package

Other packaging of MariaDB occurs through distribution maintainers of Linux, BSD, OpenIndiana and other operating systems and variants.
Linux Distros Produce their own Packages Too

Linux distributions also produce packages from the MariaDB source too.
Ubuntu Packages used by Docker Library

Docker Library produces containers from MariaDB Ubuntu 20.04 packages to Docker Hub.

Architectures:
- x86_32
- x86_64
- ARM64
- PPC64LE
From Docker Library to community projects and you
Docker Library used in Travis

Travis CI:
MariaDB Docker Library containers are used for the server side of the tests. MariaDB apt repositories can be installed for non-container build/tests.
Docker Library -> OpenStack Trove

OpenStack Trove, Database As A Service (DBaaS) uses the Docker Library to provide MariaDB, with 11 other databases.
XAMPP is an example of one project that bundles Apache, MariaDB, PHP and Perl together for end user download.
Bitnami - Debian MariaDB containers + VM ...
Bitnami’s helm chart (Kubernetes) is used by NextCloud to produce their product.
Red Hat Container Platform

Red Hat too is another provider of containers
Hyperscale Clouds

All large cloud platforms offer MariaDB derived from various sources.
DBaaS of SkySQL, AsparaDB for MariaDB TX, and Amazon RDS offer very productised MariaDB integrated services.
Distribution Ecosystem wide view

Not a complete picture as there are many others out there.
MariaDB Application Stack
MariaDB Application Stack

- MariaDB Server
- Connectors
- Your App
MariaDB Application Stack

- MariaDB Server
- Connectors
- Frameworks
- Your App
MariaDB Infrastructure and Tools

- MariaDB Server
- Orchestration
MariaDB Infrastructure and Tools

- MariaDB Server
- Orchestration
- Monitoring
MariaDB Infrastructure and Tools

- MariaDB Server
- Orchestratin
- Monitoring
- High Availability
MariaDB Infrastructure and Tools

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- Orchestration
- Monitoring
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- Backup
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- Backup
- Tools
- Multi-user Service Layers
- High Availability
- Multi-user Service Layers
Product Development

Server Development

[Diagram showing the lifecycle of product development with stages: Develop, Test, Release, and components: Connector Development, Server Development, and other processes interlinked.]

Time
Product Development

Server Development

Develop
Test
Release

Connector Development

Develop
Test
Release

Frameworks

Develop
Test
Release
FROM ubuntu:20.04
ENV DEBIAN_FRONTEND=noninteractive
RUN apt-get update -y && \
    apt-get install -y language-pack-de \
    libgmp-dev \
    libncurses-dev \
    libtidy-dev \
    libenchant-dev \
    libaspell-dev \
    libnss3-dev \
    libxml2-dev \
    libxml2-dev \
    zlib-dev \
    pkg-config build-essential autoconf bison re2c \
    libxml2-dev libsqlite3-dev libmysqlmb-dev
VOLUME /code
VOLUME /mariadbsock
WORKDIR /code
COPY php-entrypoint.sh /
ENV BRANCHES="PHP-7.3 PHP-7.4"
CMD [php-entrypoint.sh]
# PROTEST_ATTR
# PDO_MYSQL_TEST_ENGINE
set -x -v
if [ -d master ]
then
cd master
git pull
else
git clone https://github.com/php-src.git master
cd master
fi
for b in BRANCHES
do
if [ ! -d $b ]
then
  ( cd ../$b; git pull )
else
git worktree add ../$b $b
fi
done
cd ..
lst -la
for b in BRANCHES master
do
  for b in "--with-mysql=pdo-mysql\n--with-pdo-mysqli=pdo-mysqli\n--with-pdo-mysql=pdo-mysql\n--with-pdo-oci=pdo-oci\n--with-pdo-sqlite=pdo-sqlite\n";
do
    mkdir -p "$b-bin"
cd "$b-bin"
    ../$b/buildconf
    ../$b/configure --enable-debug
    $b
    --with-mysql-sock=/var/mysql.sock
    make -j $(nproc)
    ./test/php ../$b/run-tests.php ../$b/ext/mysql4x1/tests/php7 ../$b/ext/pdo_mysql/tests/php7
cd ..
done
done
Ecosystem CI - progress and implementation
Build Bot - https://buildbot.mariadb.org/
Download MariaDB Server

MariaDB Server is one of the world's most popular open source relational databases and is available in the standard repositories of all major Linux distributions. Look for the package mariadb-server using the package manager of your operating system. Alternatively, you can use the following resources:

MariaDB Server Version
- MariaDB Server 10.5.5 Stable

Display older releases: □

Operating System
- Linux

Architecture
- x86_64

Init System
- Systemd

Download

Mirror
- Real World Group - Sydney

Release date: 2022-08-31
File name: mariadb-10.5.5-linux-systemd-x86_64.tar.gz
File size: 324 MB
Display signature
Checksums:
- md5sum: e580b2f2eb6c8ca17ebc7a8b725a0a7
- sha1sum: a3197fee1c2fa1b20c4f61b73928c6d94
- sha256sum: d9/de6f65c87a2d12b4e4436d5c8b511e7f0f9e9b1f
- sha512sum: f522ea4796276eacf890a1275ac75ca46a1f7901370e8ed48052b1668d3d5647a342e9f22ff4476e418b845ebedc84b
Assisting Contributors

MDEV-23091: perfschema Add support for OpenBSD's getthrid() to retrieve... #1646

10.3 mdev 23176 from unixtime timezone

Solution 4:
Using `--defaults-extra-file` to set up:

```
$ podman run -v /tmp/my-cnf:/etc/my-cnf
```

No description provided.

Seems cool.
Connecting Communities

Changing Propagation.REQUIRES.NEW to .REQUIRED helps but I think it is not way for us.

Thank you.

@Krunal Bauskar both of smid should be available

This is an issue in driver as you indicate. bug report done: jira.mariadb.org/browse/CONJ-825

– Diego Dupin 2 days ago
MySQL init process hangs when using image mariadb 10.1.42, 10.2.27, 10.3.18, 10.4.8 #262

- MDEV-18778: Galera TZ replication
- MDEV-21209: Correct galera checks
- MDEV-23326: TZ initialisation
  - Corrected .. almost < 10.4
  - Still slow
- MDEV-23440: Speed up TZ
  - Innodb (galera)
- MDEV-23494: Modernise mysql_install_db
- MDEV-320: docker-library/mariadb
An work continues; load during initialization `mysql_install_db`
Engaging with Communities

MDEV-23494: unify and modernise mysql_install db #1657

@grooverdan wants to merge 8 commits into MariaDB:10.1 from @grooverdan:10.1-MDEV-23494_unify_and_modernise_mysql_install_db

Conversation 4  Commits 8  Checks 0  Files changed 44

@grooverdan commented 15 days ago

mysql_install_db has come with a number of fixed features that are undesirable in modern installations where frequent installs happens.

Over time some of these have been expanded slowly in later MariaDB versions. For projects like dbdeployer and the docker library this creates a pain with a single initialization script needing to account for variants of feature that mysql_install_db should provide.

As such, and now including packaging there are number of restarts of mysqld just to initialize it how it is required.

The approach here has been to backport a few features, add options to make explicit root host/password, and provide a file descriptor that can be passed to mysqld to finish its initialization.

This is a first draft. Some more testing on portability and testing for closed file descriptors is required.

I'd like your feedback on if I've missed anything that would make it easier for you.

Feedback please especially ping @datacharmer, @ottok, @tianon, @yosifkit, @Sp11, @FaramosCZ
Helping Users

compatibility

The newest version of Xampp comes with MySQL databases. Are they readable?

Answer

You don't specify version, MySQL version.
Take a look at MariaDB.

Answer

Remote access tool to mariadb

Hello everyone,
I'm quite new to the web dev world, so I would like to know if there's a tool (preferably command line) that can let me access my databases from another computer. Thank you.

A while ago I worked with php my admin which installed on the actual DB server (resource). I was able to access all databases.

innodb_buffer_pool_instances where removed in internal restructuring of the code.
There is no replacement setting.
The variable, that serves no purpose, is there for...

KB Open Questions Bot
Does MariaDB Connector/J 2.6.x create connections to both master and slave?
What hardware configuration I need for my scenario?

KB Open Questions Bot
Why does this query hang on Maria but runs fine on MySQL?

KB Open Questions Bot
Content from TEXT fields not displaying - Classic ASP on Windows Server

KB Open Questions Bot
odd mariadb-connector-c error on update

KB Open Questions Bot
Possible to set server preferred ciphers?

KB Open Questions Bot
Issuing and monitoring status of multiple queries via a non-blocking connection?
Self directed innovation / Seeing a need

Jupyter Notebook

mysqldump --system=all

```sql
/*!40101 SET @OLD_CHARACTER_SET_CLIENT=@@CHARACTER_SET_CLIENT */;
/*!40101 SET @OLD_CHARACTER_SET_RESULTS=@@CHARACTER_SET_RESULTS */;
/*!40101 SET @OLD_COLLATION_CONNECTION=@@COLLATION_CONNECTION */;
/*!40101 SET NAMES utf8 */;
/*!40103 SET @OLD_TIME_ZONE=@TIME_ZONE */;
/*!40103 SET TIME_ZONE='+00:00' */;
/*!40014 SET @OLD_UNIQUE_CHECKS=@@UNIQUE_CHECKS, UNIQUE_CHECKS=0 */;
/*!40014 SET @OLD_FOREIGN_KEY_CHECKS=@@FOREIGN_KEY_CHECKS, FOREIGN_KEY_CHECKS=0 */;
/*!40101 SET @OLD_SQL_MODE=@@SQL_MODE, SQL_MODE='NO_AUTO_VALUE_ON_ZERO' */;
/*!40111 SET @OLD_SQL_NOTES=@@SQL_NOTES, SQL_NOTES=0 */;
CREATE USER IF NOT EXISTS 'root'@'127.0.0.1' IDENTIFIED BY 'root';
GRANT ALL PRIVILEGES ON *.* TO 'root'@'127.0.0.1' WITH GRANT OPTION;
CREATE USER IF NOT EXISTS 'root'@'::1' IDENTIFIED BY 'root';
GRANT ALL PRIVILEGES ON *.* TO 'root'@'::1' WITH GRANT OPTION;
CREATE USER IF NOT EXISTS ''@'grit' IDENTIFIED BY 'grit';
GRANT USAGE ON *.* TO ''@'grit';
CREATE USER IF NOT EXISTS 'root'@'grit' IDENTIFIED BY 'root';
```
Creating Podcasts

Watch and listen to our podcasts and webcasts

- How to backup Wordpress with MariaDB
- Get Set for Set Theory: UNION, INTERSECT and EXCEPT in SQL
- Working with IPv6 in MariaDB - the INET6 datatype
- MariaDB Deployment and Management with Ansible
- LinuxJedi in Spacetime Handling Time and
MariaDB Server Fest
Next Innovation on Backburner - LOAD DATA

LOAD DATA works great, until there are errors.

Versions of pain in handling errors:

- Editing splitting large text files
- Complicated sed commands
- Looser table structure
- Write my own importer
Next Innovation on Backburner - LOAD DATA

SQL*Loader Command-Line Reference

This chapter describes the command-line parameters used to invoke SQL*Loader.

- Invoking SQL*Loader
- Command-Line Parameters
- Exit Codes for Inspection and Display

Invoking SQL*Loader

When you invoke SQL*Loader, you can specify certain parameters to establish ses cases, you can accept the default without entering a value.

For example:

```
SQLLDR CONTROL=foo.ctl, LOG=bar.log, BAD=baz.bad, DATA=etc.dat
USERID=scott/tiger, ERRORS=999, LOAD=2000, DISCARD=toss.dis,
DISCARDMAX=5
```
Next Innovation on Backburner - LOAD DATA

LOAD DATA INTO INFILE 'data.csv' INTO TABLE data

Ash,2004,5

Jovi,2010,30kg
Next Innovation on Backburner - LOAD DATA

Like sequence storage engine create errors table by name:

Like `SELECT * FROM seq_5_to_1_step_2`

`load_data_errors_{table}[__{suffix}]`

<table>
<thead>
<tr>
<th>Table</th>
<th>Create Table</th>
</tr>
</thead>
<tbody>
<tr>
<td>load_data_errors_data</td>
<td>CREATE TABLE <code>load_data_errors_data</code> (</td>
</tr>
<tr>
<td></td>
<td><code>lineno</code> bigint(20) unsigned NOT NULL,</td>
</tr>
<tr>
<td></td>
<td><code>linetext</code> longtext DEFAULT NULL,</td>
</tr>
<tr>
<td></td>
<td><code>error_column</code> enum('name','birthyear','weight') DEFAULT NULL,</td>
</tr>
<tr>
<td></td>
<td><code>error_warning</code> enum('error','warning') NOT NULL,</td>
</tr>
<tr>
<td></td>
<td><code>error_code</code> int(10) unsigned NOT NULL,</td>
</tr>
<tr>
<td></td>
<td><code>error_text</code> varchar(2000) DEFAULT NULL,</td>
</tr>
<tr>
<td></td>
<td><code>name</code> varchar(10) DEFAULT NULL,</td>
</tr>
<tr>
<td></td>
<td><code>name_text</code> longtext DEFAULT NULL,</td>
</tr>
<tr>
<td></td>
<td><code>birthyear</code> year(4) DEFAULT NULL,</td>
</tr>
<tr>
<td></td>
<td><code>birthyear_text</code> longtext DEFAULT NULL,</td>
</tr>
<tr>
<td></td>
<td><code>weight</code> float DEFAULT NULL,</td>
</tr>
<tr>
<td></td>
<td><code>weight_text</code> longtext DEFAULT NULL,</td>
</tr>
<tr>
<td></td>
<td>PRIMARY KEY (<code>lineno</code>)</td>
</tr>
<tr>
<td></td>
<td>) ENGINE=InnoDB DEFAULT CHARSET= utf8mb4</td>
</tr>
</tbody>
</table>
Next Innovation on Backburner - LOAD DATA

Stores the errors of load data:

```
CREATE TABLE `load_data_errors_data` (
    `lineno` bigint(20) unsigned NOT NULL,
    `linetext` longtext DEFAULT NULL,
    `error_column` enum('name','birthyear','weight') DEFAULT NULL,
    `error_warning` enum('error','warning') NOT NULL,
    `error_code` int(10) unsigned NOT NULL,
    `error_text` varchar(2000) DEFAULT NULL,
    `name` varchar(10) DEFAULT NULL,
    `name_text` longtext DEFAULT NULL,
    `birthyear` year(4) DEFAULT NULL,
    `birthyear_text` longtext DEFAULT NULL,
    `weight` float DEFAULT NULL,
    `weight_text` longtext DEFAULT NULL,
    PRIMARY KEY (`lineno`) ) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4
```

<table>
<thead>
<tr>
<th>lineno</th>
<th>linetext</th>
<th>error_column</th>
<th>error_warning</th>
<th>error_code</th>
<th>error_text</th>
<th>name</th>
<th>birthyear</th>
<th>birthyear_text</th>
<th>weight</th>
<th>weight_text</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Jovi,2010,30kg</td>
<td>error</td>
<td>1265</td>
<td>Data truncated for column 'weight' at row 2</td>
<td>Jovi</td>
<td>2010</td>
<td>2010</td>
<td>null</td>
<td>30kg</td>
<td></td>
</tr>
</tbody>
</table>
Next Innovation on Backburner - LOAD DATA

Further enhancements to idea on: MDEV-13046

Maybe similar concept in:

- ALTER TABLE to catch lossy conversion/bad rows.
- Replication errors
Backlog Feature Requests

Watched Issues

<table>
<thead>
<tr>
<th>T</th>
<th>Key</th>
<th>Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MDEV-13467</td>
<td>Feature request: Support for ST_Distance function</td>
</tr>
<tr>
<td></td>
<td>MDEV-7502</td>
<td>Automatic provisioning of slave</td>
</tr>
<tr>
<td></td>
<td>MDEV-4958</td>
<td>Adding datatype UUID</td>
</tr>
<tr>
<td></td>
<td>MDEV-14425</td>
<td>Change the InnoDB redo log format to compact</td>
</tr>
<tr>
<td></td>
<td>MDEV-6017</td>
<td>Add support for Indexes on Expressions</td>
</tr>
<tr>
<td></td>
<td>MDEV-9077</td>
<td>bundle sys schema</td>
</tr>
<tr>
<td></td>
<td>MDEV-5536</td>
<td>Support systemd socket activation</td>
</tr>
<tr>
<td></td>
<td>MDEV-13648</td>
<td>Add FULL OUTER JOIN to MariaDB</td>
</tr>
<tr>
<td></td>
<td>MDEV-9639</td>
<td>Galera Cluster files (galera.cache, others) encrypted when encryption is enabled</td>
</tr>
<tr>
<td></td>
<td>MDEV-13542</td>
<td>Crashing on a corrupted page is unhelpful</td>
</tr>
</tbody>
</table>

Voted Issues

<table>
<thead>
<tr>
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<th>Key</th>
<th>Summary</th>
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<tr>
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<td>MDEV-6017</td>
<td>Add support for Indexes on Expressions</td>
</tr>
<tr>
<td></td>
<td>MDEV-6096</td>
<td>Ideas about parallel query execution</td>
</tr>
<tr>
<td></td>
<td>MDEV-10426</td>
<td>ANY_VALUE function as a workaround for ONLY_FULL_GROUP_BY mode and compatibility with MySQL 5.7</td>
</tr>
<tr>
<td></td>
<td>MDEV-8946</td>
<td>Add replication crash-safety for non-GTID slave.</td>
</tr>
<tr>
<td></td>
<td>MDEV-8307</td>
<td>Allow DELETE FROM RETURNING to be used with INSERT INTO</td>
</tr>
<tr>
<td></td>
<td>MDEV-15854</td>
<td>Implement uuid_to_bin, bin_to_uuid and is_uuid functions</td>
</tr>
<tr>
<td></td>
<td>MDEV-10112</td>
<td>mysql_secure_installation should use GRANT, REVOKE, etc for galera support</td>
</tr>
<tr>
<td></td>
<td>MDEV-7258</td>
<td>Read-free replication for TokyDB</td>
</tr>
</tbody>
</table>
Other fertile grounds for development

- Engine-Independent Table Statistics - plenty more uses for choosing optimal query plans
- Table Discovery - like the LOAD DATA
- Functions - support Aggregate
- Additional Authentication Mechanism
- Encryption Plugins (KMIP?)
Its all for you

MariaDB Foundation, working for you to get a:

- Better MariaDB product
- Better interoperable ecosystem
- Delivered how you want it