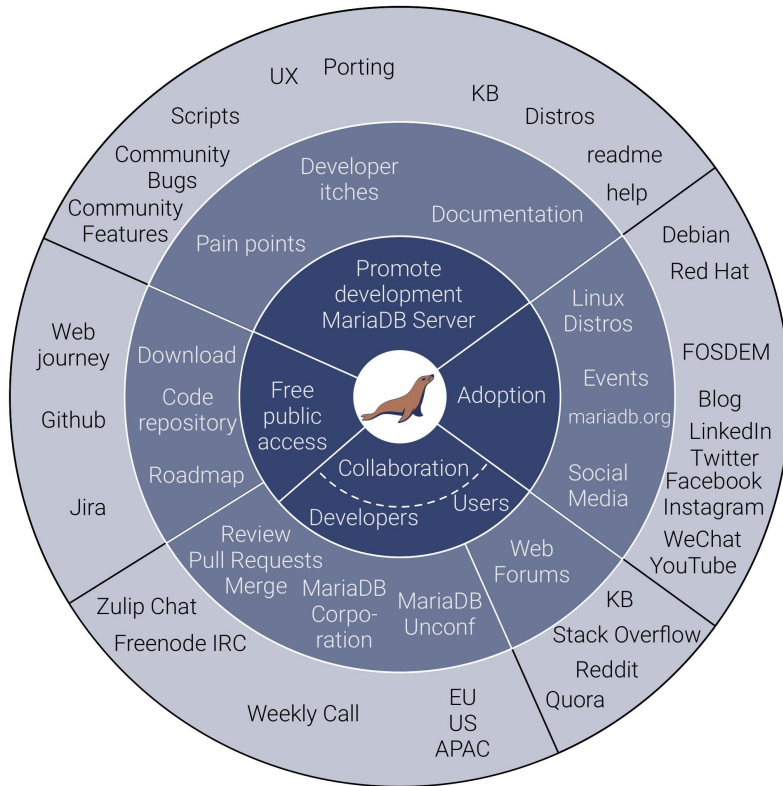


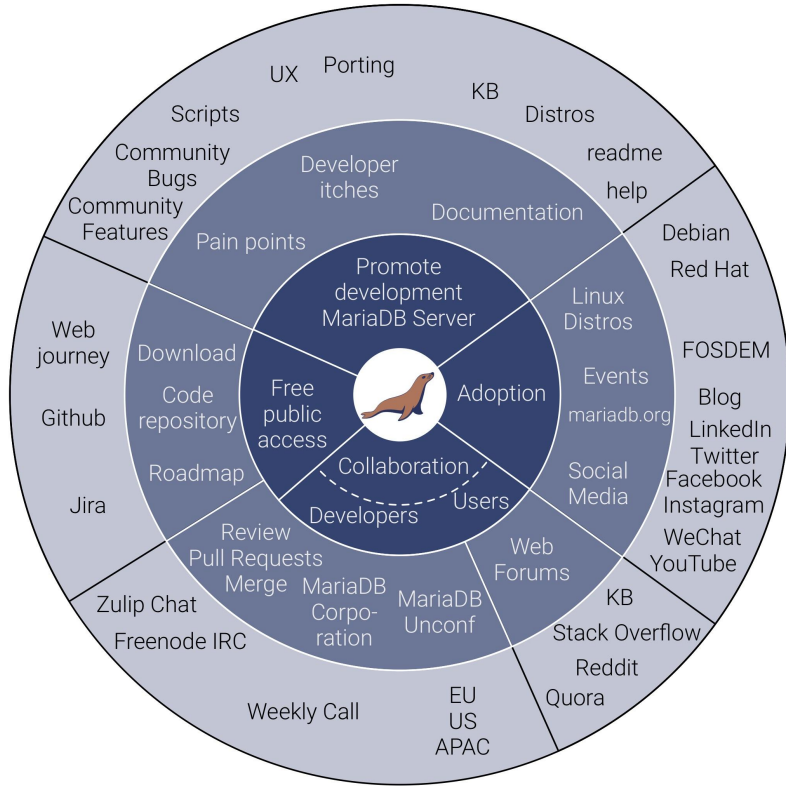
MariaDB
Foundation



Ensuring MariaDB Server's longevity, an open build system for the community

Vlad Bogolin

Developer @MariaDB Foundation



Why do we need continuous integration and testing?

Benefits of continuous integration and automated testing

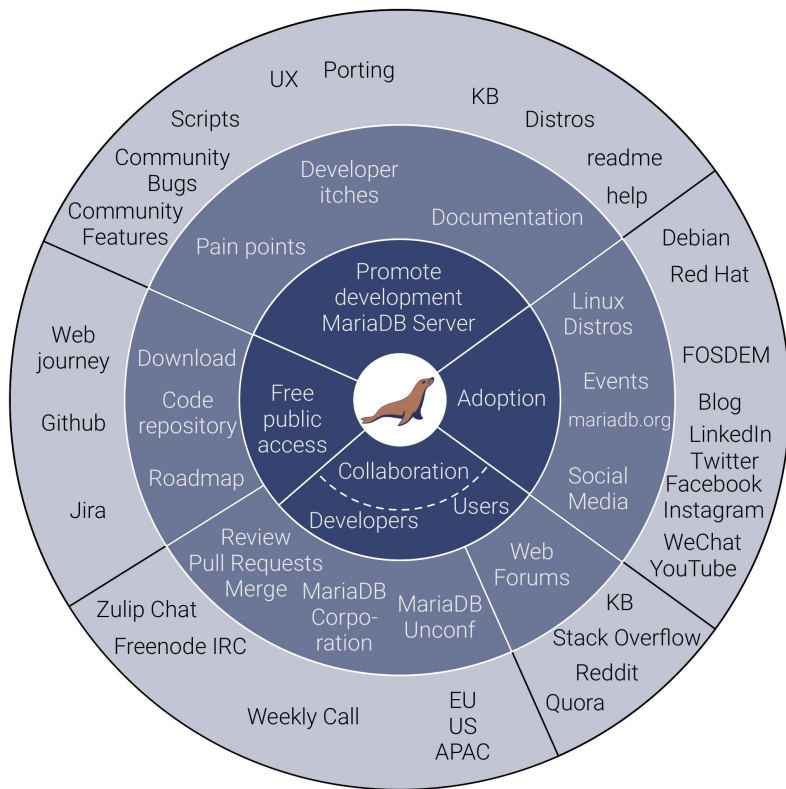
- Regularly integrating small code changes into the MariaDB server
- Run tests after each change
 - Tests can be run on multiple platforms, ensuring that code changes made on one platform do not cause failures on other platforms
 - Lowers the risk of test failures involved with each push

Benefits of continuous integration and automated testing (2)

- Gives developers immediate feedback on their work
- Automated package management on multiple platforms

Challenges of continuous integration and automated testing

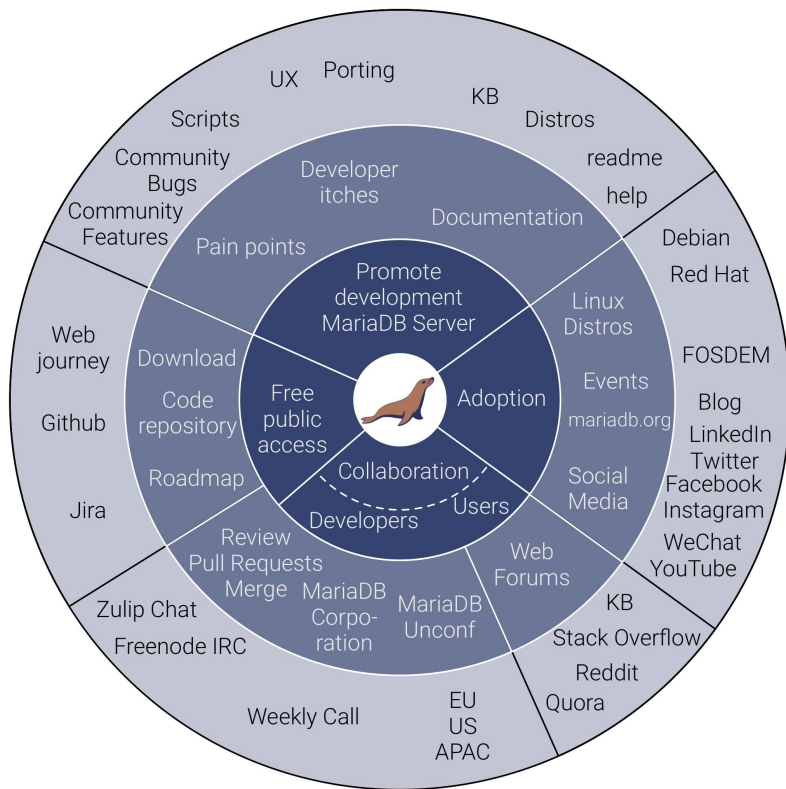
- The process can be repeated as frequently as available computing resources allow:
 - Hardware availability- different architectures require different physical machines
 - Time limitations - developers want to see the results as soon as possible



How testing is done for the MariaDB server?

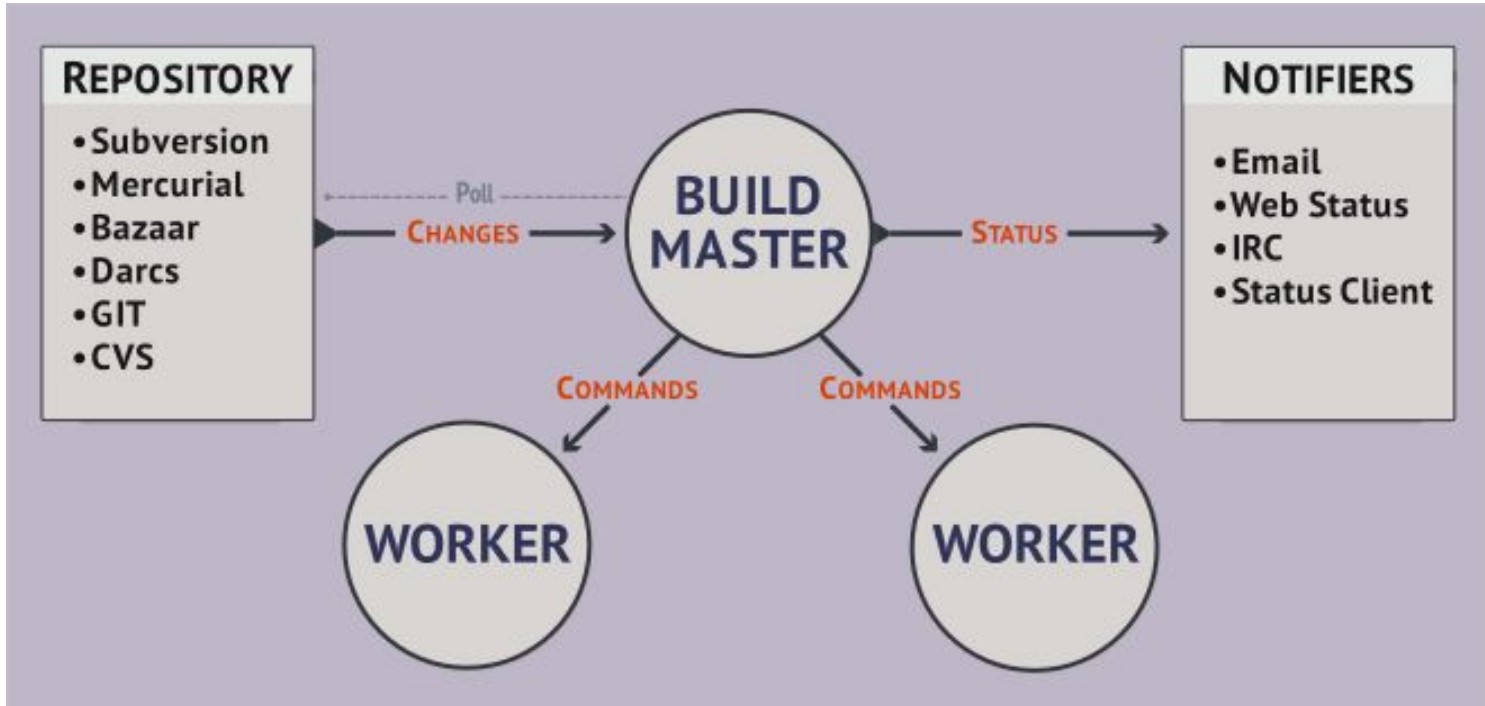
MariaDB server testing

- mysql-test-run is the standard testing toolkit for MariaDB Server
- Run queries against one or more servers and compare their output to the expected one
- This checks both behaviour and data consistency



Continuous Integration and testing for MariaDB

Buildbot overview



*Picture used from buildbot.net

Buildbot keywords

- changes/repository
 - Any change that occurs in the source code (commit)
- build master
 - The process that checks for changes and schedules builds
- worker
 - The environment used for testing which is run on a physical machine
- build
 - The actual configuration that is tested

MariaDB buildbot configurations

- Uses Docker
- Each worker is a docker container running on a host machine
- The worker process is started by the build master when a change is detected
- The build environment is defined in dockerfiles

MariaDB buildbot configurations (2)

- Benefits of using docker
 - Dockerfiles provide an easy way of re-creating a testing environment
 - No buildbot related configurations are necessary on the physical machines - only the build master needs to be configured
 - Easy to add new hardware
- Challenges
 - Docker needs to be accessed remotely - ensure TLS authentication

MariaDB buildbot customizations

- Custom templates for main dashboards

Branch Results

MDEV-21586: Fix a warning for converting my_bool to bool

Builder	Tags	
aarch64-centos-7	Centos gcc quick aarch64	failed compile (failure)
aarch64-debian-10	gcc quick Debian aarch64	build successful
aarch64-rhel-7	gcc quick aarch64 RHEL	failed compile (failure)
centos-7	Centos gcc quick	build successful
centos-7-rpm-autobake	bake rpm Centos gcc	build successful

MariaDB buildbot - buildbot.mariadb.org

MariaDB CI		MariaDB CI		
NAVIGATION				
Home				
Grid View				
Waterfall View				
Console View				
> Builds				
Custom				
Sponsors				
About				
Settings				
		+ -		
		aarch64-fedora-30 fedora-28 fedora-29		
		gcc		
		quick		
		Fedora		
		aarch64		
	MDEV-21256 after-merge fix: Use std::atomic(2 hours ago)		build successful	build successful
	MDEV-21256 after-merge fix: Use std::atomic(2 hours ago)			
	InnoDB redo log IO methods(18 hours ago)	build successful		build successful
	MDEV-20494 ER_NOT_FORM_FILE or assertion upon adding partition to period table(18 hours ago)		build successful	build successful
	MDEV-742: more test cleanup also to fix BB test failures.(19 hours ago)	failed test (failure)		failed test (failure)

MariaDB buildbot - current platforms

- Platforms:
 - x86_64, Power and ARM gracefully donated by

HETZNER

IBM



BYTEMARK





MariaDB buildbot - current operating systems


- Operating Systems
 - Debian, Ubuntu, CentOS, RHEL-7, Fedora, OpenSUSE, Windows













MariaDB buildbot - GitHub integration

- Running tests for pull-requests as well. Contributors can check the correctness of their patches directly on GitHub!

 **Review requested** [Show all reviewers](#)
Review has been requested on this pull request. It is not required to merge. [Learn more.](#)

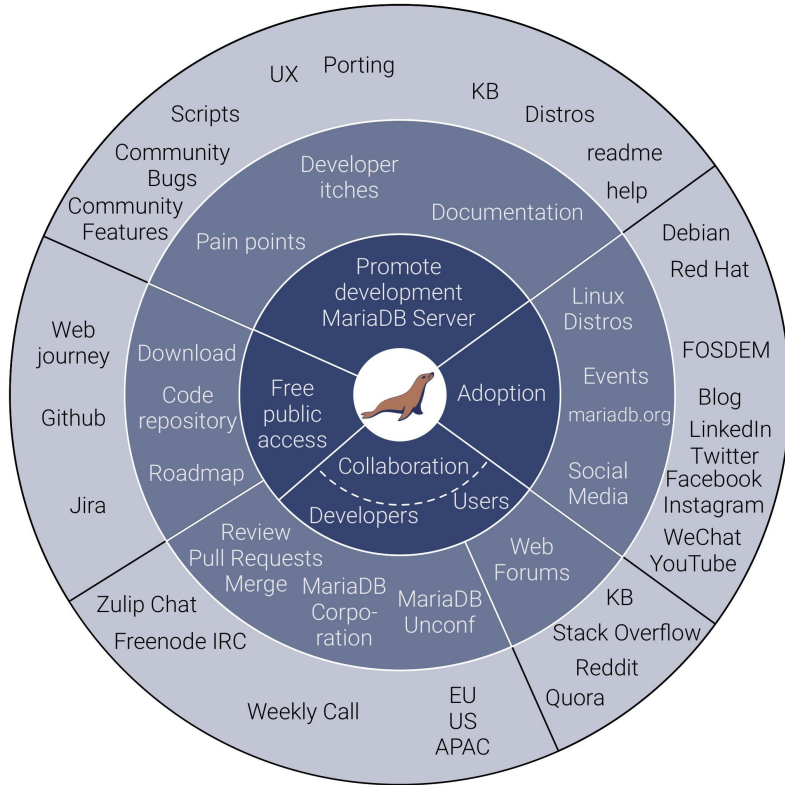
 **1 pending reviewer** ▼

 **Some checks were not successful** [Hide all checks](#)
1 failing, 1 pending, and 17 successful checks

	 buildbot/fedora-28-rpm-autobake — Build done.	Details
	 license/cla <i>Pending</i> — Contributor License Agreement is not sign...	Details
	 buildbot/centos-7-quick — Build done.	Details
	 buildbot/centos-7-rpm-autobake — Build done.	Details
	 buildbot/debian-9-quick — Build done.	Details
	 buildbot/fedora-28-quick — Build done.	Details

MariaDB buildbot - coming soon

- More build configurations, operating systems and platforms
- Gated branches
- Automated packaging
- Cross-reference tool
 - allows searching for test failures in previous test runs



Questions?

Sponsors



Tencent Game DBA

