riscv64.rubyci.org internal

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株式会社*Ruby*開発

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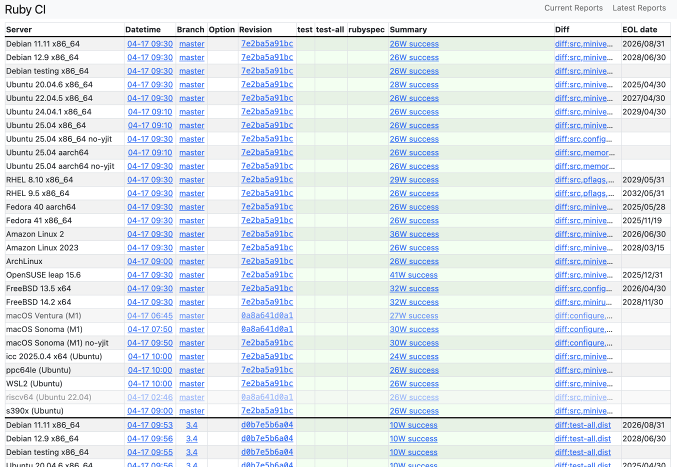
What’s rubyci.org?

- A **CI** results summary site
  - https://rubyci.org/
- Runs **chkbuild** on various CI environments
  - https://github.com/ruby/chkbuild
- Most environments run **all** supported Ruby versions.
- Some environments run **only on the master branch**.
  - JIT variants, Android, **riscv64**.

rubyci.org



Ruby CI

Current Reports Latest Reports

Server	Datetime	Branch	Option	Revision	test	test-all	rubyspec	Summary	Diff	EOL date
Debian 11.11 x86_64	04-17 09:30	master		7e2ba5a91bc				26W success	diff:src,minive...	2026/08/31
Debian 12.9 x86_64	04-17 09:30	master		7e2ba5a91bc				26W success	diff:src,minive...	2028/06/30
Debian testing x86_64	04-17 09:30	master		7e2ba5a91bc				26W success	diff:src,minive...	
Ubuntu 20.04.6 x86_64	04-17 09:30	master		7e2ba5a91bc				28W success	diff:src,minive...	2025/04/30
Ubuntu 22.04.5 x86_64	04-17 09:30	master		7e2ba5a91bc				26W success	diff:src,minive...	2027/04/30
Ubuntu 24.04.1 x86_64	04-17 09:10	master		7e2ba5a91bc				26W success	diff:src,minive...	2029/04/30
Ubuntu 25.04 x86_64	04-17 09:10	master		7e2ba5a91bc				26W success	diff:src,minive...	
Ubuntu 25.04 x86_64 no-yjit	04-17 09:30	master		7e2ba5a91bc				26W success	diff:src,config...	
Ubuntu 25.04 aarch64	04-17 09:10	master		7e2ba5a91bc				26W success	diff:src,memor...	
Ubuntu 25.04 aarch64 no-yjit	04-17 09:30	master		7e2ba5a91bc				26W success	diff:src,memor...	
RHEL 8.10 x86_64	04-17 09:30	master		7e2ba5a91bc				29W success	diff:src,pflags,...	2029/05/31
RHEL 9.5 x86_64	04-17 09:30	master		7e2ba5a91bc				26W success	diff:src,pflags,...	2032/05/31
Fedora 40 aarch64	04-17 09:30	master		7e2ba5a91bc				26W success	diff:src,minive...	2025/05/28
Fedora 41 x86_64	04-17 09:30	master		7e2ba5a91bc				26W success	diff:src,minive...	2025/11/19
Amazon Linux 2	04-17 09:30	master		7e2ba5a91bc				36W success	diff:src,minive...	2026/06/30
Amazon Linux 2023	04-17 09:30	master		7e2ba5a91bc				26W success	diff:src,minive...	2028/03/15
ArchLinux	04-17 09:00	master		7e2ba5a91bc				26W success	diff:src,minive...	
OpenSUSE leap 15.6	04-17 09:30	master		7e2ba5a91bc				41W success	diff:src,minive...	2025/12/31
FreeBSD 13.5 x64	04-17 09:30	master		7e2ba5a91bc				32W success	diff:src,config...	2026/04/30
FreeBSD 14.2 x64	04-17 09:30	master		7e2ba5a91bc				32W success	diff:src,miniru...	2028/11/30
macOS Ventura (M1)	04-17 06:45	master		0a8a641d0a1				27W success	diff:configure,...	
macOS Sonoma (M1)	04-17 07:50	master		0a8a641d0a1				30W success	diff:configure,...	
macOS Sonoma (M1) no-yjit	04-17 09:50	master		7e2ba5a91bc				30W success	diff:configure,...	
icc 2025.0.4 x64 (Ubuntu)	04-17 10:00	master		7e2ba5a91bc				24W success	diff:src,minive...	
ppc64le (Ubuntu)	04-17 10:00	master		7e2ba5a91bc				26W success	diff:src,minive...	
WSL2 (Ubuntu)	04-17 10:00	master		7e2ba5a91bc				26W success	diff:src,minive...	
riscv64 (Ubuntu 22.04)	04-17 02:46	master		0a8a641d0a1				26W success	diff:src,minive...	
s390x (Ubuntu)	04-17 09:00	master		7e2ba5a91bc				26W success	diff:src,minive...	
Debian 11.11 x86_64	04-17 09:53	3.4		d0b7e5b6a04				10W success	diff:test-all,dist	2026/08/31
Debian 12.9 x86_64	04-17 09:56	3.4		d0b7e5b6a04				10W success	diff:test-all,dist	2028/06/30
Debian testing x86_64	04-17 09:55	3.4		d0b7e5b6a04				10W success	diff:test-all,dist	
Ubuntu 20.04.6 x86_64	04-17 09:56	3.4		d0b7e5b6a04				10W success	diff:test-all,dist	2025/04/30

Why do I maintain the riscv64 VM?

- I am interested in **minor environments** and run tests on them. They may uncover interesting bugs.
- `qemu-system-riscv64` has become easier to use recently.
- When I took over **the riscv64 VM**,
  there was an environment created by mame-san,
  but it was slightly outdated.
- I made **some improvements** and will share **one of them** here.

Premise

- `qemu-system-riscv64` runs on host environments and is **very slow**.
    - CPU emulation with qemu-system takes much longer than running on real hardware.
- Therefore, it runs **only on the master branch**.
- Even so, it can take **hours** (e.g., 7 hours).

To avoid wasting time by interrupting CI due to reboots, I devised a way to reboot between CI runs.

How to run without interruption

- `unattended-upgrade` sometimes requires a reboot after upgrading packages.
    - It creates `/run/reboot-required`.
- I allocate an hour for maintenance between chkbuild runs.
    - The machine reboots during this time if necessary.

Guest VM and Host OS

- It is relatively easy to wait for the guest VM to reboot itself.
- However, the host OS also needs to handle reboots.

How to wait?

- The guest and host cooperate using a shared directory.
  - After chkbuild finishes, it updates the `mtime` of a specific file in the shared directory.
  - A custom systemd path unit detects the `mtime` change and reboots both the guest and host if necessary.
- Pros:
  - Loose coupling between components.
  - The notifier requires fewer privileges.
  - Usually no maintenance is required.

Are you interested?

- If you want Ruby to support your favorite environments better:
    - Set up your own CI environment to run chkbuild.
        - Use `start-rubyci` in `ruby/chkbuild`.
    - Add your results to `rubyci.org`.
        - Contact the `rubyci.org` maintainers to add your chkbuild output URLs.
    - If tests fail, fix them, report issues, or take other actions.

self.introduction

- Kazuhiro NISHIYAMA
- One of the Ruby Committers
- GitHub, etc.: `@znz`
- 株式会社Ruby開発 www.ruby-dev.jp
  - We are hiring!

株式会社Ruby開発

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