Debian 13 Trixie

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What is Debian?

A definition

- **Debian** is an operating system (OS) for your computer. (It is also known as "Debian GNU/Linux".) An operating system is the set of basic programs and utilities that make your computer run.
- Debian is created by a community of people from all over the world collaborating together.
- Debian is openly and freely distributed according to the principles of GNU Project.
- Debian uses the Linux kernel, the heart of the operating system.
- With Debian, you can use, study, change, and share with all.

GNU Project

The Four Freedoms

1. The freedom to run the program as you wish for any purpose (freedom 0).
2. The freedom to study how the program works and change it so it does your computing as you wish (freedom 1). Access to the source code is a precondition for this.
3. The freedom to redistribute copies so that you can help others (freedom 2).
4. The freedom to distribute copies of your modified versions to others (freedom 3). By doing this, you can give the whole community a chance to benefit from your changes. Access to the source code is a precondition for this. (2)

Debian Roadmap

Debian Release Codenames

Release schedules: Debian announces its new stable release on a regular basis. Users can expect 3 years of full support for each release and 2 years of extra LTS support.

- Debian 11 - **Bookworm** – old stable (July 6, 2023)
- Debian 13 - **Trixie** - stable (2025)
- Debian 14 - **Forky** - stable (2027?)
- Debian - **?** - unstable (Sid) (2027 ??)

Sid: also known as unstable. **flow:** experimental→ sid→testing→Stable
Naming: Releases are named after Toy Story characters.
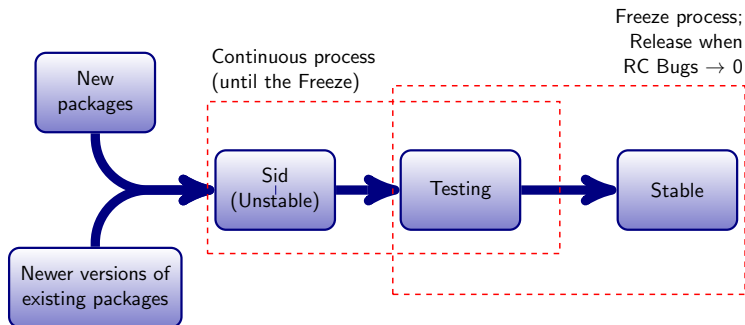
How Releases work

Figure: Flow of packages in the Debian Release Cycle.

What is Debian? Part 2

Software that is available in Debian

- **Debian** includes exclusively software that fits the Debian Free Software Guidelines. This is called *main*.
- Software that is open source but depends on proprietary code is included in *contrib*. This is **not** Debian.
- Software that is proprietary (e.g. GPU drivers) goes into *non-free*. This is **not** Debian.

Using Debian

With Debian you can do *anything*:

- Debian comes with several different environments, from Command-Line Interface to fully-featured Graphical Environments
- It contains tools to accomplish *any* task, among more than 68 thousand readily available packages that can be installed with one simple command
- It is suitable to all users, from everyday desktops to production servers
- It is stable, secure and fast
- Comes with over 69830 packages

Supported Processor Architectures

Supported Processor Architectures

- 64-bit PC (amd64)
- 64-bit ARM (arm64)
- ARM EABI (armel)
- ARMv7 (EABI hard-float ABI, armhf)

- 64-bit little-endian PowerPC (ppc64el)
- 64-bit little-endian RISC-V (riscv64)
- IBM System z (s390x)

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https://www.debian.org/releases/trixie/release-notes/
whats-new.en.html
```

What's new

- Official support for riscv64
- Hardening against ROP and COP/JOP attacks on amd64 and arm64
- HTTP Boot Support
- Improved manual pages translations
- Spell-checking support in Qt WebEngine web browsers
- 64-bit time t ABI transition
- Debian progress towards reproducible builds
- wcurl and HTTP/3 support in curl
- BDIC Binary Hunspell Dictionary Support

Getting Debian

Getting Debian

- Installation: Images (can be used on USB flash or optical media)
- Image download: https, torrent, ftp etc
- Debian Live: live version, can also be used for installation
- Cloud Image: can be used on cloud providers; Amazon Web Services, Microsoft Azure, OpenStack, Plain VM
- Container; Docker, Vagrant
- Pre-installed: Debian can come pre-installed on some computers

Desktop Environments

Desktop Environments

Desktop	Version
GNOME (default)	48
KDE Plasma	6.3
LXDE	13
LXQt	2.10

Plasma 6

Plasma 6

- Qt 6.8.2 (up from 6.4.2)
- KDE Frameworks 6.13 (new)
- Plasma 6.3.6 (replaces Plasma 5.27.5)
- KDE Gear applications:
    - KDE PIM suite in version 24.12.3
    - Other Gear applications in version 25.04.3 (except Neochat,
    - KDevelop, Partition Manager)
- For compatibility Debian 13 also ships:
- Qt 5.15.15 (up from 5.15.8)
- KDE Frameworks 5.116 (up from 5.103)

System Packages 1

Core System

- Linux kernel image,6.12 series
- The GNU C library,2.41 GNU Compiler Collection as default compiler,14.2
- LLVM/Clang toolchain,19 (default), 17 and 18 available
- Systemd,257
- Bash,5.2.37

System Packages 2

Editors

- Emacs,30.1
- Vim,9.1

System Packages 3

Servers

- Apache,2.4.64
- Nginx,1.26
- Exim default e-mail server,4.98
- BIND DNS Server,9.20
- OpenLDAP,2.6.9
- Samba,4.22
- Postfix MTA,3.10

Programming

- Perl,5.40
- PHP,8.4
- Python 3,3.13
- Rustc,1.85
- OpenJDK,21

Database

- MariaDB,11.8
- PostgreSQL,17

Security

- Cryptsetup,2.7
- OpenSSH,10.0p1
- OpenSSL,3.5

Productivity

- GIMP,3.0.4
- GnuPG,2.4.7
- Inkscape,1.4
- LibreOffice, 25
- GNUCash 5.10

Wrap up and credits

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The End

Thank You