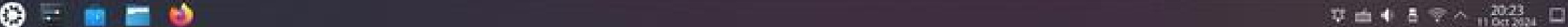




# Full Circle

THE INDEPENDENT MAGAZINE FOR THE UBUNTU LINUX COMMUNITY

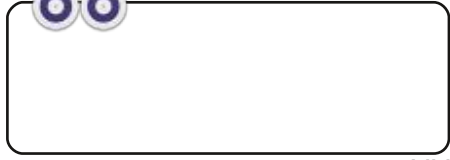
ISSUE #211 - November 2024



## KUBUNTU 24.10 AND A FIRST LOOK AT INKSCAPE 1.4

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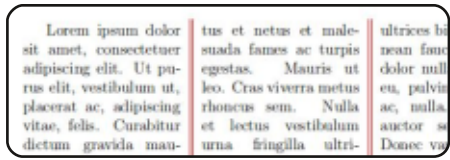
# HowTo



... p.XX



LXD p.23



Latex p.26



... p.XX



Inkscape p.30

# Graphics

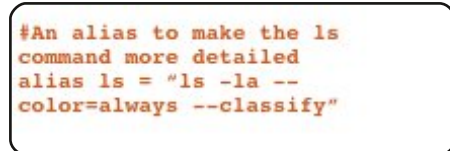


# Full Circle

THE INDEPENDENT MAGAZINE FOR THE UBUNTU LINUX COMMUNITY



Linux News p.04



Command & Conquer p.20



... p.XX



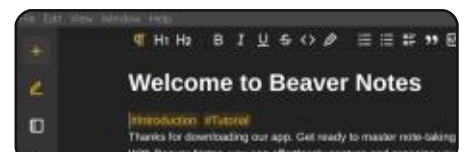
... p.XX



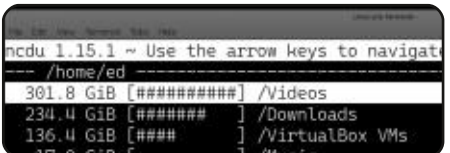
Ubuntu Devices p.36



The Daily Waddle p.34



Review p.47



My Opinion p.39



Letters p.XX



Review p.43



Q&A p.50



... p.XX



Ubuntu Games p.53



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## WELCOME TO THE LATEST ISSUE OF FULL CIRCLE

Once again, we bring you Latex and Inkscape. Erik is starting a brief new series called LXD which starts this month. Articles are still like hens' teeth around here, so if you have **any** articles you'd like to run, now is your chance: [ronnie@fullcirclemagazine.org](mailto:ronnie@fullcirclemagazine.org).

Elsewhere, Adam is reviewing Kubuntu 24.10 and Erik is taking a look at Beaver Notes.

Me? I'm coming at you from **Tuxedo OS** on my ASUS laptop. I'll tell you the story of why next issue. That's a cliffhanger right there. I should be a script writer.

Remember: the **Full Circle Weekly News** is available on **Spotify** and **YouTube**. The more upvotes and reviews you give it on those platforms the more exposure we get.

Don't forget: we have a Table of Contents which lists every article from every issue of FCM. Huge thanks to **Paul Romano** for maintaining: <https://goo.gl/tpOKqm> and, if you're looking for some help, advice, or just a chinwag: remember that we have a **Telegram** group: <https://t.me/joinchat/24ec1oMFO1ZjZDc0>. I hope to see you there. Come and say hello.

**All the best!**

*Ronnie*

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## RELEASE OF IWD 3.0:

21/10/2024

The release of the Wi-Fi daemon `iwd` 3.0 (iNet Wireless Daemon), developed by Intel as an alternative to the `wpa_supplicant` toolkit for connecting Linux systems to a wireless network, is available. `iwd` can be used both independently and as a backend for the network configurators `NetworkManager`, `ConnMan` or `systemd-networkd`. The project is suitable for use on embedded devices and is optimized for minimal memory and disk space consumption. `iwd` does not use external libraries and only accesses the capabilities provided by the standard Linux kernel (the Linux kernel and `Glibc` are sufficient for operation). It includes its own implementation of the DHCP client and a set of cryptographic functions. The project code is written in C and is licensed under the LGPLv2.1 license.

In addition to bug fixes, the new release adds support for external authentication mode on systems with chips based on the FullMAC

architecture, which implies the implementation of the wireless stack on the chip firmware side, not the system driver. The external authentication mode (`CMD_EXTERNAL_AUTH`) can be used with drivers that do not support full processing of the SAE (Simultaneous Authentication of Equals) authentication protocol on the firmware side and do not provide the `CMD_ASSOCIATE` and `CMD_AUTHENTICATE` commands. In this case, the firmware can provide the `CMD_EXTERNAL_AUTH` command to use an external authenticator to process SAE frames in user space.

<https://iwd.wiki.kernel.org/>

## MINETEST GETS A NAME:

21/10/2024

After years of discussion, the Minetest game engine has been renamed and will now be developed under the name `Luant`. The new name is a combination of the Finnish word `luonti`, which translates as "creation" (the

project's creator is from Finland), with the name of the Lua programming language used in the engine. The need for a renaming arose due to confusion caused by the similarity of the name `Minetest` to the name of the game `Minecraft`, which misled users and gave reason to think that the project was developing a clone of `Minecraft`. On the other hand, the presence of the word "test" in the name suggested that this was a test product.

The project develops a free cross-platform sandbox game engine that allows you to create `Minecraft`-style games using various voxel blocks for players to jointly form various structures and buildings that form a semblance of a virtual world. The gameplay provided by the engine is entirely dependent on a set of mods created in Lua. The engine is written in C++ using the `IrrlichtMT` 3D library (a fork of `Irrlicht`). The code is distributed under the LGPL license, and the game resources are licensed under the CC BY-SA 3.0 license.

<https://blog.minetest.net/2024/10/13/Introducing-Our-New-Name/>

## RELEASE OF SysVINIT 3.11:

22/10/2024

The classic `SysVinit` 3.11 initialization system has been published. It was widely used in Linux distributions in the days before `systemd` and `upstart`, and now continues to be used in such distributions as `Devuan`, `Debian GNU/Hurd` and `antiX`. The code is written in C and is distributed under the GPLv2 license. The versions of the `insserv` and `startpar` utilities used in conjunction with `sysvinit` have not changed. The `insserv` utility is designed to organize the boot process taking into account the dependencies between init scripts, and `startpar` is used to ensure parallel launch of several scripts during the system boot process.

The new release implements the ability to link shell commands in the `inittab` file with logical operators,

allowing you to launch a command only if the previous command completed successfully ("cmd1 && cmd2") or, conversely, to execute the next command only if an error code was returned when running the previous command ("cmd1 || cmd2"). For example:

```
ww:c:once:/usr/bin/command1
&& echo "Success" > /var/log/
command"
```

```
ww:c:once:/usr/bin/command1
|| echo "Command failed" > /var/
log/command
```

<https://lists.nongnu.org/archive/html/sysvinit-devel/2024-10/msg00000.html>

## KITTEN 10: 22/10/2024

The developers of the AlmaLinux project have published the first release of the new Kitten 10 distribution, based on CentOS Stream 10, used to develop the future major release of Red Hat Enterprise Linux 10. Kitten 10 is presented as a test distribution, allowing you to get acquainted with

the capabilities being developed for RHEL 10, and is a precursor to the future stable release of AlmaLinux 10. The installation assemblies of the distribution are made for the x86\_64, x86\_64\_v2, aarch64, ppc64le and s390x architectures.

The Kitten repository uses a rolling release model. The installation builds will be updated every three months. The Kitten repositories are used as an upstream for the AlmaLinux 10 branch - fixes and new features are first tested in the Kitten repositories and then pushed to AlmaLinux. The Kitten repositories are also used as a platform for integration and collaboration with upstream projects such as CentOS Stream and Fedora.

<https://almalinux.org/blog/2024-10-22-introducing-almalinux-os-kitten/>

## RELEASE OF OPENSSL 3.4, LIBRESSL 4.0, BOTAN 3.6 AND RUSTLS 0.23.15

**CRYPTOGRAPHIC LIBRARIES:**  
23/10/2024

Several new versions of cryptographic libraries have been published:

OpenSSL 3.4.0 library release with implementation of SSL/TLS protocols and various encryption algorithms. OpenSSL 3.4 will be supported until October 2025. Support for previous OpenSSL 3.3, 3.2, 3.1 and 3.0 LTS branches will last until April 2026, November 2025, March 2025 and September 2026 respectively. The project code is distributed under the Apache 2.0 license.

Release of the LibreSSL 4.0.0 project, developing a fork of OpenSSL, aimed at providing a higher level of security and high-quality support for SSL/TLS protocols by removing unnecessary functionality, adding additional security features, and conducting a significant cleaning and reworking of the code base. A major change in the version number is associated with the use of decimal numbering (after 3.9 comes version 4.0).

Botan 3.6.0, a cryptographic library used in the NeoPG project, a fork of GnuPG 2, is now available. The library provides a large collection of ready-made primitives

used in the TLS protocol, X.509 certificates, AEAD ciphers, TPM modules, PKCS#11, password hashing, and post-quantum cryptography (hash-based signatures and McEliece-based key agreement). The library is written in C++ and is released under the BSD license.

Rustls 0.23.15, developing client and server implementation of TLS1.2 and TLS1.3 protocols for projects in Rust. Rustls does not provide its own implementation of cryptographic primitives, but uses pluggable providers of cryptographic functions (the supported algorithms are ECDSA, Ed25519, RSA, ChaCha20-Poly1305, AES128-GCM and AES256-GCM). By default, Rustls uses a cryptographic provider based on the aws-lc-rs library, which is developed by Amazon and is based on the C++ code of AWS-LC, forked from the BoringSSL project (a fork of OpenSSL maintained by Google). The ring library, partially based on BoringSSL and combining code in assembly, C++ and Rust, can also be used as a cryptographic provider.

<https://openssl-library.org/post/2024-10-22-openssl-3-4-final/>

**STEAM OS 3.6.19:**

24/10/2024

Valve has released a stable update to the Steam OS 3.6.19 operating system, which ships with the Steam Deck gaming console. The Steam OS 3 project is based on Arch Linux, uses the Gamescope composite server based on the Wayland protocol to speed up game launches, comes with a read-only root FS, uses an atomic update mechanism, supports Flatpak packages, uses the PipeWire multimedia server, and provides two interface modes (Steam shell and KDE Plasma desktop).

SteamOS releases are created only for Steam Deck devices, but enthusiasts develop unofficial builds SteamFork and HoloISO, suitable for installation on regular computers and gaming consoles

other than Steam Deck. In addition, Valve has long promised to provide official builds of SteamOS for PC and is working on implementing support for consoles from other manufacturers.

<https://steamcommunity.com/games/1675200/announcements/detail/4676514574283544995>

**RELEASE OF COZYSTACK****0.17.0:**

24/10/2024

The release of the free PaaS platform Cozystack 0.17.0, built on Kubernetes, has been published. The project aims to provide a ready-made platform for hosting providers and a framework for building private and public clouds. The platform is installed directly on servers and covers all aspects of preparing the infrastructure for

providing managed services. Cozystack allows you to launch and provide Kubernetes clusters, databases, and virtual machines. The platform code is available on GitHub and is distributed under the Apache-2.0 license.

Talos Linux and Flux CD are used as the base technology stack. Images with the system, kernel and necessary modules are generated in advance and updated atomically, which allows to do without components such as dkms and a package manager, and guarantee stable operation. A simple installation method is provided in an empty data center using PXE and a debian-like installer talos-bootstrap.

The platform includes a free implementation of the network infrastructure (fabric) based on Kube-OVN and uses Cilium to organize the service network,

MetalLB to announce services to the outside. The storage is implemented on LINSTOR, which suggests using ZFS as a base layer for storage and DRBD for replication. There is a pre-configured monitoring stack based on VictoriaMetrics and Grafana. To launch virtual machines, KubeVirt technology is used, which allows you to launch classic virtual machines directly in Kubernetes containers and already has all the necessary integrations with the Cluster API to launch managed Kubernetes clusters inside a "hardware" Kubernetes cluster.

<https://github.com/aenix-io/cozystack/releases/tag/v0.17.0>

**VIVALDI 7.0 BROWSER WITH NEW INTERFACE DESIGN:**

24/10/2024

The release of the proprietary browser Vivaldi 7.0, developed on the Chromium engine, is out. Vivaldi builds are prepared for Linux, Windows and macOS. The changes made to the Chromium code base are distributed by the project under an open license. The browser interface is written in



# DistroWatch.com

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JavaScript using the React library, the Node.js platform, Browserify and various ready-made NPM modules. The implementation of the interface is available in source code, but under a proprietary license.

The browser is being developed by former Opera Presto developers and aims to create a customizable and functional browser that preserves the privacy of user data. The main functions include a tracking and advertising blocker, note, history and bookmark managers, private browsing mode, end-to-end encrypted synchronization, tab grouping mode, sidebar, configurator with a large number of settings, horizontal tab display mode, and a built-in mail client, RSS reader and calendar in test mode.

<https://vivaldi.com/blog/read-all-about-vivaldi-7-0/>

## BITWARDEN SDK MOVED FROM PROPRIETARY LICENSE TO GPLv3:

25/10/2024

The developers of the Bitwarden password manager have translated the Bitwarden Secrets Manager SDK to the GPLv3 license. The SDK provides a set of bindings for various programming languages, allowing you to create extensions to the password manager and integrate the functionality and data models used in Bitwarden products into your programs.

The client and server code was previously open sourced under the GPLv3 and AGPLv3 licenses, but the SDK content was distributed under a proprietary license. A few weeks ago, the SDK was included in the build dependencies of the Bitwarden desktop client, which formally transferred the client part of the Bitwarden password manager to the category of proprietary software, since the SDK license prohibited its use for creating applications used with services other than Bitwarden.

Bitwarden developers took note

of the comment about the license issues and restructured the Bitwarden SDK codebase, as a result of which the main components of the SDK used in building and running the client software were transferred to the GPLv3 license and moved to the sdk-internal repository, and the old repository, which includes code for creating business products, was renamed to sdk-secrets.

<https://news.ycombinator.com/item?id=41940580>

## UBUNTU SWAY REMIX 24.10:

27/10/2024

The Ubuntu Sway Remix 24.10 distribution is available, providing a pre-configured and ready-to-use desktop based on the Sway tiled compositing manager. The distribution is an unofficial edition of Ubuntu 24.10, created with an eye on both experienced GNU/Linux users and beginners who want to try an environment with a tiled window manager without the need for lengthy configuration. Builds for amd64 and arm64 (Raspberry Pi) architectures

are available for download.

The distribution environment is built on the basis of Sway - a compositing manager that uses the Wayland protocol and is fully compatible with the i3 tiled window manager, as well as the Waybar panel, the PCManFM-GTK3 file manager and utilities from the NWG-Shell project, the Azote desktop wallpaper manager, the nwg-drawer full-screen application menu, the nwg-wrapper program for displaying the contents of scripts on the screen (used to display hotkey hints on the desktop), the nwg-look GTK theme, cursor and font settings manager and the Autotiling script, which automatically composes the windows of open applications in the manner of dynamic tiled window managers.

The distribution includes programs with both a graphical interface, such as Firefox, Qutebrowser, Audacious, Transmission, Libreoffice, Pluma and MATE Calc, and console applications and utilities, such as the Musikcube music player, MPV video player, Swayimg image viewer, Zathura PDF document viewer, Neovim text editor, Ranger

file manager and others.

Another feature of the distribution is the complete refusal to use the Snap package manager, all programs are supplied as regular deb packages, including the Firefox web browser, for the installation of which the official Mozilla Team PPA repository is used. The distribution installer is based on the Calamares framework.

<https://github.com/Ubuntu-Sway/Ubuntu-Sway-Remix/releases/tag/24.10>

## TILEOS 1.2: 27/10/2024

A minor release of TileOS 1.2 "T-Rex" is now available, a Debian-based distribution that offers a desktop environment that uses tiling window managers. TileOS follows the same goals as the Ubuntu Sway Remix distribution (developed by the same author), offering a ready-to-use interface that requires no additional configuration and is aimed at both experienced Linux users and beginners who want to try out a tiling window manager

environment without spending a lot of time on setting it up.

Unlike Ubuntu Sway Remix, TileOS is much more open to various changes and customizations, and is also free of any potential copyright issues (Ubuntu Sway Remix uses registered trademarks of Canonical, but there is still no official response regarding the inclusion of the distribution in the official Ubuntu family). Builds for the amd64 architecture are available for download (in the future, there are plans to provide support for arm64, in particular Raspberry Pi boards). The source code of TileOS components is available on GitLab.

TileOS focuses on window managers using the Wayland protocol. Editions with the Sway and River desktops are officially presented, editions with SwayFX (a fork of Sway, supplemented with various desktop effects) and Qtile are in development. The distribution uses the Debian Stable package base, but various improvements, more recent versions of some software and graphics drivers are transferred from the testing branch. In addition, a number of fixes are

included in the composition, optimizing the disk subsystem and memory, and some improvements from Ubuntu are transferred, for example, mounting disks in the file manager without asking for a password, and others.

<https://gitlab.com/tile-os/tileos/-/releases/v1.2>

## SWAY 1.10 USER ENVIRONMENT RELEASED: 28/10/2024

After 8 months of development, the Sway 1.10 compositing manager has been released. It is built using the Wayland protocol and is compatible with the i3 tiling window manager and the i3bar panel. The project code is written in C and is distributed under the MIT license. The project is aimed at Linux and FreeBSD.

Sway allows you to arrange windows on the screen logically rather than spatially. Windows are arranged in a grid that optimally uses the screen space and allows you to quickly manipulate windows using only the keyboard. Compatibility with i3 is provided at

the level of commands, configuration files, and IPC, which allows you to use Sway as a transparent replacement for i3, using Wayland instead of X11.

To create a complete user environment, the following accompanying components are offered: swayidle (background process with standby mode implementation), swaylock (screen saver), mako (notification manager), grim (creating screenshots), slurp (selecting an area on the screen), wf-recorder (video capture), waybar (application panel), virtboard (on-screen keyboard), wl-clipboard (working with the clipboard), wallutils (desktop wallpaper management).

<https://github.com/swaywm/sway/releases/tag/1.10>

## RASPBERRY PI OS SWITCHED TO WAYLAND: 29/10/2024

The developers of the Raspberry Pi project have presented a new version of Raspbian, based on Debian 12 and the Linux 6.6 kernel. About 35 thousand packages are



available in the repository. Three builds have been prepared for download - a reduced one ( 438 MB ) for server systems, with a basic desktop ( 1.1 GB ) and a full one with an additional set of applications (2.9 GB), available for 32- and 64-bit architectures. Additionally, an update has been formed for the old edition of Raspberry Pi OS (Legacy), based on the Linux 6.1 kernel and the Debian 11 package base.

<https://www.raspberrypi.com/news/a-new-release-of-raspberry-pi-os/>

## THE FLOCK PROJECT:

29/10/2024

The Flock project is presented, which is a fork of the Flutter user interface framework developed by Google under a BSD license. The initiator of the fork was Matt Carroll, a former Google employee who was previously part of the Flutter development team. The reason for creating the fork is the insufficient amount of resources that Google invests in the project.

The expansion of the Flutter core development team was stopped by Google in 2023, and in 2024 the company laid off some employees. According to the founders of the fork, the remaining developers and outsourced participants at Google are not enough for the full development of the project. As a result, the shortage of Flutter developers led to a change in priorities and stagnation in the development of the framework for desktop platforms (development for 3 of the 6 supported platforms is now limited to work related only to maintaining the existing code base). The shortage of developers also negatively affects the elimination of problems - some error messages can remain in the queue for years.

The Flock project does not intend to split the established community and views itself as "Flutter+" - a fork synchronized with the main project, adding on top of the main Flutter community-requested improvements and bug fixes that the main Flutter development team at Google cannot or does not want to implement. The stated goal of the project is to accelerate development and expand the

resources involved in development at the expense of the community not associated with Google. At the moment, the content of the Flock repository is completely consistent with the Flutter repository.

<https://flutterfoundation.dev/blog/posts/we-are-forking-flutter-this-is-why/>

## FEDORA LINUX RELEASE 41:

29/10/2024

Fedora Linux release 41 is out. Products available for download are Fedora Workstation , Fedora Server , Fedora CoreOS , Fedora Cloud Base, Fedora IoT Edition , Fedora Silverblue , Fedora Kinoite and Live builds, delivered in the form of spins with desktop environments KDE Plasma, Xfce, MATE, Cinnamon, LXDE, Phosh, Miracle, LXQt, Budgie and Sway. The builds are generated for the x86\_64, Power64 and ARM64 (AArch64) architectures.

<https://fedoramagazine.org/announcing-fedora-linux-41/>

## X.ORG SERVER 21.1.14 UPDATE WITH VULNERABILITY FIX:

29/10/2024

Corrective releases of X.Org Server 21.1.14 and the DDX (Device-Dependent X) component xwayland 24.1.4 have been published. They enable X.Org Server to run X11 applications in Wayland-based environments. The new versions fix a vulnerability ( CVE-2024-9632 ) that can be exploited to escalate privileges on systems where the X server is running with root privileges, as well as for remote code execution in configurations where X11 session redirection via SSH is used for access.

The problem is caused by a buffer overflow in the `_XkbSetCompatMap()` function, which occurs when attempting to change the size of the `sym_interpret` buffer while processing a specially formatted bitmap. Due to an error in setting the new size, the change only changed the value of `num_si`, but left the value of `size_si` unchanged. The problem has been present since the release of `xorg-server-`

1.1.1, published in 2006.

<https://gitlab.freedesktop.org/xorg/xserver/-/tags/>

## SHOTCUT VIDEO EDITOR 10/24:

30/10/2024

Shotcut 24.10 video editor, has been published. It is being developed by the author of the MLT project and uses this framework for editing video. Support for video and audio formats is implemented via FFmpeg. It is possible to use plugins with the implementation of video and audio effects compatible with Frei0r and LADSPA. Features include, the ability to do multi-track editing with the composition of video from fragments in various source formats, without the need for their preliminary import or recoding. There are built-in tools

for creating screencasts, processing images from a web camera and receiving streaming video. Qt is used to build the interface. The code is written in C++ and is distributed under the GPLv3 license. Ready-made assemblies are available for Linux ( AppImage , flatpak and snap ), macOS and Windows.

<https://shotcut.org/blog/new-release-241029/>

## RELEASE OF AUDACITY 3.7:

30/10/2024

The free audio editor Audacity 3.7, has been released. It provides tools for editing audio files (Ogg Vorbis, FLAC, MP3, and WAV), recording and digitizing audio, changing audio file parameters, overlaying tracks, and applying effects (such as noise reduction,

tempo, and tone changes). Audacity 3.7 is the seventh major release since the project was acquired by Muse Group. Audacity's code is licensed under the GPLv3 license, and binary builds are available for Linux, Windows, and macOS.

<https://github.com/audacity/audacity/releases/tag/Audacity-3.7.0>

## RELEASE OF TRUENAS SCALE 24.10:

30/10/2024

ixsystems has released TrueNAS SCALE 24.10, a distribution based on the Linux kernel and Debian (previously released products by this company, including TrueOS, PC-BSD, TrueNAS, and FreeNAS, were based on FreeBSD). Like TrueNAS CORE (FreeNAS), TrueNAS SCALE can be downloaded and used for

free. The iso image size is 1.4 GB. The source code for TrueNAS SCALE-specific build scripts , web interface , and layers is available on GitHub.

The Linux-based TrueNAS SCALE edition is now the main edition, and the FreeBSD-based TrueNAS CORE branch has been moved to maintenance mode, where it plans to continue to fix bugs and security issues for several more years. New features and new component versions will only be developed in the TrueNAS SCALE branch. TrueNAS SCALE is not the only Linux-based FreeNAS variant - in 2009, FreeNAS forked the OpenMediaVault distribution, which was ported to the Linux kernel and Debian package base.

<https://www.truenas.com/blog/truenas-electric-eel-powers-up-your-storage/>

## PENTESTERS READY:

31/10/2024

After a year of development, the release of BackBox Linux 9 has been published. It is based on Ubuntu 24.04 and comes with a



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collection of tools for checking system security, testing exploits, reverse engineering, analyzing network traffic and wireless networks, studying malware, stress testing, detecting hidden or lost data. The user environment is based on Xfce. The size of the iso image is 6 GB (x86\_64).

The new version marks the transition to Ubuntu 24.04, an update to the Xfce environment and the Linux kernel (6.8), the delivery of new versions of security testing tools and improvements in anonymous mode.

In addition, the release of Parrot 6.2 has been published, based on Debian 12 and including a selection of tools for checking the security of systems, conducting forensic analysis and reverse engineering. The Parrot distribution is positioned as a portable laboratory with an environment for security experts and forensic experts, focusing on tools for checking cloud systems and Internet of Things devices. The distro also includes cryptographic tools and programs for providing secure access to a network, including TOR, I2P, anonsurf, gpg, tccf (Two Cents Cryptography Frontend), zulucrypt, veracrypt,

truecrypt and luks. ISO images with the MATE environment are offered for download.

The new release updates system packages and specialized applications, including Linux kernel 6.10, Airgeddon 11.30, Anonsurf 5.0.0, Bind 9.18.28, Chromium 129, Codium, Firefox ESR 128.3, Flatpak 1.14.10, LibreOffice 24.8.2 Maltego 4.7.0, OpenJDK 17.0.12, VirtualBox 7.0.20, VLC 3.0.21 and Tor 0.4.8.12.

<https://blog.backbox.org/2024/10/30/backbox-linux-9-released/>

<https://parrotsec.org/blog/2024-10-23-parrot-6.2-release-notes>

## TIZEN STUDIO 6.0 DEVELOPMENT ENVIRONMENT RELEASED:

04/11/2024

A release of Tizen Studio 6.0, SDK and development environment for creating, assembling, debugging and profiling mobile applications, for the Tizen platform using Web API and Native API, is out. The development environment is built

on the latest release of the Eclipse platform, has a modular architecture and allows you to select and install only the necessary functionality at the installation stage or through a special package manager. Plugins for development using the VS Code editor and the Visual Studio integrated environment are also provided.

Tizen Studio includes a set of Tizen-based device emulators (smartphone, TV, smartwatch emulator), a set of training examples, tools for developing applications in C/C++ and using web technologies, components for providing support for new platforms, system applications and drivers, utilities for building applications for Tizen RT (a version of Tizen based on the RTOS kernel), tools for creating applications for smartwatches and TVs.

<https://developer.tizen.org/development/tizen-studio/>

## RELEASE OF NETHSECURITY 8.3:

04/11/2024

NethSecurity 8.3, a distribution for creating network firewalls based on the NethServer platform and designed for quick deployment of a network firewall, has been published. In addition to packet filtering, it provides capabilities for detecting and preventing intrusions, anti-virus scanning, ad blocking, prioritizing different types of traffic, deep packet inspection (DPI), and content filtering. Deployed in a corporate network, NethSecurity can also selectively block Netflix, YouTube, TikTok, Instagram, Facebook, and other services that can distract employees from work. The size of the bootable image in compressed form is 52 MB.

The platform is built as a complete solution that can be used for installation on physical servers and virtual machines, as well as for creating bootable USB drives that turn any computer into a firewall. It supports the creation of tunnels via IPsec and OpenVPN, deployment of wireless access points, and operation via several external

Internet connection channels (MultiWAN).

Management and administration is carried out via a web interface, which, among other things, provides options for creating/restoring backup copies of the configuration, resetting to factory settings, managing the installation of updates, and connecting via SSH (web interface for the SSH client). When used in the infrastructure of servers based on the NethServer distribution, centralized remote management of all hosts with NethSecurity via the NethServer interface is possible, as well as connection to the general monitoring and log collection system.

<https://www.nethserver.org/>

## FFMPEG SPEEDS UP SOME OPERATIONS BY 94 TIMES:

05/11/2024

The FFmpeg project developers reported the implementation of new assembler optimizations, where, thanks to the use of the AVX-512 instruction set, it was possible to speed up some

operations used in video decoding. The performance increase of the assembler code with AVX-512 instructions was 94, 44, 64 and 4.24 times compared to the basic implementation written in C without using SIMD instructions. In the assembler code with optimizations based on AVX-2 instructions, the increase was 67, 27, 55 and 4.38 times, respectively, and based on SSSE3 instructions - 40, 21, 29 and 2.49 times. The changes were added to the dav1d library, which offers an alternative decoder for the AV1 video encoding format. AVX-512 instructions are available in AMD processors based on the Zen 4 and 5 microarchitectures, and in Intel processors based on microarchitectures such as Skylake-X, Ice Lake, Tiger Lake, and Rocket Lake.

<https://twitter.com/FFmpeg/status/1852542388851601913>

## UPDATING DOGLINUX BUILD:

05/11/2024

An update of the specialized DogLinux distribution build (a Debian LiveCD in the style of Puppy

Linux) has been published. It is based on Debian 12 and is intended for testing and servicing PCs and laptops. The distribution includes applications such as GPUPTest, Unigine Heaven, CPU-X, GSmartControl, GParted, Partimage, Partclone, TestDisk, ddrescue, WHDD, DMDE. The distribution allows you to check the performance of the equipment, load the processor and video card, check SMART HDD and NVMe SSD. The size of the Live image, running from USB drive, is 1.35 GB (torrent).

<https://translate.google.com/website?sl=auto&tl=en&hl=en-US&client=webapp&u=https://gumanzoy.blogspot.com/2024/11/20241105-doglinux.html>

## LXQT 2.1.0 RELEASED:

05/11/2024

After six months of development, the LXQt 2.1.0 desktop environment (Qt Lightweight Desktop Environment) is out. It continues the development of the LXDE and Razor-qt projects. The LXQt interface follows the ideas of the

classic desktop layout, but introduces a modern design and techniques that increase convenience. LXQt is positioned as a lightweight, modular, fast and convenient environment that has absorbed the best features of LXDE and Razor-qt. The code is posted on GitHub and is supplied under the GPL 2.0+ and LGPL 2.1+ licenses. The appearance of ready-made builds is expected for Ubuntu (LXQt is offered by default in Lubuntu), Arch Linux, Fedora, openSUSE, Mageia, FreeBSD, etc.

The new version continues the work on implementing full support for the Wayland protocol. A new component lxqt-wayland-session has been added to the composition, allowing you to run LXQt in combination with various Wayland composite managers. The ability to select the desired composite manager has been added to the session settings. Currently, support is provided for LabWC, WayFire, kwin\_wayland, Sway, Hyprland, River and Niri. By default, the X11-based environment continues to be offered, and the Wayland-based session is classified as experimental options. To run X11 applications in a Wayland-based session, you can use the DDX (Device-Dependent X)

component XWayland.

Note that in a Wayland-based session, the most stable output is observed when using the Labwc composite manager, and the most functional session can be obtained using kwin\_wayland, thanks to the installation of additional packages from KDE. In addition, kwin\_wayland is currently the only composite manager supported in the panel for switching virtual desktops and in the power management interface for turning off the monitor. Visual effects for the desktop are available when choosing kwin\_wayland, Wayfire or Hyprland. The screensaver can be used with the waylock, swaylock, hyprlock and kwin\_wayland composite servers (kwin offers its own implementation, enabled by the "loginctl lock-session" command).

<https://lxqt-project.org/release/2024/11/05/release-lxqt-2-1-0/>

## **FIREWALLD 2.3.0 RELEASED:** 05/11/2024

The dynamically managed firewall, firewalld 2.3 has been

released, implemented as a wrapper over the nftables and iptables packet filters. Firewalld runs as a background process, allowing dynamically changing packet filter rules via D-Bus, without the need to reload packet filter rules and without breaking established connections. The project is already used in many Linux distributions, including RHEL 7+, Fedora 18+ and SUSE/openSUSE 15+. The firewalld code is written in Python and distributed under the GPLv2 license.

The firewall is managed by the firewall-cmd utility, which creates rules based not on IP addresses, network interfaces, and port numbers, but on service names (for example, to open access to SSH, run "firewall-cmd --add --service=ssh", to close SSH, run "firewall-cmd --remove --service=ssh"). The firewall-config graphical interface (GTK) and the firewall-applet (Qt) can also be used to change the firewall configuration. Support for managing the firewall via the D-BUS API firewalld is available in projects such as NetworkManager, libvirt, podman, docker, and fail2ban.

<https://github.com/firewalld/firewalld/releases/tag/v2.3.0>

## **WEBOS OPEN SOURCE EDITION 2.27:**

06/11/2024

The webOS Open Source Edition 2.27, open platform is released, which can be used on various portable devices, boards, and in-car infotainment systems. Raspberry Pi 4 boards are considered as a reference hardware platform. The platform is developed in a public repository under the Apache 2.0 license, and the development is supervised by the community, adhering to a collaborative development management model.

<https://www.webosose.org/about/release-notes/webos-ose-2-27-0-release-notes/>

## **LIMA 1.0:**

07/11/2024

The Lima 1.0 toolkit has been released. It was originally developed as a WSL2 (Windows Subsystem for Linux)-like layer for running Linux applications on macOS (Linux-on-Mac), but then

grew into a universal toolkit for running Linux virtual machines on various operating systems. Currently, Lima can be used on macOS, Linux, Windows, and BSD systems. The key goal of the project is to provide an easy way to run arbitrary Linux distributions in isolated containers or virtual environments, while providing automatic network port forwarding and file sharing. The project code is written in Go and is distributed under the Apache 2.0 license.

To run an isolated Linux environment in Linux and BSD systems, runtime containerd and various container isolation engines (Apptainer, Docker, Podman, LXD) can be used. In macOS, QEMU with the HVM accelerator or the standard macOS virtualization toolkit Virtualization.framework is used. To run Linux environments in Windows, the WSL2 (Windows Subsystem for Linux) layer is used. You can run Linux distributions built for the x86\_64 architecture on host systems with the ARM64 architecture and vice versa. In experimental mode, there is support for the riscv64 and ARM32 architectures.

For quick deployment of

environments, templates are provided, prepared for various versions of AlmaLinux, Alpine, Arch Linux, Debian, Fedora, Gentoo, openSUSE, Oracle Linux, Rocky and Ubuntu distributions. To build your own system images, they suggest you use the BuildKit toolkit. The ability to use Lima to launch Linux environments is integrated into the Finch (Amazon), Rancher Desktop (SUSE), Colima and Podman Desktop (Red Hat) toolkit. Separately, a proprietary graphical user interface Lima GUI is being developed, written using Qt.

<https://github.com/lima-vm/lima/releases/tag/v1.0.0>

## THE FIRST RELEASE CANDIDATE OF GIMP 3.0:

07/11/2024

The date of the final release has not yet been determined and will depend on the activity of user testing and the problems identified. Most likely, a second release candidate will be formed before the final release. Ready-made builds of GIMP 3.0-RC1 are formed for Linux (flatpak), Windows and macOS.

The 3.0 branch has reached maturity six and a half years after the last stable branch, 2.10, was formed, so the developers have decided to reform the release process and move to a more predictable and frequent schedule of publishing new stable branches. In preparing the next major releases, the developers will try not to push many major changes at once, but will try to focus on polishing individual new features. The next major branch, GIMP 3.2, is planned to be published about a year after the release of GIMP 3.0.

Key improvements in GIMP 3.0 include the move to the GTK3 library and a CSS-like style definition system, native support for Wayland and HiDPI, a new design theme, a significant interface modernization, basic support for the CMYK color model (late binding), significant codebase cleanup, a new API for plugin development, rendering caching, support for multi-layer selection, the ability to edit in the original color space, a brush stroke selection tool, a built-in extension manager, an automatic layer expansion mode, editing outside the canvas, improved import and export in PSD

(Adobe Photoshop) format, support for the JPEG-XL format, a non-destructive editing mode, a significant modernization of the color management code, and improved support for graphics tablets and light pens.

<https://www.gimp.org/news/2024/11/06/gimp-3-0-RC1-released/>

## QNX FREE FOR NON-COMMERCIAL USE:

08/11/2024

BlackBerry QNX has made its QNX real-time microkernel operating system freely available for non-commercial use. They have also announced the start of QNX 8.0 system image generation for Raspberry Pi 4 and 5 boards. Commenting on the issue of the QNX project returning to publishing source code, the developer relations manager noted that the company is moving towards greater openness and transparency, but he cannot yet say anything about the timing of such changes.

In 2007, an initiative was launched to open source QNX

under a license that allowed modifications. The code for the QNX Neutrino microkernel, file systems, system library, drivers, microGUI, network stack, and utilities included in the package were published in the public domain. In 2010, Research In Motion (RIM), the owner of the BlackBerry brand, acquired QNX Software Systems, after which, the code publication ceased. Currently, QNX open source initiatives are limited to a repository in GitLab, which contains ports of open source applications for QNX, frameworks, components for the QNX Hypervisor, and sample applications.

<https://forums.openqnx.com/t/topic/47580>

## RELEASE OF GSMARTCONTROL 2.0:

08/11/2024

Seven years after the publication of the last major update, the GSmartControl 2.0 project has been released. It develops a graphical interface for the smartmontools toolkit, allowing you to monitor the status of drives that support

SMART technology (Self-Monitoring, Analysis, and Reporting Technology). It supports operation on PATA and SATA drives, NVMe drives, USB converters and some RAID controllers. The project code is written in C using the GTK library and is distributed under the GPL 3.0 license.

The program allows you to run internal tests of the drives' performance and inspect the results of their execution. In addition, such functions as enabling/disabling SMART, generating reports and detecting anomalies, setting up device-specific SMART parameters, and displaying detailed information about the drive are available. Reports can be generated either by accessing the drive or by loading a text file in which the output of the smartctl command was saved on another system. The build is supported on Linux, Windows, macOS, FreeBSD and other BSD systems.

The new release is notable for adding support for NVMe drives and switching to the JSON format when parsing the output of the smartctl utility. The code has been refactored and switched to using

the features proposed in the C++17 and C++20 standards (building now requires a compiler that supports C++20, such as GCC 13+, Clang 17+, and Apple Clang 15+). The Autotools toolkit has been replaced with the CMake build system. The interface uses icons from the Oxygen set instead of Crystal.

<https://github.com/ashaduri/gsmartcontrol/releases/tag/v2.0.0>

## UBUNTU TOUCH OTA-6 FOCAL MOBILE PLATFORM RELEASED:

08/11/2024

After six months of development, the UBports project, which took over the Ubuntu Touch mobile platform after Canonical stepped away from it, has released the OTA-6 Focal (over-the-air) firmware. This is the sixth release of Ubuntu Touch, based on the Ubuntu 20.04 package base. The project is also developing an experimental port of the Unity 8 desktop, which has been renamed Lomiri.

Ubuntu Touch OTA-6 Focal update will be rolling out in the

coming days to Asus Zenfone Max Pro M1, F(x)tec Pro1 X, Fairphone 3/3+/4, Google Pixel 3a/3a XL, JingPad A1, Oneplus 5/5T/6/6T, OnePlus Nord N10 5G/N100, Sony Xperia X, Vollaphone X/22/X23, and Xiaomi Poco X3 NFC/X3.

<https://ubports.com/en/blog/ubports-news-1/post/ubuntu-touch-ota-6-focal-release-3942>

## DEBIAN 12.8 RELEASED:

09/11/2024

The eighth corrective update of the Debian 12 distribution has been generated, which includes accumulated package updates and adds fixes to the installer. The release includes 68 updates with fixes for stability issues and 50 updates with fixes for vulnerabilities. Among the changes in Debian 12.8, we can note the update to the latest stable versions of the systemd, clamav, dpdk, galera-4, intel-microcode, openssl and wireshark packages.

For downloading and installing "from scratch", installation builds of Debian 12.8 are prepared. Systems installed earlier and maintained in

the current state receive updates present in Debian 12.8 through the standard update installation system. Security fixes included in new Debian releases are available to users as updates are released through the security.debian.org service.

<https://www.debian.org/News/2024/20241109>

## RELEASE OF IPTABLES 1.8.11:

10/11/2024

After a year of development, the release of the classic toolkit for managing the iptables packet filter 1.8.11 has been published. The development has recently been focused on components for maintaining backward compatibility - iptables-nft and ebtables-nft, providing utilities with the same command line syntax as in iptables and ebtables, but translating the received rules into nftables bytecode. The original set of iptables programs, including ip6tables, arptables and ebtables, was deprecated in 2018 and has already been replaced by nftables in most distributions.

<https://www.mail-archive.com/netfilter-announce@lists.netfilter.org/msg00270.html>

## THE TOOLS WGET 1.25 AND CURL 8.11 ARE NOW AVAILABLE:

12/11/2024

GNU Wget 1.25 is released, a program for automating file downloads using HTTP/HTTPS and FTP/FTPS protocols. The utility supports features such as resuming interrupted downloads, mirroring sites with filtering downloaded data by masks, converting links inside documents, setting cookies, and only updating changed files. The project code is written in C and is distributed under the GPLv3 license.

<https://translate.google.com/website?sl=auto&tl=en&hl=en-US&u=https://www.mail-archive.com/info-gnu@gnu.org/msg03333.html>

Daniel Stenberg, the author of the curl project, presented an

initiative to support LTS releases, updates with fixes for serious errors and vulnerabilities, which will be published for at least 5 years. The first LTS project announced is the 8.9.x branch, for where a corrective release 8.9.2 has already been formed with the elimination of two vulnerabilities. Access to LTS updates are provided only to customers who have signed a support agreement.

The code of the LTS releases continues to be distributed under the previous Curl license (a variant of MIT), but upon a separate request, you can supply it under a separate commercial license. The funds received will be spent on supporting the project and funding developers. New LTS branches are planned to be formed every 8-24 months. Using the LTS branch will allow you to get a stable base, free from the possibility of regressive changes.

<https://daniel.haxx.se/blog/2024/11/07/rock-solid-curl/>

## CACHYOS 241110

RELEASED:  
12/11/2024

CachyOS 241110 release has been published. It is based on Arch Linux and is being developed within the framework of a continuous update delivery model. The distribution is notable for the inclusion of optimizations to improve performance and the ability to install various desktop environments. In addition to the basic KDE-based environment, GNOME, XFCE, i3WM, Wayfire, LXQT, OpenBox, Cinnamon, Cosmic, UKUI, LXDE, Mate, Budgie, Qtile, Hyprland and Sway are available for installation. The size of the installation iso image is 2.7 GB. Separately supplied are builds for wearable devices (Handheld Edition) with a GameMode-style interface and components for computer gamers.

The supported file systems are btrfs, zfs, ext4, xfs, and f2fs. The BORE task scheduler is enabled by default, optimized to reduce desktop latency and prioritize interactive processes. The kernel and packages are built with LTO optimizations enabled and

instructions available in x86-64-v3, x86-64-v4, and Zen4-based processors enabled. The base packages are additionally built with PGO (Profile-Guided Optimization) or BOLT (Binary Optimization and Layout Tool) optimizations enabled. The distribution comes with the Cachy-Browser web browser, based on Firefox and incorporating security and performance enhancements, as well as patches from the Librewolf project.

<https://cachyos.org/blog/2411-november-release/>

## RELEASE OF LUANTI 5.10.0:

11/11/2024

After three months of development, the free game engine Luanti 5.10.0 is now available. It allows you to create Minecraft-style games using the Lua API, using various voxel blocks for players to jointly form various structures and buildings that form a semblance of a virtual world. The project was previously developed under the name Minetest, but was renamed due to the fact that the old name could create a false impression that it was an unfinished



clone of Minecraft. The engine is written in C++ using the IrrlichtMt 3D library (a fork of Irrlicht). The code is distributed under the LGPL-2.1 license, and the game assets are licensed under the CC BY-SA 3.0 license.

<https://forum.minetest.net/viewtopic.php?t%3D31123>

## **DXVK 2.5 RELEASE:**

13/11/2024

**D**XVK 2.5 is now available, providing an implementation of DXGI (DirectX Graphics Infrastructure), Direct3D 8, 9, 10, and 11, running via call translation to the Vulkan API. DXVK requires drivers that support the Vulkan 1.3 API, such as Mesa RADV 24.0, NVIDIA 535.183.01, Intel ANV 24.0, AMDVLK 2024.Q1.3, AMDGPU-PRO,

and NVK 24.1. DXVK can be used to run 3D applications and games on Linux using Wine, serving as a higher-performance alternative to Wine's built-in Direct3D implementations that run on top of OpenGL.

<https://github.com/doitsujin/dxvk/releases/tag/v2.5>

## **RED HAT ENTERPRISE LINUX 10 BETA RELEASE AND RHEL 9.5 RELEASE:**

13/11/2024

**R**ed Hat has released a beta version of the Red Hat Enterprise Linux 10 distribution and released Red Hat Enterprise Linux 9.5. Ready-made installation images have been prepared for registered users of the Red Hat Customer Portal (to evaluate the

functionality, you can also use the CentOS Stream 10 and CentOS Stream 9.5 iso images, as well as free RHEL builds for developers). Repositories with RHEL 10 binary packages are publicly available. Releases are generated for the x86\_64, s390x (IBM System z), ppc64le and Aarch64 (ARM64) architectures. The release of RHEL 10 is expected in the first half of next year.

The source code of RHEL 10 rpm packages is published for free download. RHEL 9.5 packages are not placed in the public repository [git.centos.org](https://git.centos.org) and are provided to the company's clients only through a closed section of the site, which has a user agreement (EULA) prohibiting the redistribution of data, which does not allow using these packages to create derivative distributions. RHEL 9.5 sources remain available in the CentOS

Stream repository, but it is completely out of sync with RHEL and the latest versions of packages do not always match those in RHEL. Rocky Linux, Oracle and SUSE reproduce the source code of RHEL release rpm packages as part of the OpenELA project.

<https://www.redhat.com/en/blog/red-hat-enterprise-linux-95-release>

## **DEBIAN JUNIOR PROJECT:**

14/11/2024

**T**he developers of the Debian Junior project, which is developing opportunities for children with the Debian GNU/Linux distribution, announced the formation of Live-builds (3 GB), containing a user environment optimized for children and a selection of programs, useful and interesting to children under the age of 12. The proposed Live-build is planned to be updated weekly. Initially, Debian Junior was aimed at improving standard Debian and maintaining a set of packages for children.

The user environment is based on the IceWM window manager,



# DistroWatch.com

Put the fun back into computing. Use Linux, BSD.

which allows it to be used even on outdated computers with a small amount of RAM. Thunar from the Xfce project is supplied as a file manager, Epiphany (GNOME Web) is offered for web navigation, Dino-IM is for messaging, Evolution for e-mail, LibreOffice is for writing documents, VLC for playing multimedia content, Evince for viewing PDF's, and Eye of GNOME for viewing images. The distro also includes educational applications such as GCompris (lessons for preschool and primary school children), Stellarium (planetarium), kturtle (programming training), pySioGame (educational games).

<https://lists.debian.org/debian-jr/2024/11/msg00009.html>

## PHOSH 0.43.0,:

15/11/2024

Phosh 0.43 has been released, a mobile desktop shell based on GNOME technologies and the GTK library. The environment was initially developed by Purism as an analogue of GNOME Shell for the Librem 5 smartphone, but then became one of the unofficial GNOME projects and is used in

postmarketOS, Mobian, Droidian, some firmware for Pine64 devices and the Fedora edition for smartphones. Phosh uses the Phoc composite server running on top of Wayland, as well as its own on-screen keyboard squeeboard. The project's code is distributed under the GPLv3+ license.

<https://phosh.mobi/releases/rel-0.43.0/>

## OPENWRT SWITCHES TO APK PACKAGE MANAGER:

16/11/2024

The developers of the OpenWrt distribution, aimed at use in various network devices such as routers, switches and access points, announced the transition to the APK package manager, developed by the Alpine project. In the November snapshots created off the main OpenWrt branch that is in development, the previously used opkg package manager has already been replaced by the apk toolkit.

The OpenWrt 24.10 testing branch continues to use opkg for now, but will soon be migrated to APK (OpenWrt 24.10 will be the

first APK-based release). The OpenWrt 23.05 stable branch will continue to use opkg until the end of its maintenance. Once the migration to the new package manager is complete, opkg will be deprecated and will no longer be developed as part of the OpenWrt project.

The move to APK will allow for more powerful package management capabilities. Reasons cited for the move include better handling of APK metadata and the ability to streamline the process of updating the entire system to a new version of the distribution. In addition, APK by default, requires all packages to have valid digital signatures (unless the "--allow-untrusted" option is specified), while opkg does not check locally installed packages.

<https://forum.openwrt.org/t/major-change-notice-new-package-manager/215682>

## RELEASE OF ARCHINSTALL 3.0.0:

17/11/2024

The Archinstall 3.0, installer has been released, which has been included as an option in Arch Linux installation ISO images since April 2021. Archinstall runs in console mode and can be used instead of the default manual installation mode of the distribution. The Archinstall code is written in Python and is distributed under the GPLv3 license.

Archinstall provides guided and automated modes of operation. In the automated mode, you can use scripts to deploy typical configurations. The installer also supports installation profiles, for example, the "desktop" profile for selecting a desktop (KDE, GNOME, Awesome) and installing the packages required for it, or the "webserver" and "database" profiles for selecting and installing web server and DBMS components. Four years ago, an attempt was made to create an Archinstall variant with a graphical installation interface, but it did not see the light of day.

The new version of Archinstall has a completely redesigned console user interface, which has been converted to use the Curses library. Using Curses has made it possible to improve the appearance, increase the usability and implement a more complex layout of interface elements, which now has a separate screen area with a constantly visible menu. In addition, work has been done to improve the quality of the code and expand the coverage during testing.

<https://github.com/archlinux/archinstall/releases/tag/v3.0.0>



I always complain when tutors say one thing and do another, you know, like estate agents telling you a one bedroomed closet is “spacious”. So I had better not do the same. Since we are on the topic of LPIC issues, learning is one thing, but getting to grips with the mind of an examiner is another thing completely. Since this is technically the third installment after SAMBA, let’s get a feeling for some ways questions are asked in the exam. I will be pulling from 2022/2023 braindumps, so let’s not get overly excited. I grabbed these from a place trying to sell you other people’s free dumps, so we know the “sample” will be valid stuff to entice you to buy their stolen goods. These will be from the second tier LPIC-2 (450), and I can, maybe, give some insight and practical advice that you can do if you would like to pursue the exam. There will be overlap with LPIC-1, as the one builds on the other. I really like the LPIC exams, I just would not recommend them, as the certifications expire and I have no time for cash-grab schemes. Don’t just learn the questions and

answers – there are a few versions of the exam; rather understand the answers, so there are no curve balls. Let’s start with a cracker:

**Which commands below are useful to collect data about remote file system connections?**

(Choose TWO correct answers):

- A. pidstat
- B. nfsiostat
- C. sadf
- D. cifsostat

Answer: BD

Now on Ubuntu and derivatives, you will probably not find manual entries for some of these. The main thing on your mind should be the iostat part. Obviously NFS and CIFS are part of what we are covering, hence why I started with these. Why did I say iostat? Because it displays statistics about read and write operations on file systems – broken down, io = input/output (or read ‘n write if you wish), and stats = statistics. As you can see, they don’t do stupid crap like add bogus commands to confuse you like

cifiostat and ntfsiostat, like you would get in other exams. This is why I like LPIC as an exam. The other commands like sadf are real commands, but are not related to the question, eg. pid = process ID and tells you nothing of a remote file system.

On to one I’m not too happy about (OK I hate these), but stare at it for a while:

**Due to extreme system use, a Linux system requires some additional swap space. To initialize 5GB of additional swap space, which combination of commands should be used?**

- A. dd if=/dev/zero of=/tmp/swapfile bs=1024 count=5120000; mkswap /tmp/swapfile; mount /tmp/swapfile
- B. dd if=/dev/zero of=/tmp/swapfile bs=1024 count=5120000; swapon /tmp/swapfile
- C. dd if=/dev/zero of=/tmp/swapfile bs=1024 count=5120000; mkswap /tmp/swapfile; swapon/tmp/swapfile
- D. touch -5G /tmp/swapfile; swapon /tmp/swapfile

E. mkswap /tmp/swapfile 512000; swapon /tmp/swapfile

Answer: C

OK, don’t overthink this one (trying to catch students when you give them little time is a truly nasty practice) while you can make free space or have a drive with free space to make a swapfile on; traditionally when you install Linux, you create a separate partition just for swap (mkswap). With swap files, you don’t need a separate partition any more. You create a file and tell your system to use it as the swap space. With a dedicated swap partition, resizing is a pain. With swap files, you can resize them as you like. D is command swapped, if you were wondering, fallocate is what you were looking for (sudo fallocate -l 5G /swapfile). My advice is to make one on your drive, you can always remove it. Easy. See: <https://oracle.com/en/operating-systems/oracle-linux/6/admin/swap-create-use.html>

If there are any of these questions you would want us to dive into, or if you just wrote your exam and there is a new question you would like us to discuss, feel free to drop us an email, [misc@fullcirclemagazine.org](mailto:misc@fullcirclemagazine.org)

Just so you guys can see that it (the LPIC exam) is not perfect, here is one of the really useless (microshaft) ones, though it is a 'gimme':

**On a server running the 3.4.50-11 Linux kernel, which file in the /boot directory contains the kernel configuration parameters?:**

- A. config-linux-3.4.50-11
- B. config-3.4.50-11
- C. system-3.4.50-11
- D. vmlinuz-3.4.50-11
- E. rc.config-3.4.50-11

Answer: B

To me this is like having a screwdriver attachment on a potato peeler, while there is a chance you may use it, you probably won't. I know by now that "config" is where my 'config' files are (and if I needed to be sure I'd cd /boot/ to have a look); muddying the waters with config-linux reeks of Microsoft-

can't-ask-questions. I used to teach this and I still could not care, as this does not test knowledge, but it is a filler question because they did not have enough time, or did not have enough practical experience to craft a real question.

However this segues quite nicely into a lesson, let's quickly give it a once-over.

**/boot/config\***

This contains the configuration with which the kernel version specified in the file name was built. This is handy if ever you need to re-compile or re-build the same version of the kernel, as the configuration options are kept here.

**/boot/initrd\***

initrd literally stands for: initial RAM disks. Once the kernel loads, it generally is configured (or passed by the boot loader) the RAM disk's name to load and mount. The main purpose of the initrd image is to hold modules and drivers that the kernel needs to initialise the rest of the system

**/boot/symvers-\***

The files in here contain debugging symbols for the modules included with the version of the kernel specified in the file name (like with config\*). You might find this useful if you ever need to attach a debugger to your kernel or if a particular kernel module is having serious problems.

**/boot/System.map\***

These files contain the kernel symbol tables for said version of the kernel they're associated with. A 'symbol table' is a list of symbols and the memory addresses that they're associated with.

**/boot/vmlinuz-\***

The vmlinuz file is the Linux kernel, the heart of the operating system. This, plus the initrd, are the two files that your system needs to be readable and working in order to boot. Without a kernel and the RAM disk associated with that exact version of the kernel, you're probably not going to have a bootable system.

It is GRUB (LILO, SYSLINUX) - the boot loader configuration, that tells the system which kernel and RAM

disk to load, and which passes parameters to the kernel, telling it key pieces of information about the system (like where to find the root file system, and which process to execute to begin the system start-up process).

In the real world, I have never (touch wood!) needed to access any of these, but you need to build a kernel at least twice to get to grips with these for most Linux exams. I suggest filing the above somewhere in your meat wallet, just so you know about them.

We can look at more real exam questions in the next exciting issue of FCM.



**Erik** has been in IT for 30+ years. He has seen technology come and go. From repairing washing machine sized hard drives with multimeters and oscilloscopes, laying cable, to scaling 3G towers, he's done it.



## TIME FOR ME TO BEG AGAIN

### \*SIGH\*

Yes, this (and several other) pages are, sadly, empty.

Can you spare a few minutes to write something? That would be much appreciated.

You don't need to be an expert, just write about what you know. What you use. How you use it.

Email it to:

[ronnie@fullcirclemagazine.org](mailto:ronnie@fullcirclemagazine.org).

**Thank you!**



# HOW-TO

Written by Erik

# LXD Pt.1

Canonical has made Linux containers really easy with Snaps. Don't get me wrong, we still have to configure it, but if you look here, it's as simple as 1,2,3: <https://canonical.com/lxd/install> (if you try to install the apt, it will launch the Snap package anyway). OK all you Ubuntu mechanics, grab that virtual spanner and let's get cracking! That includes YOU, lazy bones; fire up your terminal and rev those engines!

Before you follow me down this

rabbit hole, let's install lxd and then I will take you through our configuration. Start by making sure all your Snaps are up-to-date: `sudo snap refresh` - and let it do its thing, before running:

```
sudo snap install lxd
```

As you can see from Canonical's site, there isn't much to do other than initialise the application. Type: `lxd init` and let's navigate the questions together? (We do this only the very first time, so don't worry too much). We pretty much stick with the defaults. However,

you may name your storage pool anything you like; for our tutorial, I'll just name it `fcmpool`, or something similar, and we will use `dir` instead of `zfs`. We can type out the `yes` & `no`, but we can also just press `enter` to confirm the defaults. I will do both so you can see. It is only IPv6 where I select "none", and once you are done, you have the option of printing a YAML file for future reference.

```
You can check if it is operational - ps -aux | grep lxd
```

and you should see that shown below right.

let's confirm there are no 'running' containers:

```
lxc list
```

We can also now confirm that there are no images on the system: `lxc images list`

Great, a blank slate! (Ok not really, we have some repos configured for us); `lxc remote list` - to see them.

If you hold down the CTRL key and click on the very first link, it will open that link in a browser for you (<https://images.lxd.canonical.com/>).

You may see that images are built daily, but even then, these are

```
ed@IT1: ~
ed@IT1:~$
ed@IT1:~$ sudo snap refresh
brave 1.71.118 from Brave Software (brave✓) refreshed
core22 20241001 from Canonical✓ refreshed
core20 20240911 from Canonical✓ refreshed
ed@IT1:~$ snap install lxd
error: cancelled
ed@IT1:~$ sudo snap install lxd
Download snap "lxd" (30131) from channel "5.21/stable" 35% 8.82MB/s 8.06s
4ba6b from Canonical✓ installed
ed@IT1:~$ lxd version
5.21.2 LTS
ed@IT1:~$ lxd init
Would you like to use LXD clustering? (yes/no) [default=no]: no
Do you want to configure a new storage pool? (yes/no) [default=yes]: yes
Name of the new storage pool [default=default]: fcm1
Name of the storage backend to use (dir, lvm, powerflex, zfs, btrfs, ceph) [default=dir]: dir
Would you like to connect to a MAAS server? (yes/no) [default=no]: no
Would you like to create a new local network bridge? (yes/no) [default=yes]: yes
What should the new bridge be called? [default=lxdbr0]:
What IPv4 address should be used? (CIDR subnet notation, "auto" or "none") [default=auto]:
```

```
ed@IT1:~
Would you like a YAML "lxd init" preseed to be printed? (yes/no) [default=no]:
ed@IT1:~$ ps -aux | grep lxd
root      234008  0.0  0.0  2892 1600 ?        Ss   11:43   0:00 /bin/sh /snap/lxd/30131/commands/daemon.start
root      234171  0.0  0.0 153180 2400 ?        Sl   11:43   0:00 lxcfs /var/snap/lxd/common/var/lib/lxcfs
root      234182  0.0  0.1  7306012 75252 ?       Sl   11:43   0:00 lxd --logfile /var/snap/lxd/common/lxd/logs/lxd.log --group lxd
lxd       234530  0.0  0.0 10508 4640 ?        Ss   11:49   0:00 dnsmasq --keep-in-foreground --strict-order --bind-interfaces --except-interface=lo --pid-file= --no-ping --interface=lxdbr0 --dhcp-rapid-commit --no-negcache --quiet-dhcp --quiet-dhcp6 --quiet-ra --listen-address=10.119.3.1 --dhcp-no-override --dhcp-authoritative --dhcp-leasefile=/var/snap/lxd/common/lxd/networks/lxdbr0/dnsmasq.leases --dhcp-hostsfile=/var/snap/lxd/common/lxd/networks/lxdbr0/dnsmasq.hosts --dhcp-range 10.119.3.2,10.119.3.254,1h *s lxd --interface-name_gateway.lxd,lxdbr0 -S /lxd/ --conf-file=/var/snap/lxd/common/lxd/networks/lxdbr0/dnsmasq.raw -u lxd -g lxd
ed       235352  0.0  0.0  9212 2400 pts/0    S+   11:59   0:00 grep --color=auto lxd
ed@IT1:~$
```

```
ed@IT1: ~$ lxc image list
ALIAS | FINGERPRINT | PUBLIC | DESCRIPTION | ARCHITECTURE | TYPE | SIZE | UPLOAD DATE |
-----|-----|-----|-----|-----|-----|-----|-----|
ed@IT1: ~$ lxc remote list
-----|-----|-----|-----|-----|-----|-----|-----|
| NAME | URL | PROTOCOL | AUTH TYPE | PUBLIC | STATIC | GLOBAL |
-----|-----|-----|-----|-----|-----|-----|-----|
| images | https://images.lxd.canonical.com | simplestreams | none | YES | NO | NO |
| local (current) | unix:// | lxd | file access | NO | YES | NO |
| ubuntu | https://cloud-images.ubuntu.com/releases | simplestreams | none | YES | YES | NO |
| ubuntu-daily | https://cloud-images.ubuntu.com/daily | simplestreams | none | YES | YES | NO |
| ubuntu-minimal | https://cloud-images.ubuntu.com/minimal/releases/ | simplestreams | none | YES | YES | NO |
| ubuntu-minimal-daily | https://cloud-images.ubuntu.com/minimal/daily/ | simplestreams | none | YES | YES | NO |
ed@IT1: ~$
```

not “official” images.

We can even go look on: <https://images.linuxcontainers.org/> - to see what is available for us to play with.

Now, back to the very first page link ^^^^ right at the top, and you will see the syntax is: `lxc launch <image_server>:<image_name> <instance_name>` with an example: `lxc launch ubuntu:22.04 ubuntu-container`

You just have to remember ‘lxc launch’, but let’s go ahead and do the thing... you know, copy/paste from the website. OR you can try

the command they give you once you typed `lxc list`. I’m not going to type it here, just to make sure you are ‘doing’, when following along, as this is all going to be ‘hands-on’.

## WOOT!

If you are here with me, well done! If you are struggling to launch anything other than the examples, type `lxc list` again and peruse the output. You will see NAME, URL, PROTOCOL ... That first column, NAME, tells you how to check out something from the repo. If I look at the community image server, you will see that it

```
ed@IT1: ~$ lxc launch ubuntu:22.04 ubuntu-container
Creating the instance
Instance name is: inviting-bird
Starting inviting-bird
ed@IT1: ~$ lxc list
-----|-----|-----|-----|-----|-----|-----|-----|
| NAME | STATE | IPV4 | IPV6 | TYPE | SNAPSHOTS |
-----|-----|-----|-----|-----|-----|-----|-----|
| inviting-bird | RUNNING | 10.119.3.36 (eth0) | | CONTAINER | 0 |
-----|-----|-----|-----|-----|-----|-----|-----|
ed@IT1: ~$
```

```
ed@IT1: ~$ lxc list
Starting inviting-bird
ed@IT1: ~$ lxc list
-----|-----|-----|-----|-----|-----|-----|-----|
| NAME | STATE | IPV4 | IPV6 | TYPE | SNAPSHOTS |
-----|-----|-----|-----|-----|-----|-----|-----|
| inviting-bird | RUNNING | 10.119.3.36 (eth0) | | CONTAINER | 0 |
-----|-----|-----|-----|-----|-----|-----|-----|
ed@IT1: ~$ lxc launch images:alpine/3.20 alpine
Creating alpine
Starting alpine
ed@IT1: ~$
```

starts with ALMA linux in the distribution column, then we have ‘release’, ‘architecture’, ‘variant’, and so forth. We will use ALPINE as an example as it is tiny. Keep in mind that by the time this publishes, the versions would have moved on, so do not just blindly copy/paste me here, I am trying to teach you to fish on your own.

So, `lxc launch` (you remember this) `images: (the name in the first column) alpine/3.20 (distribution name / version) alpine (the name on my system, can be anything)`

So are we all on the same page? Good! I installed Ubuntu and Alpine, so you can see the difference in

size: 241MB vs 3MB, so those of you on metered or slow connections, stick to Alpine, so we can go forward.

## LET’S DRIVE THIS SUCKER!

To stop our running container, we simply say ‘stop’

```
lxc stop alpine
```

(You can use tab completion if you were stopping ‘inviting-bird’, for instance).

So if we stop something, we can start it again with `start`; I’ll let you figure that one out... LOL

```
ed@IT1: ~$ lxc launch images:alpine/3.20 alpine
Starting alpine
ed@IT1: ~$ lxc list
-----|-----|-----|-----|-----|-----|-----|-----|
| NAME | STATE | IPV4 | IPV6 | TYPE | SNAPSHOTS |
-----|-----|-----|-----|-----|-----|-----|-----|
| alpine | RUNNING | 10.119.3.102 (eth0) | | CONTAINER | 0 |
| inviting-bird | RUNNING | 10.119.3.36 (eth0) | | CONTAINER | 0 |
-----|-----|-----|-----|-----|-----|-----|-----|
ed@IT1: ~$ lxc image list
ALIAS | FINGERPRINT | PUBLIC | DESCRIPTION | ARCHITECTURE | TYPE | SIZE | UPLOAD DATE |
-----|-----|-----|-----|-----|-----|-----|-----|
| 58ecf2c877b2 | no | Alpine 3.20 amd64 (20241027_0622) | x86_64 | CONTAINER | 3.08MiB | Oct 27, 2024 at 10:49am (UTC) |
| 74957a558028 | no | ubuntu 24.04 LTS amd64 (release) (20241004) | x86_64 | CONTAINER | 241.51MiB | Oct 27, 2024 at 10:32am (UTC) |
ed@IT1: ~$
```



## HOWTO - LXD

We can also 'delete' a container, as long as it is in the 'stopped' state. If you have 2, like I do, try to delete them both as is – and you should get an error on one.

```
lxc delete alpine
```

I do not recommend using the -force Luke! You will see it in the error message.

Know that if you delete a container, you do \*not\* automatically delete the image also, so don't be afraid to delete both; you have the image, so to spin up a clone is quicker than you think! To delete images, you can use 'image delete' so: `lxc image delete 58ec` (in my case).

Pay attention to your image's fingerprint, you need to type up only to where it becomes unique, you do not have to type out the whole shebang.

You may have noticed that once you downloaded the image, it spun up and was ready to use immediately. If you do not want this behaviour, you can 'copy' the image only.

```
lxc image copy images:alpine/3.17 local: --alias alpinelocal
```

(list your images and see).

Now if/when I need alpine, I can simply say:

```
lxc launch alpinelocal jokeapp
```

This would give it a alias of jokeapp if I had an app that dispensed jokes, for instance.

That's it, our first dip into the ocean of containers, right on your Ubuntu desktop! Come see me next issue and we can continue, right here on FCM!

As always, mistakes to: [misc@fullcirclemagazine.org](mailto:misc@fullcirclemagazine.org)

```
ed@IT1: ~
ed@IT1:~$ lxc stop alpine
ed@IT1:~$ lxc image copy images:alpine/3.17 local: --alias alpinelocal
Image copied successfully!
ed@IT1:~$
```



**Erik** has been in IT for 30+ years. He has seen technology come and go. From repairing washing machine sized hard drives with multimeters and oscilloscopes, laying cable, to scaling 3G towers, he's done it.



This is our fourth exploration of the topics at CTAN.ORG. We are up to the D section.

There are two languages here: Danish and Dutch. There are five items to do with data, and nine that work with various diagrams. There are also eight to do with DVI, those I will ignore. Under the main "diagram" topic are about 70 different packages: block diagrams, circuit diagrams, control diagrams, and others. There are packages to make knitting patterns and to make fingering diagrams for recorders. Since I do not know anything about knitting or playing a recorder, I will not demonstrate these packages. I have picked a few packages from one or two topics which I hope will be of interest to some readers. If there is a task you wish to do in Latex but are not sure how to do it, or how to use the relevant package, send me a note ([rboardman@psmail.net](mailto:rboardman@psmail.net)) and tell me about it. I will do my best to sort out the problem.

The first package I will discuss is one that allows the import of CSV

files directly into Latex documents. I often used CSV files to move data from application to application when I taught at college. CSV files are plain text (ASCII usually) files, usually generated either by a spreadsheet or database. A table of data is exported – with each row of the table as a separate line in the CSV file. Each field is separated from its neighbours with a comma. The package I have on my system is called csvsimple version 1.22 from 2021. There is an updated version called csvsimple-13. The more recent version is not part of the default installation on my machine, so I will demonstrate the earlier one. The author / maintainer says it is completely compatible.

There are only two commands needed to import a CSV file into a Latex document as a simple file. The first command is to "import" the package: `\usepackage{csvsimple}`. The second command imports the file: `\csvautotabular{grades.csv}`. You can see the result in the screenshot. By default, csvsimple assumes the first row has the field names. Notice the first row is formatted a little differently than the others.

The 46-page documentation contains several examples which are definitely worth review and study. The examples usually require one or more additional packages (tikz, csv-sorter, color, and others). The examples show how csvsimple

can be used to generate graphs (or charts) and mail-merge letters. The documentation offers two alternatives to dealing with CSV files that do not have field names / data headers. It also shows how to convert files where the fields are separated not by commas but by some other character, usually quotation marks, and how to deal with data values that have commas in them.

Note: CSVsimple is not a spreadsheet or database. It does not sort data when importing. It takes the CSV data and converts it to a table. If you want to use more sophisticated methods and tools, then I suggest you investigate a set of packages called datatool.

The datatool package is a collection of eight interlinked packages. Datatool is the base package and it automatically loads the datatool-base. If any of the other six packages are loaded independently, they automatically load datatool which then loads datatool-base. Datatool-base itself automatically loads either datatool-

Generic sample table generated by csvsimple

Student	ID	Test01	Test02	Test03	Final
Michael	449104699	78	94	15	62
Rachel	980856095	70	15	84	56
Susan	685295662	36	87	48	57
Ajinder	976834418	91	50	32	57
Dennis	51921827	13	63	26	34
Lee	971812888	85	0	83	56

fp or datatool-pgfmth, these provide the support for mathematically related commands. The documentation for datatool is 230 pages. There is an additional PDF which provides an annotated version of the code for datatool.

I am not going to review datatool in this issue. It is much too complex to describe in a few paragraphs. According to the documentation, “the datatool package provides a means of creating and loading databases.” The authors warn “Whilst Tex is an excellent typesetting language, it is not designed as a database management system, and attempting to use it as such is like trying to fasten a screw with a knife instead of a screwdriver – it can be done, but requires great care, and is more time consuming.” Bearing that in mind, if you are interested or need to link your Tex documents to databases I suggest you start with the online resource: [dickimaw-books.com/faq/datatoolfaq.html](http://dickimaw-books.com/faq/datatoolfaq.html).

I will move onto a couple of packages in the decorations topic.

The contour package is about twenty years old and has a specific function. It is also much easier to

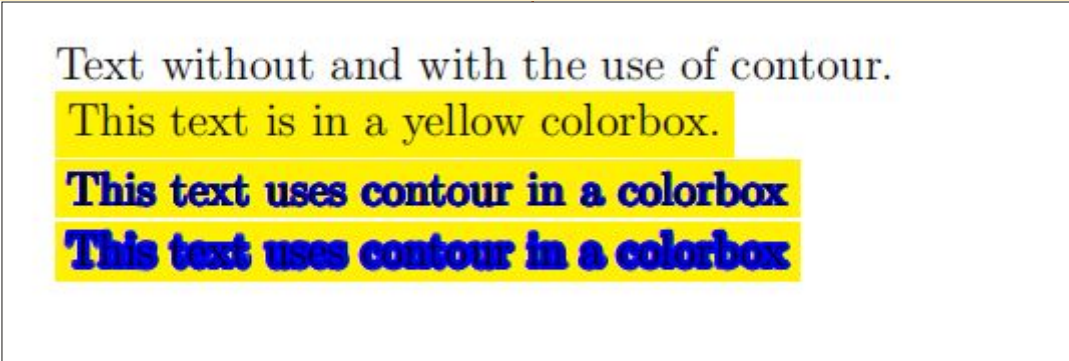
```
\contournumber{auto}
\colorbox{yellow}{\contour{blue}{This text uses contour in a colorbox}}
\contournumber{27}
\contourlength{1pt}
\colorbox{yellow}{\contour{blue}{This text uses contour in a colorbox}}
```

understand and easier to work with than datatool, its documentation is only fourteen pages, ten pages of which are annotated code. According to the author, contour “generates a colored contour around a given text in order to enable printing text over a background without the need of a color box around the text.”

Here (above) is the code controlling colorbox and contour. (The package color must be used.)

You can see the results in the image.

The other package I selected in the decoration topic is multicolrule. It has 24 pages of documentation; the last 14 pages are devoted to describing the implementation code. This package has a simple objective: to let users customize the appearance of the vertical rule(s) between columns in multi-column work. Some might ask why a user would want to do this. Multicolrule does not answer this



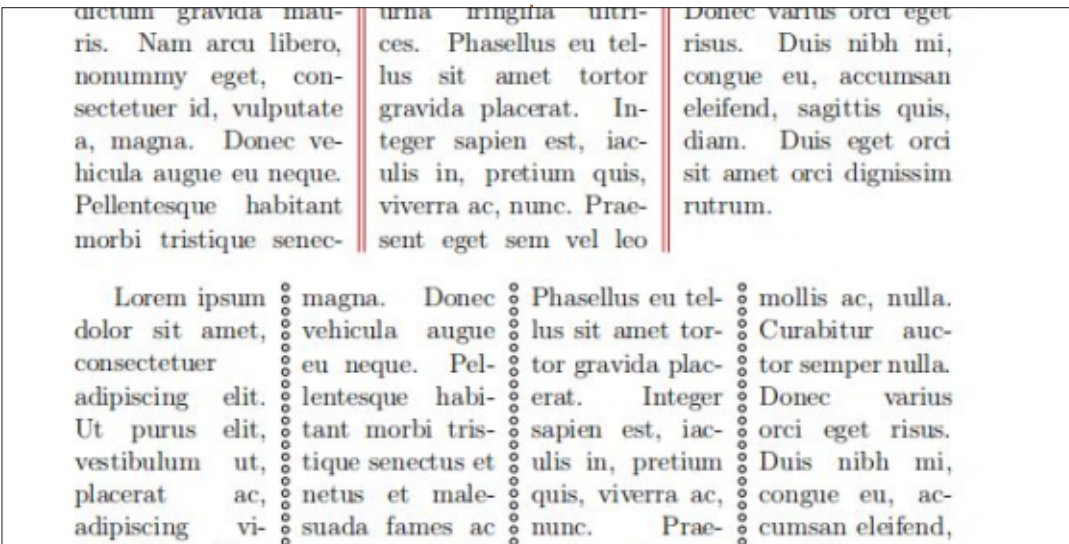
question but makes this task possible if it is desired.

Here (next page, top right) is a bit of sample code.

In order to use the line-

style=circles, the tikz package must be included, and included before multicolrule is included.

This package would be helpful if you were making a brochure with a tear-away panel. There is code to



## HOWTO - LATEX

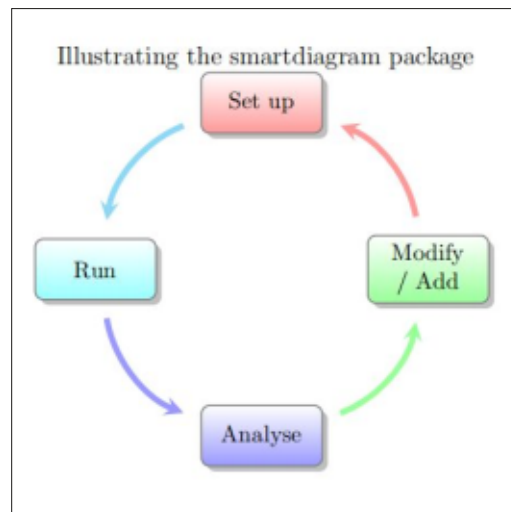
use many symbols and graphics instead of lines or dots as column dividers. The documentation is full of example column dividers, and the matching code. Samples of complete code are available in the downloaded zip. The code is in `mcrule-examples.tex` and the results can be seen in the `mcrule-examples.pdf`.

The last package I am going to discuss this time is `smartdiagram`, which is in the Diagram topic. The abstract of the documentation says “this package provides a way to easily draw diagrams in documents and presentations from a list of items thanks to TikZ.” As is often the case, the documentation includes a lengthy section of annotated implementation code. This section is useful if you wish to edit the macro code but not necessary if you wish to only use the macro.

Again from the documentation, “the basic command is `\smartdiagram[type of diagram]{list of items}`. The list of items should be comma-delimited.” There are 10 types of diagrams: circular, flow, descriptive, bubble, etc. There are several pages of example coding, along with illustrations of the

```
\documentclass[letterpaper,12pt]{article}
\usepackage[]{tikz,multicolrule}
\usepackage{lipsum} % generates pseudo-Latin text.
\setlength{\columnsep}{16pt} % sets width of space between columns
\setlength{\columnseprule}{0.5pt} % sets width of default rule.
\begin{document}
  \begin{multicols}{3}
    \SetMCRule{color=red,double=2pt}
    \lipsum[1]
  \end{multicols}
  \begin{multicols}{4}
    \SetMCRule{width=3pt,line-style=circles}
    \lipsum[1]
  \end{multicols}
\end{document}
```

results of each sample. If a user follows the examples and experiments with the code, they should learn a great deal about this very useful package. We do not have to rely on either presentation software or graphics software to generate these types of diagrams in our printed documents. Some simple coding in Latex will generate



a PDF directly without having to use another piece of software and then import the graphic file. Modifications to the diagram can be made directly in the Latex code and a new revised PDF generated in a very short time.

As I hope is clear, I have only touched briefly on the capabilities of these packages. As I say every issue, read the documentation if you think one or more of these packages can be useful in your work. I also recommend reading `novices-report.pdf` by Dr. Nicola Talbot if you are getting started with Latex. If you are writing a thesis or other lengthy document in Latex, I recommend `thesis-report.pdf` also by Dr. Talbot. Both are available from her website: [www.dickamaw-books.com](http://www.dickamaw-books.com). (Dr.

Talbot is the author and maintainer of the `datatool` package discussed briefly in this column.) These two books were written more than 10 years ago, and there has been a significant upgrade in Latex in that time. Nevertheless they remain valuable resources.

Next time, I will take a look at some of the packages in the E topic section of `ctan.org`. After that, I will look at using Latex when typesetting languages that do not use the default Latin alphabet, i.e. most languages of the world.

# KILOBYTE MAGAZINE

Kilobyte Magazine is a fanzine for 8bit enthusiasts. It covers consoles, computers, handhelds and more, as well as new games for old systems. If you grew up with Commodore, Atari, Sinclair or Amstrad, this magazine is for you.

<https://retro.wtf/kilobytemagazine/>



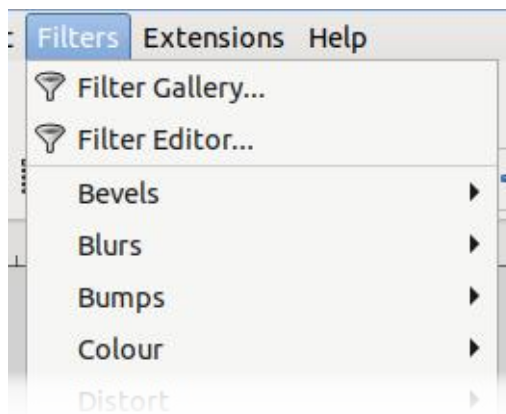
Last month saw the end of my articles describing the updates in Inkscape 1.3.x, so, after 150 months of bringing you all the gnarly details about every feature and corner of the application, I was looking forward to a few weeks off. No such luck. No sooner had I submitted the previous article about improvements to the Filters dialog, than version 1.4 was released. It doesn't have as long a list of user-facing changes as some releases, though there has been a lot of work done under-the-hood to prepare for future development. Nevertheless, I plan to cover the new features in-depth, as usual – and perhaps this time I'll get ahead of the developers enough to earn some time off!

As usual, the new release can be downloaded from the Inkscape website. It'll probably take a little while to get into the repositories of most distros, but the website offers Linux users an AppImage version, and a PPA. I'll be using the former simply because it's easier for me, given that I have to keep a few older versions around as well for

comparison purposes. If you're using Ubuntu or another Debian-based system, and want only a single Inkscape version installed, the PPA might be your best option. Installers are also available for Windows and MacOS.

<https://inkscape.org/release/inkscape-1.4/>

In terms of describing the new features, I guess we may as well pick up where we left off: filters. Nothing has changed in terms of the filter editor dialog itself, though. The main Filter menu has been slightly rearranged to move the Filter Editor... entry towards the top of the layout, just below the new Filter Gallery... entry.



The Filter Gallery is one of the headlines of the 1.4 release, and is arguably long overdue. Back in the distant past, when this column first began, Inkscape didn't come with any predefined filters. Whether you wanted a simple drop shadow or a more complex 3D lighting effect, you had no choice but to either create one from scratch using the filter editor, or to copy and paste an object which already had a suitable filter applied, from another document.

This copy-pasting approach was so useful that a number of users on websites and forums made SVG files available that contained nothing but copies of the same object with different filters applied to each. In this way you could see the filter as it appeared on a real object in order to get a preview of how it looked, before copying the object into your own document and then applying the freshly imported filter chain to your own elements.

Version 0.47 introduced the hierarchical menu of predefined filters that we have now, and I'm

sure most readers head there first when they need to add a filter to an object (I certainly do!). It's much easier to pick a filter from a categorised list that's built into the software than it is to: hunt for a third party filter file; open it; select the filtered object; copy it into your own document; apply the filter to your target element; finally, delete the copied object.

But as convenient as a curated list of named filters may be, one thing that was sorely lacking compared to the old approach was the ability to see what effect the filter has on real content before you apply it. That's what the new Filter Gallery brings to Inkscape. Select that option, and you'll be presented with this dialog (next page, top middle).

To the left is a list of the filter categories, corresponding mostly to the sub-menus in the Filters menu. One difference is the addition of an 'All filters' category at the top. As you've probably guessed, selecting an option in this list will filter the previews shown at

the right to only include those from the corresponding category. The 'All filters' option does as its name suggests, and shows previews for all the available filters, regardless of category. Unfortunately the previews are still grouped by category in this mode, rather than appearing alphabetically by name, which doesn't really make sense to me, especially as the groupings aren't made clear with different background colours or badges on the previews.

The category list can be made wider or narrower by dragging the separator bar that sits between the list and the previews, though category names get truncated with an ellipsis in the middle rather than wrapping to multiple lines. The list panel can also be collapsed completely using the toggle button at the top-left of the dialog. There is a small bug, however, which makes this feature less useful than you might expect. Collapsing the list automatically switches to showing all the filter previews (as though you had the 'All Filters' category selected), which does make some sense. But if you click the toggle to expand the list again, it continues to show all previews, even if you have a specific category



selected. Clicking the same, already selected, category does nothing. To kick it back into life you have to select a different category – after which you may re-select the original one, if you wish. It's a small but annoying bug that reduces the utility of the collapse button significantly.

As well as selecting a category, the other way to reduce the number of previews that are shown is to use the filter field at the top-right. This filters dynamically as you type, also taking the selected category into account. Therefore entering some text in here can only ever reduce the number of visible previews, it won't increase the

number by displaying entries from other categories that match the search. This is a shame, as it would be more useful for it to show matches from within the category first, but also show other matches below a dividing line. That would allow you to use it to quickly select a specific filter without having to change categories.

At the right of the dialog is the preview pane, showing each individual filter chain as a preview image with the filter name below it. The size of the thumbnails can be adjusted using the slider hidden behind the 'gear' button at the top of the dialog. Moving this slider causes the previews to update

dynamically, which can take a short while if there are a lot of them visible. That, in turn, leads to a jerky and frustrating UI. A better approach is to first select a category with few entries – perhaps 'Image Effects' or 'Scatter' – before adjusting the slider. This allows the UI to update far more smoothly, making it much easier to pick the preview size that best suits you.

Once you've found the filter you wish to use, click on its preview and then click the Apply button at the bottom of the dialog to apply it to your selected object(s). For some filters the button will actually say Apply... (i.e. with a trailing ellipsis). This indicates that a dialog will open allowing you to customise some parameters of the filter before actually applying it for real (using the Apply button in the second dialog). Unfortunately there's no indication from the thumbnails which filters are customisable in this way. Of course they can all be customised using the Filter Editor dialog once they've been applied, but those with an ellipsis on the Apply button expose a curated subset of the most useful parameters, so I'd like to see them more obviously flagged.

## HOWTO - INKSCAPE

If you do use a filter with a secondary dialog, there are a couple of things to note: the first is that this dialog will have a 'Live preview' checkbox towards the bottom. Enabling this box allows you to see what the final filter will look like on your objects before clicking the Apply button, making it easy to bail out by clicking the Close button instead. It's a shame this feature isn't present on all filters, whether they expose specific parameters or not. The second thing to note is that clicking Apply in the second dialog won't close it, so you'll have to manually do this if you want it removed from your screen while you continue your work.

Be aware that each time you click the Apply button for a given object the filter chain is appended to any existing chain. This can be useful if, for example, you want to use a visual effect from the Materials category, then add a drop shadow to the result. But it also means that if you just want to go through the list previewing how each filter looks on your object, you'll need to remember to press Ctrl-Z between each one to avoid them stacking up. If you do want to apply multiple filters, I recommend

grouping your object(s), multiple times if needed, to apply one filter per grouping level. By applying a separate filter to each group, rather than appending multiple filter chains to a single object, it makes it much easier to remove or modify a single filter at a time later.

One limitation of the Filter Gallery is that there's only a single preview image available. While the flowery shape that has been chosen does a good job of representing most filters, the thick lobes may not be representative of the object you wish to apply the filter to in your specific image. Text, for example, can vary wildly between thick slab-serif fonts and wispy cursive styles – and the effect of a given filter can be markedly different between the two. It would be great for a future version of this dialog to offer a few different preview shapes, perhaps including an option to preview against some user-defined text in a font of your choice.

Although the selection of predefined filters supplied with Inkscape is quite comprehensive, there may be times when you need something different. Perhaps you have a house-style for a particular filter that you need to apply again

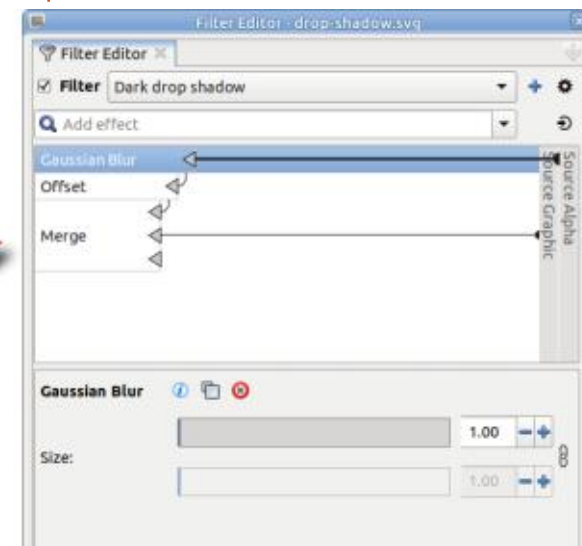
and again across different documents – that's certainly the case with the drop shadows I use on the speech bubbles in some of my comic strips, for example. While you can certainly just copy and paste a filtered object between files as a way to copy the filter chain itself, an alternative is to create a custom filter that is registered with Inkscape. Don't worry, it's easier than it sounds.

The first step is simply to create a filter chain that suits your needs. One way to do this is just to start with one of the predefined filters by applying it to an object in a file then tweaking the parameters via the Filter Editor dialog. Alternatively you can create an entire filter chain from scratch, as I

described last month.

In fact, let's use last month's filter as an example: it's a simple drop shadow which uses the object's alpha to define the shadow, resulting in a dark shadow that can only ever be black (this is why Inkscape's own Drop Shadow filter, with its various parameters and colour picker, is usually a better option). The filter chain we created last time looks like the image shown below.

Most importantly I've opened the 'Filter' popup at the top of the dialog and used it to rename the filter from the default 'filter1' to the more descriptive 'Dark drop shadow'. This isn't essential, but giving your filters sensible names





# HOWTO - INKSCAPE

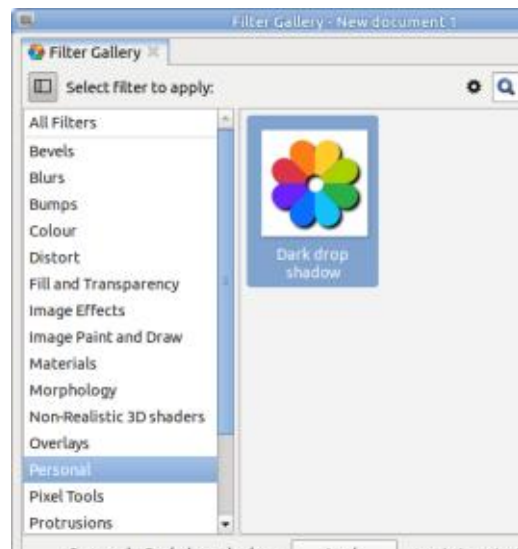
will make them a lot easier to identify when you come to use them. Save the file somewhere you can easily find later.

The next step is to open Inkscape's 'User config' directory in your file manager. You may not know where this is kept, but you can find the path listed in the Inkscape Preferences dialog (Edit > Preferences) in the 'System' pane (shown below).

Rather usefully, Inkscape provides a button to open this directory via your file manager. Within that directory you should create a 'filters' folder, if there's not one there already. Navigate into that directory, then copy the SVG

file you saved earlier into it. Quit and restart Inkscape for it to pick up the new addition.

If all has gone according to plan you'll now have a new 'Personal' entry in the Filters menu – and a



corresponding new category in the Filter Gallery.

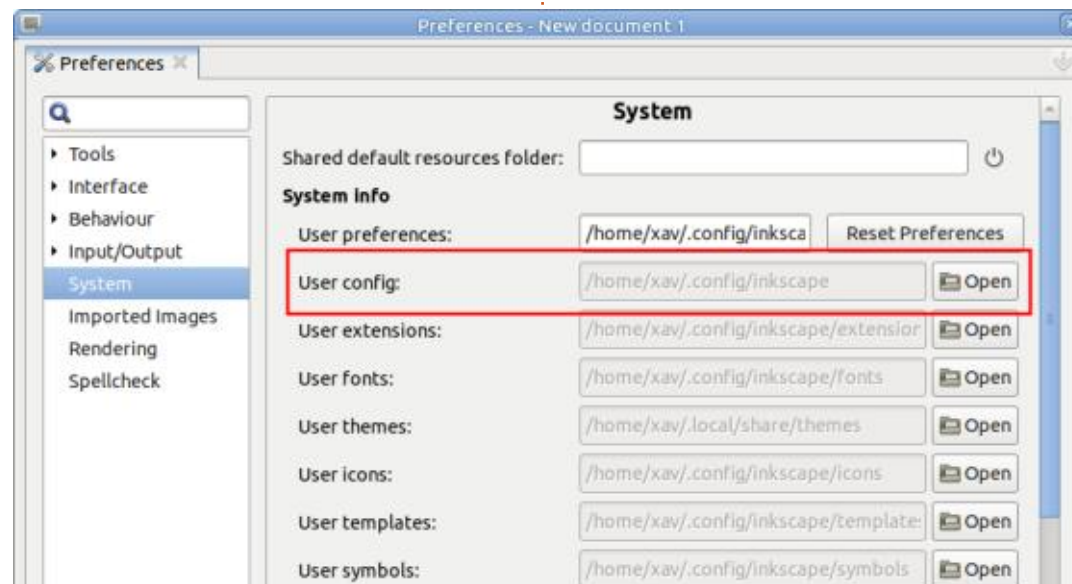
You can now easily select your filter and apply it to objects across all your Inkscape projects.

This feature can be extremely useful – but there's also a bug that makes it rather annoying. If you're the sort of person who uses this capability, it's likely that you'll also want to create multiple custom filters. That's fine, just add them all to one file in that config directory and they'll appear in the UI. Or add multiple files, with one filter in each, and they'll equally appear in the UI. But if you add multiple files, each of which contains multiple filters, only the first one in each file will appear in the UI. This is a rather frustrating limitation which makes it harder to collect and share files filled with filters between different users. Remember: one file with multiple filters, or multiple files each with one filter. But not multiple files with multiple filters.

In a similar vein, there's one final annoyance in the Filter Gallery I'd like to bring up: why doesn't it have a category for the filters that are being used in the current document? I often need to use the

same filters multiple times in a single document, and it would be useful to be able to preview and select them from the gallery UI in the same way as custom filters I've saved into the config directory.

But those small issues aside, this dialog is a great addition to Inkscape, and one that's long overdue. Hopefully we'll get the option for different preview images in future, and some of the small UI bugs and issues will be ironed out, but even as it stands it's still very useful for those of us who like to add a little bitmap magic to those otherwise too-clean vector images.



**Mark** uses Inkscape to create comics for the web ([www.peppertop.com/](http://www.peppertop.com/)) as well as for print. You can follow him on Twitter for more comic and Inkscape content: [@PeppertopComics](https://twitter.com/PeppertopComics)

# The Daily Waddle

FRONT FACING CAMERA IS A MUST.

WHY?

I CANT PICTURE  
MYSELF WITHOUT IT





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# UBPORTS DEVICES

Written by UBports Team

## OSM SCOUT SERVER ISSUES

The latest version of OSM Scout Server app has a bug that prevents its usage. Please follow these instructions to solve the issue: <https://github.com/rinigus/osmscout-server/issues/451#issuecomment-2460350940>

## UBUNTU TOUCH 20.04 OTA 6 RELEASED

Friday 8th November saw the release of Ubuntu Touch OTA-6 Focal. The sixth stable release based on Ubuntu 20.04 brings many improvements and changes. All the details can be found in the OTA-6 blog: <https://ubports.com/blog/ubports-news-1/post/ubuntu-touch-ota-6-focal-release-3942>

## VOLTE CALL FOR TESTING

There is now a call for testing VoLTE on the FairPhone 5. All the current information can be found in the Forum thread using

this link: <https://forums.ubports.com/topic/10484/qualcomm-volte-call-for-testing/49>

You will see from using the thread how progress is going on other Qualcomm devices along with the FairPhone 5. While not fully operational, things are shaping up well on this much-awaited addition to Ubuntu Touch.

That said, there has been a roll-back called on VoLTE for the Volla Phone X23 and Volla Phone 22 which is also covered in the OTA-6 Blog quoted above.

Due to a regression discovered at the last minute, we've decided to roll-back our VoLTE support on Volla Phone X23 and Volla Phone 22 running Halium 12 port.

We'll continue to debug this issue and roll out VoLTE support on Volla Phone X23 and Volla Phone 22 running Halium 12 port at a later date.



# The Daily Waddle

AN APPLE A DAY KEEPS  
THE ANDROID AWAY?

...OR IS IT  
THE RAPAIRMEN?







# MY OPINION

Written by Erik

# Disk Space

I had upgraded my paltry 128GB SSD to 1TB for Christmas last year, so it came as quite a shock when I ran out already. I thought it may be a good subject for newbies and other Sunday drivers.

My first tool is usually `df` (with `h` by default). Just to find that my drive is 99% in use. My first stop is usually my `iso` folder and I delete a whole bunch of distros that I tested and was not impressed by; you know the kind that breaks. Having done this, I checked again and my disk is still 94% full. Yikes! (This tutorial will be about size only).

I turn to my next tool, `ncdu`, to find my video's folder taking up waaay too much space.

```

Linux Lite Terminal -
File Edit View Terminal Tabs Help
ncdu 1.15.1 ~ Use the arrow keys to navigate
--- /home/ed -----
301.8 GiB [#####] /Videos
234.4 GiB [##### ] /Downloads
136.4 GiB [#### ] /VirtualBox VMs
17.0 GiB [ ] /Music

```

```

ed ~ df
Disk space
Filesystem      1K-blocks      Used Available Use% Mounted on
tmpfs            6558432         61012   6497420    1% /run
/dev/nvme0n1p2 982862268 876138600 56723336   94% /
tmpfs            32792156        432384  32359772    2% /dev/shm

```

Now I know Ubuntu comes with a disk usage analyser, but I prefer the terminal. Drilling down with the right-arrow key, in `ncdu`, I find a folder that is ten times to thirty times the size of the others! Inspection of said video series, confirms that it is encoded with `h264` at 1080p.

This is where I fall down, I don't really understand, or have I put effort into video encoding. I understand that bitrate obviously makes the biggest difference in size, but all my videos are variable bitrates, so I'm not sure how to measure it. I do, however, know

that I can re-encode my videos with an excellent tool named `handbrake`. (I know online compressors exist, but uploading & downloading files takes time.)

With a tool like `handbrake`, I do not need to know ratios or algorithms, I can simply pick what format I would like and the resolution and the frame rate (for a start).

In general, hardware encoding is going to be a lot faster than software encoding, however, your file size may go up, instead of down. The most I have managed to save in hardware encoding with the same resolution, was 10%-15%. This will be a trend, the faster the encoding, the bigger the file size.

`Handbrake` also uses all your cores, so encoding on my dual-core CPU takes longer than on my quad-core CPU, even though the dual-

core machine has twice the memory, so encode on your best CPU.

For me, if size is important (but I'd like to keep 1080p), I usually use `Matroska`, as it generally gives me a +-50% file size reduction from the original `mp4`. If the resolution is not that important to you, you will make the most gains dropping it from 1080p to, say, 720p, and still be able to read what is on the screen. You may be asking, if I am such a noob at encoding, how would I know `Matroska` encodes to a smaller size? Well simple, I tested online. I took a file, uploaded it on <https://www.freeconvert.com/video-compressor/download> - and compared the output. `MKV` saved me 51% on average, and `MP4` 43% (when setting target size to 50%). The source encoding also makes a difference, so if you want to compress from `MP4` to `MP4`, your best bet is to lower the resolution as there is not much more `handbrake` can do. `Handbrake` also has an option for web optimisation. We will talk about the interface in another issue. Now, without

# MY OPINION

knowing what web optimization does, we can see, by the output file size, that it saves +-5MB on a 300MB file.

For most people interested in saving space, the preset "fast" (e.g. fast1080p30), will be enough. I found no difference between some of the presets like "discord" or "youtube"; the file size stayed the same. I can also not detect any difference in quality to the naked eye. I will include images at the end of the results. Webm being a newer format, will not support a wide variety of audio formats in the encoding, so it generally encodes faster than the other software compression algorithms, but slower than hardware compression. Again proving that faster means bigger file size. (In my case the file was always larger than the input file, so I have written it off completely.)

Now handbrake can do a lot more than just make video files smaller, but 99% of my use cases, be it at home or work, is making the

files smaller to save space. Obviously frames-per-second makes a difference, so encoding something from 30FPS to 60FPS means your file size will increase without the video being clearer as you are simply doubling up every frame. Two of the same frame just means both will be played in the same time one is played on the original video, netting you zero gain for the larger file size.

So the tip I want to give you as a newbie, where the busy interface may seem scary, is simply choose fast1080p or Matroska if you want smaller files without losing resolution. In my case, it is all training videos, so I have to be able to read what is on screen. Thus I need to keep the best resolution possible. For work, it is videos of processes on machines, so the resolution is not important, but the machines they play on are not the best, so high CPU intensive encoding is out. Use cases are important, but we focus on Ubuntu in the home here.

Now it's time for me to save another 20GB so I do not run out of space the next time my system does an update.

Can I tell the difference? I cannot (1080p video played at 4k). Even the instructor's Apache beard is in focus (you know, it grows a patchy here... a patchy there... OK I'll see myself out!).

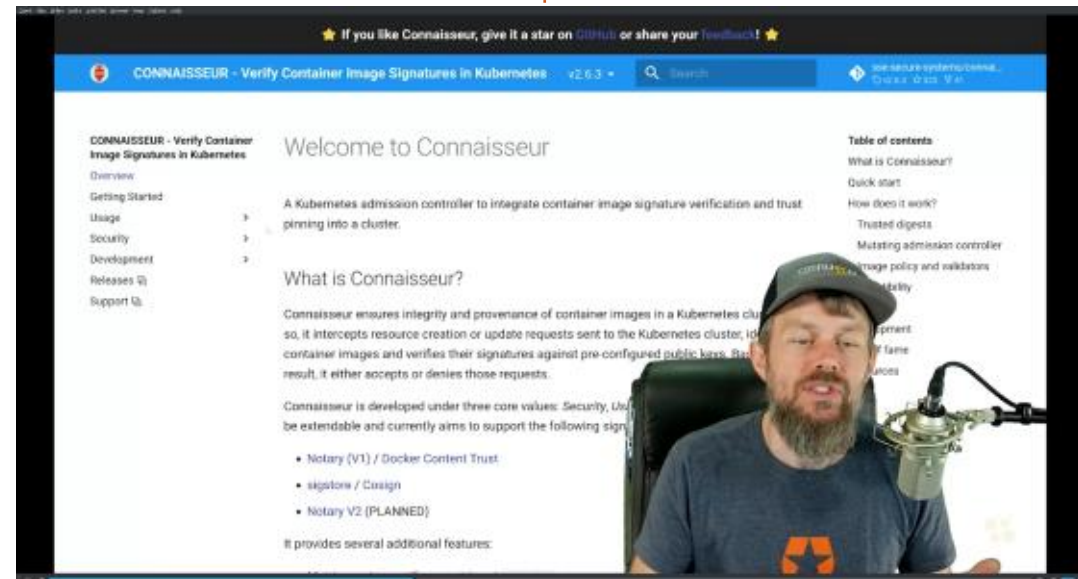
My original file was MP4 at 681MB, and the output is about 320MB average, so working back from that, my 39.5GB course should compress to about 20GB. I see no difference in the quality, even from the original, and I can read what is written on the screen, which is what

was important to me. As they say in the adverts, your mileage may vary, but in our case, not by much. The only investment will be time.



**Erik** has been in IT for 30+ years. He has seen technology come and go. From repairing washing machine sized hard drives with multimeters and oscilloscopes, laying cable, to scaling 3G towers, he's done it.

wb_optimisedDISCORD.m4v	311.3 MB MPEG-4 video
fast_1080.m4v	311.3 MB MPEG-4 video
no_web_optimizationYT.m4v	316.7 MB MPEG-4 video
matroska.mkv	352.0 MB Matroska video



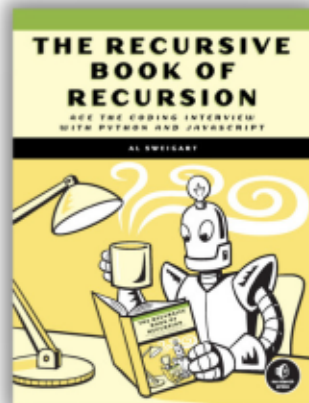




# Tech Books Made Better



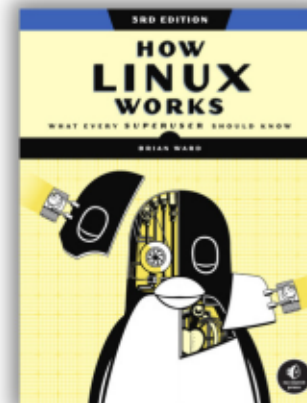
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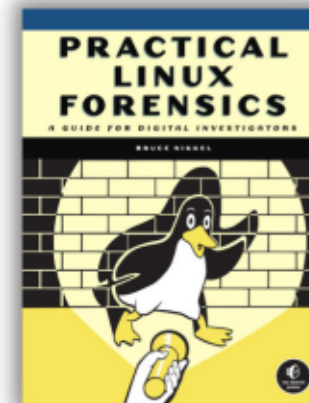
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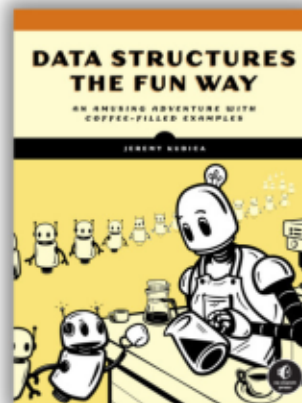
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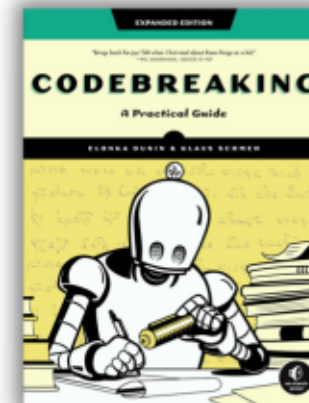
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# HOW-TO

Written by Ronnie Tucker

# Write For Full Circle Magazine

## GUIDELINES

The single rule for an article is that **it must somehow be linked to Ubuntu or one of the many derivatives of Ubuntu (Kubuntu, Xubuntu, Lubuntu, etc).**

## RULES

• There is no word limit for articles, but be advised that long articles may be split across several issues.

• For advice, please refer to the **Official Full Circle Style Guide:** <http://bit.ly/fcmwriting>

• Write your article in whichever software you choose, I would recommend LibreOffice, but most importantly - **PLEASE SPELL AND GRAMMAR CHECK IT!**

• In your article, please indicate where you would like a particular image to be placed by indicating the image name in a new paragraph or by embedding the image in the ODT (Open Office) document.

• Images should be JPG, no wider than 1200 pixels, and use low compression.

• Do not use tables or any type of **bold** or *italic* formatting.

If you are writing a review, please follow these guidelines :

When you are ready to submit your article please email it to: [articles@fullcirclemagazine.org](mailto:articles@fullcirclemagazine.org)

## TRANSLATIONS

If you would like to translate Full Circle into your native language please send an email to [ronnie@fullcirclemagazine.org](mailto:ronnie@fullcirclemagazine.org) and we will either put you in touch with an existing team, or give you access to the raw text to translate from. With a completed PDF, you will be able to upload your file to the main Full Circle site.

## REVIEWS

### GAMES/APPLICATIONS

When reviewing games/applications please state clearly:

- title of the game
- who makes the game
- is it free, or a paid download?
- where to get it from (give download/homepage URL)
- is it Linux native, or did you use Wine?
- your marks out of five
- a summary with positive and negative points

### HARDWARE

When reviewing hardware please state clearly:

- make and model of the hardware
- what category would you put this hardware into?
- any glitches that you may have had while using the hardware?
- easy to get the hardware working in Linux?
- did you have to use Windows drivers?
- marks out of five
- a summary with positive and negative points

**You don't need to be an expert to write an article - write about the games, applications and hardware that you use every day.**



# REVIEW

Written by Adam Hunt

# Kubuntu 24.10

Kubuntu 24.10 brings some new things, including the Plasma 6 desktop and a Wayland-based display server by default.

Out on 10 October, 2024, Kubuntu 24.10 is the first interim release of the new development cycle that will lead to the next long term support (LTS) version, Kubuntu 26.04, due out in April 2026. Before then, there will be two additional interim releases, 25.04 and 25.10.

This new Kubuntu version is the 40th release. Because the very first Kubuntu version, 5.10, was released on 8 April, 2005, the next Kubuntu release, 25.04, will mark 20 years of Kubuntu!

## INSTALLATION

I downloaded the Kubuntu 24.10 ISO file from the official source using BitTorrent and carried out a command line SHA256 sum check on the file to make sure it was good.

At 4.7 GB, this ISO file is 13%

bigger than the last release, Kubuntu 24.04 LTS, which was 4.1 GB.

I dropped the Kubuntu 24.10 ISO onto a USB stick equipped with Ventoy 1.0.99 and booted it up from there. That worked well, but that was not a surprise, as Kubuntu is officially listed as supported by Ventoy.

## SYSTEM REQUIREMENTS

The recommended minimum system requirements for Kubuntu 24.10 are the same as for Ubuntu.

They have not changed this release, although they have been updated in format and are now officially listed as:

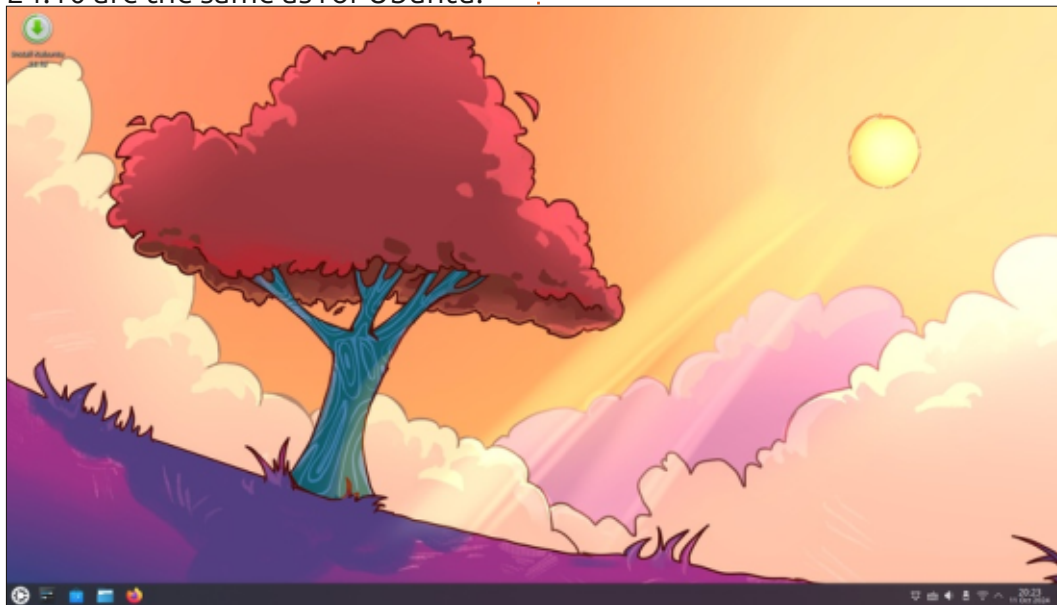
- 2 GHz dual-core processor
- 4096 MiB RAM (system memory) for physical installs
- 2048 MiB RAM for virtualised installs
- 25 GB (8.6 GB for minimal) of hard-drive space (or USB stick, memory card or external drive, but see LiveCD for an alternative approach)
- 3D acceleration-capable GPU with at least 256 MB of VRAM
- 1024x768 or higher resolution display

USB flash drive or DVD drive for the installer media  
Internet access is helpful

## NEW

Kubuntu has been using the Plasma 5 desktop since it first arrived in 2014. Now, after ten years, Plasma 6 has landed in Kubuntu but, if you have been waiting all that time for something really different, you may be disappointed, as most average desktop users will not notice the difference.

The introduction of Plasma 6 in Kubuntu was put off until this first interim release of the new cycle to make sure that the LTS version, just out in April, 2024, had the most stable, tested and reliable desktop. Bringing in Plasma 6 now is good timing, as it allows the three Kubuntu interim releases to try it out and make sure it works flawlessly before it lands in the next LTS version in April, 2026. Waiting longer to put Plasma 6 into Kubuntu 24.10 also means that this



# REVIEW

release has Plasma 6.1.5, a later bugfix version that is a safer bet, than the very first Plasma 6 version put out. This quite conservative thinking on the part of the Kubuntu developers prioritizes the Kubuntu user experience over early adoption.

So what is actually included in KDE Plasma 6? In testing, it has the same look and feel as Plasma 5 did, but introduces the ability to access remote Plasma desktops, an overhauled Plasma edit mode, persistent applications (meaning that they reopen on startup), synchronizes keyboard colored LEDs, and screen locking which allows the user to configure it like a traditional screensaver (can be set

to not ask for a password to unlock it). It also has a "shake the cursor" feature which makes the cursor grow in size when you shake it via the mouse or touch pad – to help locate the cursor on that cluttered screen when you lose it. In addition, it has a new "edge barrier" feature for multi-monitor setups – used when you want to access items at the very edge of one of the monitors. This "barrier" provides a "sticky" area for the cursor near the edge between the screens, and that makes it easier to click on objects without having the cursor jump over to the next screen. There are also some minor tweaks to menus and such.

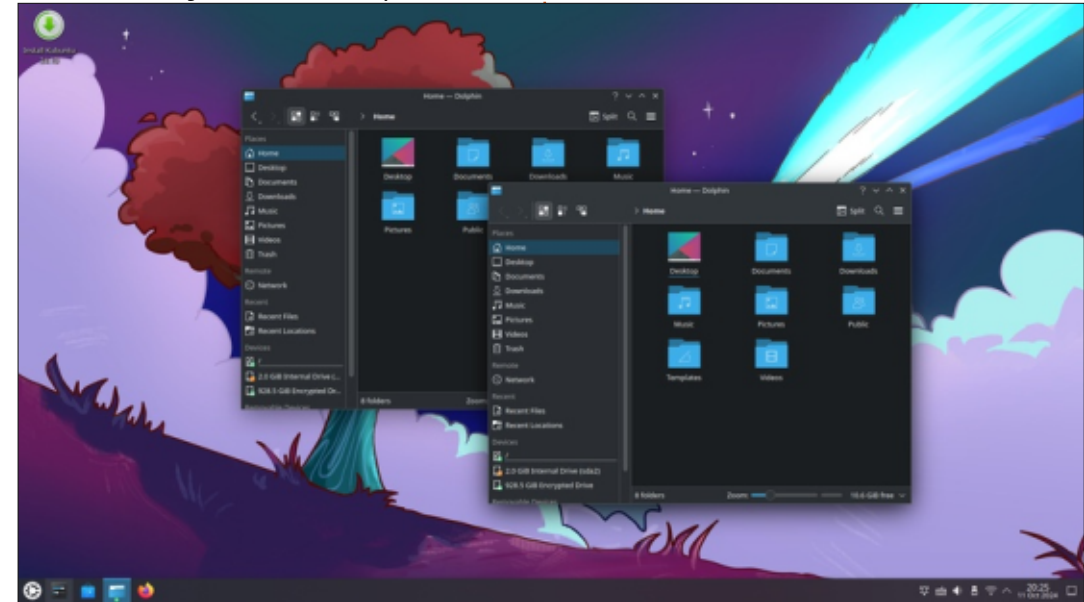
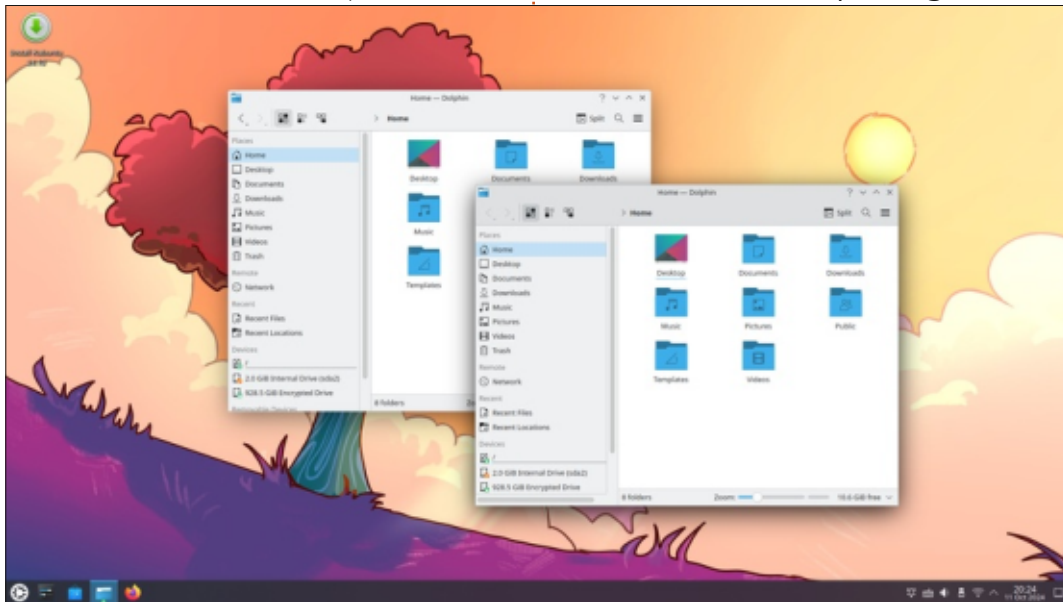
There is no user paradigm shift

here between Plasma 5 and 6 like there was between GNOME 2 and GNOME 3 in 2011 when the whole interface was changed. In fact, that GNOME disaster is why I am going to argue that the minimal changes involved in the move from Plasma 5 to 6 are a good thing. I don't see anyone forking Plasma 5 in an attempt to save it.

All of this adds up to not-much-change for most average desktop users. People who do not have a need for remote desktops, or use multiple screens, are not going to find much difference from Plasma 5 here. So, if you loved Plasma 5, you will probably love Plasma 6 just as much. I just hope you didn't spend the last ten years in anticipation of

Plasma 6, hoping it would change your life.

In other news of changes for Kubuntu 24.10, as is normally the case with most Kubuntu releases, this one has a new default wallpaper entitled Scarlet Tree by axo1otl. It has both light and dark wallpaper modes, which swap over automatically when you change the window color scheme. If this is too bright and busy for you, there are 45 wallpapers provided, many of them from recent Kubuntu releases. As is usually the case with Kubuntu, the developers did not provide a code name tie-in wallpaper. Across the Ubuntu universe this whole family of 24.10 releases is called "Oracular Oriole",



but on Kubuntu there are no oriole-themed wallpapers.

Kubuntu 24.10 employs the Qt 6.6.2 toolkit, KDE Frameworks 6.6.0, and has fresh applications from KDE Gear 24.08. Like all the Ubuntu 24.10 series of releases, it comes with Linux kernel 6.11 and uses systemd 256.5 as its initialization system.

Recent Kubuntu releases have been using the legacy X11 display server and offering a Wayland server as an experimental test option. Kubuntu 24.20 has the reverse. With Plasma 6 being Wayland-ready, Wayland is now the default, with X11 still available at boot up. Wayland does bring some improvements, including that Explicit Sync eliminates flickering and other issues often seen by NVidia users, and that the Wayland Triple Buffering support means animations and screen rendering will be smoother. It can be noted that live sessions are still X11, though.

Normally, the first interim release following an LTS gives some indication of the direction that the development cycle is going or at least points to what can be

expected in the next LTS release. If this first interim release is taken as a guide, then we can look for newer versions of Plasma 6 that will add some features but not any other big changes to Kubuntu.

## SETTINGS

Kubuntu with Plasma 6 remains highly customizable and still gives users a wide range of choices of how they want it to look.

Kubuntu 24.10 comes with five global themes, four application styles, five Plasma styles, five window color schemes, three window decoration styles, seven icon sets, 13 cursor styles, three

system soundscapes, three splash screens (including "none" as an option), three login screens, and ten boot splash screens. As always, those are just the installed options, as most of the settings pages have one-button downloads to fetch many more from the internet. Kubuntu has always had a wide assortment of user choices, which is just one of the reasons for its popularity.

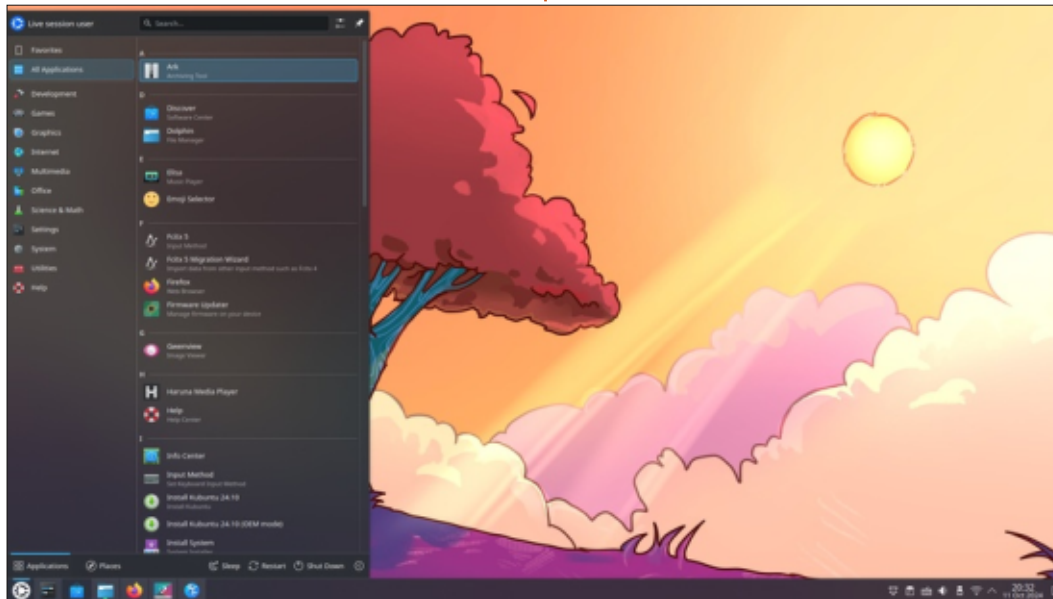
Kubuntu 24.10 comes with 67 desktop widgets, one fewer than in the last few releases. These widgets are small applications that can be added to the desktop, like clocks and weather reports. Hundreds more of them can be downloaded for installation, depending only on

your tolerance for clutter.

## APPLICATIONS

Some of the applications included with Kubuntu 24.10 are:

- Ark 24.08.1 archive manager
- Discover 2.1.2 software store\*
- Dolphin 24.08.1 file manager
- Elisa 24.08.1 music player
- Firefox 131.0.2 web browser\*\*
- Gwenview 24.08.1 image viewer
- Haruna 0.12.3 video player\*
- Kate 24.08.1 text editor
- Kcalc 24.08.1 calculator
- KDE Partition Manager 23.08.5 partition editor\*
- Konsole 24.08.1 terminal emulator
- Kmahjongg 23.08.5 game\*
- Kmines 23.08.5 game\*
- Konversation 23.08.5 IRC client\*
- Kpatience 23.08.5 game\*
- Ksudoku 23.08.5 game\*
- LibreOffice 24.8.2 office suite, less only LibreOffice Base database
- NeoChat 23.08.5 Matrix client\*
- Okular 24.05.2 PDF viewer
- PipeWire 1.2.4 audio controller
- Plasma System Monitor 6.1.5 system monitor
- Skanslite 23.08.5 scanning utility\*
- SkansPage 23.08.5 multi-page scanning utility\*
- Spectacle 24.05.2 screenshot tool
- Startup Disk Creator 0.3.17 (usb-



# REVIEW

creator-kde) USB ISO writer\*  
Systemd 256.5 init system  
Thunderbird 128.3.1 ESR email client\*\*  
Vim 9.1.0496 console text editor

\* indicates same application version as used in Kubuntu 24.04 LTS  
\*\* supplied as a Snap, so version depends on the upstream package manager

There has been no change in the mix of applications provided since Kubuntu 24.04 LTS. As can be seen from the list, while there are some new application versions from the KDE Gear 24.08 collection, there are also a lot of older versions leftover from KDE Gear 23.08.5, as shown by all the asterisks.

LibreOffice 24.8.2 is supplied complete, missing only LibreOffice Base, the office suite's database application. Base is probably the least used component of the suite but it can be added from the repositories, if required.

While this list of default applications does provide a good assortment for most desktop users, as in past releases, Kubuntu 24.10 does not include a webcam application, an image editor or video editor by default, although there are many options in the repositories.

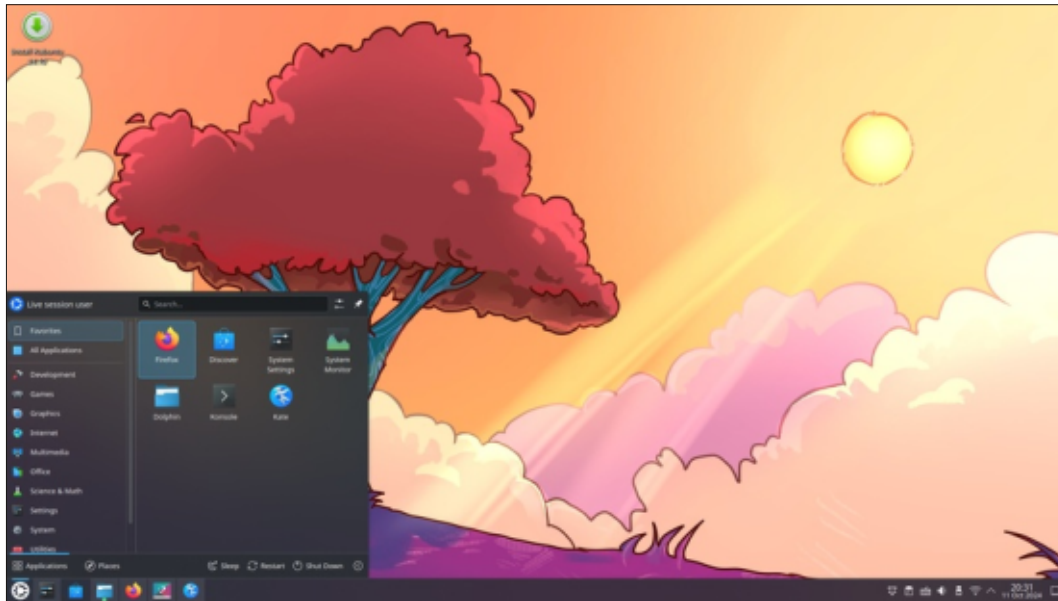
## CONCLUSIONS

Kubuntu 24.10 is a good, solid release that works well. There do not seem to be any major issues in moving to the new Plasma 6 desktop. If it does not bring many new features, at least it does not break anything. Perhaps its biggest advantage is allowing a clean shift to a Wayland display server as default, with an X11 back-up.

Kubuntu 24.10 provides a lot of what has made Kubuntu a success with its user base: many options and scope for customization, plus a stable Plasma 6 Linux desktop.

## EXTERNAL LINKS

Official website:  
<https://kubuntu.org/>





Website: <https://beavernotes.com/>

Price: Free!

Blurb: *“Welcome to Beaver Notes, a privacy-focused note-taking application for Mac OS, Windows and GNU/Linux. With Beaver Notes, your notes are securely stored on your device, ensuring complete privacy and control over your data.”*

And the first thing it does is try to go to a dodgy domain...  
**“Beaver-notes is attempting to resolve redirector.gvt1.com”**

<https://www.bleepingcomputer.com/news/security/what-are-these-suspicious-google-gvt1com-urls/>

I’m going to be straight with you. As far as notes go, I want something that opens like greased lightning, has the basics for typing, and saves my work – even if I did not. Other people want more. My workflow is open app -> type, type, type, CTRL+s, type, enter. Usually it is an idea, a web address, an e-mail

address, or a story synopsis.

Once or twice I have added a meeting audio recording to a note-taking application, but that was when all we had was evernote. I watched one of the creatives at work, use his note-taking application to pop pictures into, and steal ideas from there. Oh wait, these days they call it machine learning, my bad! My ex wrote documentation directly in her preferred note-taking application. So note-taking applications are different things to different people. Let’s talk about the application first.

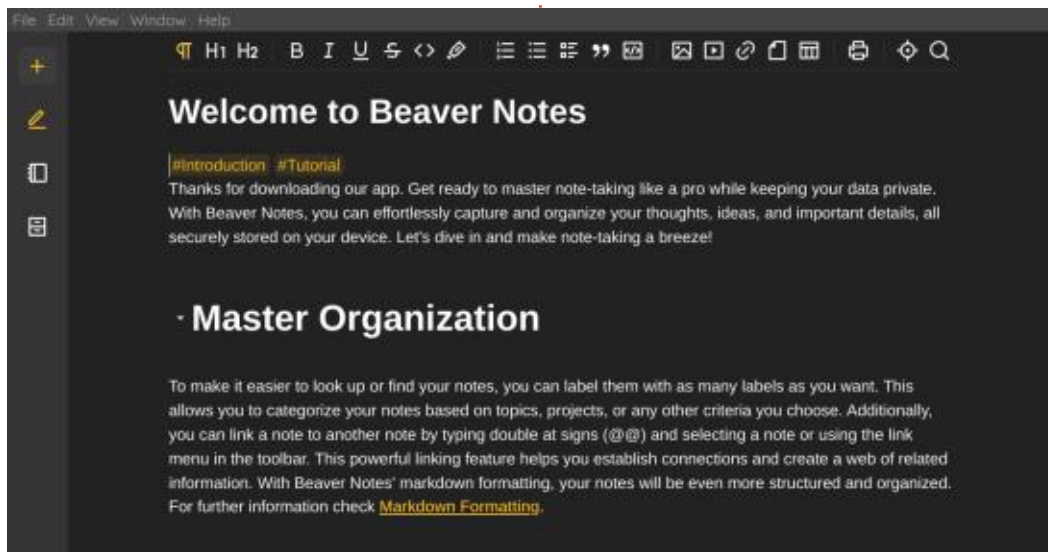
I looked in the Github repository and this is definitely an electron application. Electron has come far since those first days, where you would click on the icon, finish a coffee and a fag, and pray like hell it didn’t drain all your battery... Or... It could be that I have a SSD now. Either way, it opens in a reasonable time, not fast, mind you. Because electron tries to hide the fact that it is Chrome, the back button is hidden, so if you click on ‘new note’ or CTRL+n by mistake, you cannot go back to your previous note immediately. Beaver note fixes this with a “notes” button, but more on

that later.

The layout is neat and sane, but like most electron applications, the font choices are poor and they cannot be changed. You have your four main buttons along the left, add a note, edit your notes, list your notes, and archive. At the bottom you have another four, export, import, light/dark theme, and the main settings.

The application is more geared at writers, the flow being top to bottom. I tried to mimic the creative type and import and re-arrange images, but you can only have them vertically. One can however, resize images on the fly, which is nice, but not drag and drop reorder. You will need to overwrite or delete an image, making it a bit counter-productive.

If you have not typed any sentences and only pasted pictures for your ideas, (if you were a visual person), the note would display “no content” in the notes tab, making it difficult to find your note if you were storyboarding.



Though one can use a mouse just fine, the application is geared at keyboard warriors. There are a lot of shortcuts, all with either the CTRL or SHIFT key as modifier and some both. There is supposed to be an ALT+arrow left to go to your previous note, but it did not work for me. (Probably clashing with XFCE workspaces.)

Once you get your fingers around the keyboard short-cuts, the application has a full screen “focus mode”. This is probably the best productivity booster.

The images, video’s, links, and tables all work as expected and all-in-all it is a capable note-taking application. Once you have a table in, you can right-click on your table and get table tools.

On the flip side, the search function did not work, even searching for words like “the” that I know for a fact is there, was invisible to the search. I was able to double-click a word and then click on highlight, to highlight it, but not search for said word and highlight it that way. Since the version number was 3.4.0, I was not expecting to find these issues.

Since it is open source, it gets a pass.

On the funny side, the application takes Apple OS images and re-uses them to mimic Apple settings (I hope it changed enough to avoid lawsuits). Oh yes, and the settings button is drag-able, they may want to tie that down. The “advanced settings” button also seems to activate platform nine and three quarters only.

The light and dark theme switcher button on a prominent display is something all applications should adopt, post haste! Having your eyeballs phosphor bombed at night for no reason is criminal.

As to the “password” settings – I cannot figure out if the notes get encrypted or not, as I could not find them. I suspect it's just a browser password. The other thing you may not notice, is that the archive button is not visible, unless you hover your mouse pointer over a note. I only realised this when I wanted to bookmark a note.

If your goal is to whack out a few notes quickly or even write a quick story, these Beaver notes will work

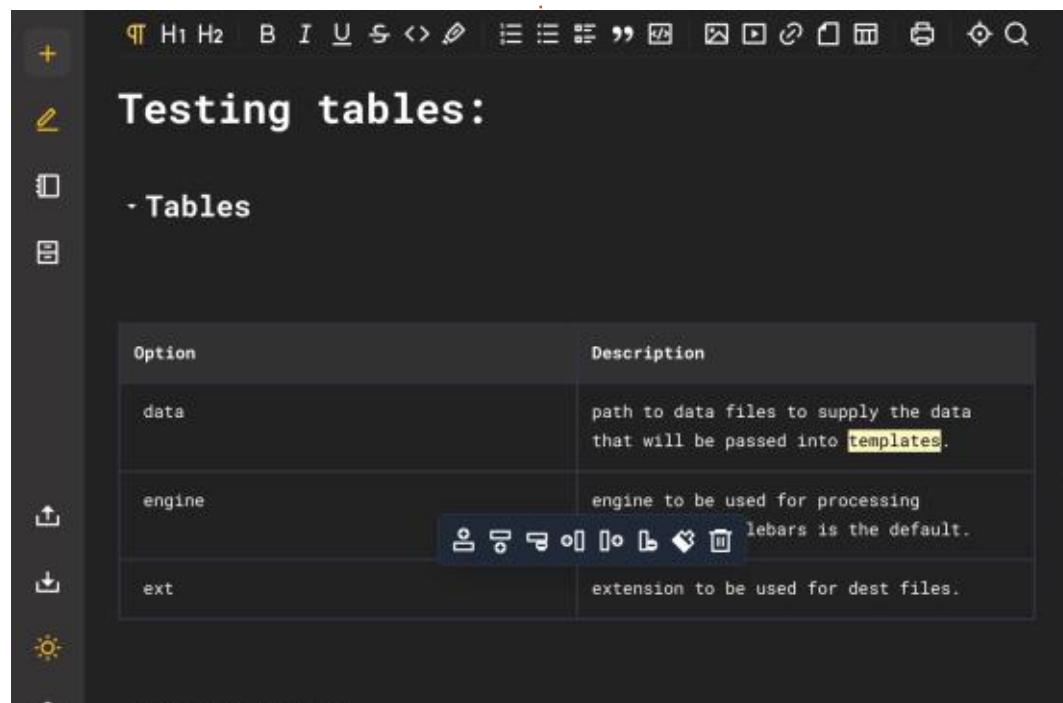
just fine. If you are a bit more arty-farty, and things have to be “just so”, you will be disappointed. This would make a nice replacement for the official apple notes, which always rub me up the wrong way, for some reason.

With videos and tables, it offers more than some other note-taking applications, but it is not a desktop wiki and should not be compared to those.

If you are in the market for a note-taking application, that is more than Leafpad, but less than Cherrytree, you may as well give this a whirl; just remember to block it in your firewall, as bleepingcomputer says the URL could be bad.

For Ubuntu, the application ships as a .deb-file of 77MB, with no dependencies, or as an Appliance of 110MB.

If you think we were unfair, [misc@fullcirclemagazine.org](mailto:misc@fullcirclemagazine.org)







# LETTERS

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## FULL CIRCLE NEEDS YOU!



Without reader input **Full Circle** would be an empty PDF file (which I don't think many people would find particularly interesting). We are always looking for articles, reviews, anything! Even small things like letters and desktop screens help fill the magazine.

See the article **Writing for Full Circle** in this issue to read our basic guidelines.

Have a look at the last page of any issue to get the details of where to send your contributions.



# Q&A

Compiled by EriktheUnready

If you have a Linux question, email it to: [questions@fullcirclemagazine.org](mailto:questions@fullcirclemagazine.org), and Erik will answer them in a future issue. Please include as much information as you can about your query.

Welcome back to another edition of Questions and Answers! In this section we will endeavour to answer your Ubuntu questions. Be sure to add details of the version of your operating system and your hardware. I will try to remove any personally identifiable strings from questions, but it is best not to include things like serial numbers, UUIDs, or IP addresses. If your question does not appear immediately, it is just because there is such a lot, and I do them, first-come-first-served.

The company I worked at was almost completely paperless, save for the reception printer. Because printing was very low on the priority list, the receptionist would only buy ink, maybe every three months. One day I had a call from another department, who 'urgently' needed to print some documents. I went to have a look, as there were no restrictions, but we had a diverse OS landscape with Windows, Mac and Linux machines. Just to find that the ink was out at the printer side (Toner, but I'm

going to type ink as it is shorter and we all know what I mean). I informed the department manager that they had to wait until the receptionist bought ink again. This did not go down well and they tried the others in the IT team, to get the same answer. It did not stop the pestering and eventually we managed to talk the Finance department into buying the ink early, at the behest of the department manager. It was a complete Olympic challenge, we had to dive through hoops and jump to conclusions, run ourselves ragged, etc, so that money was spent, when it was not in the budget. Not that anyone except that specific department manager needed to print anything, mind you, but we made an effort nonetheless. So with finance stretching it as close to normal time as possible, we got hit with all the usual urgency phrases, but IT could do nothing as finance holds the purse strings. Finally the ink came and I put the cartridges in and after the initial calibration, the printer printed what was still in the buffer... Her kid's biology book, in full color...

This month I was bombarded with Brave queries, I usually ignore application questions as they are better answered by application maintainers, but this month we can let it pass. For the record, I use LibreWolf and Vivaldi after Ronnie's recommendation and never needed Brave, so the answers may not be definitive.

**Q**: I have Ubuntu 24.04.1 installed, the minimal way. In the app centre, I installed Ren'py. When I run it, however, I get an error, saying there is something missing. Is this because I have a minimal install? I have not the foggiest how to get ecdsa.

**A**: Erm, ECDSA is a cryptographic library. I doubt the issue is on your side. My suggestion is simply to grab the SDK tar file from their website and extract the contents and execute the renpy.sh file. If this works, the problem is not you.

**Q**: I installed Renpy from the command line and I get a traceback error when I run it. I also installed it on my Debian machine and got a traceback error too, but different from Ubuntu. How can I fix this? I have a feeling about the error as it has Python 2.7 listed in the install. <removed> Ubuntu Jammy Jellyfish.

**A**: It never rains, it pours! See the above solution. I suspect the version in the repositories may be outdated.

**Q**: I installed Ubuntu 24 in Virtualbox and gave it 4GB. When I open the app store, I can see updates, but if I say update all, I get an error saying "unknown snapd exception, cannot refresh snap-store". I clicked around and updated what I could, but update all does not work.

**A**: Close everything and only open a terminal. Then type: `sudo snap refresh` and hit enter. Once done, reboot and you should be golden.

**Q**: If I install a snap from the snap store, but I open a terminal and type `sudo snap list`, and I don't see it, what does that mean? I have Ubuntu 24.04 on my PC. Is there a way to fix it? I'm new to Ubuntu, so explain it like you would to a child.

**A**: It means that your application will probably not work. In the App Centre, there is a little flag you can use to report an application (top-right, more-or-less in line with the name).

**Q**: When I use the update button on the welcome screen, it says my system is up-to-date. When I do an update on the command line, I have updates. I don't understand what is going wrong. Then 5 minutes later, it will populate, even though I have pressed refresh a few times. <removed>

**A**: The "Wilma" part in your image says to me that it is Mint, not Ubuntu, so either you have the wrong repos enabled or you are using Linux Mint, not Ubuntu.

**Q**: I have installed Brave browser previously, but Brave keeps showing update in the top right, and when I click that, it tells me to reinstall Brave. When I download the Brave deb from github, it says "dependency not satisfiable brave keyring"? If I do it the way on the website, I get: Skipping acquire of configured file 'main/binary-i386/Packages' as repository 'https://brave-browser-apt-release.s3.brave.com stable InRelease' doesn't support architecture 'i386'. I don't want to lose my brave rewards.

**A**: Honestly I have no idea, as I do not use Brave, but I went ahead and copied the commands from their page. Even if you get the error (I can confirm it is there), just go ahead with:

```
sudo apt install brave-browser -
```

and you should be good. There is always Snap & Flatpak if all else fails.

**Q**: Something is wrong with brave on Ubuntu 22.04. If I look in `/home/robert/.var/app/` I can see it was last updated on 16/12/2023.

Yet I have been doing updates regularly. Must I go to Ubuntu 24.04 to get the latest version?

**A**: From the folder path, I suspect you installed a Flatpak. Those are maintained by a random person, not Brave software. I suggest using the method on their website.

**Q**: Don't laugh, I'm on an old version of Ubuntu, as I do not like upgrading, it's scary. Thing is I was cleaning my menu up, when I noticed that Brave points to `/usr/bin/flatpak run --branch=stable --arch=x86_64 --command=brave --file-forwarding com.brave.Browser @@u %U @@` Thing is, I have never used flatpak that I am aware of. Can applications just install flatpaks?

**A**: OK, with all the queries I have been in and out of this for a week now. It seems that for some reason Steam installs flatpak, with the "steam runtime". Flatpaks enter your system that way. As to the 'how' part of where Brave got changed, I cannot tell you. I am assuming somewhere along the line there was a hiccup and a brave flatpak got installed as it updated, but it is only a guess. Try:

```
flatpak uninstall --unused --delete-data
```

**Q**: Ubuntu Budgie 18.04 and everything has gone small. Everything even looks different. <removed> Before <removed> It may need an update or something. Specs: <removed> Tilix hangs after a few minutes. <removed> Please help, it is urgent. Thunderbird is almost unusable. <removed>

**A**: Start by opening the terminal, type:

```
cd /
```

```
sudo touch forcefsck
```

put in your password and reboot. From your specs, I can see you have an Nvidia 630 card, but you are on Mesa drivers, that could be why there is only one resolution listed. Once rebooted type:

```
sudo apt update && sudo apt upgrade
```

and type in your password. If you open the Raven menu (the one that pops in from the side), click on the spanners at the bottom and change your icon theme from there. You can also set the font sizes from

## Q&A

there too. Thunderbird will come right as your system fonts decrease.

**Q**: HEIC images used to work, but all of a sudden, I can't view them any more. As my cousin set it all up for me, I haven't a clue as to what he did. Just explain it slowly so an old man can understand. Also if there is a way I can just make it work, without GIMP, that would be great.

**A**: It is a bit long to run through here, so I'll point you to: <https://ubuntuhandbook.org/index.php/2024/01/install-latest-libheif-ubuntu/>

**Q**: My PC is not new by any stretch of the imagination, but I shudder to think that my 7-series Nvidia card is not supported any more. I can't remember if it was a 730 or 740? After keeping my system up-to-date, I have noticed that it is on MESA drivers. I try to install the Nvidia 550 driver, but it just will not work. I know it was working at one point, and I have no idea when it stopped. I'd just like to have my acceleration back. I play jjewelled on the off days and the lag is just horrible.

**A**: From what I can see: [https://download.nvidia.com/XFree86/Linux-x86\\_64/470.74/README/supportedchips.html](https://download.nvidia.com/XFree86/Linux-x86_64/470.74/README/supportedchips.html) - It looks like your card was left behind at the 470 driver. Any newer than that and it will probably not work.



**Erik** has been in IT for 30+ years. He has seen technology come and go. From repairing washing machine sized hard drives with multimeters and oscilloscopes, laying cable, to scaling 3G towers, he's done it.



Nintendo has a series of games, the “wars” series, the last being a reboot of Advance wars on the Switch.

The game describes itself thus: *Welcome to **Warside**, the fast-paced turn-based tactics game. With a single-player story campaign, multiplayer support, and a built-in map editor, the fight for victory never ends. Choose your Commander, assemble your forces, and battle your way to victory.*

I tried to run this demo in Wayland and Xorg mode, but the demo would immediately lock up and disable my mouse buttons. I had to wait one minute for it to die. This one had to be uninstalled without launching once.

I then moved on to the next one, **Broken Alliance**. They say this about the game: *From the makers of Death and Taxes comes a turn-based adventure-strategy game. Choose your faction and attempt to harness the vast power of magic to save your dying world. The way you play determines the sacrifices and*

*consequences you have to endure, shaping your personal storyline.*

My first thought upon seeing this was, low budget, Heroes of Might and Magic (HOMM). In a way it is, and in a way it is not.

The minimum specs are:  
OS: Ubuntu 16.04+  
Processor: i3 or equivalent  
Memory: 2 GB RAM  
Graphics: Integrated graphics or GPU with at least 512 MB of VRAM  
Storage: 4 GB available space

While this is a small studio



producing this game from Estonia, the game(demo) is fully voice acted it seems. Said voice acting is also of a high grade, though there are a few odd pronunciations.

The graphics are what jumps out when you start the demo.

Instead of inky blackness, the fog of war is filled with ‘stars’(?), making it feel like you are exploring, instead of simply revealing tiles. It has a rich colour palette, and is very detailed for a low-res (even though it is played in high-res) game. What lets it down is

the yucky 8-bit font. Though I loved the HOMM series, the thing I did not like was that buildings and mountains were smaller than my character, making things feel odd. Here, we have the same thing; however, this time, your “hero” moves about the map in a board-game fashion, as if it were a miniature on a map. This fools one’s brain a bit and then you don’t mind the lopsided scaling.

The character portraits need work, because it looks like something I would draw and I’m not artistic at all. That said, it is early access and there are a few things that need work. For instance, look at the mouse pointer in the image above. It almost blends in with the map. I realise they are sticking to a palette, but losing one’s mouse pointer can be frustrating. Speaking of palette choices, the palettes for the different biomes are well thought out and bring a sense of foreign-ness to each.

One can zoom in, quite far, and zoom out, quite far, giving the game a sense of scale. It does feel

## UBUNTU GAMES

blocky when zoomed in all the way, and it looks better zoomed out all the way. You will also notice that blocks (the map is made up of blocks) do not repeat. Even if some of the graphics do, we do not get that cookie-cutter, stamped out feeling, making the game feel hand crafted. Procedural generation is the crypto or ai of games. While it has its place, it does not need to be shoved into everything.

I have already mentioned that the game is voice acted, which is great. I am also happy to report that the music is also really good, in the same way that HOMM music was good. It also has that harpsichord-type/bell-type sound

played at just the right tempo to feel haunting with the strings extending the feeling. The only thing I turned down a bit was the ambient sounds (I enjoyed the BGM), as the eagle sound on the first map repeated a bit too many times for my liking, and the rushing water was a bit loud (I did not turn it off). They did not have a press kit on their website, so I cannot tell you much about the music or composer.

The gameplay feels rather similar to HOMM with a character on an overworld map that collects resources, and combat on a hex grid with the two opposing armies facing off against each other on opposite sides of the screen. I

mean, why mess with reinventing the wheel? Unlike (like?) HOMM, your character can travel only on roads, but there are times when the pathfinding will cut corners, which is a nice touch.

I would like to see some light sources and shadows; I mean the game is made with Unity, because as it stands now, it feels like a high resolution DOS game.

I had fun, I mean the game is a fun, nostalgic romp, that held my interest, but the demo does not show off any innovations or inventions. I fear that may be the downfall in the end. The game has no price set yet, but I doubt I will

pay full price. It needs something... I cannot say what, if they want full price from me. Maybe the story is great? We would have to see. I would really like this game to stand out, don't get me wrong, as there is a lot of promise here.

The game installed via Steam and worked like a bomb on Ubuntu 20.04





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The current site was created thanks to **Arun** (from our Telegram channel) who took on the task of completely rebuilding the site, from scratch, in his own time.

The Patreon page is to help pay the domain and hosting fees. The money also helps with the new mailing list.

Several people have asked for a PayPal (single donation) option, so I've added a button below.

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## FCM#212

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