

Borked, Corked and Forked

Running Windows Applications on Linux

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UEL CDT Maker Club Takeover
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Who am I?



- Current PhD candidate at King's College London
- Researching in Model-Driven Software Engineering and Software Sustainability
- Graduate Teaching Assistant at KCL (Informatics department)
- Put two browser games on the web
- Occasionally writes tech blog: <https://zishan-rahman.github.io/>
- Occasionally contributes to open-source (e.g. Flatpak repos on Flathub on GitHub)

What we'll talk about today

- OS Survey (done in session)
- Windows 10 EOL
- Brief overview on Virtual Machines
- Introduction to Wine
- Introduction to Proton
- Practical Demos of VM, Wine and Proton
- Benefits and Drawbacks
- General Tips + Advice on Switching from Windows to Linux

Why is the talk called
“Borked, Corked and
Forked”?

...You'll find out ;-)

What OSes do we use?

- Windows?
- macOS?
- Linux (desktop)?
- Linux (at work, outside of daily usage, e.g. servers)?
- Are you required to use Windows and/or macOS for work purposes?
- What do you use for gaming?

Windows 10

- End-of-life date: 14th October 2025.
- **No more security updates!**
- TPM requirements leave many computers un-upgradable...
- **...and vulnerable to security threats!**
- Workarounds exist...
- **...but they're risky and may not always work!**

Solutions for un-upgradeable devices?

- Use any workarounds while you still can
- Stick with Windows 10 (if it's worth the risk)
- **...Switch to a leaner, cleaner operating system!**
- ***...Switch to ~~macOS~~ Linux!***

My History with Linux

- Consistent user of Linux Mint since 2021
- Planned switch well before
 - Sought out FOSS and cross-platform applications while still using Windows 10
- Initially switched “cold turkey”, but started using Proton to run Steam games
- Eventually started using Wine to run some Windows software and games I still wanted to run

Switching to Linux

- Many cross-platform programs run on Linux.
- Linux on the desktop is growing (~~nearly 3%~~ at least 5%, if not 6%, market share in the US as of 2025).
- Practical issue: **Some programs only run on Windows!**
- Replacements exist...
- **...but may not be viable enough or have issues!**

Options

- Dual-boot Linux with Windows 11 (or 10???)
- Try Linux within a VM first before switching (that's what I did).
- Look for replacement programs before switching (that's what I did).
- Switch to Linux cold turkey (not recommended).
- **Try running Windows programs on Linux.**

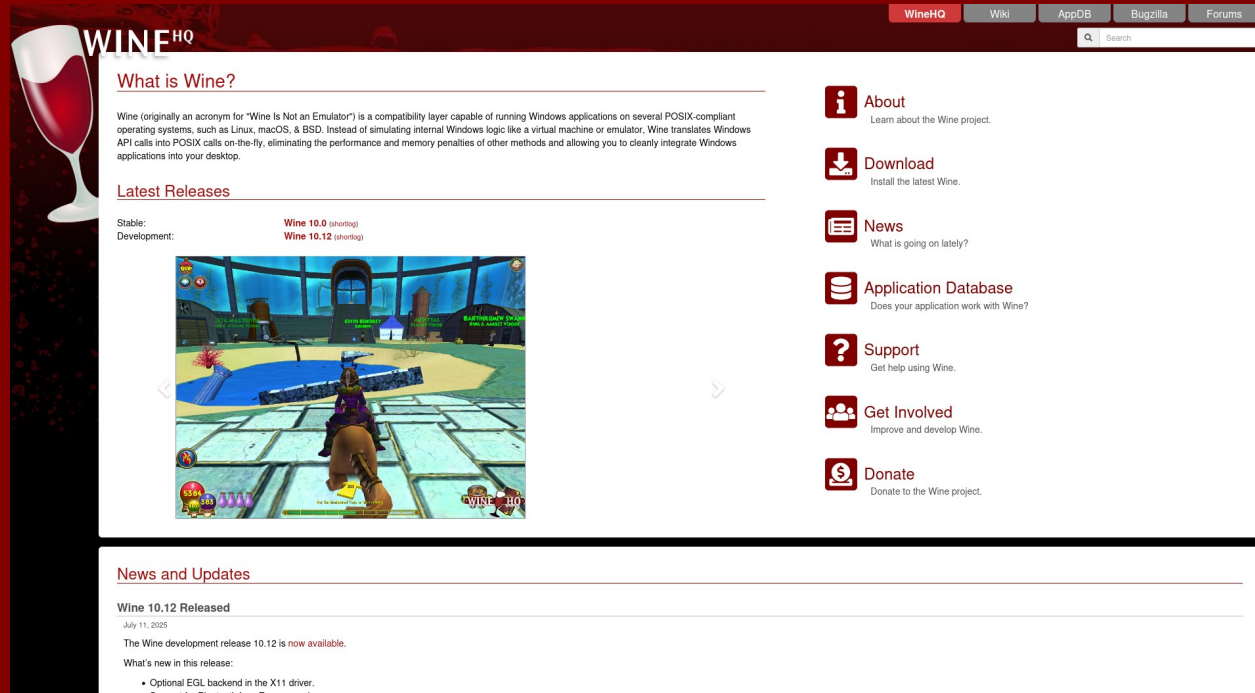
Virtual Machines

- e.g. QEMU, VirtualBox, VMWare
- Simulates real hardware to run a virtual computer... on your computer!
- Types of VM (Hypervisor):
 - Type 1 (closer to hardware, i.e. QEMU)
 - Type 2 (bit further up, i.e. VirtualBox)
- However, can be slow and/or resource-intensive (needs to support hardware virtualisation).
- Also may need additional configuration and workarounds for certain issues.

But there's another option...



But there's another option...



The screenshot shows the WineHQ website with a dark red header. On the left is a large glass of red wine. The header contains navigation links: WineHQ, Wiki, AppDB, Bugzilla, and Forums. A search bar is on the right. The main content area is divided into two columns. The left column has sections for 'What is Wine?' (explaining it as a compatibility layer), 'Latest Releases' (listing Wine 10.0 and 10.12), and 'News and Updates' (announcing the release of Wine 10.12 on July 11, 2025). The right column features a sidebar with links: About, Download, News, Application Database, Support, Get Involved, and Donate. A central image shows a screenshot of the game 'The Elder Scrolls V: Skyrim' running on Wine.

WINEHQ

WineHQ Wiki AppDB Bugzilla Forums


Search

What is Wine?

Wine (originally an acronym for "Wine Is Not an Emulator") is a compatibility layer capable of running Windows applications on several POSIX-compliant operating systems, such as Linux, macOS, & BSD. Instead of simulating internal Windows logic like a virtual machine or emulator, Wine translates Windows API calls into POSIX calls on-the-fly, eliminating the performance and memory penalties of other methods and allowing you to cleanly integrate Windows applications into your desktop.

Latest Releases

Stable: **Wine 10.0** (shortlog)
Development: **Wine 10.12** (shortlog)



News and Updates

Wine 10.12 Released

July 11, 2025

The Wine development release 10.12 is now available.

What's new in this release:

- Optional EGL backend in the X11 driver.
- Support for Bluetooth Low Energy devices.

About

Learn about the Wine project.

Download

Install the latest Wine.

News

What is going on lately?

Application Database

Does your application work with Wine?

Support

Get help using Wine.

Get Involved

Improve and develop Wine.

Donate

Donate to the Wine project.

Wine

- Very commonly used to run Windows programs on Unix-like OSes such as Linux, BSD, macOS, Solaris et cetera.
- Site: <https://www.winehq.org/>
- Works well with (usually older, but also many newer) .exe files (both x86 and x64).
- Configurable.
- Free and open-source!
- Continued 30+ years of active development.
- [Set up instructions on official website.](#)

How Wine Works

- Wine is not an emulator!
- **It's a compatibility layer!**
 - It converts Windows API calls to Linux ones!
 - This is how Wine can show Windows executables running as if they were native Linux programs.
- Uses a “prefix” to depict Windows system layout (C:\ drive) within Wine itself.
 - Management of multiple prefixes possible, better with management apps (more on those later).

Note about emulators

- Emulators aim to simulate hardware and software, replicating it.
- PC emulators exist for 16-bit programs, DoSBOX and its variants, or Pcem and 86box.
- Worth noting that Wine can now run 16-bit applications (wasn't possible before).
- Emulators still recommended, though.

Wine Integration with Linux

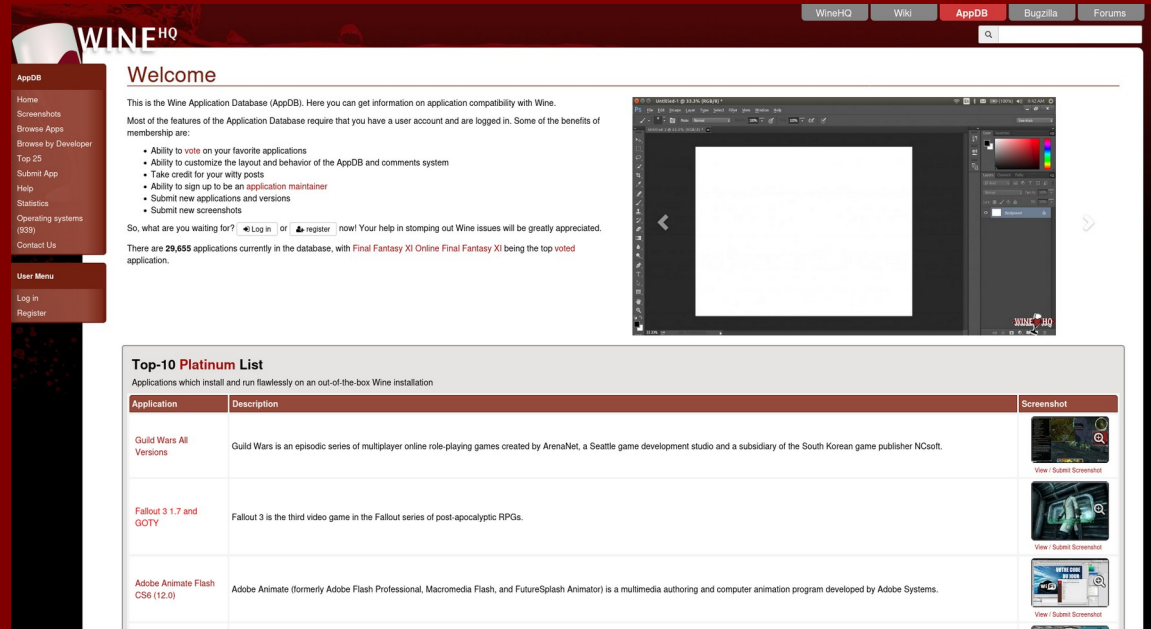
- Apps appear as if they were native on Linux
 - Can also simulate “virtual desktop” if need so requires (i.e. black screen on certain apps)
- Desktop and start menu icons
- MIME types for opening files
- Executables can be opened through file managers with Wine Windows Program Loader.

Other apps and tools to use with Wine

- [Winetricks](#)
- [Lutris](#)
- [PlayOnLinux](#)
- [WineGUI](#)
- [Bottles](#)
- [Heroic Games Launcher](#)
- Tools for Steam Deck may work outside of Steam Deck (i.e. [EmuDeck](#), specifically using it with [Xenia](#) and [troubleshooting for it](#))
- Some distros provide their own set-up tools for Wine (i.e. [Linux Mint's Wine installer](#))

Check if it works with Wine!

- Using Wine's AppDB!
- Available on WineHQ's website!
- <https://appdb.winehq.org/>
- Many apps exist here
- Results may be out of date...
- ...Create an account and add your own!



The screenshot shows the WineHQ AppDB website. The header includes navigation links for WineHQ, Wiki, AppDB, Bugzilla, and Forums. The left sidebar contains links for Home, Screenshots, Browse Apps, Browse by Developer, Top 25, Submit App, Help, Statistics, Operating systems (309), and Contact Us. The main content area features a 'Welcome' message, a list of benefits of the AppDB, and a 'Top-10 Platinum List' of applications.

Welcome

This is the Wine Application Database (AppDB). Here you can get information on application compatibility with Wine.

Most of the features of the Application Database require that you have a user account and are logged in. Some of the benefits of membership are:




- Ability to vote on your favorite applications
- Ability to customize the layout and behavior of the AppDB and comments system
- Take credit for your witty posts
- Ability to sign up to be an application maintainer
- Submit new applications and versions
- Submit new screenshots

So, what are you waiting for? [Log in](#) or [register](#) now! Your help in stomping out Wine issues will be greatly appreciated.

There are **29,655** applications currently in the database, with *Final Fantasy XI Online* *Final Fantasy XI* being the top voted application.

Top-10 Platinum List

Applications which install and run flawlessly on an out-of-the-box Wine installation

Application	Description	Screenshot
Guild Wars All Versions	Guild Wars is an episodic series of multiplayer online role-playing games created by ArenaNet, a Seattle game development studio and a subsidiary of the South Korean game publisher NCsoft.	 View Submit Screenshot
Fallout 3 1.7 and GOTY	Fallout 3 is the third video game in the Fallout series of post-apocalyptic RPGs.	 View Submit Screenshot
Adobe Animate Flash CS6 (12.0)	Adobe Animate (formerly Adobe Flash Professional, Macromedia Flash, and FutureSplash Animator) is a multimedia authoring and computer animation program developed by Adobe Systems.	 View Submit Screenshot

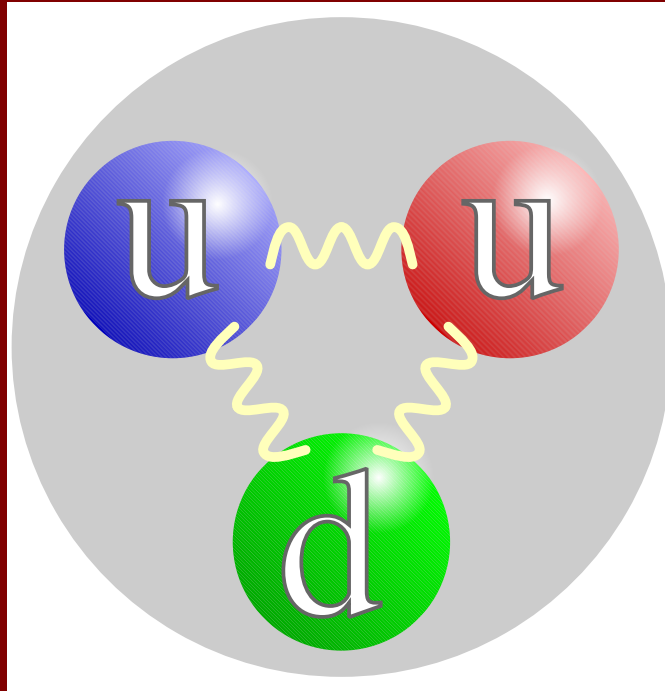
Small selection of tools that *use* Wine (including parts of Wine itself)

- WineVDM (for running 16-bit apps)
 - Part of Wine itself
 - [Ported to 64-bit Windows](#)
- WineD3D (for running Direct3D graphics)
 - Part of Wine itself
- DXVK (for running Direct3D graphics with Vulkan)
 - Newer graphics library
 - Development headed by Khronos Group, same group behind OpenGL

Wine derivatives (or forks)

- Wine-ge-custom (not actively developed)
- Lutris has its own fork (but also can use main Wine)
- Reasoning for several forks
- Proprietary versions and tools exist, most notably CrossOver (a tiny bit more on them later)

Well... *one specific Wine derivative*



Credit: Arpad Horvath (Wikipedia page for "Proton"), Licence CC-BY-SA 2.5

Well... *one specific Wine derivative*



Credit:

<https://www.gamingonlinux.com/2024/02/5-years-later-valve-finally-gives-windows-compatibility-tool-proton-a-logo/>

Proton

- Fork/derivative of Wine
- Chiefly developed by **Valve**
- Chiefly meant to work inside Steam
 - Though can work outside it with other tools and/or configurations
 - Can also work for non-Steam games added to Steam launcher
- Usually meant more for games, but can work with other types of applications too
 - Changes usually oriented for gaming (i.e. graphics)

Enabling Proton for all titles

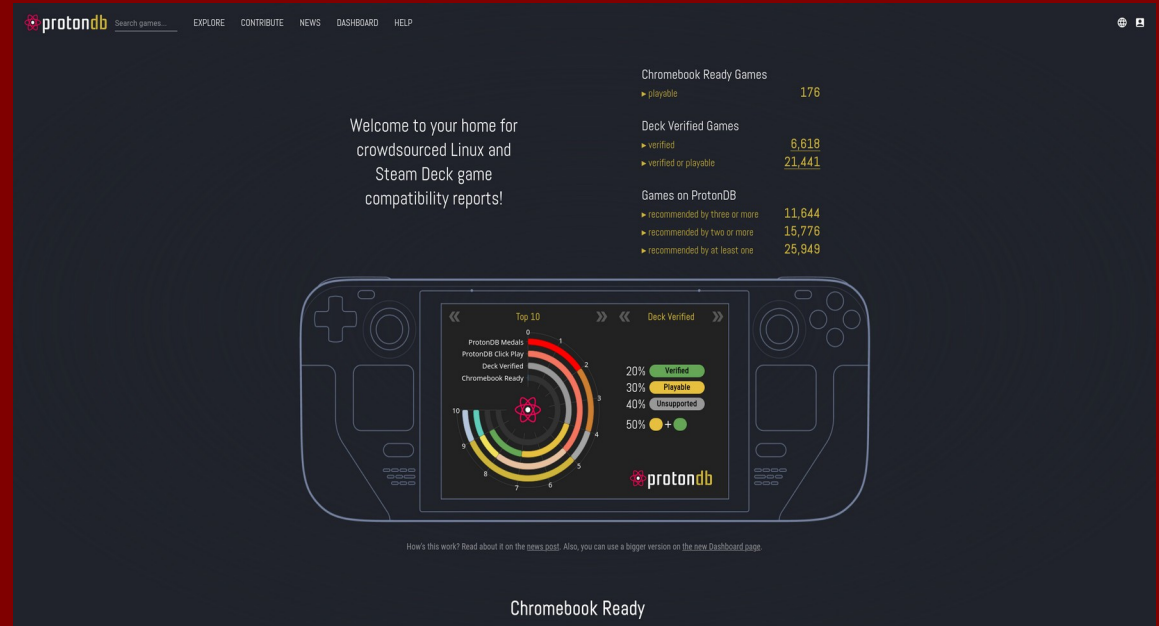
- In Steam Nowadays: **Already done!**
- If still needs to be enabled: Steam > Settings > Compatibility (or Steam Play) > “Enable Steam Play for all other titles”
- “Steam Play” = name given to titles with first-party Steam support (now “Steam Deck Verified”)

“Steam Deck Verified”?

- See game’s Steam page to find out whether game is Steam Deck Verified (works perfectly) or Playable (needs work)
- Even if a game’s Steam Deck status says “Unsupported”, it **can** still work.
- Community reports can sometimes provide a more trustworthy assessment.

Check if it works with Proton!

- Using ProtonDB!
- Similar to Wine's AppDB, but for Proton!
- <https://www.protondb.com/>
- Ever growing community of Steam Deck and/or Proton users contribute to keep database alive.
- Most, if not all Steam games, have entries here
- Results usually are up to date (from experience), but can sometimes fall out of date...
- ...Create an account (or use your Steam account to log in) and add your own!



Found a bug in Wine and/or Proton?

- Let them know!
- File it in their respective bug/issue trackers!
- Wine: <https://bugs.winehq.org/>
- Proton:
<https://github.com/valvesoftware/proton/issues>
- **Can force Steam to use a specific version of Proton for a game if you so require (i.e. one Proton version works with that game while another version breaks with it).**

Note about CrossOver

- Commercial product that builds on Wine
- Developed by **Codeweavers**
 - Major contributor to and commercial sponsor for Wine itself
- Could be considered for enterprise applications with app-specific improvements that are impractical to add to Wine itself
- **Most people stick with Wine and Proton, though.**

A few examples of tools for, as well as derivatives, of Proton

- [umu-launcher](#), for running Proton without Steam
- [GE-Proton](#), fork of Proton with additional features
- [Protontricks](#), doing Winetricks-esque things for Steam Play/Proton
- [ProtonUp-Qt](#) and [ProtonPlus](#), two examples of installers and managers of various versions of Proton.

Common Queries

- Does Wine work on MacOS?
 - Yes!
- Does Proton work on MacOS?
 - No, *but there are ways to get Windows games to run on MacOS*
 - Several Windows and/or Linux games and software also have native MacOS ports
- Is there a similar thing but for running macOS apps on Linux?
 - Yes!
 - Darling (work in progress)
- Would this inhibit developing games and software on Linux?
 - Porting Windows software and games to Linux natively can be a struggle.
 - The purpose of Wine and Proton is to *ease* the transition from Windows to Linux.
 - There will still be a demand for native Linux apps and games.
 - Could liaise with developers and/or community.

Useful Resources

- [GamingOnLinux](#)
- [The Register](#)
- [OMG Ubuntu](#)
- [Phoronix](#)
- [It's FOSS](#)
- [Other FOSS, Linux, Wine and Proton news sources and content creators](#)
- [Arch Linux Wiki](#)
- [WineHQ websites \(including AppDB\)](#)
- [ProtonDB](#)
- [StackExchange](#) and [Reddit forums \(i.e. r/wine_gaming\)](#)
- [Other forums such as OS-specific ones](#)

General Advice & Tips on Switching from Windows to Linux

- Plan your move ahead
- Seek out alternatives for e.g. Microsoft Office, Adobe suite
- Use online versions of e.g. Office 365, certain Adobe products (with some feature restrictions)
- Decide if there is software you *really* need to use for which it requires Windows
- Check if that software works on Wine and/or Proton before you switch
- Consider dual booting if the need is there
- If you must use Windows 11; try “hardening” it with additional security features (i.e. opting out of Recall)
- See which distro is right for you (I recommend Linux Mint to most beginners)

So... why is this talk called “Borked, Corked and Forked”?

- When a program stops working, it gets...
- **...Borked!**
- Wine tasted bad when it gets...
- **...Corked!**
- When someone modifies a program’s source code into their own, that program gets...
- **...Forked!**
- And *how* does it relate to our talk?
 - You use Wine so that your Windows programs aren’t *borked* on Linux
 - Even Wine has its faults, such that it can metaphorically get “*corked*”
 - Proton is *forked* from Wine

Note on Friday workshop

- Friday 15th August 2025, 4-6pm
- Complete beginner's workshop on LaTeX
- Learn to use it to write papers, books and even presentations
- Dashes of creative writing and basic research exercises included to get you practical experience with LaTeX!
- Sign-up is free and still on Eventbrite!
- <https://www.eventbrite.co.uk/mytickets-web/13005854343/>

Thanks for coming to my talk!

- I'm on:
 - LinkedIn
 - Instagram
 - BlueSky
 - Mastodon
 - My own website (with a blog!)