Wine FAQ

1. About this FAQ

1.1. Who maintains this FAQ ?

Dave Gardner maintained it from 1995-1998.

Douglas Ridgway took it over in 1999.

Andreas Mohr converted it to FAQ-O-Matic in 2000.

Dimitrie O. Paun, Keith Matthews and Tom Wickline (in alphabetical order) reorganized it in 2002.

For suggestions/additions/complaints regarding this FAQ, please send an email to wine-devel@winehq.org[1]

1.2. What is the copyright of this FAQ? And how may I use it?

1.3. How can I update this FAQ?

This FAQ lives in the CVS repository on SourceForge. In order to update this document you'll need to checkout the the docs from CVS, edit it, and then send a patch. In order to get the docs, run the following CVS command:

```
cvs -z3 -d:pserver:anonymous@wine.cvs.sourceforge.net:/cvsroot/wine co -P docs
```

When prompted for a password, just press the enter key.

A subdirectory named docs will be created. If you navigate through there you'll find the FAQ in `docs/en/wine-faq.sgml`. The file is written in SGML, which is simply a superset of HTML. You can use your favorite text editor to make changes to it but be sure to make sure each opening tag has a corresponding closing tag. You may find the **tidy** or **xmllint** utilities useful for editing the document.

After editing the file, generate a patch[2] against CVS and email it to wine-patches@winehq.org.

2. General Questions about Wine

2.1. What is Wine and what is it supposed to do?

Wine is a program which allows the operation of DOS and MS Windows programs (Windows 3.x and Win32 executables) on UNIX operating systems such as Linux. It consists of a program loader, which loads and executes a Windows binary, and a set of libraries that implements Windows API calls using their UNIX or X11 equivalents. The libraries may also be used for porting Win32 code into native UNIX executables, often without many changes in the source. Wine is free software, and its license (contained in the file LICENSE in each distribution) is the LGPL.

2.2. Does Wine emulate a full computer?

No, as the name says, Wine Is Not a (CPU) Emulator. Wine just provides the Windows API. This means that you will need an x86-compatible processor to run an x86 Windows application, for instance from Intel or AMD. The advantage is that, unlike solutions that rely on CPU emulation, Wine runs applications at full speed. Sometimes a program run under Wine will be slower than when run on a copy of Microsoft Windows, but this is more due to the fact that Microsoft has heavily optimized parts of their code, whereas mostly Wine is not well optimized (yet). Occasionally, an app may run faster under Wine than on Windows. Most apps run at roughly the same speed.

2.3. Are there any alternatives to Wine?

Yes, there are. You can use VMWare[3] to run a Windows installation inside a virtual machine, or use Win4Lin[4] to run a specially adapted Windows version on Linux. Both solutions cost money for both the software itself and a Windows license.

Note that, like Wine, they can only use the hardware platform that the target programs were originally compiled for (see below).

2.4. What is the difference between Wine and x86 hardware emulators?

There are two free x86 hardware emulators: Bochs[5], and Plex86[6].

Plex86 is the open-source free-software alternative for VMWare, VirtualPC, and other IA-32 on IA-32 "Virtual PC products." It can only run on the IA-32 architecture.

Bochs is a highly portable open source IA-32 (x86) PC emulator written in C++, that runs on most popular platforms. It includes emulation of the Intel x86 CPU, common I/O devices, and a custom BIOS. Currently, Bochs can be compiled to emulate a 386, 486 or Pentium CPU. Bochs is capable of running most Operating Systems inside the emulation including Linux, Windows® 95, DOS, and recently Windows® NT/2000.

Both are licensed under the GPL. Bochs is older than Plex86, seems to be easier to install, but Plex86 will run faster because Plex86 uses a just in time binary compiler.

The drawback of all emulators is that you need a version of Windows in order to run Windows, and that they all have an impact on performance. Wine also gives much better desktop integration - for instance, programs use your standard window manager, system tray icons will appear in your tray area (if you have one), and you can run programs direct from the command line as well as menus. The clipboard also works seamlessly at this time.

2.5. When will Wine integrate an x86 CPU emulator so we can run Windows applications on non-x86 machines?

The short answer is 'probably never'. Remember, Wine Is Not a (CPU) Emulator. The long answer is that we probably don't want or need to integrate one in the traditional sense.

Integrating a CPU emulator in Wine would be extremely hard, due to the large number of Windows APIs and the complex data types they exchange. It is not uncommon for a Windows API to take three or more pointers to structures composed of many fields, including pointers to other complex structures. For each of these we would need a conversion routine to deal with the byte order and alignment issues. Furthermore, Windows also contains many callback mechanisms that constitute as many extra places where we would have to handle

these conversion issues. Wine already has to deal with 16 vs. 32 bit APIs and Ansi vs. Unicode APIs which both introduce significant complexity. Adding support for a CPU emulator inside Wine would introduce at least double that complexity and only serve to slow down the development of Wine.

Fortunately another solution exists to run Windows applications on non-x86 platforms: run both Wine and the application inside the CPU emulator. As long as the emulator provides a standard Unix environment, Wine should only need minimal modifications. What performance you lose due to Wine running inside the emulator rather than natively, you gain in complexity inside of Wine. Furthermore, if the emulator is fast enough to run Windows applications, Photoshop for instance, then it should be fast enough to run that same Windows application plus Wine.

Two projects have started along those lines: QEMU[7], an open-source project, and QuickTransit[8], a commercial CPU emulator environment from Transitives Technologies[9].

2.6. Why would anyone want Wine? Doesn't Windows suck?

First Wine is not about running Windows but about running Windows applications.

So if all your computing needs are fulfilled by native Unix applications, then you do not need Wine and should not be using it. However, if you depend on one or more of the tens of thousands of Windows applications, then Wine is the best way to use it without giving up on Unix. Let's look at the alternatives to see why:

The most obvious alternative is to dual-boot. This is the solution that provides the best compatibility. However it requires that you acquire a Windows license and then dedicate a good chunk of your hard-drive to Windows. But the worst is yet to come. Each time you will want to use that application you will have to reboot to Windows. This is especially significant if external factors dictate when you must use this application (e.g. credit card to process, email to retrieve from a Lotus Notes server). Then you will find yourself forced to close all your Linux applications just to run that one Windows application. You may quickly get tired of this, or will find that such a situation is impossible to justify in a business environment.

The next solution is to install virtual machine emulation software such as VMWare, Win4Lin or Plex86. Then you can use windows applications without suffering such a big disruption. But it still requires that you acquire a Windows license and dedicate as much disk space to Windows. Furthermore you will pay for the added convenience: if using VMWare or Win4Lin you have to buy another license, and more importantly you now have to dedicate a good chunk of your computer's memory to the virtual machine. Performance will take a significant hit too.

Using Wine lets you avoid all of that overhead: Windows license, hard-drive space required by Windows, memory and performance hit taken by emulated virtual machines. Now you can start your Windows application straight from your regular desktop environment, place that application's window side by side with native applications, copy/paste from one to the other, and run it all at full speed.

It is also a pretty vital part of migrating a large organization, you can't change a 5000 desktop setup overnight without a lot of risk.

2.7. Can I use Wine to make the Windows driver for my network card / graphics card / scanner / etc. work on Unix?

The goal of Wine is to make it possible to run Windows applications on Unix, not Windows drivers or VxDs.

Drivers and Windows applications belong to different worlds. Applications run in user mode and use the APIs provided by the kernel and the other user mode dlls. In contrast, drivers are loaded in the Windows kernel, i.e. in ring 0 instead of ring 3, drivers have to deal with specific memory management issues, and use instructions not available to regular applications. This means they would not be able to run in Wine since Wine runs entirely in user mode. Rather you would have to modify the Linux kernel. But in addition, drivers use a completely different API from regular Windows applications. So the work performed on Wine would not even be of any use for such a project. In other words, making it possible to use Windows drivers or VxDs on Unix would be a completely separate project.

However, if you want to reuse Windows drivers on a non-Microsoft operating system we recommend that you have a look at ReactOS[10].

2.8. Which one of the different Wine packages out there is good for me?

Currently there is a broad selection of different Wine packages/versions:

Wine[11]

> This is the "standard" distribution of Wine. Its license is the LGPL, it can be downloaded for free. Both source code and binaries are available in the download[12] section of the site.

CodeWeavers' CrossOver Office[13]

> Wine version with special packaging to make sure almost all important Office type programs work pretty well. Costs $69.95 for the Pro version and $39.95 for the Standard version. Seems to be well worth it so far according to most comments. (note: you're supporting a company actively contributing to Wine if you decide to buy CrossOver.)

CodeWeavers' CrossOver Office Server Edition[14]

> Allows you to run your favorite Windows productivity applications in a distributed thin-client environment under Linux. Server Edition is also a great addition to Solaris environments, since there built-in support for Solaris desktops makes running Windows applications a possibility on Sun workstations as well. For pricing just follow this link: CrossOver Office Server Edition Pricing[15]

2.9. What's the history of Wine?

The Wine project started in 1993 as a way to support running Windows 3.1 programs on Linux. Bob Amstadt was the original coordinator, but turned it over fairly early on to Alexandre Julliard, who has run it ever since. A newsgroup[16] was created in July 1994. Over the years, ports for other Unixes have been added, along with support for Win32 as Win32 applications became popular.

For more information, see http://www.winehq.com/site/history[17]

2.10. What is the current version of Wine?

A new version of Wine is distributed about every month. You will be able to keep up on all the latest releases by reading the newsgroup comp.emulators.ms-windows.wine[18], or by visiting the Wine HQ homepage[19]. When downloading Wine from your FTP site of choice (see the Download page[20] for some of these choices), you can make sure that you are getting the latest version by watching the version numbers in the distribution file name. For instance, the distribution released on August 30, 2005 was called Wine-20050830.tar.gz. Patch files are also available. If you are current to the previous version, you can download and apply just the current patch file rather than the entire new distribution. The patch file names follow the same conventions as the monthly distribution. Read-only GIT[21] access is also available.

2.11. What is the current Status of Wine?

As of mid 2005, Wine consists of about 1.4 million lines of code, written by more than 600 developers from dozens of countries around the world. Wine is in active use by an estimated 200K people. Wine implements more than 90% of the calls in popular Windows specifications such as ECMA-234 and Open32.

You may also want to look at the Status page[22] for a global view on Wine's implementation progress.

2.12. When will Wine be finished?

Large software projects are never finished, only released. In any case Wine is chasing a moving target since every new release of Windows contains new API calls or variations on the existing ones.

Because Wine is being developed mainly by a single company (CodeWeavers) and volunteers, it is difficult to predict when it will be ready for general release. But due to the much increased interest by other companies in porting apps via Wine, Wine development is constantly getting more and more active. Right now we are working on releasing Wine 0.9 our schedule has this release around September 30th 2005.

2.13. Who is responsible for Wine?

Wine is available thanks to the work of many people. Please see the AUTHORS[23] file in the distribution for the complete list. Some companies that are or have been involved with Wine development are CodeWeavers, TransGaming, Corel, and Macadamian.

2.14. What undocumented APIs / interfaces are not understood? Would seeing Microsoft source help?

The best solution would be if the Windows API were fully documented, so Wine could be a perfect "clean-room" implementation. Seeing the source code might make it harder to prove that no copyright violations have taken place. That said, the documentation is often bad, nonexistent, and even misleading where it exists, so a fair amount of reverse engineering has been necessary, particularly in the shell (Explorer) interface. The biggest problem facing Wine though is simply lack of manpower. At one point, over 5000 people were working on Windows 2000. While Wine doesn't need to replicate all of Windows (we only cover the parts needed to make Windows programs work), that's still nearly 8 times more people working simply on one release than have *ever* worked on Wine, in the history of the project.

2.15. Will there be a Windows version of Wine?

Some people are working on getting Wine code to compile on Windows using one of the following projects as a basis:
- Cygwin (http://www.cygwin.com[24])
- MinGW (http://www.mingw.org[25])
- ReactOS (http://www.reactos.com[26])

There's some progress, so a Wine version that's usable on Windows might be available at some time in the future.

Part of the rationale for these projects is to find out areas where Wine portability is lacking. This is especially true of the ReactOS project which is a reimplementation of the Windows kernel and should thus be able to reuse most of Wine dlls.

Another reason for pursuing these projects is to be able to replace a single Windows dll with its Wine counterpart. Besides being a good test for the Wine dll, this lets us detect cases where we made incorrect assumptions about how the dlls interact.

2.16. Can I use Windows printer drivers in Wine?

Native printer drivers are not supported. At one time Wine supported 16bit native drivers but that was long ago. Wine uses the printers (and other devices) installed in your operating system. For the most part if you don't have the device installed on your OS then wine can't use it.

3. What do I need in order to use Wine?

3.1. Under what hardware platform(s) and operating system(s) will Wine(Lib) run?

Wine is being developed specifically to run on the *Intel x86* class of CPUs under certain UNIXes that run on this platform. Winelib however is capable of porting the Windows applications *source code* to other platforms also, not only x86.

Thus running Windows binaries on other platforms (e.g. Mac OS X on PowerPC) using just Wine is *not* possible. You would have to either run Wine in an emulated x86 environment or take the Windows application source code and recompile it using Winelib.

These are the platforms supported by Wine. Winelib support for other platforms keeps evolving, so it's not specifically listed here.

NetBSD, OpenBSD, UnixWare, and SCO OpenServer 5 worked at one time, but Wine now requires kernel-level threads which are not currently available (or understood by the Wine team) on those platforms.

The Wine development team hopes to attract the interest of other commercial UNIX and UNIX clone vendors as well.

BeOS: porting efforts (BeWine) used to be pretty strong, but BeOS has severe limitations in Unix call support. The demise of Be further hampered the project though it might come back one day on one of the open BeOS projects. In any case a functional port seems unlikely to ever happen at this stage.

Mac OS X / Darwin: The Darwine[27] project is currently working on porting Wine to the Darwin/x86 platform. Their goal is to eventually make it possible to run x86 Windows applications on Darwin/PPC and then Mac OS X by using Bochs. In addition, CodeWeavers has focused some of their resources on Intel Mac OS X as well. With a little luck, Wine will be running on it by the third quarter of 2006.

FreeBSD: This port is well maintained and should work with limitations in specific areas (mainly missing device/hardware support).

Linux/x86: Works, and as the most popular platform for both developers and users, it is the best supported platform of all.

3.2. I want to run Wine on an Intel Mac OS X (MacIntel) system, will it work?

(Also see the previous question.) As of March, 2006, simple applications are just beginning to to run on Intel Mac OS X. It's possible in about 6 months we'll see applications running similarly to how they do on Linux or FreeBSD.

There are some complicated issues surrounding Wine on Mac OS X. Working with low-level features, such as signal handling and system registers, are quite different on Mac OS X. Further hampering the issue are some bugs within the operating system. Beyond that, integration on Mac OS X becomes difficult because it is vastly different than a traditional *nix desktop. Menuing and graphics drivers are just two areas that require a complete reimplementation in order to be functional.

3.3. What minimum CPU must I have in my computer to be able to run Wine and MS Windows applications smoothly?

We need to differentiate between Wine and Winelib here.

Wine won't run on any x86 CPU less than an 80386 due to address management limitations.

It is known to also work in the 80486 and upwards compatible CPUs. The basic test is, if you can run X11 now, you should be able to run Wine and MS Windows applications under it.

As always, the faster your CPU, the better. Having a math coprocessor is unimportant. However, having a graphics accelerated video card supported by X will help greatly.

Depending on your application you may find that faster speeds are required for sensible use. We can't give specific advice on that due to the vast range of applications out there. However the rule of thumb is that if your application runs fine on Windows, it should run fine on the same platform in Wine.

3.4. How much disk space will the Wine source code and binaries take on my hard drive?

You need approximately 750 megabytes of free hard drive space to store and compile the source code. Wine also needs about 18 megs in your /tmp directory. And about 50 MB are needed to do a make install.

Binary packages, especially those not containing debug information, have much lower disk space requirements, usually in the 30MB range.

3.5. How much RAM do I need to have on my UNIX system to be able to run Wine and MS Windows applications smoothly?

If you can run X smoothly on your UNIX system now, you should be able to run Wine and MS Windows applications just fine too, depending on how memory hungry the application is.

Wine's memory requirements will depend on the application or game that you choose to run. You will need to meet the minimum requirements for the appli-

cation as well as the overhead of your underlying OS. You may want to check with the vendor of the application for its suggested memory requirements.

3.6. How long does Wine take to build

Wine is getting to be quite large, and building from scratch takes a lot of processing. As of September 2005, compile times were around 15 minutes on a Intel 3.8GHz Laptop with 1 GB of RAM. If you have a Git copy of wine, you may not need to rebuild every thing each update.

3.7. I have a Drivespaced, Doublespaced or Stackered DOS partition. Can Wine run MS Windows binaries located in such a partition?

Yes, but only if the operating system supports mounting those types of drives. There is a Linux file system driver called dmsdos that will allow read/write access to Doublespaced and Drivespace 1.0 drives. More specifically, it supports mounting DOS 6.0 and 6.2 Doublespaced, DOS 6.22 Drivespaced, and Windows 95 Doublespaced compressed partitions (read and write access works fine, but write access is slow). It can be found at ftp://metalab.unc.edu/pub/Linux/system/filesystems/dosfs/[28]

3.8. Do I need to have a DOS partition on my system to use Wine?

You do not need a licensed and installed copy of DOS or MS Windows to install, configure or run Wine. However, Wine has to be able to 'see' an MS Windows binary (i.e. application) if it is to run it.

3.9. If Wine completely replaces MS Windows, will it duplicate all of the functions of MS Windows?

Wine's goal is to make it possible to run Windows applications on Unix. To this end it will provide replacements for just those DLLs and APIs that are needed by these Windows applications. This means that Wine will not provide replacements for DLLs that are not shipped with Windows or are always shipped with Windows application (e.g. the Visual Basic run time). This also means that implementing an API that no application ever uses is not a priority. Similarly, until there are applications out there that use the Win64 API, it will not be a priority. That being said, we will certainly try to keep our options open and to improve our API coverage as we can.

Also Wine is not an operating system, so that writing device drivers is not part of Wine's goals. However if you are interested in device drivers, the Linux[29], FreeBSD[30] and ReactOS[31] kernel developers would certainly appreciate your contribution.

Similarly Wine does not try to be a desktop environment so providing applets such as a calculator, a file manager or even window manager that look like Windows, are low priority or would even best be done as a separate project. Such projects would also to a large extant be redundant with other open-source projects. Again, there are projects that would certainly appreciate your contributions in this areas, such as the Gnome[32] or KDE[33] desktop environments. You will get the added benefit that your contribution will then be usable by everyone, not just by Wine users.

3.10. Will I be able to install MS Windows applications in any flavor of a UNIX file system?

Wine is written to be file system independent, so MS Windows applications will install and run under virtually any file system supported by your brand of UNIX.

3.11. Will Wine run only under X, or can it run in character mode?

Most of Wine's development effort is geared towards MS Windows' GUI, but some limited support for character mode has appeared, by setting `GraphicsDriver=ttydrv` in ~/.wine/config's `[wine]` section.

Wine's infrastructure is already somewhat prepared for supporting other graphics drivers than x11drv, but no real "alternative" graphics driver has been developed yet.

3.12. Will Wine run under any X window manager? Does it require a window manager at all?

Wine is window manager independent, so the X window manager you choose to run has (almost) no bearing on your ability to run MS Windows programs under Wine. Wine uses standard X libraries, so no additional ones are needed. Wine has its own window management, which acts like MS Windows. It can be turned off to use the native window manager by modifying Managed or Desktop settings in winecfg.

3.13. Will 32-bit Windows 95/98/ME/NT/2000/XP applications run under Wine?

Yes, 32-bit programs are now well supported.

4. Getting Wine

4.1. Where can I get Wine?

Because of lags created by using a mirror, word of the latest release may reach you before the release is actually available at the ftp sites listed here. The sources are available from the following locations:

- http://sourceforge.net/project/showfiles.php?group_id=6241&package_id=77449 [34]
- http://ibiblio.org/pub/linux/system/emulators/wine/ [35]

It should also be available from any other site that mirrors ibiblio.org, see http://www.ibiblio.org/pub/Linux/MIRRORS.html. Some of these sites may archive previous versions of Wine as well as the current one. To determine which is the latest one, look at the distribution file name, which will take the form Wine-YYYYMMDD.tar.gz. Simply replace YYYYMMDD in the distribution file name with the numbers for year, month and date, respectively. The latest one is the one to get.

Wine binary packages are available for several OS'es and distributions. See the download page[37] for the most recent list.

4.2. Is there a Git tree?

Current Wine sources are also available via Git You will need Git 1.3.1 or above. If you are coming from behind a firewall, use the http:// protocol.

To clone out the entire Wine source tree (which may be slow), use

```
git clone git://source.winehq.org/git/wine.git wine
```

Be aware, though, that the initial clone of the entire Wine source tree via Git is pretty slow, especially compared to getting Wine from an FTP mirror near you. Updating to your cloned repository is reasonably fast, however.

Patch files are also available, so that you don't have to download, install, and configure the entire distribution each month if you are current to the previous release. Patch file release names follow the same numbering convention as do the general releases, and take the form

Wine-YYYYMMDD.diff.gz

Patch files are available from the same sites that distribute the full release. To upgrade to a new release by using a patch file, first cd to the top-level directory of the release (the one containing the README file), then do a "make clean", and patch the release with

```
gunzip -c patch-file | patch -p1
```

where patch-file is the name of the patch file something like Wine-YYYYMMDD.diff.gz. You can then re-run ./configure, and then run make depend && make

If you are mirroring the Wine distribution from the tsx-11 site and wish to be listed here in this FAQ, please add it to the "things to go into the documentation" area.

5. Installing and Configuring Wine

5.1. How do I compile the Wine distribution source code?

See the README (http://source.winehq.org/source/README) for instructions. Additionally, you may want to set the *TMPDIR* environment variable **TMPDIR=~/tmp** or **TMPDIR=/tmp** (if you are root).

5.2. How do I install Windows in Wine under Linux?

Simple answer: you CAN'T. Windows demands direct access to the hardware and cannot get it with Wine and UNIX in the way

Wine is supposed to be primarily used WITHOUT Windows. If you want to use a Windows installation, then use an existing installation alongside the UNIX installation (see the dual-boot HOWTO for your OS for more details). Or alternatively use the cabextract utility to extract Windows install archives to a directory that you want to use as Wine's Windows tree.

5.3. How do I configure Wine to run on my system?

As of Wine release 20050725 the config file has been disabled and the values are now stored instead in registry files in your .wine directory. The preferred method to configure Wine is with winecfg, winecfg is a tool to make it easy for new users to edit some of the contents of there registry files.

5.4. How do I upgrade Wine without losing my working configuration?

Upgrading the wine installation does not affect the existing wine registry settings. So after upgrading wine you still have the old (working) wine registry configuration.

5.5. If I want to use a Windows install, which versions are OK?

Either use a classic no-windows install (Wine is getting better all the time) or use a Win9x install (Win95, 98, 98SE, ME). DON'T configure Wine to use an NT-based Windows install (NT, Win2K, WinXP, Win2K3).

In general, most Windows installations contain vast quantities of garbage that can confuse Wine and make it less reliable. If you can, it's best to install the programs you want into Wine's fake windows drive.

5.6. If I use a Windows install with Wine, which one works best?

As of 09/2005:

I'd say Win98SE is the best version to use with Wine, as it's fairly widespread amongst developers and relatively old. Using Win2K files is *definitely* worse than a plain no-windows Wine install, and Win ME is said to be problematic, too (as probably no developer uses it). In short: all Win9x <= W98SE are good.

5.7. Installing applications generated by Visual Basic won't run. What should I do?

Make sure you have all the VB run time libraries installed. You can get the latest version from the Microsoft web site.

5.8. When I click on *.exe file in my file Manager, nothing happens.

The normal Wine releases don't have .exe extensions registered for Wine in KDE/Gnome yet. You have to open a terminal window instead (often an icon showing a "black screen") and type something like:

```
cd /my/windows/program/directory
wine myprogram.exe
```

5.9. bash says "wine: Command not found" What can I do?

Try to logout and login again into bash. That might fix it.

If it doesn't, then make sure the wine binary is in your *PATH*.

Run as root:

```
find / -name "wine" -type f -perm +111
```

to find the path where the wine binary is in. Then check whether *PATH* includes it:

```
echo $PATH
```

If not, add that e.g. to `/etc/profile` by doing:

```
export PATH=$PATH:/path/to/wine/binary
```

That should help.

For complete packages, use http://rpmseek.com/[39] or the Download[40] section.

5.10. How do I remove Wine from my Computer?

It depends on how you installed. If you used an RPM, the right command is this: **rpm -e wine (as root)**

If you installed from source (the .tar.gz file), the right way to do it is to change to the root of the source tree (the directory with the configure script, readme etc) then run as root: **make uninstall**

6. About running Wine

6.1. How do I run an MS Windows program under Wine?

When invoking Wine, you must specify the entire path to the executable, or by file name only. For example to run Windows' solitaire, type any of the following:

- **wine sol** or **wine sol.exe** (using the search path to locate the file).
- **wine c:\\windows\\sol.exe** (using a DOS file name).
- **wine /usr/windows/sol.exe** (using a UNIX file name).
- **wine "c:\windows\sol.exe"** (using quoted DOS file name).

The path of the file will also be added to the path when a full name is supplied on the command line.

6.2. I have installed and configured Wine, but Wine cannot find MS Windows on my drive. Where did I go wrong?

If you have a DOS partition, first make sure that you have mounted it, either by putting the entry into `/etc/fstab`, or by manually mounting it.

Remember too that unless your version of UNIX can see through it, or you are running a utility that can see through it, your DOS partition must not be located on a Drivespaced, Doublespaced or Stackered partition, as neither Linux, FreeBSD, NetBSD or Wine can natively 'see' files located in these compressed DOS partitions.

Check your path statements in the `wine.conf` file. No capital letters may be used in paths, as they are automatically converted to lowercase.

6.3. I was able to get various MS Windows programs to run, but parts of them do not work. What is wrong?

Wine is not complete at this time, so some of each programs' features may not work. They will in time as more of the MS Windows API calls are included in Wine.

6.4. I have run various MS Windows programs, but since the program menus do not work, how can I exit these programs?

Menus should be working correctly, if for some reason your applications menus stops responding. You can kill the xterm shell window that you called up to run your MS Windows program, and the X window that appeared with the program will be killed too. If you started the application from a shortcut you can open a terminal and start **xkill** and just click on the application to kill it.

6.5. My program doesn't work, what can I do?

If you are a programmer and know C, then start debugging Wine and help us make it better! If you can't, then you will have to either convince a Wine developer to try and make your program work (there must be a downloadable version or demo for that).

You can submit your application to the Wine Application DB [41] and gather tips on ways to get your app to work its best.

You can also submit your application to the CodeWeavers CrossOver Compatibility [42] Center. Where you can pledge/vote toward future support of your favorite application.

We recommend that you try builtin dlls first and report any errors that you may run across to wine-devel or to our Bugzilla. If you report problems they can be verified and fixed by the development team and this helps everyone over the long run by not covering up bugs with the use of native dlls.

Alternatively, you may be able to get the app working by taking native DLLs from a Microsoft Windows install, and using them (set the dlls to native with winecgf). Not all DLLs can be replaced that way - in particular DirectX cannot be, nor can some core system DLLs like gdi32, user, ntdll, kernel32, etc.

6.6. Can I use Wine with SUSE, RedHat or other Linux Distro's?

You can use Wine on any sufficiently recent Linux installation. The amount of work getting Wine up and running depends on whether you install a binary packages or do a source install.

6.7. Does Wine work with AMD Processors?

Yes, it does. Wine should work on any processor compatible with the Pentium or greater.

6.8. Can I launch a Unix program from a Windows program?

Sure, Wine supports that. Just enter the unix program name wherever a program has something that it's supposed to execute, and it should just work.

6.9. I get "Error installing iKernel.exe: (0x1400)" when running an InstallShield 6 installer.

If you get the error "Error installing iKernel.exe: (0x1400)" at any point, it's probably because there are leftover processes from a previous try. You can verify this with the command

```
$ ps augxw | grep wine
```

If that command shows old copies of wine running your setup, you need to kill them before you can run the setup program. If there are no other Wine programs running, you can kill them all with the command

```
$ killall wine
```

If you're also running Wine programs you care about, you'll have to kill off the old Setup instances one by one using kill and the individual PIDs (or perhaps Wine's spiffy Task Manager, which doesn't exist yet).

You should repeat the **ps** to make sure all of the old Wine processes are gone.

7. Getting help

7.1. Is there any documentation for Wine?

Yes, see http://www.winehq.org/site/documentation.[43]

7.2. I couldn't find the answer to my question in the documentation, but I've written a document explaining how to solve it. What should I do?

Updates and additions to the Wine documentation directory should be sent to the wine-patches mailing list at http://www.winehq.org/site/forums[44]. Website and FAQ additions should be added to the appropriate Wine Knowledge base directory.

7.3. Is there a Usenet newsgroup for Wine?

Yes, and it's called comp.emulators.ms-windows.wine[45]. The newsgroup serves as a place for users and developers to discuss Wine, and for minor announcements for the general public. Major announcements will be cross posted to other appropriate newsgroups, such as the following:

- comp.os.linux.announce[46]
- comp.windows.x.announce[47]
- comp.emulators.announce[48]

If your Usenet site does not carry these newsgroups, please urge your ISP's sysadmin to add and/or uplink them.

7.4. Is there a World Wide Web site for Wine?

Wine HQ (http://www.winehq.org) is the official site.

7.5. Is there an IRC channel for Wine?

Sure. It's channel `#WineHQ` on `irc.freenode.net` see (http://freenode.net). Usually several knowledgeable Wine users hang out there.

7.6. I think I've found a bug. How do I report this bug to the Wine programming team?

Bug reports should be submitted to our online Bugzilla system (http://bugs.winehq.org/). You should include at least the following:

- The Wine version tested
- The Windows application name, including the version, and, if applicable, a URL the application can be downloaded from
- A brief description of the bug
- The relevant part(s) of the output of the Wine debugger
- A screenshot of the visual problem, if applicable

For more information about reporting bugs please see the How to report a bug[52] section of the Wine Users Guide.

8. Helping Wine or becoming a Wine developer

8.1. How do I become a Wine developer? What do I need to know?

If you can program C, that's a good start. Download the sources via (Git,[53]) subscribe to the mailing lists, look around the source, and pay attention to the comp.emulators.ms-windows.wine newsgroup and the mailing lists (http://www.winehq.org/site/forums). See if there's anything that you think

you can fix or work on. You won't have much trouble finding areas that need work in Wine (grep for FIXMEs in the source).

8.2. How can I help contribute to the Wine project, and in what way(s)?

You can contribute programming or documentation skills, or monetary or equipment donations, to aid the Wine developers in reaching their goals.

One area where every Wine user can contribute to this project is by sending high quality bug reports to our Bugzilla and helping the developers with any follow up questions that they may have about a bug that you have come across. It is not only impossible but also impractical for a developers to have a copy of every program on the market. This is why we need your help even after you have sent in the initial bug report. If a developer has a good idea what might be causing the bug he or she may ask if you can try a patch and see if it fixes the problem. After this patch makes its way into our main development tree the bug report will be closed and your help will be appreciated by everyone.

For a list of ideas of how you can help, please consult the Wine contrib page[55].

8.3. I want to help beta test Wine. How can I do this?

Wine still consists of some Alpha code at this time. However, anyone is welcome to download the latest version, and try it out at any time.

8.4. I have written some code that I would like to submit to the Wine project. How do I go about doing this?

Submitting a patch for inclusion in Wine is pretty simple. Basically all you have to do is send the patch to the wine-patches mailing list (http://www.winehq.org/mailman/listinfo/wine-patches). Still there are a couple of recommendations about the patch format and all so it's best to read our page describing how to submit patches[57]. This will also give you more details about the whole process and in particular to what will happen to your patch once submitted.

9. Developing programs using Wine/WineLib

9.1. Can I use Wine to port my Win32 sources to Unix?

That is the idea of Winelib. Right now you may still have some difficulties, but this is changing all the time. Read the Winelib User's Guide[58] for info.

9.2. Will MFC work with Wine? What do I need to do?

Wine is not implementing an MFC replacement nor does it intend to. However it is possible (with a lot of work) to compile the MFC from source and thus produce an `mfc42.dll.so` library.

Please refer to the Winelib User's Guide[59] for how to do this.

9.3. Are there any commercial applications which have been ported using Wine?

Here are few examples of applications ported using Wine or Winelib:

- Corel's WordPerfect Office Suite 2000 was ported to Linux using Wine.
- Kylix, the Linux version of Delphi, was ported to Linux using Winelib. The IDE actually uses a combination of QT and Winelib which would not have been possible to achieve using only Wine. The generated applications however do not depend on Wine in any way.

- Vividas Streaming Video (http://www.vividas.com/support/)
- Ability Office (http://www.ability.com/linux/abilitylinux.php)
- IBM's Websphere (http://www7b.boulder.ibm.com/dl/swws/swwsgddb-p)
- BricsCad® (BricsCad® V6 for Linux[63])

9.4. Can I build one large Monolithic application?

No. However, if you don't want Wine as a dependency, you can bundle your private version of Wine into your package (.rpm/.deb). Wine has good support for such a setup via the WINEPREFIX environment variable.

9.5. How can I detect Wine?

You really shouldn't want to do this. If there's a quirk in Wine you need to work around, it's much better to fix it in Wine.

10. Wine HQ issues

10.1. Why are the mailing lists set to reply to author, not to mailing list?

There are some very valid reasons for doing so.

10.2. How to unsubscribe from the mailing lists?

Please see: http://www.winehq.org/site/forums And select [(Un-)Subscribe]

Notes

1. mailto:wine-devel@winehq.org
2. http://www.winehq.org/site/sending_patches
3. http://www.vmware.com
4. http://www.win4lin.com
5. http://bochs.sourceforge.net
6. http://savannah.nongnu.org/projects/plex86
7. http://fabrice.bellard.free.fr/qemu/
8. http://www.transitives.com/technology.htm
9. http://www.transitives.com/
10. http://www.reactos.com/
11. http://www.winehq.org
12. http://www.winehq.org/site/download
13. http://www.codeweavers.com/site/products/cxoffice/
14. http://www.codeweavers.com/site/products/cxserver/
15. http://www.codeweavers.com/site/products/pricing/
16. news:comp.emulators.ms-windows.wine
17. http://www.winehq.com/site/history
18. news:comp.emulators.ms-windows.wine
19. http://www.winehq.org
20. http://www.winehq.org/site/download

21. http://www.winehq.org/site/git
22. http://www.winehq.org/site/status
23. http://source.winehq.org/source/AUTHORS
24. http://www.cygwin.com/
25. http://www.mingw.org/
26. http://www.reactos.com/
27. http://darwine.opendarwin.org/
28. ftp://metalab.unc.edu/pub/Linux/system/filesystems/dosfs/
29. http://www.kernel.org/
30. http://www.freebsd.org/
31. http://www.reactos.com/
32. http://www.gnome.org/
33. http://www.kde.org/
34. http://sourceforge.net/project/showfiles.php?group_id=6241&package_id=77449
35. http://ibiblio.org/pub/linux/system/emulators/wine/
36. http://www.ibiblio.org/pub/Linux/MIRRORS.html
37. http://www.winehq.org/site/download
38. http://source.winehq.org/source/README
39. http://rpmseek.com/rpm-pl/wine.html?hl=com&cx=0::
40. http://www.winehq.org/site/download
41. http://appdb.winehq.org/
42. http://www.codeweavers.com/site/compatibility/
43. http://www.winehq.org/site/documentation
44. http://www.winehq.org/site/forums
45. news:comp.emulators.ms-windows.wine
46. news:comp.os.linux.announce
47. news:ccomp.windows.x.announce
48. news:ccomp.emulators.announce
49. http://www.winehq.org
50. http://freenode.net
51. http://bugs.winehq.org/
52. http://www.winehq.org/site/docs/wineusr-guide/bug-reporting
53. http://www.winehq.org/site/git
54. http://www.winehq.org/site/forums
55. http://www.winehq.org/site/contributing
56. http://www.winehq.org/mailman/listinfo/wine-patches
57. http://www.winehq.org/site/sending_patches
58. http://www.winehq.org/site/docs/winelib-guide/index
59. http://www.winehq.org/site/docs/winelib-guide/index
60. http://www.vividas.com/support/
61. http://www.ability.com/linux/abilitylinux.php

62. http://www7b.boulder.ibm.com/dl/swws/swwsgddb-p
63. ftp://ftp0:bricscad@ftp.bricscad.com/pub/Eng-Us/B4L/Readme.htm
64. http://www.winehq.org/site/forums