How to Install Wine on Ubuntu

February 3, 2022
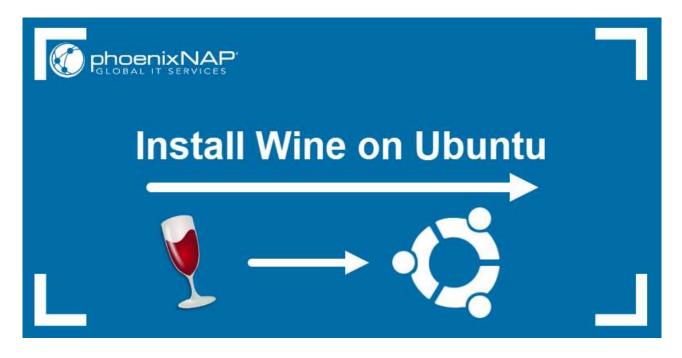
Introduction

Wine is an application that allows you to run Windows programs on a Linux system. Wine is similar to an emulator, but with a different technology that improves performance.

In this tutorial learn how to install Wine on Ubuntu.
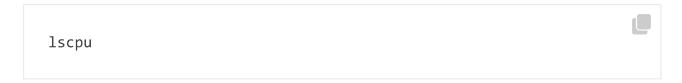

Prerequisites

- A user account with **sudo** privileges
- [Ubuntu 18.04 LTS Desktop Installed](#) or Ubuntu 20.04
- Access to a terminal window/command-line (Ctrl-Alt-T)

Install Wine from Ubuntu Repository

Step 1: Verify Ubuntu 32-bit or 64-bit system

Wine uses a different application for 32-bit and 64-bit versions of Ubuntu.

To view CPU details, enter the command:

```
lscpu
```

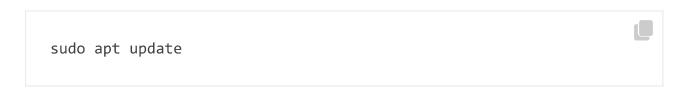The CPU op-mode(s) field tells you which architecture you are using:

CPU op-mode(s): 32-bit: You have a 32-bit OS
CPU op-mode(s): 64-bit: You have a 64-bit OS
CPU op-mode(s): 32-bit, 64-bit: You support both

Step 2: Install Wine from Default Repositories

Installing Wine from the default Ubuntu repositories is the easiest option. However, be aware that it may not provide the latest version.

1. Start by updating the apt repository package list. This ensures the latest stable version of Wine is installed.

```
sudo apt update
```

2. To install 64-bit Wine, enter the following:

```
sudo apt install wine64
```

To install 32-bit Wine, enter the following:

```
sudo apt install wine32
```

Step 3: Verify Wine Version Installed

After the operation completes, verify the installation by checking the running version:

```
wine --version
```


Installing Wine from the official Ubuntu repository will always provide a stable install. However, the repositories may not include the latest versions.

Alternative Option: Install Wine From WineHQ Repository

If you need a more recent version of Wine, install it on Ubuntu from the developers' repositories.

1. If you are using a 64-bit OS, start by enabling 32-bit architecture:

```
sudo dpkg --add-architecture i386
```

2. Then, update the repository again:

```
sudo apt update
```

```
sofija@sofija-VirtualBox:~$ sudo dpkg --add-architecture i386
[sudo] password for sofija:
sofija@sofija-VirtualBox:~$ sudo apt update
Get:1 http://security.ubuntu.com/ubuntu focal-security InRelease [114 kB]
Hit:2 http://rs.archive.ubuntu.com/ubuntu focal InRelease
Get:3 http://rs.archive.ubuntu.com/ubuntu focal-updates InRelease [114 kB]
Get:4 http://rs.archive.ubuntu.com/ubuntu focal-backports InRelease [101 kB]
Get:5 http://rs.archive.ubuntu.com/ubuntu focal-updates/main i386 Packages [545
```

3. Add the GPG key:

```
wget -qO- https://dl.winehq.org/wine-builds/winehq.key | sudo apt-
key add -
```

```
sofija@sofija-VirtualBox:~$ sudo wget -qO- https://dl.winehq.org/wine-builds/wi
nehq.key | sudo apt-key add -
OK
```

4. Then, run the following commands to add the WineHQ repository to Ubuntu:

```
sudo apt install software-properties-common
```

```
sudo apt-add-repository "deb https://dl.winehq.org/wine-builds/ubu
ntu/ $(lsb_release -cs) main"
```

```
sofija@sofija-VirtualBox:~$ sudo apt-add-repository "deb http://dl.winehq.org/w
ine-builds/ubuntu/ $(lsb_release -cs) main"
Get:1 http://dl.winehq.org/wine-builds/ubuntu focal InRelease [8041 B]
Hit:2 http://rs.archive.ubuntu.com/ubuntu focal InRelease
Hit:3 http://security.ubuntu.com/ubuntu focal-security InRelease
Hit:4 http://rs.archive.ubuntu.com/ubuntu focal-updates InRelease
Hit:5 http://rs.archive.ubuntu.com/ubuntu focal-backports InRelease
Get:6 http://dl.winehq.org/wine-builds/ubuntu focal/main i386 Packages [268 kB]
Get:7 http://dl.winehq.org/wine-builds/ubuntu focal/main all Packages [896 B]
Get:8 http://dl.winehq.org/wine-builds/ubuntu focal/main amd64 Packages [266 kB
]
Fetched 543 kB in 2s (242 kB/s)
Reading package lists... Done
```

5. Update the package lists:

```
sudo apt update
```

6. Install the latest stable Wine release using the command:

```
sudo apt install --install-recommends winehq-stable
```

Alternatively, to install the latest development release of Wine, use the command:

```
sudo apt install --install-recommends winehq-devel
```

7. Verify the installation by running:

```
wine --version
```


Note: The apt package manager typically handles any dependencies. If you get an error that a dependency is missing during the Wine installation, install each missing dependency with the command:

```
sudo apt install <package_name>
```

Then rerun the installation command.

How to Update Wine

Wine is updated frequently. To manually update wine, use the command:

```
sudo apt-get upgrade winehq-stable
```

Replace **stable** with **devel** for the developer version.

Stable releases come out every 10-12 weeks. Developer updates come out much more frequently.

By default, wine creates an installation directory in the home directory. It uses a virtual **c:** drive to interpret commands. You can find this directory at **/$HOME/.wine/drive_c/**.

How to Uninstall Wine From Ubuntu

To uninstall wine:

```
sudo apt remove wine[version]
```

Instead of **wine[version]**, type **wine64**, **wine32**, **wine-stable** or **wine-dev** according to the version you have installed.

That command removes Wine, but not its dependencies. To remove all unnecessary dependencies, run the command:

```
sudo apt autoremove
```

Removal of these remaining folders needs to be done manually. Run the following commands:

```
rm -rf $HOME/.wine
rm -f $HOME/.config/menus/applications-merged/wine*
rm -rf $HOME/.local/share/applications/wine
rm -f /.local/share/desktop-directories/wine*
rm -f /.local/share/icons/????_*.xpm
```
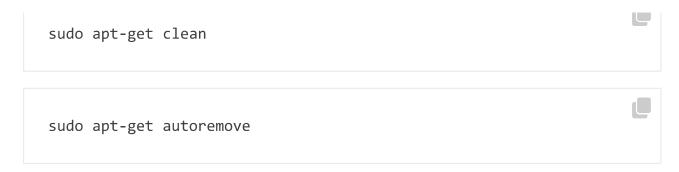
After deleting the files and directories, run:

```
sudo apt-get remove --purge ^wine
```

Now to correct any installation errors, run:
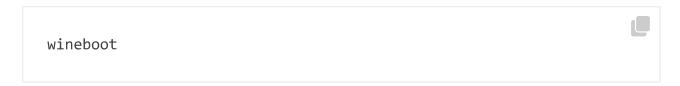
```
sudo apt-get update
```

```
sudo apt-get autoclean
```

```
sudo apt-get clean
```

```
sudo apt-get autoremove
```

Wine should now be totally removed from your system.

Get Started Using Wine

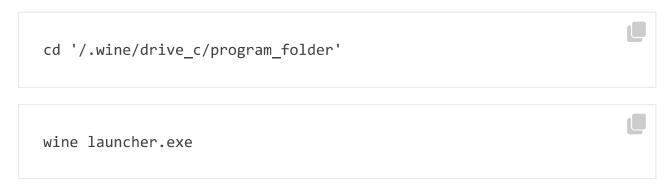To set up the configuration directory for Wine, run the following command:

```
wineboot
```

The command creates the *~/.wine* directory and initializes all the components.

Launching Applications

If you're [running a GUI on Ubuntu](), double-click a **Windows.exe** file to launch it. Wine automatically associates itself with the .exe file extension. You can also right-click the **application** and select **Open With > Wine**.

To launch an application from the command line, enter the following:

```
cd '/.wine/drive_c/program_folder'
```

```
wine launcher.exe
```

It's essential to change the working directory to the location of the application files. Replace `program_folder` with the actual directory that holds the application. Replace `launcher.exe` with the executable file for the application.

wine start Command

The `wine start` command is more robust than the basic `wine` command. It allows Wine to handle the working directory. Use it to specify a path to a specific location:

```
wine start 'C:\program_location\launcher.exe'
```

Specify a Linux path:

```
wine start /unix "$HOME/program_location/installer.exe
```

Use the `wine` or `wine start` command to launch the installer for the Windows application.

To download an installer to a local directory, use `wget` and then use the wine command to launch the installer. The application installs as it would on Windows. When installing from a disc, use the `wine start` command to specify the path to the installer. Use this to change drives in the middle of installation, if needed.

For security, do not run wine as a root user. Doing so can allow viruses and malware to infect your system.

Conclusion

Wine is a powerful tool that allows you to run Windows programs in Linux. This guide provides a solid start for installing and running wine on Ubuntu.

If you are using a different flavor of Linux, we have this tutorial also available for CentOS 7.

Was this article helpful?   Yes   No

Dejan Tucakov

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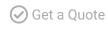
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