Installing Blender

docs.blender.org/manual/en/latest/getting_started/installing/index.html

Blender is released approximately every three months. You can keep up to date with the latest changes through the release notes.

System Requirements__

Blender is available for download on Windows, macOS, and Linux. Always check that the graphics drivers are up to date and that OpenGL is well supported. Blender has a set of minimum and recommended requirements; so make sure these are met before trying to install Blender.

Support for other hardware such as graphic tablets and 3D mice are covered later in Configuring Hardware.

Download Blender__

Blender offers a variety of different binary packages to choose from depending on their level of stability. Each package has the trade off of newest feature versus stability. The package that is right for you depends on your requirements for those two. A studio for example might want to have *long-term support*, while a hobbyist may want newer features, while others may just want to test upcoming features. Each package described below has something just right for everyone.

Stable Release
A package that contains the latest features and is considered stable without regressions. A new stable version is available about every three months.

Long-term Support
A package designed for long-lasting projects requiring a very stable version of Blender. LTS (Long-Term-Support) releases are supported for two years and will not have any new features, API changes or improvements. A new long-term support version is available every year.

Daily Builds
A package updated daily to include the newest changes in development. These versions are not as thoroughly tested as the stable release, and might break, although they are official and usually not highly experimental.

Note

Blender's source code is available for free to either reference or to Build from Source. While normal users are **not** expected to compile Blender, it does have advantages:

- Blender is always up to date.

- It allows access to any version or branch where a feature is being developed.

- It can be freely customized.

The procedure for installing a binary, either the latest stable release or a daily build, is the same. Follow the steps for your platform.

Note

Blender doesn't have a built-in updating system. This means you will need to update Blender yourself by following the upgrade steps described in the sections below.

Requirements

Ready for action.

Whether it's on a USB stick, sitting on a folder on your desktop, or fully installed, Blender runs out of the box.

- No installation needed.
- No internet connection required.

Truly portable, take it with you wherever you go!

Runs anywhere.

Blender is cross-platform, it runs on every major operating system:

- Windows 8.1, 10, and 11
- macOS **10.13** Intel · **11.0** Apple Silicon
- Linux

All efforts to make Blender work on specific configurations are welcome, but we can only officially support those used by active developers.

For Windows there is an installer available if you wish to add an icon on the desktop, associate .blend file extensions, etc.

Hardware Requirements

Minimum

- 64-bit quad core CPU with SSE2 support
- 8 GB RAM
- Full HD display
- Mouse, trackpad or pen+tablet
- Graphics card with 2 GB RAM, OpenGL 4.3
- Less than 10 year old

Recommended

- 64-bit eight core CPU
- 32 GB RAM
- 2560×1440 display
- Three button mouse or pen+tablet
- Graphics card with 8 GB RAM

Supported Graphics Cards

Always make sure to install the latest drivers from the graphics card manufacturer website. These requirements are for basic Blender operation, Cycles rendering using the GPU has higher requirements.

NVIDIA

GeForce 400 and newer, Quadro Tesla GPU architecture and newer, including RTX-based cards, with NVIDIA drivers (list of all GeForce and Quadro GPUs)

AMD

GCN 1st gen and newer. Since Blender 2.91, Terascale 2 architecture is fully deprecated, try using 2.90 (albeit not supported, it might still work) [list of all AMD GPUs]

Intel

Haswell architecture and newer. [list of all Intel GPUs]

macOS

Version **10.13** or newer for Intel processors on supported hardware. Version **11.0** for Arm-based processors (Apple Silicon).

Previous Versions

- Since **Blender 2.93** Windows 7 is no longer supported. Microsoft discontinued Windows 7 support in January 2020
- Blender **2.9x** require macOS 10.13+
- Blender **2.8x** require macOS 10.12+
- Blender 2.79 runs on all systems that support OpenGL 2.1 and above, with recent graphics drivers. For macOS, version 10.9 and later are supported.
- Blender 2.76 and earlier require OpenGL 1.4 graphics cards. For Windows, XP and later are supported.

Installing on macOS

docs.blender.org/manual/en/latest/getting_started/installing/macos.html

Check the <u>Downloading Blender</u> page to find the minimum requirements and the different versions that are available for Blender (if you have not done so yet).

Install from DMG

Blender for macOS is distributed as disk images (dmg-files). To mount the disk image, double-click on the dmg-file. Then drag `Blender.app` into the Applications folder.

Depending on the Security and Privacy preferences of your Mac, macOS will request your approval before opening Blender for the first time.

Tip

How to Make a Portable Installation

To keep all configuration files and installed add-ons inside the Blender application bundle, create a folder named `config` in the <u>LOCAL directory</u>.

```
./Blender.app/Contents/Resources/3.4/config/
```

Updating on macOS

On macOS there are various ways of updating Blender. This section covers the most common approach.

Updating with DMG

When an update for Blender is released, it can be downloaded directly from the <u>Blender website</u>. Install the new version by overwriting the current `Blender.app` in the Applications folder. You can rename `Blender.app` or place it in a different folder to have more than one version at a time.

See also

The Splash screen <u>Defaults</u> page for information about importing settings from previous Blender versions and other quick settings.

Installing on Linux

Check the Downloading Blender page to find the minimum requirements and the different versions that are available for Blender (if you have not done so yet).

Install from blender.org_

Download the Linux version for your architecture and uncompress the file to the desired location (e.g. `~/software` or `/usr/local`).

Blender can now be launched by double-clicking the executable.

When using this method of installation, it is possible to have multiple versions of Blender installed.

For ease of access, you can configure your system by adding a menu entry or shortcut for Blender. You may also associate blend-files with Blender so that when selected from the file browser, they will automatically open in Blender. These settings are typically found in conjunction with the Window Manager settings. (Gnome or KDE.)

Install from Package Manager_

Some Linux distributions may have a specific package for Blender in their repositories.

Installing Blender via the distribution's native mechanisms ensures consistency with other packages on the system and may provide other features (given by the package manager), such as listing of packages, update notifications and automatic menu configuration. Be aware, though, that the package may be outdated compared to the latest official release, or not include some features of Blender. For example, some distributions do not build Blender with Cycles GPU rendering support, for licensing or other reasons.

If there is a specific package for your distribution, you may choose what is preferable and most convenient, otherwise, the official binary is available on blender.org.

Install from Snap_

Snap is a universal package manager designed to work across a range of distributions. Assuming snap is already installed, Blender can be installed through snap with:

```
snap install blender
```

Installing from this method has a benefit that updates to Blender are automatically installed. Blender from Snap should have a more consistent distribution then individual package managers.

Running from the Terminal‗

See Launching from the terminal.

Graphics System (X11 & Wayland)‗

Blender supports both X11 and Wayland, see Linux Windowing Environment for details.

Avoiding Alt-Mouse Conflict‗

Some window managers default to `Alt-LMB` and `Alt-RMB` for moving and resizing windows.

Blender uses these for various operations, notably:

- Emulate 3 Button Mouse.

- Select Edge Loops.

- Changing multiple properties at once.

To access Blender's full feature set, you can change the window manager settings to use the *Meta* key instead (also called *Super* or *Windows* key):

Gnome
Enter the following in a command line (effective at next login):

```
gsettings set org.gnome.desktop.wm.preferences mouse-button-modifier '<Super>'
```

KDE
System Settings ‣ Window Management ‣ Window Behavior ‣ Window Actions, Switch from 'Alt' to 'Meta' key.

Updating on Linux‗

On Linux there are various ways of updating Blender. This section covers the most common approaches.

Updating from blender.org‗

When an update for Blender is released, it can be downloaded directly from the Blender website and installed using the steps described in the section Install from blender.org.

Updating with a Package Manager‗

Many Linux distributions have packages for Blender available, which can be installed using the distribution's package manager. After installation, Blender can be updated using the same steps as updating any other application.

See also

The Splash screen <u>Defaults</u> page for information about importing settings from previous Blender versions and other quick settings.

Installing on Windows

Check the <u>Downloading Blender</u> page to find the minimum requirements and the different versions that are available for Blender (if you have not done so yet).

Download the zip-file or Windows Installer File.

Install from Windows Installer File

The Windows installer will let you choose an installation folder, and will create an entry in the start menu as well as associate blend-files with Blender. It requires administrator rights.

Install from Zip

When choosing the zip-file, you have to manually extract Blender to the desired folder, where you can double-click the executable to run Blender.

No start menu item will be created and no blend-file association will be registered, but there is also no need for administrator rights. You can register the file association manually by clicking *Make Default* on the System tab of the <u>Preferences</u>. Alternatively, you can run `blender -r` from the <u>Command Line</u>.

Tip

How to Make a Portable Installation

To keep all configuration files and installed add-ons in the executable folder, create a folder named `config` in the <u>LOCAL directory</u> of the unzipped folder.

Install from Microsoft Store

Blender can be installed from the Microsoft Store by searching for Blender in the Microsoft Store and installing it.

Blender can now be launched from the Windows Start menu.

Updating on Windows

On Windows there are various ways of updating Blender. This section covers the most common approaches.

Updating from Windows Installer File

When an update for Blender is released, it can be downloaded directly from the <u>Blender website</u>. The Windows installer can then be run to install the updated version of Blender. To remove a previously installed version of Blender, use Windows settings or control panel to uninstall the desired version.

Updating from Zip_

When an update for Blender is released, it can be downloaded directly from the <u>Blender website</u> and extracted to the desired folder, where you can double-click the executable to run Blender. For more information on creating a portable version of Blender, see the section <u>Install from Zip</u>.

Note, you do not have to overwrite your existing Blender installation. It's perfectly possible to have multiple versions installed side by side.

Updating from the Microsoft Store_

When an update for Blender is available on the Microsoft Store, it will be downloaded and installed automatically.

See also

The Splash screen <u>Defaults</u> page for information about importing settings from previous Blender versions and other quick settings.

Installing from Steam

Steam is a software distribution platform. Blender can be downloaded and updated using the Steam client by following the steps described below on Linux, macOS, or Windows.

Download the Steam client for your operating system. Once installed, open the client and login to your Steam account, or create one if you haven't already. Once logged in, navigate to the *Store* tab, search for "Blender", and press the green installation button. Blender should now be available in the *Library* tab of the Steam client.

See also

When installing Blender from Steam on Linux and Windows, the `.blend` filename extension will not be automatically associated with Blender. To associate blend-files with Blender, see the processes described on the Linux and Windows installation pages.

Updating with Steam

When an update for Blender is available on Steam, Steam will automatically update Blender for you.

Configuring Peripherals

Displays_

A full HD display or higher is recommended. Multi-monitor setups are supported, and workspaces can be configured to span multiple monitors.

Example of Blender's multi-monitor support._

Input Devices_

Blender supports various types of input devices:

- Keyboard (recommended: keyboard with numeric keypad, English layout works best)

- Mouse (recommended: three button mouse with scroll wheel)

- NDOF Device (also known as *3D Mouse*)

- Graphic Tablet

Note

If you don't have a middle mouse button or numpad, you can emulate these in the Input Preferences.

Mouse_

Mouse Button Emulation_

If you do not have a 3 button mouse, you will need to emulate it by checking the option in the Preferences.

The following table shows the combinations used:

3-button Mouse	`LMB`	`MMB`	`RMB`
2-button Mouse	`LMB`	`Alt-LMB`	`RMB`

Keyboard

Numpad Emulation

If you do not have a numpad on the side of your keyboard, you may want to emulate one. You can then use the number row at the top of the keyboard instead, but will no longer have access to these keys' original functions (such as switching between vertex/edge/face selection in Edit Mode).

See also

Read more about *Numpad Emulation* in the Preferences.

Non-English Keyboards

If you use a keyboard with a non-English layout, you may still benefit from switching to the UK or US layout while working with Blender.

Note

You can also change the keymap from the Preferences. However, this manual assumes you are using the default keymap.

Graphic Tablet

Graphics tablets can be used to provide a more traditional method of controlling the mouse cursor using a pen. This can help provide a more familiar experience for artists who are used to painting and drawing with similar tools, as well as provide additional controls such as pressure sensitivity.

Note

If you are using a graphic tablet instead of a mouse and pressure sensitivity does not work properly, try to place the mouse pointer in the Blender window and then unplug/replug your graphic tablet. This might help.

NDOF (3D Mouse)

3D mice or NDOF (N-Degrees of Freedom) devices are hardware that you can use to navigate a scene in Blender. Currently only devices made by 3Dconnexion are supported. These devices allow you to explore a scene, and make Fly/Walk Navigation easier to control. The NDOF device can be configured in the Preferences. These settings can also be accessed directly from the viewport using the `NDOFMenu` button on the NDOF device.

See also

See Input Preference for more information on configuring peripherals.

Head-Mounted Displays (Virtual Reality)

HMDs (Head-Mounted Displays) make it possible to place users in an interactive, virtual environment. Attached to the head, they track head movements to project a seemingly surrounding world onto small screens in front of the user's eyes. If the system works well, they experience the virtual environment as if they were really inside of it.

Supported Platforms

Virtual reality support in Blender is implemented through the multi-platform OpenXR standard. This standard is new and therefore support for it is still limited.

Platform	Operating System	Notes
HTC Vive Cosmos	Windows	Developer Preview
HTC Vive Focus 3	Windows	Developer Preview
Monado	GNU/Linux	*Not* recommended for general use yet.
Oculus (Rift and Quest)	Windows	Requires Oculus v31 Software Update. Oculus Link required for Quest.
SteamVR	Windows, GNU/Linux	Requires SteamVR 1.16 or greater.
Varjo	Windows	–
Windows Mixed Reality	Windows	Requires Windows 10 May 2019 Update (1903).

OpenXR compatible platforms.

Getting Started_

The following subsections describe how an HMD can be set up for usage with the supported platforms. If this is not done, Blender will report an error when trying to start a virtual reality session.

HTC Vive Cosmos_

The dedicated platform for the HTC Vive Cosmos is currently targeted at developers and may lack features found in other platforms.

- Follow the steps from the Vive Developer Forums.

- Enable the VR Scene Inspection add-on in Blender.

HTC Vive Focus 3_

The dedicated platform for the HTC Vive Focus 3 is currently targeted at developers and may lack features found in other platforms.

- Follow the steps from the Vive Developer Forums.

- Enable the VR Scene Inspection add-on in Blender.

Monado_

Monado is a free and open source XR platform for Linux. It is not yet ready for production usage and should only be used for testing purposes.

- Packages are available for the following distributions:

  - Ubuntu (Eoan, Focal)

  - Debian (bullseye, sid)

  For other systems, it has to be compiled from source, which in this case is not recommended for people with little experience in compiling software. Follow the Getting Started Guides from Monado to do so nevertheless.

- Enable the VR Scene Inspection add-on in Blender.

Oculus_

Oculus provides full support for OpenXR as of the Oculus v31 Software Update.

- Download and install the Oculus Rift/Oculus Link software.

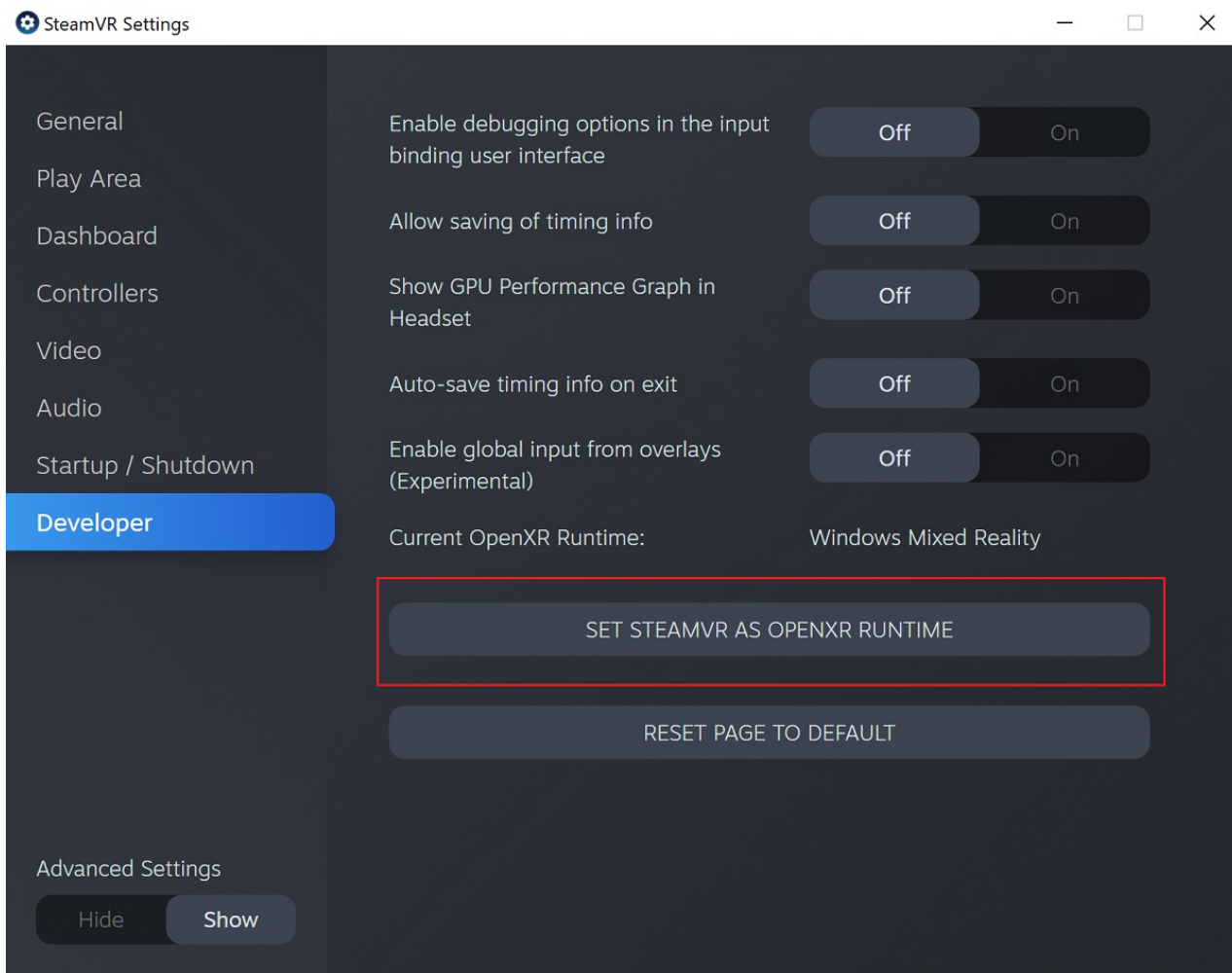- Set Oculus as the active OpenXR runtime via the *General* tab in the Oculus App Settings.
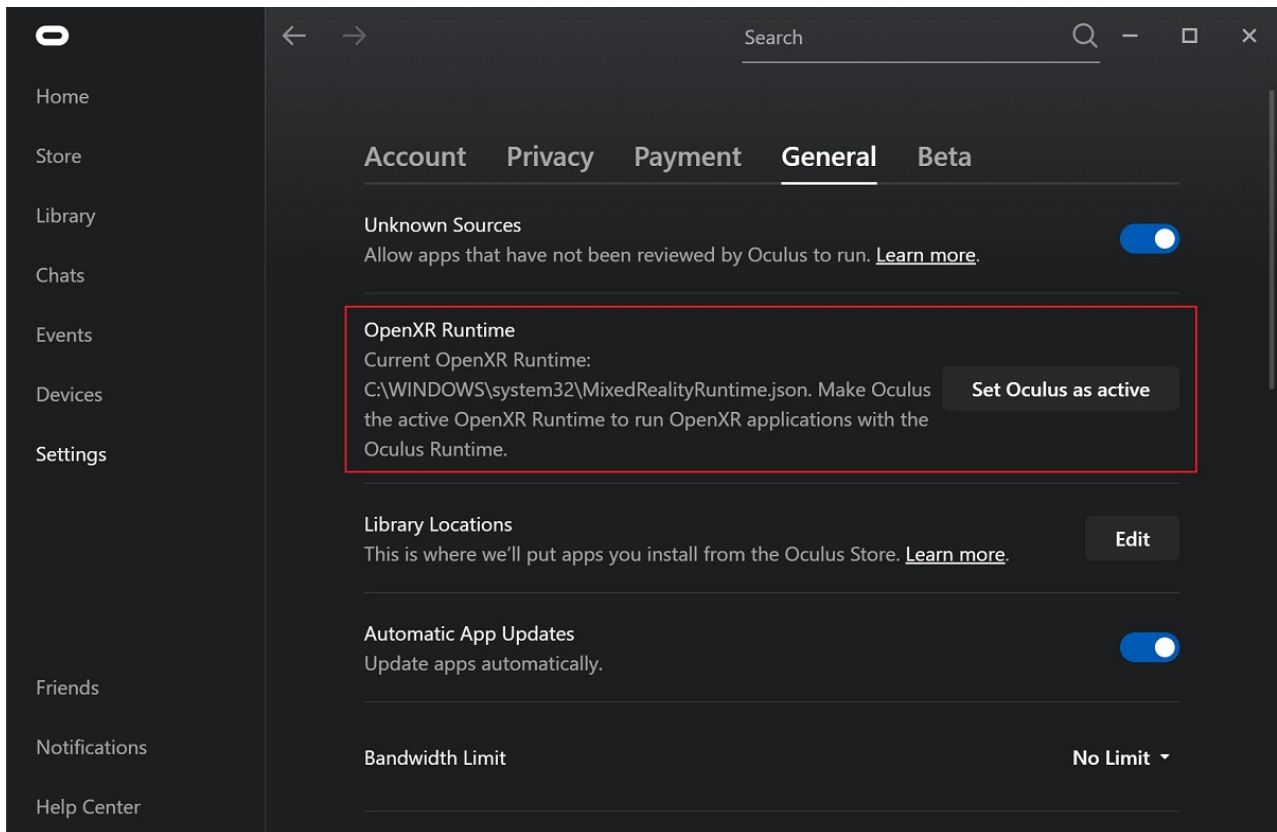
Enable the <u>VR Scene Inspection add-on</u> in Blender.

SteamVR

<u>SteamVR</u> provides full support for OpenXR as of SteamVR 1.16.

Set SteamVR as the active OpenXR runtime via the *Developer* tab in the SteamVR Settings.

Enable the VR Scene Inspection add-on in Blender.

Note

The SteamVR runtime can also be used for HTC Vive Cosmos, Oculus, and Windows Mixed Reality HMDs.

Varjo

Varjo includes full OpenXR support with its required Varjo Base software.

Enable the VR Scene Inspection add-on in Blender.

Windows Mixed Reality

Windows Mixed Reality provides full support for OpenXR. To check if a PC meets the requirements to run the software, Microsoft offers the Windows Mixed Reality PC Check application.

- Make sure the Windows 10 May 2019 Update (1903) is installed.

- If the system meets all requirements, the Mixed Reality Portal should already be installed. It is also available in the Microsoft Store.

- Launch the Mixed Reality Portal. Click the menu button `...` in the lower left corner. In the menu it opens, select the *Set up OpenXR*.

- Enable the VR Scene Inspection add-on in Blender.

Note

To switch to Windows Mixed Reality from another OpenXR runtime (e.g. SteamVR), download the OpenXR Developer Tools from the Microsoft Store and set Windows Mixed Reality as the active runtime.