Flatpak is a portable software packager for native Linux software deployment. It has been designed to offer a sandbox environment in which users can run applications in isolation from the rest of the system. This means that Flatpak software can run on virtually any Linux distribution... including Batocera.

This is currently supported only for x86_64, as most Flatpaks are only provided for Linux on the x86/x86_64 platform.

Although we aim to have all Flatpaks functioning, we can't guarantee 100% compatibility; audio tends to be a common issue. Report any issues you find to our Github/Discord server (check for duplicates first).

Common issues: no PS4 controller support, cannot install Flatpaks if using a NAS for your SAVES directory, audio is absent on some configurations, some games think the D-pad is eternally being pressed down on certain controllers, apps that depend on opening the file browser crash upon doing so, etc.

If you still want to use a NAS for the rest of your systems' saves, Flatpaks can still be installed to internal storage as a workaround.

Steam now has its own dedicated page!

This system scrapes metadata for the “flatpak” group and loads the flatpak set from the currently selected theme, if available.

Grouped with the “ports” group of systems.

Quick reference

- **Emulator:** Flatpak
- **Folder:** /userdata/roms/flatpak
• Accepted ROM formats: .flatpak

Application files

Unlike with most systems, Flatpaks aren't actually installed to its ROM folder at /userdata/roms/flatpak. No no, here only the shortcuts to them are stored. The actual Flatpaks themselves are installed to the SAVEs folder at /userdata/saves/flatpak.

How to install a Flatpak

Using flatpak-config

On Batocera v31, if this is your first time using Flatpak on the system, you'll have to add the repository first. One of the most popular is the Flathub repo. To do that, first connect to your Batocera via SSH or use xterm ([F1] on system list → Applications) and run the following command (while connected to the internet):

```
# flatpak remote-add --if-not-exists flathub
https://flathub.org/repo/flathub.flatpakrepo
```

Batocera v32 and higher already have this set as the default repository.

In Batocera v32 and higher, you can then launch flatpak-config from the file manager ([F1] → Applications) to search for and install Flatpaks.
There's a bug affecting v32 where two cursors are displayed. The one you're controlling is the white one. This will be fixed in a future version.

Click the **Upgrade** button to update all installed flatpaks to their latest version. Restart when it prompts you to.

**Using the terminal/SSH**

First of all, you need to connect to **Batocera through SSH**.

Then, you need to add your Flatpak sources to the system. One of the most popular is the Flathub repo.

```
# flatpak remote-add --if-not-exists flathub
```
Once your repo is added, you can search for the software you want to install. In our example here, we are going to install Steam. So, let's search for it:

```
# flatpak search Steam
```

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
<th>Application ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>Steam</td>
<td>Manage and play games distributed by Steam</td>
<td>com.valvesoftware.Steam</td>
</tr>
<tr>
<td>Boxtron</td>
<td>Compatibility tool to run DOS games on Steam</td>
<td>?Steam.CompatibilityTool.Boxtron</td>
</tr>
<tr>
<td>vkBasalt</td>
<td>A Vulkan post processing layer for Linux</td>
<td>?software.Steam.Utility.vkBasalt</td>
</tr>
<tr>
<td>protontricks</td>
<td>A simple wrapper that does winetricks things</td>
<td>?ware.Steam.Utility.protontricks</td>
</tr>
<tr>
<td>(…)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The piece of software we want to install, Valve's Steam client, is the first one. It can be installed with:

```
# flatpak install com.valvesoftware.Steam
```

Looking for matches?
Found similar ref(s) for com.valvesoftware.Steam? in remote flathub (system).
Use this remote? [Y/n]: Y
Required runtime for com.valvesoftware.Steam/x86_64/stable (runtime/org.freedesktop.Platform/x86_64/20.08) found in remote flathub
Do you want to install it? [Y/n]: Y

com.valvesoftware.Steam permissions:

- ipc
- network
- pulseaudio
- wayland
- x11
- devices
- bluetooth
- devel
- multiarch
- per-app-dev-shm
- file access [1]
- dbus access [2]
- system dbus access [3]
- tags [4]

[4] proprietary

Remote          Download                          Branch       Op
1. flathub       < 152.6?MB                      20.08         i
2. org.freedesktop.Platform.GL.default          20.08         i
Now, the Flatpak is installed, but you need to tell Batocera to show it up in the EmulationStation menu (under Ports):

```
# batocera-flatpak-update
```

Steam

updating permissions on files.

**Manually placing the files**

Let's say you've got yourself a fine and dandy Flatpak package in its physical folder form and you want to tell Batocera to just use that instead of searching for it in a repository. This is simple:
1. Move the folder containing your Flatpak package to `roms/flatpak/`
2. Then just run `flatpak install <name of package>`

So for example if I had `emby-theater-snap_3.0.15_amd64`, I would move it to `roms/flatpak/emby-theater-snap_3.0.15_amd64` and then run:

```
flatpak install emby-theater-snap_3.0.15_amd64.snap
```

## Uninstalling Flatpaks

😊 A sometimes necessary evil.

You can use the same `flatpak-config` tool to remove them or run the command:

```
flatpak uninstall <name-of-package-here>
```

Don't worry about spelling the package's name precisely, Flatpak will search your system for matching results and ask you if it's the correct one to uninstall first.

⚠️ Unfortunately, for now at least, the `.flatpak` file from the `/userdata/roms/` directory must be removed manually in order to remove the entry from your game list too.

## Cleaning unused Flatpaks

⚠️ This command used to be buggy on v32 and below, it is not advised to use it on older Batocera versions. Link to the related issue report.

So you've been using Flatpaks for a while now, you may have noticed that some applications need to install "runtimes" and other libraries to function (which if you ask me defies the whole point of platform independent distribution packages but whatever). It's safe to leave these packages, and even multiple versions of the same package even, on a system after you no longer need the package that initially installed it. However over time they can take up quite some space, especially if you've been installing and uninstalling games as you play through them.

So you could uninstall these packages one by one, but that would take an inordinate amount of time especially if you have to shift through which packages are really no longer required and which ones are. There's a simple command you can run instead to do all that for you:

```
flatpak uninstall --unused
```
Freely distributed games

Here are some lists of freely distributed Linux games!

Controls

Here are the default controls used in Flatpak games shown on a Batocera Retropad:

![Default controls](image)

Obviously, applications designed for a mouse and keyboard interface will probably only work when those are connected.

Troubleshooting

My Flatpaks (including Steam) won't launch!

Try one of the following:

- Update your game list: **Main Menu → Game Settings → Update Gamelists.**
- Flatpaks currently do not work on a NAS, if you are using a NAS try switching to internal storage.
- SSH into Batocera and run the following: `batocera-flatpak-update`
- If you are on an older Batocera version (like v31 or lower) it might be a permissions issue.
  1. Press [F1] on your keyboard to enter into File Manager
  2. Ensure you are in the Share folder (left in the sidebar)
  3. Navigate to the saves folder
  4. Select everything by pressing [Ctrl] + [A]
  5. Right-click and go to **Properties**
  6. Click on the "Permissions" tab
  7. Click on “View Content:” and choose “Anyone”
  8. Click on “Change Content:” and choose “Anyone”
  9. Click on “Access content:” and choose “Anyone”
  10. Click on “OK”
  11. Reboot and try it

My game is running really slowly

- If using a Nvidia GPU, make sure your official Nvidia graphics drivers are enabled and functional.
  - Sometimes, Flatpak will “forget” that you have drivers and will need to “redownload” them (you'll find Steam is suddenly lagging in its menus). Run `flatpak update` in the **SSH** and if it starts downloading `org.freedesktop.Platform.GL.nvidia-###-##-##` then that is what happened.
- Try reinstalling the game and ensure all of its dependencies are sorted out, with no errors.
PC games in general (especially ones that were ported from home consoles to PC) can be buggy. Check out the PCGamingWiki for general tips, settings configurations, launch commands and patches you can apply to fix the game (just keep in mind it's focused on Windows, not Linux (and thus, not Batocera) so a lot of external programs/patches won't be compatible).

**My controls in-game are not working**

Unfortunately some games are just garbage at supporting certain controllers. Refer to the PCGamingWiki for general tips, but if you're still struggling to get your controller recognized by the game, see if it would be possible to get the game running from Steam. Once that's done, it should be possible to use Steam to configure the controls, allowing you to use any controller that would be compatible with Steam instead.

**Further troubleshooting**

For further troubleshooting, refer to the generic support pages.