

# Running unpackaged software

This chapter guides you through a number of ways in which you can run software that isn't packaged for NixOS (yet), including proprietary and custom software and games that likely never will be packaged.

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# Introduction

NixOS is very strict in its approach to system purity; there is essentially no global environment, and this also means that a lot of assumptions about what a 'standard Linux system' looks like, do not hold up when you are using NixOS. This is a common cause of problems, when people try to run software on NixOS that was not specifically packaged for it.

In this chapter, we'll go through a few ways in which you can deal with this situation, depending on what format your software is available in.

# Running an AppImage

If you try to run an AppImage with the usual `./application-name` invocation, you'll find that they won't run. This is because the AppImage runtime expects some files to exist in a global location that NixOS doesn't put there.

In practice, this is usually not a problem - in *most* cases, you can use `appimage-run` to run an AppImage on NixOS. `appimage-run` is a tool that creates a virtual environment with all the stuff that an AppImage expects to be there, and then runs it within that environment for you.

To run an AppImage called `application-name`, you should ensure that `appimage-run` is installed into your environment (eg. by adding it to your `systemPackages`), and then run:

```
appimage-run ./application-name
```

In some cases, this doesn't work either. That usually happens when the AppImage expects some additional library to exist on the system, but the `appimage-run` environment doesn't have it. On most Linux distributions, this would be fixed by installing the library it wants, but on NixOS that's a little more complicated. This guide doesn't currently cover that case (yet), and for now I would recommend to try another approach in this chapter instead.