Nix for PHP Developers

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https://www.oliverdavies.uk

About Me

- PHP since 2007.
- Drupal since 2008.
- Full-time Linux since ~2015.
- Nix/NixOS since 2022.

Nix for PHP Developers

Oliver Davies

Who has PHP installed on their computer?

Who has multiple versions of PHP installed?

Installing PHP

- WAMP (Windows), MAMP (macOS), XAMPP
- Homebrew (`brew install php`)
- `apt`, `dnf`, `yum`, `pacman` `yay`
- Laravel Herd/Sail
- Symfony CLI?
- Containers (Docker, Podman, LXC, etc)
- Virtual machines (VMWare, Virtualbox, etc)

What is Nix?

- Package manager with more than **120,000** packages (`nixpkgs`)
- Operating system with more than **20,000** packages (NixOS)
- Tool for declaratively building software reproducibly
- A functional domain-specific configuration language
- Home Manager, `nix-darwin` , `devenv`
- Started as a research project by Eelco Dolstra around 2003

Back to nixos.org | Packages | NixOS options | Flakes Experimental | NixOS Wiki

Search more than **120 000 packages**

Search for packages

Search

Channel: 25.05 unstable

Please help us improve the search by reporting issues.

❤️ Elasticsearch instance graciously provided by Bonsai. Thank you! ❤️

Package sets

- php84Extensions 111
- php83Extensions 111
- php82Extensions 111
- php81Extensions 111
- No package set 49
- emacsPackages 29
- php84Packages 19
- php83Packages 19
- php82Packages 19
- php81Packages 19
- vimPlugins 7
- haskellPackages 6
- vscode-extensions 5
- rPackages 5
- python313Packages 4
- python312Packages 4

Showing results 1-50 of **643 packages**.

Sort: Best match

Data from nixpkgs `a58390ab`.

php

HTML-embedded scripting language

Name: `php-with-extensions` Version: **8.4.11** Homepage Source License: PHP License v3.01

▾▾▾ Show more package details ▾▾▾

php83

HTML-embedded scripting language

Name: `php-with-extensions` Version: **8.3.24** Homepage Source License: PHP License v3.01

▾▾▾ Show more package details ▾▾▾

php82

HTML-embedded scripting language

Name: `php-with-extensions` Version: **8.2.29** Homepage Source License: PHP License v3.01

▾▾▾ Show more package details ▾▾▾

php81

HTML-embedded scripting language

Name: `php-with-extensions` Version: **8.1.33** Homepage Source License: PHP License v3.01

kdePackages 3

sbclPackages 2

libsForQt5 2

apacheHttpdPackages 1

Licenses

PHP License v3.01 302

MIT License 127

BSD 3-clause "New" or "Revised" License 53

Apache License 2.0 48

Unfree 22

BSD 2-clause "Simplified" License 14

GNU General Public License v2.0 or later 11

GNU Library General Public License v2 or later 8

GNU General Public License v3.0 or later 6

phpunit

PHP Unit Testing framework

Name: `phpunit` Version: **12.1.5** Homepage Source License: BSD 3-clause "New" or "Revised" License

▾▾▾ Show more package details ▾▾▾

phpactor

Mainly a PHP Language Server

Name: `phpactor` Version: **2025.04.17.0** Homepage Source License: MIT License

▾▾▾ Show more package details ▾▾▾

vimPlugins.nvim-treesitter-parsers.php

Name: `vimplugin-treesitter-grammar-php` Homepage Source

▾▾▾ Show more package details ▾▾▾

apacheHttpdPackages.php

HTML-embedded scripting language

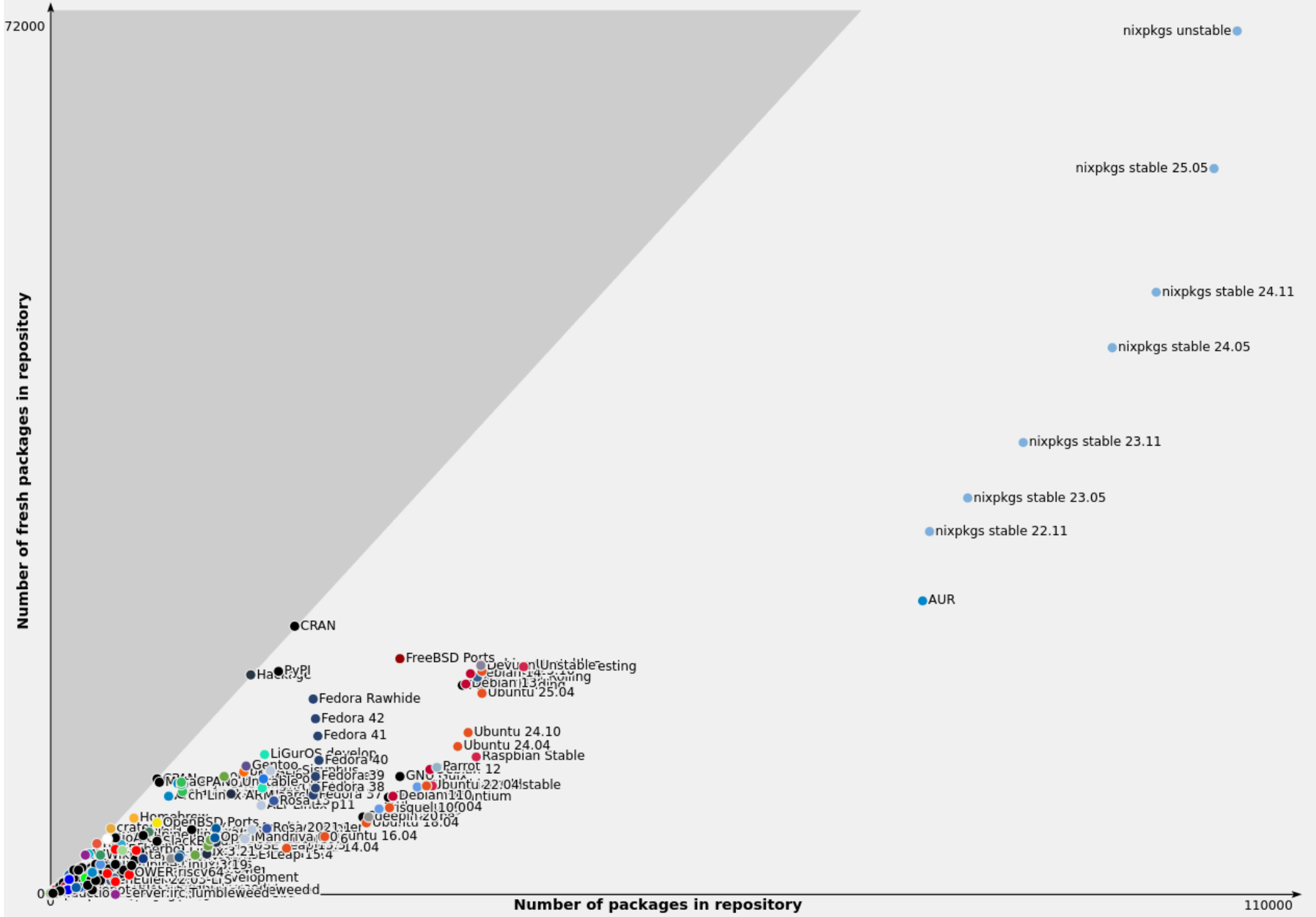
Name: `php-with-extensions` Version: **8.4.11** Homepage Source License: PHP License v3.01

▾▾▾ Show more package details ▾▾▾

phpdocumentor

PHP documentation generator

Name: `phpdocumentor` Version: **3.7.1** Homepage Source License: MIT License


72000
0
Number of fresh packages in repository
Number of packages in repository
110000
nixpkgs unstable
nixpkgs stable 25.05
nixpkgs stable 24.11
nixpkgs stable 24.05
nixpkgs stable 23.11
nixpkgs stable 23.05
nixpkgs stable 22.11
AUR
CRAN
PyPI
FreeBSD Ports
Fedora Rawhide
Fedora 42
Fedora 41
Fedora 40
Fedora 39
Fedora 38
Ubuntu 25.04
Ubuntu 24.10
Ubuntu 24.04
Raspbian Stable
Parrot 12
Ubuntu 22.04
Debian 10
Ubuntu 18.04
Ubuntu 16.04
Gentoo
LiGurOS develop
Homebrew
OpenBSD Ports
Mandriva
Leap 15.4
Tumbleweed

Installing Nix

https://nixos.org/download

```
$ sh <(curl --proto '=https' --tlsv1.2 -L https://nixos.org/nix/install) \
  --daemon
```

Different instructions for Linux, macOS and Windows (WSL2).

Different instructions for NixOS.

```
$ nix --version

nix (Nix) 2.28.4
```

```
This installation tool will set up your computer with the Nix package
manager. This will happen in a few stages:

1. Make sure your computer doesn't already have Nix. If it does, I
   will show you instructions on how to clean up your old install.

2. Show you what I am going to install and where. Then I will ask
   if you are ready to continue.

3. Create the system users (uids [30001..30032]) and groups (gid 30000)
   that the Nix daemon uses to run builds. To create system users
   in a different range, exit and run this tool again with
   NIX_FIRST_BUILD_UID set.

4. Perform the basic installation of the Nix files daemon.

5. Configure your shell to import special Nix Profile files, so you
   can use Nix.

6. Start the Nix daemon.
```

Installing PHP with Ubuntu

```
$ apt update -y

$ apt-get install php

$ which php

/usr/bin/php

$ php -v

PHP 8.3.6 (cli) (built: Jul 14 2025 18:30:55)
```

Running PHP with Nix

```
$ nix run nixpkgs#php \
  --extra-experimental-features 'nix-command flakes' \
  -- -v

PHP 8.4.11 (cli) (built: Jul 29 2025 15:30:21)
```

```
$ nix shell nixpkgs#php \
  --extra-experimental-features 'nix-command flakes'

$ which php
/nix/store/s4kv9bzqawhqcyjg9xm2hji3jap6d6kd-php-with-extensions-8.4.11/bin/php

$ php -v

PHP 8.4.11 (cli) (built: Jul 29 2025 15:30:21)
```

Using a `shell.nix` file

```
{ pkgs ? import <nixpkgs> {} }:

pkgs.mkShell {
  packages = with pkgs; [
    php
    phpPackages.composer
    phpactor
  ];
}
```

```
$ nix-shell shell.nix

[nix-shell:~/my-project]$ composer -V

Composer version 2.8.5 2025-01-21 15:23:40
```

Using a `flake.nix` file

```
{
  inputs.nixpkgs.url = "github:nixos/nixpkgs/nixos-unstable";

  outputs = inputs:
    let
      system = "x86_64-linux";
      pkgs = import inputs.nixpkgs { inherit system; };
    in {
      devShells.${system}.default = (import ./shell.nix {
        inherit pkgs;
      });
    };
}
```

Using a `flake.nix` file

```
{
  inputs.nixpkgs.url = "github:nixos/nixpkgs/nixos-unstable";

  outputs = inputs:
    let
      system = "x86_64-linux";
      pkgs = import inputs.nixpkgs { inherit system; };
    in {
      devShells.${system}.default = pkgs.mkShell {
        packages = with pkgs; [
          php
          phpPackages.composer
          phpactor
        ];
      };
    };
}
```

Structure of a Flake-based project

```
.
├── composer.json
├── composer.lock
├── flake.lock
├── flake.nix
├── output_dev
├── source
└── vendor
```

As well as **flake.nix**, we also get **flake.lock**.

Pinning packages

```
# flake.nix

inputs = {
  nixpkgs.url = "github:nixos/nixpkgs/nixos-unstable";
  nixpkgs-stable.url = "github:nixos/nixpkgs/nixos-24.11";
  nixpkgs-pinned.url = "github:nixos/nixpkgs/45570c299dc2";
}
```

```
{
  let
    pkgs-stable = import inputs.nixpkgs-stable { inherit system; };
  in {
    packages = [ pkgs-stable.php ];
  };
}
```

Managing services

With NixOS:

```
services.mysql.enable = true;

services.mysql.initialDatabases = [
  { name = "my_project"; }
  { name = "another_project"; }
];
```

Without NixOS:

https://github.com/juspay/services-flake

Managing services

```
{
  inputs = {
    flake-parts.url = "github:hercules-ci/flake-parts";

    nixpkgs.url = "github:nixos/nixpkgs/nixpkgs-unstable";

    process-compose.url = "github:Platonic-Systems/process-compose-flake";

    services.url = "github:juspay/services-flake";
  };

  # ...
```

Managing services

```
imports = [
  inputs.process-compose.flakeModule
];

perSystem = { config, lib, pkgs, ... }: {
  process-compose."default" = {
    imports = [
      inputs.services.processComposeModules.default
    ];

    services = { # ... };

    settings.processes = { # ... };
}
```

Managing services

```
services = {
  mysql."mysql1" = {
    enable = true;

    initialDatabases = [
      { name = "drupal_nix_flake_example"; }
    ];
  };
};
```

Managing services

```
settings.processes = {
  php = {
    command = pkgs.writeShellApplication {
      name = "php-local-server";

      text = "${getExe php} -S 127.0.0.1:${toString webPort} -t web";
    };

    depends_on."mysql1".condition = "process_healthy";
  };
};
```

Managing services

```
  devShells.default = pkgs.mkShell {
    inputsFrom = [
      config.process-compose."default".services.outputs.devShell
    ];

    nativeBuildInputs = with pkgs; [
      php
      phpPackages.composer
    ];
  };
};
```

Run `nix run .` and go to http://localhost:8000.

Version: v1.46.0
Hostname: t480
Processes: 2/3
RAM | CPU: 104.3 MiB | 1.0%

Process Compose 🔥

PID(P)	NAME(N)	NAMESPACE(C)	STATUS(S)	AGE(A)	HEALTH(H)	MEM(M)	CPU(U)	RESTARTS(R)	EXIT CODE(E)
649743	mysql1	mysql.mysql1	Running	18s	Ready	101.0 MiB	0.9%	-	-
649759	mysql1-configure	mysql.mysql1	Completed	-	-	-	-	-	0
649760	php	default	Running	15s	-	3.2 MiB	0.1%	-	-

mysql1

```
2025-08-20  8:47:56 0 [Note] Starting MariaDB 10.11.11-MariaDB source revision e69f8cae1a15e15b9e4f5e0f8497e1f17bdc81a4 server_uid SBUT5+V4gzRHX5cSl7/yqJApnrs= as process 649743
2025-08-20  8:47:56 0 [Note] InnoDB: Compressed tables use zlib 1.3.1
2025-08-20  8:47:56 0 [Note] InnoDB: Number of transaction pools: 1
2025-08-20  8:47:56 0 [Note] InnoDB: Using crc32 + pclmulqdq instructions
2025-08-20  8:47:56 0 [Note] InnoDB: Using liburing
2025-08-20  8:47:56 0 [Note] InnoDB: Initializing buffer pool, total size = 128.000MiB, chunk size = 2.000MiB
2025-08-20  8:47:56 0 [Note] InnoDB: Completed initialization of buffer pool
2025-08-20  8:47:56 0 [Note] InnoDB: File system buffers for log disabled (block size=512 bytes)
2025-08-20  8:47:56 0 [Note] InnoDB: End of log at LSN=46980
2025-08-20  8:47:56 0 [Note] InnoDB: 128 rollback segments are active.
2025-08-20  8:47:56 0 [Note] InnoDB: Setting file './ibtmp1' size to 12.000MiB. Physically writing the file full; Please wait ...
2025-08-20  8:47:56 0 [Note] InnoDB: File './ibtmp1' size is now 12.000MiB.
2025-08-20  8:47:56 0 [Note] InnoDB: log sequence number 46980; transaction id 14
2025-08-20  8:47:56 0 [Note] Plugin 'FEEDBACK' is disabled.
2025-08-20  8:47:56 0 [Note] InnoDB: Loading buffer pool(s) from /home/opdavies/tmp/drupal-nix-flake-example/data/mysql1/ib_buffer_pool
2025-08-20  8:47:56 0 [Note] InnoDB: Buffer pool(s) load completed at 250820  8:47:56
2025-08-20  8:47:56 0 [Note] Server socket created on IP: '0.0.0.0'.
2025-08-20  8:47:56 0 [Note] Server socket created on IP: '::'.
2025-08-20  8:47:56 0 [Note] mysqld: ready for connections.
Version: '10.11.11-MariaDB'  socket: '/home/opdavies/tmp/drupal-nix-flake-example/data/mysql1/mysql.sock'  port: 3306  MariaDB Server
```

F1 Shortcuts LOGS: F4 Maximize F5 Unfollow F6 Unwrap Ctrl-S Select On Ctrl-F Find PROCESS: F2 Scale F3 Info F7 Start F8 Maximize F9 Stop Ctrl-R Restart F10 Quit

Drupal 11.1.6

1 Choose language

2 Choose profile

3 Verify requirements

4 Set up database

5 Install site

6 Configure site

Choose language

English, British

Translations will be downloaded from the Drupal Translation website. If you do not want this, select English.

Save and continue

Multiple PHPs

- Laravel Herd/Sail
- Containers
- `phpenv`, `brew-php-switcher`, `phpbrew`
- Vagrant
- VMWare, VirtualBox
- Different physical machines?

Nix is like `nvm` for everything

My ideal environment

```
$ php -v

The program 'php' is currently not installed.

$ cd ~/my-project

$ php -v

PHP 8.4.10 (cli) (built: Jul  2 2025 02:22:42)

$ cd ~/another-project

$ php -v

PHP 8.3.24 (cli) (built: Jul 29 2025 15:48:33)
```

Using direnv

https://direnv.net

> It augments existing shells with a new feature that can load and unload environment variables depending on the current directory.

In NixOS:

```
{
  programs.direnv.enable = true;
  programs.direnv.nix-direnv.enable = true;
}
```

The .envrc file

If you have a `flake.nix`:

```
use flake
```

Using a remote Flake:

```
use flake "git+https://code.oliverdavies.uk/opdavies/dev-shells#php84"
```

```
use flake "github:opdavies/dev-shells#php84"
```

Packaging for Nix

```
stdenv.mkDerivation (finalAttrs: {
  pname = "hello";
  version = "2.12.2";

  src = fetchurl {
    url = "mirror://gnu/hello/hello-${finalAttrs.version}.tar.gz";
    hash = "sha256-WpqZbcKSzCTc9BHO6H6S9qrluNE72caBm0x6nc4IGKs=";
  };

  env = lib.optionalAttrs stdenv.hostPlatform.isDarwin {
    NIX_LDFLAGS = "-liconv";
  };

  doCheck = true;
  doInstallCheck = true;

  # ...
```

Packaging for Nix

```
pkgs.writeShellApplication {
  name = "preview";

  runtimeInputs = with pkgs.nodePackages; [
    browser-sync
  ];

  text = ''
    browser-sync start
      --ignore '**/.*' \
      --no-notify \
      --no-ui \
      -sw
  '';
}
```

Packaging PHP for Nix

```
php.buildComposerProject2 (finalAttrs: {
  pname = "phpactor";
  version = "2025.07.25.0";

  src = fetchFromGitHub {
    owner = "phpactor";
    repo = "phpactor";
    tag = finalAttrs.version;
    hash = "sha256-9XWlWwq+xvqPgKIc7IGoMVTxajjYsrPo/ra/0JIE168=";
  };

  vendorHash = "sha256-3xkt0QjytW4BOCgZdevat7zkSuZTPPvwz3yptiq5zoo=";

  # ...
```

Packaging PHP for Nix

```
php.buildComposerProject2 (finalAttrs: {
  pname = "pest";
  version = "3.7.4";

  src = fetchFromGitHub {
    owner = "pestphp";
    repo = "pest";
    tag = "v${finalAttrs.version}";
    hash = "sha256-ddsdVx/Vsg7GG11fGASouBU3HAJLSjs1AQGHx52TWzA=";
  };

  composerLock = ./composer.lock;
  vendorHash = "sha256-rOJ6PFp4Xfe89usoH455EAT30d2Tu3zd3+C/6K/kGBw=";

  # ...
```

Packaging Sculpin

Packaging Sculpin was essentially the same:

https://code.oliverdavies.uk/opdavies/lab/src/branch/main/nix/sculpin

```
nix build

./result/bin/sculpin generate
```

```
.
├── flake.lock
├── flake.nix
├── output_dev
│   └── index.html
└── source
    └── index.md
```

Thanks!

- https://nixos.org
- https://github.com/nixos/nixpkgs
- https://wiki.nixos.org/wiki/PHP
- https://nixos.org/manual/nixpkgs/stable/#ssec-building-php-projects
- https://code.oliverdavies.uk/opdavies/lab
- https://code.oliverdavies.uk/opdavies/drupal-nix-flake-example
- https://code.oliverdavies.uk/opdavies/nix-config (laptop and home server)
- https://books.oliverdavies.uk/nix-for-php-developers (book, in progress)