PHP BERGEN - COMPOSER

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https://github.com/steinmb/phpbergen_202203

https://getcomposer.org

PACKAGE MANAGER

- apt (Advanced package tool)
- npm (Node.js) / Bundler (Ruby)

PHP PACKAGE MANAGERS

PECL (PHP Extension Commun

- PHP extensions
- written in C

```
pecl install xdebug
pecl install openswoole-4.10.0
```

PEAR package ma

PHP Extension and Application Repository

- CPAN-ish
- System wide
- PEAR packages
- Can install PECL extensions

COMPOSER

Application-level package

Current versions and performance

COMPOSER

Basic installation

```
composer require 'monolog/monolog'
```

```
composer remove 'monolog/monolog'
```

composer.json

```json
{
    "require": {
        "monolog/monolog": "^2.4.0"
    }
}
```

Downgrade to older version

Install dev packages

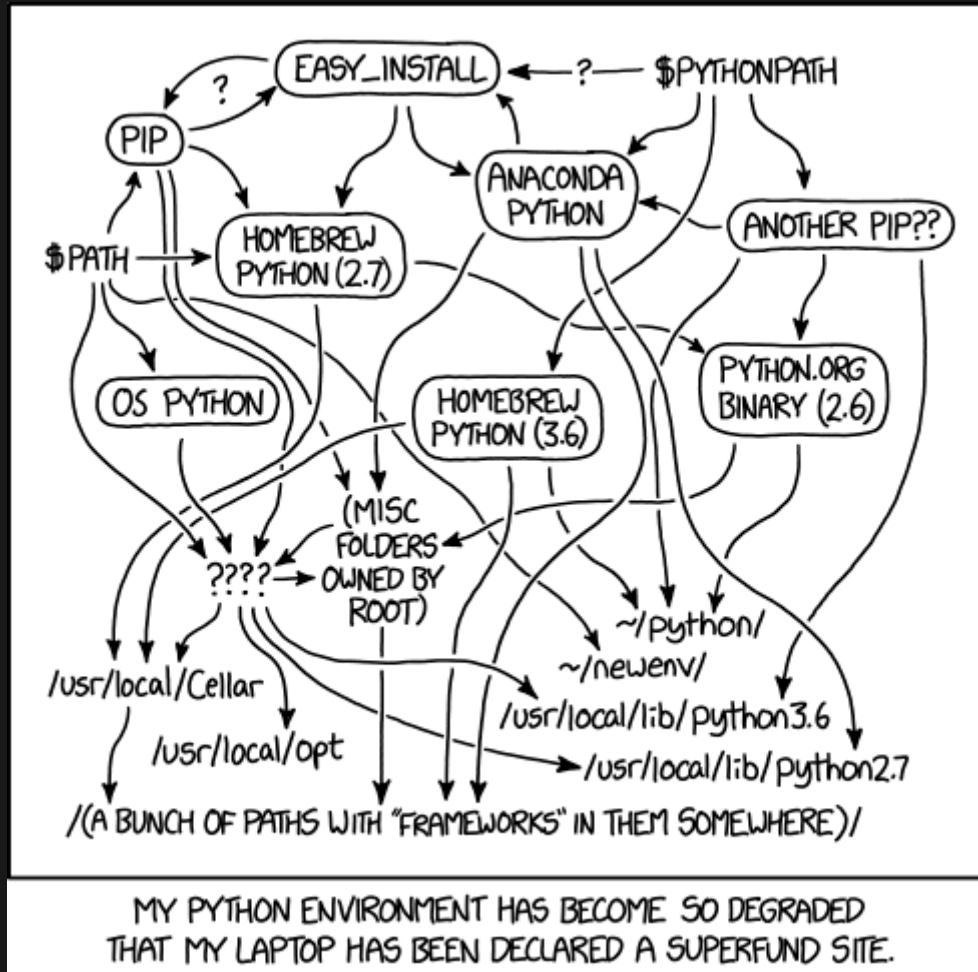# composer.json

```json
{
    "require": {
        "monolog/monolog": "^2.4"
    },
    "require-dev": {
        "phpunit/phpunit": "^9.5"
    }
}
```

Other examples

```
composer require pestphp/pest --dev --with-all-dependencies
composer require --dev phpstan/phpstan
```

DEPENDENCY WRANGLING

MY PYTHON ENVIRONMENT HAS BECOME SO DEGRADED THAT MY LAPTOP HAS BEEN DECLARED A SUPERFUND SITE.

```
composer require "monolog/monolog:2.3.0"
```

UPGRADE

```
composer outdated
```

```
composer update "monolog/monolog"
```

USE LIBRARIES

```php
require 'vendor/autoload.php';

$logger = new \Monolog\Logger('phpBergen');
$logger->pushHandler(
  new \Monolog\Handler\StreamHandler(
    __DIR__ . '/logs/demo.log',
    \Monolog\Logger::WARNING
  )
);
$logger->warning('PHP Bergen i progress');
```

Example 1

PHP-FIG (FRAMEWORK INTEROPERABILIT

PSR - PHP Standards Recommendations

AUTOLOADING

PSR-0/PSR-4

PSR-3: LOGGER INTERFACE

A common interface for logging libraries

COMPOSER.LOCK / COMPOSE

```
"name": "monolog/monolog",
"version": "2.4.0",
"source": {
  "type": "git",
  "url": "https://github.com/Seldaek/monolog.git",
  "reference": "d7fd7450628561ba697b7097d86db72662
}
```

BUILD APPLICATION

```
composer install --no-dev
```

Output == "deployable artefact".
Example: Docker container, tarball, ftp, rsync

CONFIGURATION

```
{
}
```

A minimum compo

THE PHP PACKAGE REPOSITORY

Packagist is the main Composer repository. It aggregates public PHP packages installable with Composer.

COMPOSER AND GIT

```json
"repositories": [
  {
    "type": "composer",
    "url": "https://packages.drupal.org/7"
  },
  {
    "type": "vcs",
    "url": "git@git.app.uib.no:uib-ub/skeivtarkiv/ska_tags.git
  }
]
```

```json
"require": {
  "drupal/ska_tags": "^1.0"
}
```

SATIS

Ultra-lightweight, static file-based version of packagist

```json
{

  "name": "My Repository",
  "homepage": "http://packages.example.org",
  "repositories": [
    { "type": "vcs", "url": "https://github.com/mycompany/priv
    { "type": "vcs", "url": "http://svn.example.org/private/re
    { "type": "vcs", "url": "https://github.com/mycompany/priv
  ],
  "require-all": true

}
```

satis.json

ref: Handling private packages

UPGRADE P

Branch	Initial Release		Active Support Until		Security Support Until	
7.4	28 Nov 2019	*2 years, 3 months ago*	28 Nov 2021	*3 months ago*	28 Nov 2022	*in 8 months*
8.0	26 Nov 2020	*1 year, 3 months ago*	26 Nov 2022	*in 8 months*	26 Nov 2023	*in 1 year, 8 months*
8.1	25 Nov 2021	*3 months ago*	25 Nov 2023	*in 1 year, 8 months*	25 Nov 2024	*in 2 years, 8 months*

Or, visualised as a calendar:
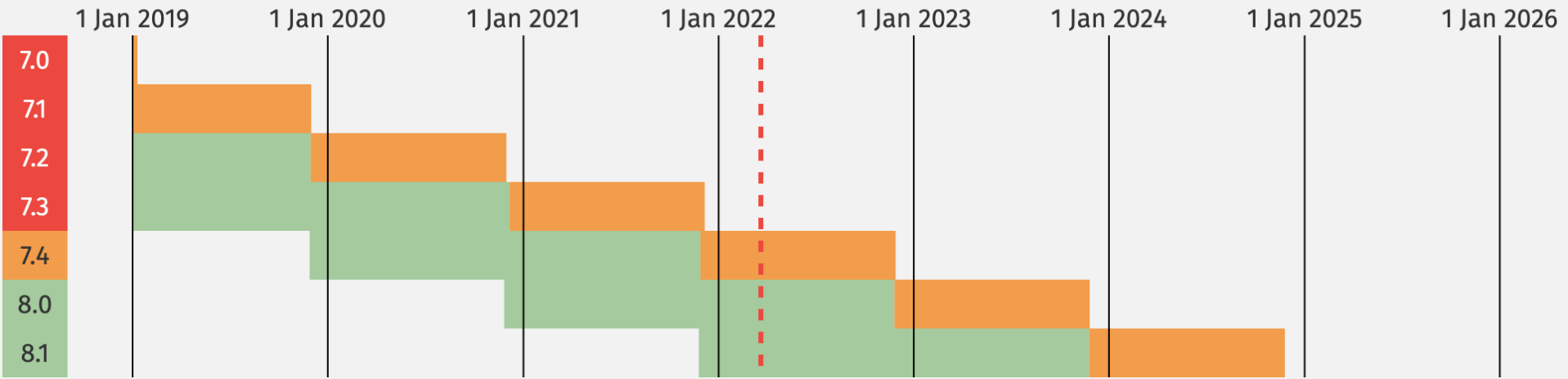
text

PLATFORM WITH COMPOSER

```json
"require": {
  "php": ">=8.0.0",
  "ext-curl": "*",
  "ext-json": "*",
}
```

```json
"config": {
  "sort-packages": true,
  "platform": {
    "php": "8.1"
  }
}
```

CHECK UPGRADE PATH

Do not wait

```
composer why-not php 8.2
```

```
composer why-not php 7.1
```

Tools: Rector is a CLI tool written in PHP

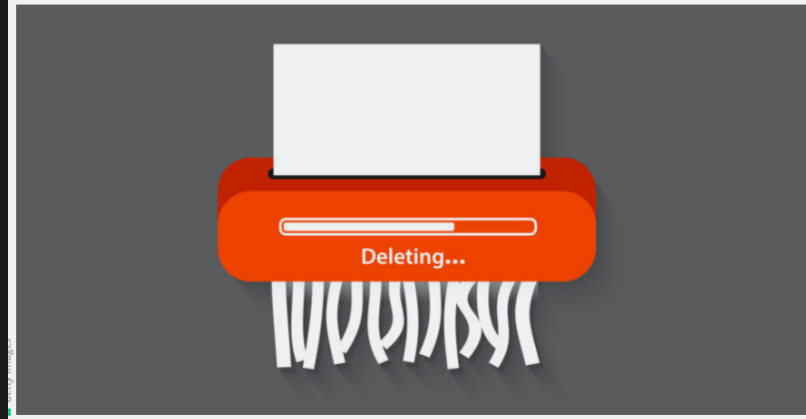Book: Rector - The Power of Automated Refactoring

SUPPLY CHAIN SECURITY

Supply chain attacks

Sabotage: Code added to popular NPM package wiped files in Russia and Belarus

When code with millions of downloads nukes user files, bad things can happen.

DAN GOODIN - 3/18/2022, 7:31 PM

Deleting...

Ref: Code added to popular NPM package wiped files in Russia and Belarus

Over 90 WordPress themes, plugins backdoored in supply chain attack

By **Bill Toulas**

Ref: Over 90 WordPress themes, plugins backdoored

- roave/security-advisories - Prevents installation of composer packages with known security vulnerabilities
- Packetlabs: Solarwinds Breach: SUNBURST
- Minimum stability
- http://fabien.potencier.org/signing-project-releases.html
- https://github.com/composer/composer/issues/4022

SPØRSMÅL?