

# Composer

Dependency management

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# What is Composer?

PHAR

Command-line utility

Dependency manager

Autoloader generator

Project bootstrapper

# Requirements

PHP

Git (Mercurial, Subversion)

Command line

# Dependency manager

## Translate

English Lithuanian Spanish Detect language ▼



Lithuanian English Russian ▼

Translate

Dependency manager



Priklausomybė vadybininkas



# Dependency manager

my/project

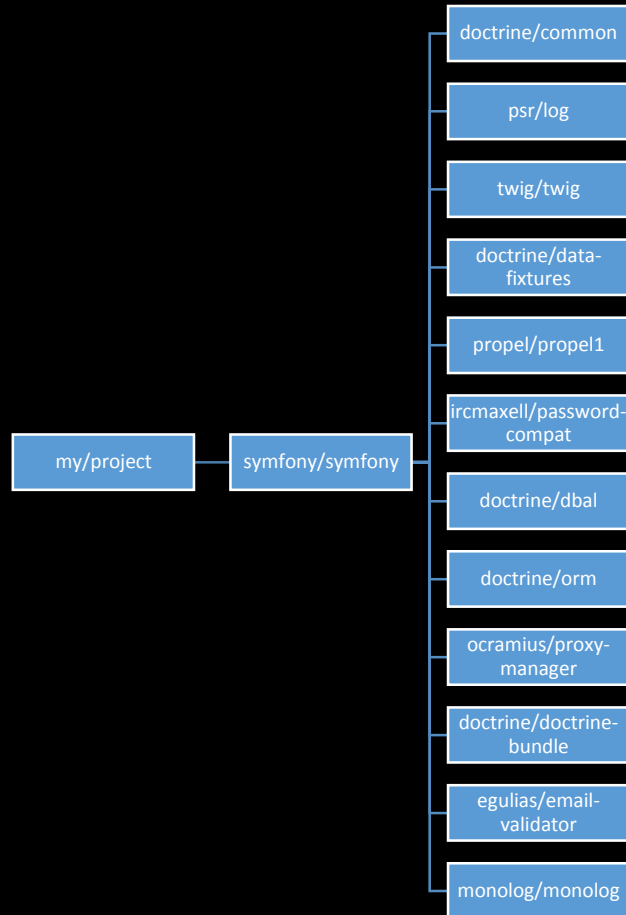
# Dependency manager

my/project

symfony/symfony

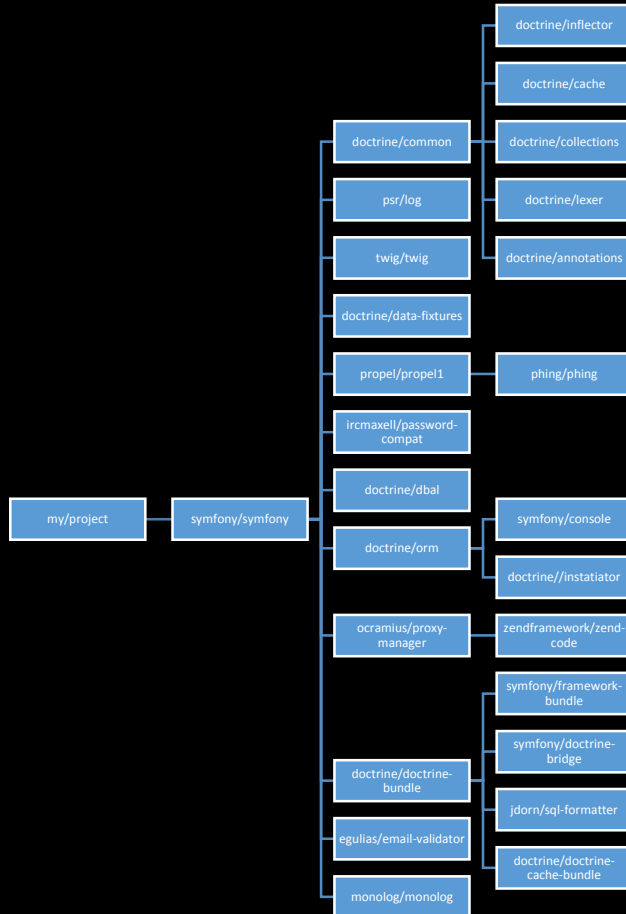


# Dependency manager



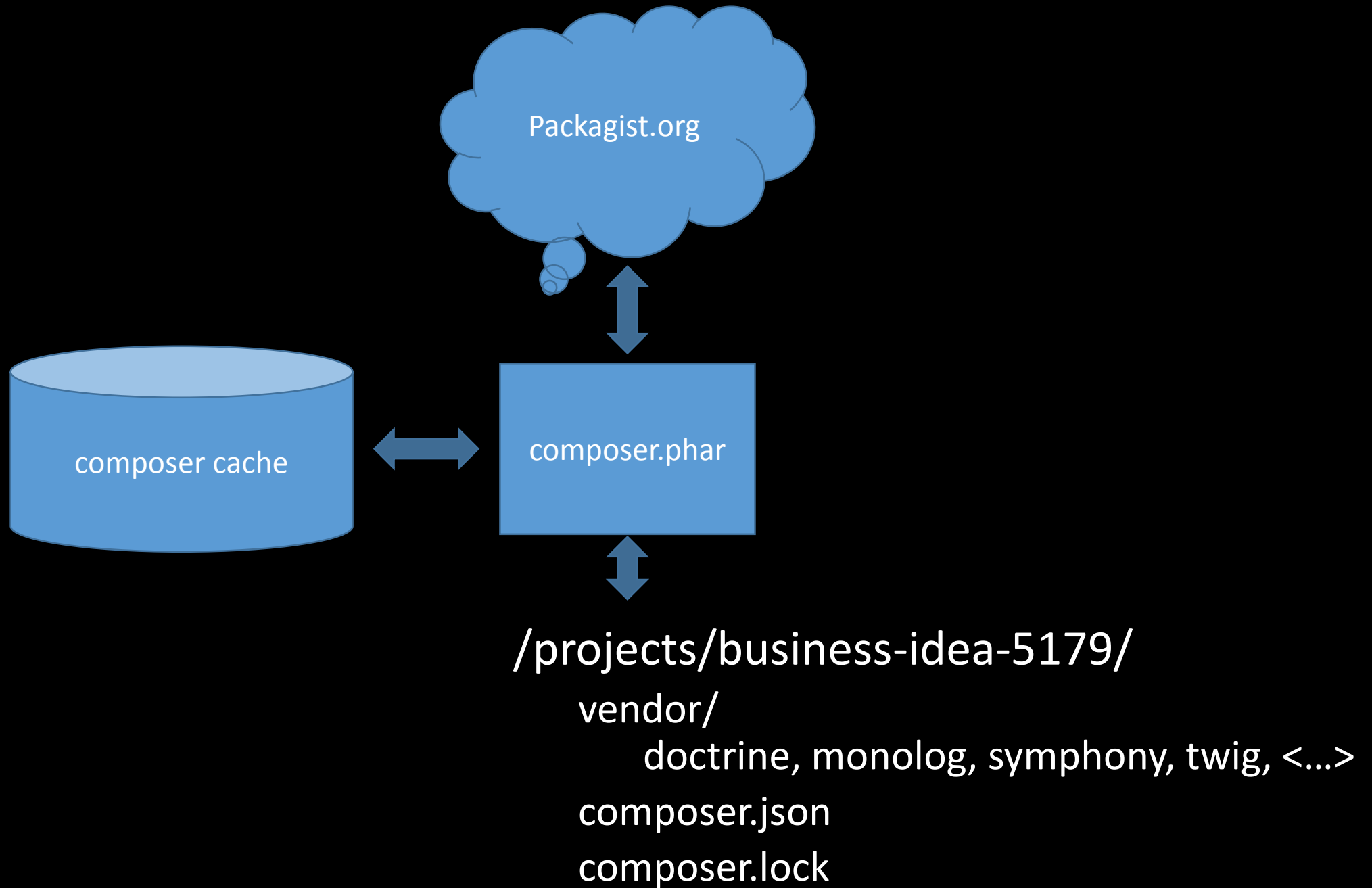


# Dependency manager



# Dependency manager





# Command-line utility

- > composer install
- > composer update
- > composer init
- > composer require
- > composer create-project

composer.json

```
{  
    "require": {  
        "symfony/console": "~2.5"  
    }  
}
```

# composer install

Loading composer repositories with package information

Installing dependencies (including require-dev)

- Installing symfony/console (v2.5.5)

Loading from cache

symfony/console suggests installing symfony/event-dispatcher ()

symfony/console suggests installing psr/log (For using the console logger)

Writing lock file

Generating autoload files

composer.json

```
{  
    "require": {  
        "symfony/console": "~2.5",  
        "monolog/monolog": "~1.10"  
    }  
}
```

# composer install

```
Loading composer repositories with package information
Installing dependencies (including require-dev) from lock file
Warning: The lock file is not up to date with the latest changes in composer.json. You may be getting outdated dependencies. Run update to update
Nothing to install or update
Generating autoload files
```



# composer update

Loading composer repositories with package information

Updating dependencies (including require-dev)

- Installing psr/log (1.0.0)

Loading from cache

- Installing monolog/monolog (1.11.0)

Loading from cache

monolog/monolog suggests installing graylog2/gelf-php (Allow sending log messages to a GrayLog2 server)

monolog/monolog suggests installing raven/raven (Allow sending log messages to a Sentry server)

monolog/monolog suggests installing doctrine/couchdb (Allow sending log messages to a CouchDB server)

monolog/monolog suggests installing ruflin/elastica (Allow sending log messages to an Elastic Search server)

monolog/monolog suggests installing videlalvaro/php-amqplib (Allow sending log messages to an AMQP server using php-amqplib)

monolog/monolog suggests installing ext-amqp (Allow sending log messages to an AMQP server (1.0+ required))

monolog/monolog suggests installing ext-mongo (Allow sending log messages to a MongoDB server)

monolog/monolog suggests installing aws/aws-sdk-php (Allow sending log messages to AWS services like DynamoDB)

monolog/monolog suggests installing rollbar/rollbar (Allow sending log messages to Rollbar)

Writing lock file

Generating autoload files

# Project folder

- 📁 vendor/
  - 📁 composer/
  - 📁 monolog/
  - 📁 psr/
  - 📁 symfony/
  - 📄 autoload.php
- 📄 composer.json
- 📄 composer.lock

# Version control

- ✗ vendor/
  - ✗ composer/
  - ✗ monolog/
  - ✗ psr/
  - ✗ symfony/
  - ✗ autoload.php
- ✓ composer.json
- ✓ composer.lock

# Autoloading

# Autoloading

```
<?php
```

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

```
use Symfony\Component\Console\Application;
```

```
$application = new Application();
```

```
$application->run();
```

# Autoloading

```
<?php
```

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

```
use Monolog\Logger;
```

```
use Monolog\Handler\StreamHandler;
```

```
use Symfony\Component\Console\Application;
```

```
$logger = new Logger('console_log');
```

```
$logger->pushHandler(new StreamHandler(dirname($_SERVER['SCRIPT_FILENAME']) . '/logs/console.log'));
```

```
$logger->info('A command was called.');
```

```
$application = new Application();
```

```
$application->run();
```

# composer.json

```
{
    "require": {
        "symfony/console": "~2.5",
        "monolog/monolog": "~1.10"
    },
    "autoload": {
        "psr-4": {
            "": "src/"
        }
    }
}
```

# Autoloading

```
<?php
```

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

```
use Kewlar\DataToolsBundle\Command;
```

```
use Monolog\Logger;
```

```
use Monolog\Handler\StreamHandler;
```

```
use Symfony\Component\Console\Application;
```

```
$logger = new Logger('console_log');
```

```
$logger->pushHandler(new StreamHandler(dirname($_SERVER['SCRIPT_FILENAME']) . '/logs/console.log'));
```

```
$logger->info('A command was called.');
```

```
$application = new Application();
```

```
$application->add(new Command\DatabaseStatsCommand);
```

```
$application->add(new Command\DatabaseCopyCommand);
```

```
$application->add(new Command\TableCopyCommand);
```

```
$application->add(new Command\DataImportCommand);
```

```
$application->add(new Command\DataExportCommand);
```

```
$application->add(new Command\DataNormalizeCommand);
```

```
$application->run();
```



# Package names

# Packagist

## Popular Packages

<b>monolog/monolog</b>	📦 6 865 606 ★ 65
Sends your logs to files, sockets, inboxes, databases and various web services	
<b>psr/log</b>	📦 6 267 737 ★ 28
Common interface for logging libraries	
<b>swiftmailer/swiftmailer</b>	📦 5 667 995 ★ 41
Swiftmailer, free feature-rich PHP mailer	
<b>symfony/event-dispatcher</b>	📦 5 328 366 ★ 6
Symfony EventDispatcher Component	
<b>symfony/console</b>	📦 4 886 135 ★ 28
Symfony Console Component	
<b>doctrine/annotations</b>	📦 4 541 603 ★ 3
Docblock Annotations Parser	
<b>twig/twig</b>	📦 4 834 193 ★ 63
Twig, the flexible, fast, and secure template language for PHP	
<b>doctrine/lexer</b>	📦 4 341 263 ★ 1
Base library for a lexer that can be used in Top-Down, Recursive Descent Parsers.	

# Other sources

- PEAR
- Git
- Mercurial
- Subversion

# Versions

- 1.0.2
- $\geq 1.0$   
     $\geq 1.0, < 2.0$   
     $\geq 1.0, < 1.1 \mid \geq 1.2$
- 1.2.\*
- ~1.2
- dev-master

# Project bootstrapper

Symfony

Silex

Laravel

Yii

Monolog

SwiftMailer

Twig

Doctrine

```
d:\www\spikes\composer\symfony>composer create-project symfony/framework-standard-edition .
```

# composer.json

```
{
    "name": "symfony/framework-standard-edition",
    "license": "MIT",
    "type": "project",
    "description": "The \"Symfony Standard Edition\" distribution",
    "autoload": {
        "psr-0": { "": "src/", "SymfonyStandard": "app/" }
    },
    "require": {
        "php": ">=5.3.3",
        "symfony/symfony": "2.5.*",
        "doctrine/orm": "~2.2,>=2.2.3",
        "doctrine/doctrine-bundle": "~1.2",
        "twig/extensions": "~1.0",
        "symfony/assetic-bundle": "~2.3",
        "symfony/swiftmailer-bundle": "~2.3",
        "symfony/monolog-bundle": "~2.4",
        "sensio/distribution-bundle": "~3.0",
        "sensio/framework-extra-bundle": "~3.0",
        "incenteev/composer-parameter-handler": "~2.0"
    },
    "require-dev": {
        "sensio/generator-bundle": "~2.3"
    },
    "scripts": {
        "post-root-package-install": [
            "SymfonyStandard\\Composer::hookRootPackageInstall"
        ],
        "post-install-cmd": [
            "Incenteev\\ParameterHandler\\ScriptHandler::buildParameters",
            "Sensio\\Bundle\\DistributionBundle\\Composer\\ScriptHandler::buildBootstrap",
            "Sensio\\Bundle\\DistributionBundle\\Composer\\ScriptHandler::clearCache",
            "Sensio\\Bundle\\DistributionBundle\\Composer\\ScriptHandler::installAssets",
            "Sensio\\Bundle\\DistributionBundle\\Composer\\ScriptHandler::installRequirementsFile",
            "Sensio\\Bundle\\DistributionBundle\\Composer\\ScriptHandler::removeSymfonyStandardFiles"
        ],
        "post-update-cmd": [
            "Incenteev\\ParameterHandler\\ScriptHandler::buildParameters",
            "Sensio\\Bundle\\DistributionBundle\\Composer\\ScriptHandler::buildBootstrap",
            "Sensio\\Bundle\\DistributionBundle\\Composer\\ScriptHandler::clearCache",
            "Sensio\\Bundle\\DistributionBundle\\Composer\\ScriptHandler::installAssets",
            "Sensio\\Bundle\\DistributionBundle\\Composer\\ScriptHandler::installRequirementsFile",
            "Sensio\\Bundle\\DistributionBundle\\Composer\\ScriptHandler::removeSymfonyStandardFiles"
        ]
    },
    "config": {
        "bin-dir": "bin"
    },
    "extra": {
        "symfony-app-dir": "app",
        "symfony-web-dir": "web",
        "incenteev-parameters": {
            "file": "app/config/parameters.yml"
        },
        "branch-alias": {
            "dev-master": "2.5-dev"
        }
    }
}
```

```

{
    "name": "symfony/framework-standard-edition",
    "license": "MIT",
    "type": "project",
    "description": "The \"Symfony Standard Edition\" distribution",
    "autoload": {
        "psr-0": { "": "src/", "SymfonyStandard": "app/" }
    },
    "require": {
        "php": ">=5.3.3",
        "symfony/symfony": "2.5.*",
        "doctrine/orm": "~2.2,>=2.2.3",
        "doctrine/doctrine-bundle": "~1.2",
        "twig/extensions": "~1.0",
        "symfony/assetic-bundle": "~2.3",
        "symfony/swiftmailer-bundle": "~2.3",
        "symfony/monolog-bundle": "~2.4",
        "sensio/distribution-bundle": "~3.0",
        "sensio/framework-extra-bundle": "~3.0",
        "incenteev/composer-parameter-handler": "~2.0"
    },
    "require-dev": {
        "sensio/generator-bundle": "~2.3"
    },
    "scripts": {
        "post-root-package-install": [
            "SymfonyStandard\\Composer::hookRootPackageInstall"
        ],
        "post-install-cmd": [
            "Incenteev\\ParameterHandler\\ScriptHandler::buildParameters",
            "Sensio\\Bundle\\DistributionBundle\\Composer\\ScriptHandler::buildBootstrap",
            "Sensio\\Bundle\\DistributionBundle\\Composer\\ScriptHandler::clearCache",
            "Sensio\\Bundle\\DistributionBundle\\Composer\\ScriptHandler::installAssets",
            "Sensio\\Bundle\\DistributionBundle\\Composer\\ScriptHandler::installRequirementsFile",
            "Sensio\\Bundle\\DistributionBundle\\Composer\\ScriptHandler::removeSymfonyStandardFiles"
        ],
        "post-update-cmd": [
            "Incenteev\\ParameterHandler\\ScriptHandler::buildParameters",
            "Sensio\\Bundle\\DistributionBundle\\Composer\\ScriptHandler::buildBootstrap",
            "Sensio\\Bundle\\DistributionBundle\\Composer\\ScriptHandler::clearCache",
            "Sensio\\Bundle\\DistributionBundle\\Composer\\ScriptHandler::installAssets",
            "Sensio\\Bundle\\DistributionBundle\\Composer\\ScriptHandler::installRequirementsFile",
            "Sensio\\Bundle\\DistributionBundle\\Composer\\ScriptHandler::removeSymfonyStandardFiles"
        ]
    },
    "config": {
        "bin-dir": "bin"
    },
    "extra": {
        "symfony-app-dir": "app",
        "symfony-web-dir": "web",
        "incenteev-parameters": {
            "file": "app/config/parameters.yml"
        },
        "branch-alias": {
            "dev-master": "2.5-dev"
        }
    }
}

```



# Other useful commands

> composer init

Create a basic composer.json interactively

> composer require

Add and install a package requirement interactively

> composer search

Search for packages

> composer show

Show information about packages

# Common problems

# The package is not on Packagist

- Add to src/, or
- Make it a package
- (and, optionally, publish it)

# composer install/update fails

- Check your dependencies
- Try using HTTP instead of HTTPS
- Clear cache

Questions?

# Resources

- <https://getcomposer.org/>
- <https://packagist.org/>