

Drupal 8 Plugins

Is it love? It could be.

My name is Josh

- Grew up in Maine (yay Lobsters, Blueberries and Trees!)
- I have been writing PHP since 1999
- Playing with Drupal since 2010

Fun Fact:
Maine is 90% Forest!



Let's get started

Overview

- What are Plugins?
- Why Plugins?
- Block Plugin Demo
- Plugin Derivatives Demo
- Plugin Types
- Plugin Types Demo
- Questions?

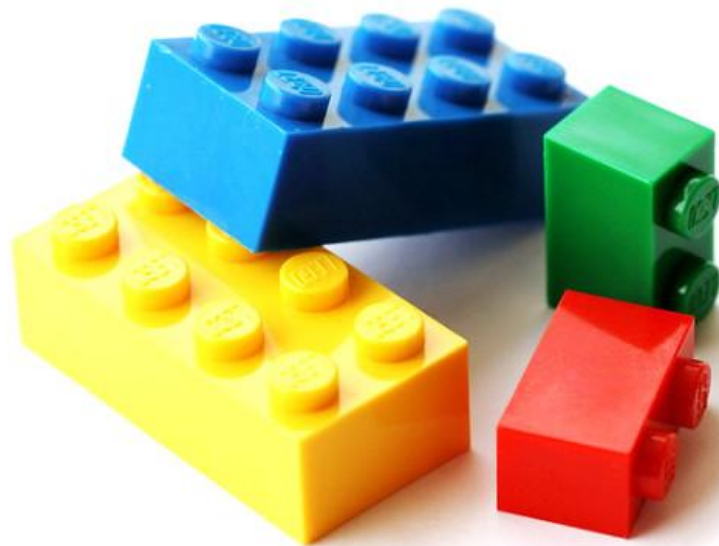


Photo Credit: <https://flic.kr/p/brjbNM>

Say What?

In a convenient bulleted list, plugins are. . .

- A design pattern
- A swappable piece of functionality
- That performs a specific task

They're kind of like having “mini-modules” in your module.

Plugins replace Drupal 7 info hooks

`hook_block_info();`

`hook_block_info_alter();`

`hook_block_view();`

`hook_block_view_alter();`

`hook_block_save();`

`hook_block_configure();`

`hook_block_MODULE_DELTA_alter();`

Plugins are everywhere!



- Entity Types
- Blocks
- Fields
- Mail
- Image Transformations
- Input Filters
- Migrate
- Actions
- Many more!

Why Plugins?

- Definition and Implementation are in the same place.
- Lazy Loaded
- Consistent
- Extensible
- Reusable across projects

Let's Create a Plugin

Social Share Block

Let's create a simple share block with a link to Facebook!



ShareBlock.php

Plugin Derivatives

“Derivatives provide a simple way to expand a single plugin so that it can represent itself as multiple plugins in the user interface.”

- drupal.org

Drupal 7

```
5
6  /**
7   * Implements hook_block_info().
8   */
9  function share_block_block_info() {
10
11     $social_networks = get_social_share_links();
12
13     foreach ($social_networks as $link) {
14         $blocks['social_share-' . $link] = array(
15             'info' => $link['name'],
16         );
17     }
18
19     return $blocks;
20 }
21
22
```

Let's use derivatives to add more Social Share links!

Facebook, Twitter, LinkedIn etc.



ShareDerivative.php

Plugin Types, let's do this

Remember:

Plugin Types are part of a larger system of functionality.

Ticket Booking System

- **Reservation Plugin Type:** Concert tickets, movie tickets, rental car etc.

Visual Report System

- **Chart Plugin Type:** Line chart, pie chart, scatter plot etc.

Quiz System

- **Question Plugin Type:** Multiple choice, essay, true or false etc.

Discovery

The process by which Drupal finds the plugins of a given type.

Four ways to discover plugins.

- Annotations (Default)
 - Plugin classes are annotated and follow PSR-4 Standard.
- Static
 - Plugin classes are registered in plugin manager itself.
- Hooks
 - Modules implement a hook.
- Yaml
 - Listed in yaml files.

Why Annotations?

- Lives in the same file as the Plugin class definition.
- Supports complex structured data.
- Increased performance (no need to load the class).

Instantiation

Drupal supports two major factory methods for instantiating plugins.

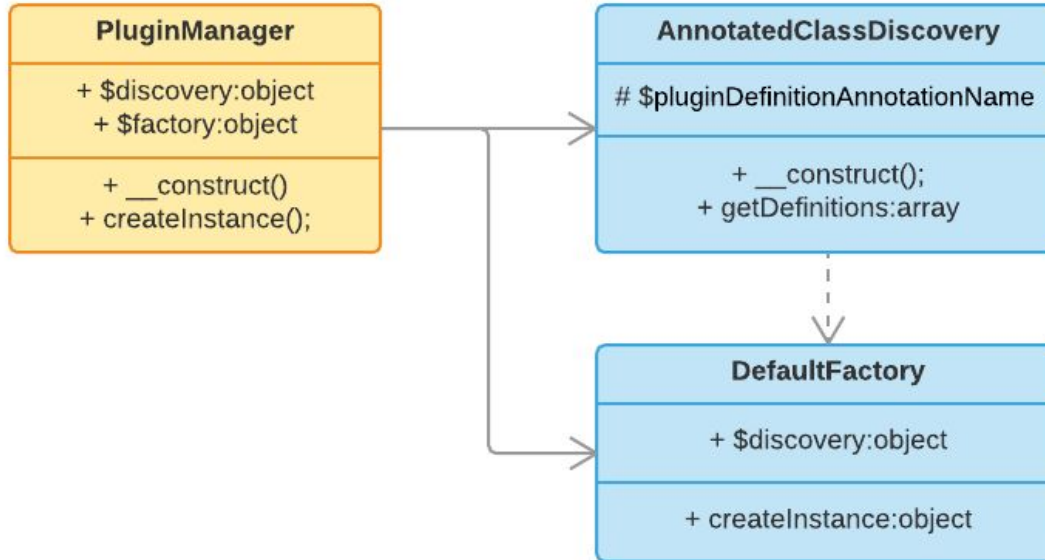
DefaultFactory

- The default method for instantiating plugins.

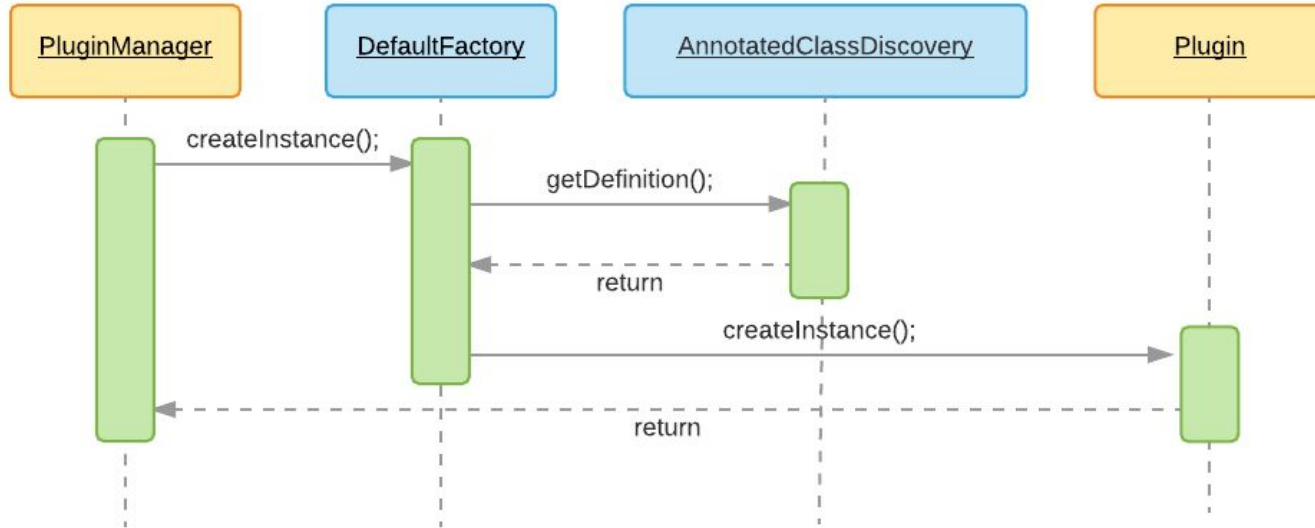
ReflectionFactory

- Very useful when you need to use some complex logic to instantiate your plugins.

Plugin Manager



Plugin Manager





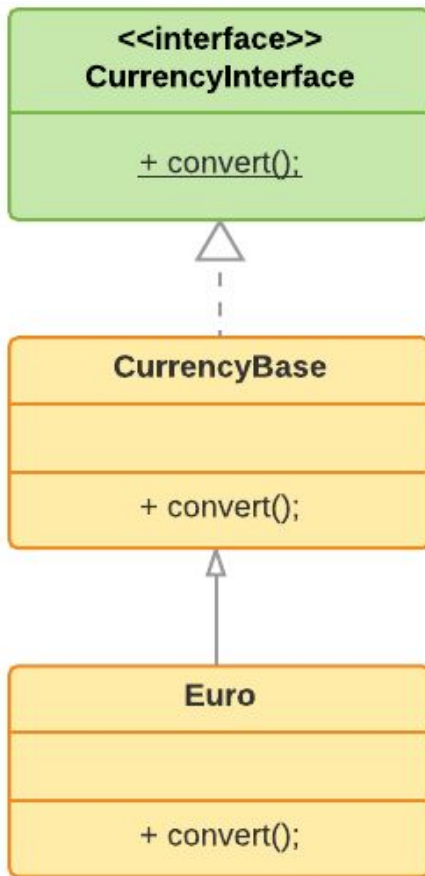
Let's create a Plugin Type!

\$100 = €???

Currency Converter Module

First things first:

Let's create our Plugin classes



CurrencyInterface.php



CurrencyBase.php



Euro.php

Next, let's wire it up!

With Annotations and our Plugin Manager.

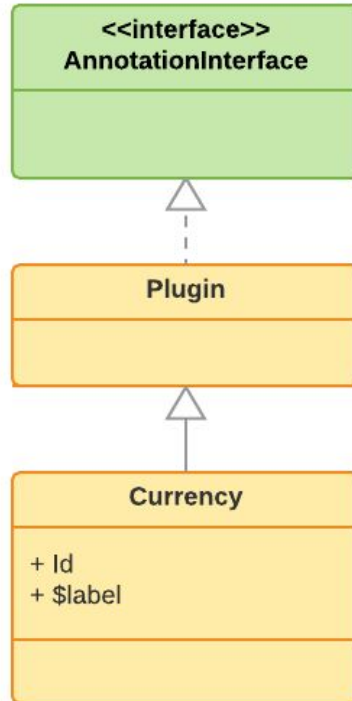


Currency.php



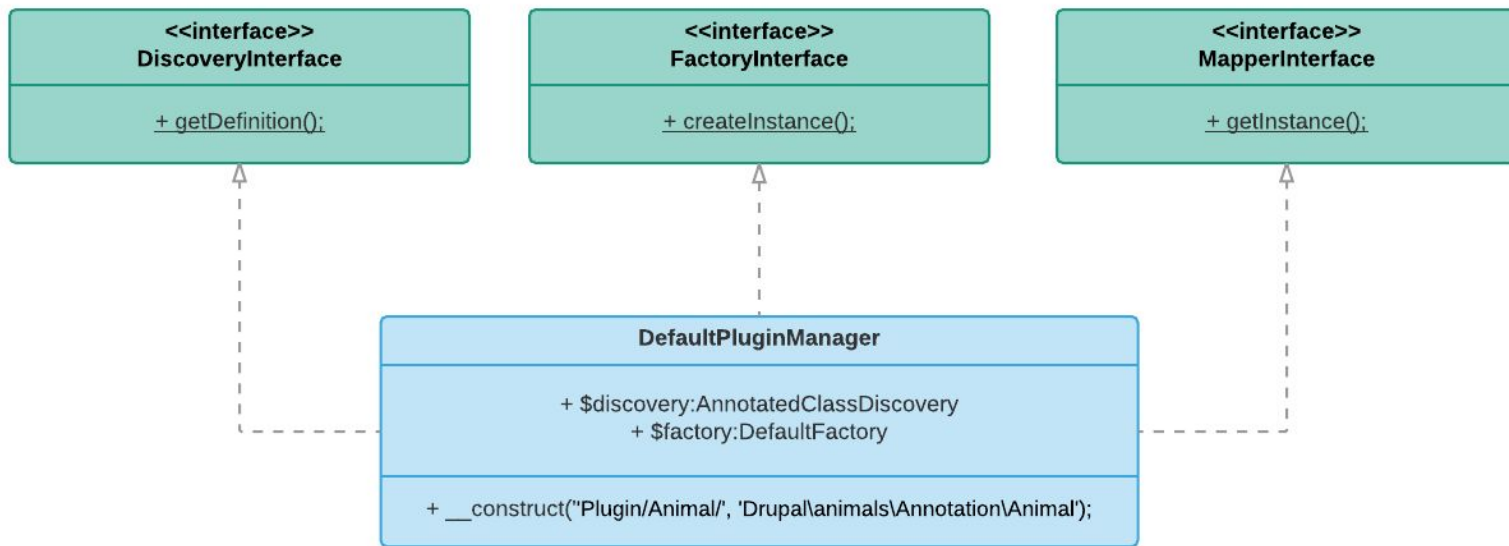
CurrencyManager.php

Annotations



DefaultPluginManager

Automatically knows to use AnnotationsClassDiscovery and DefaultFactory. You just need to tell it which Annotations class to use and where to find the plugins.*



*Note: This diagram intentionally omits other arguments from the constructor for sake of simplicity.

Plugins are Services!

“omg, that’s a lot to remember!”

- Everyone

“I can help with that!”

- Your friend, Drupal Console

So let's recap

Plugins

- Plugins are small, swappable pieces of functionality.
- Each Plugin is an instance of a Plugin Type
- You can extend any of the 60+ plugin types in Drupal Core.
- You make multiple representations of the same plugin with Plugin Derivatives.

Plugin Types

- Are part of a larger system of functionality
- Are responsible for discovery and instantiation.
- You can use 4 methods for discovering plugins.
 - Annotations
 - Static
 - Yaml
 - Hooks
- You can use the `DefaultPluginManager` and `Annotations` to do much of the heavy lifting for you.

Learn more:

Drupal 8 Plugin System - Helior Colorado

<https://www.youtube.com/watch?v=2o5uY-iOoMo>

DrupalCon Barcelona 2015: Drupal 8 Plugin Deep Dive - Kris Vanderwater

<https://www.youtube.com/watch?v=BVwi29Kpv8E>



Unraveling the Drupal 8 Plugin System - Joe Shindelar

<https://drupalize.me/blog/201409/unravelling-drupal-8-plugin-system>

Questions?

I work at Genuine



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