LARAVEL LIVE

LONDON 18-19 JUNE 2026 | UK

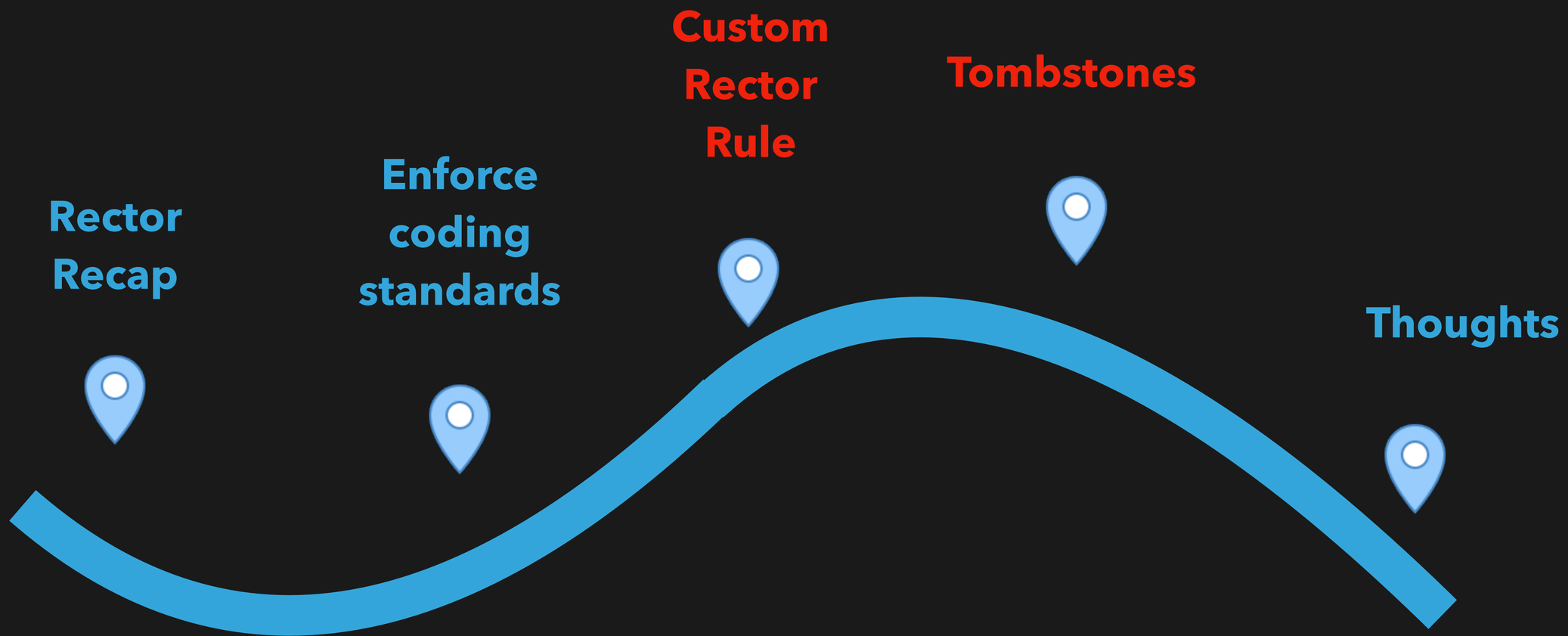
Dave Liddament

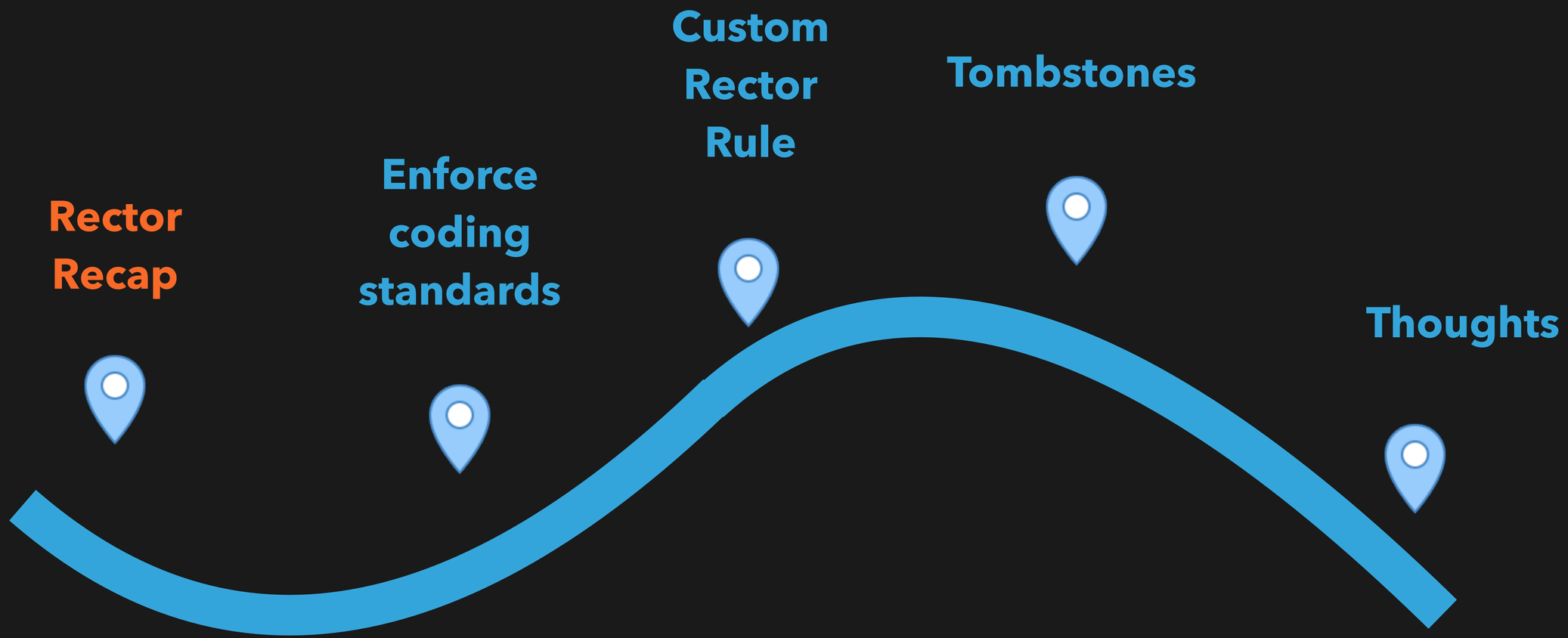
DIRECTOR, LAMP BRISTOL

https://getrector.com/

https://getrector.com/

- Upgrades
- Refactors
- Automate code review
- Investigation work


Rector Recap
Enforce coding standards
Custom Rector Rule
Tombstones
Thoughts


Rector Recap
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867 Rules (and counting)

RenameMethodRector

Turns method names to new ones.

🔧 **configure it!**

- class: `Rector\Renaming\Rector\MethodCall\RenameMethodRector`

```
 $someObject = new SomeExampleClass;
-$someObject->oldMethod();
+$someObject->newMethod();
```

```
composer require --dev rector/rector
```

```
vendor/bin/rector
```

```
No "rector.php" config found. Should we
generate it for you? [yes]:
 > yes
```

```
 [OK] The config is added now. Re-run command
to make Rector do the work!
```

```
composer require --dev rector/rector
```

```
vendor/bin/rector
```

```
No "rector.php" config found. Should we
generate it for you? [yes]:
 > yes
```

```
 [OK] The config is added now. Re-run command
to make Rector do the work!
```

```
composer require --dev rector/rector
```

```
vendor/bin/rector


No "rector.php" config found. Should we
generate it for you? [yes]:
 > yes


 [OK] The config is added now. Re-run command
to make Rector do the work!
```

```php
<?php

use Rector\Config\RectorConfig;
use Rector\Renaming\Rector\MethodCall\RenameMethodRector;
use Rector\Renaming\ValueObject\MethodCallRename;

return RectorConfig::configure()

    ->withPaths([
        __DIR__ . '/src',
    ])

    ->withConfiguredRule(
        RenameMethodRector::class,
        [
            new MethodCallRename(
                App\Framework\Model::class,
                belongsTo',
                belongs')
        ]
    );
```

```php
<?php

use Rector\Config\RectorConfig;
use Rector\Renaming\Rector\MethodCall\RenameMethodRector;
use Rector\Renaming\ValueObject\MethodCallRename;

return RectorConfig::configure()
    ->withPaths([
        __DIR__ . '/src',
    ])

    ->withConfiguredRule(
        RenameMethodRector::class,
        [
            new MethodCallRename(
                App\Framework\Model::class,
                belongsTo',
                belongs')
        ]
    );
```

```php
<?php

use Rector\Config\RectorConfig;
use Rector\Renaming\Rector\MethodCall\RenameMethodRector;
use Rector\Renaming\ValueObject\MethodCallRename;

return RectorConfig::configure()

    ->withPaths([
        __DIR__ . '/src',
    ])

    ->withConfiguredRule(
        RenameMethodRector::class,
        [
            new MethodCallRename(
                App\Framework\Model::class,
                belongsTo',
                belongs')
        ]
    );
```

```php
<?php

use Rector\Config\RectorConfig;
use Rector\Renaming\Rector\MethodCall\RenameMethodRector;
use Rector\Renaming\ValueObject\MethodCallRename;

return RectorConfig::configure()

    ->withPaths([
        __DIR__ . '/src',
    ])

    ->withConfiguredRule(
        RenameMethodRector::class,
        [
            new MethodCallRename(
                App\Framework\Vehicle::class,
                getName',
                getMake')
        ]
    );
```

```
vendor/bin/rector [--dry-run]
```

```
vendor/bin/rector [--dry-run]


1) src/Models/Car.php:10

---------- begin diff ----------
@@ @@
 {

   public function getMake(): string {

-    return $this->vehicle->getName();
+    return $this->vehicle->getMake();
 }

---------- end diff ----------

Applied rules:

 * RenameMethodRector
```

ChangeIfElseValueAssignToEarlyReturnRector

Change if/else value to early return

- class: `Rector\EarlyReturn\Rector\If_\ChangeIfElseValueAssignToEarlyReturnRector`

```
 class SomeClass
 {
     public function run()
     {
         if ($this->hasDocBlock($tokens, $index)) {
-            $docToken = $tokens[$this->getDocBlockIndex($tokens, $index)];
-        } else {
-            $docToken = null;
+            return $tokens[$this->getDocBlockIndex($tokens, $index)];
         }
-
-        return $docToken;
+        return null;
     }
 }
```

https://getrector.com/find-rule

RECTOR Try Rector Documentation Hire Team Blog Contact

Find the best Rector rule to solve your problem. Searching through 867 rules.

Type to start searching a rule

Group: Any group

Set: Pick group to filter

Not sure how to search? Try one of these for a start:

- attributes
- add return type strict
- symfony rules

github.com/driftingly/rector-laravel

ReverseConditionableMethodCallRector

Reverse conditionable method calls

```
-$conditionable->when(!$condition, function () {});
+$conditionable->unless($condition, function () {});
```

SETS: **Code quality**

GuardedPropertyToGuardedAttributeRector

Changes model guarded property to use the guarded attribute

```
 use Illuminate\Database\Eloquent\Model;
+use Illuminate\Database\Eloquent\Attributes\Guarded;

+#[Guarded(['is_admin'])]
 class User extends Model
 {
-    protected $guarded = [
-        'is_admin',
-    ];
 }
```

SETS: laravel/framework 13.0

Rulesets: A set of rules

Laravel 13 upgrade rectors

DelayPropertyToDelayAttributeRector

HelpPropertyToHelpAttributeRector

ConnectionPropertyToConnectionAttributeRector

HiddenPropertyToHiddenAttributeRector

… And others …

Code quality rectors

RedirectRouteToToRouteHelperRector

SleepFuncToSleepStaticCallRector

AppToResolveRector

RemoveRedundantValueCallsRector

… And others …

rector.php

```php
<?php

declare(strict_types=1);

use Rector\Config\RectorConfig;
use Rector\Set\ValueObject\SetList;

return RectorConfig::configure()
    ->withPaths(…)
    ->withSets([
        SetList::PHP_85,
    ]);
```

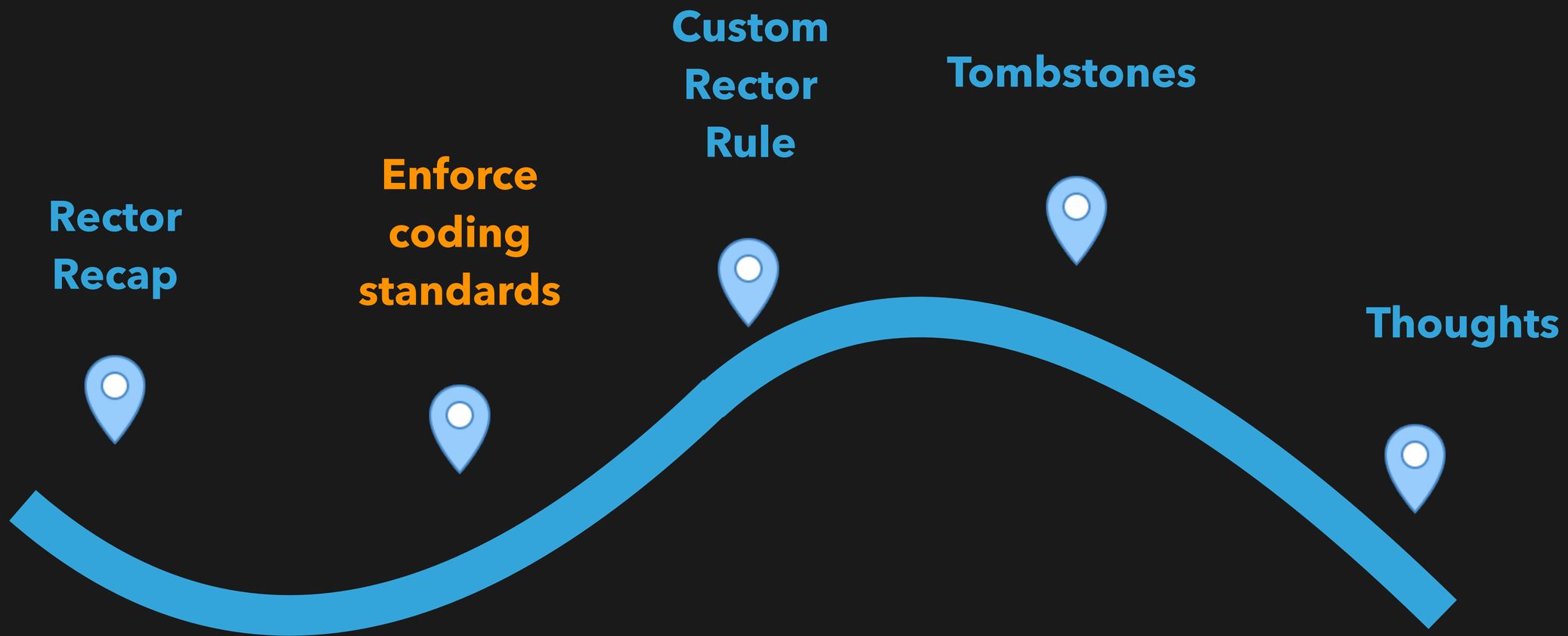
rector.php

```php
<?php

declare(strict_types=1);

use Rector\Config\RectorConfig;
use Rector\Set\ValueObject\SetList;

return RectorConfig::configure()
    ->withPaths(…)
    ->withPreparedSets(
        earlyReturn: true,
    );
```

Levels: Step by step

```
return RectorConfig::configure()
    ->withPaths(…)
    ->withTypeCoverageLevel(10)
    ->withCodeQuality(5)

    ->and others…
);
```

- Upgrades
- Refactors
- Downgrades
- Automate code review
- Investigation work


Rector
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Coding standards

- PSR 12
- Use Early Return pattern
- Use named arguments for #[Middleware]

Coding standards

- PSR 12
- Use Early Return pattern
- Use named arguments for #[Middleware]

rector-ci.php

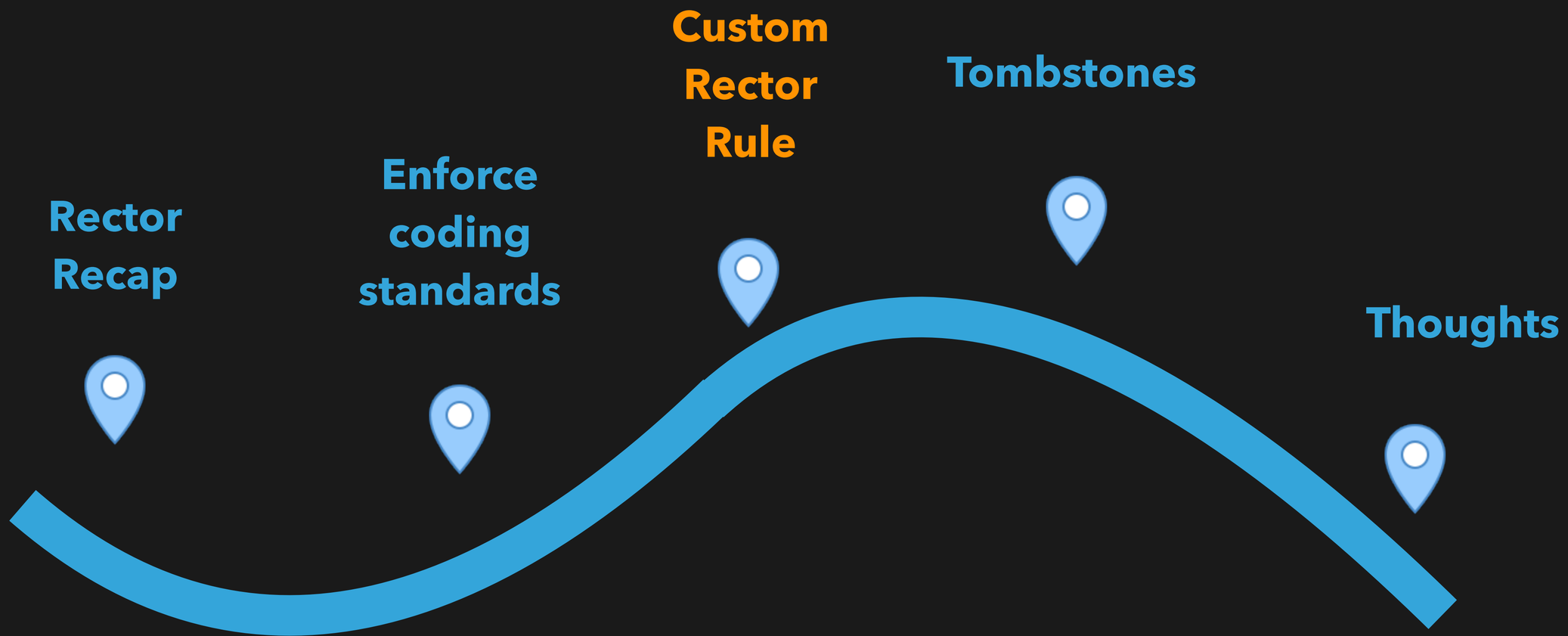
```
return RectorConfig::configure()

    ->withPaths([
        __DIR__ . '/src',
   ])

    ->withPreparedSets(earlyReturn: true)
    // Add any other rules and sets
;
```

```
vendor/bin/rector --config rector-ci.php
```

Notes:
1.Run Laravel Pint after rector
2.On CI run with --dry-run

Coding standards

- PSR 12
- Use Early Return pattern
- Use named arguments for #[Middleware]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```php
#[Attribute(Attribute::TARGET_CLASS |
  Attribute::TARGET_METHOD |
  Attribute::IS_REPEATABLE)]
class Middleware
{
    /**
     * @param  array<string>|null  $only
     * @param  array<string>|null  $except
     */
    public function __construct(
        public Closure|string $middleware,
        public ?array $only = null,
        public ?array $except = null,
    ) {
    }
}
```

```php
#[Attribute(Attribute::TARGET_CLASS |
  Attribute::TARGET_METHOD |
  Attribute::IS_REPEATABLE)]
class Middleware
{
    /**
     * @param  array<string>|null  $only
     * @param  array<string>|null  $except
     */
    public function __construct(
        public Closure|string $middleware,
        public ?array $only = null,
        public ?array $except = null,
    ) {
    }
}
```

Old

```
#[Middleware(RequireToken::class, ['edit'])]
class ItemController
{
    … controller methods …
}
```

New

```
#[Middleware(RequireToken::class, only: ['edit'])]
class ItemController
{
    … controller methods …
}
```

No Change: 1

```
#[Middleware(RequireToken::class, only: [‘edit’])]
class ItemController
{
    … controller methods …
}
```

No Change: 2

```
#[Middleware(RequireToken::class, except: [‘edit’])]
class ItemController
{
    … controller methods …
}
```

No Change: 2

```
#[Middleware(RequireToken::class, except: ['edit'])]
class ItemController
{
    … controller methods …
}
```

No Change: 3

```
#[MyAttribute('foo', 'bar')]
class PersonController
{
}
```

```
$ vendor/bin/rector custom-rule


 What is the name of the rule class (e.g. "LegacyCallToDbalMethodCall")?:
 > MiddlewareUseNamedArguments

Generated files
===============

 * utils/rector/src/Rector/MiddlewareUseNamedArgumentsRector.php
 * utils/rector/tests/Rector/MiddlewareUseNamedArgumentsRector/Fixture/some_class.php.inc
 * utils/rector/tests/Rector/MiddlewareUseNamedArgumentsRector/config/configured_rule.php
 * utils/rector/tests/Rector/MiddlewareUseNamedArgumentsRector/
MiddlewareUseNamedArgumentsRectorTest.php


 [OK] Base for the "MiddlewareUseNamedArguments" rule was created. Now you can fill the
missing parts


 [OK] We also update composer.json autoload-dev, to load Rector rules. Now run "composer
dump-autoload" to update paths
```

```
$ vendor/bin/rector custom-rule
```

```
 What is the name of the rule class (e.g. "LegacyCallToDbalMethodCall")?:
 > MiddlewareUseNamedArguments

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===============

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 What is the name of the rule class (e.g. "LegacyCallToDbalMethodCall")?:
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missing parts


 [OK] We also update composer.json autoload-dev, to load Rector rules. Now run "composer
dump-autoload" to update paths
```

Old

```
#[Middleware(RequireToken::class, ['edit'])]
class ItemController
{
    … controller methods …
}
```

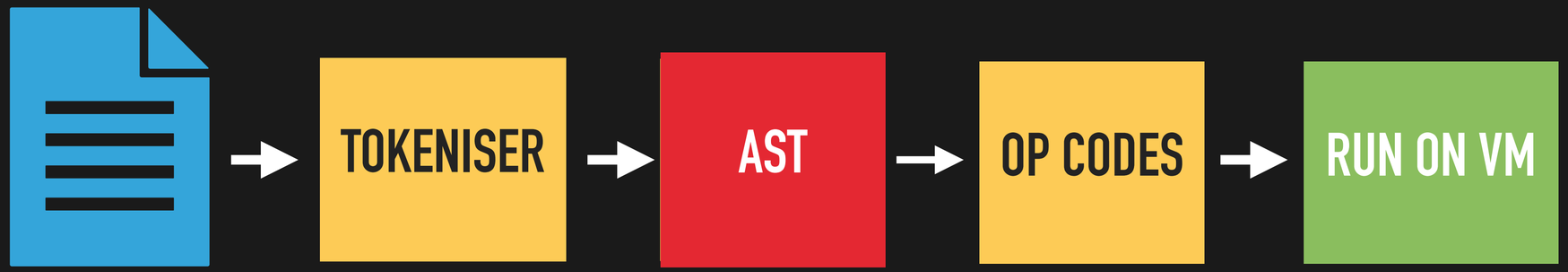
New

```
#[Middleware(RequireToken::class, only: ['edit'])]
class ItemController
{
    … controller methods …
}
```

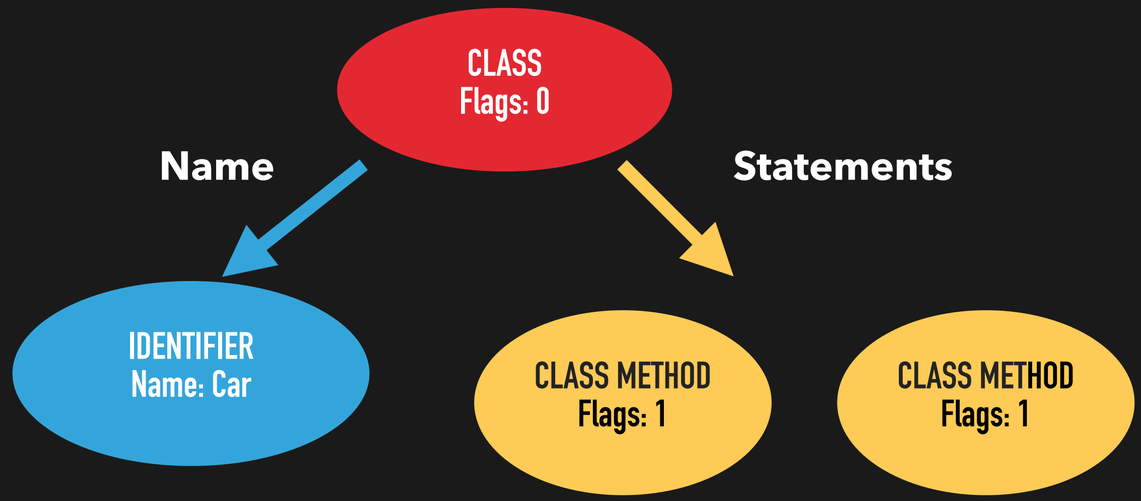
No Change

```
#[Middleware(RequireToken::class, only: [‘edit’])]
class ItemController
{
    … controller methods …
}
```

```
RouterUseNamedArguments extends AbstractRector
{

    public function getNodeTypes(): array

    public function refactor(Node $node): ?Node
}
```

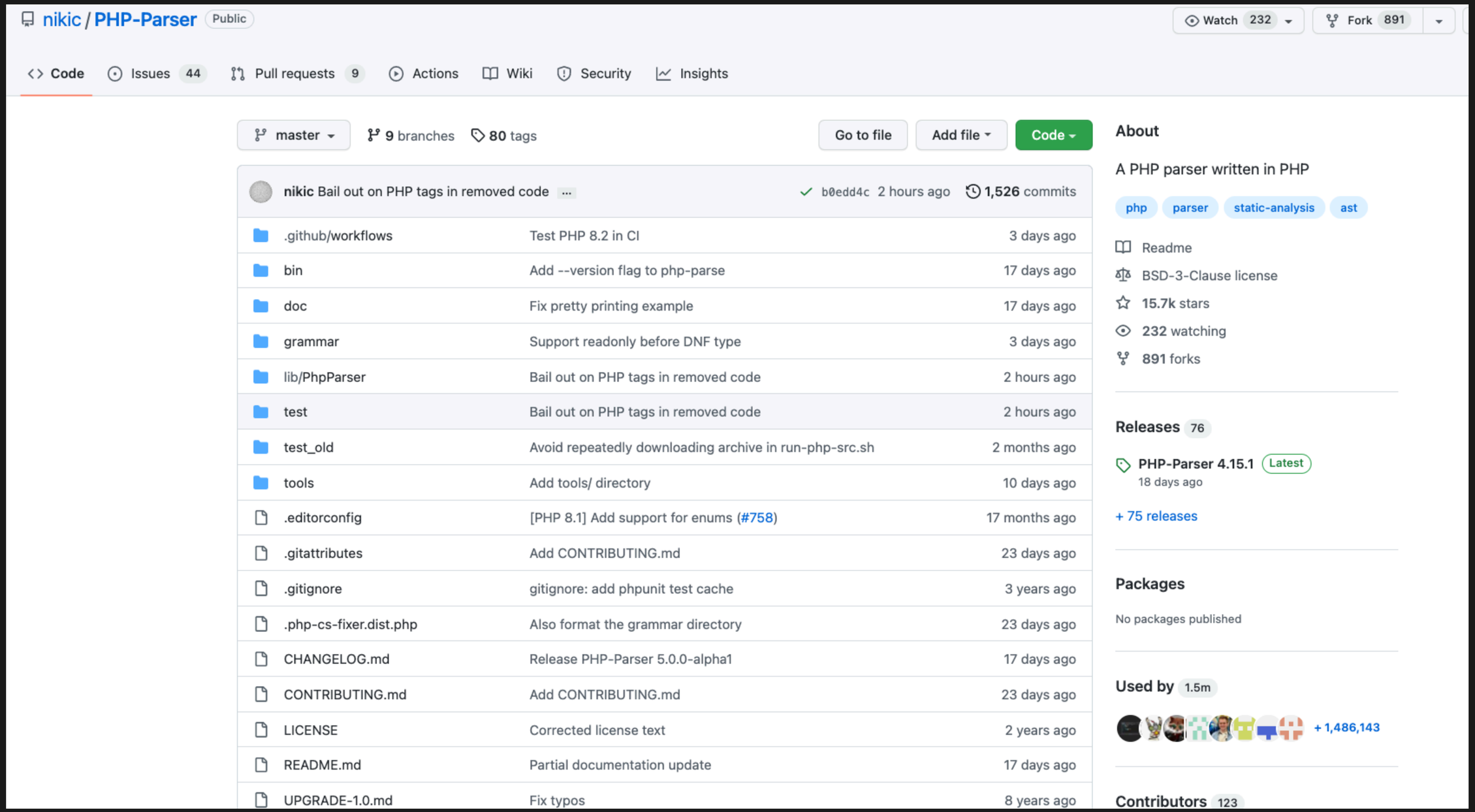

TOKENISER
AST
OP CODES
RUN ON VM

```
class Car
{
    public function users() {…}

    public function anotherMethod() {…}
}
```



```
public function user ()
{
    return $this->belongsTo('User');
}
```

https://github.com/nikic/PHP-Parser



nikic / PHP-Parser Public

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Code | Issues 44 | Pull requests 9 | Actions | Wiki | Security | Insights

master | 9 branches | 80 tags | Go to file | Add file | Code

nikic Bail out on PHP tags in removed code ... b0edd4c 2 hours ago 1,526 commits

.github/workflows	Test PHP 8.2 in CI	3 days ago
bin	Add --version flag to php-parse	17 days ago
doc	Fix pretty printing example	17 days ago
grammar	Support readonly before DNF type	3 days ago
lib/PhpParser	Bail out on PHP tags in removed code	2 hours ago
test	Bail out on PHP tags in removed code	2 hours ago
test_old	Avoid repeatedly downloading archive in run-php-src.sh	2 months ago
tools	Add tools/ directory	10 days ago
.editorconfig	[PHP 8.1] Add support for enums (#758)	17 months ago
.gitattributes	Add CONTRIBUTING.md	23 days ago
.gitignore	gitignore: add phpunit test cache	3 years ago
.php-cs-fixer.dist.php	Also format the grammar directory	23 days ago
CHANGELOG.md	Release PHP-Parser 5.0.0-alpha1	17 days ago
CONTRIBUTING.md	Add CONTRIBUTING.md	23 days ago
LICENSE	Corrected license text	2 years ago
README.md	Partial documentation update	17 days ago
UPGRADE-1.0.md	Fix typos	8 years ago

About

A PHP parser written in PHP

php | parser | static-analysis | ast

Readme

BSD-3-Clause license

15.7k stars

232 watching

891 forks

Releases 76

PHP-Parser 4.15.1 Latest

18 days ago

+ 75 releases

Packages

No packages published

Used by 1.5m

+ 1,486,143

Contributors 123

```
class Attribute extends \PhpParser\NodeAbstract
{
    public Name $name

    /** @list<Arg> */
    public array $args;

    // Rest of class …
```

```
#[Middleware(RequireToken::class, ['edit'])]
```

```php
public function user ()
{
  return $this->belongsTo('User');
}
```


```php
class Attribute extends \PhpParser\NodeAbstract
{
  public Name $name

  /** @list<Arg> */
  public array $args;

  // Rest of class …
```

```php
#[Middleware(RequireToken::class, ['edit'])]
```

- PHP code can be represented by an AST
- Different types of Node
- Nodes contain information
- Each type of node has different information

www.getrector.com/ast

RECTOR Try Rector Docs Hire Team Find Rule Blog Contact AST

1. Write short PHP code you want to understand

```php
<?php

if ($condition === 'demo') {
    return true;
}
```

Parse

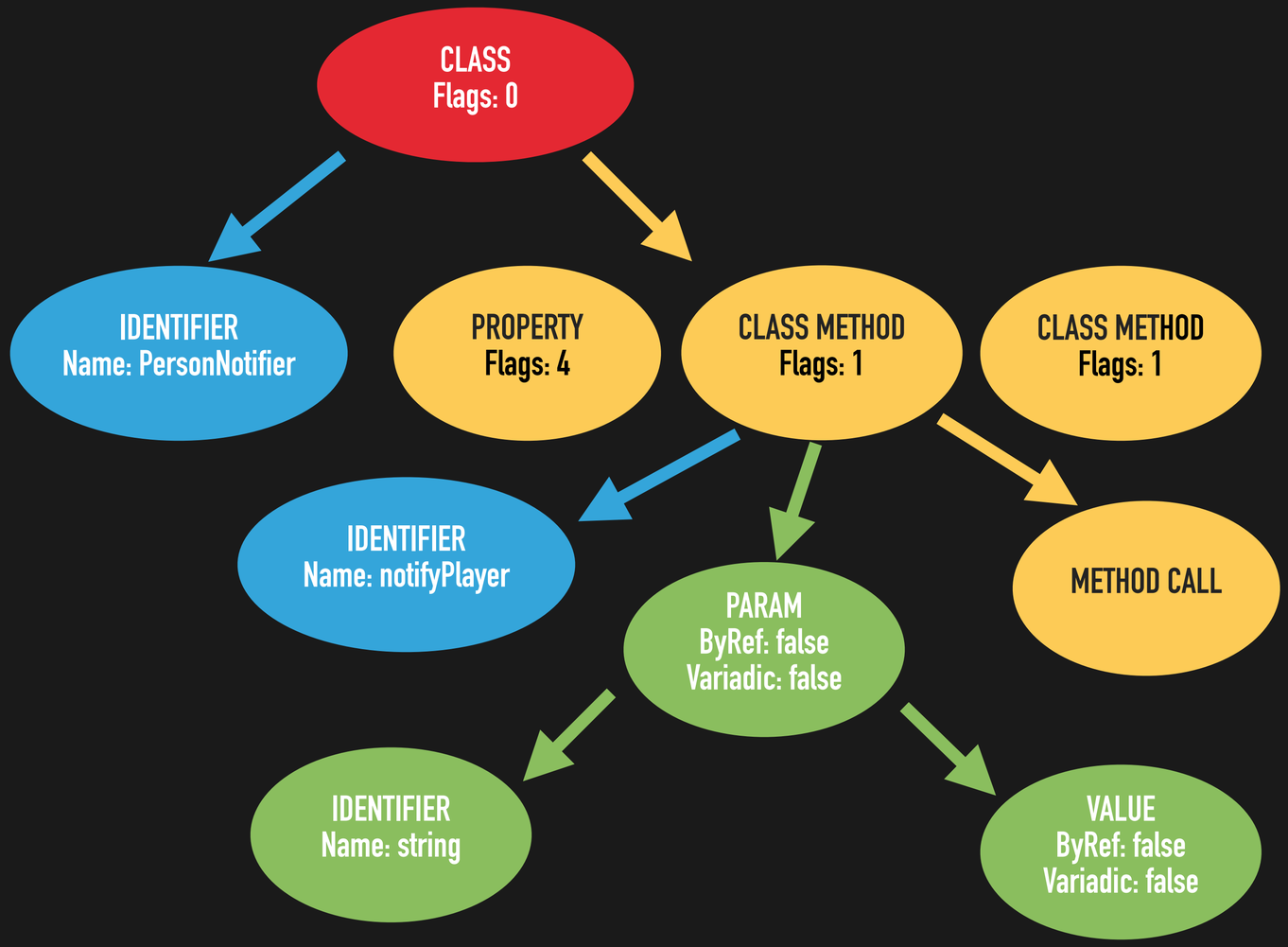
2. Click on any part of the code

```php
<?php

if ($condition === 'demo') {
    return \true;
}
```

3. See Abstract Syntax Tree created by php-parser for full file

```
PhpParser\Node\Stmt\If_(
    cond: PhpParser\Node\Expr\BinaryOp\Identical(
        left: PhpParser\Node\Expr\Variable( name: "condition" )
        right: PhpParser\Node\Scalar\String_( value: "demo" )
    )
    stmts: [
        0: PhpParser\Node\Stmt\Return_(
            expr: PhpParser\Node\Expr\ConstFetch(
                name: PhpParser\Node\Name\FullyQualified( parts: ["true"] )
            )
        )
    ]
    elseifs: []
    else: null
)
```


CLASS
Flags: 0
IDENTIFIER
Name: PersonNotifier
PROPERTY
Flags: 4
CLASS METHOD
Flags: 1
CLASS METHOD
Flags: 1
IDENTIFIER
Name: notifyPlayer
PARAM
ByRef: false
Variadic: false
METHOD CALL
IDENTIFIER
Name: string
VALUE
ByRef: false
Variadic: false

```
#[Middleware(RequireToken::class, ['edit')]]
#[Middleware(RequireToken::class, only: ['edit')]]
```

```
class Attribute extends \PhpParser\NodeAbstract
{
    public Name $name

    /** @list<Arg> */
    public array $args;

    // Rest of class …
```

```
#[Middleware(RequireToken::class, ['edit'])]
```

```
public function getNodes(): array
{
  return [Attribute::class];
}
```

```
public function refactor(Node $node): ?Node
{

}
```

```
#[Middleware(RequireToken::class, ['edit'])]
```

name

args

- **name is Middleware**
- **2nd or 3rd arg does not use a name**

```
public function refactor(Node $node): ?Node
{
    // Is name Middleware?

    if (!$this->isName($node->name, Middleware::class)) {
        return null;
    }
```

```
$updated = false;

 // Does the second argument use a name?

 $arg2 = $node->args[1] ?? null;

if (($arg2 !== null) && ($arg2->name === null)) {
   $arg2->name = new Identifier('only');
   $updated = true;
}
```

```
$updated = false;


// Does the second argument use a name?

$arg2 = $node->args[1] ?? null;

if (($arg2 !== null) && ($arg2->name === null)) {
  $arg1->name = new Identifier('only');
  $updated = true;
}
```

```
$updated = false;


// Does the second argument use a name?

$arg2 = $node->args[1] ?? null;

if (($arg2 !== null) && ($arg2->name === null)) {

  $arg2->name = new Identifier('only');
  $updated = true;
}
```

```
class Arg extends NodeAbstract
{
    /**
     * @var Identifier|null Parameter name
     * (for named parameters)
     */
    public ?\PhpParser\Node\Identifier $name;

    /** @var Expr Value to pass */
    public \PhpParser\Node\Expr $value;

    /** @var bool Whether to pass by ref */
    public bool $byRef;

    /** @var bool Whether to unpack the argument */
    public bool $unpack;
```

```
$updated = false;


// Does the second argument use a name?

$arg2 = $node->args[1] ?? null;

if (($arg2 !== null) && ($arg2->name === null)) {

  $arg2->name = new Identifier('only');
  $updated = true;
}
```

```
$updated = false;


// Does the second argument use a name?

$arg2 = $node->args[1] ?? null;

if (($arg2 !== null) && ($arg2->name === null)) {
    $arg2->name = new Identifier('only');
    $updated = true;
}
```

```
    // Does the third argument use a name?

    $arg3 = $node->args[2] ?? null;

    if (($arg3 !== null) && ($arg3->name === null)) {
      $arg3->name = new Identifier('except');
      $updated = true;
    }

    // Return

    return $updated ? $node : null;

}
```

```
    // Does the third argument use a name?

    $arg3 = $node->args[2] ?? null;

    if (($arg3 !== null) && ($arg3->name === null)) {
      $arg3->name = new Identifier('except');
      $updated = true;
    }

    // Return

    return $updated ? $node : null;
}
```

```
class MiddlewareUseNamedArguments extends AbstractRector {

  public function getNodes(): array
  {
     return [Attribute::class];
  }

  public function refactor(Node $node): ?Node
  {
     // Is name Middleware?
     if (!$this->isName($node->name, Middleware::class)) {
        return null;
     }

    $updated = false;

    // Does the 2nd argument use a name?
    $arg2 = $node->args[1] ?? null;
    if (($arg2 !== null) && ($arg2->name === null)) {
      $arg1->name = new Identifier('only');
      $updated = true;
    }

    // Does the third argument use a name?
    $arg3 = $node->args[2] ?? null;
    if (($arg3 !== null) && ($arg3->name === null)) {
      $arg3->name = new Identifier('except');
      $updated = true;
    }

    return $updated ? $node : null;
  }
}
```

Improvement 1

```
public function refactor(Node $node): ?Node
{
 // Is name Route?
 if (!$this->isName($node->name, Middleware::class)) {
    return null;
 }

 // Get information on parameters

 $parameters = new ReflectionClass(Middleware::class)
                          ->getConstructor()
                          ->getParameters();
```

```php
$updated = false;

// Add name to each argument if needed
foreach($node->args as $index => $arg) {

  if ($index < 1) {
    continue;
  }

  $parameterName = $parameters[$index]?->name;
  if ($parameterName === null) {
    continue;
  }

  if ($arg->name === null) {
    $arg->name = new Node\Identifier($parameterName);
    $updated = true;
  }
}

return $updated ? $node : null;
```

```
$updated = false;

// Add name to each argument if needed
foreach($node->args as $index => $arg) {

  if ($index < 1) {
    continue;
  }

  $parameterName = $parameters[$index]?->name;
  if ($parameterName === null) {
    continue;
  }

  if ($arg->name === null) {
    $arg->name = new Node\Identifier($parameterName);
    $updated = true;
  }
}

return $updated ? $node : null;
```

```
$updated = false;

// Add name to each argument if needed
foreach($node->args as $index => $arg) {

    if ($index < 1) {
        continue;
    }

    $parameterName = $parameters[$index]?->name;
    if ($parameterName === null) {
        continue;
    }

    if ($arg->name === null) {
        $arg->name = new Node\Identifier($parameterName);
        $updated = true;
    }
}

return $updated ? $node : null;
```

```
$updated = false;

// Add name to each argument if needed
foreach($node->args as $index => $arg) {

  if ($index < 1) {
    continue;
  }

  $parameterName = $parameters[$index]?->name;
  if ($parameterName === null) {
    continue;
  }

  if ($arg->name === null) {
    $arg->name = new Node\Identifier($parameterName);
    $updated = true;
  }
}

return $updated ? $node : null;
```

```
$updated = false;

// Add name to each argument if needed
foreach($node->args as $index => $arg) {

  if ($index < 1) {
    continue;
  }

  $parameterName = $parameters[$index]?->name;
  if ($parameterName === null) {
    continue;
  }

  if ($arg->name === null) {
    $arg->name = new Node\Identifier($parameterName);
    $updated = true;
  }
}

return $updated ? $node : null;
```

```php
$updated = false;

// Add name to each argument if needed
foreach($node->args as $index => $arg) {

  if ($index < 1) {
    continue;
  }

  $parameterName = $parameters[$index]?->name;
  if ($parameterName === null) {
    continue;
  }

  if ($arg->name === null) {
    $arg->name = new Node\Identifier($parameterName);
    $updated = true;
  }
}

return $updated ? $node : null;
```

Improvement 2

```
public function refactor(Node $node): ?Node
{
  if (!$this->isName($node->name, $this->className)) {
      return null;
   }

   // Get information on parameters
   $parameters = new ReflectionClass($this->className)
     ->getConstructor()->getParameters();

   $updated = false;

   foreach($node->args as $index => $arg) {

   if ($index < $this->firstArgumentIndexToUpdate) {
     continue;
   }

   … code as before …
```

```
return RectorConfig::configure()

    ->withPaths(…)

    ->withConfiguredRule(
        AttributeNameArgsRector::class,
        [
            Middleware::class, 1
        ]
    );
```

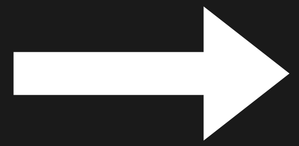
```php
return RectorConfig::configure()

    ->withPaths(…)

    ->withConfiguredRule(
        AttributeNameArgsRector::class,
        [
            new AttributeNamedArgs(Middleware::class, 1),
            new AttributeNamedArgs(AnotherAttribute::class, 0),
            … and more …
        ]
    )
;
```

Custom rector rule flow

Solve a specific problem



Generalise

RECTOR

The Power of Automated Refactoring

2024 Edition
Rector 1.0

Matthias Noback
Tomas Votruba

Or ask AI to create a rule

https://github.com/peterfox/agent-skills

---

rector.php ⟵ Established rules

rector-beta.php ⟵ Check output carefully

```
vendor/bin/rector --config <config file>
```

Coding standards

Problem

Improve tooling every review

phpday

MAY, 15-16th 2025
VERONA
+ ONLINE

Grusp

Custom PHPStan Rules: Automate Standards and Save Time

DAVE LIDDAMENT

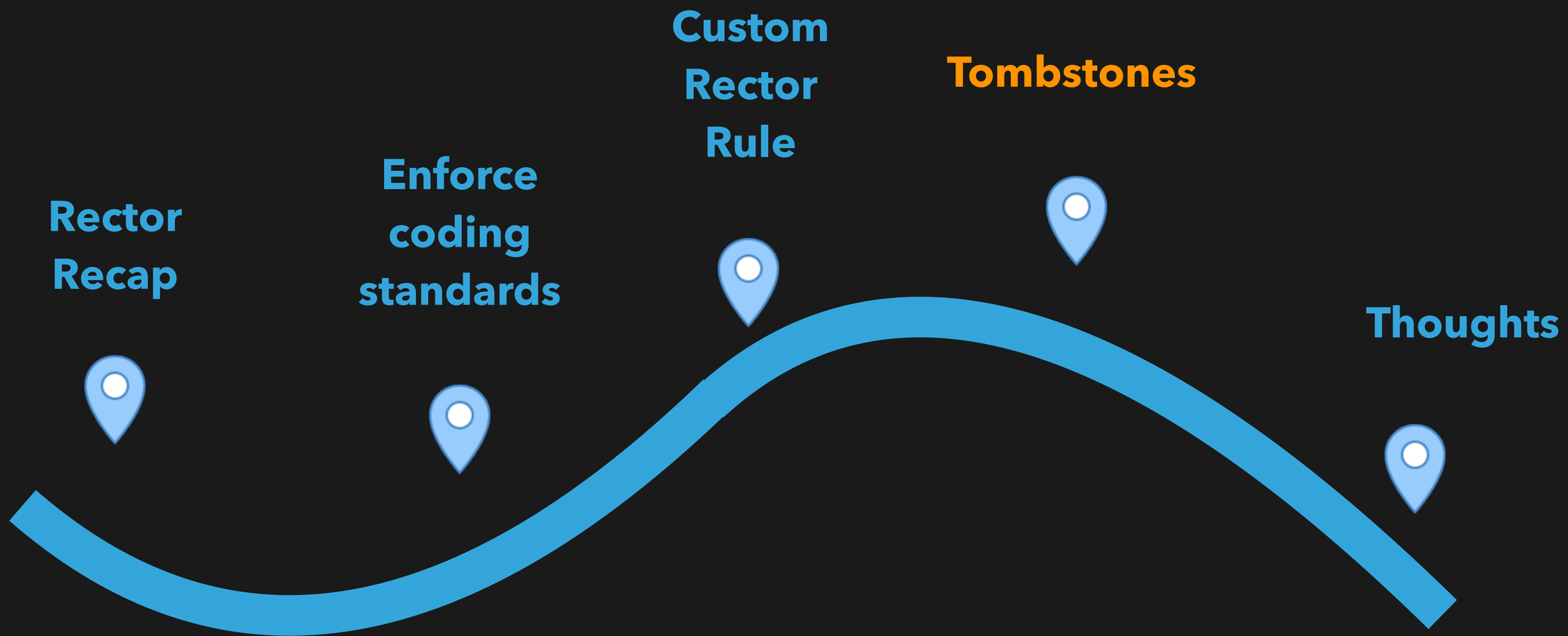

Rector Recap
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Photo by Antoine GIRET on Unsplash

Add tombstones

```
final class PriceCalculator
{
 public function calculate(): void
 {

   TombstoneReporter::trigger(
     'PriceCalculator', 'calculate');

  // Rest of method's code
 }
}
```

TombstoneReporter::trigger

- Gets list of all triggered tombstones from database (once per request)
- If triggered tombstone not on list, create DB entry

TombstoneReporter::dump

triggered_tombstones.json

```
[
  'PriceCalculator::calculate',
  'PriceController::index',
  'PriceRepository::getItems,
  ...
];
```

Remove triggered tombstones

```
final class PriceCalculator
{
 public function calculate(): void
 {

   TombstoneReporter::trigger(
     'PriceCalculator', 'calculate');

  // Rest of method's code
 }
}
```

Delete code

```
“REMOVE: Product listing page”

“REMOVE: 2 for 1 discount code”
```

Photo by Claudio Schwarz on Unsplash

How do we add tombstones?

How do we add tombstones?

```
final class AddTombstoneRector extends AbstractRector
{


    public function getNodeTypes(): array
    {
        return [ClassMethod::class];
    }
```

```php
public function refactor(Node $node): ?Node
{
    $scope = ScopeFetcher::fetch($node);
    $className = $scope->getClassReflection()?->getName() ?? null;
    if ($className === null) {
        return null;
    }

    $staticCall = $this->nodeFactory->createStaticCall(
        Tombstone::class,
        'trigger',
        [
            $this->nodeFactory->createArg($className),
            $this->nodeFactory->createArg($node->name->name),
        ]
    );
    $staticCallStatement = new Node\Stmt\Expression($staticCall);

    $statements = $node->stmts ?? [];
    array_unshift($statements, $staticCallStatement);
    $node->stmts = $statements;
    return $node;
}
```

```php
public function refactor(Node $node): ?Node
{

  $scope = ScopeFetcher::fetch($node);
  $className = $scope->getClassReflection()?->getName() ?? null;
  if ($className === null) {
    return null;
  }

  $staticCall = $this->nodeFactory->createStaticCall(
    Tombstone::class,
    'trigger',
    [
      $this->nodeFactory->createArg($className),
      $this->nodeFactory->createArg($node->name->name),
    ]
  );
  $staticCallStatement = new Node\Stmt\Expression($staticCall);

  $statements = $node->stmts ?? [];
  array_unshift($statements, $staticCallStatement);
  $node->stmts = $statements;
  return $node;
}
```

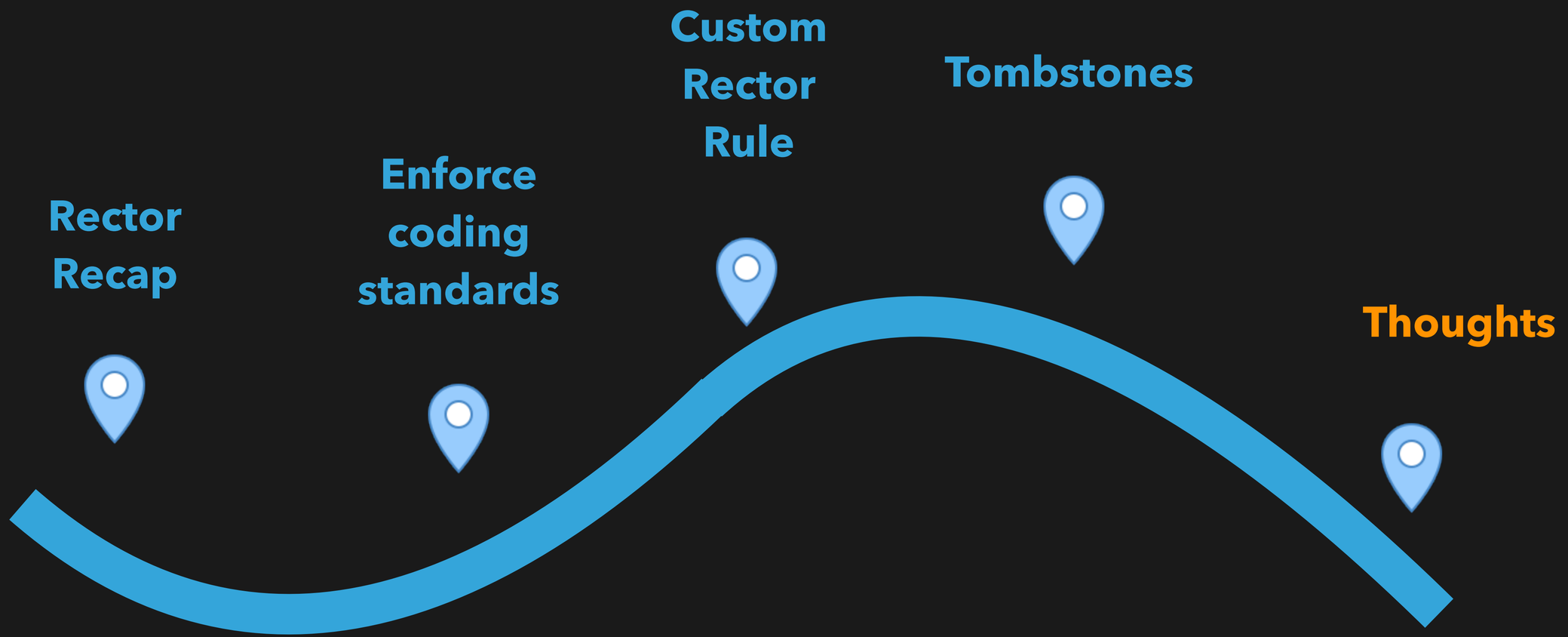
```
public function refactor(Node $node): ?Node
{

  $scope = ScopeFetcher::fetch($node);
  $className = $scope->getClassReflection()?->getName() ?? null;
  if ($className === null) {
    return null;
  }

  $staticCall = $this->nodeFactory->createStaticCall(
    Tombstone::class,
    'trigger',
    [
      $this->nodeFactory->createArg($className),
      $this->nodeFactory->createArg($node->name->name),
    ]
  );
  $staticCallStatement = new Node\Stmt\Expression($staticCall);

  $statements = $node->stmts ?? [];
  array_unshift($statements, $staticCallStatement);
  $node->stmts = $statements;
  return $node;
}
```

https://github.com/DaveLiddament/tombstone-demo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Type coverage is good

0% type coverage

```
function getNames($users)
{

  $names = [];
  foreach($users as $user) {
    $names[] = $user->getUser();
  }

  return join(‘,’, $names);
}
```

100% type coverage

```
/** @param array<int,User> $users */
function getNames(array $users): string
{

  $names = [];
  foreach($users as $user) {
    $names[] = $user->getUser();
  }
  return join(‘,’, $names);

}
```

Legacy applications: Add to docblock first

```
/**
 * @param array<int,User> $users
 * @return string
 */
function getNames($users)
{

  $names = [];
  foreach($users as $user) {
    $names[] = $user->getUser();
  }

  return join(‘,’, $names);
}
```

Could we track type information?

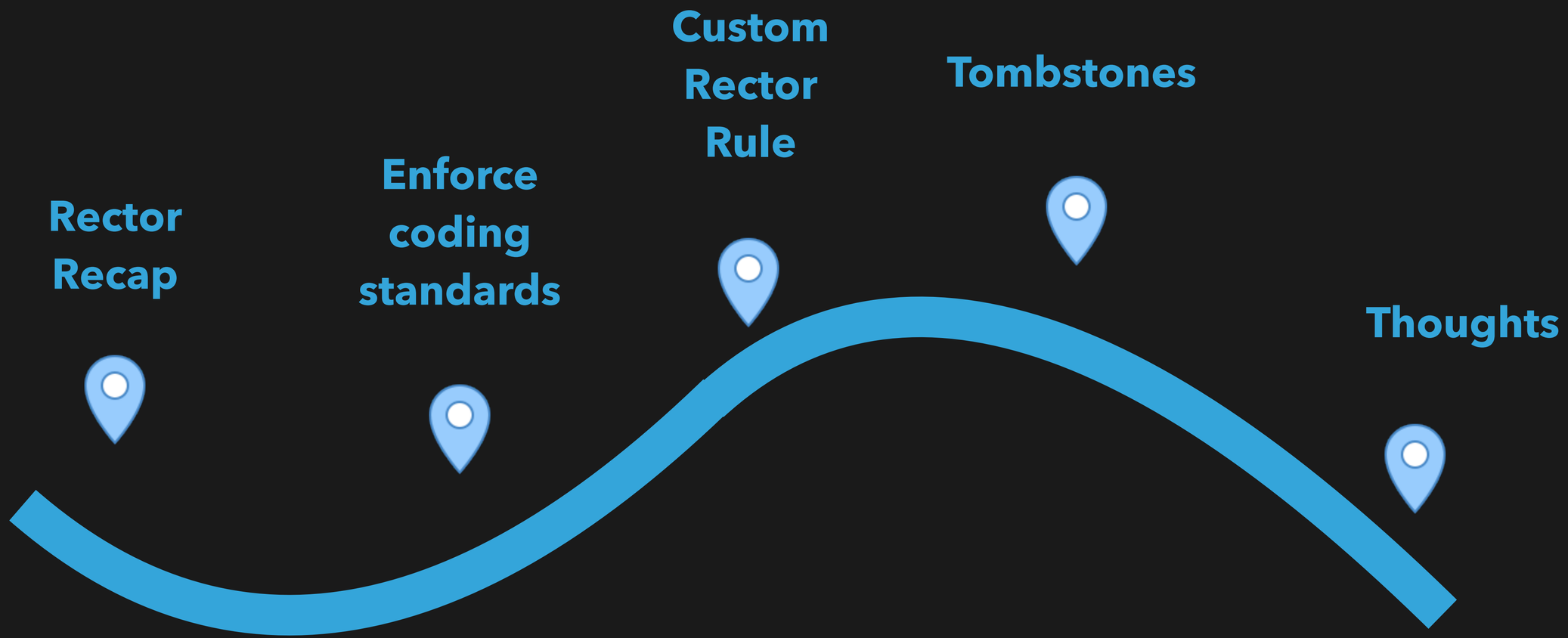
```
class Person
{
  public function process($name, $age)
  {
    TypeRecorder::record(
        method: “Person::process”
        argument: 1,
        value: $name);

    TypeRecorder::record(
        method: “Person::process”
        argument: 2,
        value: $age);

    … rest of method …
  }
```

Is this still relevant?

Deterministic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- Upgrades
- One off Refactors
- Downgrades
- Automate code review
- Investigation work

Dave Liddament

github.com/DaveLiddament/php-language-extensions
github.com/DaveLiddament/phpstan-rule-test-helper
github.com/DaveLiddament/test-splitter
github.com/DaveLiddament/sarb

www.linkedin.com/in/daveliddament/
@daveliddament@phpc.social
@daveliddament.bsky.social
@daveliddament

Me when I’m not coding!

All Value Objects must be final and read only

Old

```
#[ValueObject]
class Person
{
}
```

New

```
#[ValueObject]
final readonly class Person
{
}
```

```
final class MakeValueObjectsFinalRector
     extends AbstractRector
{

public function getNodeTypes(): array
 {
   return [Class_::class];
 }
```

```
public function __construct(
  private PhpAttributeAnalyzer $attributeAnalyzer,
 ) {}
```

```php
public function refactor(Node $node): ?Node
{
    if (!$this->attributeAnalyze->hasPhpAttribute(
        $node, ValueObject::class)) {
        return null;
    }

    if ($node->isFinal() && ($node->isReadonly())) {
        return null;
    }

    $node->flags |= Modifiers::FINAL | Modifiers::READONLY;

    return $node;
}
```

```
public function refactor(Node $node): ?Node
{

if (!$this->attributeAnalyze->hasPhpAttribute(
     $node, ValueObject::class)) {
    return null;
 }

 if ($node->isFinal() && ($node->isReadonly())) {
   return null;
 }

 $node->flags |= Modifiers::FINAL | Modifiers::READONLY;

 return $node;
}
```

```
public function refactor(Node $node): ?Node
{

if (!$this->attributeAnalyze->hasPhpAttribute(
     $node, ValueObject::class)) {
    return null;
 }

 if ($node->isFinal() && ($node->isReadonly())) {
   return null;
 }

 $node->flags |= Modifiers::FINAL | Modifiers::READONLY;

 return $node;
}
```

Previously working code breaks

Before

```
#[ValueObject]
class Person {…}

class SomeClass extends Person
{…}
```

After

```
#[ValueObject]
final readonly class Person {…}

class SomeClass extends Person
{…}
```