



Automate Drupal 9 upgrades

Addressing deprecated code as a community

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About Palantir.net

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- Identify deprecations
- Understand replacement
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Context

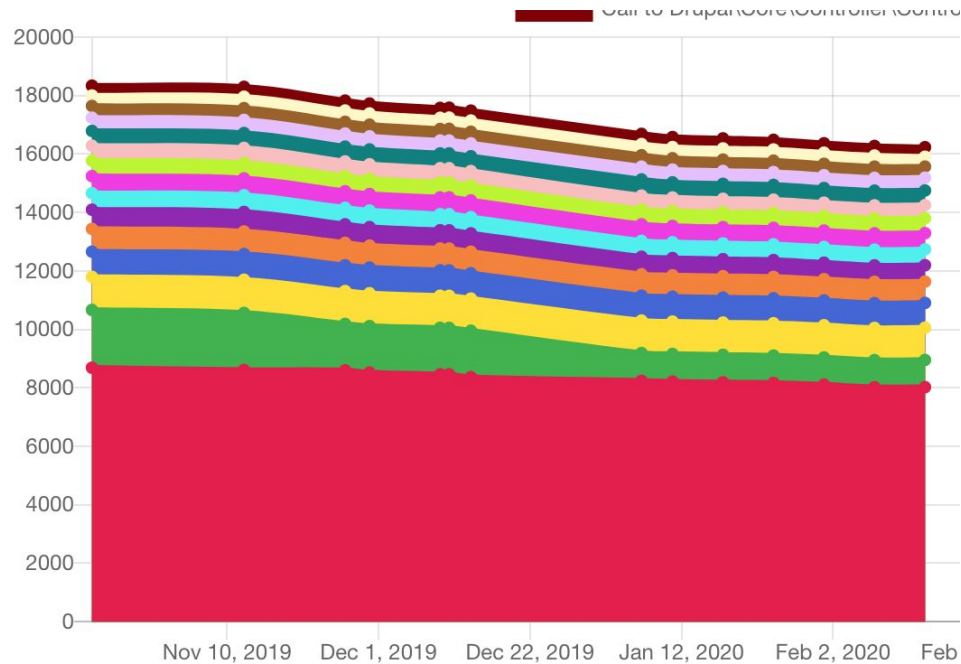
**Most Drupal 8 code
will continue to work
in Drupal 9**

**Deprecated core
functionality
may necessitate updates
to custom code**

2/3

**15 deprecations
make up almost $\frac{2}{3}$
of deprecated API use**

Top 15 most used deprecations



https://dev.acquia.com/drupal9/deprecation_status/graphs

Updating code

Updating code

- Identify affected code
- Understand the replacement
- Apply the update
- Test the update

Identify affected code

Online tool

Local development tool

Acquia Online Deprecation Status Tool

https://dev.acquia.com/drupal9/deprecation_status/errors

- Runs PHPStan on all contrib projects on Drupal.org
- Provides a summary of the deprecation

Acquia Online Deprecation Status Tool: Example

Call to deprecated function `drupal_set_message()`. Deprecated in `drupal:8.5.0` and is removed from `drupal:9.0.0`. Use `Drupal\Core\Messenger\MessengerInterface::addMessage()` instead.

Drupal Check local development tool

<https://github.com/mglaman/drupal-check>

- Runs PHPStan to check
 - Deprecations
 - Missing classes
 - More
- Composer package
 - `composer require mglaman/drupal-check --dev`
- Phar package
 - Avoid dependency conflicts

Understand the replacement

Drupal.org documentation

In code notices

Core code comments

Drupa.org change records

Drupal.org api documentation

- Deprecated code is marked in the API documentation

Deprecated

in drupal:8.5.0 and is removed from drupal:9.0.0. Use [\Drupal\Core\Messenger\MessengerInterface::addMessage\(\)](#) instead.

See also

[drupal_get_messages\(\)](#)

[status-messages.html.twig](#)

<https://www.drupal.org/node/2774931>

Drupal.org change record

[Change records](#)

drupal_get_message() and drupal_set_message() replaced by Messenger service

By [dawehner](#) on 15 December 2017

Change record status: Published ([View all published change records](#))

Project: [Drupal core](#)

Introduced in branch: 8.5.x

Introduced in version: 8.5.0-alpha1

Issues:

[#2278383](#): Create an injectible service for drupal_set_message()

[#2760167](#): Add \Drupal\Core\Messenger\Messenger

[#2937945](#): Add messenger to ControllerBase and FormBase

[#2924538](#): [META] Remove all usages of drupal_get_message and drupal_set_message

[#2935255](#): Remove all usages of drupal_get_message and drupal_set_message in core lib

[#2928994](#): Remove \Drupal\Core\Messenger\LegacyMessenger

[#3003298](#): Fix "Adding or retrieving messages prior to the container being initialized was deprecated in Drupal 8.5.0 and this functionality will be removed before Drupal 9.0.0." deprecation error.

Description:

The procedural functions `drupal_set_message()` and `drupal_get_messages()` have been deprecated and replaced with a dedicated Messenger service.

You should now inject this service as a dependency for your own services and controllers:

```
my_module.services.yml :
```

```
services:
  my_module.service:
    class: \Drupal\my_module\MyModuleService
    arguments: ['!@messenger']
```

```
namespace Drupal\my_module;
```

```
use Drupal\Core\Messenger\MessengerInterface;
```

Drupal.org change record: Example

```
/**
 * After Example.
 */
public function afterExample() {
    // Add message (defaults to "status" message type).
    $this->messenger->addMessage('Hello world');

    // Add specific type of message.
    $this->messenger->addMessage('Hello world', 'custom');
    $this->messenger->addError('Hello world');
    $this->messenger->addStatus('Hello world');
    $this->messenger->addWarning('Hello world');

    // Retrieve and remove specific type of message.
    $this->messenger->deleteByType('error');

    // Retrieve specific type of message, without removing it.
    $this->messenger->messagesByType('error');

    // Retrieve and remove all messages.
    $messages = $this->messenger->deleteAll();

    // Retrieve all messages, without removing them.
    $messages = $this->messenger->all();
}
```

In-code notice: PhpStorm

```
drupal_set_message( message: 'example message');
```

```
Function 'drupal_set_message' is deprecated  
error');
```

Core code comments

```
*  
* @see drupal_get_messages()  
* @see status-messages.html.twig  
* @see https://www.drupal.org/node/2774931  
*  
* @deprecated in drupal:8.5.0 and is removed from drupal:9.0.0.  
* Use \Drupal\Core\Messenger\MessengerInterface::addMessage() instead.  
*/  
function drupal_set_message($message = NULL, $type = 'status', $repeat = FALSE) {  
  @trigger_error('drupal_set_message() is deprecated in Drupal 8.5.0 and will be removed before Drupal 9.0.0. Use  
  \Drupal\Core\Messenger\MessengerInterface::addMessage() instead. See https://www.drupal.org/node/2774931',  
  E_USER_DEPRECATED);  
}
```

Apply the update

Manual update process

Drupal Rector

Manual update

- Copy, paste, and edit examples
- Use code completion and IDE tools

Drupal Rector

- Command line tool
- Composer package
 - `palantirnet/drupal-rector`


```
vendor/bin/rector process  
web/modules/custom/rector_examples  
--dry-run
```

Drupal Rector: example output

1) drupal-rector/rector_examples/src/DrupalSetMessageStatic.php

```
----- begin diff -----  
--- Original  
+++ New  
@@ -15,15 +15,15 @@  
    * @return null  
    */  
    public function example() {  
-        drupal_set_message('example message');  
+        \Drupal::messenger()->addStatus('example message');
```

Drupal Rector (more details)

- Built on open source Rector Php tool
 - Using the Phar version
- Includes default configuration
- Includes deprecation examples

Test the update

Manual testing

Automated testing

Manual testing

Create example sites and test your code

Automated testing

- PHPUnit tests
- Behat tests
- etc

Process review

Process review: Updating code

- Identify affected code → Drupal Check
- Understand the replacement → Drupal.org and blog posts
- Apply the update → Drupal Rector
- Test the update → PHPUnit / Behat / etc

Current state of Drupal Rector

Supported deprecations

Drupal Rector

- `drupal_set_message()`
- `entityManager()`
- `getMock()`

Drupal 8 Rector

- Original project
- Drupal Rector is a fork of this Drupal 8 Rector
- Includes more rectors that cover additional functionality beyond deprecations
- The features may not function with current versions of tools

Developing rectors

Create an example

Create a Rector class

Register the class

Develop the refactor code

Create an example of deprecated usage

```
class DrupalSetMessageStatic {  
    public function example() {  
        drupal_set_message('example message');  
        return NULL;  
    }  
}
```

Create a class

drupal-rector/src/Rector/Deprecation/DrupalSetMessageRector.php

```
final class DrupalSetMessageRector extends AbstractRector {  
    public function getDefinition(): RectorDefinition {}  
    public function getNodeTypes(): array {}  
    public function refactor(Node $node): ?Node {}  
}
```

Register the class

drupal-rector/config/drupal-8/drupal-8.5-deprecations.yml

services:

```
    DrupalRector\Rector\Deprecation\DrupalSetMessageRector: ~
```

Method: getDefinition

```
public function getDefinition(): RectorDefinition {  
    return new RectorDefinition(  
        'Fixes deprecated drupal_set_message() calls',[  
            new CodeSample("drupal_set_message('example status', 'status');",  
                "\Drupal::messenger()->addStatus('example status');"  
            )  
        ]  
    );  
}
```


Method: getNodeTypes

```
public function getNodeTypes(): array {  
    return [  
        Node\Expr\FuncCall::class,  
    ];  
}
```

Method: refactor

...

```
$messenger_service = new Node\Expr\StaticCall(new  
Node\Name\FullyQualified('Drupal'), 'messenger');
```

```
$method = new Node\Identifier('addStatus');
```

```
$node = new Node\Expr\MethodCall($messenger_service, $method,  
$method_arguments);
```

...

```
# \Drupal::messenger()->addStatus('example message');
```

Rector development resources

Drupal Rector development

Documentation and references

Using Xdebug

Drupal Rector sandbox

Drupal Rector Development

Code repository

- <https://github.com/palantirnet/drupal-rector>

Issues

- <https://www.drupal.org/project/rector>

Documentation and references

Rector training repository

- <https://github.com/rectorphp/rector-training>

Rector object types

- <https://github.com/rectorphp/rector/blob/master/docs/NodesOverview.md>

Drupal Rector Introduction

Palantir.net blog post by Ofer Shaal, project maintainer

- <https://www.palantir.net/blog/jumpstart-your-drupal-9-upgrade-drupal-rector>

Using Xdebug

- Explore the available node objects
- Explore node methods
- Explore class methods

Drupal Rector development sandbox

- Quick start for developing new rectors
- Github repository
 - <https://github.com/palantirnet/drupal-rector-sandbox>
- Includes Drupal core installation
- Includes readme to help with setup
- Includes Vagrant and DDEV VMs for XDebug support

Next steps

Palantir.net goals

Community goals and opportunities

Palantir.net goals

- Maintain the Drupal Rector package
 - Rector updates
- Develop / Update rectors to cover the most common deprecations
- Provide resources around each deprecation
 - Blog posts
 - Examples

Community goals & opportunities

- Expand the scope of existing rectors
- Provide documentation around deprecations
- Provide patches to module maintainers
- Provide support for future deprecations

Thank you

Original Drupal 8 Rector project

<https://github.com/drupal8-rector/drupal8-rector>

Project creator

- Dezső Biczó

Additional contributors

- Ashutosh Gupta
- David Czinege
- Gábor Hojtsy
- Adam Bergstein

Drupal Rector maintainer

Ofer Shaal



Senior Front-End Developer





Thank You.

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Questions?

PLEASE PROVIDE YOUR FEEDBACK!

mid.camp/6364

The top rated sessions will be captioned, courtesy
of Clarity Partners



CONTRIBUTION DAY

Saturday 10am to 4pm

You don't have to know code to give back!

New Contributor training 10am to Noon
with **AmyJune Hineline** of Kanopi Studios