PHP 7.2

PHP Forum – Paris – October, 26th 2017

Talk by:

Remi Collet

Senior Software Engineer, Red Hat Inc.
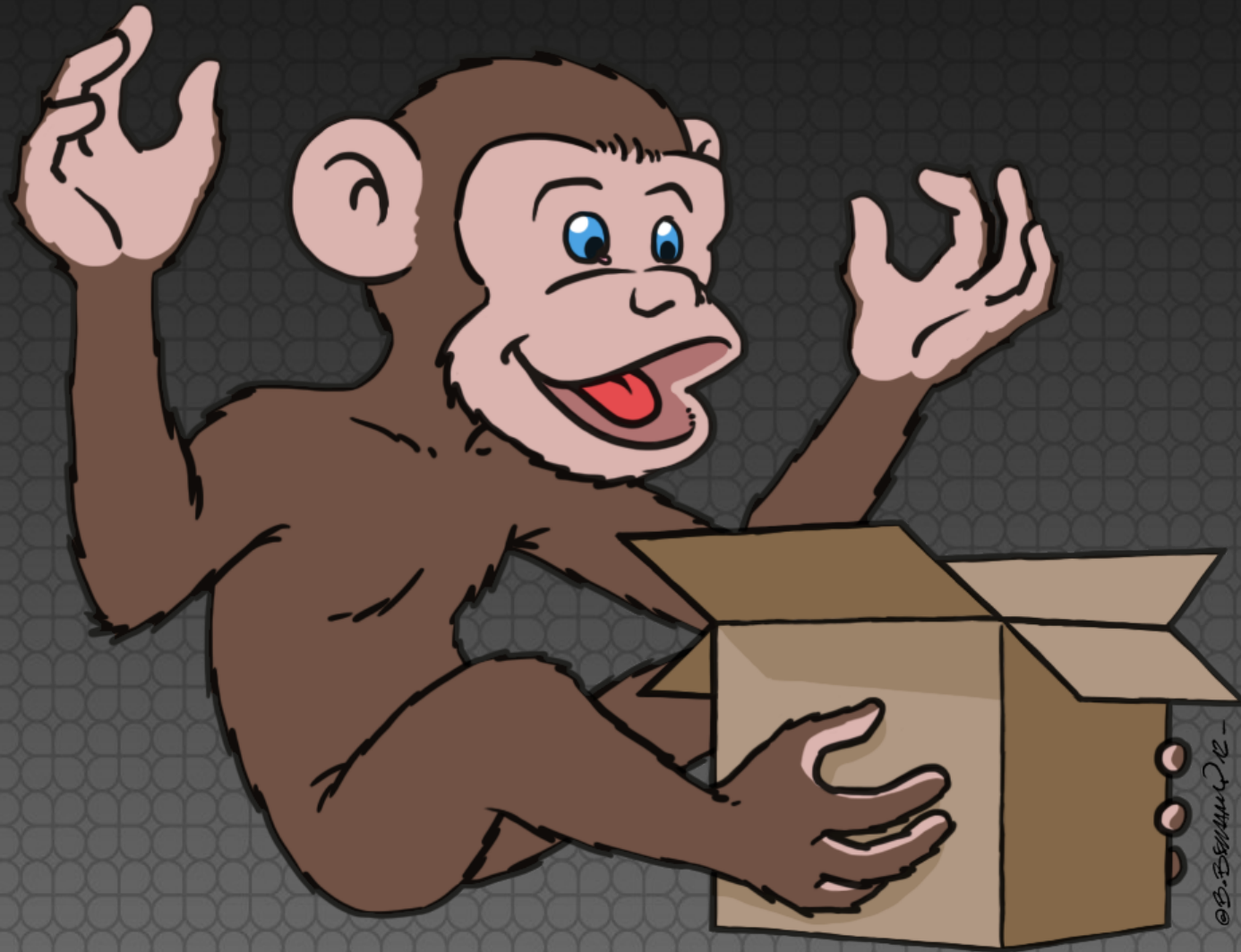
PHP 7.2 Release Manager.

Summary

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Introduction

Remi Collet

- 1998 : PHP 3.0 user
- 2005 : Remi's RPM repository / LAMP
- 2006 : Fedora contributor (PHP stack)
- 2007 : Fedora PHP co-maintainer
- 2011 : PECL developer
- 2012 : Fedora / Red Hat PHP maintainer
- 2012 : PHP developer
- 2017 : PHP 7.2 Release Manager

=> http://fr.linkedin.com/in/remicollet

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Remi's RPM Repository

- Cible : Fedora, RHEL, CentOS
- PHP 5.4, 5.5, 5.6, 7.0, 7.1, 7.2
- Paquets de base
  - Remplacement (php-*), 1 dépôt par version
- *Software Collections*
  - Installation en parallèle (php##-*)
- ~150 extensions
- Upstream de Fedora / RHEL / RHSCL
- => https://rpms.remirepo.net/

Roadmap

PHP 7.2 roadmap

- October, 26th 2017: 7.2.0RC5 (**TODAY!!**)
- November, 7th 2017: PHP-7.2.0 branch
- November, 9th 2017: 7.2.0RC6
- November, 30th 2017: 7.2.0 GA

=> https://wiki.php.net/todo/php72

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Breaking changes

Fedora QA

- >500 libraries monitored
- build raised by change in dependency tree
- Koschei
  - F28: PHP 7.2.x
  - F27: PHP 7.1.x (including RC)

https://apps.fedoraproject.org/koschei/

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Breaking changes

- **mcrypt** is removed
  - libmcrypt is unmaintained for ~8 years
  - was deprecated in 7.1

https://wiki.php.net/rfc/mcrypt-viking-funeral

https://blog.remirepo.net/post/2015/07/07/About-libmcrypt-and-php-mcrypt

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Deprecations #1

- **__autoload**
- $php_errormsg
- **create_function()**
- mbstring.func_overload
- (unset) cast
- parse_str() without second argument
- gmp_random()
- **each**()
- assert() with string argument
- $errcontext argument of error handler

https://wiki.php.net/rfc/deprecations_php_7_2

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Deprecations #2

- Deprecate png2wbmp() and jpeg2wbmp()

  https://wiki.php.net/rfc/deprecate-png-jpeg-2wbmp

- Deprecate and remove INTL_IDNA_VARIANT_2003
  - 7.2: deprecated
  - 7.4: switch default to INTL_IDNA_VARIANT_UTS46
  - 8.0: drop

  https://wiki.php.net/rfc/deprecate-and-remove-intl_idna_variant_2003

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Deprecations #3

- Deprecate and Remove Bareword (Unquoted) Strings
  https://wiki.php.net/rfc/deprecate-bareword-strings

```
$ php -r 'var_dump(PHP_VERSOIN);'
PHP Notice:  Use of undefined constant
PHP_VERSOIN - assumed 'PHP_VERSOIN' in
Command line code on line 1
string(11) "PHP_VERSOIN"
```

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Deprecations #4

- Counting of non-countable objects
  - Counts all elements in an array, or **something** in an object.

```
class Foo implements Countable {
    public function count() {
        return 42;
    }

    …

}
```

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Deprecations #5

- Counting of non-countable objects

```
$ php -r 'var_dump(count(NULL));'
PHP Warning:  count(): Parameter must be
an array or an object that implements
Countable in Command line code on line 1
int(0)


Function doSomething(Array foo=NULL);
```

https://wiki.php.net/rfc/counting_non_countables

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Stricter prototype check

- Prototype in extended class must really be compatible

```
$ PHP Fatal error: Declaration of
Zend\Log\Writer\FingersCrossed::setFormatt
er($formatter) must be compatible with
Zend\Log\Writer\AbstractWriter::setFormatt
er($formatter, ?array $options = NULL)
in ...
```

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Numeric keys #1

- In objet to array cast

```
$ php -r 'var_dump((object)[0=>1]);'
object(stdClass)#1 (1) {
   ["0"]=>
   int(1)
}
```

- $obj→{'0'} and $obj→{0} allowed

https://wiki.php.net/rfc/convert_numeric_keys_in_object_array_casts

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Numeric keys #2

- In array to object cast

```
$ php -r '$obj = new class {
public function __construct()
    { $this->{0} = 1; }
};
var_dump((array)$obj);'
array(1) {
  [0]=>
  int(1)
```
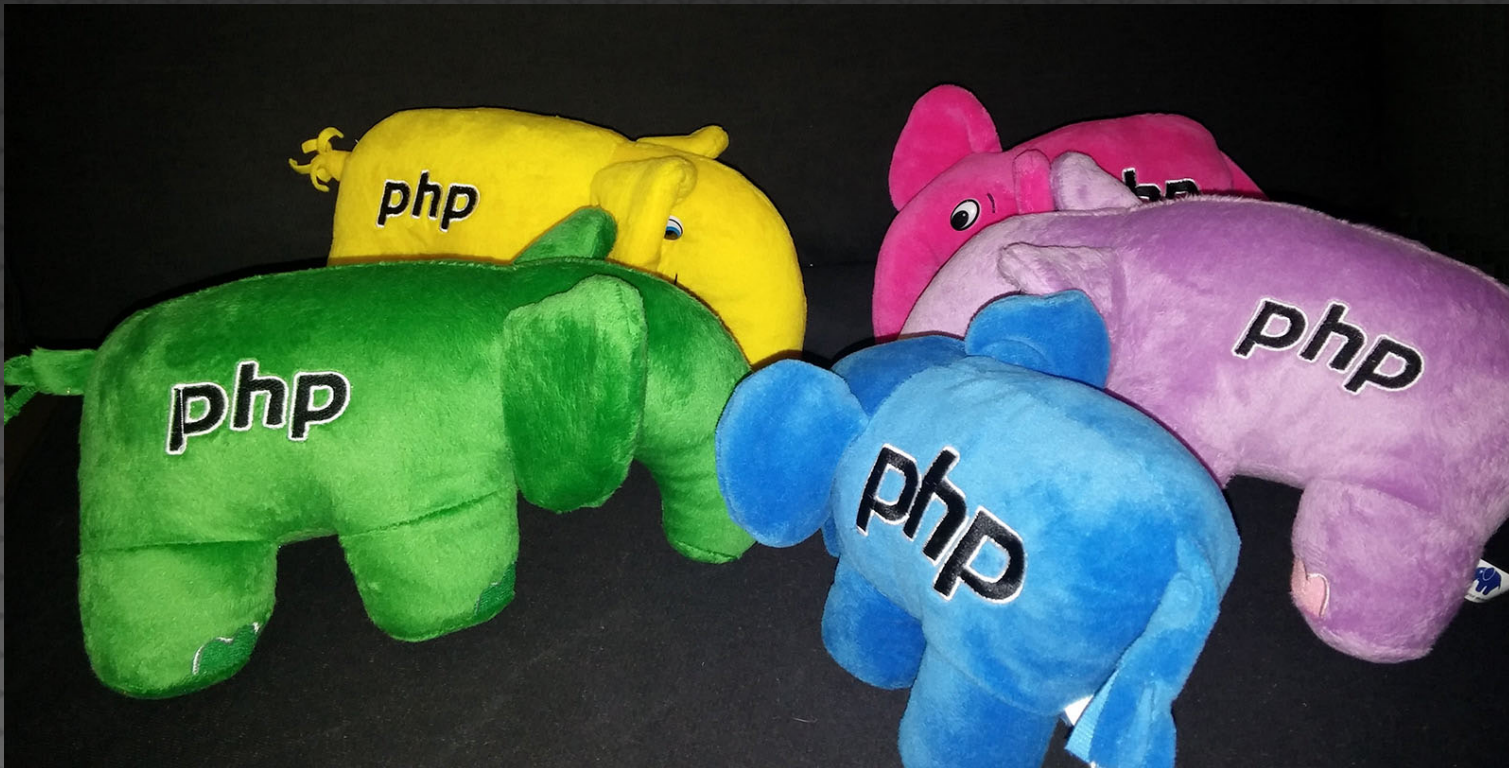
- $arr['0'] and $arr[0] allowed

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Reserved keyword

- object
  - type hinting

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Session

- Session is made to manage session status correctly and prevents invalid operations. Only inappropriate codes are affected by this change.

- This new corrected behavior may affect command line mode CLI scripts that manage sessions. Use output buffer just like web applications to resolve problems on CLI scripts.

```
PHP Warning: ini_set(): Headers already
sent. You cannot change the session
module's ini settings at this time in ...
```

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New features

For sysadmin

Extension loading from ini file:

- PHP <= 7.1
  - Linux
    - `extension=foo.so`
  - Windows
    - `extension=php_foo.dll`
- PHP >= 7.2
    - `extension=foo`

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For security (openssl)

- Improved SSL / TLS constants
  - Make tls:// default to TLSv1.0 + TLSv1.1 + TLSv1.2
  - Make ssl:// an alias of tls://
  - Make STREAM_CRYPTO_METHOD_TLS_* constants default to TLSv1.0 + TLSv1.1 + TLSv1.2 instead of TLSv1.0 only

https://wiki.php.net/rfc/improved-tls-constants

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For security (sodium)

- Sodium
  - New cryptographic API

```
$pass = 'secret';
$hash = sodium_crypto_pwhash_str($pass,
SODIUM_CRYPTO_PWHASH_OPSLIMIT_SENSITIVE,
SODIUM_CRYPTO_PWHASH_MEMLIMIT_SENSITIVE);
$test =
sodium_crypto_pwhash_str_verify($hash,
$pass);
```

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For security (password)

- Argon2 password hash available (optional)
  - PASSWORD_DEFAULT = PASSWORD_BCRYPT

```
$options = [
  'memory_cost' => PASSWORD_ARGON2_DEFAULT_MEMORY_COST,
  'time_cost' => PASSWORD_ARGON2_DEFAULT_TIME_COST,
  'threads' => PASSWORD_ARGON2_DEFAULT_THREADS,
];
password_hash('password',
    PASSWORD_ARGON2I, $options);
```

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Type Widening

- Parameter Type Widening

```
class ArrayClass {
    public function foo(array $foo) {
        ...
    }
}
class EverythingClass extends ArrayClass {
    public function foo($foo) {
        ...
    }
}
```

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Object type hinting

- allowed for argument and return type hinting

```php
function foo(object $obj): object {
   return $obj;
}
```

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Resource to Object

- Migration Hash Context from Resource to Object
- HashContext is reentrant

```
$ php -r 'var_dump(hash_init("sha256"));'
resource(4) of type (Hash Context)

$ php -r 'var_dump(hash_init("sha256"));'
object(HashContext)#1 (0) {
}
```

https://wiki.php.net/rfc/hash-context.as-resource

Migration Guide

- Migrating from PHP 7.1.x to PHP 7.2.x

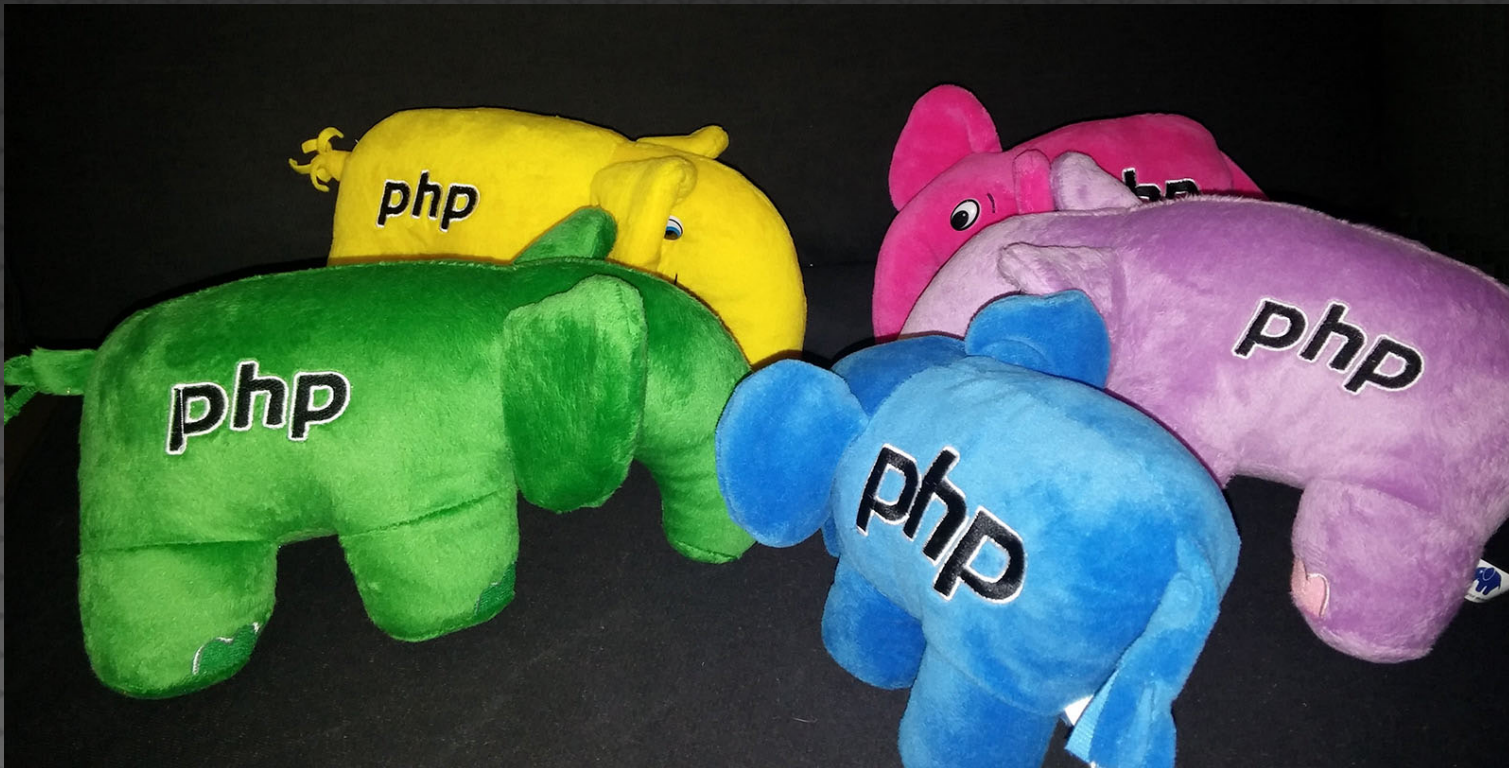http://php.net/manual/en/migration72.php

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Internals (for ext) #1

- ZEND_ACC_CLONE is removed, but was not used in previous versions

- IS_TYPE_IMMUTABLE is removed,
  IS_TYPE_COPYABLE can be used instead
  Z_IMMUTABLE() check function is still available

- zend_arg_info class_name member is removed, use ZEND_TYPE_NAME instead

Internals #2

- ZEND_BEGIN_ARG_WITH_RETURN_TYPE_INFO_EX classname option is removed use:
  - ZEND_BEGIN_ARG_WITH_RETURN_TYPE_INFO_EX for scalar
  - ZEND_BEGIN_ARG_WITH_RETURN_OBJ_INFO_EX for object

- valid_symbol_table is removed from executor_globals. Use EG(active) instead of removed EG(valid_symbol_table)

- More in UPGRADING.INTERNALS

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Benefits

Supported version

- 5.6: security support until Dec 2018

- 7.0: end of active support in Dec 2017
    - Security support until Dec 2018

- 7.1: end of active support in Dec 2018
    - Security support until Dec 2019

=> http://php.net/supported-versions.php

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Performance

- Time to run Zend/benchmark.php
  - 7.0: 0.484"
  - 7.1: 0.463"
  - 7.2: 0.443"

- 7.0 => 7.1: ~4-5% faster

- 7.1 => 7.2: ~4-5% faster
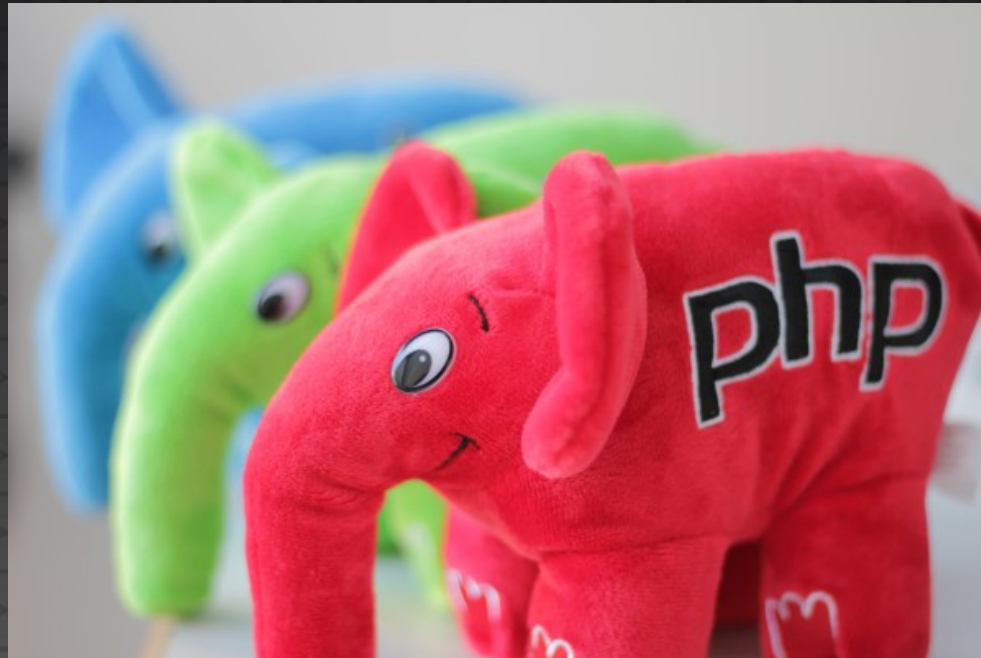
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Small or big steps ?

- Decade upgrade: Big Step
  - Upgrade from 5.4 to 7.2
- Yearly upgrade: Small steps
  - Upgrade from 5.4 to 5.5
  - Upgrade from 5.5 to 5.6
  - Upgrade from 5.6 to 7.0
  - ...
- Fix all deprecated messages ASAP
  - Ready for next minor version

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Feedback

https://joind.in/talk/c0e66

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Questions?

Contact:
remi@php.net