



WP breaks time & how to fix it

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Had you ever...

changed WP time zone?

Settings → General → Timezone

Had you ever...

output localized time?

`date_i18n()`, `the_date()`, etc.

A very brief history of time

1. solar time
2. city time
3. rail time
4. time zones
5. Universal Coordinated Time

Unix time

1 525 435 200

seconds since 1970-01-01 00:00:00 UTC

Unix time

- consistent
- storage–friendly
- comparison–friendly
- not human readable

PHP DateTime

```
$dt = new DateTime();
```

```
echo $dt->getTimestamp();
```

```
1525435200
```

```
echo $dt->format( DATE_RFC3339 );
```

```
2018-05-04T14:00:00+02:00
```

```
echo $dt->get_timezone()->getName();
```

```
Europe/Berlin
```

php.net/datetime

PHP DateTime

- UTC-based
- formatting
- parsing
- primarily English

php.net/datetime

php | architect's
Guide to
**Date and Time
Programming**



Derick Rethans

nbTM | **php** | architect
nanobooks

phpdatebook.com



time

WP time

- PHP 4 code
- partial PHP 5 retrofit
- custom time zone logic
- custom internationalization

WpDateTime

- extends PHP DateTime classes
- works around WP bugs
- parses WP data

github.com/Rarst/wpdatetime

WP time zone options

setting	gmt_offset	timezone_string
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Berlin	2	'Europe/Berlin'
--------	---	-----------------

UTC+2	'2'	''
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WP time zone in all cases

1. get `timezone_string`
2. if empty – get `gmt_offset`
3. convert the offset number to `±00:00` (PHP 5.5+)

WpDateTimeZone to parse time zone

```
$timezone = WpDateTimeZone::getWpTimezone();
```

setting	\$timezone->getName()
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Berlin

'Europe/Berlin'

UTC+2

'+02:00'

date_i18n()

	DateTime	date()	date_i18n()
language	English	English	WP locale
time zone	arbitrary	current PHP	timezone_string
input	arbitrary	timestamp	“WP timestamp”
formats	date()	date()	date(), incomplete

developer.wordpress.org/reference/functions/date_i18n

date_i18n() logic

```
echo date_i18n( 'j. F Y, G.i \U\h\r T' );
```

1. `j. F Y, G.i \U\h\r T`
2. `j. \M\a\i Y, G.i \U\h\r T` – locale
3. `j. \M\a\i Y, G.i \U\h\r \C\E\S\T` – zone
4. `4. Mai 2018, 14.00 Uhr CEST` – date()

date_i18n() fails w/ gmt_offset

WP set to **Berlin** time zone:

```
echo date_i18n( DATE_RFC3339 );
```

```
2018-05-04T14:00:00+02:00
```

WP set to **UTC+2** time zone:

```
echo date_i18n( DATE_RFC3339 );
```

```
2018-05-04T14:00:00+00:00
```

#34835

date_i18n() fails w/ Unix timestamp

```
echo date( DATE_RFC3339, time() );
```

```
2018-05-04T12:00:00+00:00
```

```
echo date_i18n( DATE_RFC3339, time() );
```

```
2018-05-04T12:00:00+02:00
```

#38771

date_i18n() fails w/ some formats

```
echo date_i18n( DATE_RFC3339 ); // === 'Y-m-d\TH:i:sP'
```

```
2018-05-04T14:00:00+02:00
```

```
echo date_i18n( 'c' ); // === 'c'
```

```
2018-05-04T14:00:00+00:00
```

```
echo date_i18n( DATE_RFC2822 ); // === 'D, d M Y H:i:s O'
```

```
Fr, 04 Mai 2018 14:00:00 +0200
```

```
echo date_i18n( 'r' ); // === 'r'
```

```
Fri, 04 May 2018 14:00:00 +0000
```

#20973

WpDateTime to wrap date_i18n()

WP set to **UTC+2** time zone:

```
$time      = new WpDateTime( '@' . time() );  
$timezone  = WpDateTimeZone::getWpTimezone();  
$time      = $time->setTimezone( $timezone );  
echo $time->formatI18n( 'c' );
```

```
2018-05-04T14:00:00+02:00
```

```
echo $time->formatI18n( 'r' );
```

```
Fr, 04 Mai 2018 14:00:00 +0200
```

post_date

post_date	post_date_gmt	post_title
2018-05-04 13:00:00	2018-05-04 12:00:00	A post made in London

WP set to **London** time zone:

```
the_date( DATE_RFC3339 );
```

```
2018-05-04T13:00:00+01:00
```

post_date fails w/ changed time zone

post_date	post_date_gmt	post_title
2018-05-04 13:00:00	2018-05-04 12:00:00	A post made in London

WP set to **Berlin** time zone:

```
the_date( DATE_RFC3339 );
```

```
2018-05-04T13:00:00+02:00
```

#38774

post_date in all cases

1. get `post_date_gmt`
2. if empty – get `post_date`
3. get WP time zone
4. adjust `post_date[_gmt]` with the time zone
5. convert to desired format

WpDateTime to parse post date

post_date	post_date_gmt	post_title
2018-05-04 13:00:00	2018-05-04 12:00:00	A post made in London

WP set to **Berlin** time zone:

```
$time = WpDateTime::createFromPost( get_post() );
```

```
echo $time->formatI18n( DATE_RFC3339 );
```

```
2018-05-04T14:00:00+02:00
```

Takeaways

- **WP gets time storage and output wrong**
- read and use UTC time
- write timestamp, UTC, or RFC 3339
- use `DateTime` to operate time
- use `WpDateTime` to bridge WP and PHP

Thank you for your time! Questions?

twitter.com/Rarst

Rarst.net/slides/time

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