

Improving Debugging in Neos with Xdebug

Neos Con 2023

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<https://derickrethans.nl/talks/xdebug-neoscon23>

<https://xdebug.org>

About Me

Derick Rethans

- I'm European, living in London
- ~~PHP 7.4 Release Manager~~
- **PHP Foundation**
- **Xdebug** & PHP's Date/Time support
- I ♥ 🌐 maps, I ♥ 🍺 beer, I ♥ 🥃 whisky
- mastodon: @derickr@phpc.social



Introducing Modes

Off

Loaded, but miniscule overhead

Introducing Modes

Develop

Every day debugging aides

Introducing Modes

Debugger

Debugging applications with an IDE
Previously: remote debugger

Introducing Modes

Tracing

Tracing the execution of a script to a file

Introducing Modes

Profiler

Profiling application performance

Introducing Modes

Coverage

Which code is run during tests

Introducing Modes

Time Traveller



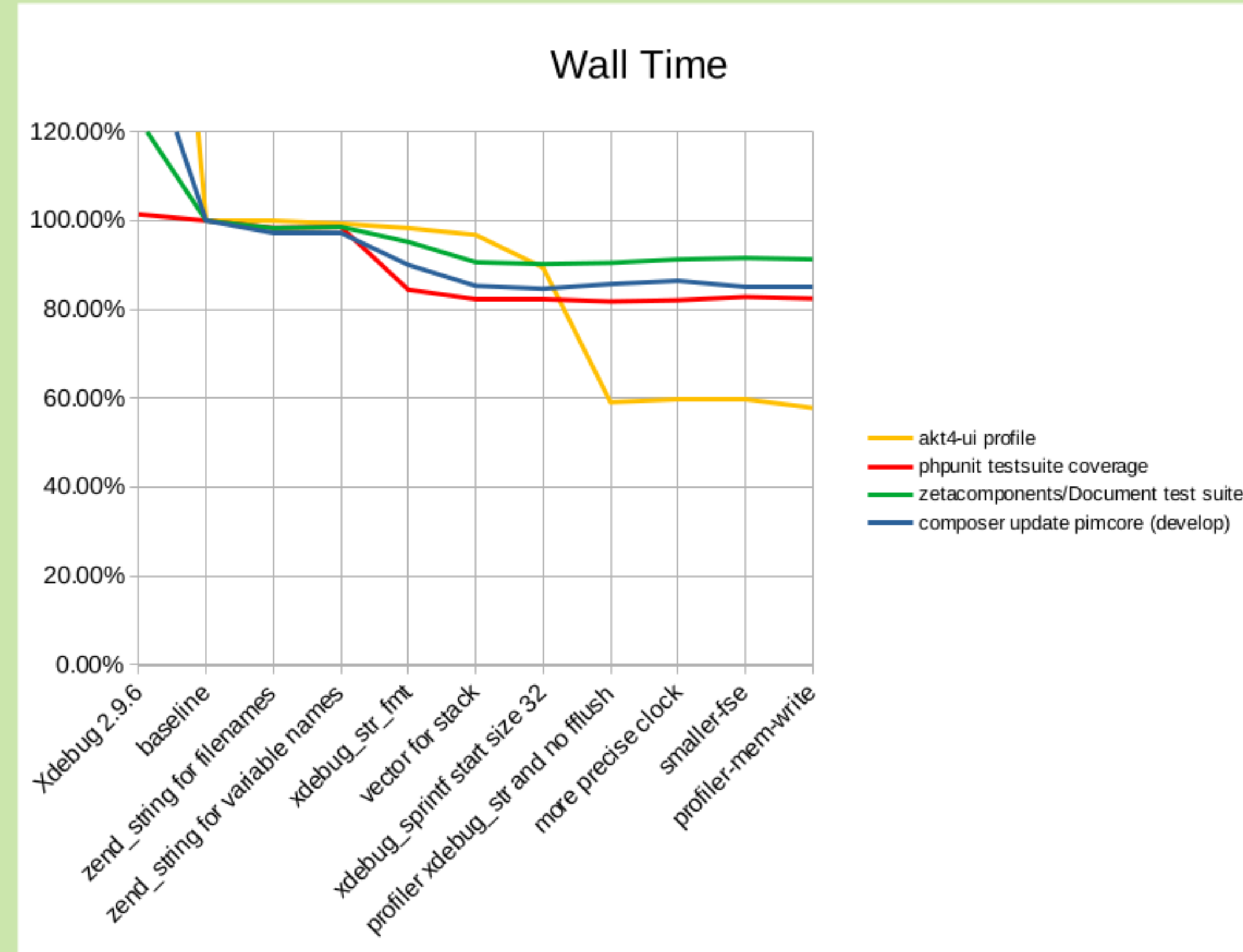
Introducing Modes

Configuration Settings

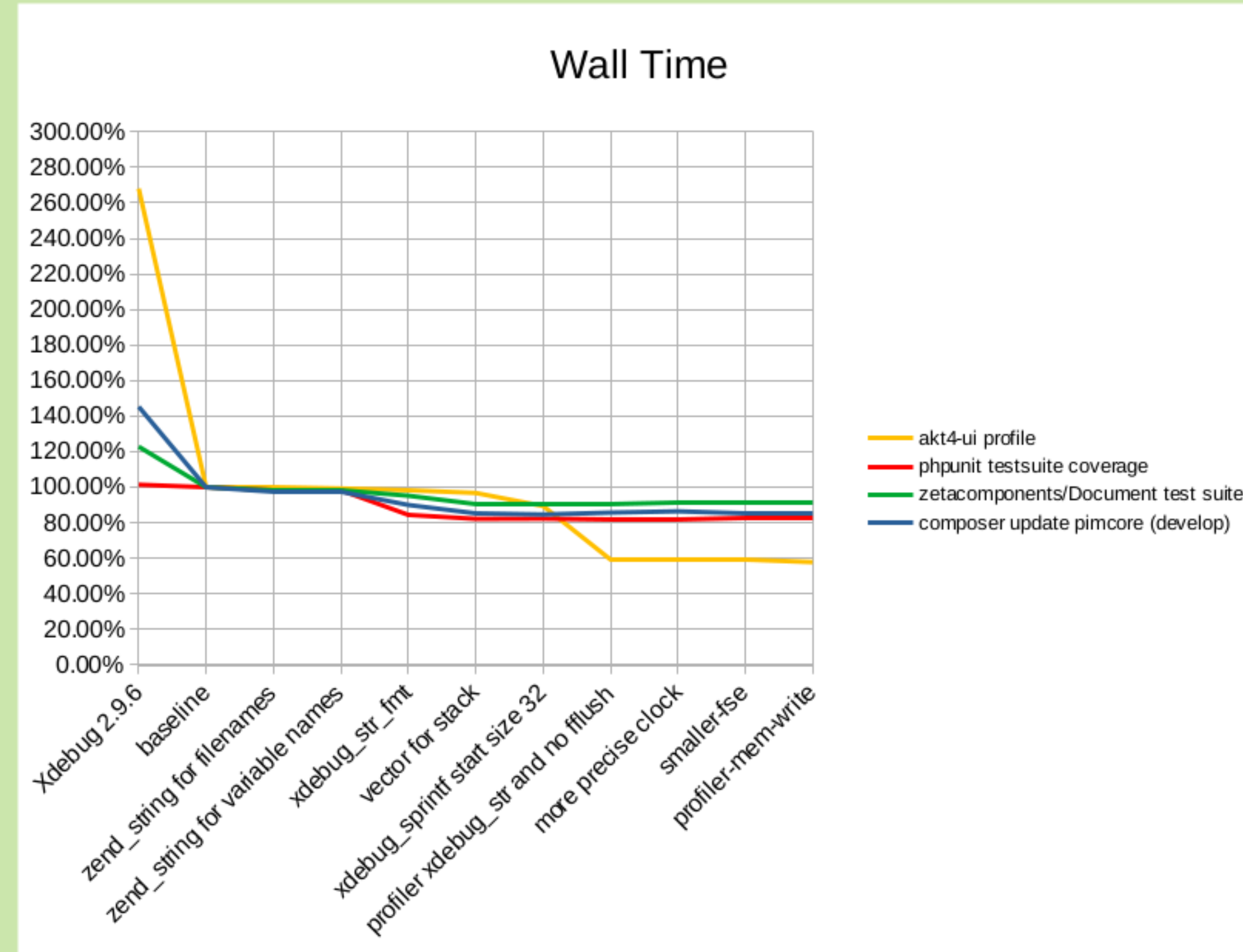
```
xdebug.cli_color
xdebug.cloud_id
xdebug.collect_assignments
xdebug.collect_return
xdebug.dump.COOKIE
xdebug.dump.ENV
xdebug.dump.FILES
xdebug.dump.GET
xdebug.dump_globals
xdebug.dump_once
xdebug.dump.POST
xdebug.dump.REQUEST
xdebug.dump.SERVER
xdebug.dump.SESSION
xdebug.dump_undefined
xdebug.file_link_format
xdebug.filename_format
xdebug.force_display_errors
xdebug.force_error_reporting
xdebug.gc_stats_output_name
xdebug.halt_level
xdebug.idekey
xdebug.log
xdebug.log_level
xdebug.max_nesting_level
```

```
xdebug.max_stack_frames
xdebug.mode
xdebug.output_dir
xdebug.profiler_append
xdebug.profiler_output_name
xdebug.client_discovery_header
xdebug.client_host
xdebug.client_port
xdebug.discover_client_host
xdebug.connect_timeout_ms
xdebug.scream
xdebug.show_error_trace
xdebug.show_exception_trace
xdebug.show_local_vars
xdebug.start_upon_error
xdebug.start_with_request
xdebug.trace_format
xdebug.trace_options
xdebug.trace_output_name
xdebug.trigger_value
xdebug.var_display_max_children
xdebug.var_display_max_data
xdebug.var_display_max_depth
```


Xdebug 3 Performance



Xdebug 3 Performance



xdebug_info()

Like `phpinfo()`, but then for Xdebug

DEMO

xdebug_info(string \$category)

Obtain information about Xdebug programatically

DEMO


```
xdebug_notify( mixed $data )
```

Send data over debugging protocol

DEMO

xdebug_file_link_format setting

Make file name/line number combinations clickable

DEMO

Breakpoint Resolving

Xdebug now finds the closest breakpoint line

DEMO

Breakpoint Resolving

Xdebug now finds the closest breakpoint line

DEMO

How does this work?

Breakpoint Resolving

Xdebug now finds the closest breakpoint line

DEMO

How does this work?

Let's check the log...

DEMO

Return Values?

DEMO

Breakpoint Resolving — Revised

The IDE can set breakpoints on non-existing files...

DEMO

xdebug_connect_to_client()

Prods Xdebug to try to make a debug connection again

DEMO

"Smart" Host Names

Helping with the configuration madness...

```
xdebug.client_host=
```

```
xdebug://gateway
```

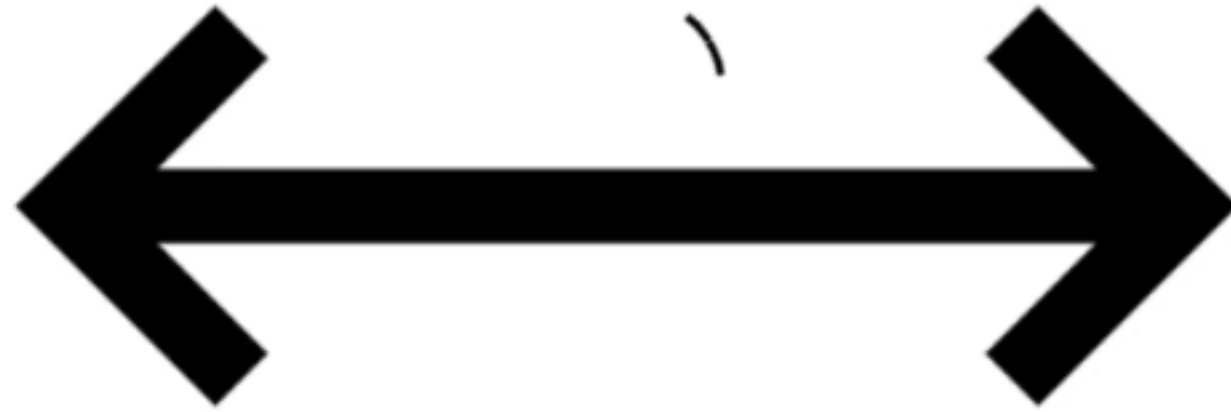
"Smart" Host Names

Helping with the configuration madness...

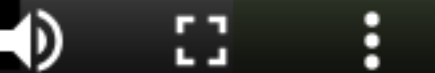
```
xdebug.client_host=
```

```
xdebug://gateway
```

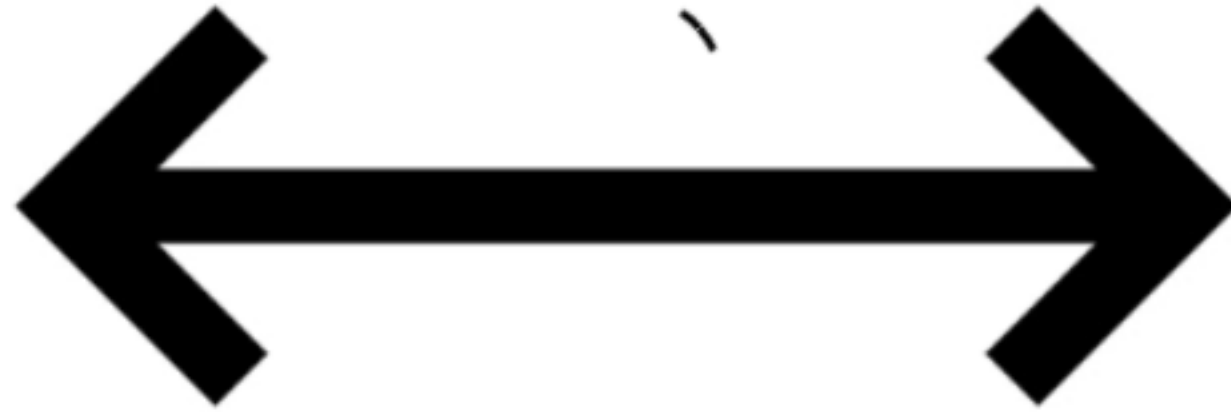
```
xdebug://nameserver
```

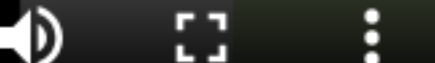
0:00 / 0:50



<https://xdebug.cloud>



0:00 / 0:50



<https://xdebug.cloud>

Supporting Xdebug

It's Open Source and free (as in "free beer")
I would like to work more on Xdebug, to help **you**

Features and Bugs

<https://bugs.xdebug.org>

 **BECOME A PATRON**

<https://www.patreon.com/derickr>

 **Sponsor**

<https://github.com/sponsors/derickr>

Business Support

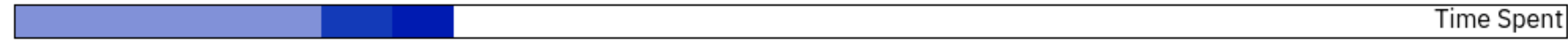
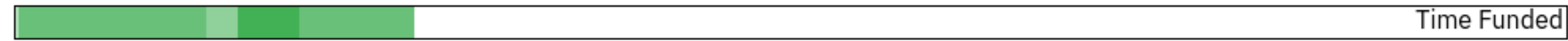
Community	Pro	Business
	1 developer	2-20 developers
Choose amount on Patreon or GitHub	£ 200/year *	£ 1000/year *
Tech Support: Stackoverflow Issue Priority: Low ✓ Monthly News Post	✓ Tech Support: E-mail ✓ Issue Priority: Medium ✓ Access to Commercial Add-ons (soon) ✓ Monthly E-mail Newsletter (opt-in) ✓ Invoice †	✓ Tech Support: E-mail ✓ Issue Priority: High ✓ An hour long presentation or workshop ✓ Access to Commercial Add-ons (soon) ✓ Monthly E-mail Newsletter (opt-in) ✓ Invoice † ✓ "Thank You" with link on site
Support Xdebug via Patreon or GitHub	Sign Up	Sign Up

<https://xdebug.org/support>



Transparency

September 2023



Day	Type	Description	Hours
3	bug	Reinvestigating comments to #1374	0.50
5	xdebug3	Preparing releases etc for PHP 8.3 and a 3.3.0alpha1 release	4.00
6	xdebug3	Finalising 3.3.0alpha1 release	0.75
6	xdebug3	Making 3.3.0alpha2 release as PECL web was broken	0.75
8	xdebug3	Issue #2203: Change default max_nesting_level to 512	0.25
14	bug	Triaging issues	2.50
18	xdebug3	Issue #2077: Reimplementing collect_params, after a few exploratory implementations	3.00
19	xdebug3	Issue #1732: Finalise and merge flamegraph tracing output	2.00
25	bug	Investigate read after free with generators	1.00
25	docs	Make flamegraph video	1.50
25	docs	Make dbgproxy video	3.00
28	xdebug3	Switching from intercepting execute_ex to Observer API	4.00
29	xdebug3	Switching from intercepting execute_ex to Observer API	5.00

For additional information, please see the [monthly](#) report.

Resources



Slides

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Any Queries?