XHProf

Profiling Drupal

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XHProf?

- Facebook
- PHP extension
- Lightweight
- Hierarchical
- PHP API

Tutorial:

http://techportal.inviqa.com/2009/12/01/profiling-with-xhprof/

Thanks to Lorenzo Alberton!

Benefits

- Inclusive and Exclusive wall time
- Call count
- Memory usage
- CPU times
- Diff reports
- Aggregated reports

XHProf VS xDebug

- Speed
- Size
- Usage
- On-demand profiling
- Bulk data

Installation / Linux

- PECL package

```
$ pecl config-set preferred_state beta
$ pecl install xhprof
```

- GitHub

  https://github.com/facebook/xhprof

  Beware! Segfaults!

- Graphviz + php5-common

```
$ sudo apt-get install graphviz php5-common
```

- Add the extension

```
[xhprof]
extension=xhprof.so
xhprof.output_dir="/var/tmp/xhprof"
```

Usage

```php
// Start profiling.
xhprof_enable(
    XHPROF_FLAGS_CPU
    + XHPROF_FLAGS_MEMORY
);

// The code you want to profile.

// Stop profiler.
$xhprof_data = xhprof_disable();
```

Automatic profiling

.htaccess:

```
# ...
php_value auto_prepend_file <path_to_header>
php_value auto_append_file <path_to_footer>
# ...
```

Header

```
if (extension_loaded('xhprof')) {
    include_once 'xhprof_lib/utils/xhprof_lib.php';
    include_once 'xhprof_lib/utils/xhprof_runs.php';
    xhprof_enable(
       XHPROF_FLAGS_CPU
       + XHPROF_FLAGS_MEMORY
    );
}
```

Footer

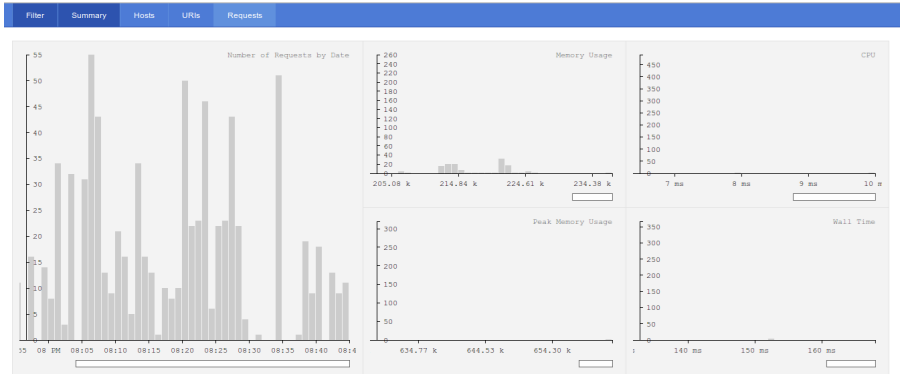
```php
if (extension_loaded('xhprof')) {
    // Namespace for your application.
    $profiler_namespace = 'myapp';

    $xhprof_data = xhprof_disable();
    $xhprof_runs = new XHProfRuns_Default();
    $run_id = $xhprof_runs->save_run($xhprof_data, $profiler_namespace);

    // Url to the XHProf UI libraries (change the hostname and path).
    $profiler_url = $host
        . '/xhprof/xhprof_html/index.php?run=' . $run_id
        . '&source=' . $profiler_namespace;

    echo '<a href="' . $profiler_url . '" target="_blank">'
        . 'Profiler output</a>';
}
```

VHost for the UI

```
<VirtualHost *:80>
    ServerName xhprof.local
    DocumentRoot /srv/www/xhprof/xhprof_html/
</VirtualHost>
```

PHP API

You can change it!
http://xhprof.io/

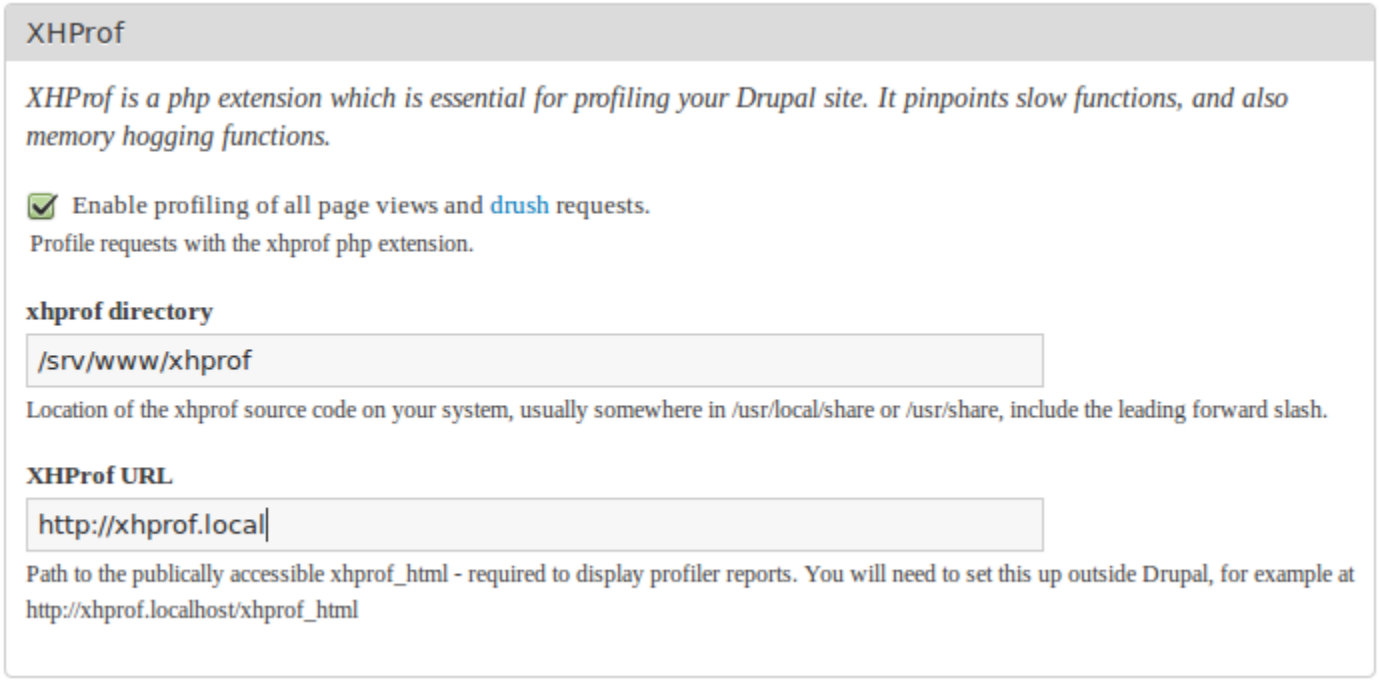


Do a benchmarking setup
https://github.com/LionsAd/xhprof-kit

```php
$xhprof_runs_impl = new XHProfRuns_Default();

$run1_data = $xhprof_runs_impl->get_run($run1, $source, $description1);
$run2_data = $xhprof_runs_impl->get_run($run2, $source, $description2);

$run_delta = xhprof_compute_diff($run1_data, $run2_data);
$symbol_tab  = xhprof_compute_flat_info($run_delta, $totals);
$symbol_tab1 = xhprof_compute_flat_info($run1_data, $totals_1);
$symbol_tab2 = xhprof_compute_flat_info($run2_data, $totals_2);

$metrics = xhprof_get_metrics($run_delta);
```

Devel

- Add the module
- Do the configuration
- Runs automatic and adds a link



Diff Runs

- Comparisons
- Simply by using an URL

  http://xhprof.local/index.php?
  run1=XXX
  &run2=YYY
  &source=appnamespace

Aggregation

- Averages
- Leveld peaks
- More insight

- URL:

  http://xhprof.local/index.php?
  run=XXX,YYY,ZZZ
  &source=appnamespace

How to read reports?

Naming convention for special functions

1. **main()**: a fictitious function that is at the root of the call graph.

2. **load::<filename>** and **run_init::<filename>**:

   XHProf tracks PHP include/require operations as function calls.

   For example, an **include "lib/common.php";** operation will result in two XHProf function entries:
   - **load::lib/common.php** - This represents the work done by the interpreter to compile/load the file. [Note: If you are using a PHP opcode cache like APC, then the compile only happens on a cache miss in APC.]
   - **run_init::lib/common.php** - This represents initialization code executed at the file scope as a result of the include operation.

3. **foo@<n>**: Implies that this is a recursive invocation of foo(), where <n> represents the recursion depth. The recursion may be direct (such as due to foo() --> foo()), or indirect (such as due to foo() --> goo() --> foo()).

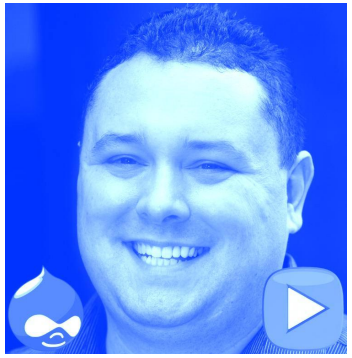
Quick things you can speed up

- Queries
  - EXPLAIN
  - Is there an index?
  - Searching varchars?
  - Joins?
- HTTP Requests
- Ev(a|i)l...
- Can we cache this?

Examples

- Exclusive Walltime
- Call Graph
- Yellow Brick Road

Thanks!



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