



EasyApache 3: PHP Configuration

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Introduction

stat /proc/self

- »» Linux developer and administrator - May 2000
- »» Debian Developer - Dec 2004
- »» cPanel Linux/BSD Developer - Mar 2007



Introduction

Overview:

Much of this talk is covered in the online documentation

<http://www.cpanel.net/support/docs/ea/ea3/>



Introduction

Outline:

- » EasyApache 1 vs EasyApache 3
- » PHP Handlers
- » EasyApache 3 Integration
- » Organization
- » Tools
- » Extensions
- » Dual PHP
- » Looking Forward



cPanel and PHP

EasyApache 1: Organization

- » Single PHP version
- » PHP Suexec
- » Suexec



cPanel and PHP

EasyApache 1: Advantages

- » Easy to understand
- » Easy to hand tweak
- » Long lifespan



cPanel and PHP

EasyApache 1: Disadvantages

» Inflexible

- During Apache build
- Post build configuration

» Not forward looking

- PHP4 will be EOL soon
- FastCGI



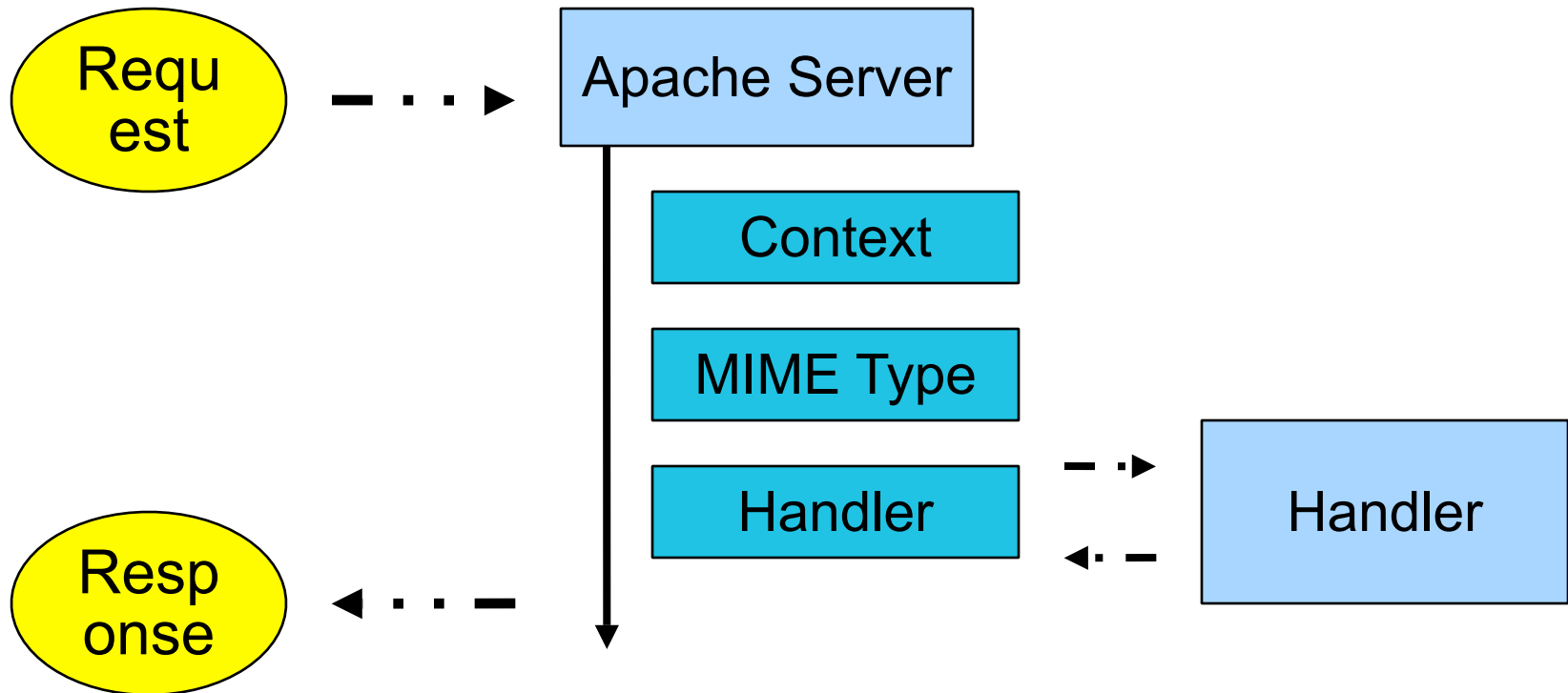
cPanel and PHP

EasyApache 3: Core PHP improvements

- »» Configurable dual PHP installs
- »» Flexible
 - During build
 - After build
- »» Improved security

PHP Request Cycle

Apache and PHP:





PHP Handlers

- »» DSO
- »» SuPHP
- »» FCGID
- »» CGI



PHP Handlers

DSO:

- Confusing name (libphp/mod_php/dso)
- Always runs PHP as nobody
- Fastest handler
- High familiarity for users and administrators
 - Apache directives
 - Permissions



PHP Handlers

DSO Drawbacks:

»» Low security

»» Difficult to run both PHP versions as DSO

RECOMMENDED



PHP Handlers

SuPHP:

- Higher security replacement for PHP Suexec
- Runs PHP as the user (regardless of suexec setting)
- Very configurable
- Very secure
- Simple dual-PHP setup



PHP Handlers

SuPHP Drawbacks:

- » Slow
- » Doesn't handle DSO style Apache directives
- » Security checks may confuse some users

RECOMMENDED



PHP Handlers

FCGID (FastCGI):

- »» Designed to be the best of DSO and SuPHP
- »» Runs PHP as the user or nobody depending on suexec setting
- »» Fast



PHP Handlers

FCGID (FastCGI) Drawbacks:

- Complicated to configure
 - <http://fastcgi.coremail.cn/>
- High memory usage
- Prevents users from accessing the cPanel PHP selector
- Doesn't handle DSO style Apache directives

NOT RECOMMENDED



PHP Handlers

CGI:

- Intended as a fallback of last resort
- Doesn't require additional Apache modules
- Runs PHP as the user or nobody depending on suexec setting



PHP Handlers

CGI Drawbacks:

- » Slow
- » Low Security
- » Doesn't handle DSO style Apache directives
- » Doesn't handle ~userdir properly

NOT RECOMMENDED



PHP Handlers

Best Practices:

- Speed: One version of PHP via DSO
- Security: One version of PHP via SuPHP
- Flexibility: Two versions of PHP via SuPHP
- Advanced: Two versions of PHP via FCGID



Integration with EasyApache 3

First contact:

EA3 Build
Process



EasyApache 3 Configuration

Apache/PHP Build

Default PHP Handler Set

Apache Config generated

Test/Revert EA3 Build

Post install PHP Configuration



Integration with EasyApache 3

EasyApache 3 Configuration:

➤➤ Too many options to cover in detail

➤➤ Most important

- Apache MPM: Use prefork
- Apache Mod_suPHP (enable)
- PHP DiscardPath (disable)
- PHP Versioning (disable)
- PHP Dual DSO (disable)



Integration with EasyApache 3

Default PHP Handler:

➤➤ Reuse existing defaults

➤➤ Fallbacks

- SuPHP
- FastCGI
- DSO
- CGI
- None

➤➤ Suexec defaults to on



Integration with EasyApache 3

Post install PHP configuration:

See tools...



Organization

Configuration files:

»» /usr/local/apache/conf/

- httpd.conf
- php.conf
- php.conf.yaml
- php(4|5).htaccess

»» /opt/suphp/etc/suphp.conf

»» /home/<user>/.htaccess



Tools

- »» rebuild_phpconf
- »» WebHost Manager PHP and Suexec Configuration
- »» update_php_mime_types
- »» cPanel PHP Selector
- »» phpextensionmgr



Tools

`/usr/local/cpanel/bin/rebuild_phpconf`

»» The WebHost Manager PHP and Suexec configuration tool is a wrapper around this program

»» Sets

- Default PHP version
- PHP Handlers
- Suexec



Tools

WebHost Manager PHP and Suexec configuration tool:

Service Configuration → Configure PHP and Suexec

Alter Configuration

Option	Value
Default PHP Version (.php files)	4 ▾
PHP 5 Handler	none ▾
PHP 4 Handler	suphp ▾
Apache suEXEC	on ▾



Tools

```
/usr/local/cpanel/bin/update_php_mime_types
```

» Iterates through home directories checking PHP
AddHandler lines in .htaccess files

» Recursion depth is adjustable in Tweak Settings

» Marker comment

```
# Use PHP4 as default
```

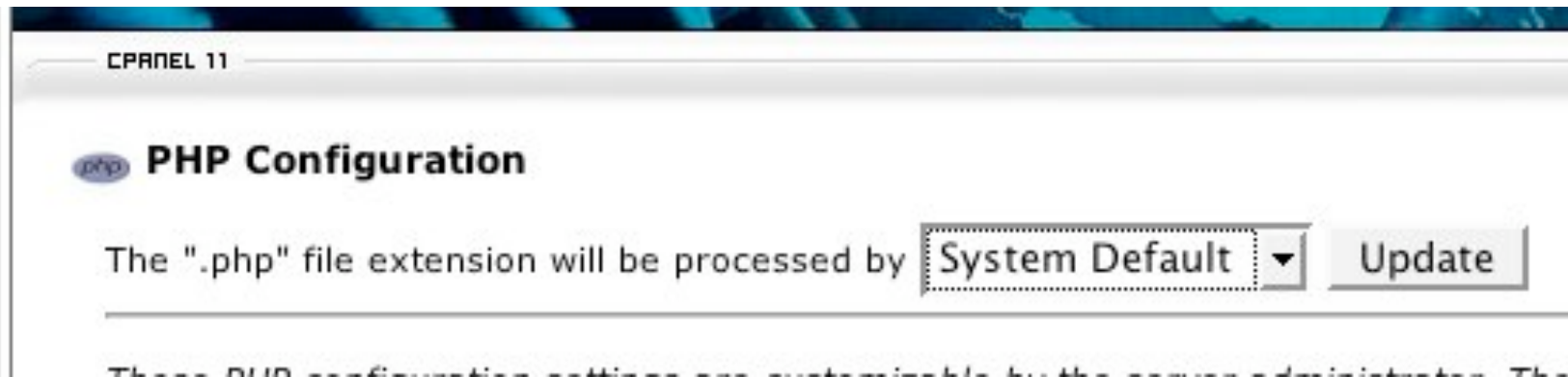
```
AddHandler application/x-httpd-php4 .php
```



Tools

cPanel X3 PHP configuration tool:

Software/Services → PHP Configuration





Tools

`/scripts/phpextensionmgr`

- Replacement for `installzendopt` that handles all EasyApache 3 supplied loadable PHP extensions
- Documentation included (try `--help` or `--man`)
- Easy path for adding or removing an extension without rebuilding Apache and PHP



PHP Extensions

In general:

- » Use `phpextensionmgr`
- » Every extension consumes memory/CPU
- » cPanel provided configuration should always be safe and functional



PHP Extensions

Security:

»» Suhosin

- <http://www.hardened-php.net/suhosin/>
- Designed to protect against bad scripts, not bad users
- Generally recommended



PHP Extensions

Performance:

» eAccelerator

– <http://eaccelerator.net/>

» Zend Optimizer

– <http://www.zend.com/>

» DSO/FCGID required



PHP Extensions

Source Obfuscation:

»» Zend Optimizer

– <http://www.zend.com/>

»» eAccelerator

– <http://eaccelerator.net/>

»» IonCube Loader

– <http://www.ioncube.com/loaders.php>

»» SourceGuardian

– <http://www.sourceguardian.com/>



Dual PHP

Use mod_suphp!

- »» Dual DSO is possible but not recommended
 - Loadable extensions
 - Handlers
 - Directives



Looking Forward

On the horizon for EasyApache 3 and PHP

- PHP 6
- Reorganized install locations
- Faster builds
- Better integration of dual/triple installs with WebHost Manager and cPanel tools
- What's missing?
 - <http://bugzilla.cpanel.net/>



Questions?