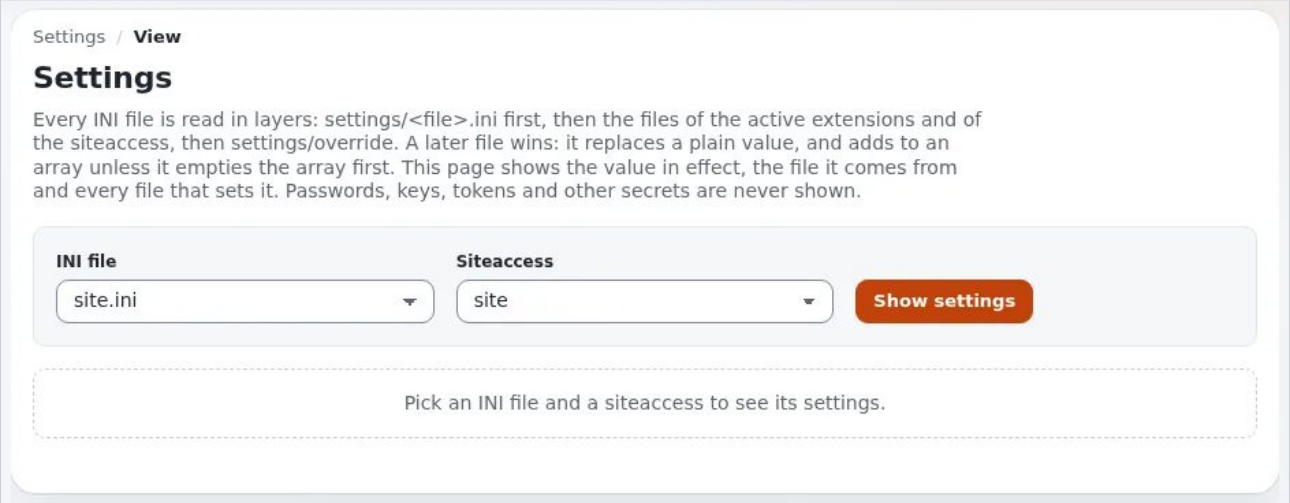
PHP settings for Exponential

The php.ini values the Exponential installer checks, a production set for a PHP-FPM pool, upload limits, time zone, OPcache, error display, the PHP functions some features need, and where Velocity and FrankenPHP take...

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This page is for system administrators who configure PHP for Exponential sites, on a shared server, a panel or a dedicated machine. It answers: which `php.ini` values the installer insists on, what a production pool should set, which PHP functions features of Exponential call (and what stops working when a host disables them), and where the settings live when Velocity or FrankenPHP runs PHP instead of PHP-FPM.



Setup, Ini settings: read the INI settings of a siteaccess and where each value comes from

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What the installer checks

From chapter 2.5 and `settings/setup.ini`:

Setting	Value	Checked by
`memory_limit`	at least `64M` (`-1` passes)	critical test `memory_limit`, `[memory_limit] MinMemoryLimit=64M`
`max_execution_time`	at least `30` (`0` passes)	critical test `execution_time`, `[execution_time] MinExecutionTime=30`
`date.timezone`	set	critical test `timezone`
`file_uploads`	`On`, and the upload directory exists and is writable	critical test `file_upload`
`upload_tmp_dir`	a writable directory, or empty	when empty the test checks `TMPDIR` or `/tmp`
`allow_url_fopen`	`On`	critical test `allow_url_fopen`
`variables_order`	contains `E`, for example `EGPCS`	optional test `variables_order`
`open_basedir`	empty	optional test `open_basedir` (a warning only)
`upload_max_filesize`, `post_max_size`	as large as the files editors upload	not tested; PHP refuses larger uploads

The 64M floor is what the installer needs, not what a running site should have. The administration's **Setup > System information** health check reports a `memory_limit` below 128M as a failure and below 256M as a warning, and a `max_execution_time` below 30 seconds on a web server (System information, health checks).

A production set for a pool

The minimal production set from chapter 2, as a PHP-FPM pool's `php_admin_value` lines or in `php.ini`:

INI

```ini
memory_limit = 256M
max_execution_time = 60
date.timezone = Europe/Berlin
file_uploads = On
upload_max_filesize = 64M
post_max_size = 64M
allow_url_fopen = On
variables_order = "EGPCS"
```

The values above the minimums are suggestions, not requirements: size them for the largest file a customer uploads and the longest import run through the browser. A plan can state its upload limit as one of its properties.

> **Note**
>
> `open_basedir` is common on shared hosting. The installer only warns about it ("open_basedir is in use and can give problems running Exponential due to bugs in some PHP versions."). If you set it, include the installation directory, the upload temporary

> directory and the directory of `[FileSettings] TemporaryDir` (`/tmp/` shipped).

Time zone

`index.php` sets UTC when `php.ini` has no `date.timezone`; the installer's test fails only in that case. A site can also set its own zone in `settings/site.ini`, `[TimeZoneSettings] TimeZone`, applied by the kernel on every request. For a host, setting `date.timezone` in every pool to the zone of the server (or UTC) is enough; customers set their own in the site's settings.

Error display

From chapter 13.4: in the `php.ini` of PHP-FPM set

INI

```ini
display_errors = Off
log_errors = On
expose_php = Off
```

The System information page flags `display_errors` as a health problem. Exponential's own debug output is a separate switch, `site.ini [DebugSettings] DebugOutput`, which must be off on production as well.

OPcache under PHP-FPM

From chapter 10.12:

INI

```ini
opcache.enable=1
opcache.memory_consumption=256
opcache.max_accelerated_files=20000
opcache.interned_strings_buffer=32
; keep timestamp checks on: Exponential rewrites PHP cache files (INI caches,
; compiled templates, expiry.php) under the same name
opcache.validate_timestamps=1
opcache.revalidate_freq=2
```

> **Warning**
>
> Never set `opcache.validate_timestamps=0` on an Exponential site. A cache file rewritten after a clear would be served in its old form until PHP restarts. Hosts that turn timestamp checks off globally for speed must exempt Exponential pools. More in OPcache.

Functions some features call

Hosts often list functions in `disable_functions`. These features of Exponential call functions that are commonly on such lists; the site keeps running without them, but the feature does not work:

Function	Used by	Without it	Source

Function	Used by	Without it	Source
`system`	the ImageMagick converter (`eZImageShellFactory`)	ImageMagick conversions fail; GD still works	`lib/ezimage/classes/ezimageshellhandler.php`, `settings/image.ini [ImageMagick]`
`proc_open`	**Setup > Cronjobs**: starting a job from the administration	the page says so; run cron from a shell	Cronjobs guide
`exec`	**Setup > Cronjobs**: reading the crontab	the page says which feature is missing	Cronjobs guide
`posix_kill`	**Setup > Cronjobs**: Stop running job	the button cannot stop a job	Cronjobs guide
`opcache_get_status`	**Setup > System information**: OPcache figures	the cache works; only its figures are not shown	System information
`pcntl_fork`	asynchronous publishing (`bin/php/ezasynchronouspublisher.php`)	asynchronous publishing is unavailable	`composer.json` suggest `ext-pcntl`

A command-line PHP for cron and Velocity usually has its own `php.ini` without such a list; check with `php --ini`.

Timeouts

- `max_execution_time` limits PHP's own CPU time; under PHP-FPM the hard limit of a request is the pool's `request_terminate_timeout` (off unless set) (chapter 9.2).
- With SQLite, keep `[DatabaseSettings] SQLiteTransactionWait` (25 seconds shipped) below the request timeout, or a waiting writer is killed before the driver can report (SQLite for hosts).
- The setup wizard's configuration step on MongoDB can take one to three minutes; raise `request_terminate_timeout` for that install or use the console (MongoDB for hosts).
- Sessions: `site.ini [Session] SessionTimeout` (shipped `31104000` seconds, 360 days) overwrites `session.gc_maxlifetime` with PHP's own session handler.

Velocity and FrankenPHP

Velocity runs PHP as command line processes and passes its own options from `settings/velocity.ini`, `[PHPSettings] IniOptions[]`. The shipped list turns on OPcache for the command line (`opcache.enable_cli=1`), sets `memory_consumption=512`, `max_accelerated_files=20000`, `interned_strings_buffer=64`, `opcache.revalidate_freq=0`, `opcache.file_update_protection=0` and `apc.shm_size=256M`. The two OPcache values differ from PHP-FPM on purpose: a Velocity worker is one long request, and with the PHP-FPM values it would keep serving stale cache files (chapter 10.12). Put changes in `settings/override/velocity.ini.append.php`, never in the shipped file.

FrankenPHP reads no `php.ini` of the machine. `settings/velocity.ini`, `[FrankenPHPSettings] IniOptions[]` ships `display_errors=Off`, `log_errors=On`,

`memory_limit=512M`, `opcache.enable=1`, `post_max_size=64M` and `upload_max_filesize=32M`; `PHPIniFile` names a `php.ini` of your own instead (chapter 8.4).

Applying a change

After editing `php.ini` or a pool, reload what runs PHP: PHP-FPM, Apache with mod_php, or Velocity (`php bin/php/console exp:velocity restart`). `php --ini` shows which files the command line PHP reads; the web PHP may read others. A change that "does not work" is most often a change to the file the other PHP reads.

Checklist

- ☐ `memory_limit` 256M or more for production pools (64M is only the installer's floor).
- ☐ `max_execution_time`, `date.timezone`, `file_uploads`, `allow_url_fopen` and `variables_order` set.
- ☐ Upload limits stated in the plan and set in the pool.
- ☐ `display_errors=Off`, `log_errors=On`, `expose_php=Off`.
- ☐ OPcache on, with timestamp checks kept on.
- ☐ `disable_functions` reviewed against the table above.
- ☐ Velocity and FrankenPHP settings changed in `settings/override/velocity.ini.append.php` only.

Related pages

- PHP versions and extensions
- PHP-FPM tuning and OPcache
- PHP selection and FPM pools
- Chapter 2.5: php.ini settings
- Free documentation: this page is free to copy, translate and improve under the GNU FDL 1.3.

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