

# Requirements for doing a normal installation

eZ Publish makes use of and depends on five important things:

1. A web server
2. The server-side PHP scripting engine
3. A database server
4. An image conversion system (optional)
5. The Zeta Components library

The first three things should be in place before an eZ Publish installation is deployed. The image conversion system is optional and is only needed if you're planning to use eZ Publish with images. The web server and the server-side PHP scripting engine have to run on the same machine. The database server may run on a different computer.

Please visit the [requirements page](#) to check if your platform fully supports installing eZ Publish, then come back for the extra details which follow.

## Web server

Currently, only the [Apache](#) web server is supported. On Linux/UNIX based systems, it is recommended to use the latest version of the 2.2.x branch (applies also to cluster mode). Note that it must run in "prefork" mode instead of "threaded" mode - the reason for this is because some of the libraries that PHP extensions use might not be thread-safe.

Nginx and Lighttpd are known to work as well but are currently not supported. "Rewrite" rules for those web servers can be found online, f.e. on the forums on [share.ez.no](#).

On Windows, it is recommended to use MS IIS 7 or higher (with Microsoft URL Rewrite Module 1.1 or higher). Apache 2.x for Windows is not supported since it only exists in "threaded" mode.

## Server-side PHP scripting engine

PHP is free software and can be downloaded from <http://www.php.net>. The full list of extensions needed can be found on the [requirements page](#). Info on some caveats can be found below:

### Zlib extension

Make sure that zlib support in PHP is enabled, otherwise the [setup wizard](#) will not be able to unpack downloaded packages during the installation process.

### DOM extension

In most cases, [DOM functions](#) are enabled by default as they are included in the PHP core. However, some Linux distributions have PHP without compiled-in support for DOM. Instead, they provide DOM as a shared module in a separate RPM package called "php-xml".

### PHP CLI

Since version 5.0, it is necessary to have [PHP CLI](#) installed, as using php from the command line is needed during the setup process. Also, some features like [notifications](#), delayed search indexing, upgrade scripts, the collaboration system (content approval), clearing caches from within the command line, etc. will not work without php cli access.

### CURL

It is recommended to enable [CURL](#) support, otherwise some features like [outbound connections via proxy](#) and [SSL support for eZSoap](#) will not work.

### PHP memory limit issue

eZ Publish needs at least 64 MB of memory in order to complete the setup wizard. Normal operation requires about 32 MB. However, it is highly recommended that you keep the 64 MB setting since eZ Publish consumes a lot more memory as you reindex the content, execute upgrade scripts, etc. Multilingual sites will also require at least 64 MB.

As of PHP 5.2.1 and later, there is no need to change the default "memory\_limit" setting (it is set to 128 MB by default), but make sure to check your setup anyway.

## PHP timezone

You need to set the "[date.timezone](#)" value in the "`php.ini`" configuration file. If this setting is not specified, you will most likely receive error messages like "It is not safe to rely on the system's timezone settings" when running eZ Publish on PHP 5. The following example shows how the corresponding line in "`php.ini`" looks like:

```
date.timezone = <timezone>
```

Refer to the [PHP documentation](#) for the list of supported timezones. Don't forget to restart Apache after editing "`php.ini`".

## Session parameters

eZ Publish sessions are handled by the Symfony stack, through session handlers. For that to be set up, additional `yaml` configuration are required, which you can find in the [Session](#) chapter.

## Other php configuration settings

See the [Symfony documentation](#) for the recommended `php.ini` settings for Symfony, as well as the [Vhost example](#) for the recommended `php.ini` settings for eZ Publish.

## Zeta Components library

Zeta Components (formerly eZ Components) is an enterprise-ready, general purpose library of PHP components which can be used independently or together for PHP application development. They can be downloaded from <http://ezcomponents.org/download>, or installed using different methods such as Pear, Composer, Github etc... The [online documentation](#) has detailed instructions on installing them on the webserver.

The correct version of the Zeta Components required for running eZ Publish always comes bundled with eZ Publish package itself, so there is no need to install them separately.

It is possible to use a single instance of the Zeta Components library and share it between multiple installations of eZ Publish. Such configuration is complex and falls outside the scope of this document.

## Database server

eZ Publish stores miscellaneous data structures and actual content using a relational database. This means that a database server has to be available for eZ Publish at all times. Follow this link to the eZ Publish [requirements page](#) to find which database solutions eZ Publish is compatible with.

eZ Publish 5 requires a UTF-8 database and support for transactions, which for MySQL means using the [InnoDB](#) storage engine.

The setup wizard will automatically detect the database server during operation of the setup wizard if it is running on the same computer that operates as web server.

Note that eZ Publish 5 does not support [clustering](#) mode for PostgreSQL databases. The clustering code is optimized for best performance on MySQL databases using the [InnoDB](#) storage engine.

## MySQL

Even if you are not going to run eZ Publish in a clustered environment, the use of [InnoDB](#) is required. This storage engine makes it possible to use transaction-safe tables in a MySQL database. (Database transaction support is enabled by default in eZ Publish. This feature makes the system less vulnerable to database errors and inconsistencies due to aborted requests.) Contact your database administrator if you are unsure about whether [InnoDB](#) is available on your server.

MySQL can be tweaked with a lot of settings, but one setting which is required to set to a higher value is [innodb\\_buffer\\_pool\\_size](#), by default it is set to 8mb, but it needs at least to be set to 128mb, or as the mysql doc says up to 80% of system memory on dedicated database server.

**Known issue with running PHP5.3 on MySQL:** Some people (like Windows users with both IPv4 and IPv6 installed ) experience problems connecting to the database server using host names like "`localhost`"... If you experience problems, try using IPv4 address like "`127.0.0.1`". This is due to a connectivity problem when running PHP5.3 on MySQL. So, please replace the database server name "`localhost`" with the IP address of the machine, or "`127.0.0.1`", which is reserved for the local host.

## PostgreSQL

If you want to use PostgreSQL, make sure the "pgcrypto" module is installed. On Linux/UNIX, you may need to install a separate package called "postgresql-contrib" (refer to the [PostgreSQL documentation](#) for more information), which contains the "pgcrypto" module. The "pgcrypto" module provides cryptographic functions for PostgreSQL, including the "digest" function, which is needed for eZ Publish. When setting up a PostgreSQL database for eZ Publish, you will have to register these functions in the database. Refer to the "Setting up a database" part of the " [Installing eZ Publish on a Linux/UNIX based system](#)" and "[Installing eZ Publish on Windows](#)" documentation pages (depending on the target OS) for more information.

## Image conversion system (optional)

In order to resize, convert or modify images, eZ Publish needs to make use of an image conversion system. One of the following software packages (both are free) can be used:

- GD2 (comes with PHP)
- ImageMagick (<http://www.imagemagick.org>)

ImageMagick supports more formats than GD and usually produces better results (better scaling, etc.). The setup wizard will automatically detect the pre-installed image conversion system(s).

The installation and setup of required software solutions (outlined above) is far beyond the scope of this document. Please refer to the homepage and documentation of the different software solutions.

## Limitation on some file systems when storing large number of content files

eZ Publish stores all binary content (e.g. images, PDFs etc) on disc in `var/storage` using a similar folder structure to the content tree, creating one folder for each object. In most file systems used under Linux (especially ext2 + ext3) there is a hard limit of 32.000 to the maximum number of sub-folders which can be created in one folder. This means that it is not possible to store more than 31999 objects under one parent object.

To get around this limitation without changing the file system, you can split your content tree so that you don't have more than 32k content files (example: images) in the same folder.

Other file systems support more file/folder entries per folder:

- ext4: 64.000
- ReiserFS: roughly 1.2 million
- ZFS:  $2^{48}$  (a really big number: 281474976710656)!

Note that those filesystems might not be fully supported by eZ Publish, please check out the [requirements page](#) for details.

## eZ Publish on NFS file systems

Please be aware that it's not advisable to run eZ Publish on NFS file systems as you may experience issues. The cause of the issues may be performance, as NFS will slow down on heavy network traffic, slow access to files, or file access concurrency regarding file lock. Also, eZ Publish currently uses the [flock\(\)](#) PHP function, which is not considered stable for NFS shares.

NFS should only be used to store distributed data such as cache, or binary files, in clustered environments.

## Network connectivity

During execution of the setup wizard, the web server will need to download some content from the internet.

If the web server can not access directly the internet, or if it has to go through a proxy, workarounds have to be taken. See the [setup wizard](#) documentation page for possible workarounds