Getting started: install Exponential and have a working site in minutes

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This guide is for anyone who starts with Exponential: an editor who wants a site to try, a developer, an operator. You need no prior knowledge. At the end you have an installed site, you are logged in to the administration interface, you have published a first piece of content, and you have changed a template and seen the change on the site. Allow ten to fifteen minutes. The install itself takes about a minute on SQLite.

> **Warning**
>
> `.htaccess` **slows down every request.** When `.htaccess` files are enabled (`AllowOverride` anything but `None`), let alone used, Apache looks for them and reads and evaluates them on every request, in every directory of the path, and page loading times go up drastically (measured). The only real fix is to switch the feature off for the virtual host: `AllowOverride None` in the HTTPS virtual host, and the rules in the virtual host's own configuration as mod_rewrite rules. That is far faster in production speed tests and well worth the time it takes to optimize a production configuration. Switch over right away: copy the rules of the example HTTPS virtual host into your virtual host (with the static cache, also `staticcache_offload.conf`), set `AllowOverride None`, run `apachectl configtest`, reload Apache and test the site. The same rules for other servers: nginx, LiteSpeed, Caddy, IIS, Velocity (built in); where virtual host rules go in a control panel: Plesk, cPanel, DirectAdmin, ISPConfig. **On LiteSpeed or OpenLiteSpeed,** the server's own page cache can also answer anonymous visitors and crawlers without PHP: Page caching with LiteSpeed and OpenLiteSpeed.

Every command is run from the root of the installation (the directory that holds `console`, `index.php` and `settings/`). Commands that start with `./console` are the same programs as `php bin/php/<name>.php`.

1. What you need

Need	Detail
PHP	8.0 or newer; `composer.json` allows 8.0 up to 8.8. Exponential Velocity, the built-in server of step 4, runs on 8.0 too (from its release 0.0.4.54). The command line PHP needs the PDO driver of your database (SQLite is enough to start).
Composer	version 2.x, only for the Composer install paths below
A database	none to start: the default is SQLite in a file. MySQL or MariaDB, PostgreSQL, MongoDB and Oracle are choices of `--db=`.
A web server	any for production (Apache with the shipped `.htaccess`, or PHP-FPM behind a server). To try the site at once, Exponential brings its own, see step 4.
`memory_limit` and `date.timezone`	set both in `php.ini`; the installer's checks ask for them

Check the PHP you will use:

Shell

```
php -v
```

Expected: a line beginning `PHP 8.`.

2. Get the files

Pick one path. All three give the same installation.

A. Git clones with history (recommended when you build a website): the kernel and every se7enxweb extension arrive as Git clones, so you can see what changed, follow development and send fixes back. Develop with Git explains why and how.

Shell

```
composer config --global 'preferred-install.se7enxweb/*' source
cd /var/www
git clone https://github.com/se7enxweb/exponential.git exponential
cd exponential
git switch -c my-site
composer install
```

B. Composer project (the quickest way to a site you only want to try or run):

Shell

```
cd /var/www
composer create-project se7enxweb/exponential exponential
cd exponential
```

C. Packages. Single add-ons (content, classes, templates, files) are `.ezpkg` archives that you install after the base installation with `ezpm`, see ezpm and package compare and import. The installer in step 3 itself installs a site package (default `sevenx_multisite`), so you need nothing else for a first site.

Check that the console runs:

Shell

```
./console --version
```

Expected: the first line reads `console (Exponential) 6.0.15stable` (or the version you installed), and the text ends with `Written by the Exponential Foundation and 7x (se7enx.com).` If you run as `root`, add `--allow-root-user` to the scripts that ask for it. The script's message says so.

3. Install

3.1 The one command

Shell

```
./console exp:install --apply --random-password --url=http://localhost:8087
```

This installs the multisite site package on SQLite, in `eng-US`, with the siteaccesses `site` (the public site) and `admin` told apart by the first part of the address. The administrator password is

generated (24 characters) and shown once at the end, and also written to `var/log/initial-admin-password`; `--random-password` asks for that explicitly. A password of your own with `--password=...` is kept as given when it has at least 10 characters and is not a well-known one such as `publish` or `admin`; otherwise a generated one replaces it and the summary says so. The install refuses to run over an existing installation unless you add `--force`, and `--help` lists every option.

Expected, at the end (values differ):

```
============================================================
  Exponential is installed
============================================================
  Installed:     <date> (<seconds>s)
  Site:          http://localhost:8087/site/
  Admin login:   http://localhost:8087/admin/user/login
  Username:      admin
  Password:      <the generated password>
  ...
============================================================
```

Copy the Admin, Username and Password lines now. A copy of the configuration used, with passwords masked, is in `var/log/`; the progress of the installation is in `var/log/setup.log` (what the logs tell you).

3.2 Other databases

Shell

```
EXP_INSTALL_DB_PASSWORD='YOUR_PASSWORD' ./console exp:install --apply --db=mysql --db-host=127.0.0.1 \
    --db-name=mysite --db-user=root --db-action=remove --random-password --url=http://localhost:8087
```

`--db-action=remove` empties the named database first, so use a database that holds nothing you need. The default ports and names of each engine are in Install in one command.

3.3 From a file (repeatable installs)

For the same installation on several servers, write the answers once and run them:

Shell

```
php bin/php/console exp:kickstarter ini        # writes kickstart.ini after a few questions
php bin/php/console exp:kickstarter run --dry-run
php bin/php/console exp:kickstarter run --apply --force
```

`--dry-run` checks the answers and the packages and writes nothing. See Kickstarter and, for every key, Kickstarter CLI. Keep your `kickstart.ini` out of version control; it holds the database password.

3.4 The browser wizard

Open the site address in a browser before any installation exists and the setup wizard starts. SQLite is listed first and the bundled site is preselected, so pressing **Next** on every step installs the default site. See the setup wizard and clean install defaults.

4. See the site

You need a web server that answers on the address you gave. For a first look use the one Exponential ships:

Shell

```
./console exp:velocity start --engine=php
./console exp:velocity status --engine=php
```

The `php` engine is PHP's own server and listens on port 8087 by default (`velocity.ini [PHPServerSettings] Port`), which is why step 3 used `--url=http://localhost:8087`. Open `http://localhost:8087/site/` in a browser: you see the front page of the installed site. Stop it again with `./console exp:velocity stop --engine=php`.

If you ran step 3 with another `--url`, use the Site address that the installer printed.

For production use Apache with PHP-FPM, or Velocity's own `qbix` or `frankenphp` engines: Velocity engines. Apache needs the shipped rewrite rules as `.htaccess`: `./console exp:setup:htaccess --apply` copies them, and `./console exp:setup:status` shows where `.htaccess` and `config.php` stand (Setting up .htaccess and config.php from the console). If a page is an error, nothing is hidden by the cache yet; read `var/log/error.log` and see Repairing an installation.

5. First login

1. Open the Admin login address from step 3, for example `http://localhost:8087/admin/user/login`.
2. User name `admin`, and the password the installer printed.
3. You land on the dashboard of the administration interface.
4. Use the **Change password** link of the admin's user menu and choose a password of your own. If the installer wrote `var/log/initial-admin-password`, delete that file afterwards.

The first thing to know about the menus: a person only sees the entries their roles allow. `admin` is in the Administrator role and sees everything.

6. First content

1. In the admin, open the **Content** tab, **Content structure**.
2. Select the top node (the front page folder) and choose **Create here** with the class **Article** (or **Folder**), then **Create**.
3. Fill in the title and the text in the editor, then press **Send for publishing**.
4. Open `http://localhost:8087/site/` (reload) and look for your item. Its own page address is shown in the admin under **Locations**.

Class names and fields depend on the site package you installed; the content model is explained in Content model and editing.

If an item is published but missing from a list, clear the content cache once:

Shell

```
php bin/php/ezcache.php --clear-tag=content --allow-root-user
```

The cache command and its groups: `./console exp:cache --help`; a dry run of any clear is `--dry-run`.

7. First template change

A template is a `.tpl` file. The site shows the design named by the public siteaccess; ask Exponential which one:

Shell

```
./console exp:ini where site/DesignSettings/SiteDesign site
```

Expected: the files that set it, in load order, and `In effect:` with the design name (for the multisite package the last line reads `SiteDesign=media` or similar; use the name you are shown).

Click path (safe, no files)

1. Admin menu: **Design** > **Template Editor**.
2. Choose a template of your design, for example the one for the article full view, and open it.
3. Add a visible line, for example `<p>Hello from my template</p>`, and save.
4. Reload the item on the site: the line is there.

How the editor creates, orders and edits overrides: Template editor.

File path (what you put in version control)

1. Find the template that renders what you want to change. Switch on the template path comments to see it in the page source: see Template path comments.
2. Copy the file from where it is (for example `design/standard/templates/`) to the same relative path under your design's directory `design/<design>/templates/` (or its `override/templates/`), and edit the copy.
3. If you added a new template path rather than changing an existing file, clear the template caches once: `php bin/php/ezcache.php --clear-all --allow-root-user`.

The order in which designs and overrides are tried is in Template override ordering and Extension loading order.

8. When something goes wrong

Symptom	Check
`exp:install` says an installation exists	Add `--force` only if you mean to replace it.
A white page or a 500 error	Read `var/log/error.log`. Check that `php -v` shows 8.0 or newer and that `vendor/` exists (run `composer install`).

Symptom	Check
The site address does not answer	Is the server running (`./console exp:velocity status --engine=php`)? Does the port match `--url`?
You forgot the password	`exp:install` showed it once. A password that `exp:install` or the kickstarter generated (none given, or a well-known one) is also in `var/log/initial-admin-password`; the setup wizard in the browser writes no such file, because you type the password there yourself. Set a new one with `php bin/php/resetuserpassword.php --allow-root-user -u admin -g`, see Reset a user password.
A change does not show	Clear the content cache (step 6) and reload the page.

Related pages

You want to	Read
Understand classes, objects and nodes	The content model and editing content
Change how pages look	Templates and design
Add or write an extension	Extensions, RAD tools
Put the site on a real server	Deploying
Keep the site healthy	Operating a site, Security and audit
Move to a newer release	Upgrading
Change settings from the command line	exp:ini
Put `.htaccess` and `config.php` into place, change a `config.php` setting	Setting up .htaccess and config.php from the console
Keep an eye on changes made in the admin	Audit trail
Run recurring jobs	Cronjobs console
See what changed and when	Chronicle by month, Changelog 6.0.15
Know what an install does by default	Clean install defaults, Installer logs and seed data
Look up a word	Glossary

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