

Setting Up Zero-Downtime Deployment

When deploying a project, it can lead to temporary downtime for the production application. In order to avoid this, we use Laravel Envoyer to set up zero-downtime deployments.

Which Projects Are Eligible?

Before explaining how to set things up, something worth noting is that we shouldn't be setting this up for every single project. The amount of apps that we can use Envoyer for is limited based on how much we pay, so it should only be used for our most important projects.

Do not set up Envoyer for the following types of sites:

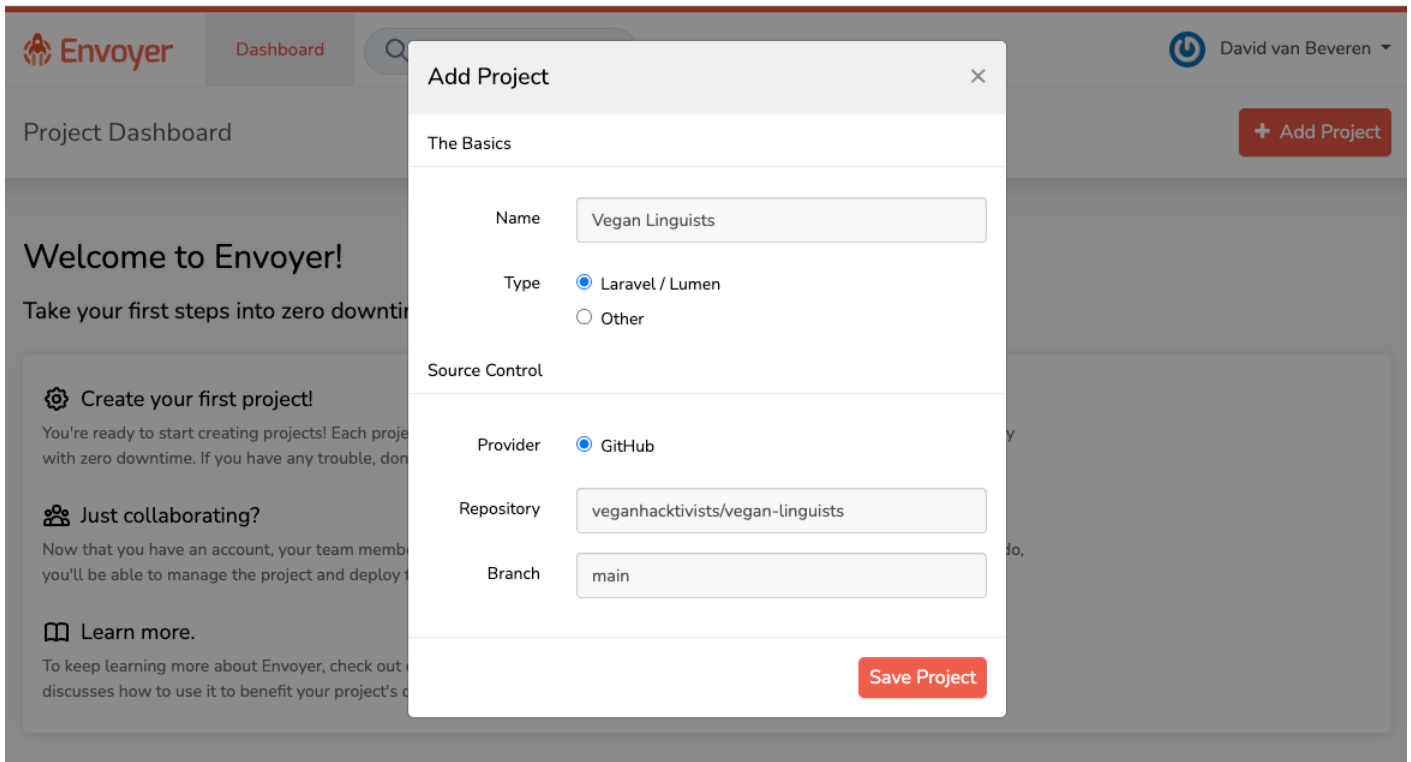
- Small projects, especially those with little traffic
- Static websites and front-end only applications (i.e. no PHP)
- Staging environments

Also, the project should be set up on Laravel Forge before being set up on Envoyer.

Create the Project

With that disclaimer out of the way, let's do this thing!

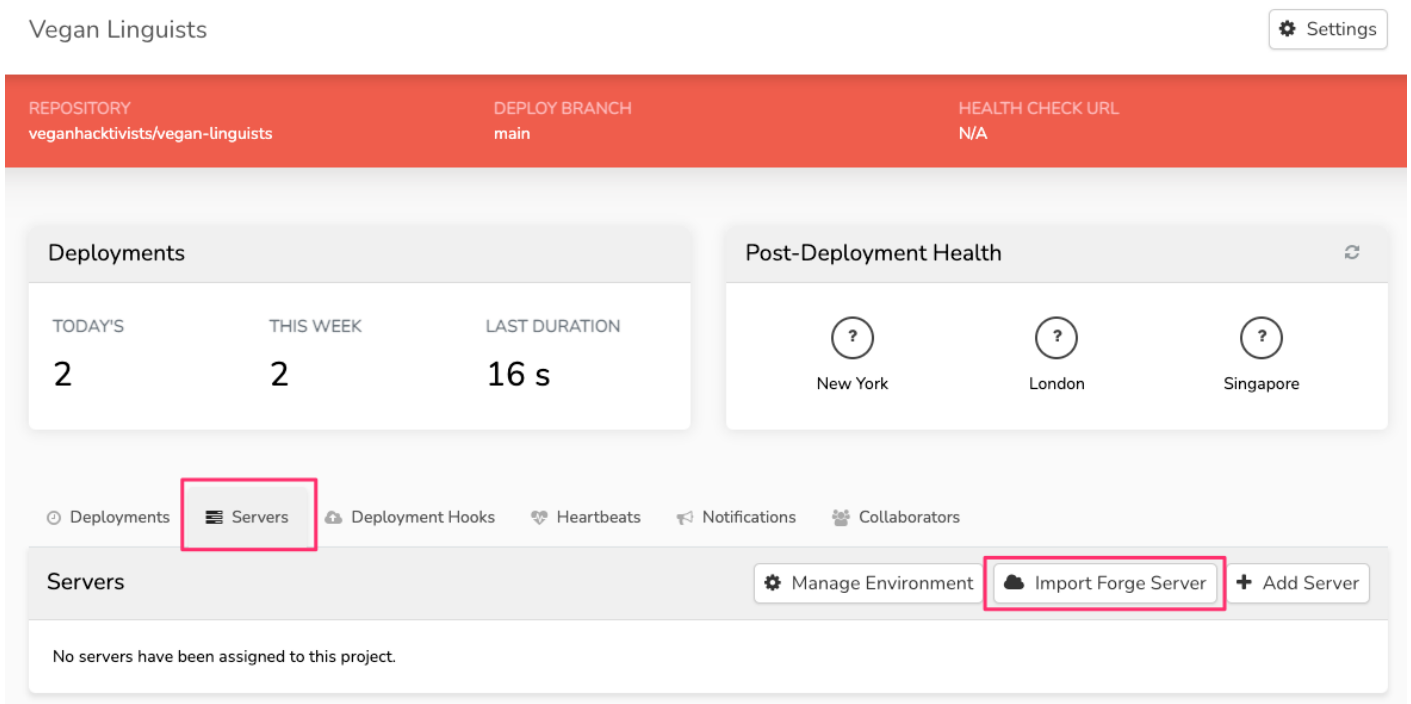
First, you'll need to be logged into Laravel Envoyer with the admin account. On the dashboard page, click "Add Project" and fill in the details of the project's GitHub repository:



⚠ Note

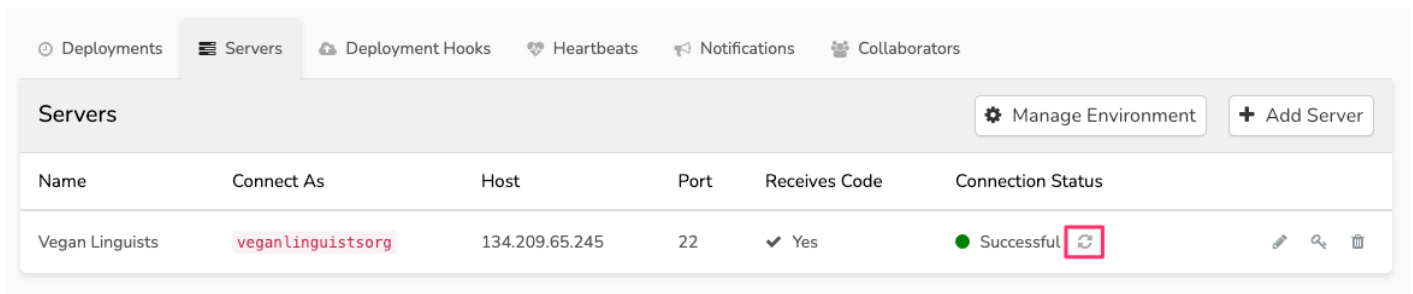
Only team leaders have access to the Laravel Envoyer admin account credentials. If you are a team leader without access, ask one of the Directors to add you to the `veganhacktivists.admin` team on Keybase. If you are not a team leader, have them set this up for the project.

Next, we'll need to import the site from Forge. Head to your new project's page, open the "Servers" tab, and then click "Import Forge Server":



Select the `vegan-hacktivists` server, select the project from the list of sites, and then click "Import Server."

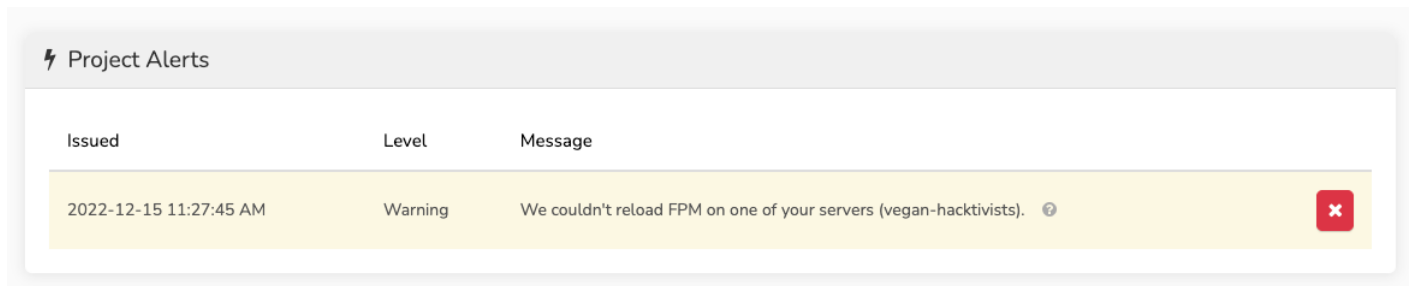
Once this is done, click the refresh ? icon under "Connection Status" in Envoyer:



Servers						Manage Environment	Add Server
Name	Connect As	Host	Port	Receives Code	Connection Status		
Vegan Linguists	veganlinguistsorg	134.209.65.245	22	✓ Yes	Successful		  

⚠ Note

You may see a warning that PHP-FPM was unable to be restarted:



Project Alerts		
Issued	Level	Message
2022-12-15 11:27:45 AM	Warning	We couldn't reload FPM on one of your servers (vegan-hacktivists). 

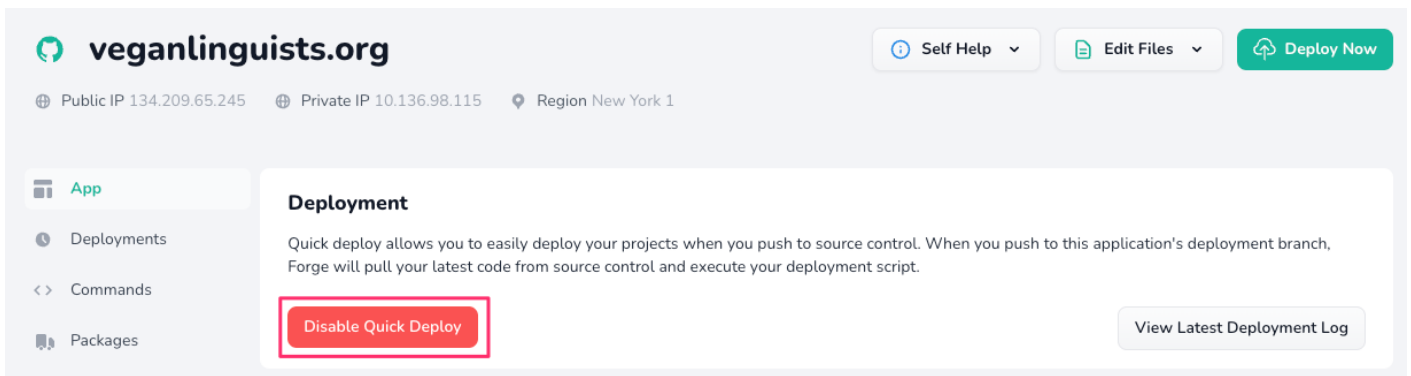
If you run into this, it's *likely* because Envoyer set up the project with the wrong PHP version. Check the site on Forge to see what version of PHP the project is using. Then, click on the pencil  icon in Envoyer to set the correct PHP version for the project. After that, click the refresh ? button again and all should look good!

Copying From Forge

While we've imported the site from Forge, there are still some things we'll need to do manually in order to complete the Envoyer setup.

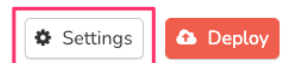
Disable Quick Deploy

The first thing we'll need to do is disable "Quick Deploy" if it's enabled. Head to your project's page on Forge and make sure it's disabled:

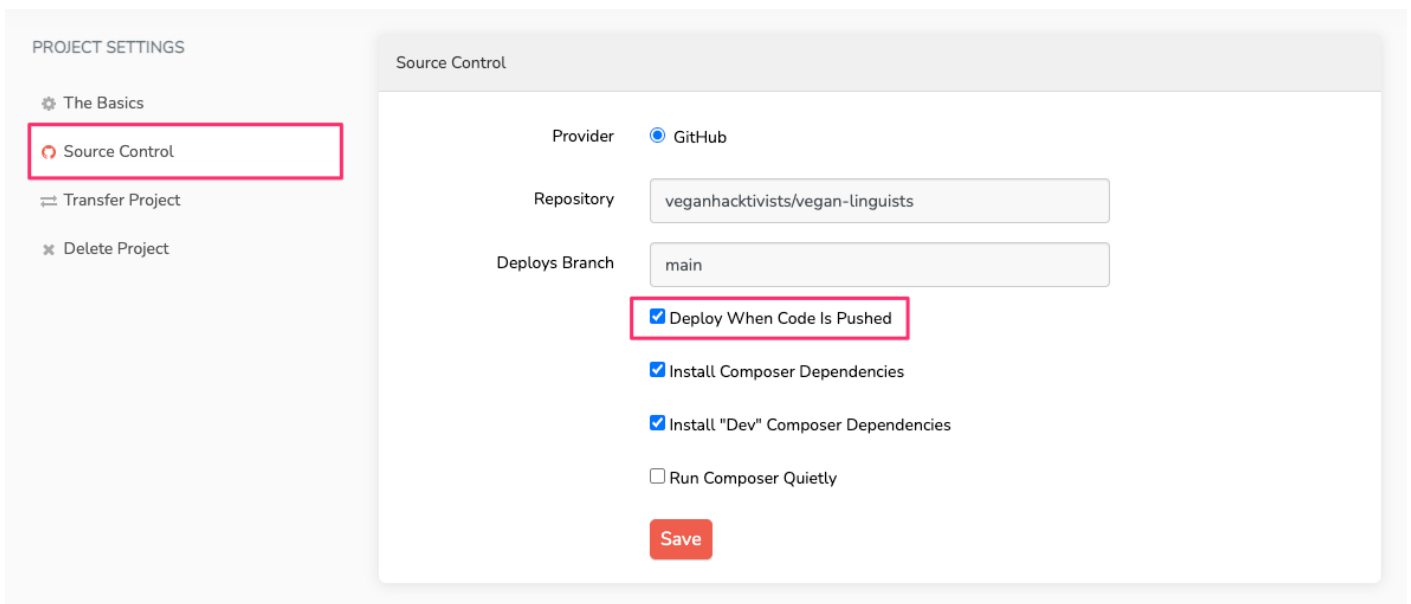


We're disabling this because we'll no longer be deploying using Forge. To get the equivalent functionality for the new deployments, head to your project settings on Envoy:

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Then, head to the "Source Control" tab and check "Deploy When Code Is Pushed" and save the project settings:



Setting Up Deployment Hooks

Now we have to replicate whatever is in our deploy script! First, take a look at what's currently there on Forge:

 **veganlinguists.org**

Public IP 134.209.65.245 Private IP 10.136.98.115 Region New York 1

App

Deployments

Commands

Packages

Notifications

Environment

Queue

SSL

Security

Redirects

Logs

Meta

Self Help

Edit Files

Deploy Now

Deployment

Quick deploy allows you to easily deploy your projects when you push to source control. When you push to this application's deployment branch, Forge will pull your latest code from source control and execute your deployment script.

Enable Quick Deploy

View Latest Deployment Log

Deploy Script

```
1 cd /home/veganlinguistsorg/veganlinguists.org
2 git pull origin $FORGE_SITE_BRANCH
3 $FORGE_COMPOSER install --no-interaction --prefer-dist --optimize-autoloader
4 yarn && yarn prod
5
6 ( flock -w 10 9 || exit 1
7   echo 'Restarting FPM...'; sudo -S service $FORGE_PHP_FPM reload ) 9>/tmp/fpmlock
8
9 if [ -f artisan ]; then
10   $FORGE_PHP artisan migrate --force
11   $FORGE_PHP artisan config:cache
12   $FORGE_PHP artisan route:cache
13   $FORGE_PHP artisan view:cache
14   $FORGE_PHP artisan event:cache
15   $FORGE_PHP artisan queue:restart
16 fi
17
```

☐ Make `.env` variables available to deploy script

Keep that tab open and head over to the "Deployment Hooks" tab on your Envoyer project page:

Deployments Servers **Deployment Hooks** Heartbeats Notifications Collaborators

Deployment Info

Deployments may be triggered in three ways: manually, using "push to deploy", or by making a request to the following URL:

<https://envoyer.io/deploy/EGoVq1QwLcrRbtXCd6CW3rRB3zaBFXVX51628u7m>

You may provide either a `sha` or `branch` query parameter when deploying with the above URL to override what Envoyer will deploy.

Deployment Hooks ?

Manage Linked Folders Copy Hooks Add Hook

Action	Run As	Servers	
Clone New Release	—	—	
Install Composer Dependencies	—	—	
Build front-end assets	veganlinguistsorg	vegan-hacktivists	 
Optimize	veganlinguistsorg	vegan-hacktivists	 
Run database migrations	veganlinguistsorg	vegan-hacktivists	 
Restart queue	veganlinguistsorg	vegan-hacktivists	 
Activate New Release	—	—	
Purge Old Releases	—	—	

If you are just setting up the project, you will have four immutable hooks (the ones with a gray background). These are managed by Envoyer, but they are likely not enough to cover all of the deployment process, so we'll have to add our own.

Migrating the Deploy Script

In order to start adding hooks, click the "Add Hook" button. More-or-less, you'll want to consult your deploy script on Forge.

Do not write hooks for the following:

- Pulling the Git repository
- Installing Composer dependencies
- Restarting PHP-FPM

Also, make sure that the "Run As" field is the username associated with the project. This can be checked on the sites page on Forge:




veganlinguists.org

Directory



veganhacktivists/vegan-linguists (main)

PHP 8.0



Dec 9, 2022, 3:48 PM



veganlinguistsorg

Username

Below are some examples which should suffice most projects, but of course, refer to the deploy script to be sure. Refer to the Envoyer screenshot above to see the proper order for these hooks.

Note that `{{release}}` is a template variable for deployment hooks which refers to the directory of the latest release.

Build front-end assets

```
cd {{release}}  
  
yarn && yarn prod
```

Optimize

```
cd {{release}}  
  
php artisan optimize
```

Run Database Migrations

```
cd {{release}}  
  
php artisan migrate --force
```

Restart Queue

This is only necessary if you've set up a queue for asynchronous jobs.

```
cd {{release}}  
  
php artisan queue:restart
```

Linking Storage

You may recall needing to run `php artisan storage:link` when setting up the project on Forge. Since Envoyer uses a new directory for each deploy, we essentially need to run this on every deploy. Luckily, Envoyer has this functionality built-in. Click on the "Manage Linked Folders" button and fill in the the form.

If you have *not* modified the default filesystem storage config, then fill in the following:

- **Create Link At:** `public/storage`
- **To Folder:** `storage/app/public`

This corresponds with the filesystem config in your project's repository (`config/filesystem.php`):

```
<?php
// ...
'links' => [
    // public/storage      storage/app/public
    public_path('storage') => storage_path('app/public'),
],
// ...
```

If you're unsure, consult the config file to see which directories you need to link!

Updating the Scheduler

If your project makes use of scheduled tasks, then there is one more thing to do before completing the deployment setup, which is updating the directory where the scheduler runs.

Head over to the "Scheduler" section for the server on Forge and copy the scheduler command for your project:

vegan-hacktivists

Public IP 134.209.65.245 Private IP 10.136.98.115 Region New York 1 OS 20.04

Sites

Database

SSH Keys

Monitoring

Backups

PHP

Packages

Ngix Templates

Scheduler

Daemons

Network

Logs

Events

Integrations

Meta

New Scheduled Job

Forge allows you to schedule any recurring tasks that need to run on your server. Several common default schedules are available, or you may enter a custom cron schedule for the command. All commands should use fully qualified paths.

Command

php8.0 /home/veganlinguistsorg/veganlinguists.org/current/artisan schedule:run

User

veganlinguistsorg

Frequency

☒ Every Minute

☐ Hourly

☐ Nightly

☐ Weekly

☐ Monthly

☐ On Reboot

☐ Custom

Create

Scheduled Jobs

ID	Frequency	Cron	User	Command	Status
414515	Weekly	0 0 * * 0	root	apt1.orgget autoremove && apt1.orgget autoclean	Active
614584	Custom	15 6 * * *	root	/usr/local/bin/composer self1.orgupdate 1.org1.org1.org	Active
750022	Minutely	* * * * *	forge	php /home/forge/veganbootcamp.org/artisan schedule:run	Active
1009432	Minutely	* * * * *	veganlinguistsorg	php8.0 /home/veganlinguistsorg/veganlinguists.org/artisan schedule:run	Active
1046675	Minutely	* * * * *	forge	php7.3 /home/forge/5minutes5vegans.org/artisan schedule:r	Active
1061711	Minutely	* * * * *	activisthuborg	php8.1 /home/activisthuborg/activisthub.org/artisan sched	Active

After copying the command, create a new scheduled job and paste that command into the "Command" field. Make sure that the "User" field matches the user running the existing command as well.

Important: After copying everything over, update the "Command" field so that `artisan` is run inside the `current` directory. For example, if your command was previously:

```
php8.0 /home/veganorg/vegan.org/artisan schedule:run
```

Change it to:

```
php8.0 /home/veganorg/vegan.org/current/artisan schedule:run
```

Create the new job and then delete the old one:

The screenshot shows a list of scheduled jobs in Laravel Forge. The first job is highlighted, and a dropdown menu is open, showing options: 'Show Output', 'Show Next Runs', 'Pause Job', and 'Delete Job'. The 'Delete Job' option is highlighted with a red box. The job details are as follows:

ID	Schedule	Status	Command	Environment
1009432	Minutely	Active	php8.0 /home/veganlinguistsorg/veganlinguists.org/artisan	veganlinguistsorg
1046675	Minutely	Active	php7.3 /home/forged/5minutes5vegans.org/artisan	forge
1061711	Minutely	Active	php8.1 /home/activisthuborg/activisthub.org/artisan	activisthuborg
1185109	Minutely	Active	php8.0 /home/veganlinguistsorg/veganlinguists.org/current	veganlinguistsorg

Updating the Queue Worker(s)

If your project has a `job_queue` set up, you'll need to make sure that it's running `artisan` in the `current` directory.

First, follow [the instructions](#) on how to set up a queue worker. Aside from the working directory, use the same settings as the current worker (likely default). After that, delete the old queue worker:

The screenshot shows the 'New Worker' page in Laravel Forge for the project 'veganlinguists.org'. The 'Queue' tab is selected in the left sidebar. The 'Active Workers' table shows a worker with ID 500720. A red box highlights the 'Delete' button for this worker. The worker details are as follows:

ID	Queue	Timeout	Processes	Tries	PHP	Memory	Restart
500720	default Connection: redis	0	1	1	PHP 8.0	0	<button>Restart</button>

Wrapping Up

There's only one more thing we need to do in order to complete the setup, which is updating the directory serving our project.

To make sure the transition is as smooth as possible, deploy the application via Forge first:

Vegan Linguists

Settings

Deploy

Once it's done, open the "Meta" tab for your project on Laravel Forge and prepend the "Web Directory" with `/current`:

The screenshot shows the Laravel Forge interface for the project 'veganlinguists.org'. The left sidebar contains a menu with items: App, Deployments, Commands, Packages, Notifications, Environment, Queue, SSL, Security, Redirects, Logs, and Meta (which is highlighted with a red box). The main content area has two sections: 'Domain' and 'Web Directory'. The 'Domain' section includes a warning message, a text input for 'Site Domain' containing 'veganlinguists.org', an empty 'Aliases' input, and an 'Update' button. The 'Web Directory' section includes a warning message and a text input for 'Web Directory' containing '/current/public', which is highlighted with a red box, and an 'Update' button.

Wait a few seconds and then visit the site. If it loads, then you should be good to go! If you get an error, then revert the "Web Directory" change and debug using the logs on Laravel Forge.

Revision #2

Created 12 December 2022 11:27:55

Updated 17 December 2022 14:56:38