Configure your own local development environment and some useful tools

Local Development Environments

Open Days Dublin 2015

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Contents

I will cover 4 main topics on this presentation:

1. Drupal & Hosting Environments
2. Install & Configure XAMPP
3. Install & Configure Tools
4. Virtualisation

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1. Drupal & Hosting Environments

What is Drupal

Drupal is a content management system which allows you to create and maintain many different types of websites without needing to know any coding languages.

What do you need to run Drupal

- *Drupal is PHP based CMS so you will need a web server to interpret the PHP language.*

- *PHP is a server side language, this mean you cannot write PHP and see the results without a web server.*

- *HTML or JavaScript for example are browser side languages so you will only need a browser to see the results.*

Web Servers

Wikipedia: “A web server is an information technology that processes requests via HTTP, the basic network protocol used to distribute information.”

Web Servers - Local

A local server is a server working in your own machine, so you won't need internet or any network to do your development.

Local Web Servers: XAMPP

Application with all the necessary tools for Drupal. Software package with Apache web server, MySQL database, PHP and Perl programming languages.

www.apachefriends.org

Local Web Servers: Virtualisation

Recreate in your own computer with a virtual machine a real hosting environment and install all the necessary software inside that machine to run your Drupal

Web Servers - Remote

With a Remote server you will need connection to internet to do your development and extra software to upload your code like Git or FTP.

Managed Drupal Servers

There are a couple of Drupal focused managed servers, so they are specially configured to run Drupal.
Aberdeen, Acquia, feistilbox, Pantheon.

VPS or Traditional Hosting

Then you can find many Hosting companies and offers over internet, even free hosting.
Those hosting are non managed so you will have to manage any extra installation or configuration.

Drupal requirements

- *Web server: Apache, Nginx, or Microsoft IIS*
- *Database: MySQL 5.5.3/MariaDB/Percona/equivalent or higher with PDO and an InnoDB-compatible primary storage engine, PostgreSQL 8.3 or higher with PDO, SQLite 3.3.7 or higher*
- *PHP: PHP 5.4.5 or higher*

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2. Install & Configure XAMPP

Install & Configure XAMPP

Get XAMPP

- *We are going to install the XAMPP application so we won't have to deal with extra configurations.*

- *To download your XAMPP go to:*

https://www.apachefriends.org/download.html

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XAMPP - Choose your version

Choose and download the correct version depending on your computer and OS

XAMPP for **Linux** 5.5.24 & 5.6.8

Version		Checksum			Size
5.5.24 / PHP 5.5.24	What's Included?	md5 sha1	Download (32 bit)		121 Mb
		md5 sha1	Download (64 bit)		128 Mb
5.6.8 / PHP 5.6.8	What's Included?	md5 sha1	Download (32 bit)		119 Mb
		md5 sha1	Download (64 bit)		126 Mb

Requirements Add-ons More Downloads »

XAMPP for **OS X** 5.5.24 & 5.6.8

Version		Checksum		Size
5.5.24 / PHP 5.5.24	What's Included?	md5 sha1	Download (64 bit)	132 Mb
5.6.8 / PHP 5.6.8	What's Included?	md5 sha1	Download (64 bit)	129 Mb

Requirements Add-ons More Downloads »

XAMPP for **Windows** 5.5.24 & 5.6.8

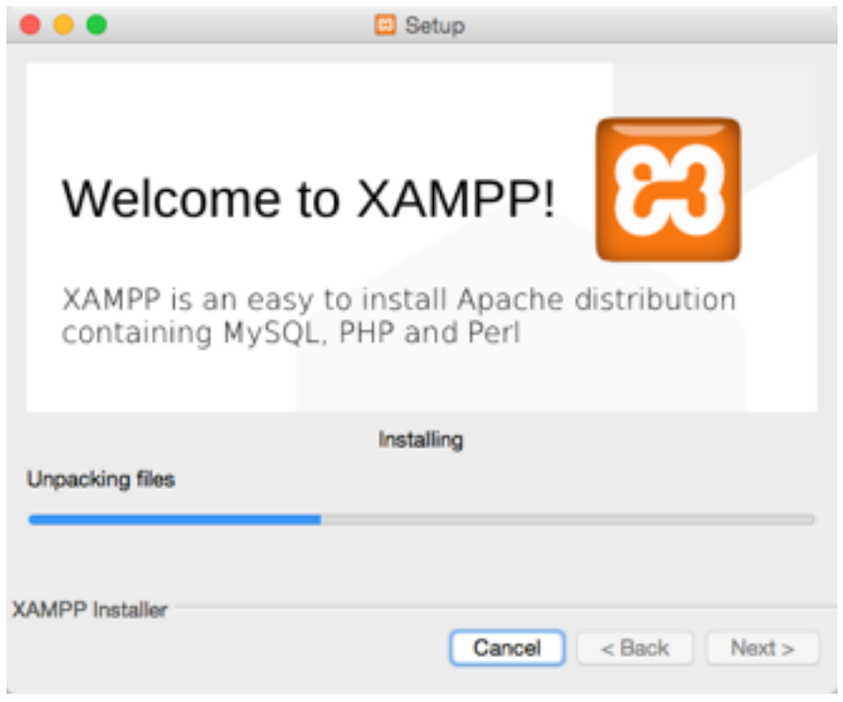
Version		Checksum		Size
5.5.24 / PHP 5.5.24	What's Included?	md5 sha1	Download (32 bit)	104 Mb
5.6.8 / PHP 5.6.8	What's Included?	md5 sha1	Download (32 bit)	107 Mb

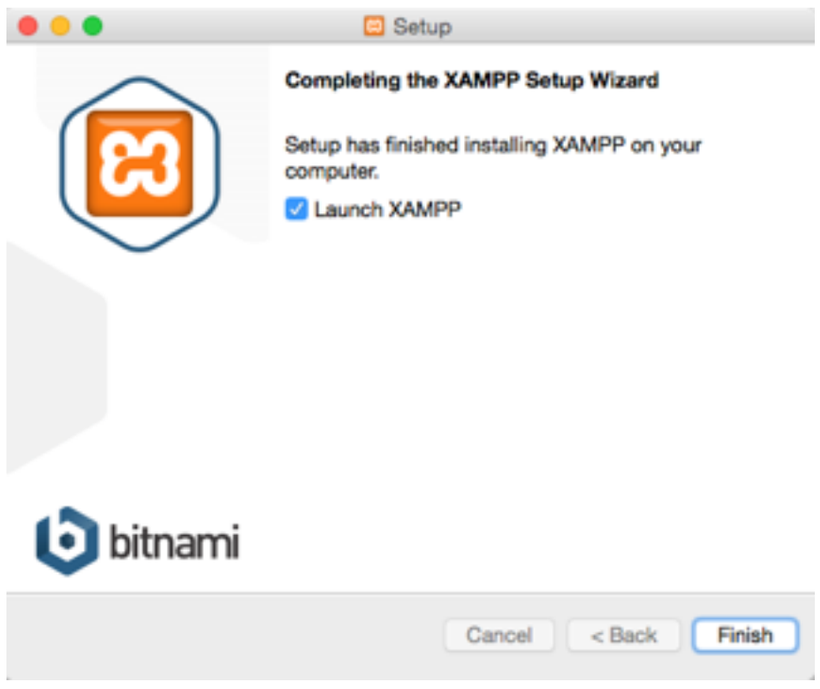
Requirements Add-ons More Downloads »

Windows XP or 2003 are not supported. You can download a compatible version of XAMPP for these platforms here.

XAMPP - Installation

- *Run the application and the installation wizard will launch.*
- *Follow the on screen steps, there is no need for extra configuration here.*





XAMPP - First Look

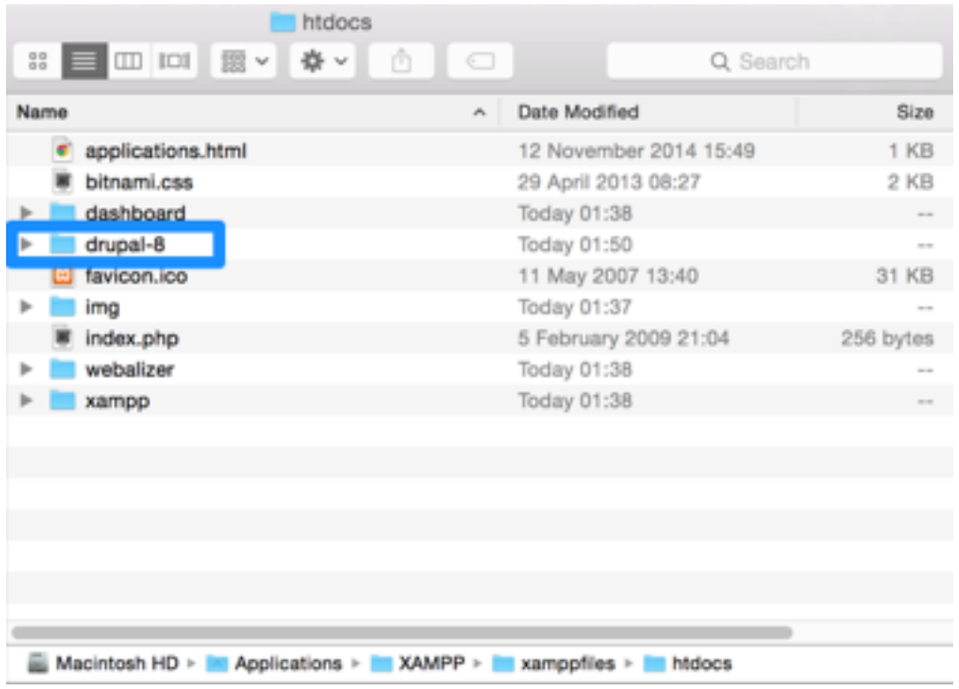
- *Now you've installed your local web server.*

- *The first "Welcome" screen will allow you to "Go To your Application", visit some links with configurations steps and "Open Application Folder"*

XAMPP - Application Folder

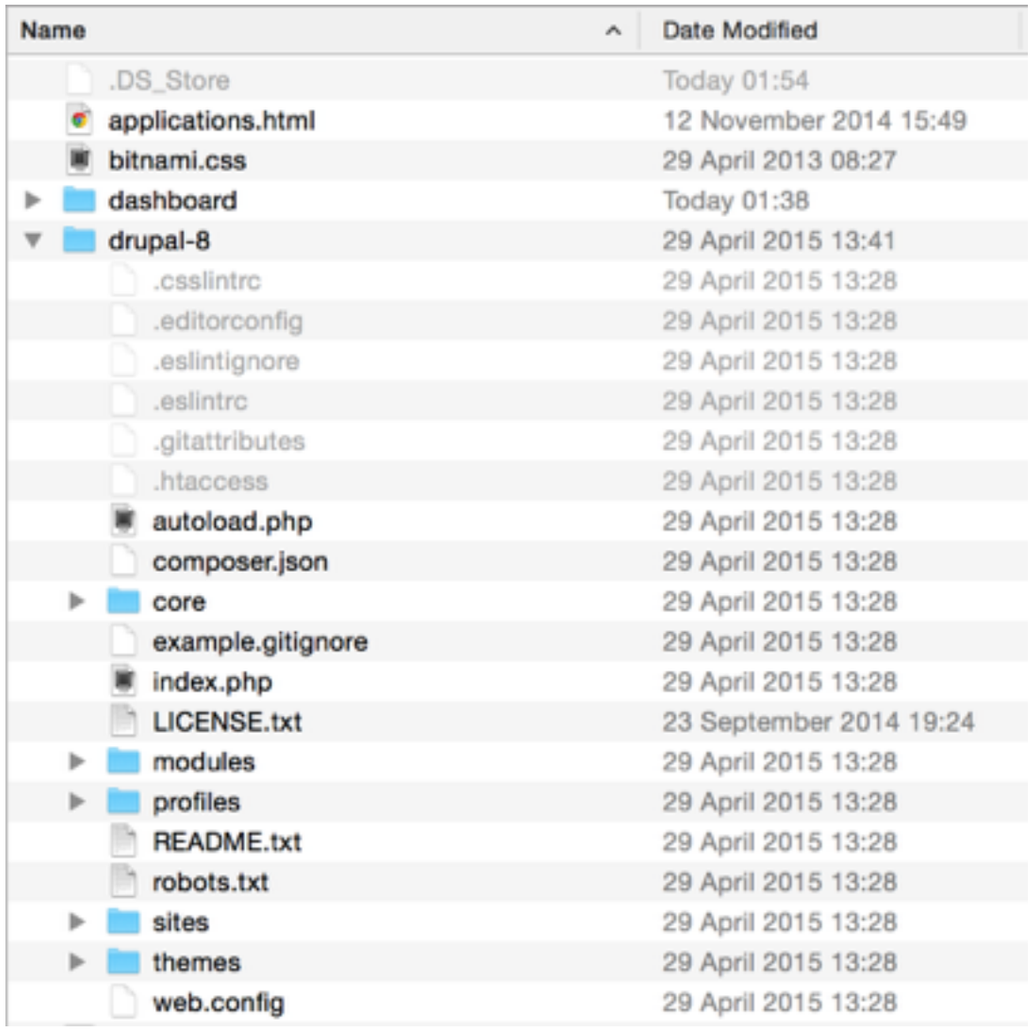
- *In your Applications Folder you will find all the configuration files, but we don't have to modify anything here, just go to "htdocs" folder.*

- *You can create an Alias or Link to this folder for an easy access.*
  Here we are going to create our project folder, "drupal-8".



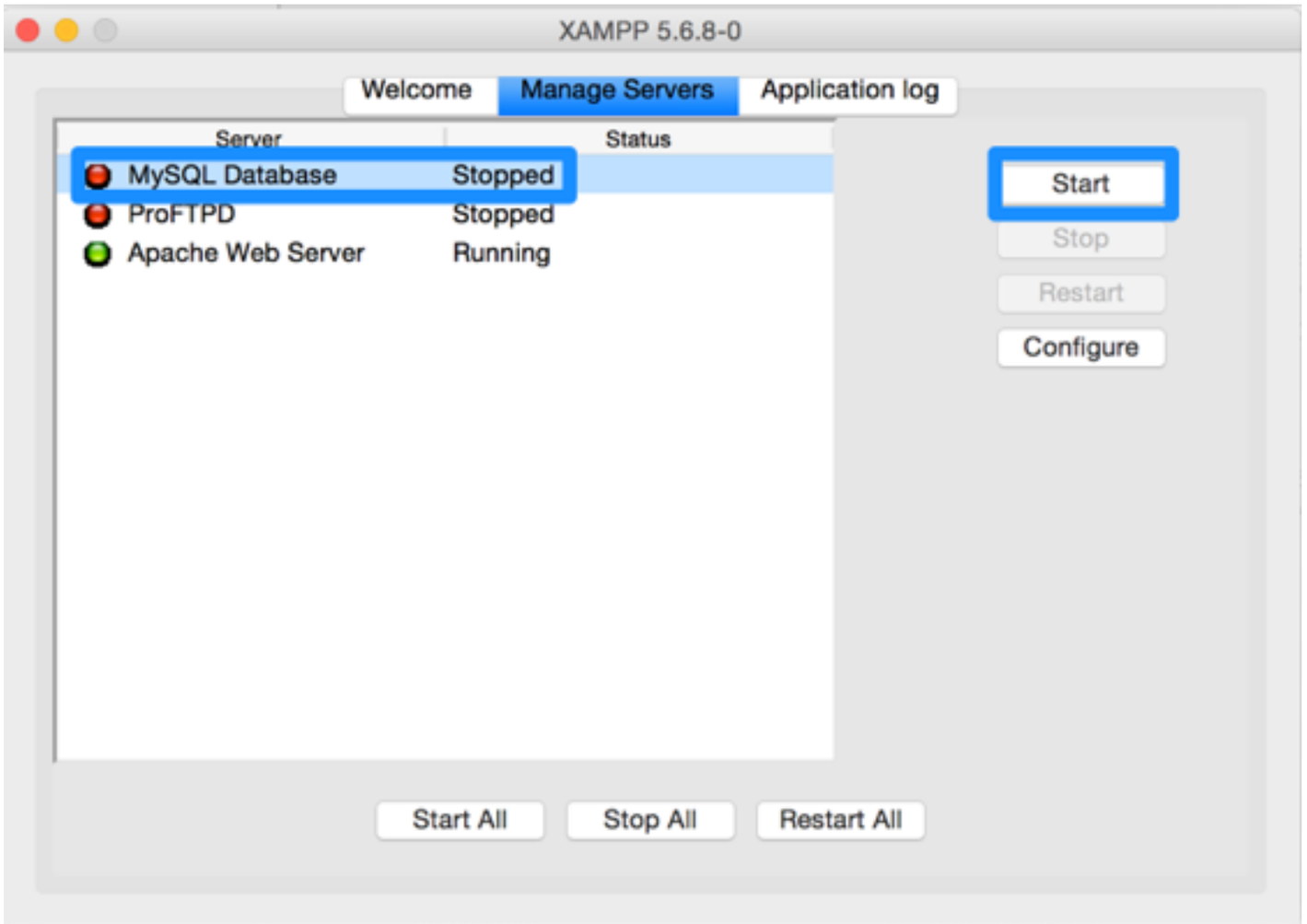
XAMPP - Download Drupal

Now we will need to download a new Drupal instance to our project folder.



XAMPP - Start MySQL

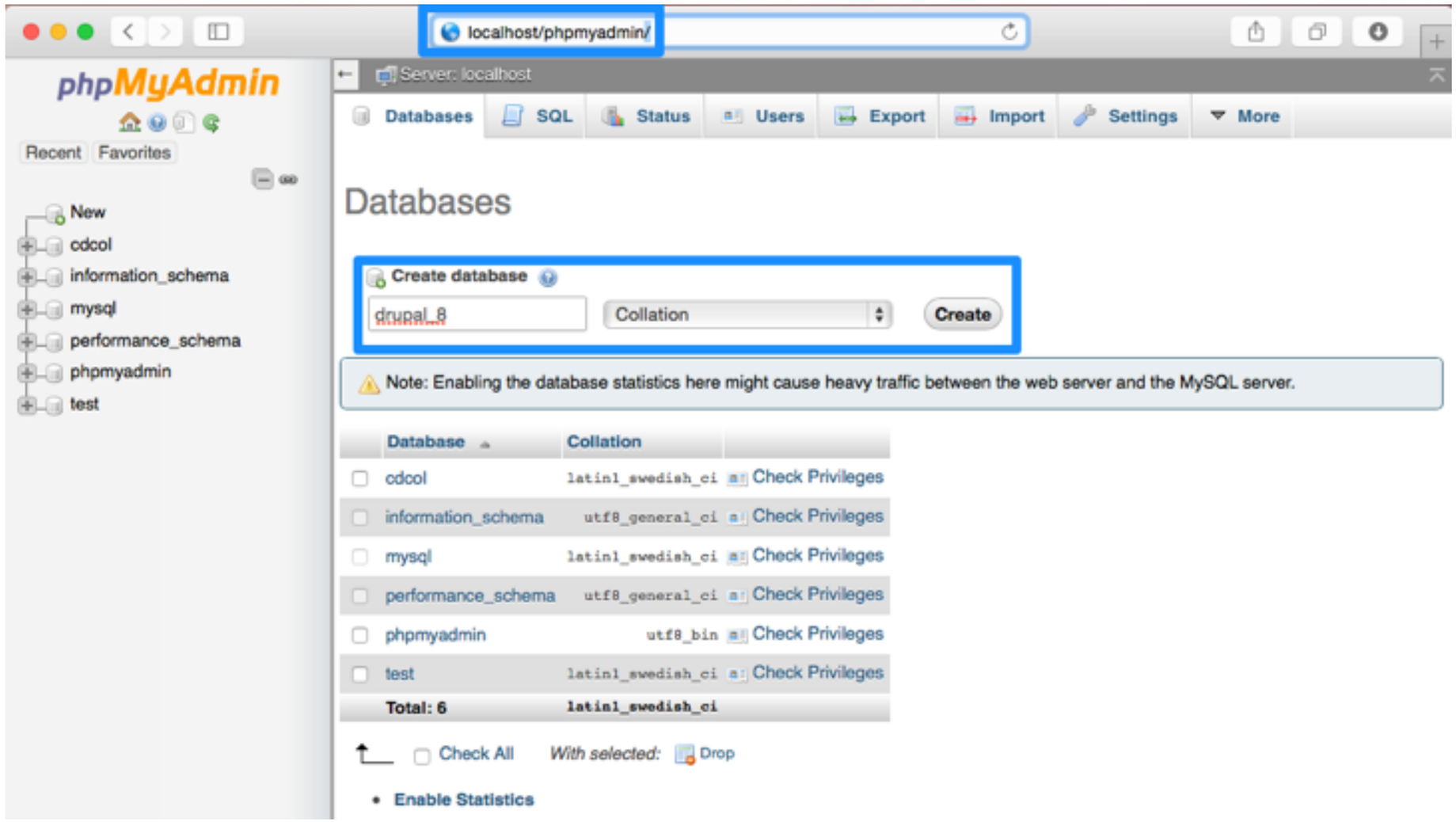
Now we will need to Start the MySQL server and create a database for our project. Go to the XAMPP application and "Start" the MySQL Database.



XAMPP - Create Database

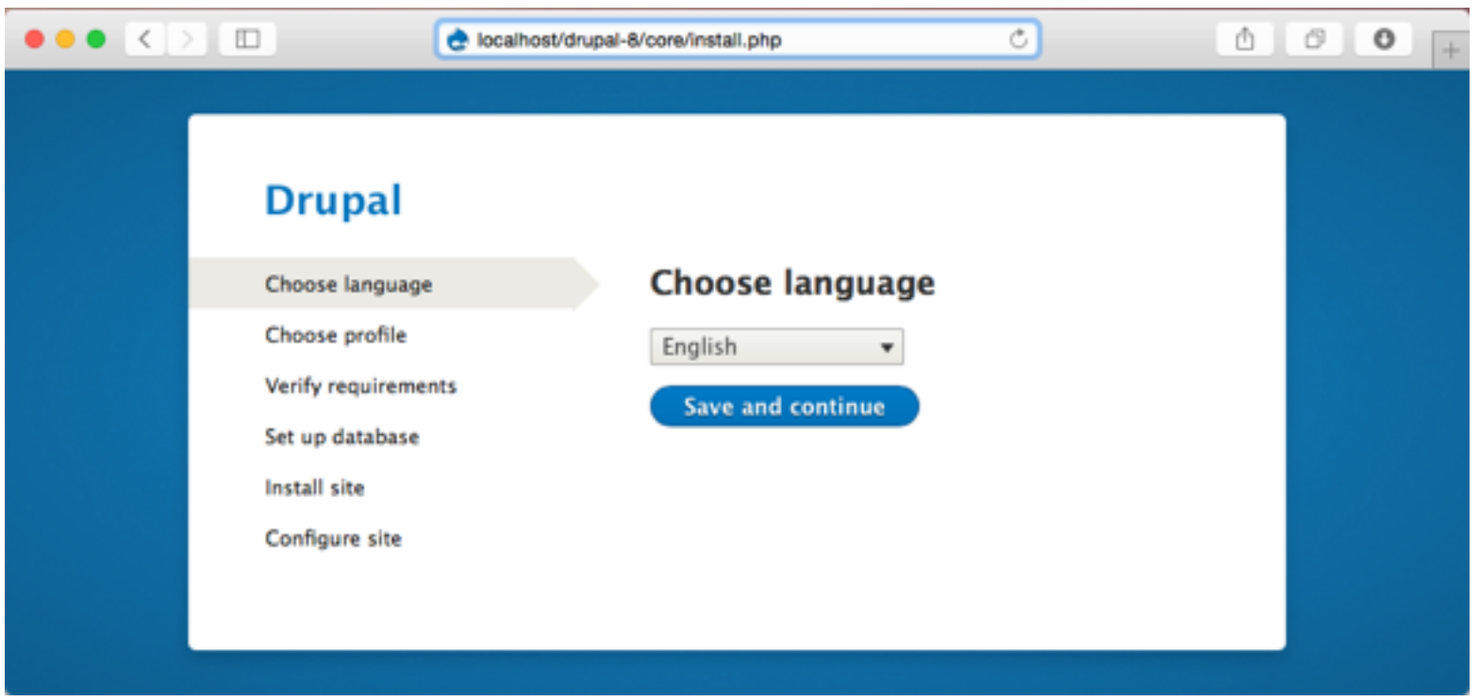
In a browser go to: http://localhost/phpmyadmin

And create the database with “drupal_8” name



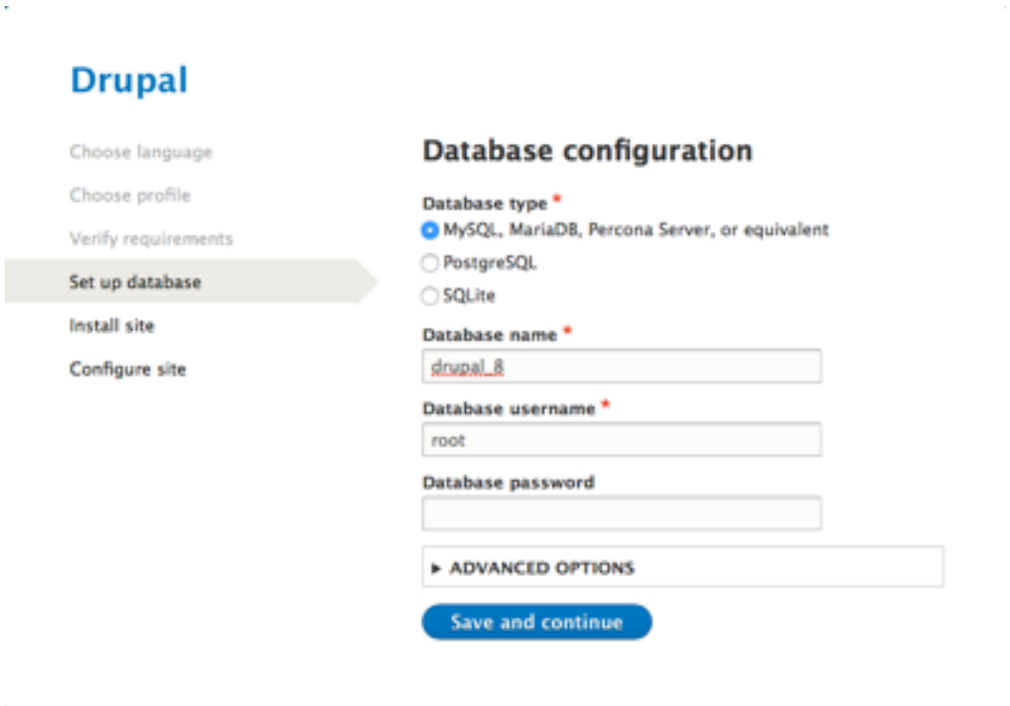
XAMPP - Drupal Installation

- *Now with the Apache and MySQL servers running you are ready to install Drupal.*
- *In a browser go to http://localhost/drupal-8*
- *And there you have your Drupal 8 installation wizard.*



XAMPP - Drupal Installation

- *Follow the screen instruction and you will have a Drupal 8 installation.*
- *You will need to create a files folder and copy the default configuration files.*
- *Don’t forget to make these files and folder writable for everyone.*
- *The database configuration will be:*



Install & Configure XAMPP

XAMPP - Demo

Demo Time ??

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3. Install & Configure Tools

Git

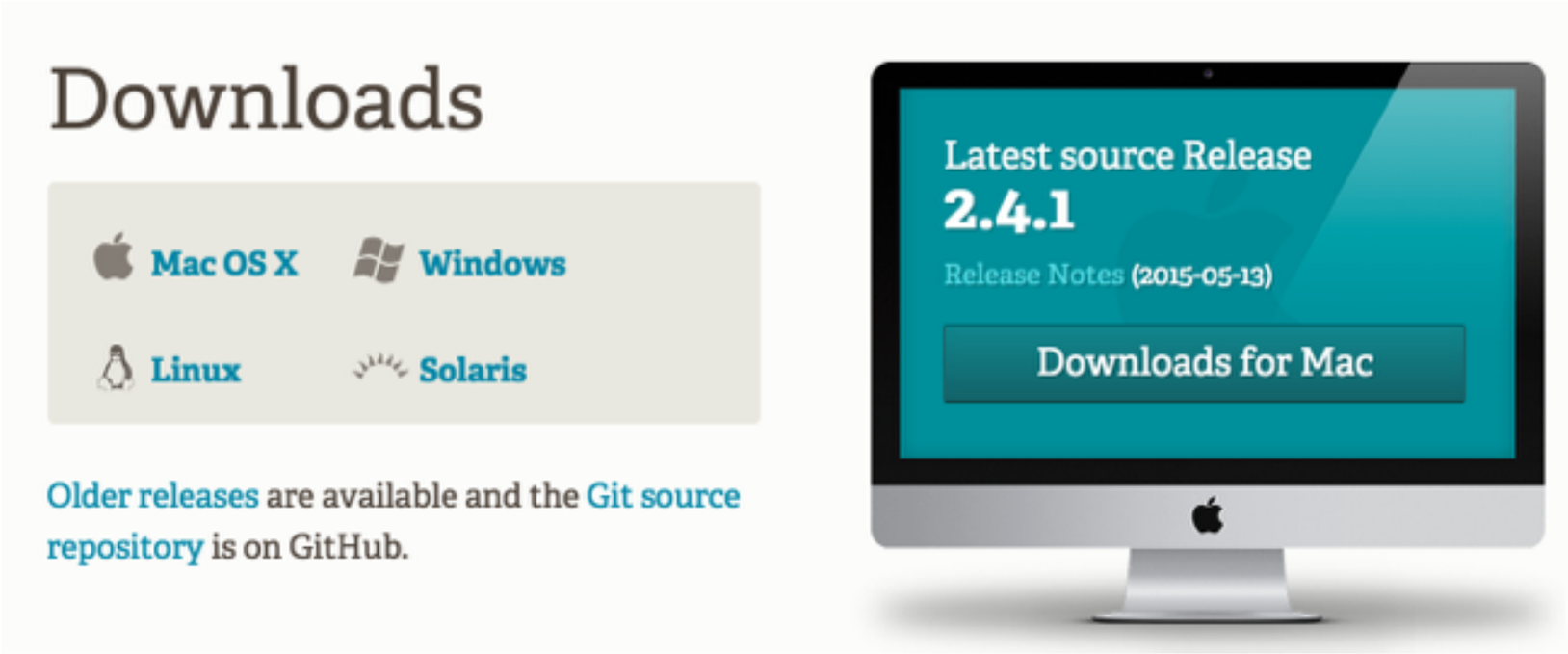
- *Wikipedia: “Git is a distributed revision control system with an emphasis on speed, data integrity, and support for distributed, non-linear workflows.”*

- *In my own words git allows you to work in a team creating code for the same project at the same time. For local development Git will keep track and a backup of your code so you could go back and have always a copy of your code if you use a web repository like gitHub or bitBucket.*

Git - Installation

- *To install Git go to the download section of the website: http://git-scm.com/downloads*

- *For Windows I would recommend to install https://msysgit.github.io/ It'll come with extra command line tools and commands and a GUI*



Git - Commands

git init

With this command you will create a local repository in your system.
This will create the hidden .git folder with all the information.

e.g. git init

git clone

With this command you will clone an existing repository into your system.
It will copy all the files from the repository into your specified folder.

e.g. git clone https://github.com/computerminds/parrot.git parrot

git add

With this command you add untracked files to the commit files list so in the next commit they will be added to the repository.

e.g. git add —all

git commit

With this command you will add to the repository all the added-to-commit files.
You will be asked to input a commit message,

e.g. git commit

Git - Commands

git push

If your repository is pointing to a server like github or bitbucket this command will send the latest commits to the server.

e.g. git push origin master

git pull

If your repository is pointing to a server like github or bitbucket this command will get the latest commits from the server.

e.g. git pull origin master

git branch

With this command you can create different branches for different developments.
So you can keep working but have some code not in production.

e.g. git branch my-branch master

git checkout

With this command you will change the active branch you are watching.
By default git creates the master branch.

e.g. git checkout my-branch

Drush

“Drush is a command line shell and Unix scripting interface for Drupal. Drush core ships with lots of useful commands for interacting with code like modules/themes/profiles.”

Drush allows you to run lots of Drupal configuration tasks and commands form one place, so you can download and install a module in 2 simple commands.

Drush - Installation

- *For Mac I would recommend a Homebrew install of Drush, so you just need to run:*

```
> brew install git
```

- *For Linux I would recommend the default package manager:*

```
> apt-get install drush
```

- *For Windows I would recommend the prepared packages.*
  http://www.drush.org/en/master/install/#windows-zip-package

- *In order to user drush on your Drupal installation you need to open a console and go to your Drupal installation folder or subfolders.*

- *You will need Drush 7.x to make it work with Drupal 8.*

Drush - Commands

drush status

With this command you will get all the information of your Drupal installation like the version of your Drupal, the theme or the path to some directories.

drush dl

With this command you will download into the modules folder the desired project.
It will automatically choose the latest stable version of the project. You could choose your own option with: > drush dl —option project

drush en / dis

With this command you will enable or disable an already download module, it is very useful if the module has dependencies as it prompts you a message to download them.

e.g. drush en project

drush updatedb

With this command you will run the update.php script just from the terminal.
And you will be prompted to accept if there are database updates.

Install & Configure Tools

sass

- *Wikipedia: “Sass is a scripting language that is interpreted into Cascading Style Sheets (CSS).”*

- *sass need to be compiled to produce the final CSS you will use on your website. But there are a couple of free / open source applications you can use in Windows and Mac to create your sass projects.*

sass allows you to create your CSS in a more reusable way so you could define variables and parts of code called mixing you can reuse all over your CSS.

sass - Installation

- *I will use an application called scout for this demo, it is available for Mac and Windows here: http://mhs.github.io/scout-app/*

- *You could find more applications to download here: http://sass-lang.com/install*

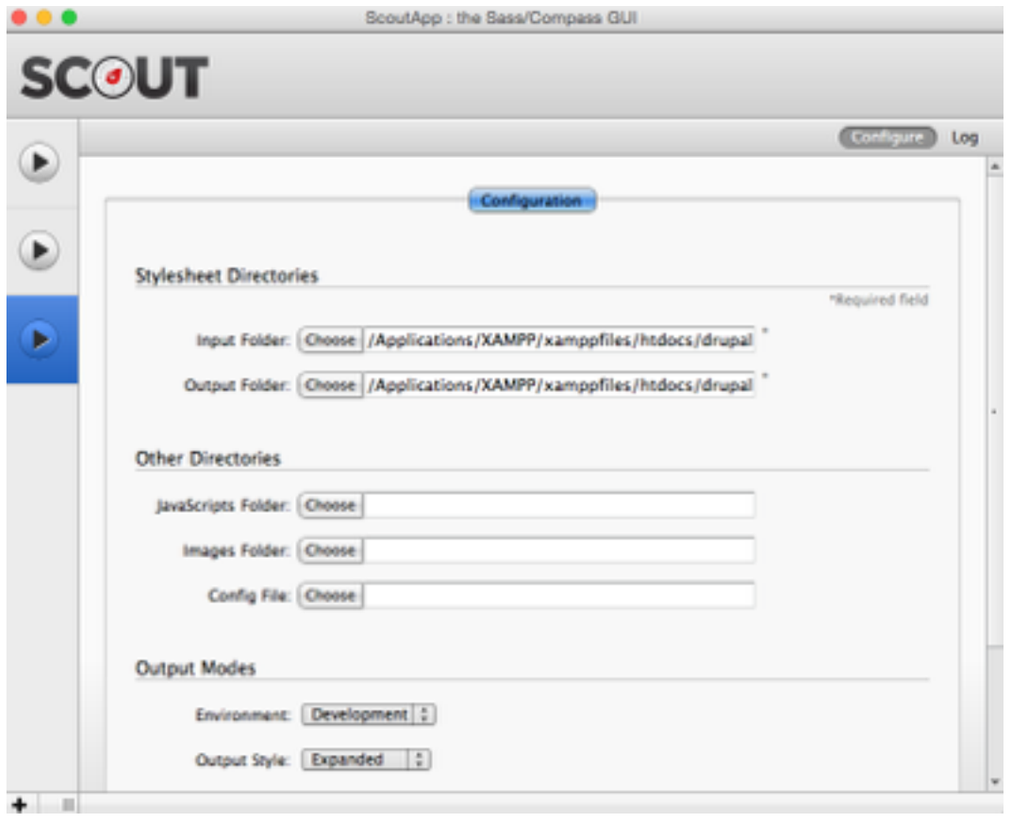
- *The installation is very simple and you just have to follow the screen steps. Then you will have the application and you are ready to create your first sass project.*

- *For this presentation I'm going to create two folders on my themes folder. One called "scss" for the sass files and the other "css" for the compiled files.*

sass - Installation

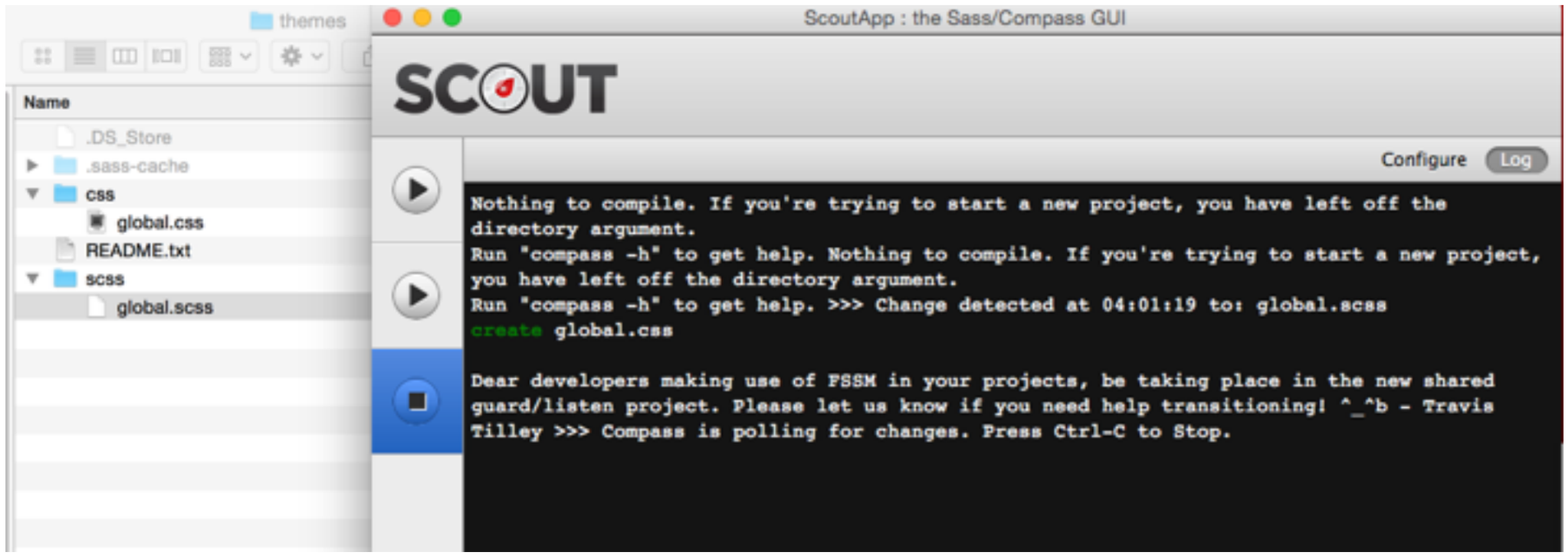
- *We will have to create a new project and select our drupal-8 theme folder as the base.*

- *Then we will have to define “scss” as the Input folder and “css” as the output folder.*



sass - Installation

Once those two folder are created I've added a global.css file into my "scss" folder and now, with scout running, every change on this file will automatically be compiled into global.css at "css" folder.



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4. Virtualisation

Virtualisation

Definition

Wikipedia: “In computing, virtualisation refers to the act of creating a virtual (rather than actual) version of something, including (but not limited to) a virtual computer hardware platform, operating system (OS), storage device, or computer network resources.”

Virtualisation

Definition

- *This mean create logical “fake” resources from the real hardware resources. For us virtualisation will be create a false(Virtual) machine to run inside all the necessary software for our development, so will include a web server, a database server, PHP and any extra needed software.*

- *This is an advantage because you can reproduce 100% what you will have on your production environment, so you could test locally what would be the behaviour of your website. Avoiding problems like “It works on my machine”*

VirtualBox

I use VirtualBox as my virtualisation software because it is GNU General Public License (GPL) version 2 and there are lots of tools to use with it.
https://www.virtualbox.org/

Download VirtualBox

Here, you will find links to VirtualBox binaries and its source code.

VirtualBox binaries

By downloading, you agree to the terms and conditions of the respective license.

- **VirtualBox platform packages**. The binaries are released under the terms of the GPL version 2.
  - **VirtualBox 4.3.28 for Windows hosts** ⇨x86/amd64
  - **VirtualBox 4.3.28 for OS X hosts** ⇨x86/amd64
  - **VirtualBox 4.3.28 for Linux hosts**
  - **VirtualBox 4.3.28 for Solaris hosts** ⇨amd64
- **VirtualBox 4.3.28 Oracle VM VirtualBox Extension Pack** ⇨All supported platforms
  Support for USB 2.0 devices, VirtualBox RDP and PXE boot for Intel cards. See this chapter from the User Manual for an introduction to this Extension Pack. The Extension Pack binaries are released under the VirtualBox Personal Use and Evaluation License (PUEL).
  Please install the extension pack with the same version as your installed version of VirtualBox!
  *If you are using **VirtualBox 4.2.28**, please download the extension pack ⇨**here**.*
  *If you are using **VirtualBox 4.1.36**, please download the extension pack ⇨**here**.*
  *If you are using **VirtualBox 4.0.28**, please download the extension pack ⇨**here**.*
- **VirtualBox 4.3.28 Software Developer Kit (SDK)** ⇨All platforms

Vagrant

I use Vagrant to provision my VirtualBox machine so I don't have to care about configuration.
https://www.vagrantup.com/

Vagrant - Download

Again you can download Vagrant for all the different OS.
https://www.vagrantup.com/downloads.html

Vagrant - Commands

vagrant up

With this command you will create or switch on a virtual machine, if it is the first time the machine will be created with all the configuration provided on the configuration files.

vagrant halt

With this command you will power off your machine. You could use this or > vagrant suspend to close your sessions when you finish your work.

vagrant provision

With this command you will re-run the configuration files, so if there is any new change on the files or new instructions to execute the machine will do it automatically.

vagrant destroy

With this command you will destroy your virtual machine and all the contents inside it.
But if you have your files locally you just have to be careful with the database.

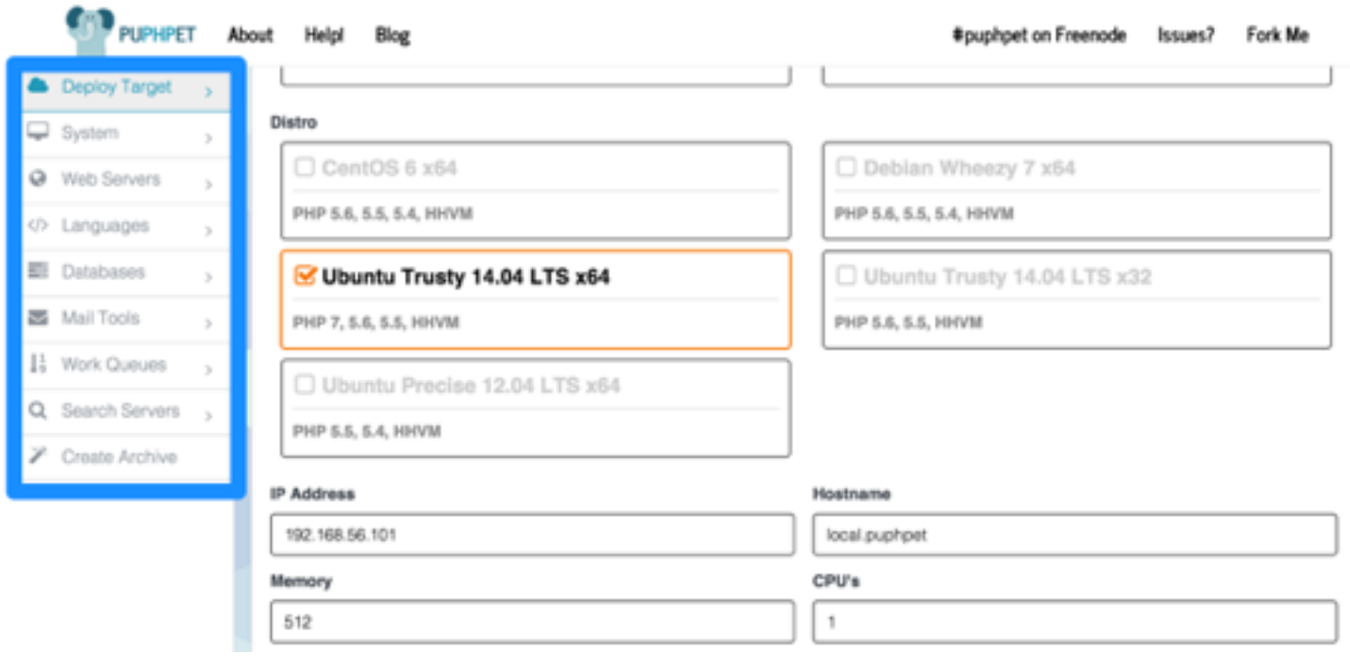
PuPHPet

PuPHPet is a provisioner for Vagrant, but it is a web graphic provisioner, so you could select which software you want to install and after all the configuration picking you will receive a 2 - 5 Mb configuration file to run with Vagrant.
https://puphpet.com/

PuPHPet - Configuration

- *To create a new configuration you just have to navigate through the left hand menu and selecting the configuration on the main screen.*

- *You could choose the Web server to install the Database server, if you want different programming languages, the IPs to use, the Virtual Hosts, etc…*



Vagrant - Parrot

- *Parrot is an already created configuration for Vagrant to enhance the machine for Drupal development.*

- *I've been using this machine for the last 2 years and it includes lots of useful tolls for Drupal.*
https://github.com/computerminds/parrot

The following features are provided by Parrot:

- MySQL server
- PHP
- HTTP Stack
  - Varnish 3
  - Apache 2
- Solr 4 server
- PHPMyAdmin
- xhprof
- SSH agent forwarding
- Oh My Zsh
- Email capture

Vagrant - Other

There are other already created Vagrant configurations for Drupal.
I haven't checked all but here you have an example of what you can find.

- *Vagrant Drupal Development(VDD):*
  https://www.drupal.org/project/vdd

- *Vagrant:*
  https://www.drupal.org/project/vagrant

- *Drupal - VM:*
  https://github.com/geerlingguy/drupal-vm

Vagrant - Demo

Demo Time ??

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Q & A

Thank you.

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