Programming Assignment 1 – The Basics

Revision 1

First step in building your Web Application is to set up development environment. In order to provide everyone the same educational experience, we will use VirtualBox as the hypervisor. It is free and well supported within development communities.

1. **Install VirtualBox**
   https://www.virtualbox.org/wiki/Downloads
   Download and install **VirtualBox** on your computer.

2. **Install Vagrant**
   https://www.vagrantup.com/downloads.html
   Download and install **Vagrant** on your computer.

3. **Download Laravel Vagrant Box**
   Download the Laravel Homestead vagrant box.

```
vagrant box add laravel/homestead
```

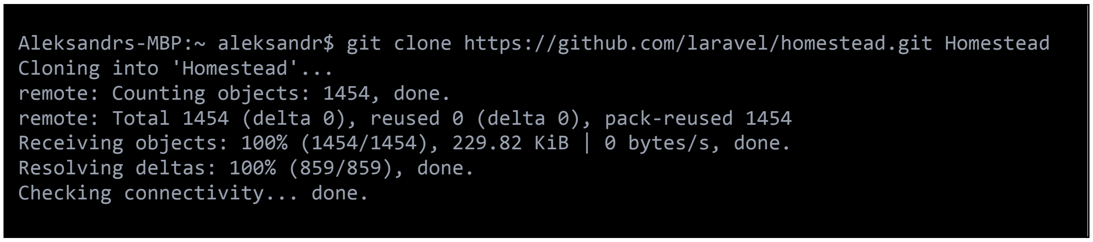
Sample output:

```
Aleksandrs-MBP:~ aleksandr$ vagrant box add laravel/homestead
==> box: Loading metadata for box 'laravel/homestead'
    box: URL: https://atlas.hashicorp.com/laravel/homestead
This box can work with multiple providers! The providers that it
can work with are listed below. Please review the list and choose
the provider you will be working with.

1) virtualbox
2) vmware_desktop

Enter your choice: 1
==> box: Adding box 'laravel/homestead' (v0.4.1) for provider: virtualbox
    box: Downloading:
https://atlas.hashicorp.com/laravel/boxes/homestead/versions/0.4.1/providers/virtualbox.bo
x
==> box: Successfully added box 'laravel/homestead' (v0.4.1) for 'virtualbox'!
```

4. **Install Homestead**[1]

```
cd ~
git clone https://github.com/laravel/homestead.git Homestead
```

Sample output:

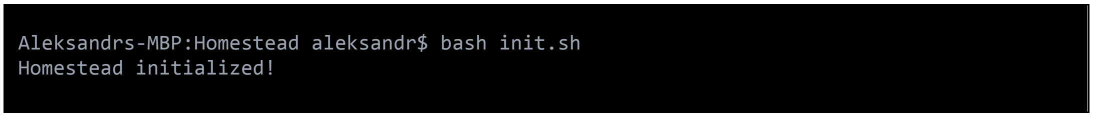


```
Aleksandrs-MBP:~ aleksandr$ git clone https://github.com/laravel/homestead.git Homestead
Cloning into 'Homestead'...
remote: Counting objects: 1454, done.
remote: Total 1454 (delta 0), reused 0 (delta 0), pack-reused 1454
Receiving objects: 100% (1454/1454), 229.82 KiB | 0 bytes/s, done.
Resolving deltas: 100% (859/859), done.
Checking connectivity... done.
```

When you complete cloning Homestead, you will need to run init.sh to initialize the configuration file, **Homestead.yaml**.

```
cd ~/Homestead
bash init.sh
```

Sample output:



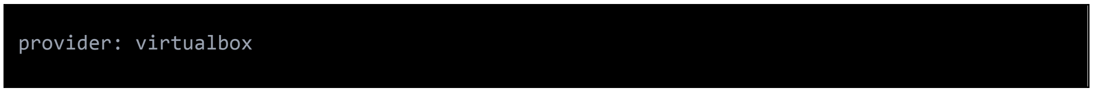
```
Aleksandrs-MBP:Homestead aleksandr$ bash init.sh
Homestead initialized!
```

This file will be placed in **~/.homestead/Homestead.yaml**

5. **Configure Homestead**
   Open configuration file **~/.homestead/Homestead.yaml** with your favorite editor.

```
nano ~/.homestead/Homestead.yaml
```

Make sure that provider is set to **virtualbox**.



```
provider: virtualbox
```

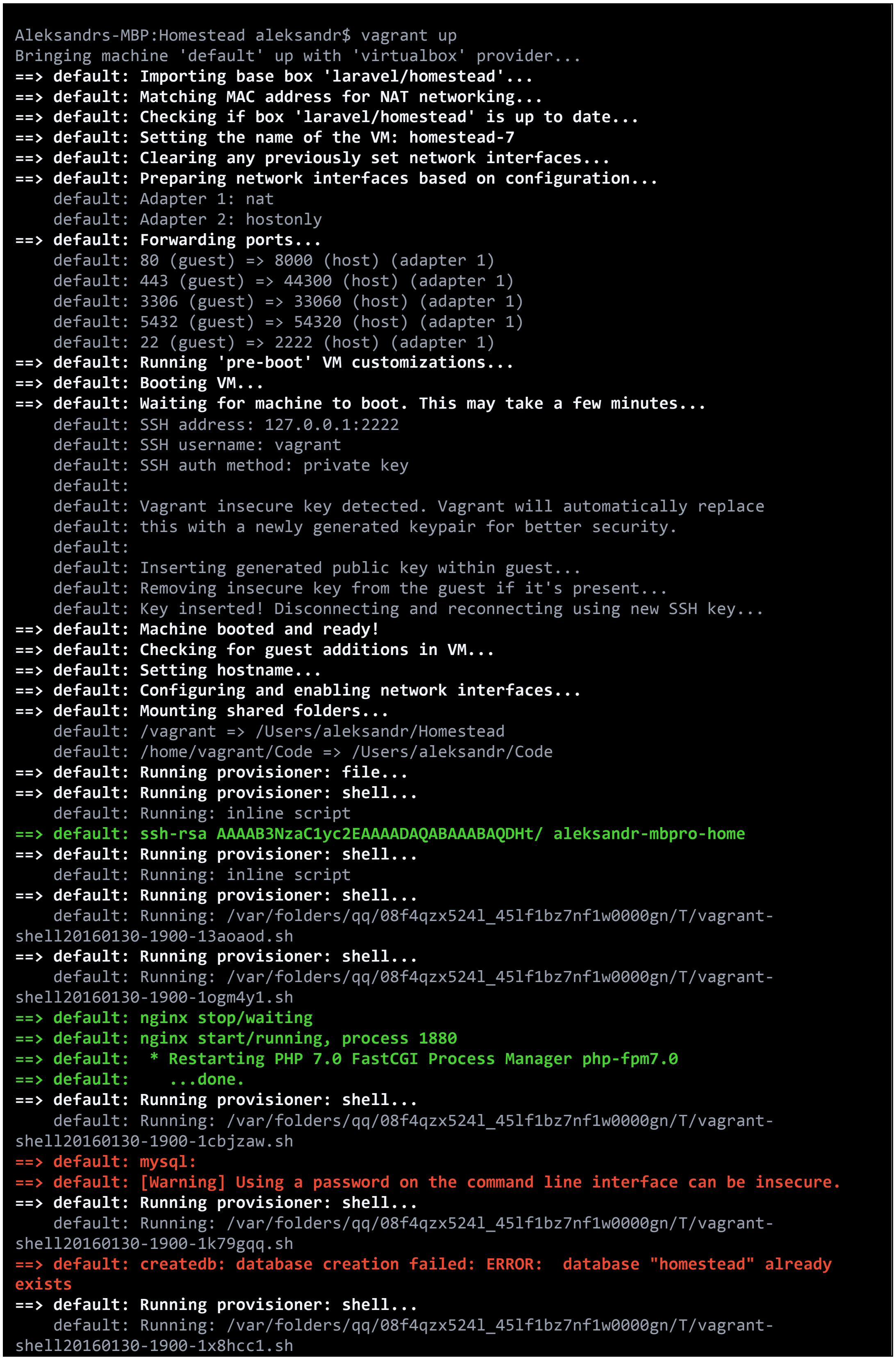
6. **Create Project Directory**
   This directory will be used for your project. Vagrant will mount it on the Vagrant Box.

```
mkdir ~/Code
```

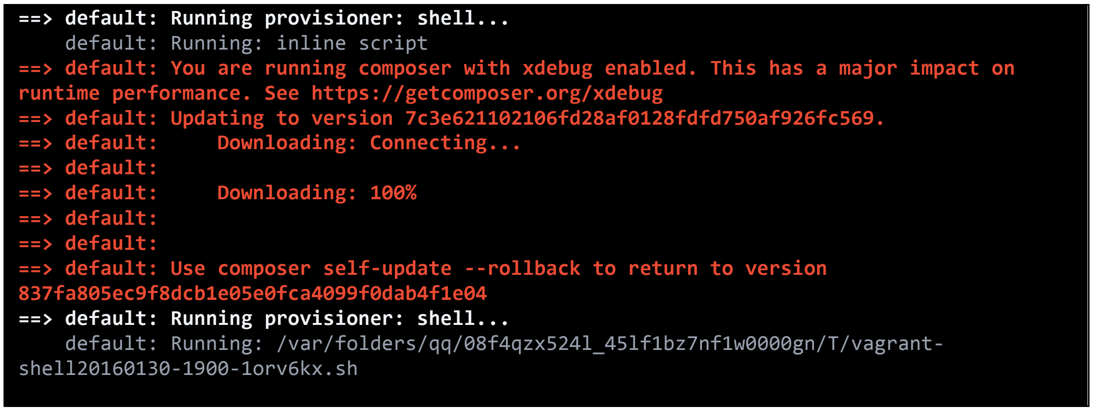
7. **Run Homestead**

```
cd ~/Homestead
vagrant up
```

Sample output:



```
Aleksandrs-MBP:Homestead aleksandr$ vagrant up
Bringing machine 'default' up with 'virtualbox' provider...
==> default: Importing base box 'laravel/homestead'...
==> default: Matching MAC address for NAT networking...
==> default: Checking if box 'laravel/homestead' is up to date...
==> default: Setting the name of the VM: homestead-7
==> default: Clearing any previously set network interfaces...
==> default: Preparing network interfaces based on configuration...
    default: Adapter 1: nat
    default: Adapter 2: hostonly
==> default: Forwarding ports...
    default: 80 (guest) => 8000 (host) (adapter 1)
    default: 443 (guest) => 44300 (host) (adapter 1)
    default: 3306 (guest) => 33060 (host) (adapter 1)
    default: 5432 (guest) => 54320 (host) (adapter 1)
    default: 22 (guest) => 2222 (host) (adapter 1)
==> default: Running 'pre-boot' VM customizations...
==> default: Booting VM...
==> default: Waiting for machine to boot. This may take a few minutes...
    default: SSH address: 127.0.0.1:2222
    default: SSH username: vagrant
    default: SSH auth method: private key
    default:
    default: Vagrant insecure key detected. Vagrant will automatically replace
    default: this with a newly generated keypair for better security.
    default:
    default: Inserting generated public key within guest...
    default: Removing insecure key from the guest if it's present...
    default: Key inserted! Disconnecting and reconnecting using new SSH key...
==> default: Machine booted and ready!
==> default: Checking for guest additions in VM...
==> default: Setting hostname...
==> default: Configuring and enabling network interfaces...
==> default: Mounting shared folders...
    default: /vagrant => /Users/aleksandr/Homestead
    default: /home/vagrant/Code => /Users/aleksandr/Code
==> default: Running provisioner: file...
==> default: Running provisioner: shell...
    default: Running: inline script
==> default: ssh-rsa AAAAB3NzaC1yc2EAAAADAQABAAABAQDHt/ aleksandr-mbpro-home
==> default: Running provisioner: shell...
    default: Running: inline script
==> default: Running provisioner: shell...
    default: Running: /var/folders/qq/08f4qzx524l_45lf1bz7nf1w0000gn/T/vagrant-
shell20160130-1900-13aoaod.sh
==> default: Running provisioner: shell...
    default: Running: /var/folders/qq/08f4qzx524l_45lf1bz7nf1w0000gn/T/vagrant-
shell20160130-1900-1ogm4y1.sh
==> default: nginx stop/waiting
==> default: nginx start/running, process 1880
==> default:  * Restarting PHP 7.0 FastCGI Process Manager php-fpm7.0
==> default:    ...done.
==> default: Running provisioner: shell...
    default: Running: /var/folders/qq/08f4qzx524l_45lf1bz7nf1w0000gn/T/vagrant-
shell20160130-1900-1cbjzaw.sh
==> default: mysql:
==> default: [Warning] Using a password on the command line interface can be insecure.
==> default: Running provisioner: shell...
    default: Running: /var/folders/qq/08f4qzx524l_45lf1bz7nf1w0000gn/T/vagrant-
shell20160130-1900-1k79gqq.sh
==> default: createdb: database creation failed: ERROR:  database "homestead" already
exists
==> default: Running provisioner: shell...
    default: Running: /var/folders/qq/08f4qzx524l_45lf1bz7nf1w0000gn/T/vagrant-
shell20160130-1900-1x8hcc1.sh
```

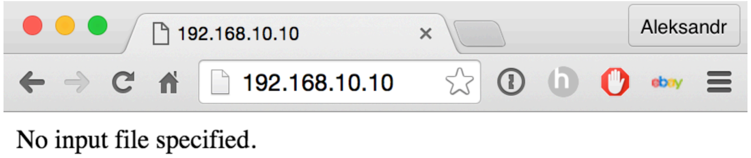


```
==> default: Running provisioner: shell...
    default: Running: inline script
==> default: You are running composer with xdebug enabled. This has a major impact on
runtime performance. See https://getcomposer.org/xdebug
==> default: Updating to version 7c3e621102106fd28af0128fdfd750af926fc569.
==> default:     Downloading: Connecting...
==> default:
==> default:     Downloading: 100%
==> default:
==> default:
==> default: Use composer self-update --rollback to return to version
837fa805ec9f8dcb1e05e0fca4099f0dab4f1e04
==> default: Running provisioner: shell...
    default: Running: /var/folders/qq/08f4qzx524l_451f1bz7nf1w0000gn/T/vagrant-
shell20160130-1900-1orv6kx.sh
```

8. **Verify Vagrant box is online**
   If you are using default settings for Vagrant, it will be configured to the following ip address: **192.168.10.10**.

   Open your browser and visit http://192.168.10.10/

   You will see **“No file input specified.”**. That’s because the directory configured for Laravel has not been created yet.

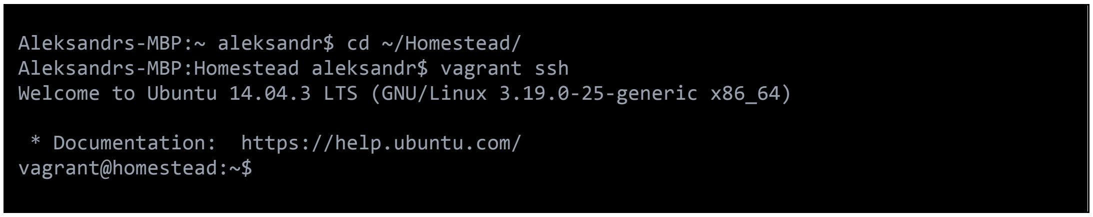


No input file specified.

9. **Install Laravel onto your newly created Vagrant box**
   Connect to your Vagrant box through SSH.

```
cd ~/Homestead
vagrant ssh
```

Sample output:

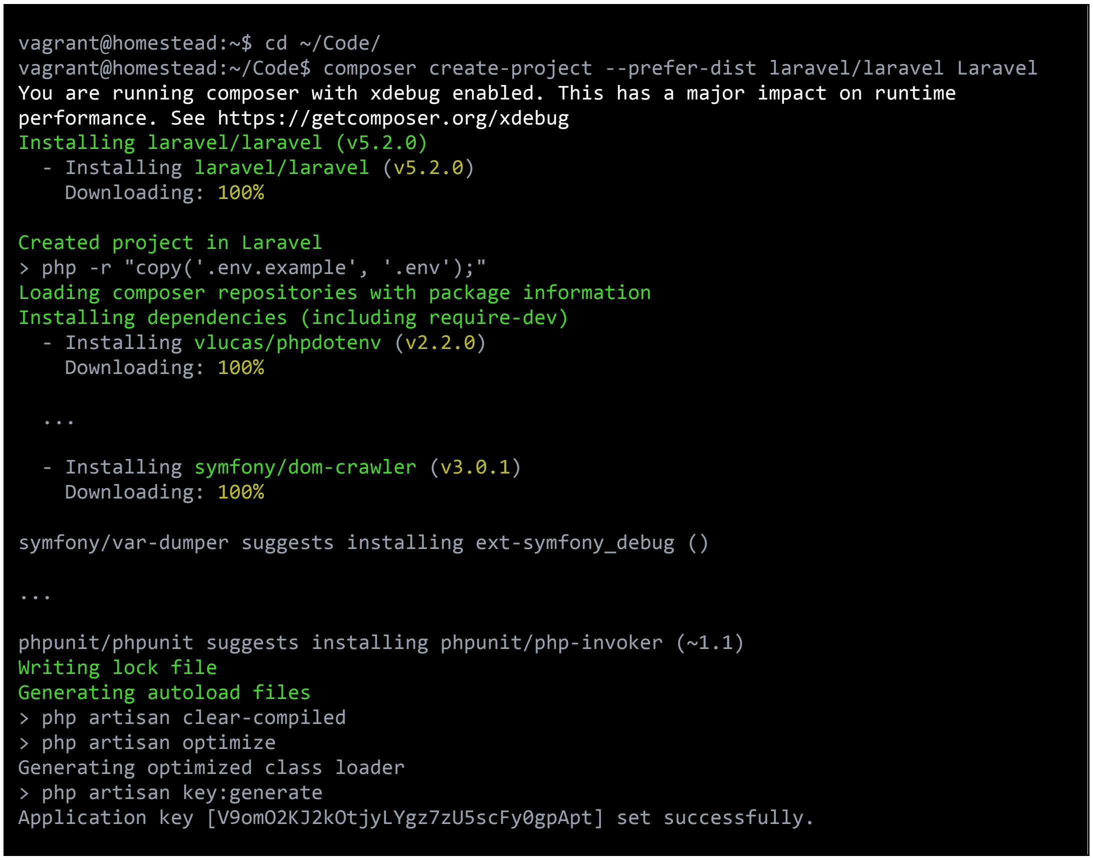


```
Aleksandrs-MBP:~ aleksandr$ cd ~/Homestead/
Aleksandrs-MBP:Homestead aleksandr$ vagrant ssh
Welcome to Ubuntu 14.04.3 LTS (GNU/Linux 3.19.0-25-generic x86_64)

 * Documentation:  https://help.ubuntu.com/
vagrant@homestead:~$
```

Install Laravel on your Vagrant box using Composer.

```
cd ~/Code
composer create-project --prefer-dist laravel/laravel Laravel
```

Sample output:



```
vagrant@homestead:~$ cd ~/Code/
vagrant@homestead:~/Code$ composer create-project --prefer-dist laravel/laravel Laravel
You are running composer with xdebug enabled. This has a major impact on runtime
performance. See https://getcomposer.org/xdebug
Installing laravel/laravel (v5.2.0)
  - Installing laravel/laravel (v5.2.0)
    Downloading: 100%

Created project in Laravel
> php -r "copy('.env.example', '.env');"
Loading composer repositories with package information
Installing dependencies (including require-dev)
  - Installing vlucas/phpdotenv (v2.2.0)
    Downloading: 100%

  ...

  - Installing symfony/dom-crawler (v3.0.1)
    Downloading: 100%

symfony/var-dumper suggests installing ext-symfony_debug ()

...

phpunit/phpunit suggests installing phpunit/php-invoker (~1.1)
Writing lock file
Generating autoload files
> php artisan clear-compiled
> php artisan optimize
Generating optimized class loader
> php artisan key:generate
Application key [V9omO2KJ2kOtjyLYgz7zU5scFy0gpApt] set successfully.
```

10. ‘Hello World’

Locate routes.php in ~/Code/Laravel/app/Http/routes.php. *Edit routes.php*

From:

```
Route::get('/', function () {
    return view(’welcome');
});
```

To:

```
Route::get('/', function () {
    return ‘Hello from name’;
});
```

Where your name goes in **name**.

What to submit:

Please fork ***NYU-CS6015/Programming-Assignments***. Place your routes.php file in **Programming Assignment 1** directory. **Do not forget to commit** your programming assignment!

Citations:

1. Laravel Homestead. (n.d.). Retrieved January 23, 2016, from https://laravel.com/docs/master/homestead