Lab Setup

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To set up the virtual machine (VM) needed for the PHP course labs, follow these general steps:

1. Install Oracle VirtualBox
2. Install Hashicorp Vagrant
3. Use the *Vagrantfile* to build the course VirtualBox
4. Login to the new VM and update the existing software

The next several slides provide you with more detail on the lab VM setup.

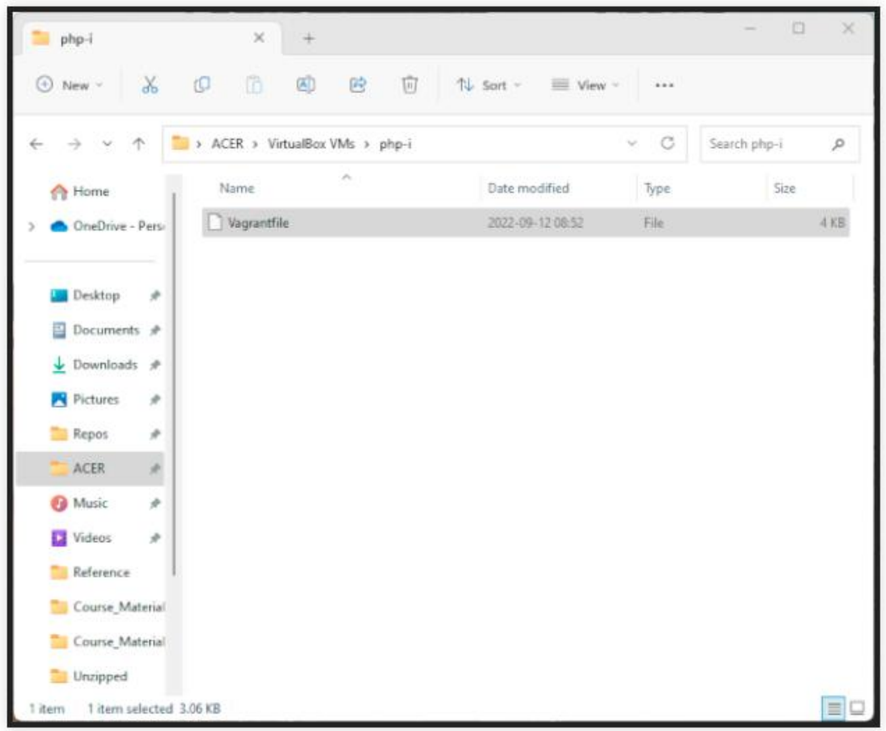
Install VirtualBox and Vagrant

Install Oracle VirtualBox using the instructions provided here: https://www.virtualbox.org/manual/ch02.html

Install Hashicorp Vagrant using the instructions provided here: https://developer.hashicorp.com/vagrant/downloads

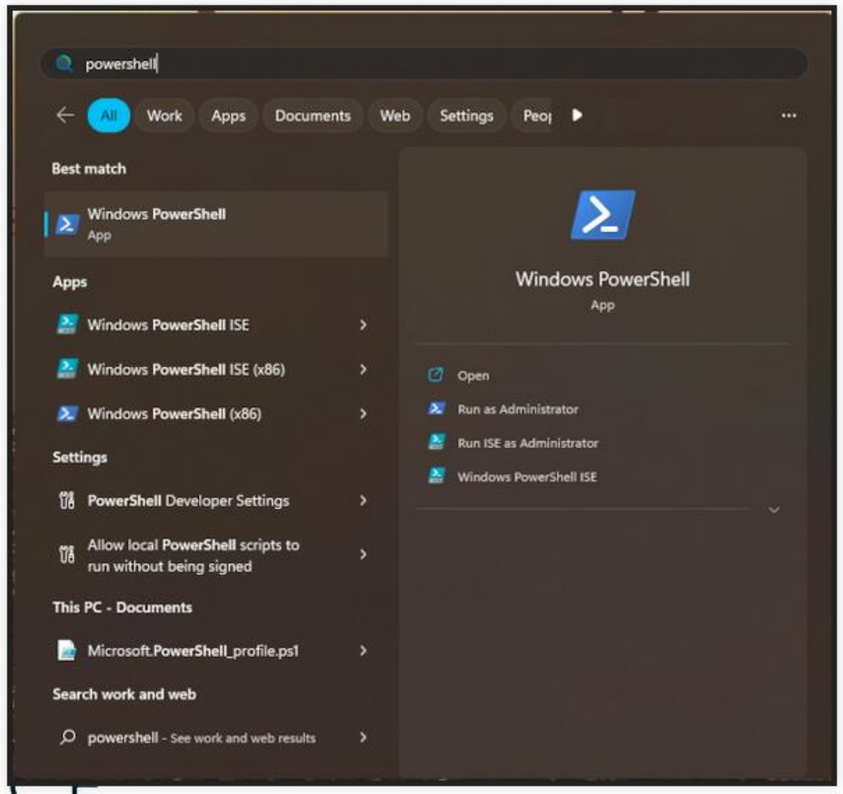
Download the Vagrantfile

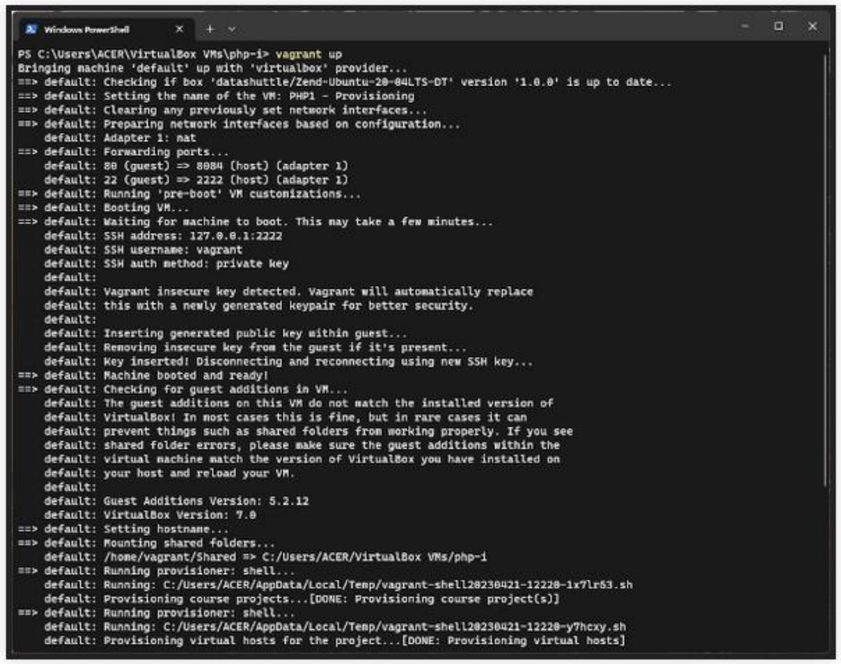
Create an empty directory on the computer you plan to use for the labs. Using the link provided to you when you signed up for the course, download the *Vagrantfile*, and move it to the new directory.



Use Vagrant to Build the VM

Open a command terminal (or Powershell), and run the command *vagrant up*. The "provisioning" process can take up to one to two hours to complete depending on the speed of your computer and network connection.



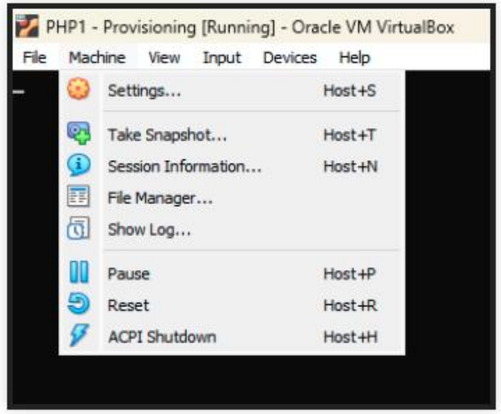


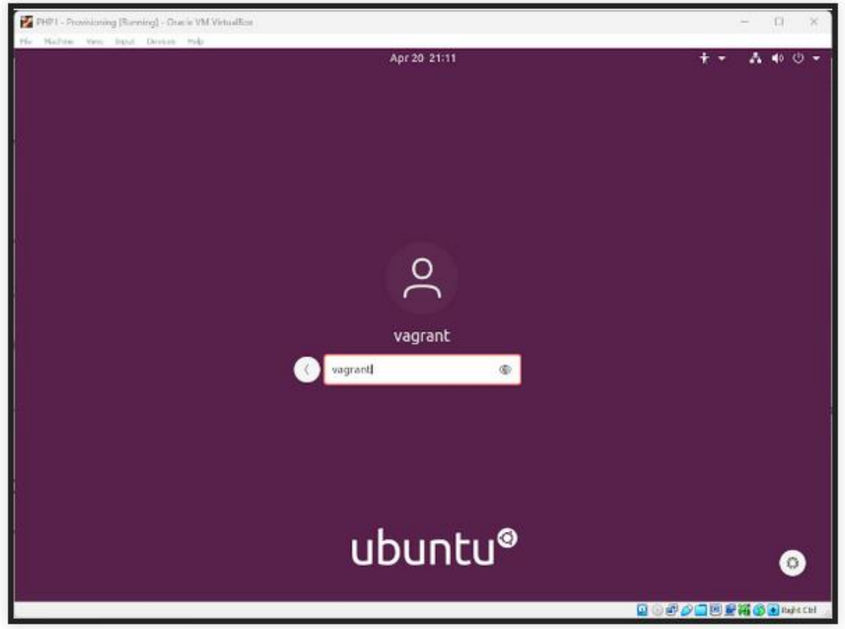
Reset VM and Login

When provisioning completes successfully, Ubuntu will boot up in a separate window.

In many cases you'll need to reset the VM using the menu at the top left.

When the VM is ready, login as the user *vagrant* using the password *vagrant*.





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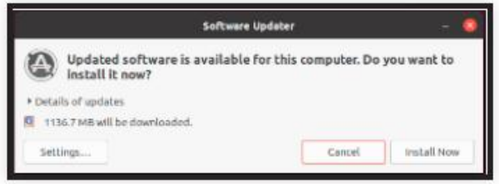
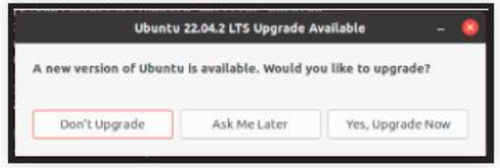
Do Not Accept the Update or Upgrade Prompts

Once you login it's important to wait a few seconds for the system to come fully up.

At this point you'll see two prompts: one to update, one to upgrade.

Be sure to decline both of these options!



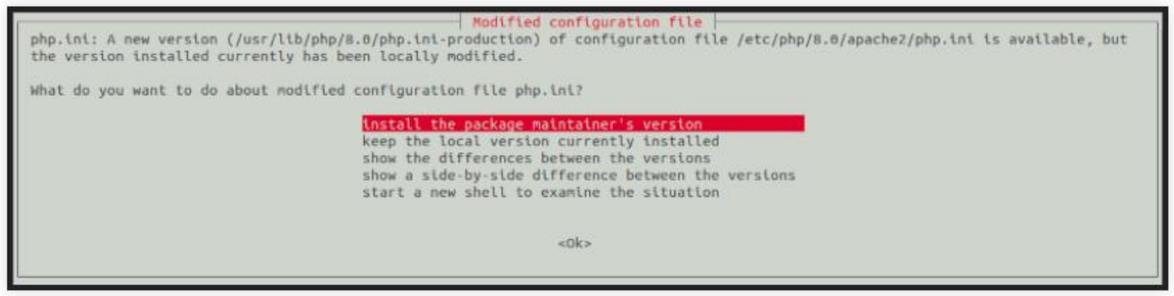


Open a command terminal and run these commands. It will take several hours to complete so it's best to let it run overnight.

```
$ sudo dpkg --configure -a
$ sudo apt -y update && sudo apt -f -y install && sudo apt -y full-upgrade
```

Accept New Configuration

At some point you will be asked if you wish to retain the original *php.ini* configuration or accept the new. Go ahead and **accept the new configuration**.



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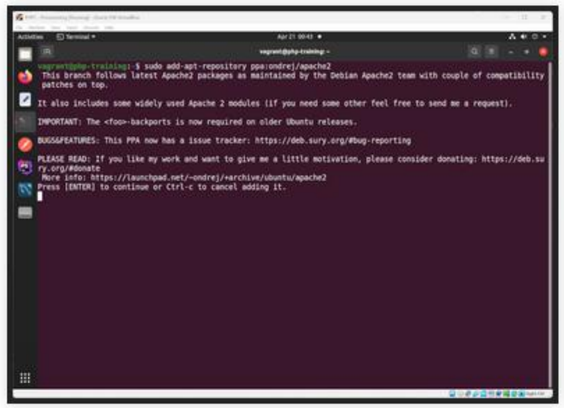
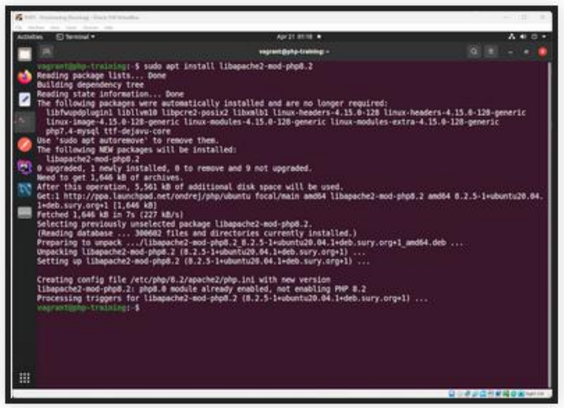
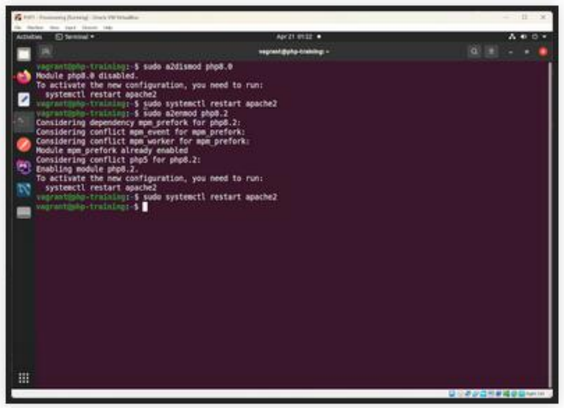
Update Apache PHP Module

So far PHP from the command line (PHP-CLI) has been updated. You'll still need to update the PHP Apache module using these commands. Please note that "8.0" is the old version, and "8.2" is the new version. You may have to change these two values as more recent versions become available.

```
sudo apt-add-repository ppa:ondrej/apache2
sudo apt install libapache2-mod-php8.2
sudo a2dismod php8.0
sudo systemctl restart apache2
sudo a2enmod php8.2
sudo systemctl restart apache2
```







Confirm PHP Installation

Confirm the PHP installation by opening the VM's browser, and entering *http://sandbox/*