

APPLICATION CONTAINERISATION

LAB REPORT

LAB EXPERIMENT 01

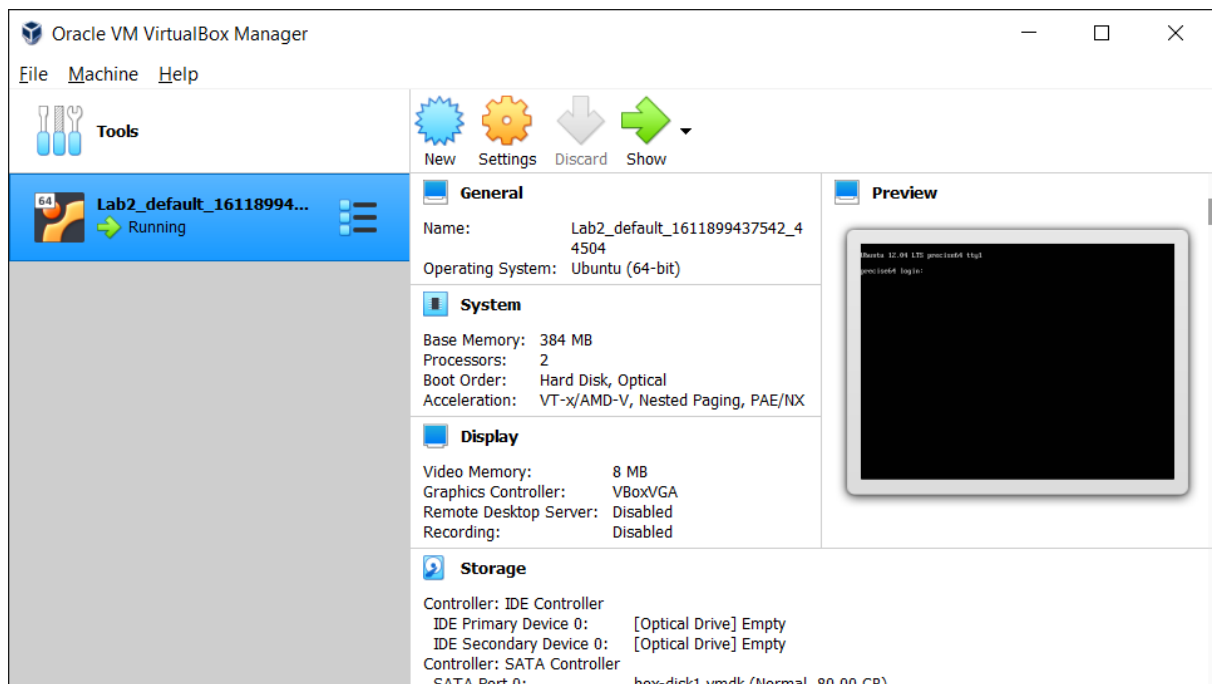
AIM: Install VirtualBox and Vagrant

STEPS PERFORMED:

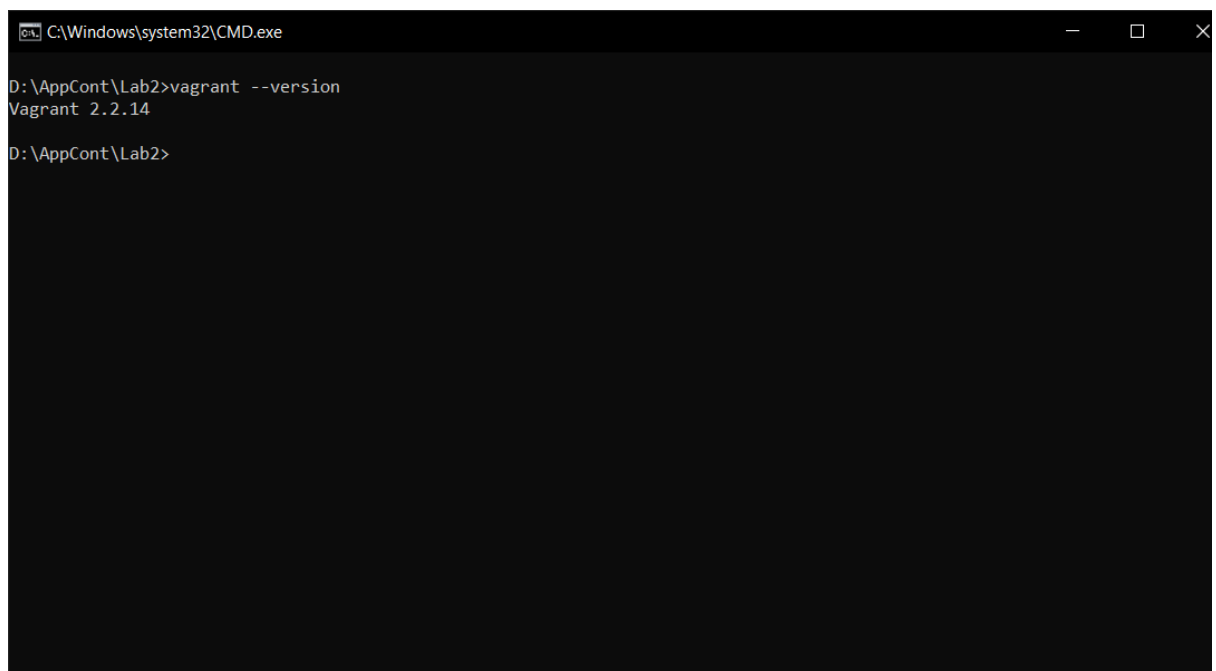
1. Download VirtualBox and Vagrant executables.

The image shows two web browser screenshots. The top screenshot is of the Oracle VM VirtualBox website (https://www.virtualbox.org). It features the VirtualBox logo, a welcome message, and a large blue button that says "Download VirtualBox 6.1". Below this, there are links for "About", "Screenshots", "Downloads", "Documentation", "End-user docs", "Technical docs", "Contribute", and "Community". A "Hot picks" section lists pre-built virtual machines for developers, Hyperbox Open-source Virtual Infrastructure Manager, and phpVirtualBox AJAX web interface. The bottom screenshot is of the Vagrant download page (https://www.vagrantup.com/downloads). It shows the HashiCorp logo and navigation links for "Intro", "Docs", "VMware", and "Community". The main heading is "Download Vagrant". Below this, there are tabs for "MAC OS X", "WINDOWS", "LINUX", "DEBIAN", and "CENTOS". The "WINDOWS" tab is selected, showing a "Download" button. The page also includes a "Current Version: 2.2.14" section, a "Download Older Versions of Vagrant" link, and a "SHA256 checksum (2.2.14)" section with links for "Checksum Verification File" and "HashiCorp GPG Key". A "Changelog" section with links for "Installation Instructions" and "Community Resources" is also present. The page footer includes links for "Intro", "Docs", "Book", "VMware", "Privacy", "Security", "Press Kit", and "Consent Manager".

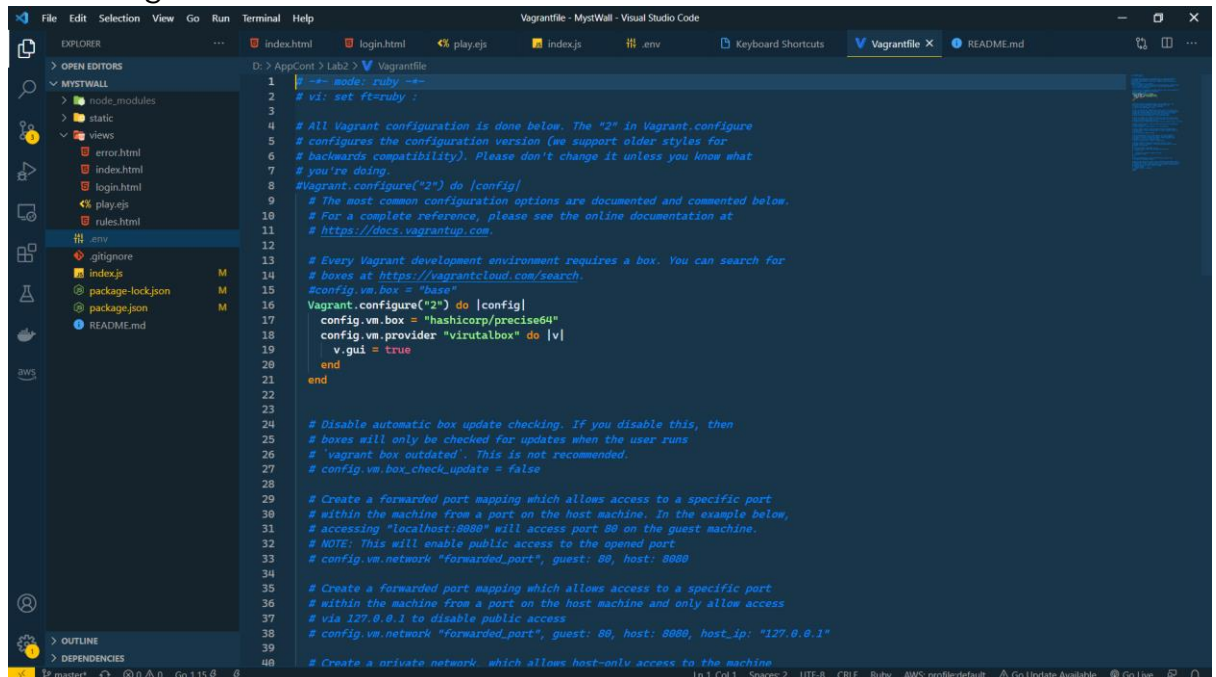
2. Install VirtualBox and Vagrant.



3. Verify Vagrant installation by using - “vagrant -version”.

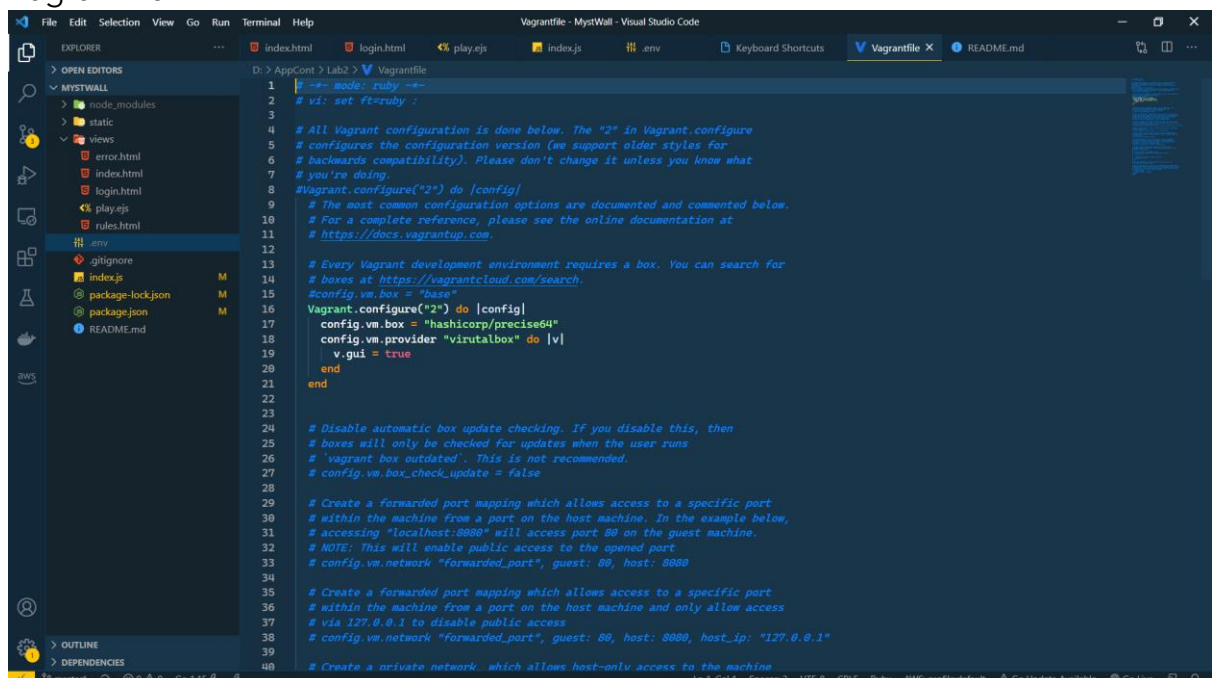


4. Initialize a Vagrant project by creating a Project Directory and running - "vagrant init". This will create a Vagrantfile inside the directory that will look something like this.



```
1 #!/usr/bin/env ruby
2 # vi: set ft=ruby :
3
4 # All Vagrant configuration is done below. The "2" in Vagrant.configure
5 # configures the configuration version (we support older styles for
6 # backwards compatibility). Please don't change it unless you know what
7 # you're doing.
8 #vagrant.configure("2") do |config|
9   # The most common configuration options are documented and commented below.
10   # For a complete reference, please see the online documentation at
11   # https://docs.vagrantup.com
12
13   # Every Vagrant development environment requires a box. You can search for
14   # boxes at https://vagrantcloud.com/search.
15   #config.vm.box = "base"
16   Vagrant.configure("2") do |config|
17     config.vm.box = "hashicorp/precise64"
18     config.vm.provider "virtualbox" do |v|
19       v.gui = true
20     end
21   end
22
23   # Disable automatic box update checking. If you disable this, then
24   # boxes will only be checked for updates when the user runs
25   # 'vagrant box outdated'. This is not recommended.
26   # config.vm.box_check_update = false
27
28   # Create a forwarded port mapping which allows access to a specific port
29   # within the machine from a port on the host machine. In the example below,
30   # accessing "localhost:8888" will access port 80 on the guest machine.
31   # NOTE: This will enable public access to the opened port
32   # config.vm.network "forwarded_port", guest: 80, host: 8888
33
34   # Create a forwarded port mapping which allows access to a specific port
35   # within the machine from a port on the host machine and only allow access
36   # via 127.0.0.1 to disable public access
37   # config.vm.network "forwarded_port", guest: 80, host: 8888, host_ip: "127.0.0.1"
38
39   # Create a private network, which allows host-only access to the machine
```

5. Change variable config.vm.box = "hashicorp/precise64", inside the Vagrantfile.



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6. Use “`vagrant up`” to run the Vagrant instance. You will notice a new Virtual Machine inside VirtualBox.

```
vagrant@precise64: ~  
D:\AppCont\Lab2>vagrant up  
Bringing machine 'default' up with 'virtualbox' provider...  
==> default: Checking if box 'hashicorp/precise64' version '1.1.0' is up to date...  
==> default: Clearing any previously set forwarded ports...  
==> default: Clearing any previously set network interfaces...  
==> default: Preparing network interfaces based on configuration...  
default: Adapter 1: nat  
==> default: Forwarding ports...  
default: 22 (guest) => 2222 (host) (adapter 1)  
==> 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: Machine booted and ready!  
==> default: Checking for guest additions in VM...  
default: The guest additions on this VM do not match the installed version of  
default: VirtualBox! In most cases this is fine, but in rare cases it can  
default: prevent things such as shared folders from working properly. If you see  
default: shared folder errors, please make sure the guest additions within the  
default: virtual machine match the version of VirtualBox you have installed on  
default: your host and reload your VM.  
default:  
default: Guest Additions Version: 4.2.0  
default: VirtualBox Version: 6.1  
==> default: Mounting shared folders...  
default: /vagrant => D:/AppCont/Lab2
```

7. You can perform several operations on the Vagrant.

```
C:\Windows\system32\CMD.exe  
vagrant@precise64:~$ mkdir newdir  
vagrant@precise64:~$ ls  
newdir  postinstall.sh  
vagrant@precise64:~$ exit  
logout  
Connection to 127.0.0.1 closed.  
D:\AppCont\Lab2>
```