

1. Vagrant + Virtualbox Setup on Windows.

We will need three tools listed below.

- Virtualbox
- Vagrant
- Git Bash

Installing virtualbox

→ Go to Virtualbox Download page, Click Windows hosts.



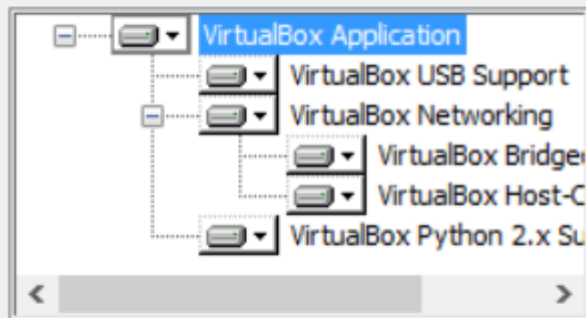
→ Open VirtualBox exe file and follow below screenshots.



Custom Setup

Select the way you want features to be installed.

Click on the icons in the tree below to change the way features will be installed.



Oracle VM VirtualBox 5.1.18 application.

This feature requires 170MB on your hard drive. It has 3 of 3 subfeatures selected. The subfeatures require 716KB on yo...

Location: C:\Program Files\Oracle\VirtualBox\

Browse

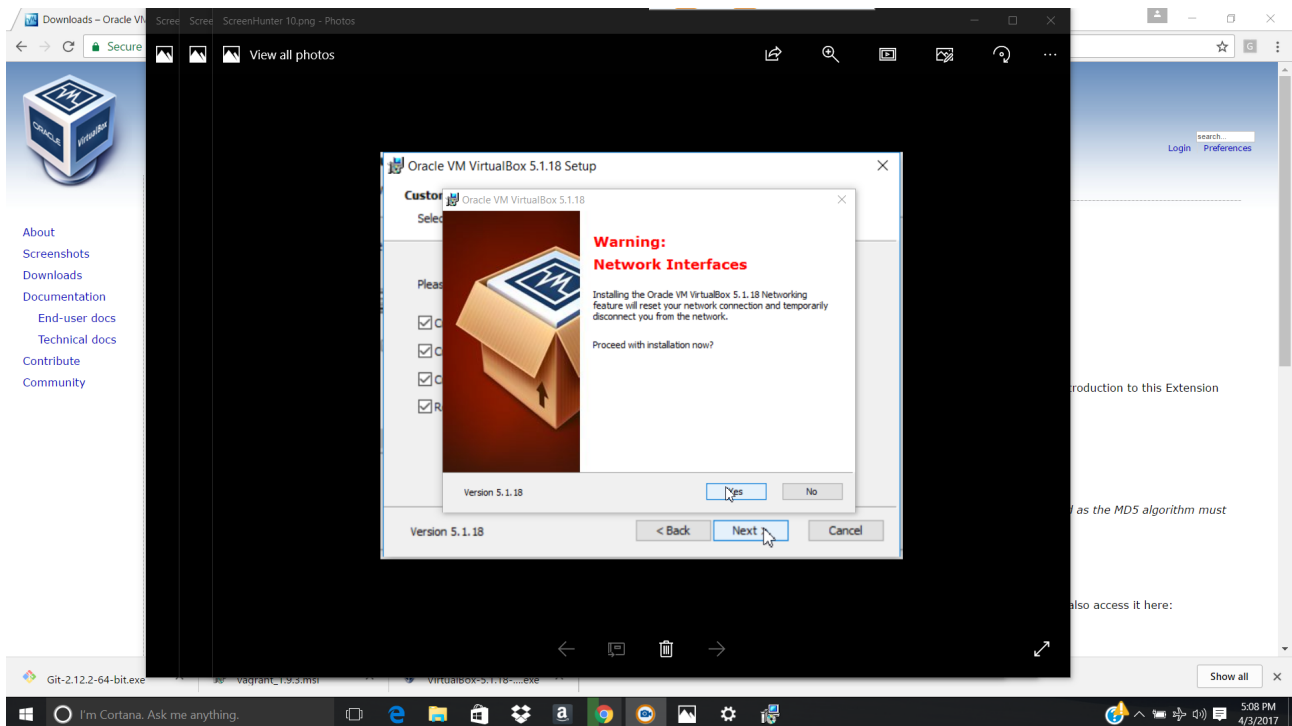
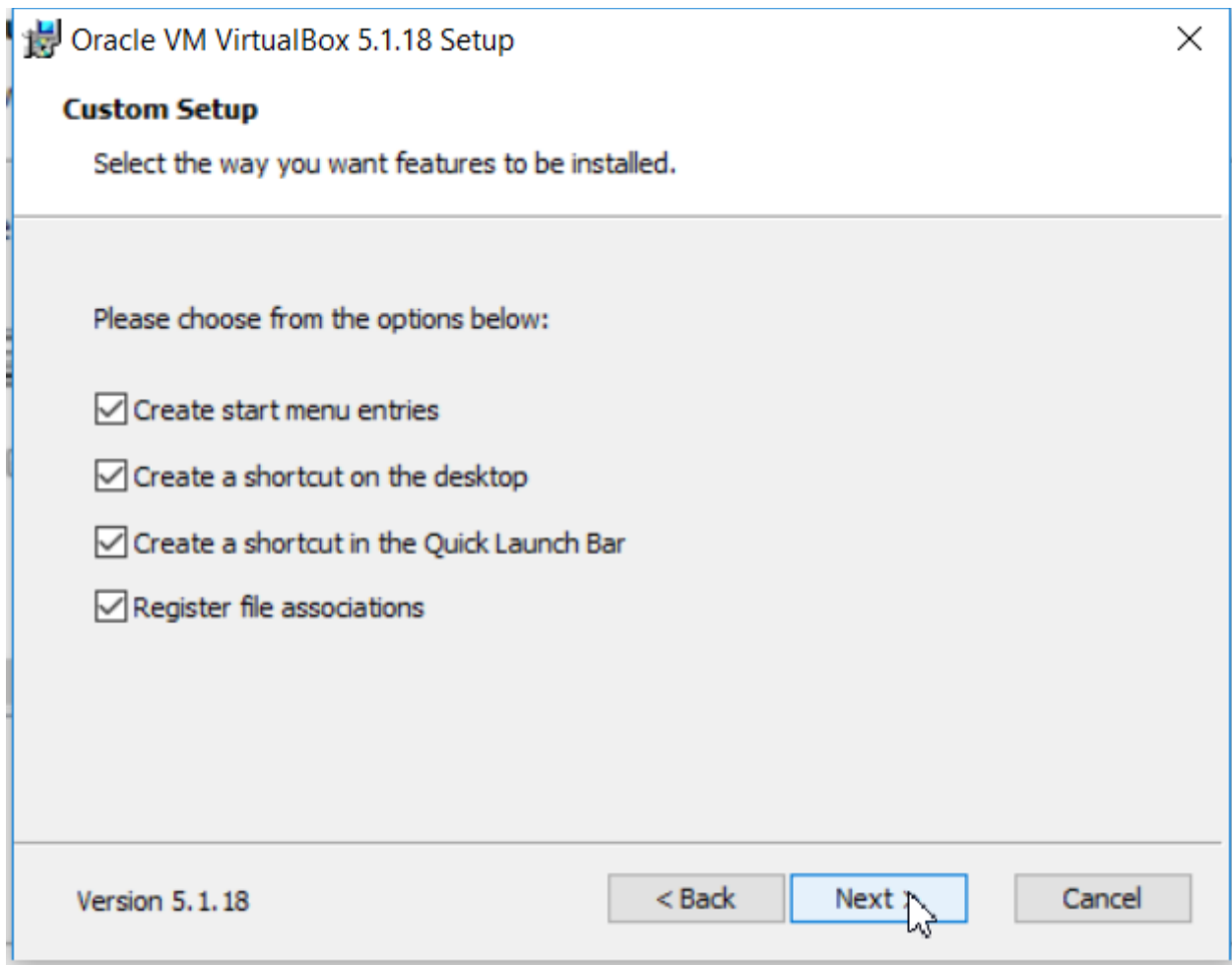
Version 5.1.18

Disk Usage

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Next >

Cancel



Ready to Install

The Setup Wizard is ready to begin the Custom installation.

Click Install to begin the installation. If you want to review or change any of your installation settings, click Back. Click Cancel to exit the wizard.

Version 5.1.18

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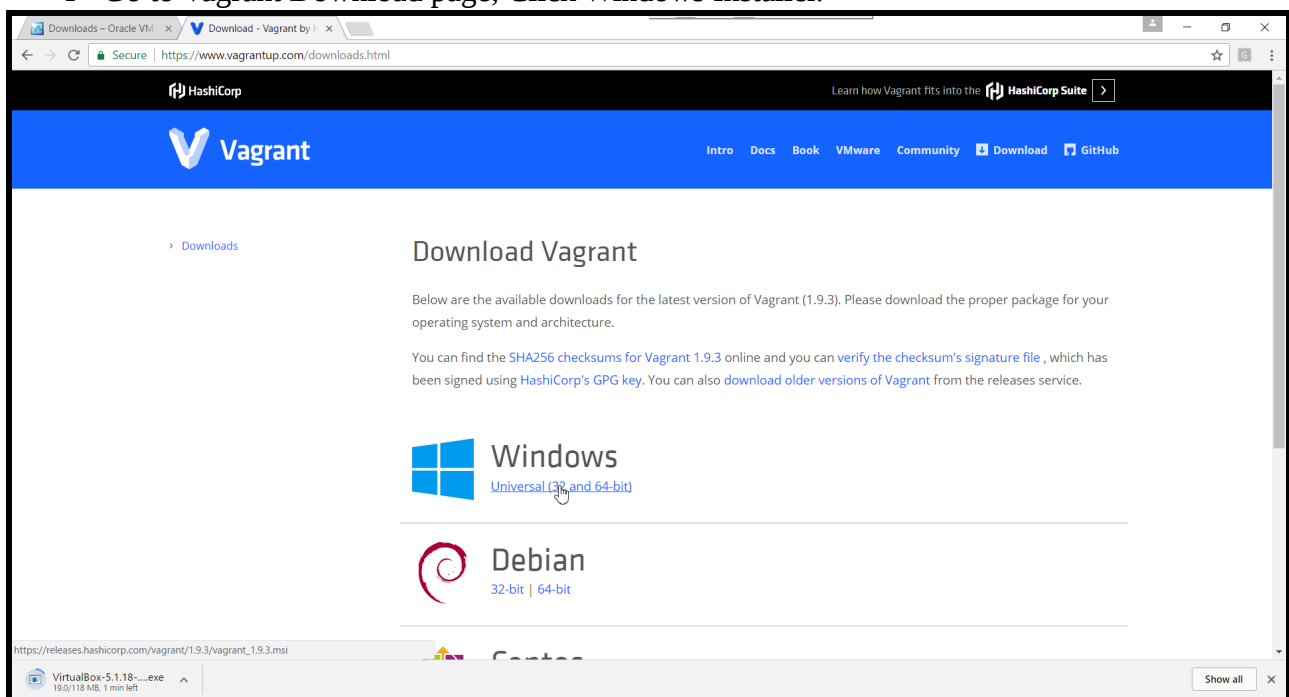
Install

Cancel

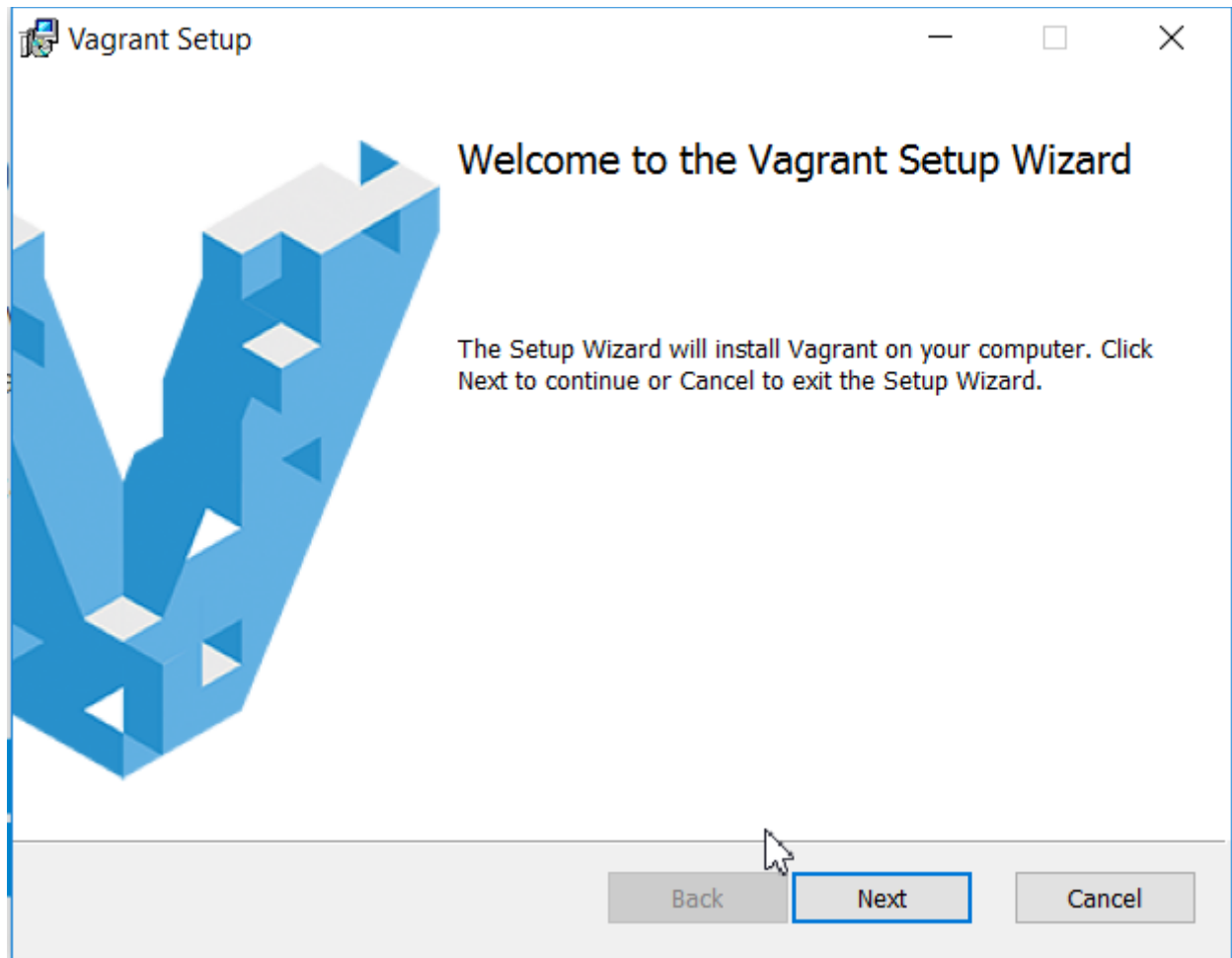


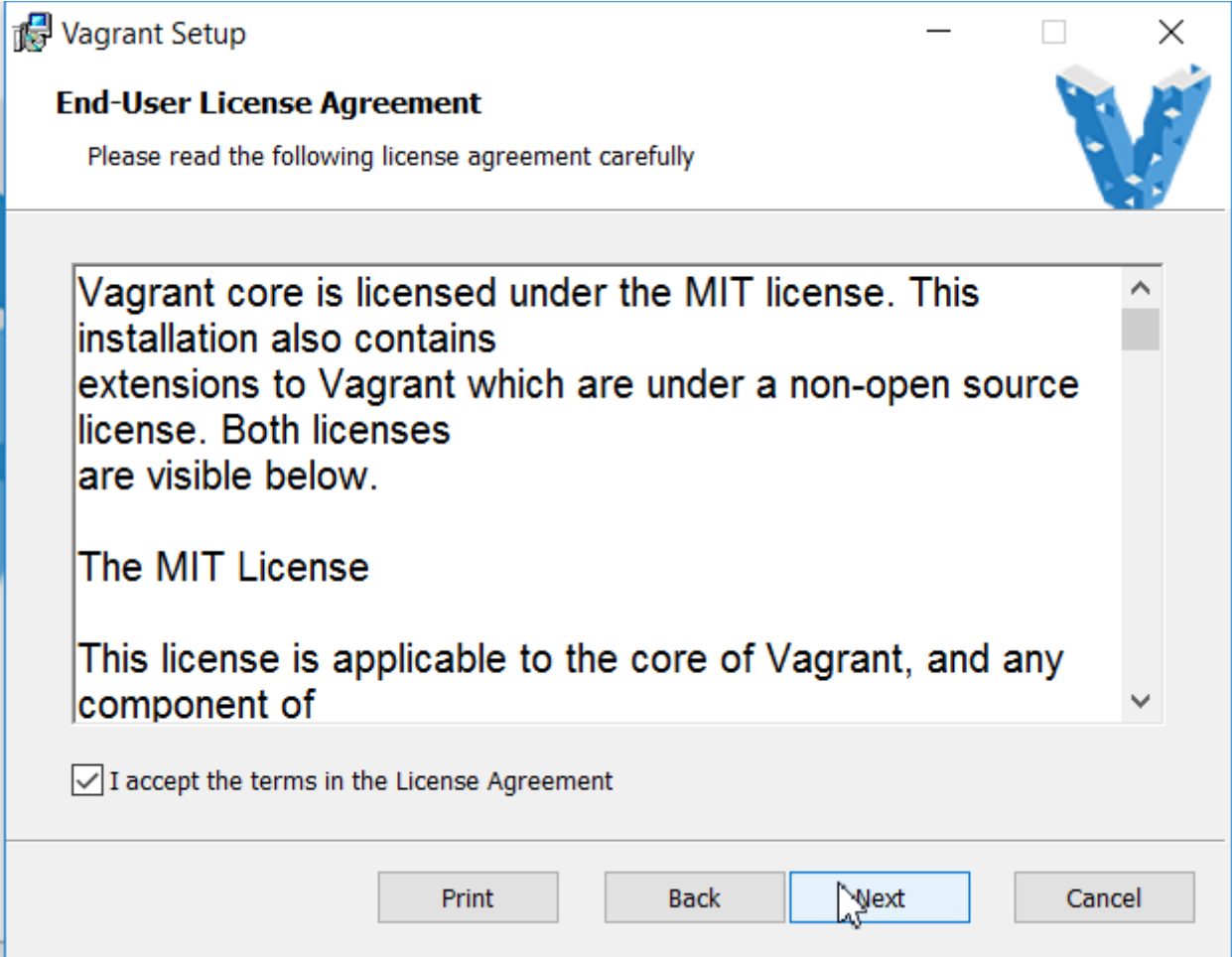
Download Vagrant.

➔ Go to Vagrant Download page, Click Windows Installer.



→ Open vagrant msi file and follow the screenshot.







Vagrant Setup



Destination Folder

Click Next to install to the default folder or click Change to choose another.



Install Vagrant to:

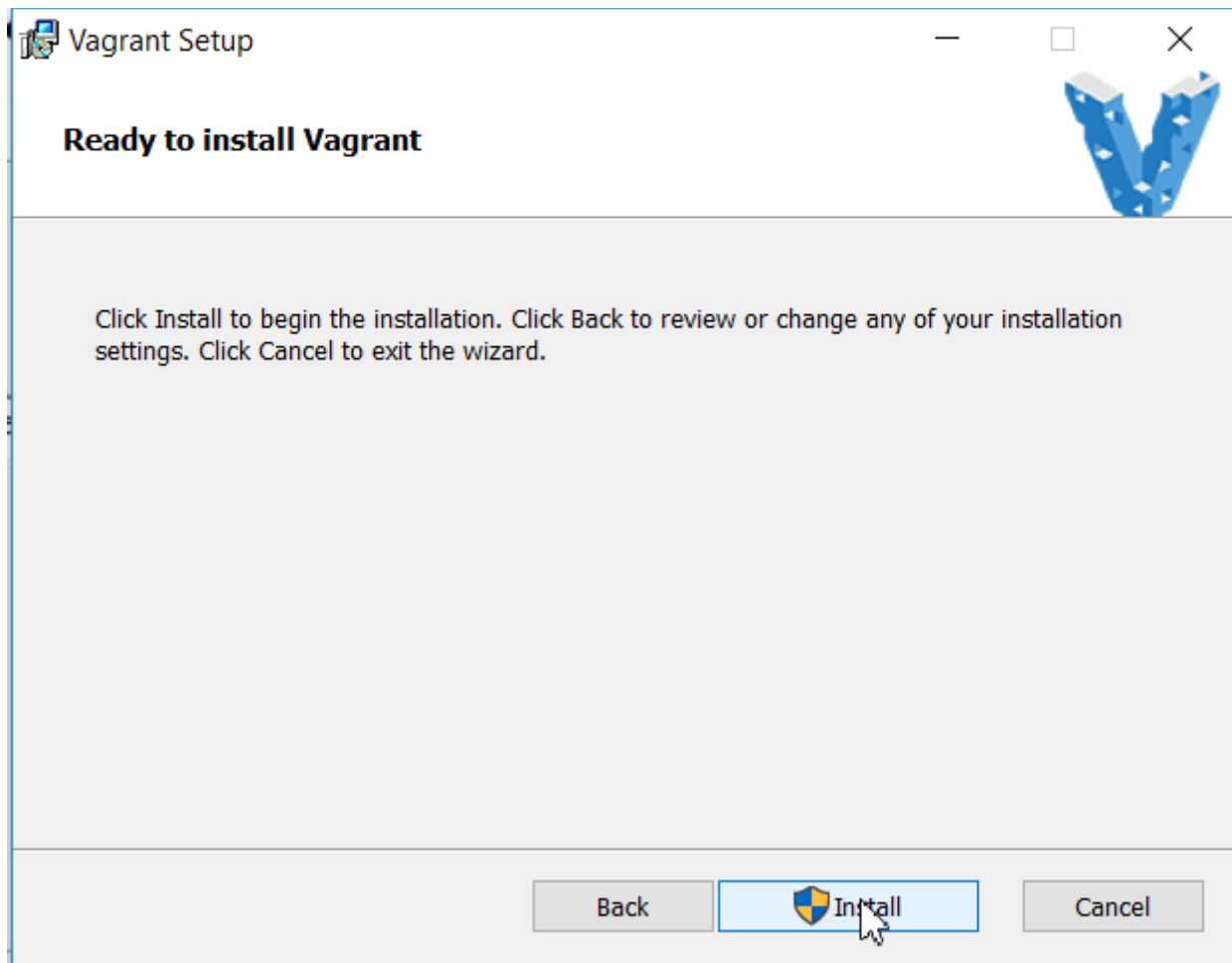
C:\HashiCorp\Vagrant\

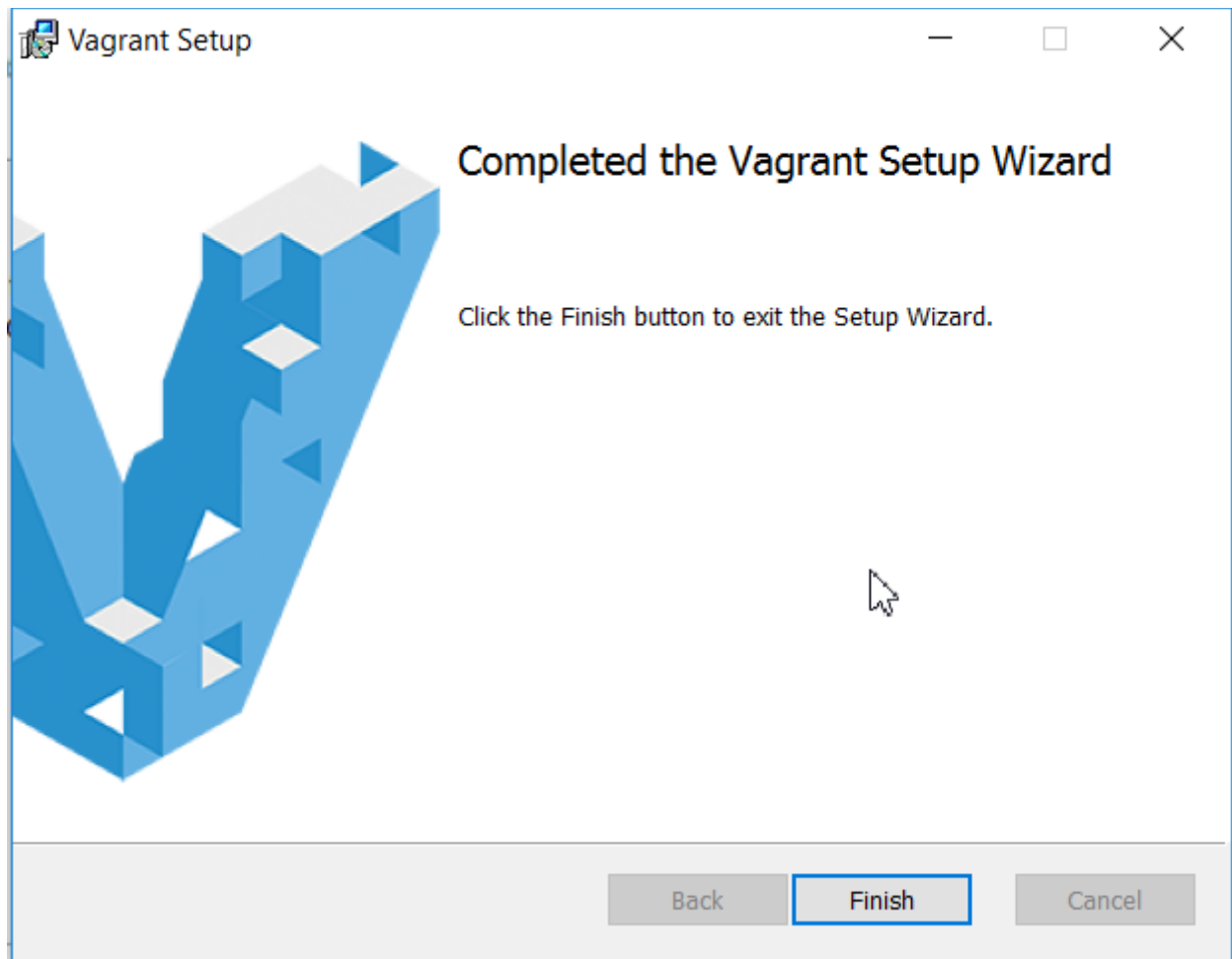
Change...

Back

Next

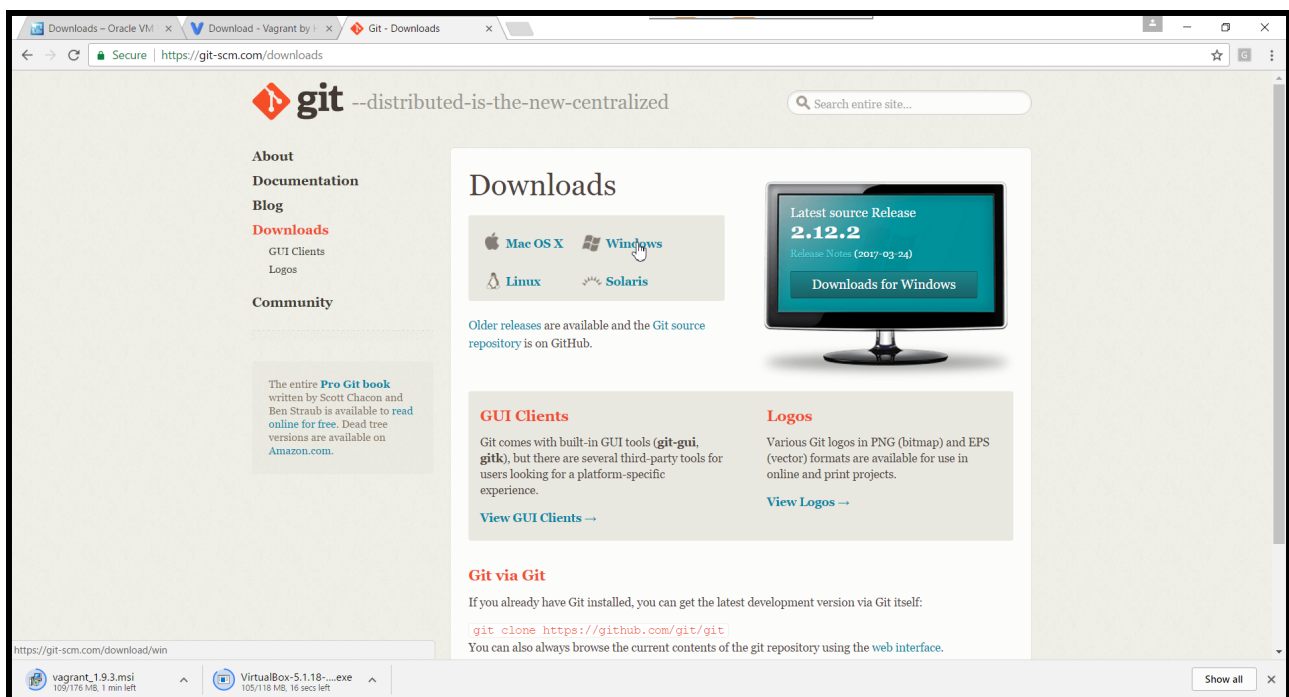
Cancel



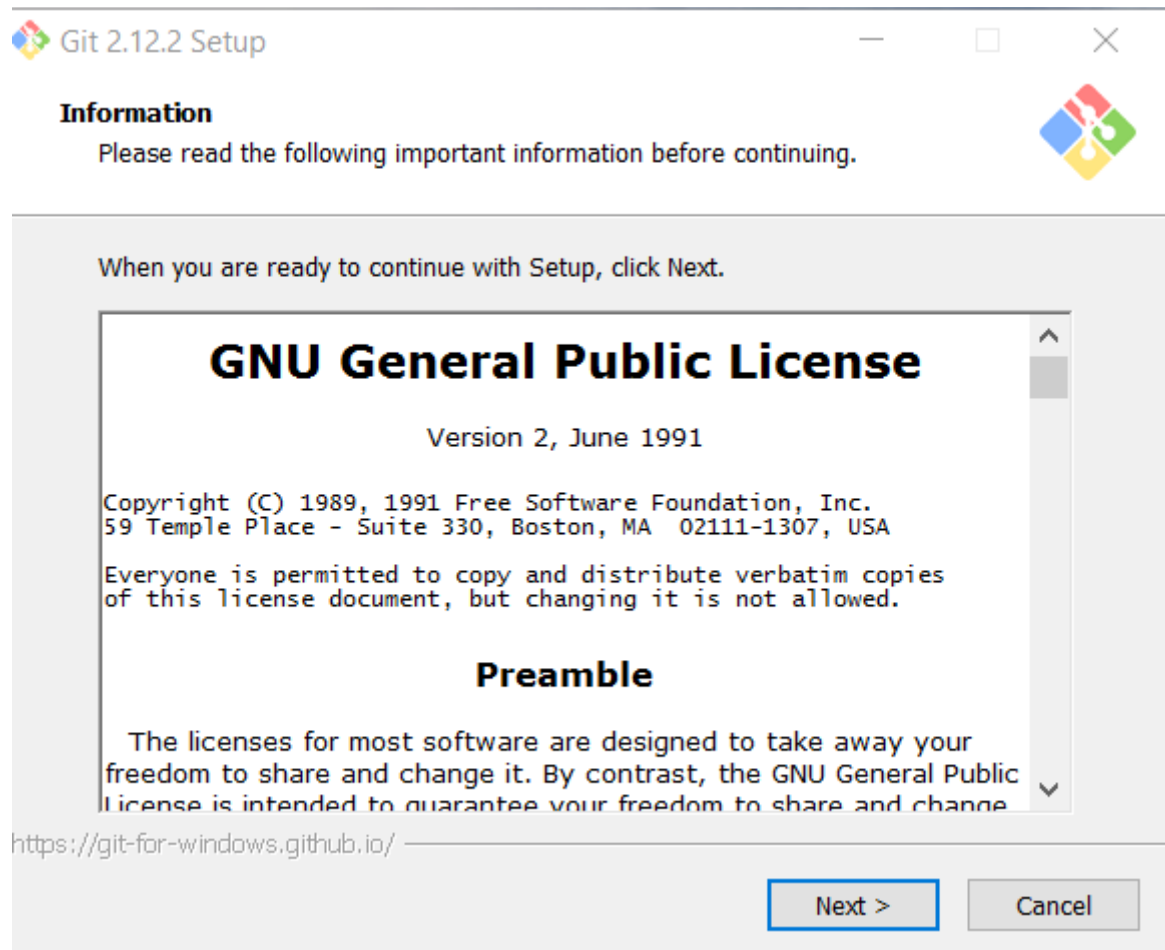


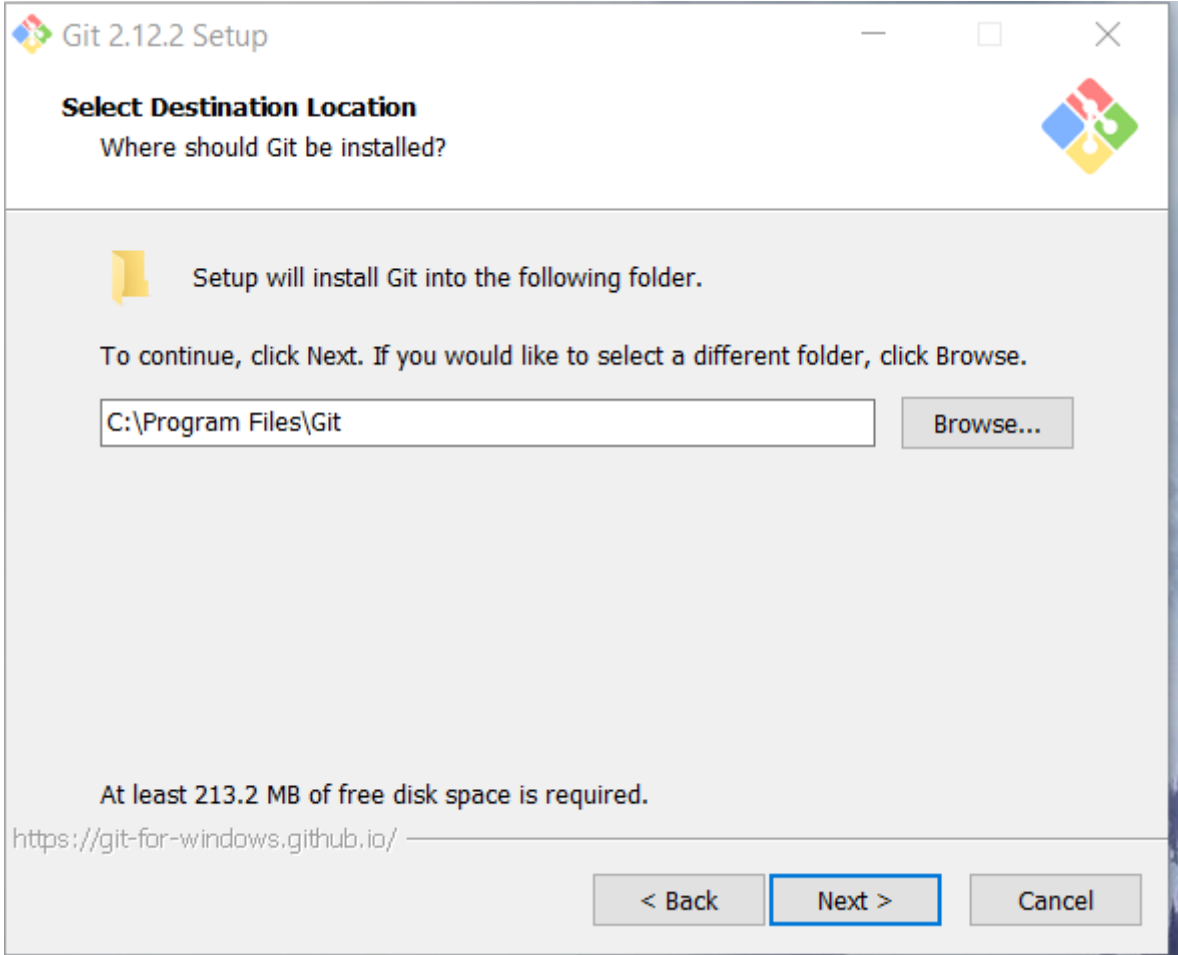
Download git for windows.

➔ Go to git scm download page, Select windows.



➔ Open git installable and follow the screenshots below.





Git 2.12.2 Setup

Select Components

Which components should be installed?

Select the components you want to install; clear the components you do not want to install. Click Next when you are ready to continue.

☒ Additional icons

☒ On the Desktop

☒ Windows Explorer integration

☒ Git Bash Here

☒ Git GUI Here

☒ Associate .git* configuration files with the default text editor

☒ Associate .sh files to be run with Bash

☐ Use a TrueType font in all console windows

Current selection requires at least 213.0 MB of disk space.

<https://git-for-windows.github.io/>

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Next >

Cancel



Git 2.12.2 Setup



Select Start Menu Folder

Where should Setup place the program's shortcuts?



Setup will create the program's shortcuts in the following Start Menu folder.

To continue, click Next. If you would like to select a different folder, click Browse.

Git

Browse...



Don't create a Start Menu folder

<https://git-for-windows.github.io/>

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Cancel



Git 2.12.2 Setup



Adjusting your PATH environment

How would you like to use Git from the command line?



☐ **Use Git from Git Bash only**

This is the safest choice as your PATH will not be modified at all. You will only be able to use the Git command line tools from Git Bash.

☒ **Use Git from the Windows Command Prompt**

This option is considered safe as it only adds some minimal Git wrappers to your PATH to avoid cluttering your environment with optional Unix tools. You will be able to use Git from both Git Bash and the Windows Command Prompt.

☐ **Use Git and optional Unix tools from the Windows Command Prompt**

Both Git and the optional Unix tools will be added to your PATH.

Warning: This will override Windows tools like "find" and "sort". Only use this option if you understand the implications.

<https://git-for-windows.github.io/>

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Git 2.12.2 Setup



Choosing HTTPS transport backend

Which SSL/TLS library would you like Git to use for HTTPS connections?



☒ **Use the OpenSSL library**

Server certificates will be validated using the ca-bundle.crt file.

☐ **Use the native Windows Secure Channel library**

Server certificates will be validated using Windows Certificate Stores.
This option also allows you to use your company's internal Root CA certificates distributed e.g. via Active Directory Domain Services.

<https://git-for-windows.github.io/>

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Configuring the line ending conversions

How should Git treat line endings in text files?



☒ **Checkout Windows-style, commit Unix-style line endings**

Git will convert LF to CRLF when checking out text files. When committing text files, CRLF will be converted to LF. For cross-platform projects, this is the recommended setting on Windows ("core.autocrlf" is set to "true").

☐ **Checkout as-is, commit Unix-style line endings**

Git will not perform any conversion when checking out text files. When committing text files, CRLF will be converted to LF. For cross-platform projects, this is the recommended setting on Unix ("core.autocrlf" is set to "input").

☐ **Checkout as-is, commit as-is**

Git will not perform any conversions when checking out or committing text files. Choosing this option is not recommended for cross-platform projects ("core.autocrlf" is set to "false").

<https://git-for-windows.github.io/>

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Git 2.12.2 Setup



Configuring the terminal emulator to use with Git Bash

Which terminal emulator do you want to use with your Git Bash?



☒ **Use MinTTY (the default terminal of MSYS2)**

Git Bash will use MinTTY as terminal emulator, which sports a resizable window non-rectangular selections and a Unicode font. Windows console programs (such as interactive Python) must be launched via ``winpty`` to work in MinTTY.

☐ **Use Windows' default console window**

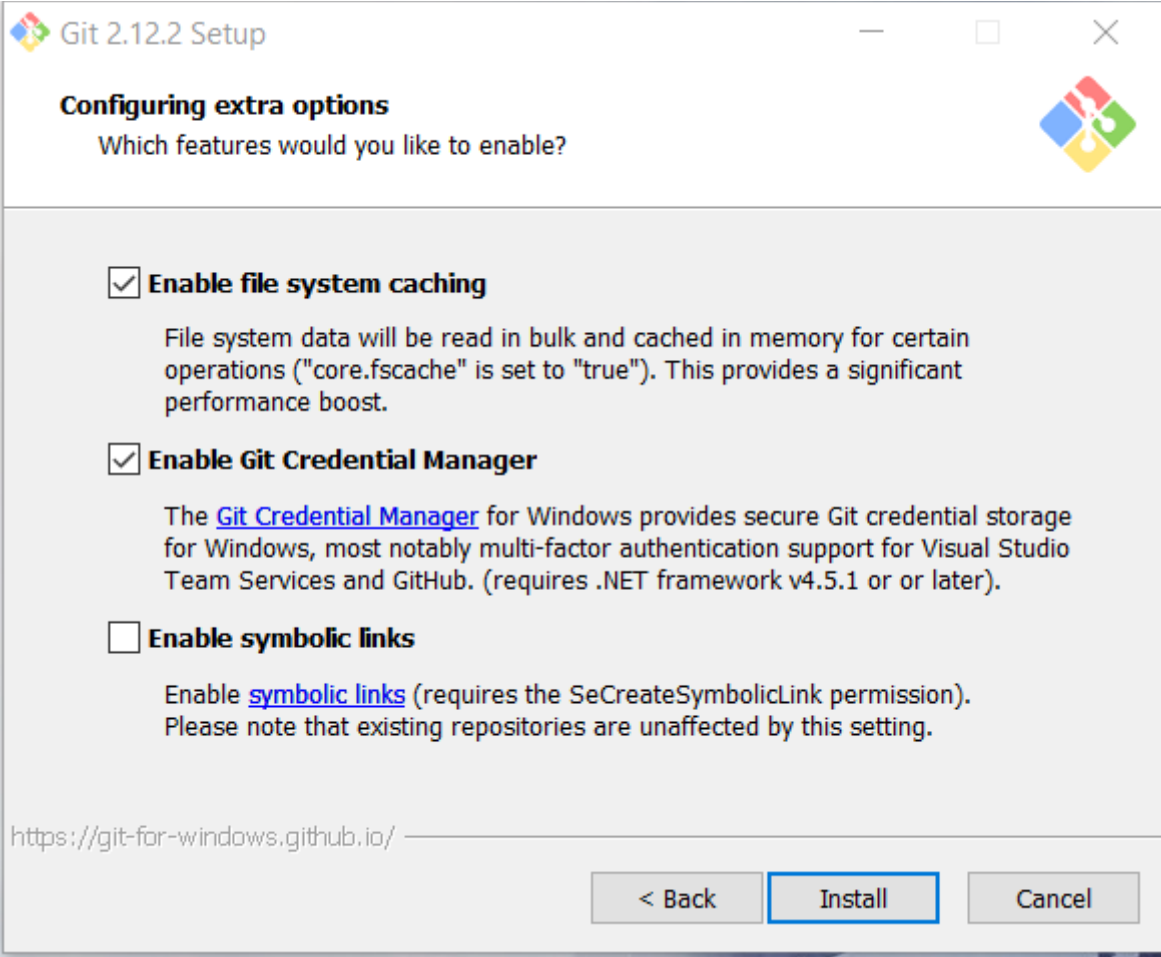
Git will use the default console window of Windows ("cmd.exe"), which works with Win32 console programs such as interactive Python or node.js, but has a very limited default scroll-back, needs to be configured to use a Unicode font in order to display non-ASCII characters correctly, and prior to Windows 10 its window was not freely resizable and it only allowed rectangular text selections.

<https://git-for-windows.github.io/>

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Cancel

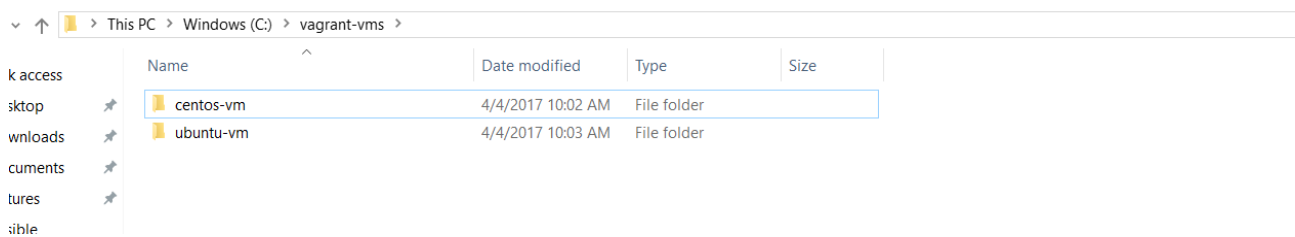


2. Creating Centos & Ubuntu VM's using Vagrant tool.

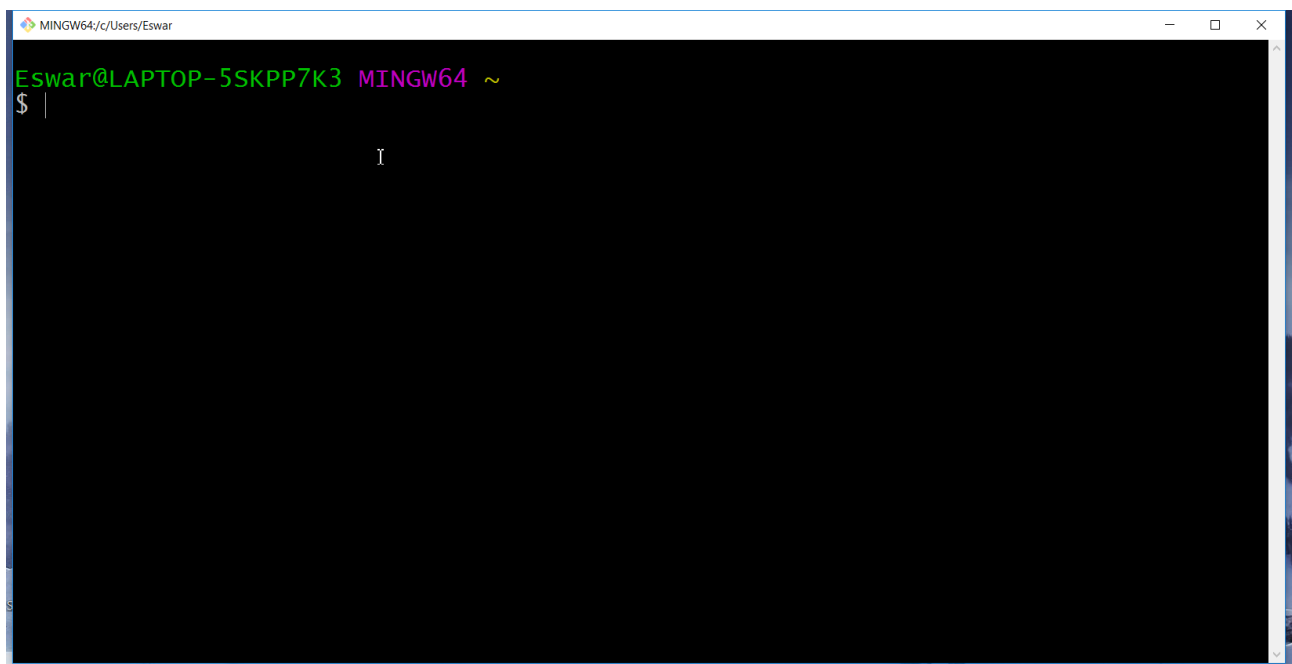
➔ Go to C drive => Create folder named vagrant-vm



➔ Go to C:\vagrant-vm => Create two folders named centos-vm & ubuntu-vm

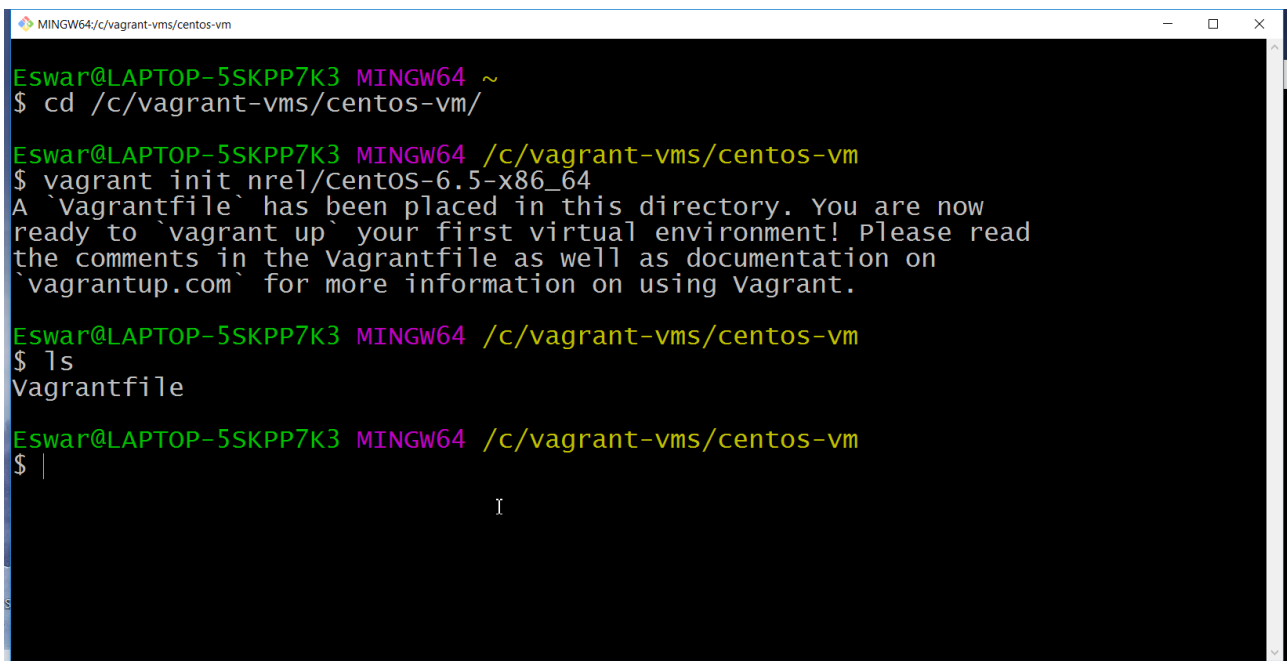


➔ Open git bash.



➔ Follow the screenshot and place a vagrant file in centos-vm folder.

- 1) `cd /c/vagrant-vms/centos-vm`
- 2) `vagrant init Centos-6.5-x86_64`
- 3) `ls`



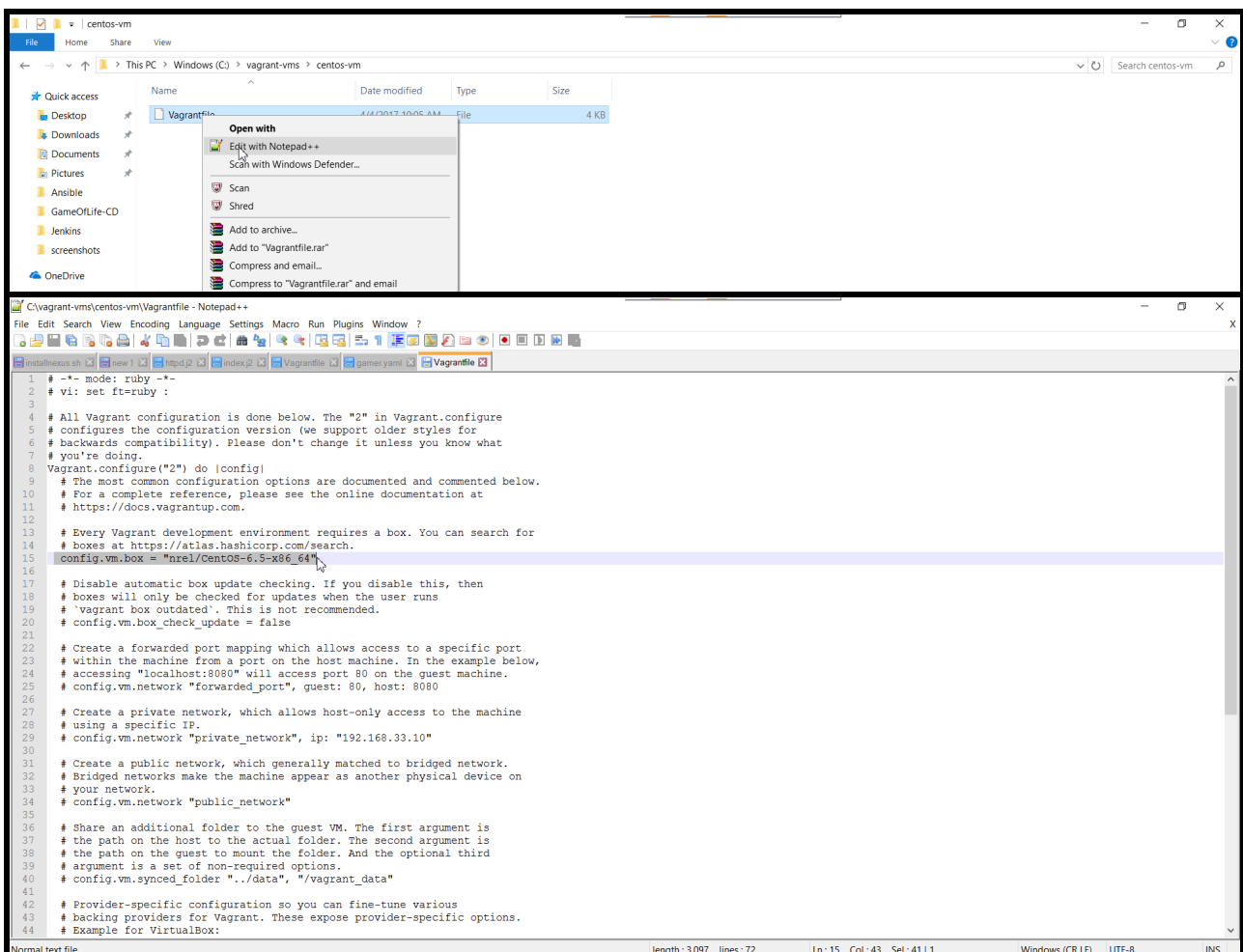
```
MINGW64/c/vagrant-vms/centos-vm
Eswar@LAPTOP-5SKPP7K3 MINGW64 ~
$ cd /c/vagrant-vms/centos-vm/

Eswar@LAPTOP-5SKPP7K3 MINGW64 /c/vagrant-vms/centos-vm
$ vagrant init nrel/CentOS-6.5-x86_64
A `vagrantfile` has been placed in this directory. You are now
ready to `vagrant up` your first virtual environment! Please read
the comments in the Vagrantfile as well as documentation on
`vagrantup.com` for more information on using Vagrant.

Eswar@LAPTOP-5SKPP7K3 MINGW64 /c/vagrant-vms/centos-vm
$ ls
Vagrantfile

Eswar@LAPTOP-5SKPP7K3 MINGW64 /c/vagrant-vms/centos-vm
$ |
```

➔ Go to centos-vm folder and check the file => Open it with Notepad++ editor.



The screenshot shows a Windows File Explorer window with the address bar set to `C:\vagrant-vms\centos-vm`. A context menu is open over the `Vagrantfile` file, with the option `Open with` selected. Below this, the option `Edit with Notepad++` is highlighted. The Notepad++ window is open, showing the contents of the `Vagrantfile`. The file is a Ruby script that configures a Vagrant virtual machine. It starts with a mode declaration and a variable for the provider. It then sets the configuration version to 2. The file includes comments explaining the configuration and provides a detailed example of how to configure the VM, including setting the box name, disabling automatic updates, and configuring network settings.

```
1 # -*- mode: 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://atlas.hashicorp.com/search.
15   config.vm.box = "nrel/CentOS-6.5-x86_64"
16
17   # Disable automatic box update checking. If you disable this, then
18   # boxes will only be checked for updates when the user runs
19   # 'vagrant box outdated'. This is not recommended.
20   # config.vm.box_check_update = false
21
22   # Create a forwarded port mapping which allows access to a specific port
23   # within the machine from a port on the host machine. In the example below,
24   # accessing "localhost:8080" will access port 80 on the guest machine.
25   # config.vm.network "forwarded_port", guest: 80, host: 8080
26
27   # Create a private network, which allows host-only access to the machine
28   # using a specific IP.
29   # config.vm.network "private_network", ip: "192.168.33.10"
30
31   # Create a public network, which generally matched to bridged network.
32   # Bridged networks make the machine appear as another physical device on
33   # your network.
34   # config.vm.network "public_network"
35
36   # Share an additional folder to the guest VM. The first argument is
37   # the path on the host to the actual folder. The second argument is
38   # the path on the guest to mount the folder. And the optional third
39   # argument is a set of non-required options.
40   # config.vm.synced_folder "../data", "/vagrant_data"
41
42   # Provider-specific configuration so you can fine-tune various
43   # backing providers for Vagrant. These expose provider-specific options.
44   # Example for VirtualBox:
```

➔ Close notepad++ after verification & Open git bash again.

➔ Go to centos-vm folder from git bash and run “vagrant up” command.

```
MINGW64/c/vagrant-vms/centos-vm
Eswar@LAPTOP-5SKPP7K3 MINGW64 ~
$ cd /c/vagrant-vms/centos-vm/

Eswar@LAPTOP-5SKPP7K3 MINGW64 /c/vagrant-vms/centos-vm
$ vagrant init nrel/CentOS-6.5-x86_64
A `Vagrantfile` has been placed in this directory. You are now
ready to `vagrant up` your first virtual environment! Please read
the comments in the Vagrantfile as well as documentation on
`vagrantup.com` for more information on using Vagrant.

Eswar@LAPTOP-5SKPP7K3 MINGW64 /c/vagrant-vms/centos-vm
$ ls
Vagrantfile

Eswar@LAPTOP-5SKPP7K3 MINGW64 /c/vagrant-vms/centos-vm
$ vagrant up
Bringing machine 'default' up with 'virtualbox' provider...
==> default: Importing base box 'nrel/CentOS-6.5-x86_64'...
Progress: 90%
```

```
MINGW64/c/vagrant-vms/centos-vm
`vagrantup.com` for more information on using Vagrant.

Eswar@LAPTOP-5SKPP7K3 MINGW64 /c/vagrant-vms/centos-vm
$ ls
Vagrantfile

Eswar@LAPTOP-5SKPP7K3 MINGW64 /c/vagrant-vms/centos-vm
$ vagrant up
Bringing machine 'default' up with 'virtualbox' provider...
==> default: Importing base box 'nrel/CentOS-6.5-x86_64'...
==> default: Matching MAC address for NAT networking...
==> default: Checking if box 'nrel/CentOS-6.5-x86_64' is up to date...
==> default: Setting the name of the VM: centos-vm_default_1491280595332_65193
==> 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
```

➔ Once the vm is up login to the vm by giving “`vagrant ssh`” command.

```
vagrant@localhost:~$
Virtualbox on your host claims: 4.3.10
VBoxService inside the vm claims: 5.1.18
Going on, assuming VBoxService is correct...
Restarting VM to apply changes...
==> default: Attempting graceful shutdown of VM...
==> 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: Warning: Remote connection disconnect. Retrying...
==> default: Machine booted and ready!
==> default: Checking for guest additions in VM...
==> default: Mounting shared folders...
default: /vagrant => C:/vagrant-vms/centos-vm

Eswar@LAPTOP-5SKPP7K3 MINGW64 /c/vagrant-vms/centos-vm
$ pwd
/c/vagrant-vms/centos-vm

Eswar@LAPTOP-5SKPP7K3 MINGW64 /c/vagrant-vms/centos-vm
$ vagrant ssh
welcome to your Vagrant-built virtual machine.
[vagrant@localhost ~]$
```

➔ Follow the same procedure in ubuntu-vm folder, Open another git bash prompt.

- 1) `cd /c/vagrant-vms/ubuntu-vm`
- 2) `vagrant init ubuntu/trusty64`
- 3) `vagrant up`

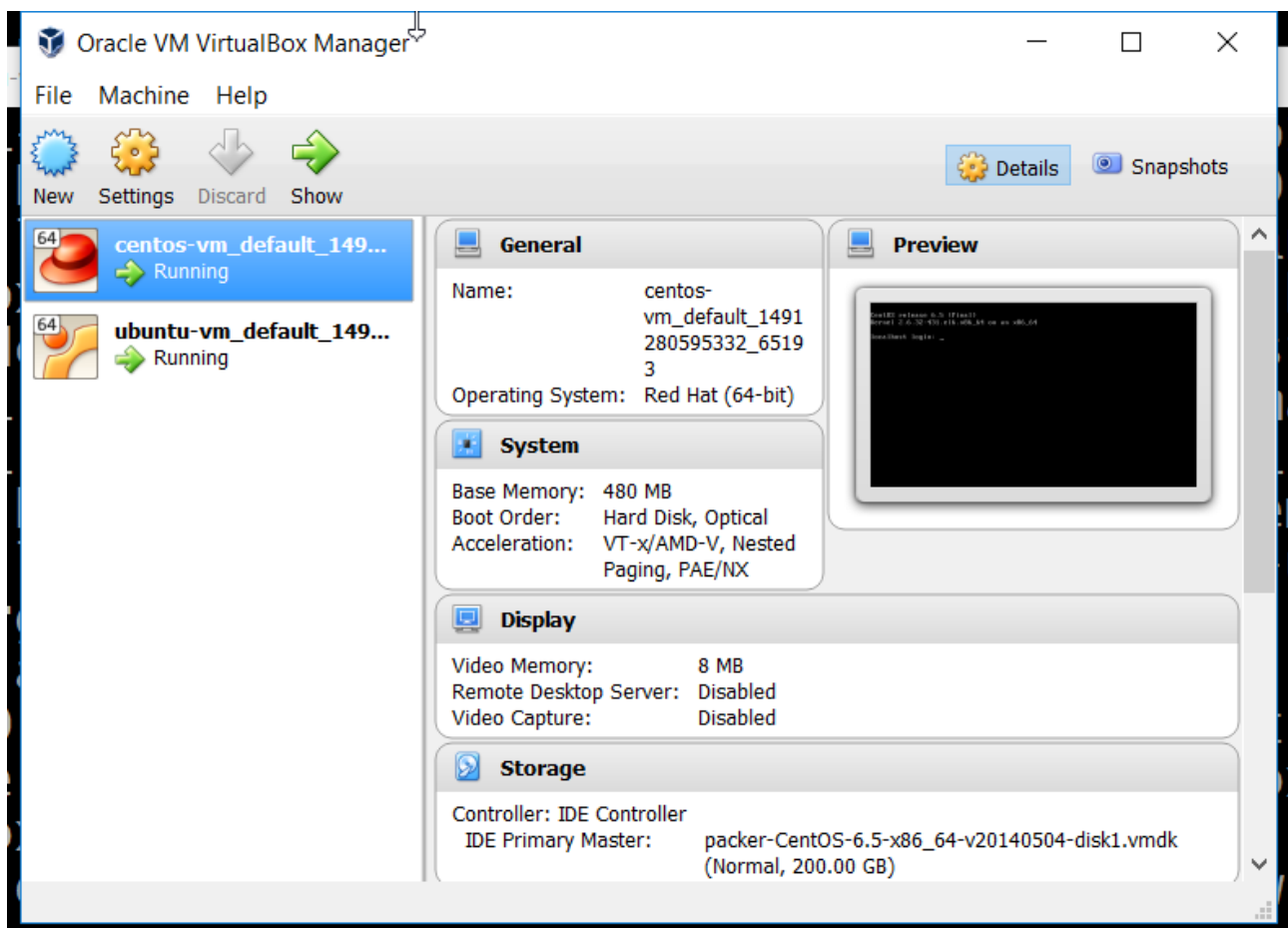
```
MINGW64/c/vagrant-vms/ubuntu-vm
Eswar@LAPTOP-5SKPP7K3 MINGW64 ~
$ cd /c/vagrant-vms/ubuntu-vm/

Eswar@LAPTOP-5SKPP7K3 MINGW64 /c/vagrant-vms/ubuntu-vm
$ vagrant init ubuntu/trusty64
A `Vagrantfile` has been placed in this directory. You are now
ready to `vagrant up` your first virtual environment! Please read
the comments in the Vagrantfile as well as documentation on
`vagrantup.com` for more information on using Vagrant.

Eswar@LAPTOP-5SKPP7K3 MINGW64 /c/vagrant-vms/ubuntu-vm
$ vagrant up
Bringing machine 'default' up with 'virtualbox' provider...
==> default: Importing base box 'ubuntu/trusty64'...
```

```
vagrant@vagrant-ubuntu-trusty-64: ~  
* Documentation:  https://help.ubuntu.com/  
  
System information as of Tue Apr  4 04:38:41 UTC 2017  
  
System load:  0.5                Processes:            79  
Usage of /:   3.6% of 39.34GB    Users logged in:     0  
Memory usage: 25%              IP address for eth0: 10.0.2.15  
Swap usage:   0%  
  
Graph this data and manage this system at:  
https://landscape.canonical.com/  
  
Get cloud support with Ubuntu Advantage Cloud Guest:  
http://www.ubuntu.com/business/services/cloud  
  
0 packages can be updated.  
0 updates are security updates.  
  
New release '16.04.2 LTS' available.  
Run 'do-release-upgrade' to upgrade to it.  
  
vagrant@vagrant-ubuntu-trusty-64:~$
```

→ Open virtualbox software and you will see two vm's running there.



➔ Once you are done exploring the vm, you can shut it down.

➔ Hit “exit” command to come out of the vm shell => hit “vagrant halt” to shut it down.

```
MINGW64/c/vagrant-vms/ubuntu-vm
Usage of /: 3.6% of 39.34GB  Users logged in: 0
Memory usage: 25%          IP address for eth0: 10.0.2.15
Swap usage: 0%

Graph this data and manage this system at:
  https://landscape.canonical.com/

Get cloud support with Ubuntu Advantage Cloud Guest:
  http://www.ubuntu.com/business/services/cloud

0 packages can be updated.
0 updates are security updates.

New release '16.04.2 LTS' available.
Run 'do-release-upgrade' to upgrade to it.

vagrant@vagrant-ubuntu-trusty-64:~$ exit
logout
Connection to 127.0.0.1 closed.

Eswar@LAPTOP-5SKPP7K3 MINGW64 /c/vagrant-vms/ubuntu-vm
$ vagrant halt
```

```
MINGW64/c/vagrant-vms/centos-vm
default: SSH address: 127.0.0.1:2222
default: SSH username: vagrant
default: SSH auth method: private key
default: Warning: Remote connection disconnect. Retrying...
==> default: Machine booted and ready!
==> default: Checking for guest additions in VM...
==> default: Mounting shared folders...
default: /vagrant => C:/vagrant-vms/centos-vm

Eswar@LAPTOP-5SKPP7K3 MINGW64 /c/vagrant-vms/centos-vm
$ pwd
/c/vagrant-vms/centos-vm

Eswar@LAPTOP-5SKPP7K3 MINGW64 /c/vagrant-vms/centos-vm
$ vagrant ssh
Welcome to your Vagrant-built virtual machine.
[vagrant@localhost ~]$ exit
logout
Connection to 127.0.0.1 closed.

Eswar@LAPTOP-5SKPP7K3 MINGW64 /c/vagrant-vms/centos-vm
$ vagrant halt
==> default: Attempting graceful shutdown of VM...
```

→ Check in the virtualbox, both the vm's will be powered off.

