Ex 4 VIRTUALIZATION
Date: 01.09.2020

Aim: To study and implement the installation of FreeDOS and overlay the emulator.

1. Install QEMU emulator and run FreeDOS in it.
2. Install any open-source virtualization application and run FreeDOS in it.

Description:

FreeDOS:

DOS is a "disk operating system" created when personal computers ran from floppy disks. Even when computers supported hard drives, it was common in the 1980s and 1990s to switch frequently between the different drives. For example, you might make a backup copy of your most important files to a floppy disk.

FreeDOS is an old operating system, but it is new to many people. In 1994, several developers and I came together to create FreeDOS—a complete, free, DOS-compatible operating system you can use to play classic DOS games, run legacy business software, or develop embedded systems. Any program that works on MS-DOS should also run on FreeDOS.

QEMU:

QEMU is a generic and open source machine & userspace emulator and virtualizer. In computing, an emulator is a hardware or software that enables one computer system (called the host) to behave like another computer system (called the guest).

In 1963, when microcode was first used to speed up this simulation process, IBM engineers coined the term “emulator” to describe the concept. In the 2000s, it has become common to use the word “emulate” in the context of software. However, before 1980, “emulation” referred only to emulation with a hardware or microcode assist, while “simulation” referred to pure software emulation.

Purists continue to insist on this distinction, but currently, the term “emulation” often means the complete imitation of a machine executing binary code while “simulation” often refers to computer simulation, where a computer program is used to simulate an abstract model.

VirtualBox:

VirtualBox is a powerful x86 and AMD64/Intel64 virtualization product for enterprise as well as home use. Not only is VirtualBox an extremely feature-rich, high-performance product for enterprise customers, it is also the only professional solution that is freely

available as Open Source Software under the terms of the GNU General Public License (GPL) version 2.

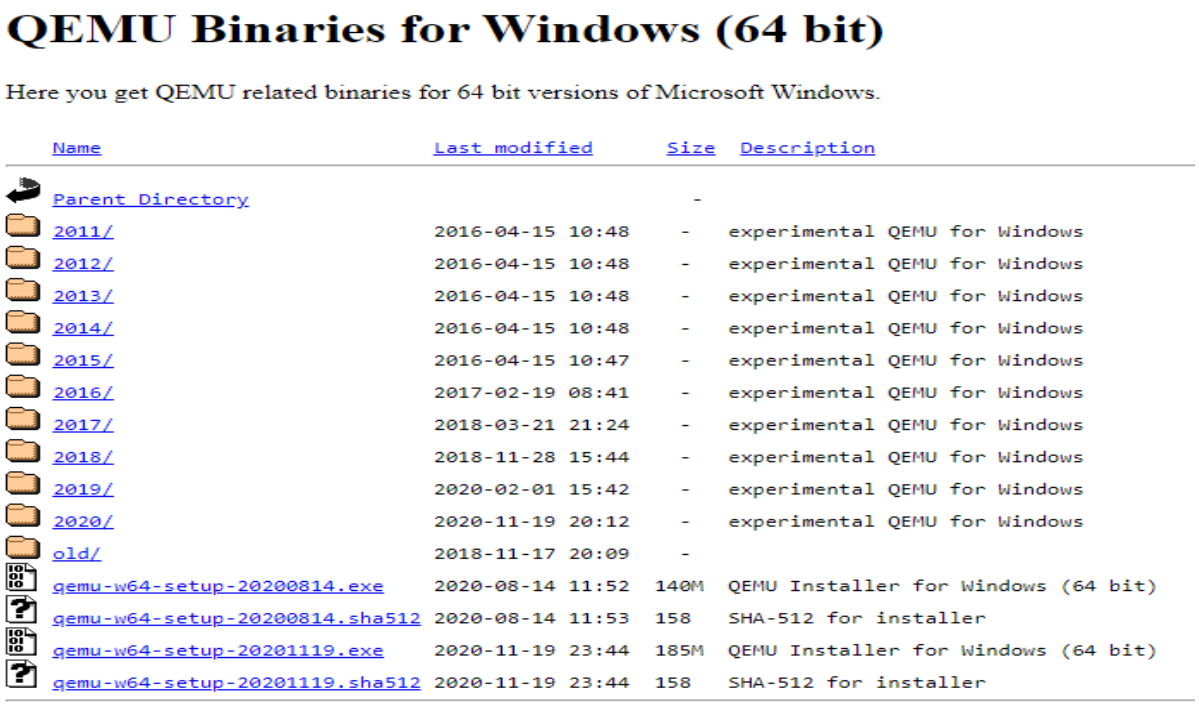
Presently, VirtualBox runs on Windows, Linux, Macintosh, and Solaris hosts and supports a large number of guest operating systems including but not limited to Windows (NT 4.0, 2000, XP, Server 2003, Vista, Windows 7, Windows 8, Windows 10), DOS/Windows 3.x, Linux (2.4, 2.6, 3.x and 4.x), Solaris and OpenSolaris, OS/2, and OpenBSD.

VirtualBox is being actively developed with frequent releases and has an ever-growing list of features, supported guest operating systems, and platforms it runs on. VirtualBox is a community effort backed by a dedicated company: everyone is encouraged to contribute while Oracle ensures the product always meets professional quality criteria.

Exercise:

1. Install QEMU emulator and run FreeDOS in it.

Download QEMU file from its official site

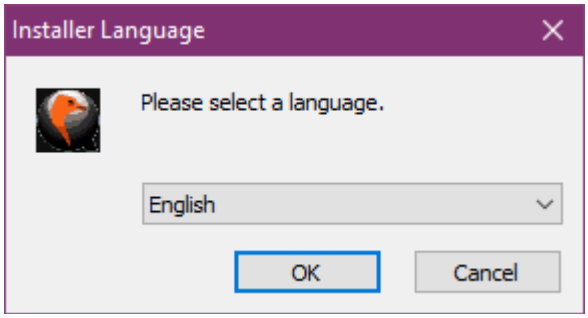


QEMU Binaries for Windows (64 bit)

Here you get QEMU related binaries for 64 bit versions of Microsoft Windows.

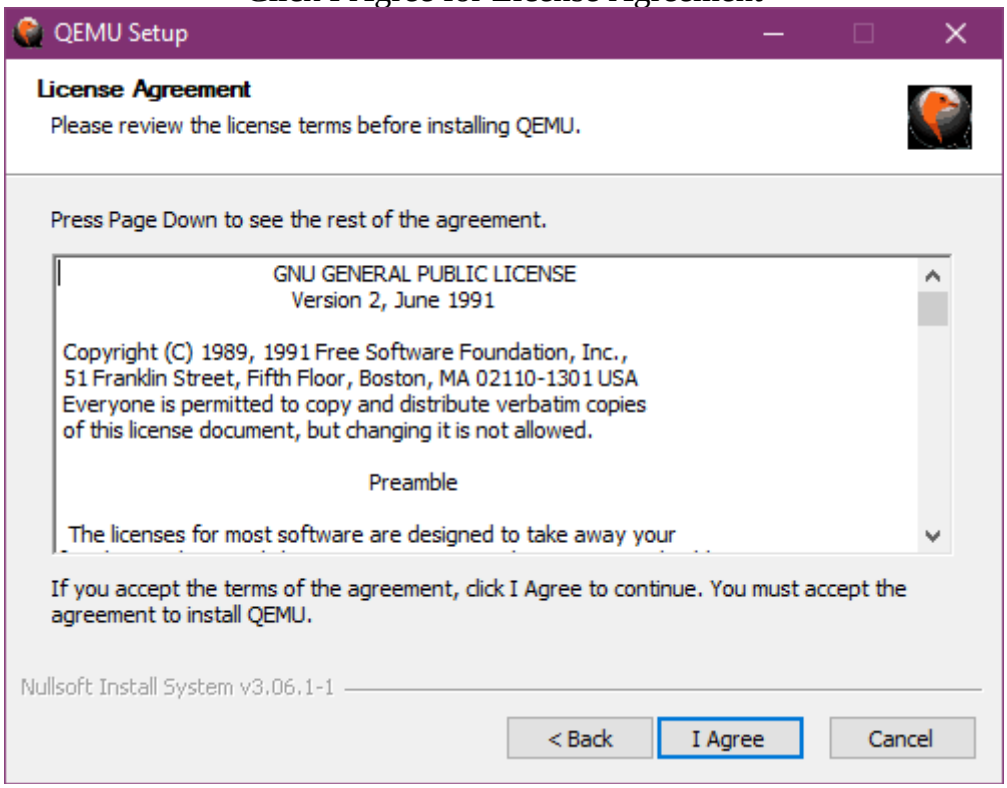
Name	Last modified	Size	Description
Parent Directory		-	
2011/	2016-04-15 10:48	-	experimental QEMU for Windows
2012/	2016-04-15 10:48	-	experimental QEMU for Windows
2013/	2016-04-15 10:48	-	experimental QEMU for Windows
2014/	2016-04-15 10:48	-	experimental QEMU for Windows
2015/	2016-04-15 10:47	-	experimental QEMU for Windows
2016/	2017-02-19 08:41	-	experimental QEMU for Windows
2017/	2018-03-21 21:24	-	experimental QEMU for Windows
2018/	2018-11-28 15:44	-	experimental QEMU for Windows
2019/	2020-02-01 15:42	-	experimental QEMU for Windows
2020/	2020-11-19 20:12	-	experimental QEMU for Windows
old/	2018-11-17 20:09	-	
qemu-w64-setup-20200814.exe	2020-08-14 11:52	140M	QEMU Installer for Windows (64 bit)
qemu-w64-setup-20200814.sha512	2020-08-14 11:53	158	SHA-512 for installer
qemu-w64-setup-20201119.exe	2020-11-19 23:44	185M	QEMU Installer for Windows (64 bit)
qemu-w64-setup-20201119.sha512	2020-11-19 23:44	158	SHA-512 for installer

Select the language

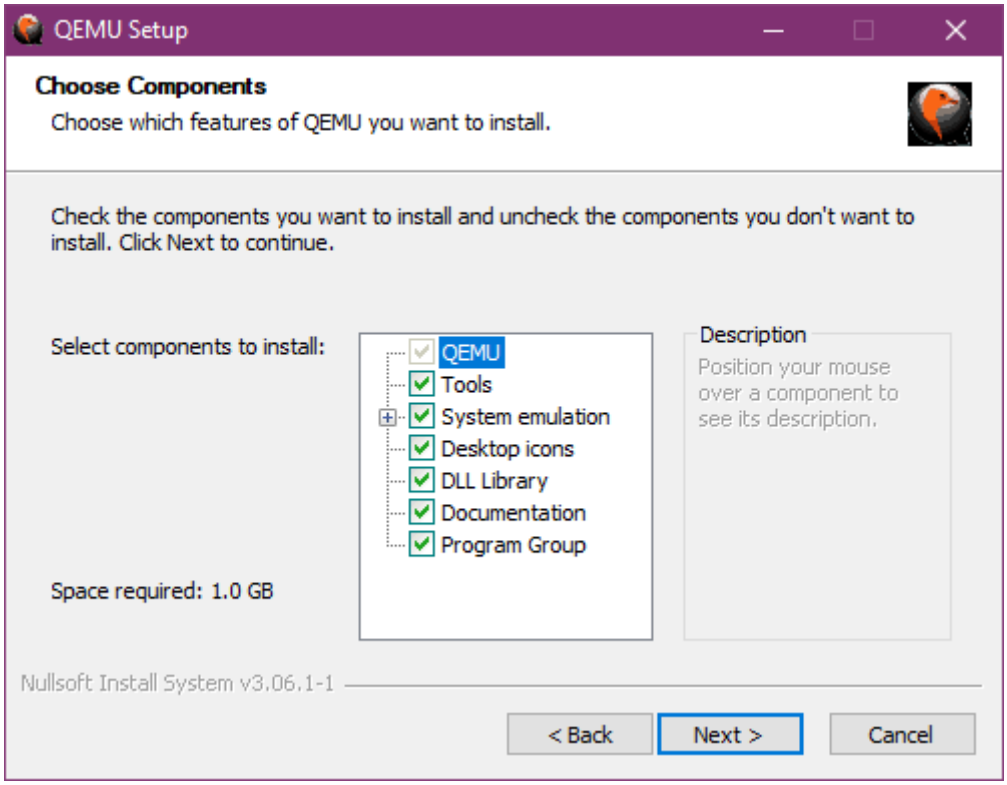


Click Next to Continue

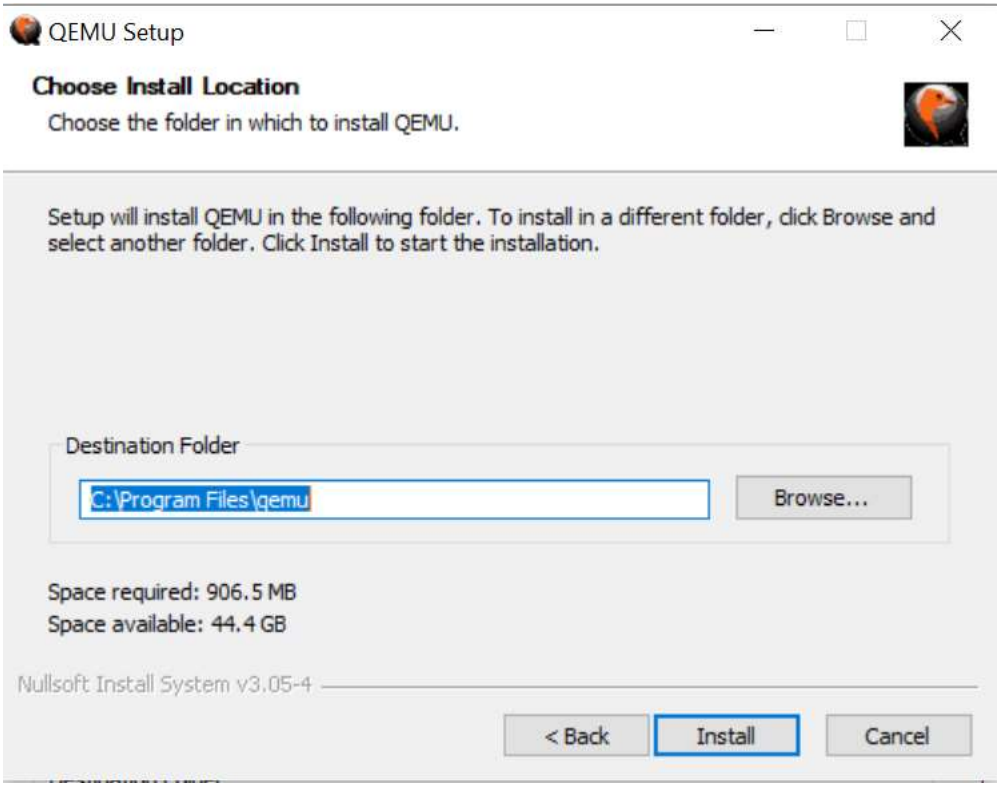
Click I Agree for License Agreement



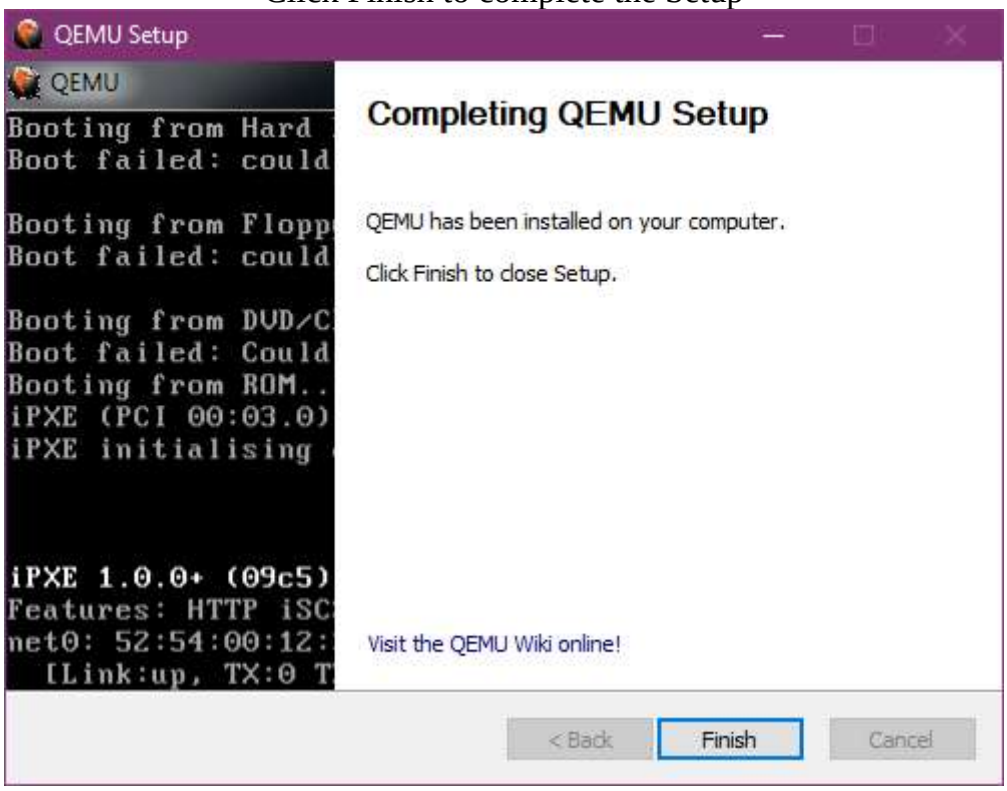
Click Next to Continue



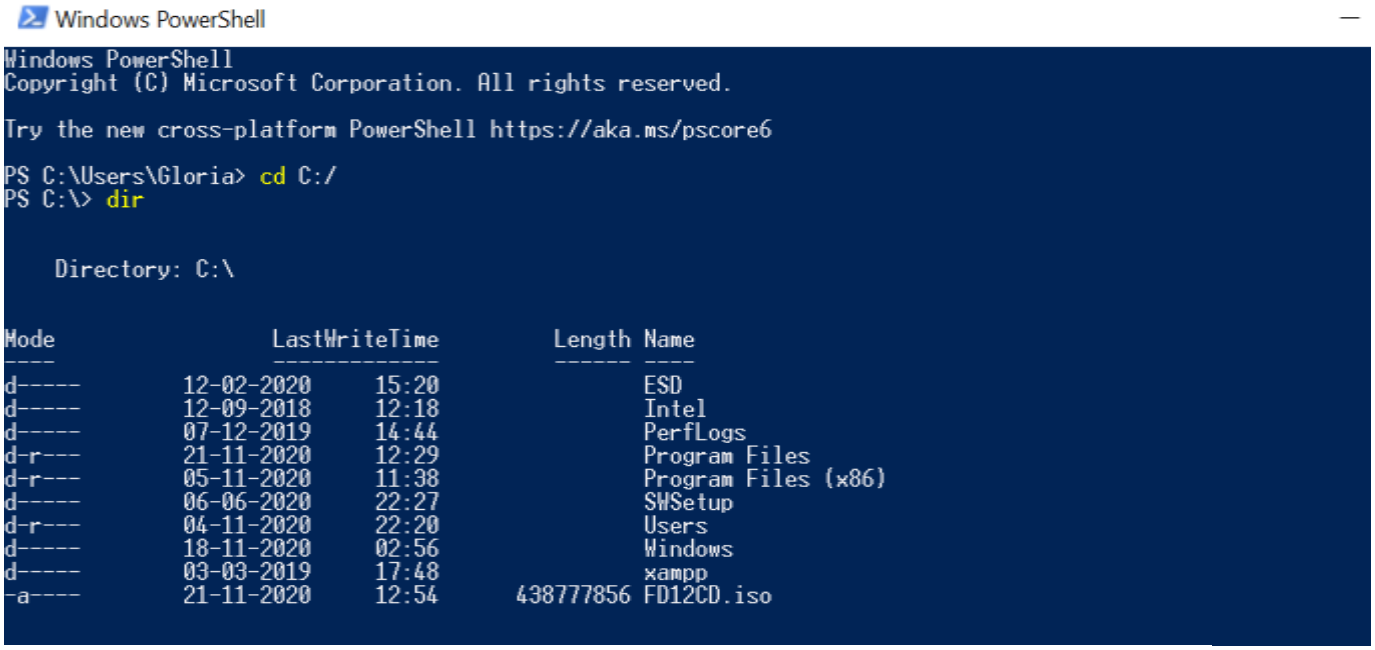
Choose the Install Location



Click Finish to complete the Setup

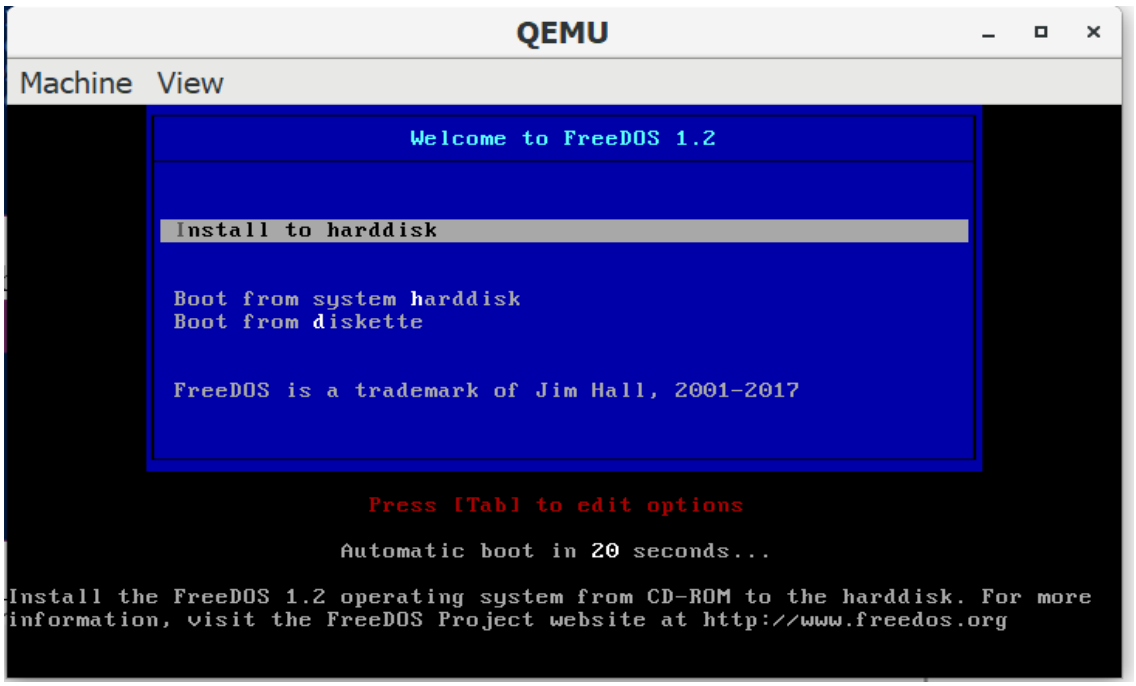


Open the PowerShell and Locate to the ISO Folder



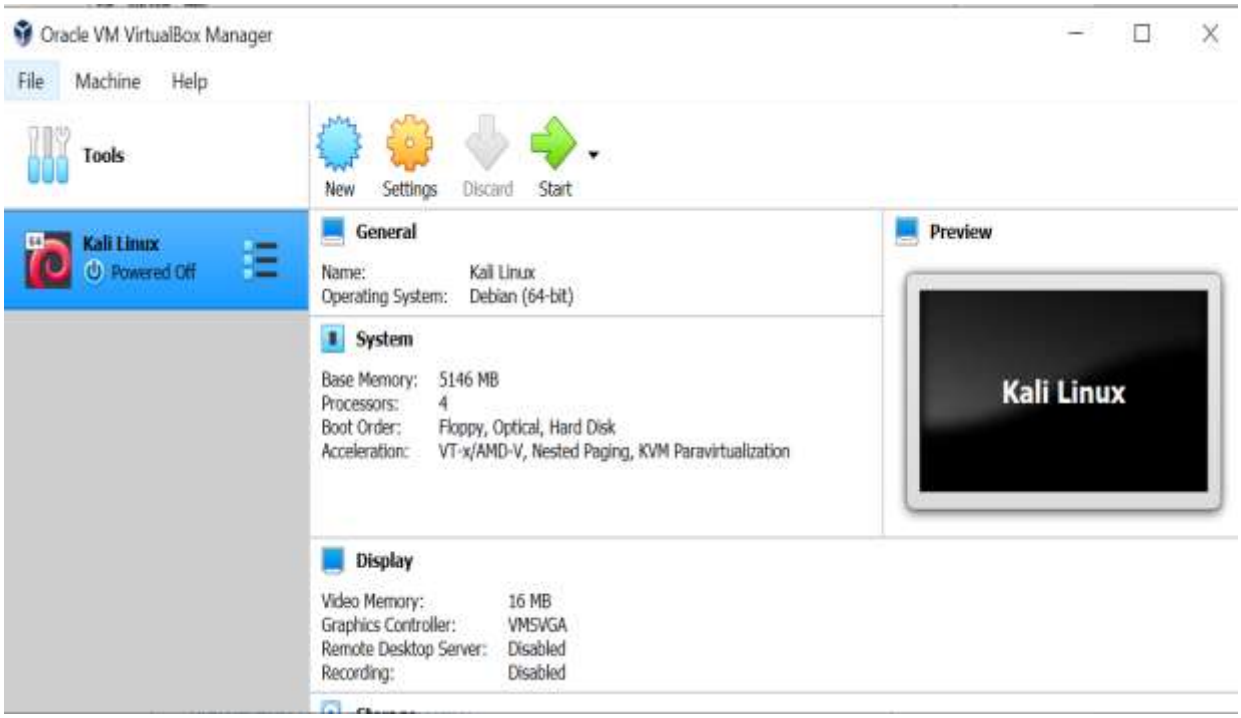
Type the Command To Run the FreeDOS

Finish the Installation Process of FreeDOS

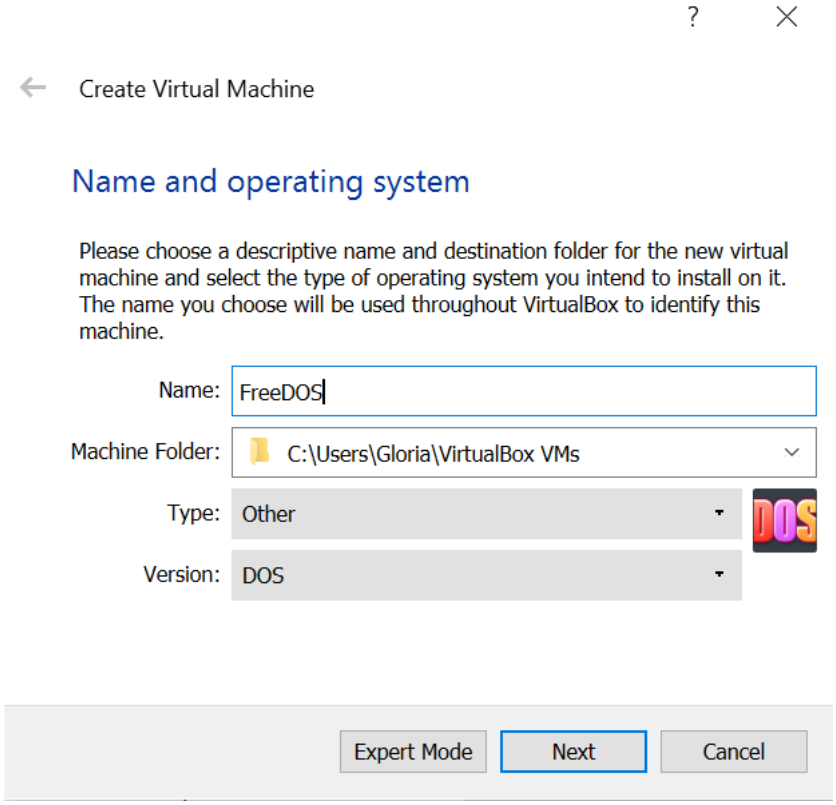


2. Install any open-source virtualization application and run FreeDOS in it.

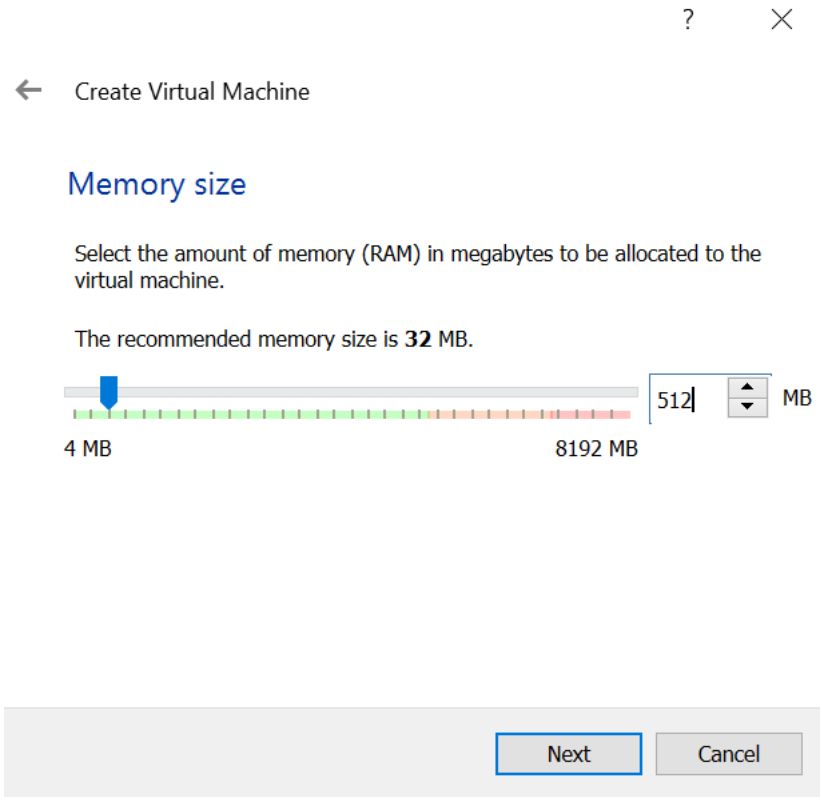
Download VirtualBox and run it And Click New



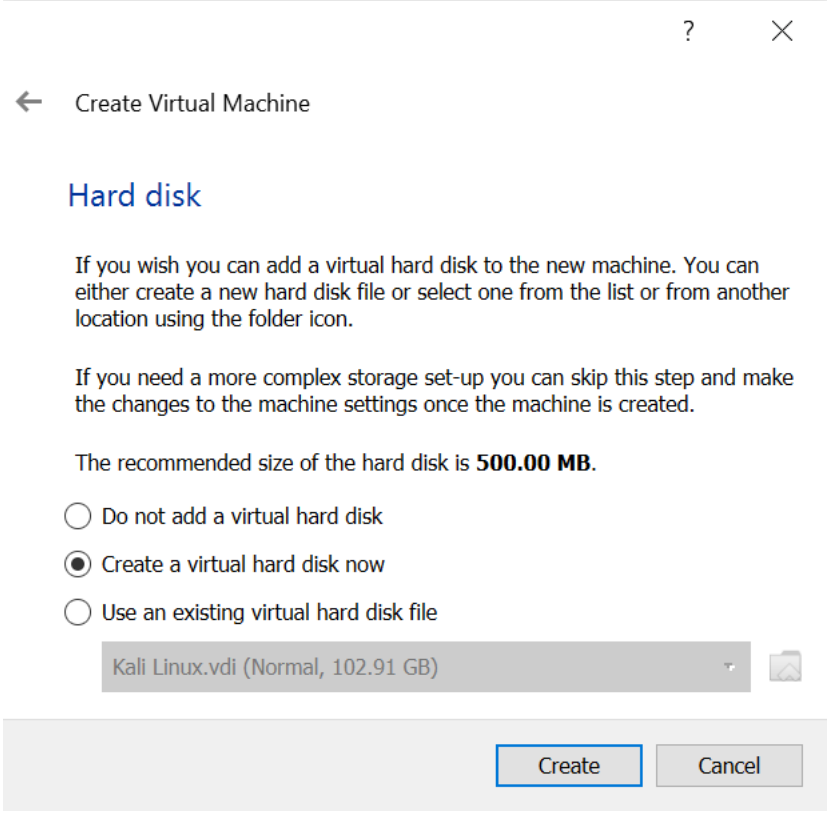
Give Name as FreeDOS and Version as DOS



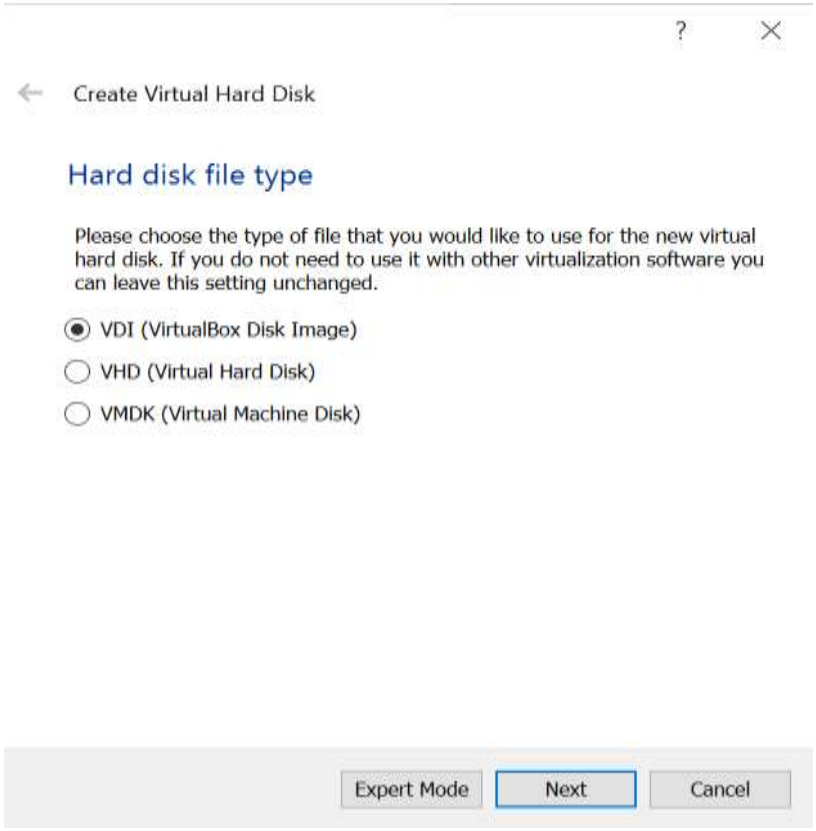
Select the Memory Size



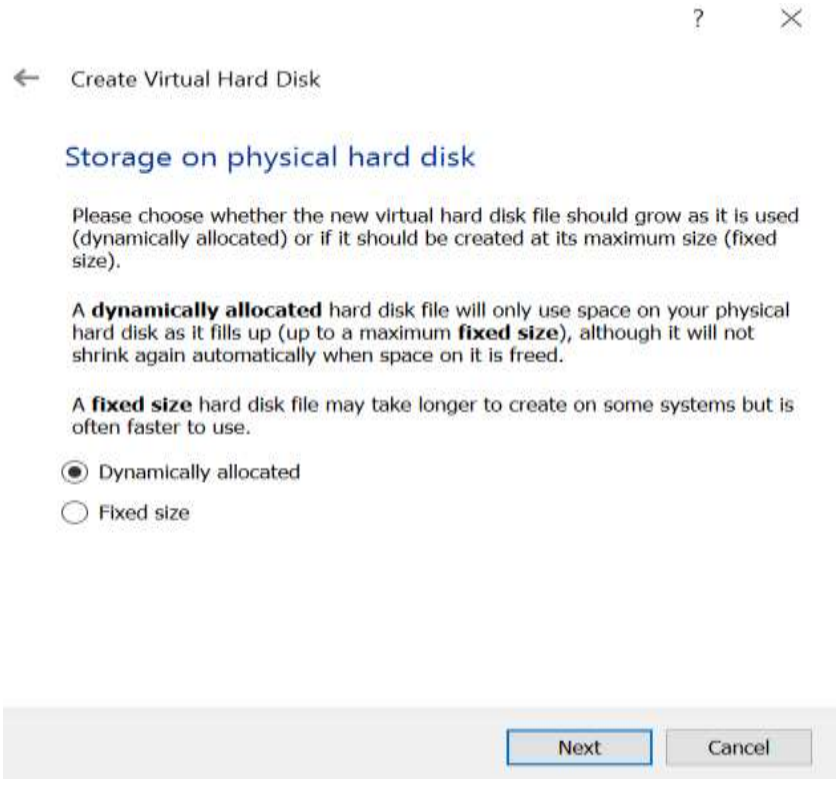
Select the Hard Disk



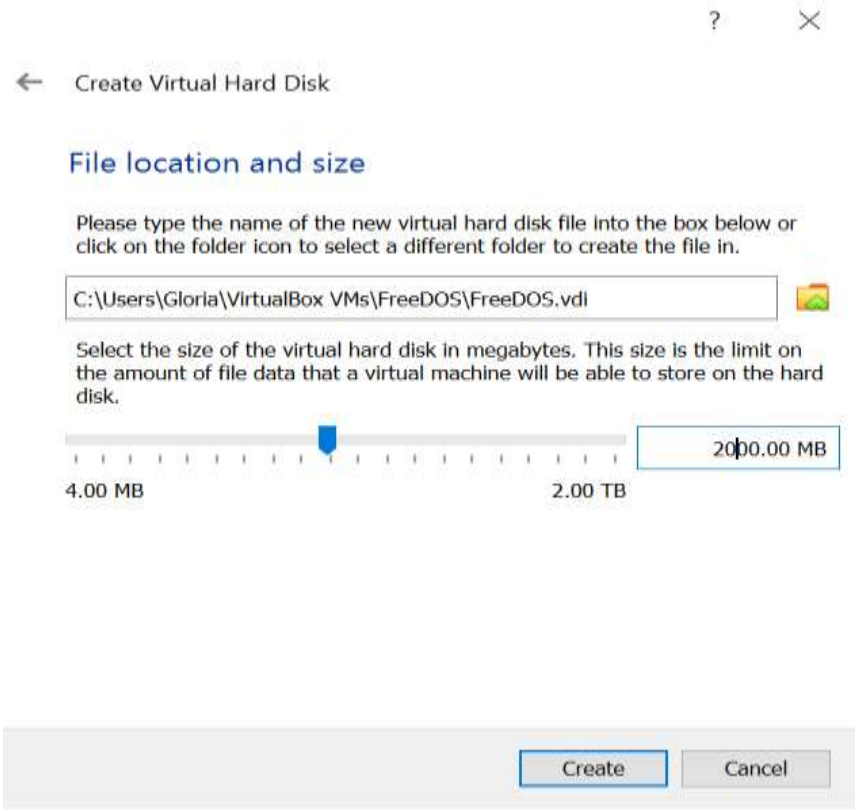
Select the Hard Disk file type



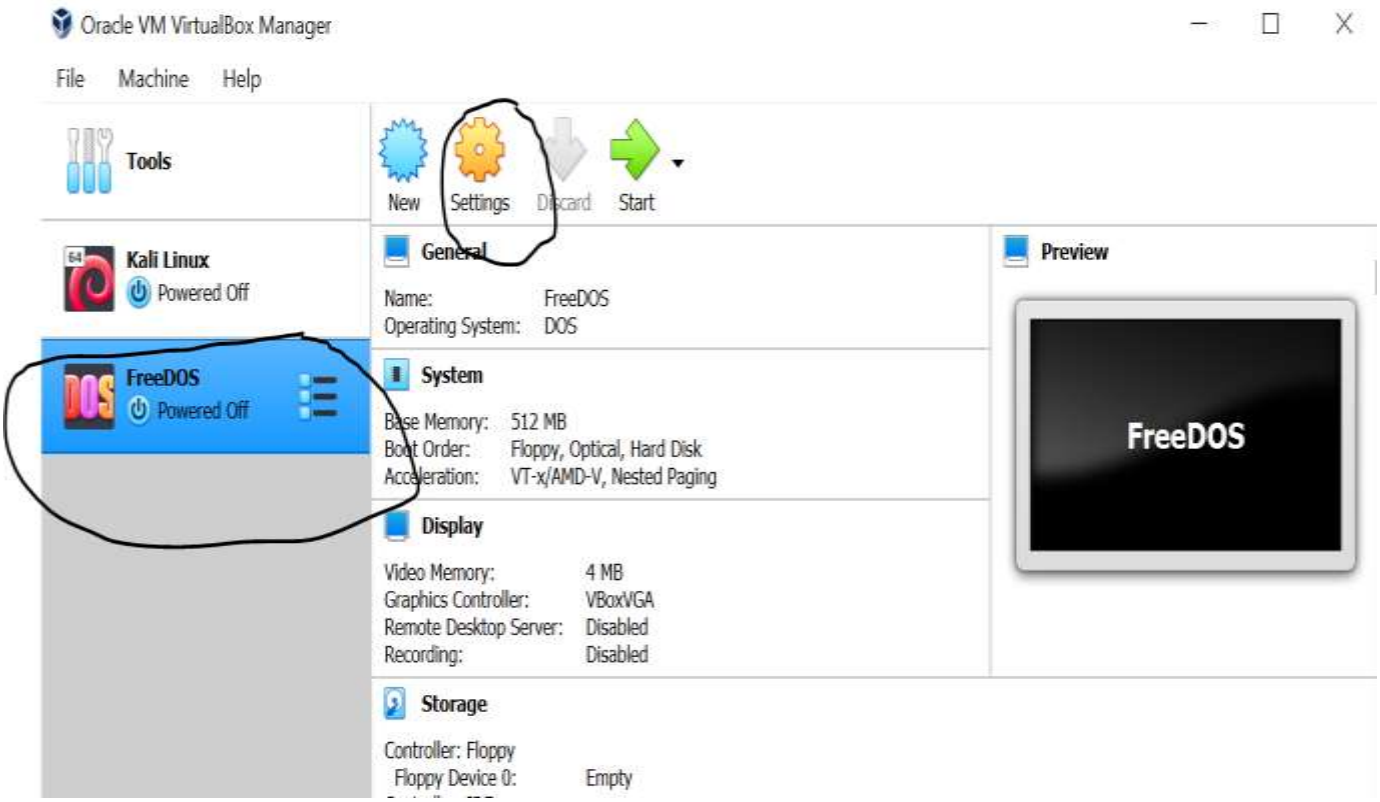
Select the language



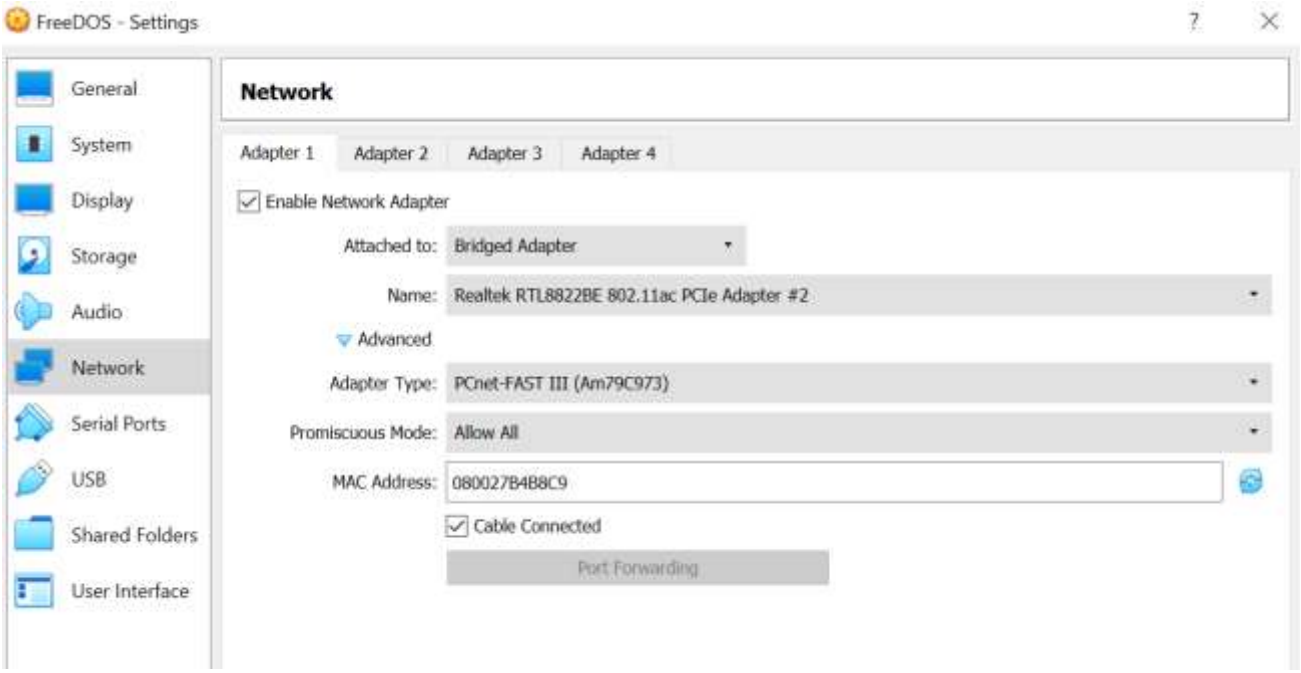
Select the File Location and Size



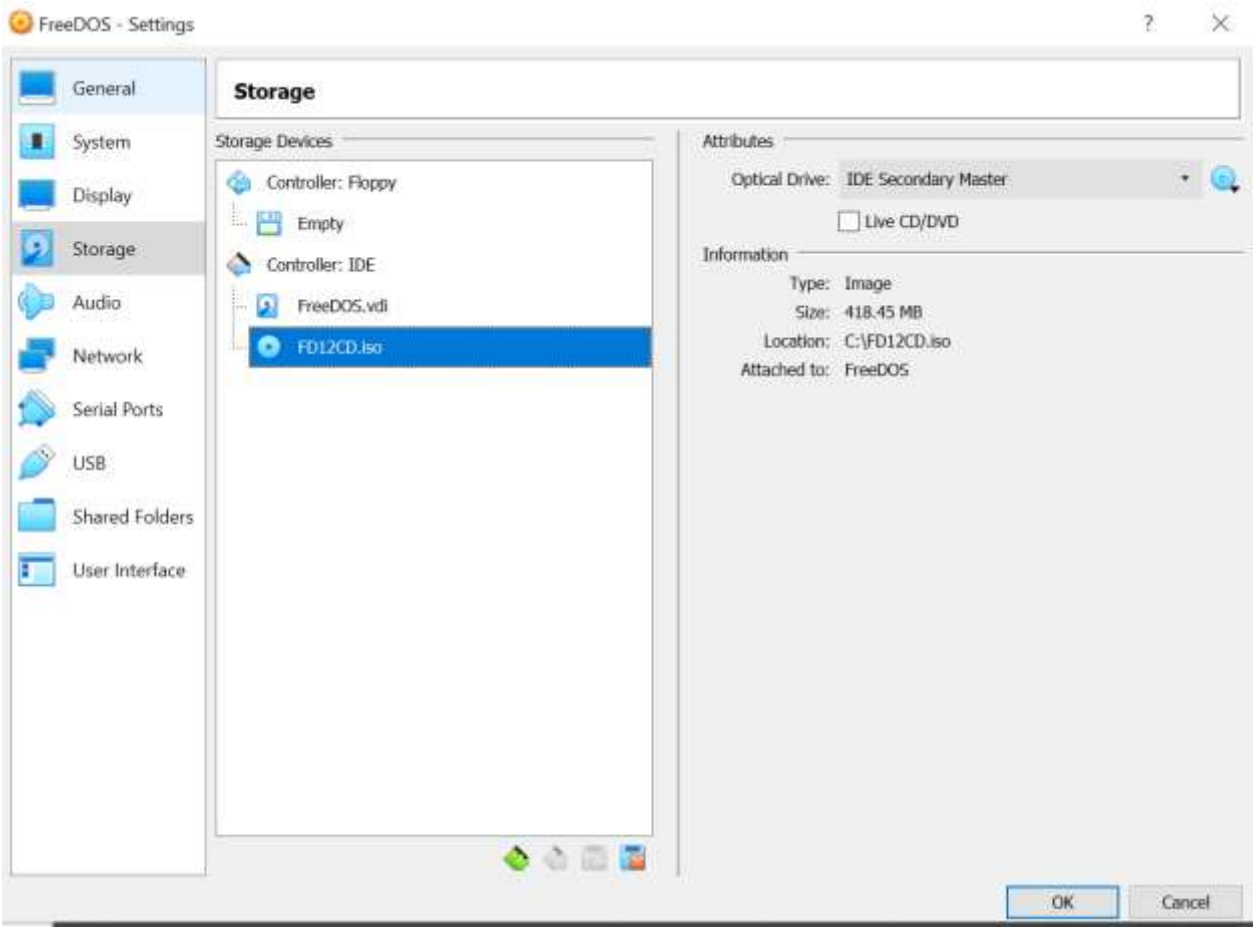
Select the Settings to Configure



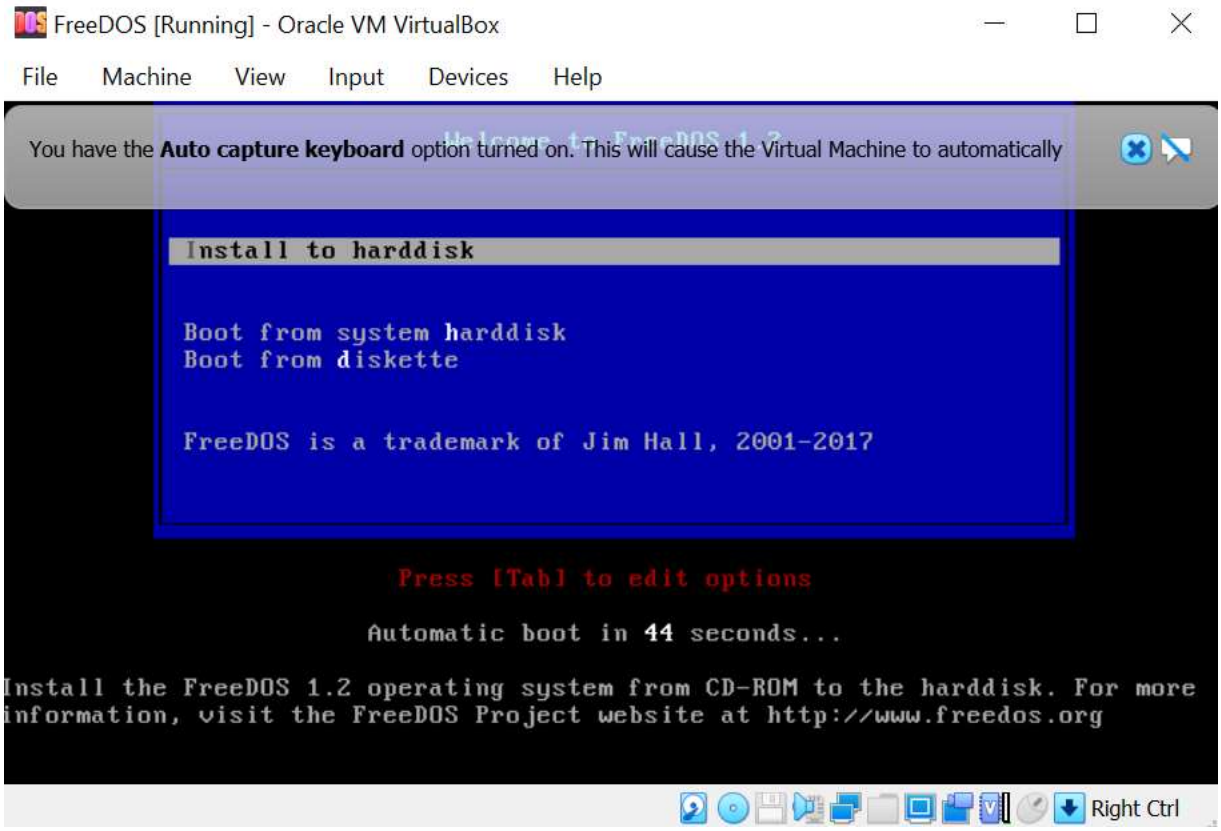
Go to Network and Change to Bridged Adapter and give Allow all



Go to Storage and Select the FreeDOS ISO file



Finish the Installation Process of FreeDOS



Results:

The package management system is studied and executed.

Video Link: https://youtu.be/nFkNbgGSVng