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WINDOWS 10 LINUX VM WITH XAMPP

INTRO

- ✘ Your main computer uses Windows and you want a safe place to develop Joomla! sites offline
- ✘ WAMPP has some drawbacks
 - + Windows file naming is not case-sensitive
 - + WAMPP is kludgy and clumsy
- ✘ Most hosting platforms are running Linux

VIRTUAL MACHINES

- ✘ A virtual machine (VM) emulates a physical computer with software.
- ✘ The VM layers abstracted drivers atop your Windows hardware.
- ✘ Brands of VMs for Windows:
 - + VirtualBox – free for personal use (recommended)
 - + VMWare – commercial, professional use (\$)
 - + Cloud-based – requires a paid service (e.g. AWS)

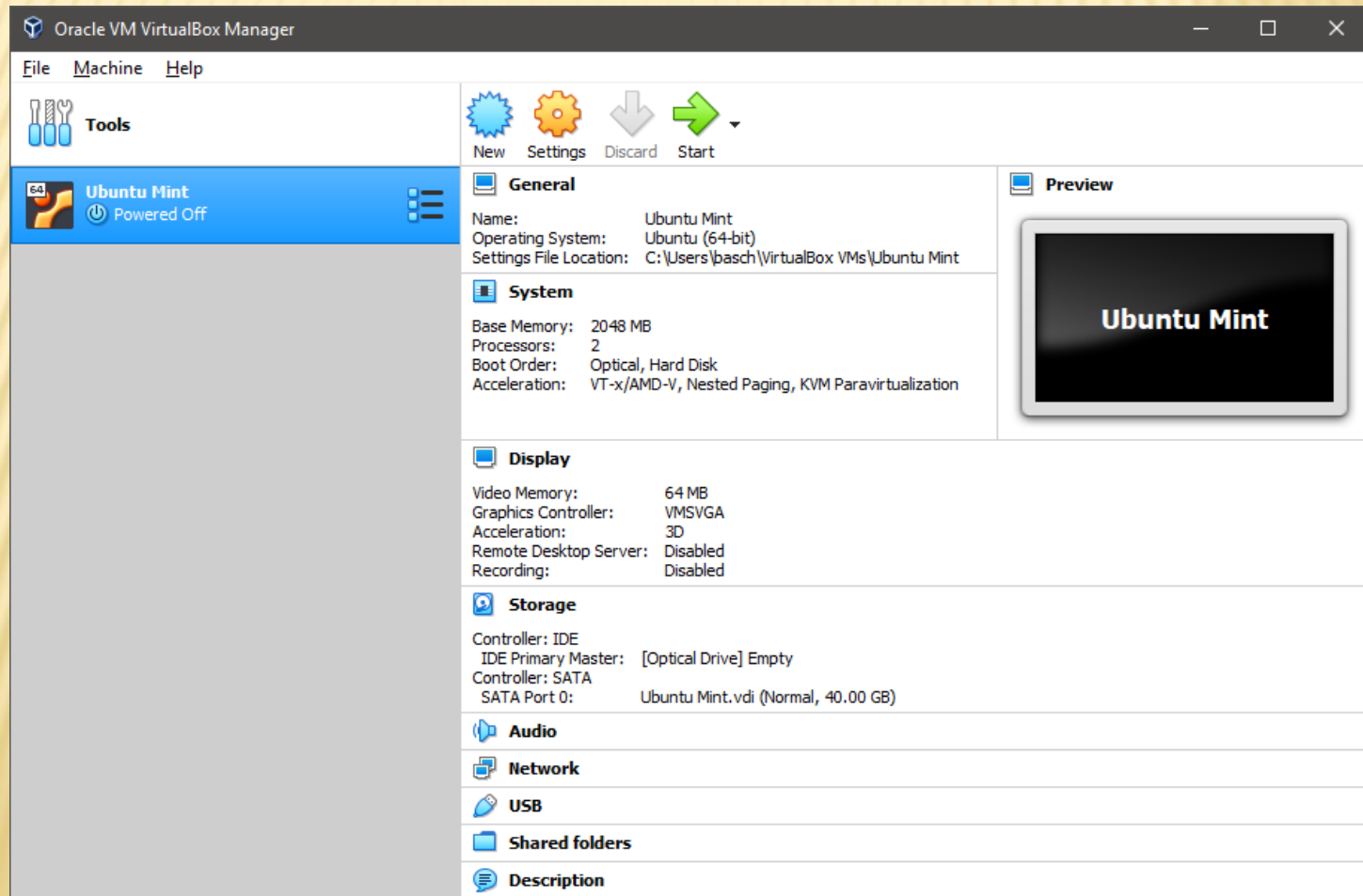
ORACLE VIRTUALBOX

- ✘ Completely free
- ✘ Feature-packed
- ✘ Easy to use
- ✘ Flexible
- ✘ Fast
- ✘ Extremely well maintained
- ✘ The clear choice for personal use
- ✘ <https://www.virtualbox.org/>



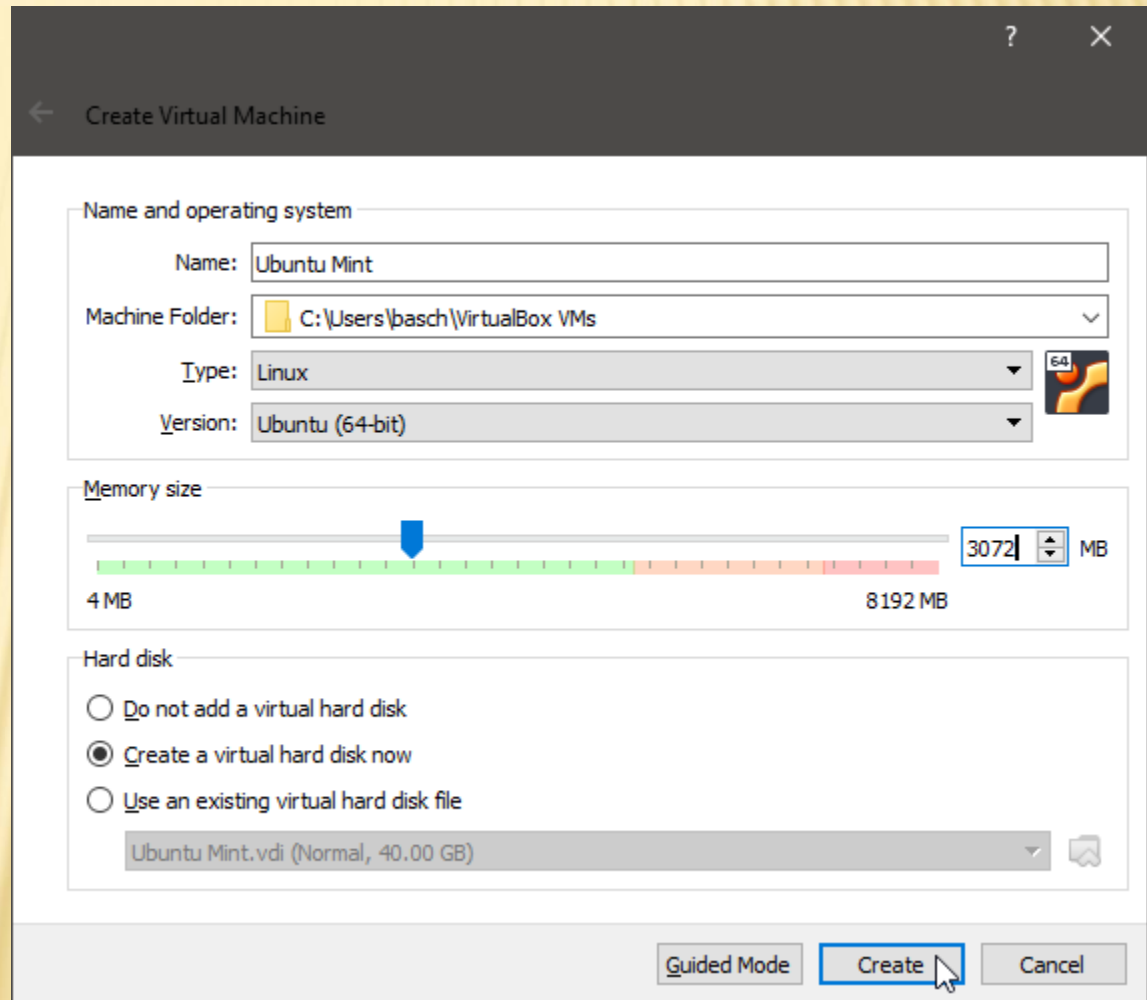
TYPICAL LINUX VM SETUP

✘ This is what we're after.



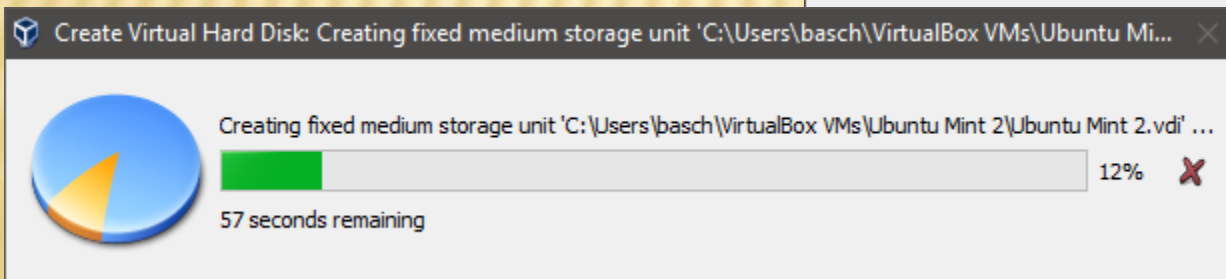
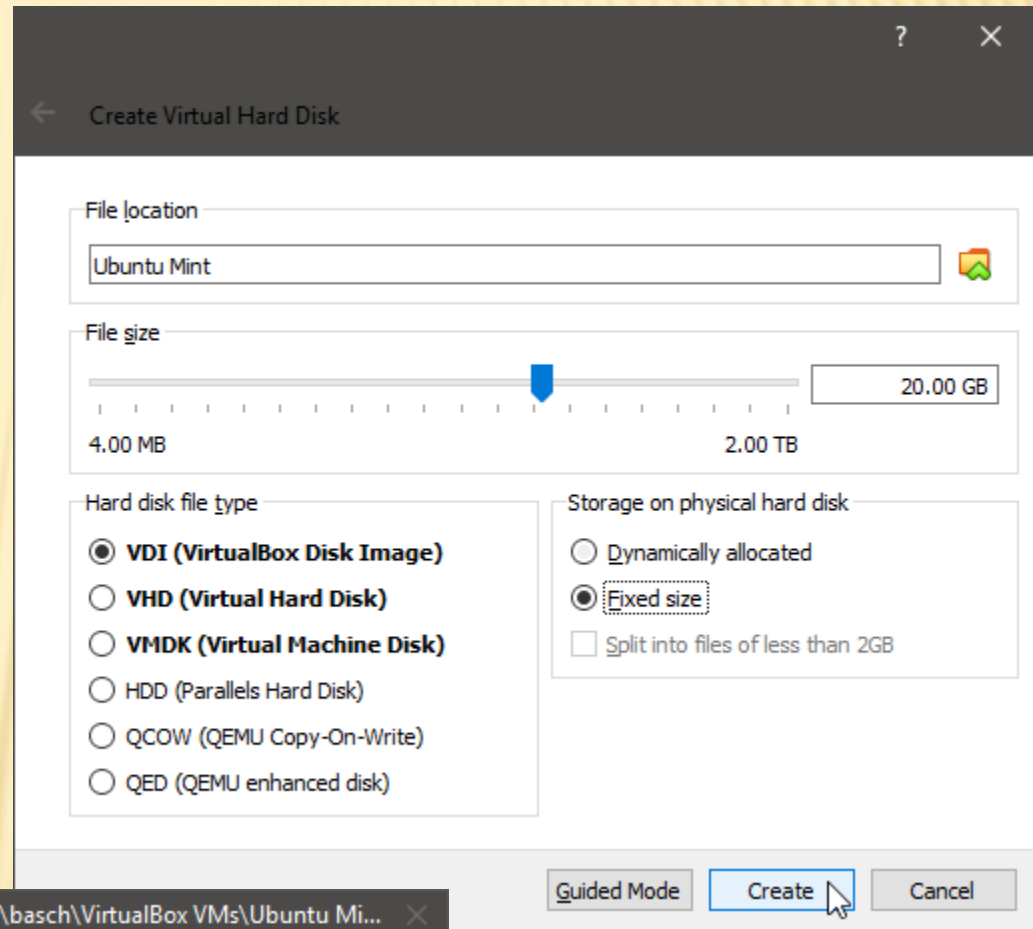
CREATE A NEW VM

- ✘ 8GB RAM recommended.
- ✘ 3GB minimum VM RAM.
- ✘ 2GB will work, but will be slow.
- ✘ Don't over-allocate.



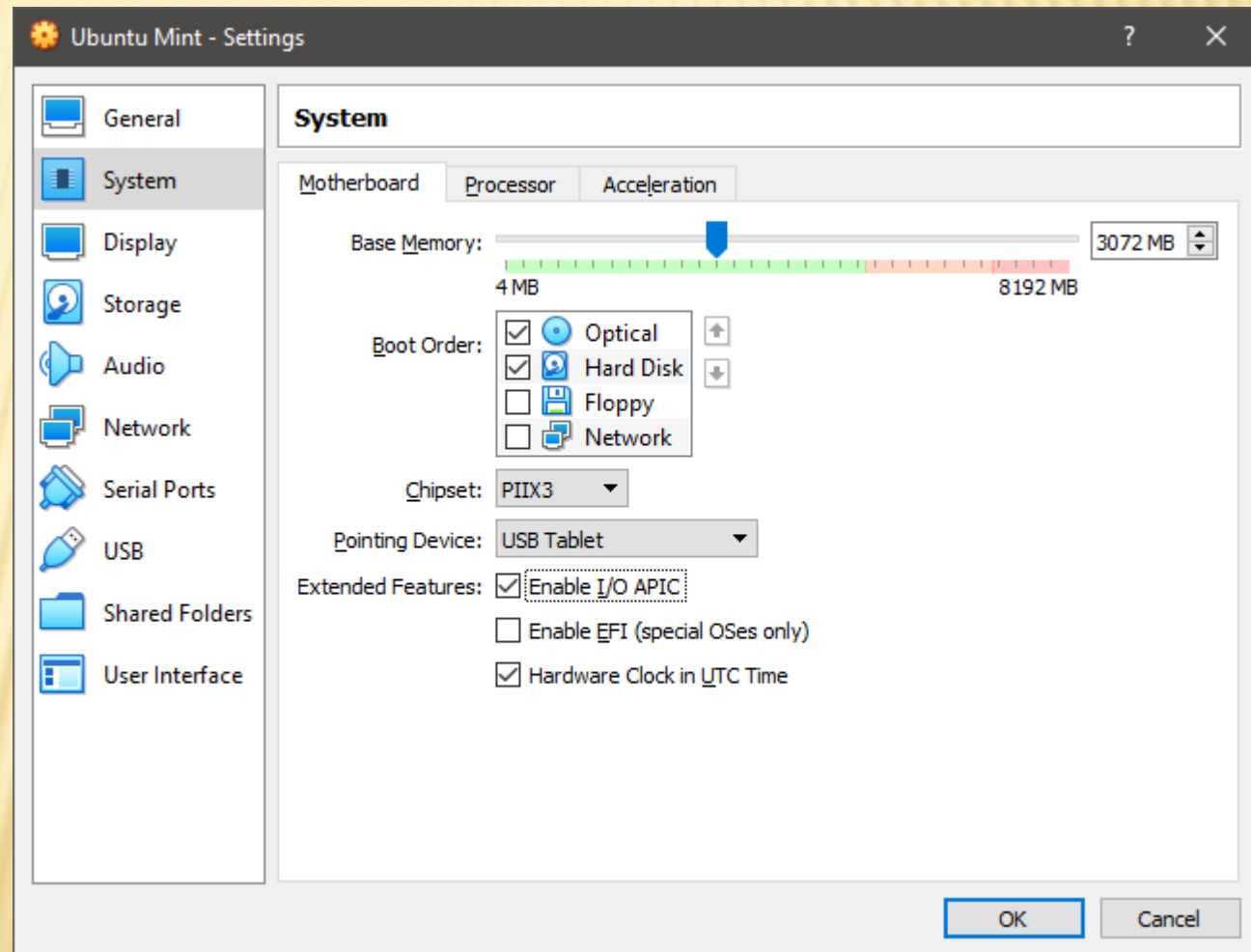
VIRTUAL STORAGE

- ✘ At least 20GB virtual drive.
- ✘ Use Fixed size to avoid performance issues.
- ✘ Use VDI for best results.
- ✘ This will take some time.



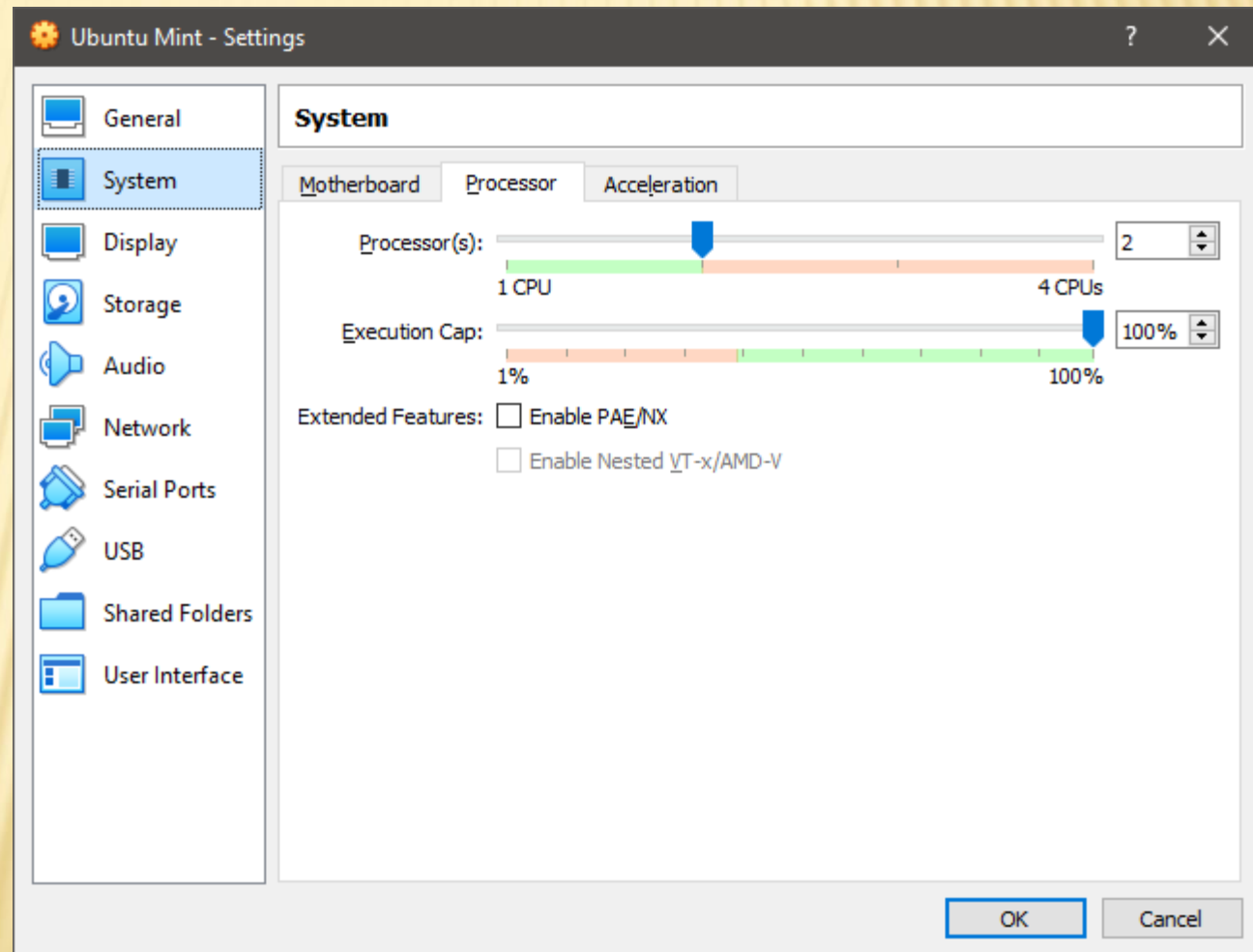
SYSTEM SETTINGS – BOOT ORDER

- ✗ Setup boot order as shown.
- ✗ Install OS from an ISO image mounted as an optical drive.
- ✗ USB Tablet pointing device if you want to use your touch screen.



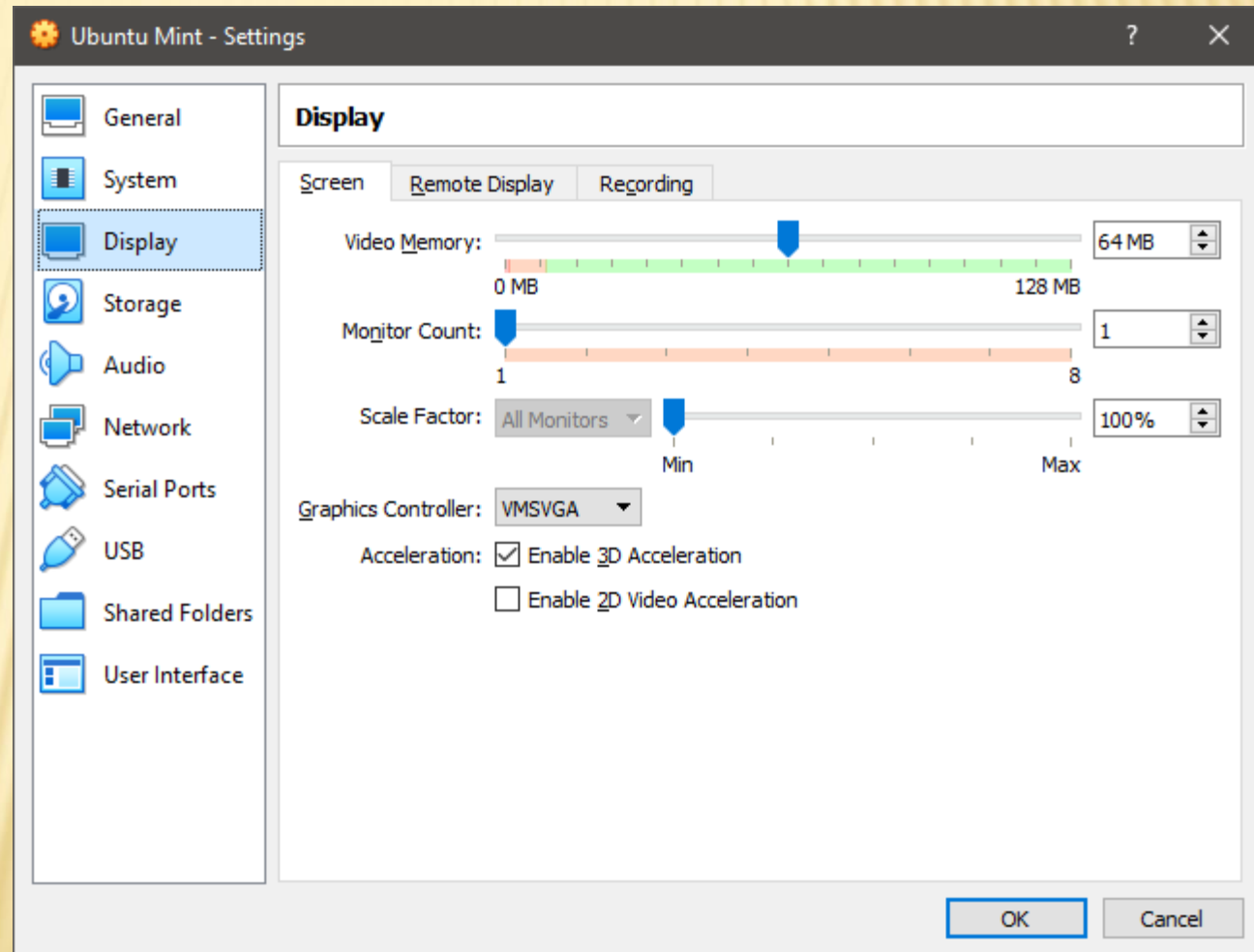
SYSTEM SETTINGS – PROCESSOR

- ✘ Do not allocate more than half your processor cores.
- ✘ Remember, Windows still needs to run.



SYSTEM SETTINGS – DISPLAY

- ✘ At least 64MB for video memory.
- ✘ 3D acceleration recommended



DOWNLOAD YOUR LINUX INSTALLER

- ✘ For Windows users, I recommend Linux Mint
- ✘ Based on Ubuntu with a familiar user interface
- ✘ <https://linuxmint.com/download.php>

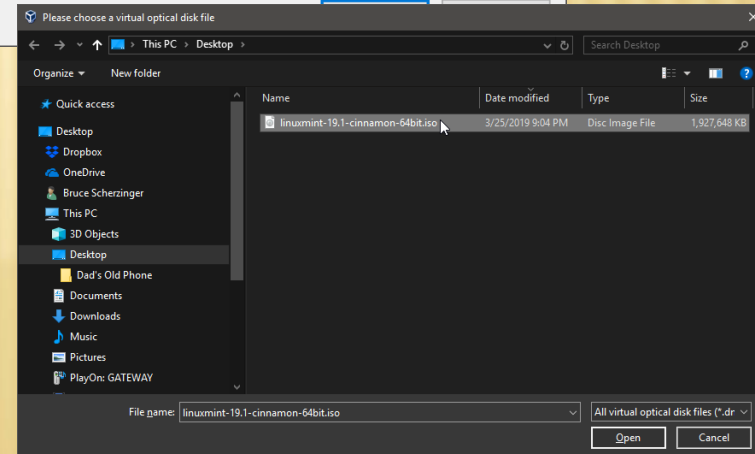
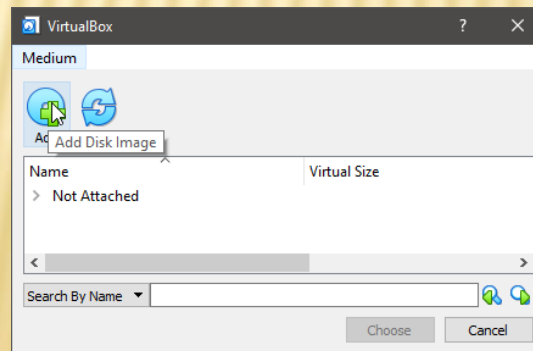
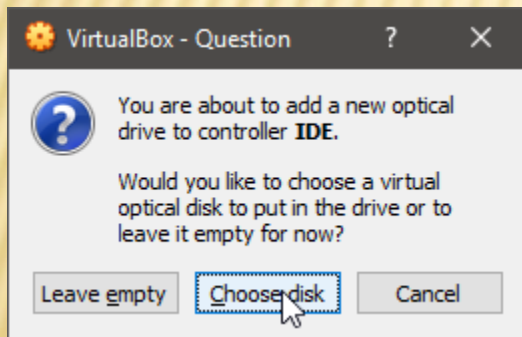
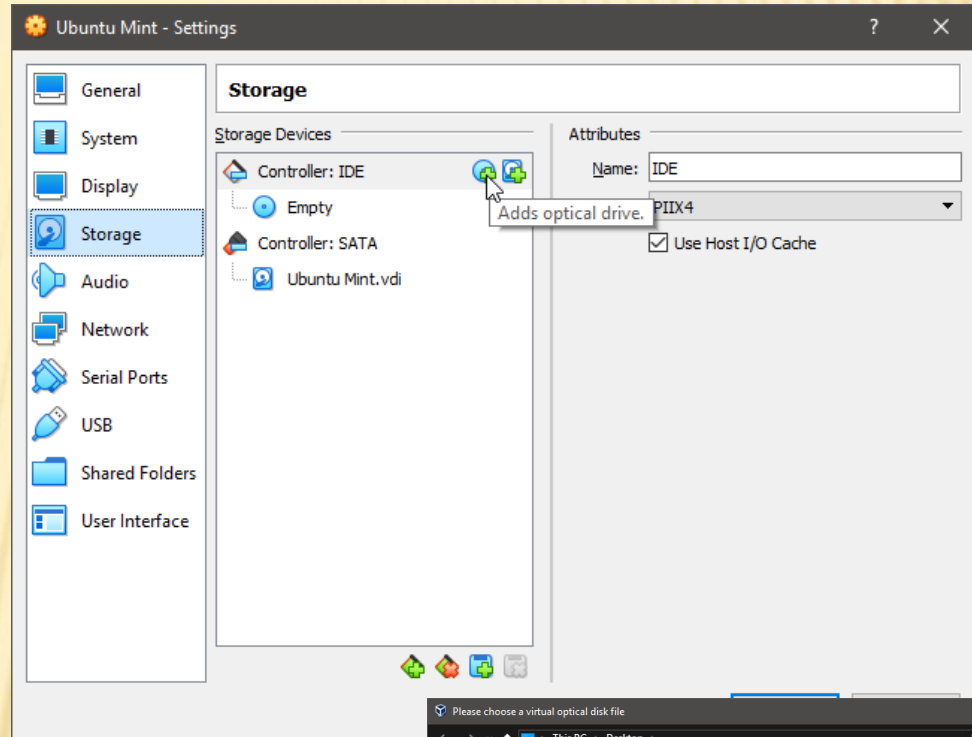


The screenshot shows the Linux Mint website's download page for Linux Mint 19.1 Tessa. The page has a green header with navigation links: Home, Download, Project, About, and Links. Below the header, there are sub-links for Linux Mint 19.1, LMDE 3, All versions, Documentation, and Buy CDs. The main heading is "Download Linux Mint 19.1 Tessa". Under "Information", it states "Our latest release is Linux Mint 19.1, codename 'Tessa'." and includes a screenshot of the Linux Mint desktop environment. Below the screenshot are links for "Read the documentation" and "Read the release notes". A paragraph advises users to choose their favorite edition, noting that "Cinnamon 64-bit edition" is the most popular. At the bottom, a "Download links" table lists three editions: Cinnamon, MATE, and Xfce, each with 32-bit and 64-bit options and a brief description.

		EDITION	
Cinnamon	32-bit	64-bit	An edition featuring the Cinnamon desktop
MATE	32-bit	64-bit	An edition featuring the MATE desktop
Xfce	32-bit	64-bit	An edition featuring the Xfce desktop

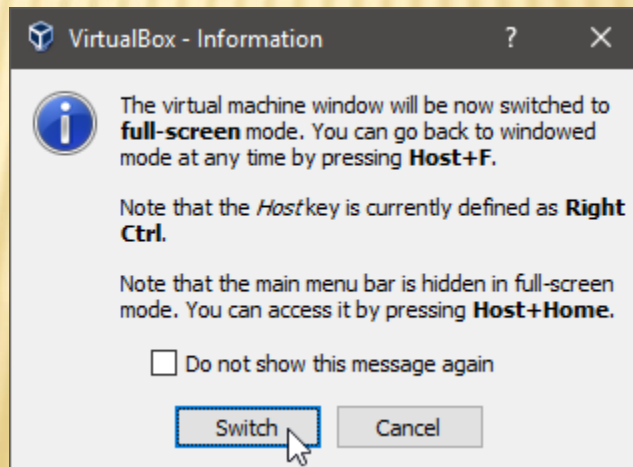
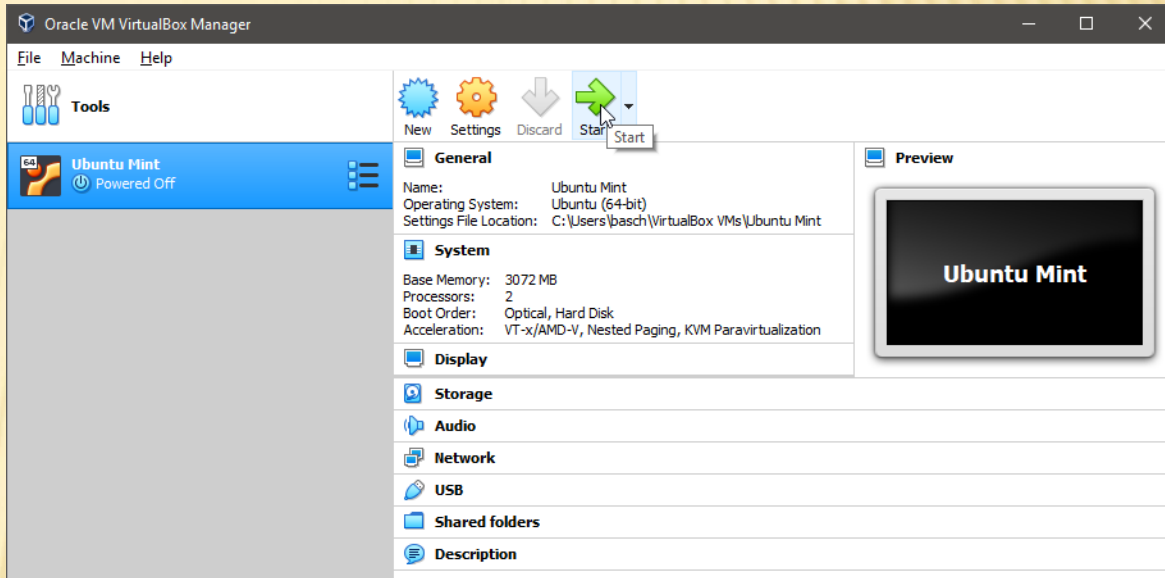
ADD YOUR OS INSTALL IMAGE MEDIUM

- ✘ First boot of the VM you will boot from the ISO image file downloaded earlier.
- ✘ Add an optical drive and browse to the ISO file.



INITIAL VM BOOT – OS INSTALL

- ✘ Click Start. Install OS. Similar to Windows.
- ✘ After install, VB will prompt to eject ISO media, which it will do automatically.
- ✘ VM should reboot and you can log in.
- ✘ Full screen experience recommended.



INSTALL XAMPP

- ✘ XAMPP significantly simplifies getting you setup to host a Joomla! website versus installing the piece parts individually.
- ✘ <https://vitux.com/how-to-install-xampp-on-your-ubuntu-18-04-lts-system/>
- ✘ <https://www.apachefriends.org/index.html>
- ✘ This has not been done in advance and will be demonstrated live.

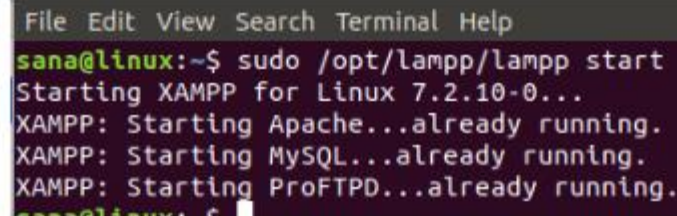
SOME NOTES

- ✘ XAMPP must be manually launched each time you want to use it. It does not come with a boot-up install script. *See next slide.*

Step 6: Launch XAMPP through the Terminal

In order to launch XAMPP through your Ubuntu Terminal, enter the following command as root:

```
$ sudo /opt/lampp/lampp start
```



```
File Edit View Search Terminal Help
sana@linux:~$ sudo /opt/lampp/lampp start
Starting XAMPP for Linux 7.2.10-0...
XAMPP: Starting Apache...already running.
XAMPP: Starting MySQL...already running.
XAMPP: Starting ProFTPD...already running.
```

This output shows that XAMPP is started and already running. **Please note that you need to manually start XAMPP each time you restart your system.**

- ✘ XAMPP has its own updater. Updates are not maintained by the Ubuntu Update Manager.

AUTOSTARTING XAMPP AT BOOT

- ✘ Newer versions of Ubuntu use system.d to manage services. To determine this, type the following command in a terminal window:
 - + file /sbin/init
- ✘ If this says the following, your version uses system.d instead of init.d for starting services:
 - + /sbin/init: symbolic link to /lib/systemd/systemd
- ✘ This site explains the basic Autostart on Boot configuration file:
 - + <https://wiki.archlinux.org/index.php/XAMPP>

AUTOSTARTING XAMPP AT BOOT (CONT.)

- ✘ Create a text file (elevated privs required) :
`/etc/systemd/system/xampp.service`
- ✘ That contains this:

```
[Unit]
Description=XAMPP

[Service]
ExecStart=/opt/lampp/xampp
startExecStop=/opt/lampp/xampp
stopType=forking

[Install]
WantedBy=multi-user.target
```
- ✘ Then, at a terminal window, enable the service (or reboot):
`sudo systemctl enable xampp`
- ✘ Start and stop the service thusly:
`sudo systemctl stop xampp`
`sudo systemctl start xampp`