

Installing Linux Mint 18.1 “Serena” - Xfce in a VM (virtual machine)

first, install VirtualBox for your system

<https://www.virtualbox.org/wiki/Downloads>

if you are already using Linux (e.g., Ubuntu or Linux Mint)

use the package manager to install VirtualBox (e.g., via the terminal)

```
sudo apt-get update
```

```
sudo apt-get install virtualbox-4.3
```

download the Linux Mint ISO (drive image)

64-bit: <https://www.linuxmint.com/edition.php?id=230>

run VirtualBox

create a new VM

call it something like cyberstorm

its type is Linux

its version is Ubuntu (64-bit)

give it about 25% of your system's RAM; e.g.,

4 GB: 1024 MB (1 GB)

16 GB: 4192 MB (4 GB)

create a virtual hard drive (VDI)

make it dynamically allocated so that it only uses up as much space as it needs

make it sufficient in size (say 100 GB)

edit the VM

click on Settings

click the General option

select the Advanced tab

set Shared Clipboard to Bidirectional

click the Storage option

select the Empty CD/DVD under Controller: IDE

click the CD icon in the Attributes section

select Choose a virtual CD/DVD disk file...

find the Linux Mint ISO that you downloaded

click the Network option

in the Adapter 1 tab, make it attached to Bridged Adapter

select the proper network adapter to “connect” the virtual adapter to

click OK

start the VM

once the Linux Mint ISO has booted, click on the Install Linux Mint icon

when prompted for the installation type, select Something else

your hard drive should be referred to as something like /dev/sda

it should be empty

if not, select partitions and remove them (this will destroy all data on the drive!)

a new drive will need a new partition table

then, add the following new partitions to the free space

- 1: size=2048 MB
 type=primary
 location=beginning
 use as=ext2
 mount point=/boot
- 2: size=RAM size if RAM size >= 4 GB; 2x RAM size otherwise; e.g.,
 2 GB RAM: 4 GB swap
 4 GB RAM: 4 GB swap
 but no more than 8 GB
 type=primary
 location=end
 use as=swap area
- 3: size=~35% of space left
 type=primary
 location=beginning
 use as=ext4
 mount point=/
 size=~65% of space left
- 4: type=primary
 location=beginning
 use as=ext4
 mount point=/home

/boot: stores the Linux kernel images

swap: memory swap space (also used for hibernation)

/: stores the OS, OS configuration files, and applications

/home: stores your files (application configuration, settings, pictures, etc)

the strategy is that updating the OS means wiping /boot, /, and swap

/home won't be touched

updating then takes little time (~30 minutes)

the Chicago timezone is fine (for Central)

set the user; mine is

name: jgourd

computer name: jgourd-cyberstorm

username: jgourd

password: something fairly strong

require my password to log in

don't encrypt my home folder

reboot into Linux Mint

play around!

Things to Install and/or Perform After Installing Linux Mint

these all happen in the terminal

click on the monitor icon at the bottom-left of the desktop

or click on the “start button” (the LM logo at the bottom-left of the desktop)

then, click on System and scroll to Terminal Emulator

make sure that you are connected to the Internet!

update the Linux Mint system

```
sudo apt-get update
```

```
sudo apt-get upgrade
```

```
sudo apt-get dist-upgrade
```

install Google Chrome (only for 64-bit OS)

the process is to first get the signing key that Google puts out for their repository
for authentication

then, we add the Google repository and update the list of packages available

finally, we install Google Chrome

```
wget -q -O - https://dl-  
ssl.google.com/linux/linux_signing_key.pub | sudo apt-key add -  
sudo sh -c 'echo "deb [arch=amd64]  
http://dl.google.com/linux/chrome/deb/ stable main" >>  
/etc/apt/sources.list.d/google-chrome.list'  
sudo apt-get update  
sudo apt-get install google-chrome-stable
```

install Microsoft core fonts (for compatibility across systems)

```
sudo apt-get install ttf-mscorefonts-installer
```

install essential build tools (for programming)

```
sudo apt-get install build-essential
```

install Vim (the ubiquitous text editor)

```
sudo apt-get install vim
```

next, do yourself a favor and add my Vim run commands

these customize Vim in a way that I like

if you wish, grab my .vimrc from the web site and place it in ~

it usually downloads in ~/Downloads; therefore,

```
mv ~/Downloads/.vimrc ~
```

cleanup the system

```
sudo apt-get autoremove
```

```
sudo apt-get clean
```

```
sudo apt-get autoclean
```

set the autorun script when opening up a terminal

we'll first copy the default provided by the OS
then, we ensure that we own it (more on this later)
finally, we'll load it into the current terminal

```
sudo cp /etc/bash.bashrc ~/.bashrc
sudo chown $USER:$USER ~/.bashrc
source ~/.bashrc
```

add my useful aliases to the autorun script (i.e., add these to ~/.bashrc)
first edit via one of the following text editors:

```
vim ~/.bashrc (text-based)
nano ~/.bashrc (text-based)
gedit ~/.bashrc (GUI)
```

then, add the following at the end of the file:

```
alias c='clear'
alias df='df -Th'
alias h='history'
alias h2='history | awk \''{ CMD[$2]++; count++; } END
{ for (a in CMD) print CMD[a] " " CMD[a] / count * 100 "%" a; }\'
| grep -v "/" | column -c3 -s " " -t | sort -nr | nl | head -n25'
alias j='jobs'
alias ls='ls -CF --group-directories-first --color=auto $*'
alias lss='ls -Alh $*'
alias m='more'
alias netstat='netstat -lnp | grep " LISTEN "'
alias p='ps -ef'
alias rm='mv -f -t $HOME/.local/share/Trash/files $*'
alias rmdir='mv -f -t $HOME/.local/share/Trash/files $*'
alias ~= 'cd ~'
```

finally, load them into the current terminal via
source ~/.bashrc