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Linux Administration

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Ubuntu 64-Bit Software Installs

The first program we’re going to install is Tmux, and it has a few different uses, like how it’s a multiplexer for the terminal which essentially means that it allows you to use multiple different terminals in one session at once. Also, it can be used to allow many different computers to all connect to one specific “host” at once. Alright, to download Tmux you enter the command “sudo apt-get install tmux” into the terminal as shown in the picture below, also tmux can come pre-installed in your VM.

Text

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Also, you can test out tmux with the command “tmux” and your screen should look like the picture below, and to close this extra terminal press Ctrl + B then press x and then press y to confirm to kill the window.

Next we are going to install emacs, and this is a progam is a text editor for Linux machines and has been out for a while. To install emacs use the command “sudo apt-get install emacs” and then press “y” and then enter to confirm.

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After emacs has installed you can use the command emacs -nw to open it up, and to exit that window press ctrl + c + x at the same time.

Now up next, we are going to update the virtual machine with the command “sudo apt-get update” to make sure the next part works fine. So enter the command “sudo apt-get update” and after a few minutes it will download everything,

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Now we are going to install Fail2Ban which acts as another line of defense for your computer, like if someone is trying to brute force your password and it makes a bunch of failed attempts in a short time, their IP will get banned to prevent them from trying anymore. Alright to install it we use the command “sudo apt install fail2ban”, then we put the command “sudo systemctl status fail2ban” to check the status of fail2ban and then we use the command “sudo cp /etc/fail2ban/jail.conf /etc/fail2ban/jail.local” to make a copy of the file so we can edit it because if you update fail2ban it will replace the jail.conf file. Now we can use a text editor to add a few settings to it which I got from the tecadmin site (fourth source) except we are going to exclude a few commands.

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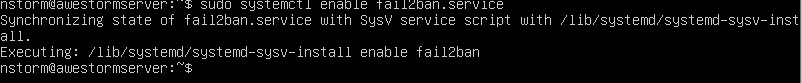


Alright so first use the command “sudo vim /etc/fail2ban/jail.local” to edit the file (you can replace vim with vi if you don’t have vim pre-installed) then go down to the [DEFAULT] section which is used for the global options, and then replace the bantime number with 60m, then replace the findtime number with 5m and finally replace the maxretry number with 5 (refer to the picture below). After you do all that save the file.

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Now we need restart fail2ban and then enable it, so first restart fail2ban with the command “sudo systemctl restart fail2ban.service” and then use the command “sudo systemctl enable fail2ban.service”. After that you can see that status of fail2ban with the commands “sudo fail2ban-client status” or “sudo fail2ban-client status sshd”

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Alright up next, we are going to install two more programs called cowsay and lolcat which are used to get a cow to say whatever you want it to or lolcat which turns all of your output text into a rainbow. First, we are going to install the program cowsay with the command “sudo apt-get install cowsay” and then we can test it out with the command “cowsay (insert text)” (refer to picture two).

Text

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Now we are going to install lolcat but first we need to install ruby so we can run/install it, so use the command “sudo apt-get install ruby” and then confirm it. After it finishes downloading use the command “wget <https://github.com/busyloop/lolcat/archive/master.zip>” to get the lolcat file from github, then unzip it with “unzip master.zip” then use the cd command to move the file “cd lolcat-master/bin” and finally install lolcat with “sudo gem install lolcat”. Also you can test out lolcat with the command “grep ^[^#] /etc/apt/sources.list /etc/apt/sources.list.d/\* | lolcat“ (refer to last pic)

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Graphical user interface, text

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Lastly, we shall be installing vim, and this is a text editor that is an upgraded version of VI. To install vim, use the command “sudo apt-get install vim” Sometimes vim can come preinstalled like how it was on my VM, but that’s all you need to do to install it.

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Also, the only things I have installed on my CentOS virtual machine are the files I installed right now (Tmux, Emcas, Fail2Ban, cowsay, lolcat, and vim but this was already installed)

Sources:

[How to Use tmux on Linux (and Why It’s Better Than Screen) (howtogeek.com)](https://www.howtogeek.com/671422/how-to-use-tmux-on-linux-and-why-its-better-than-screen/)

This site told me all about the tmux command, like how to install and use it and it was pretty straight forward in doing so.

[How To Install Software In Linux : An Introduction - Linux.com](https://www.linux.com/training-tutorials/how-install-software-linux-introduction/)

This website that you provided was pretty useful in helping me remember all of the install commands I needed to use.

[How do I download the command-line emacs instead of the GUI one? - Ask Ubuntu](https://askubuntu.com/questions/23645/how-do-i-download-the-command-line-emacs-instead-of-the-gui-one)

So the second top rated comment in this post helped me figure out how to use emacs in the terminal which was the command “emacs -nw”.

[How to Install and Configure Fail2ban on Ubuntu 20.04 – TecAdmin](https://tecadmin.net/how-to-install-and-configure-fail2ban-on-ubuntu-20-04/)

This website really helped me and walked me through the steps of installing and using fail2ban.

[Lolcat - A Command Line Tool to Output Rainbow Of Colors in Linux Terminal (tecmint.com)](https://www.tecmint.com/lolcat-command-to-output-rainbow-of-colors-in-linux-terminal/)

This website helped me a lot in installing lolcat by walking me through the installation process.