**Documentation for Continued Setup in Ubuntu**

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**CIS-245**

**LINUX ADMINISTRATION**

**For this part of our labs I am going to show you the next few things you also need to install on your servers.**

**In order for us to keep installing on our server we need to be using the Sudo, apt-get and install commands.**

**Sudo is a program computer operating system that allows users to run programs with security privileges for another users, by default the superusers.**

**Sudo were designed to run commands only as the superusers.**

**Apt-get is a line tool which helps in handling packages in Linux. Its main task is to retrieve the information and packages from the authenticated sources for installation, upgrade, and removal of packages along with their dependencies.**

**APT stands for the Advanced Packaging Tool.**

**Install command is used to copy files and set attributes. It is used to copy files to a destination of the user’s choice, if the users want to download and install a ready to use package on GNU/Linux system then he should use apt-get, apt, yum, depending on their distribution.**

**The first application we need to install is Tmux.**

**Tmux allows multitasking in a terminal window. It stands for terminal multiplexing and is based around sessions. Users can start a process, switch to a new one, detach from a running process, and reattach to a running process.**

**So, as we want to install the Tmux, this in our server this is what I did.**

**Install Tmux:**

**Sudo apt-get install tmux**

**Text

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**Install emacs:**

**For installation will also use the same commands we used in the installation before.**

**Emacs is a text editor designer for POSIX operating systems and available on Linux.**

**Users love Emacs because it features efficient commands for common but complex action and for the plugins and configuration, hacks that have developed around it for nearly 40 years.**

**Sudo apt-get install emacs**

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**After the first operation is finished, it will ask you to about the 278 MB of additional disk space will be used and if you want to continue, you press yes and it will continue.**

**Text

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**And this will be the final result of installation of emacs.**

**Install Fail2Ban**

**Fail2Ban: is a free and open source software that helps securing your Linux server against malicious logins. This will ban the IP (for a certain time) if there is a certain number of failed login attempts.**

**For this one I used the same commands, but I had to do some things different inside in the syntax.**

**To the install I run this.**

**Sudo apt-get install -y fail2ban**

**Text

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**After this command is already installed this thing is ready to go, but after that you need to start and enable the service with this command.**

**For this to happen I had to hole the (Systemct1) which is a command new tool to control the system and service. This is the replacement of old Sys Vinit system management.**

**To start and enable the server you must do this followed steps.**

**Sudo systemct1 start fail2ban**

**Sudo systemct1 enable fail2ban.**

**And then the commands will look like this.**

**Text

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**In addition to finish with the whole thing of fail2ban we have to Configuring a jail for a SSH login attempts.**

**A jail in Linux is a directory tree that you create within your file system, the user is not able to see other directories or even files that can be located outside the jail directory.**

**To run the command, we are going to use this.**

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**Nano: as the text editor.**

**Etc/fail2ban/jail.local: to store all the information of your fail2ban.**

**In this new file you will introduce the following contents.**

**[sshd]**

**Enabled = true**

**Port = 22**

**Filter = sshd**

**Logpath = /var/log/auth.log**

**Maxretry = 3**

**This set up will monitor the /var/log/auth.log and will use the fail2ban sshd filter, will set the SSH port to 22, and will also set the maximum retry to 3.**

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**Install the cowsay**

**Cowsay: is a program that generate ASCII picture of a cow with a messages.**

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**Sudo apt-get install cowsay**

**Text

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**To test it you have to run cowsay test in this should appear on your screen.**

**Diagram, schematic

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**Install lolcat**

**Lolcat is an utility for Linux, BSD and OSX which concatenates like similar to cat command and it will allow you to have colors on it.**

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**To allow the color to be reflected on your screen you will need to use the pipe option.**

**To install:**

**Sudo apt-get install lolcat**

**Text

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**To run it on your screen with the pipe option.**

**Text

Description automatically generated**

**In addition you have to use the cowsay and type whatever you want following with the pipe to add the color with the text and the cowsay.**

**Udate vi to vim**

**In order for me to update VI to Vim we are going to use the same commands for installation.**

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**For instalaton:**

**Sudo apt-get install vim**

**Text

Description automatically generated**

**To check if the update is working properly you will check the script using both VI and VIM and if comes out with the same it is working properly.**