Linux Servers Install

Part 1 Virtual Box

* First Install Virtualbox click the following link and download the version based off your operating system open the file use the default settings and keep clicking next when installing.

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

A screenshot of a computer

Description automatically generated

A screenshot of a computer

Description automatically generated

A screenshot of a computer

Description automatically generated

* Do not worry if you see a warning about Network interferences, it just means you may lose connections momentarily when installing VirtualBox click yes and also press yes when told about missing python dependencies then press install wait for it to finish.

A screenshot of a computer

Description automatically generated

You should see this if installation is successful. If box is left check it will start virtualbox

Part 2 CentOS Setup

* Install the iso file for CentOS from the following website click on x86\_64 unless you use a different architecture and choose any version of the .iso files from the mirrors in your region (under the green box) Link: <https://www.centos.org/download/>

A screenshot of a computer

Description automatically generated

A screenshot of a computer

Description automatically generated

A screenshot of a computer

Description automatically generated

Download any of the .iso files

* On VirtualBox Click New. Name the virtual Machine whatever you’d like on iso image select your CentOS iso file and click skip unattended Installation then press next and use the default settings and press next as seen on the screenshots

A screenshot of a computer

Description automatically generated

A screenshot of a computer

Description automatically generated

A screenshot of a computer

Description automatically generated

A screenshot of a computer

Description automatically generated

Press Finish to create your virtual machine.

* Next Select your virtual machine to Settings -> Network under adapter 1 click on NAT where it says Attached to and select bridged adapter then click Ok.

A computer screen shot of a network

Description automatically generated

* You can now begin setting up your Server, select your virtual machine and click start (the green arrow).
* Press Enter on install CentOS 7 then wait till you get to a menu about the language

A screenshot of a computer

Description automatically generated

* Select your language then click continue go to Software selection and Select Infrastructure Server then click Done.
* IMPORTANT TIP (in your virtual machine your mouse is locked to the virtual machine so you cannot use your mouse to go to file machine view options on the as seen on the screenshot below or go anywhere outside the virtual box press right ctrl to have your mouse exit the vm and hover your mouse on the vm click and click capture to have your mouse enter the vm again

A screenshot of a computer

Description automatically generated

A screenshot of a computer

Description automatically generated

* Go to installation destination then click done unless you need to change the installation location.

A screenshot of a computer

Description automatically generated

* Your settings should like the screenshot below before clicking begin installation.

A screenshot of a computer

Description automatically generated

* Click on user creation and root Password and give a password for the root user. Click done then create username and password for the user make sure to have the information memorized.

A screenshot of a computer

Description automatically generated

A screenshot of a computer

Description automatically generated

(You should have a strong password for both your root and your user)

A screenshot of a computer

Description automatically generated

* Wait for the server to install and press finish configuration if you need to otherwise select reboot press enter on the first option or wait a few seconds to successfully boot into your server

A screenshot of a computer

Description automatically generated

(successful installation)

A screenshot of a computer

Description automatically generated

(successful boot)

* We are going to give our user sudo privileges log in as the root by typing root on localhost login then press enter then enter your root password (you won’t be able to see what you put for your password when logging in regardless of user or root, but you are typing even if it doesn’t seem that way)

A screenshot of a computer

Description automatically generated

* Type visudo this will open a vi file which is a text file type in linux press “i” to go into insert mode (you should see an all caps INSERT on the bottom left your screen) to add text and use the arrow keys to navigate through the file look for a line that says “root ALL=(ALL) ALL”

A screenshot of a computer

Description automatically generated

* Under that line add a line that is formatted as follows: username ALL=(ALL:ALL) ALL (example: jdoe ALL=(ALL:ALL) ALL) tabs included see screenshot below for visual example

A screenshot of a computer

Description automatically generated

* Press esc now where it previously said INSERT should be blank = type “:wq” (no quotes) then press enter to save and quit
* Press Ctrl + D to log out and clear your terminal and log in as the user you created test your sudo privileges by doing a sudo command type sudo echo “I can use sudo now” enter your password you may have to do this each you do a sudo command it should then echo what you put in quotes

A screenshot of a computer program

Description automatically generated

(You will only see the message above sudo password once)

Part 3 Internet Connection

* To enable internet access we are going edit another vi file type “sudo vi /etc/sysconfig/network-scripts/ifcfg-enp0s3” in your terminal and press enter

A black background with white text

Description automatically generated

* Enter your sudo password press “i” to go to insert mode and using the arrow keys navigate to where it says ONBOOT=no

A screenshot of a computer

Description automatically generated

* Change the no part to yes then press esc then type :wq then enter to save and quit your file



* After exiting your file type “sudo systemctl restart network” in your terminal to restart network settings test your pinging by typing “ping -c 3 8.8.8.8” which will ping google 3 times
* Put “hostname -I” (uppercase i) in your terminal to get your ip address if the ip address is 10.0.2.15 exit your virtual machine (see step below on exiting) click your virtual machine go to settings -> network and make sure the attached to section is not NAT but bridged adapter otherwise take note of that ip address.

A screenshot of a computer screen

Description automatically generated

Part 4 Ubuntu Server

* On your virtual machine click file then close and press ok you can exit however you want we will come back to it press ok. (if applicable)

A screenshot of a computer

Description automatically generated

A screenshot of a computer

Description automatically generated

A screenshot of a computer

Description automatically generated

* Download the ubuntu server .iso file from the following link: <https://ubuntu.com/download/server> Press the green button that says to download ubuntu server.

A screenshot of a computer

Description automatically generated

* On VirtualBox Click on New keep the machine folder as is name the virtual machine whatever you’d like on iso image select the ubuntu .iso file you downloaded and check on skip unattended installation and use the default settings and press finish on installation summary page

A screenshot of a computer

Description automatically generated

A screenshot of a computer program

Description automatically generated

A screenshot of a computer

Description automatically generated

A screenshot of a computer

Description automatically generated

* Select the virtual machine you’ve just made click settings->network and under adapter 1 select where it says NAT and select bridged adapter instead. Then Press ok.

A computer screen shot of a network

Description automatically generated

* Select your virtual Machine and press start to enter your virtual machine. Then Press enter on try or install ubuntu
* Press enter on the language you want to use and use the arrow keys to go to update to the new installer then press enter.

A screenshot of a computer

Description automatically generated

* Afterwards use the default settings and keep pressing done and use the arrow keys to navigate to the done button wait for the proxy to test then press done and when ask to confirm destructive action press continue.

A computer screen shot of a keyboard

Description automatically generated

A screenshot of a computer

Description automatically generated

(Make sure Ubuntu server is selected)

A screenshot of a computer

Description automatically generated

A screenshot of a computer

Description automatically generated

Press done and wait for proxy to finish

A computer screen shot of a black and white screen

Description automatically generated

Keep pressing done use the default settings.

A screenshot of a computer

Description automatically generated

Use the arrow keys to navigate to done use the default settings and select enter

A screenshot of a computer

Description automatically generated

A screenshot of a computer error

Description automatically generated

Select Continue to confirm installation process.

* Create a Name, Server Name, Username and password remember this information.

A screenshot of a computer

Description automatically generated

Use a strong password for your user.

* Keep skip install for ubuntu pro selected then select continue.

A screenshot of a computer

Description automatically generated

* Press enter to select the option to install OpenSSH Server then go to continue and press enter, skip the featured server snaps by going to done and wait for the install and update to finish until you see the reboot now option select it

A screenshot of a computer

Description automatically generated

A screenshot of a computer

Description automatically generated

* Wait for the install to finish and let it update do not select cancel update and reboot wait for the update to finish and select reboot now when you see it

A screenshot of a computer

Description automatically generated

* A message will appear asking to remove the installation medium just press enter to reboot you will only see this once

A screen shot of a computer

Description automatically generated

* You may have your first time to log in interrupted by a bunch of test this only happens once just press enter to be able to log in and do so

A screenshot of a computer

Description automatically generated

A screenshot of a computer

Description automatically generated

Big message will appear for first time logging in

* Type “hostname -I” no quotes in your terminal address if the ip address is 10.0.2.15 exit your virtual machine click your virtual machine go to settings -> network and make sure the attached to section is not NAT but bridged adapter otherwise take note of that ip address.
* Do a test ping by typing “ping -c 3 8.8.8.8”

A screenshot of a computer screen

Description automatically generated

**Part 5 Sharing Files**

* Start you CentOS server if you haven’t already make sure both servers are on.
* Type “hostname -I” no quotes uppercase i to get both of your servers IP addresses
* Do a test run by pinging each other type “ping -c 3 [server IP address]” from both ends. If there are no errors we should be ready share files

**A screenshot of a computer

Description automatically generated**

**(From CentOS pinging ubuntu Server)**

**A screenshot of a computer screen

Description automatically generated**

**(From Ubuntu pinging CentOS server)**

* We will do our test run by sharing a vi file (the file type of the files edited in our centOS files)
* In the CentOS file type vi then whatever you’d like for the name of the file (ex: vi myfile) npress “i” to add text add whatever you want then press esc then type :wq then enter to save your file

A black screen with white text

Description automatically generated

* On your ubuntu server we are going to make a destination to where we want to share our file on the terminal and type mkdir and whatever you’d like for the directory lets called it target so mkdir target
* Type ls -a to confirm your directory exists

**A black screen with white text

Description automatically generated**

* We will be using scp to share files scp file sharing commands are formatted by file name or location if not in directory of file then the username of the server we want to send it an @ and then the ip address the server a :/ then the destination of where we want to send it to the file you should always by default do :/home/username as a place to start as that is the default starting directory then location since I want jdoe to share a file janedoe’s server I will format it from my CentOS file as shown in screenshot

****

* For first time file sharing it will establish a fingerprint for the user for security purposes type yes to establish connections then enter the password of the user you want to share the file too if successful it will output the name of the file you’ve just shared

**A screen shot of a computer

Description automatically generated**

* From your ubuntu server go the directory you sent your file to type ls -a you should see the file in that directory type cat then filename to get the text from that server or vi filename to open it type cd .. to go back one directory this should lead your default directory

**A black screen with white text

Description automatically generated**

* Test it from the other side create a file from your ubuntu server and share it to your centOS server the process is the same if there are no issues you have just successfully set up two linux servers and shared files between them.

**A screenshot of a computer program

Description automatically generated**

**A computer screen shot of a computer

Description automatically generated**