

SETTING UP YOUR FIRST LINUX SERVER

Things you'll need:

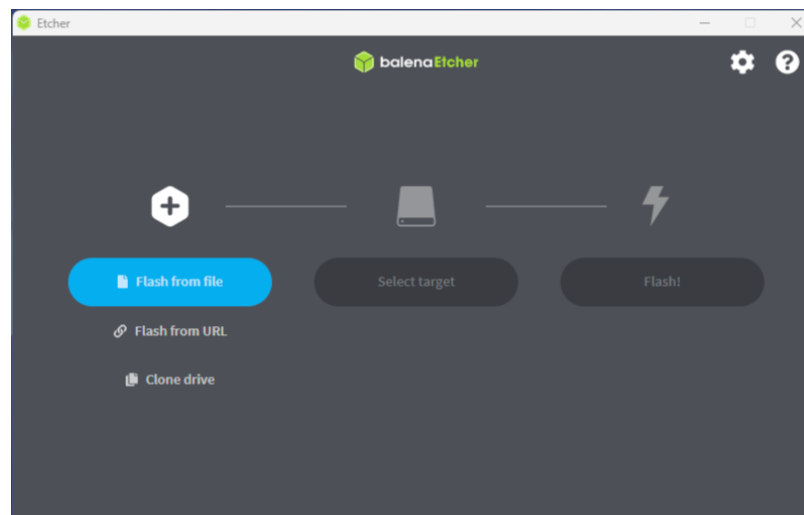
1. Either a PC tower or virtual machine.
2. A copy of Ubuntu Server OS.
3. A USB stick with at least 16GB of storage or more. (If using PC Tower)
4. Software for burning the ISO into a USB stick.

The first thing you need to decide:

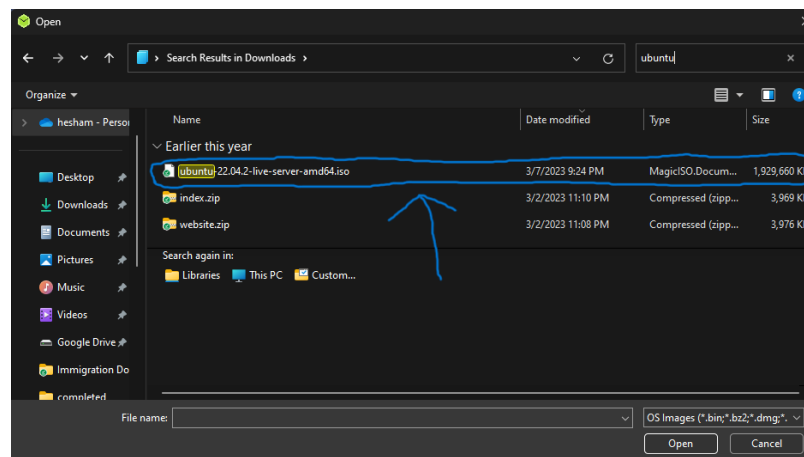
- Install it on a virtual machine. (If using this option, create VM, load ISO, and then skip to step 10)
- Install it on separate hardware.

If you're going to install it on separate hardware:

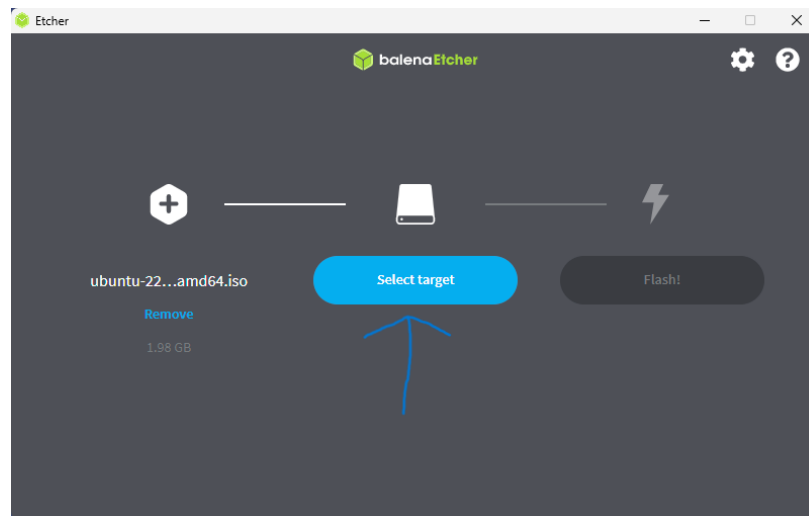
1. Begin by inserting a USB Stick into your computer.
2. Load the ISO burning software (I'm using BalenaEtcher, but you can use whatever suits you best)



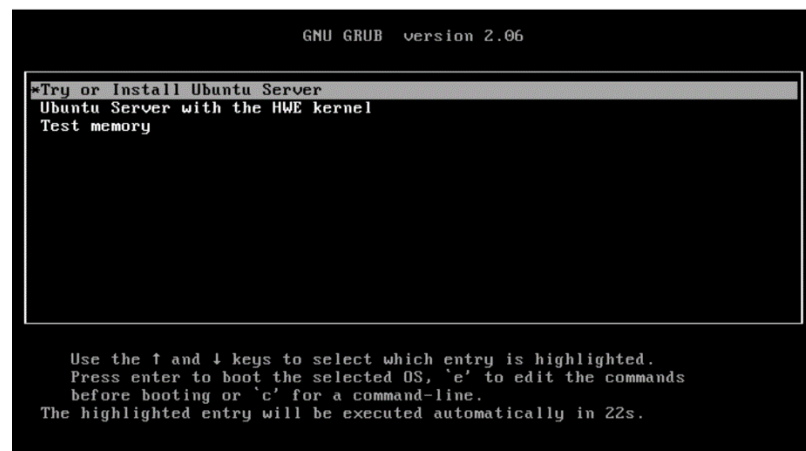
3. Click on "Flash from File" (or open ISO on your preferred ISO burner)
4. Find the Ubuntu Server ISO file and click on it to load it.



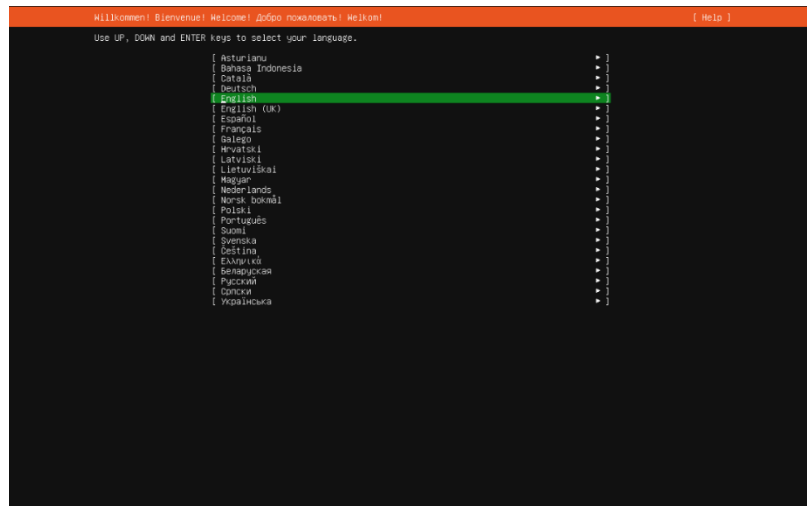
- Once you have the ISO selected, you want to go ahead and select what device you're going to burn it to.



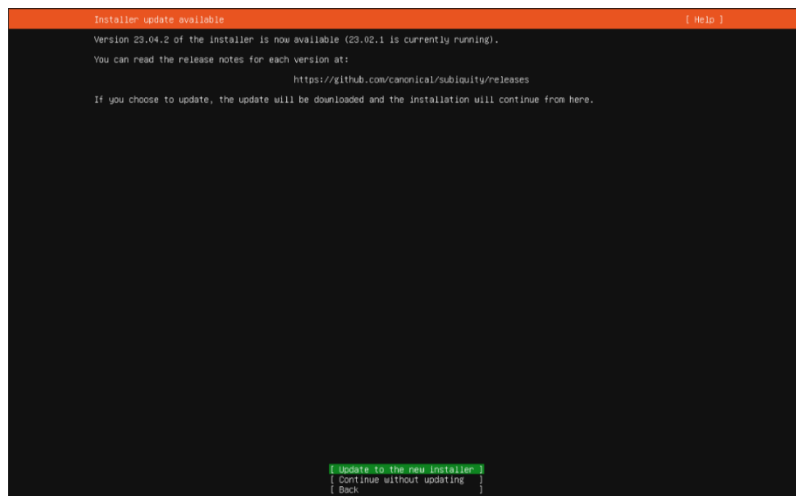
- You should see the USB stick that you inserted back in Step 1 here. Go ahead and select that USB drive. **(NOTE: Proceeding with this will erase everything on your USB drive. Please make sure there is nothing on that USB drive that you want to lose.)**
- Click on Flash and wait for it to be completed.
- Remove the USB from your computer and insert it into the target computer where you want to install the server OS.
- Boot into the USB drive that you inserted. This usually requires you to click F2 or Delete when the computer turns on. (This will depend mostly on the computer but those two are the most common.)
- You should see a menu like below if done properly. Using the keyboard, highlight "Try or Install Ubuntu Server" and hit enter.



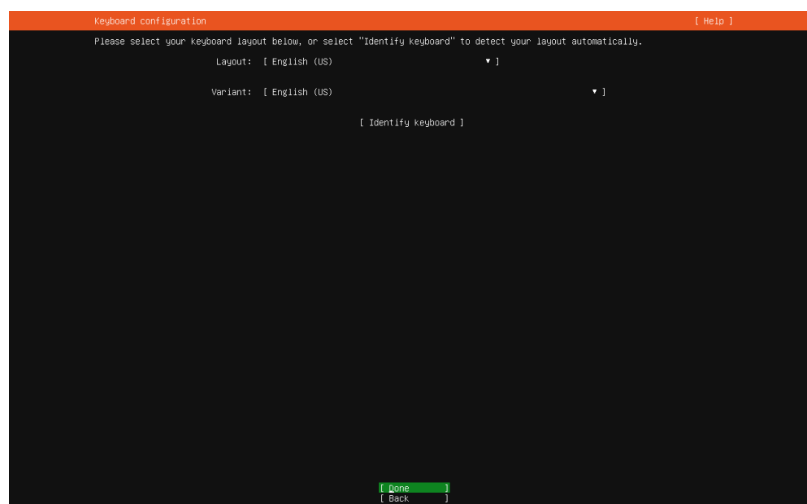
11. Select your language of choice. (I'm using English for this)



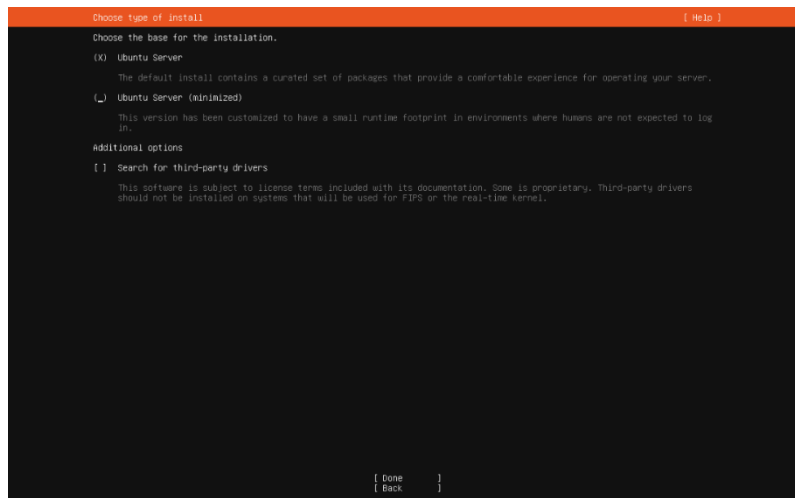
12. If you are using an older ISO file, you will get this screen here. It is up to you whether you choose to update or not. I'm going to run the update and use the newer installer.



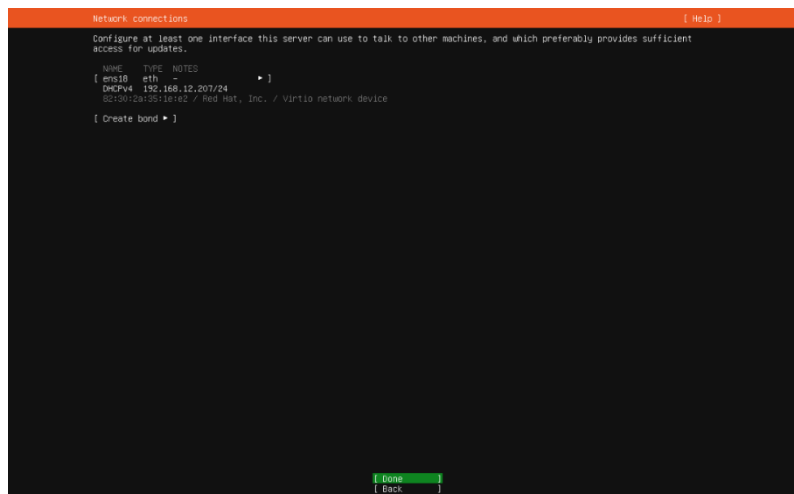
13. Select keyboard variants and layout. For most folks, the default will work here.



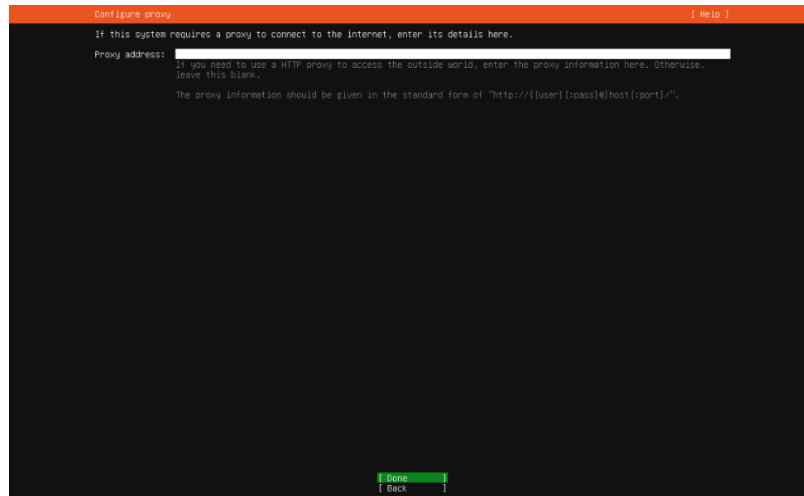
14. This is where you will select which version of Ubuntu Server you want to install. The two options are the Ubuntu Server and the minimized version of Ubuntu Server. For most systems, regular Ubuntu Server will work just fine.



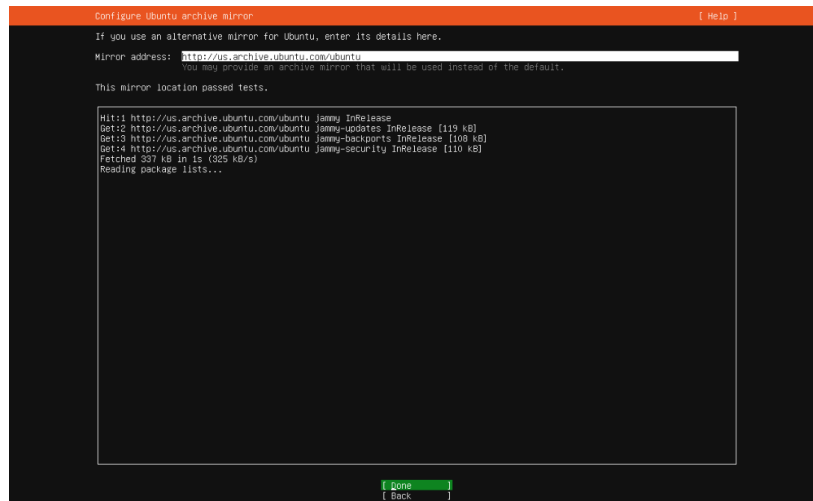
15. Next you should be on the network connection page. This will show your network interface, IP address (NOTE: This usually defaults to DHCPv4, which means the Internal IP address is assigned by default. If you want to make the Internal IP address static, there are 2 ways to do it. It can be done either from the server itself or from your local router configuration.), and MAC address. Defaults should be fine here as well. Click done and proceed.



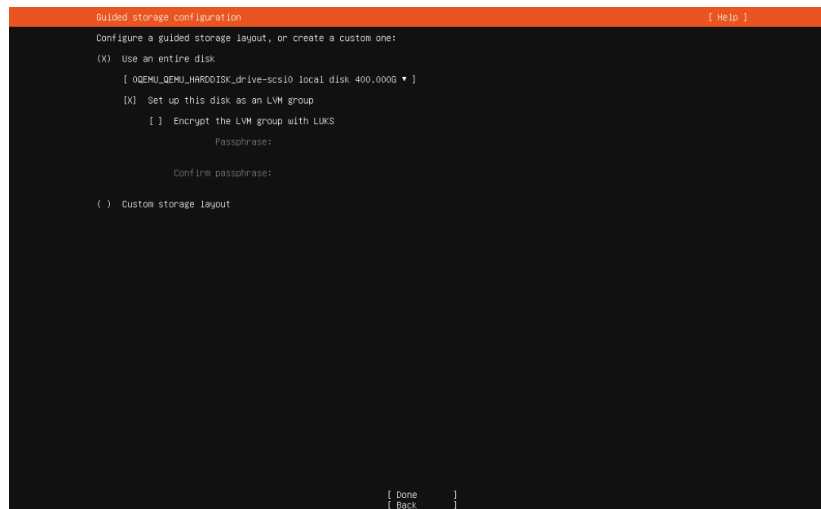
16. A page should appear next asking about configuring a proxy connection. For most people, proxy connections are not needed. You can just click done and move on to the next step.



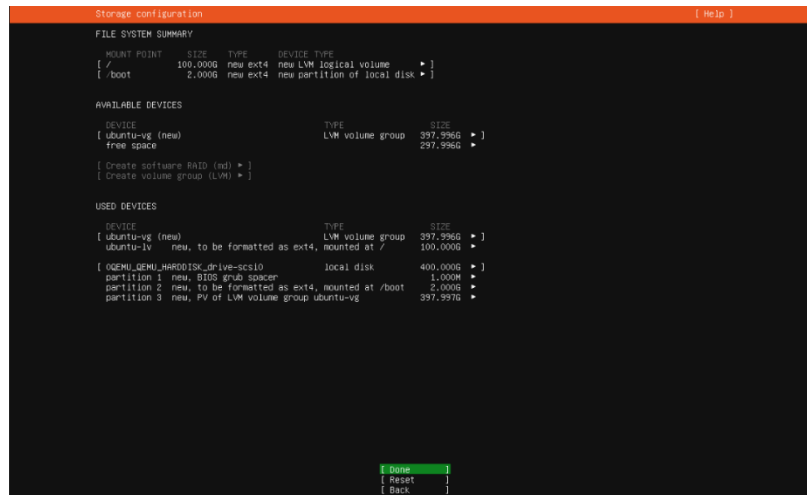
17. On this page here you should not have to alter anything. It'll run a short test to make sure you can run updates. Go ahead and click done.



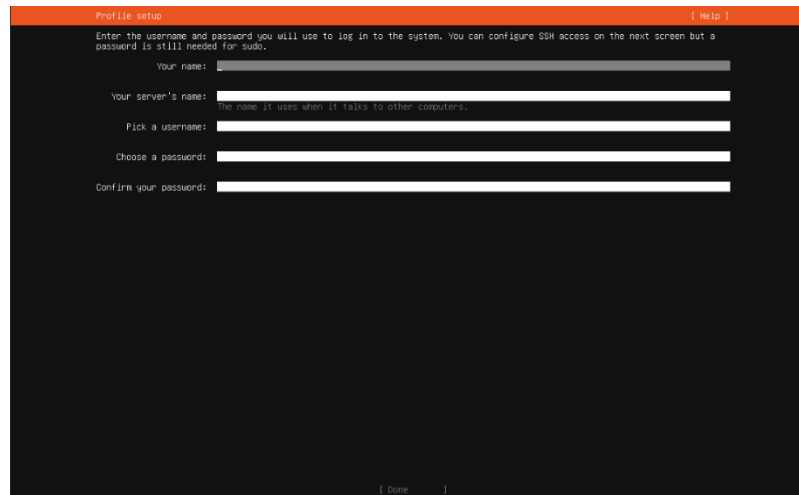
18. This page will talk about storage configuration. If you're using either a VM or a computer tower with nothing on the hard drive, then the defaults here will work just fine. This is set to use the entire disk for the server.



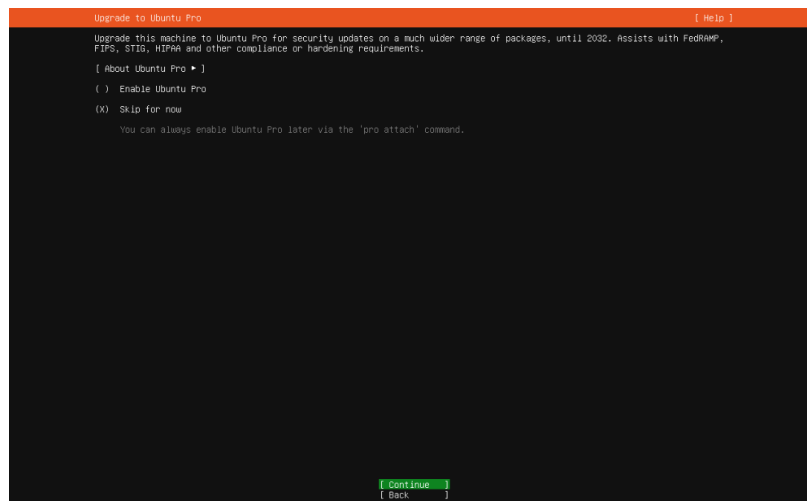
19. This is the summary page for the storage. It will show you what was allocated for each part of the system and what is left after everything is installed. Highlight done and click enter.



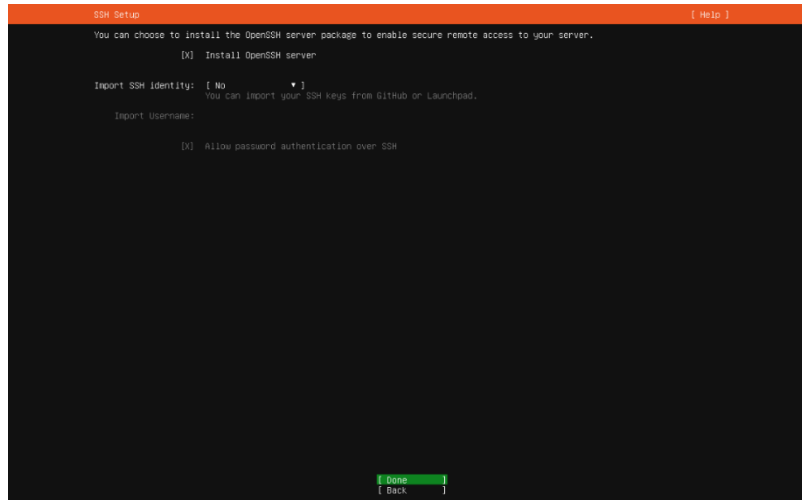
20. This next page will ask you to configure the user and server identifiers. It'll ask for your name, server name, username, and password. This part is completely up to you regarding what is entered. Once you enter what you like, go ahead, and click done.



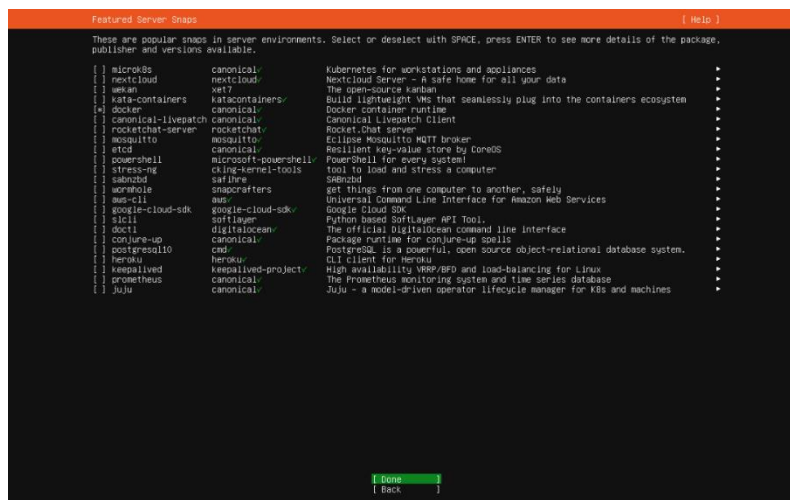
21. This will ask you about ubuntu pro. You can skip over this.



22. The next page will ask you about SSH. This is important because if you're going to run this server without a monitor and keyboard attached, you want to be able to access it. Highlight the spot next to where it says "Install OpenSSH server" and hit enter. An "X" should be next to it indicating that we want to install the service. Go back to the bottom where it says done and hit enter.

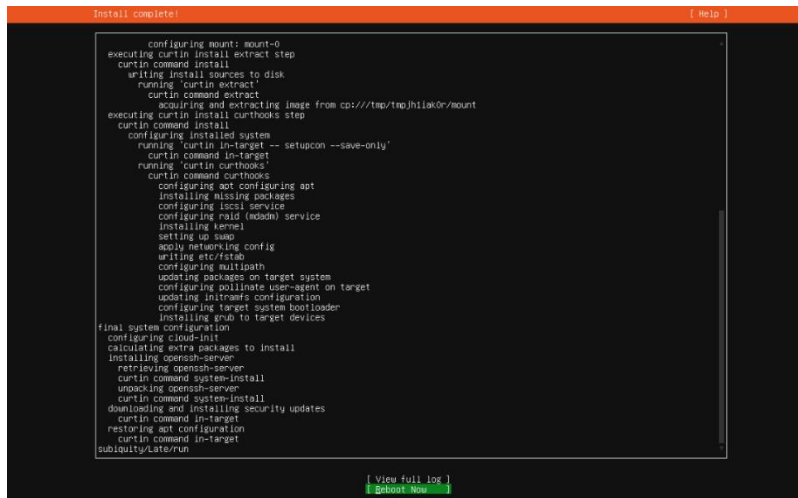


23. This is a list of extra services that you can install while getting ubuntu server installed. You can highlight and select which ones suit you best based on your needs. For this guide, the only one we need is docker. Using the arrow keys, highlight over docker and hit space bar to select it. Scroll back to the bottom and highlight done and click enter.



24. Now all you have to do now is sit back and wait for it to finish installing everything. This can take several minutes to finish. Please be patient and wait for it to be completed.

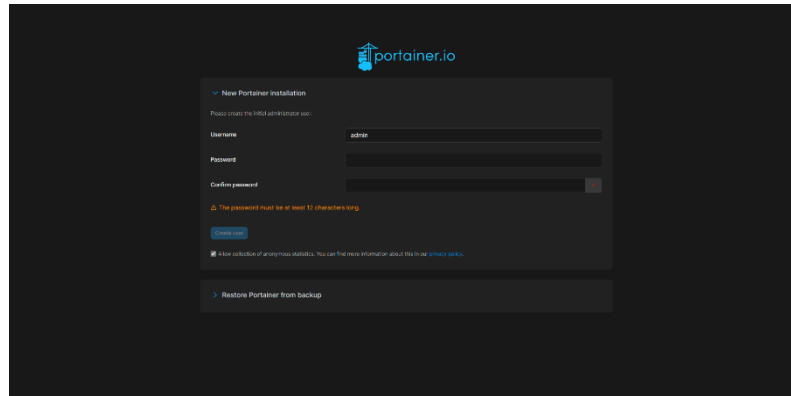
25. Once the Install is complete, it will say “Install Complete”, and you’ll need to reboot the system. Using the arrow keys, scroll down until you highlight “Reboot now” and hit enter. This will reboot the system.



```
Install complete! [ Help ]
configuring mount: mount-0
executing curtin install extract step
curtin command install
writing install sources to disk
running curtin extract
curtin command extract
acquiring and extracting image from cp://tftp/tpo.jh1ak0r/mount
executing curtin install curthooks step
curtin command install
configuring installed system
running curtin in-target -- setupcon --save-only
curtin command in-target
running curtin curthooks
curtin command curthooks
configuring apt configuring apt
installing missing packages
configuring local service
configuring raid (mdadm) service
installing seneel
setting up swap
apply networking config
writing etc/fstab
configuring multipath
updating packages on target system
configuring polinate user-agent on target
updating initramfs configuration
configuring target system bootloade
installing grub to target devices
final system configuration
configuring cloud-init
calculating extra packages to install
installing openssh-server
restoring openssh-server
curtin command system-install
unproceed openssh-server
curtin command system-install
downloading and installing security updates
curtin command in-target
restoring apt configuration
curtin command in-target
subcloudy:sternon
[ View full log ]
[ Reboot Now ]
```

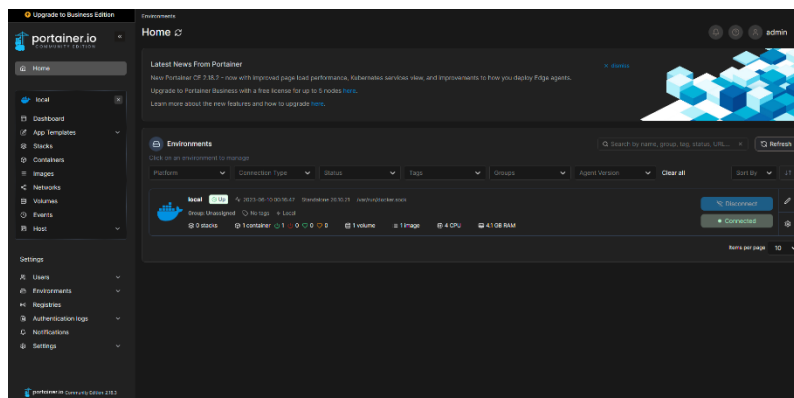
26. After the system reboots, login using the credentials that you created back in step 20. Once logged in, go ahead and type in “sudo apt update” and hit enter. It’ll prompt for your sudo password. Enter the password you made back in step 20 and hit enter. If done correctly, it should tell you the number of packages that can be upgraded.
27. Type in “sudo apt upgrade” and hit enter. It should update every package. This will take some time. Wait for it to finish. If it asks you a question, just type y and hit enter. If it asks you about which services should be restarted. Leave the defaults and hit tab until you highlight “ok”. Hit enter.
28. Now that we updated and got the ubuntu server installed, we need to go ahead and install docker and portainer. Type in “sudo apt install docker.io”. If this asks about restarting services, hit tab until you highlight ok and hit enter.
29. The next step is to get portainer installed. Type in “docker volume create portainer_data”. This will prep your machine for the portainer installation.
30. Now that you get your server prepped for portainer. Type in “sudo docker run -d -p 8000:8000 -p 9443:9443 --name portainer --restart=always -v /var/run/docker.sock:/var/run/docker.sock -v portainer_data:/data portainer/portainer-ce:latest” and hit enter. (NOTE: The newer versions of portainer now run on port 9443 using the https protocol. If you want to use the http option, add “-p 9000:9000” to the command in between the -p 8000:8000 and -p 9443:9443 spots in the command. If this is done correctly, it should pull the latest version of portainer. You can also verify the installation with the “sudo docker ps” command.
31. Restart your machine. You can type “sudo reboot” and it’ll reboot your machine.

32. Once your machine has restarted, open your internet browser and type in the local IP address for your machine in the address bar. It should be (localip:9000). Once you hit enter, it should open the portainer page to allow you to create a username and password. Go ahead and enter a username and password and click create user.



33. Click on get started and you should see something like below. If you click on the area where it says local, it will take you to the local dashboard where you can navigate the menu options for your containers. At this point, your server is ready to go. All you have to do is install the containers that you wish to run on your server. There are a few options.
- You can use the terminal and create docker-compose files.
 - Go to docker hub and grab images and configure them through the terminal.
 - Use a template and install pre-configured templates that are ready to install in portainer.

The easiest way is to use a template that has preconfigured images ready to go. I'll show you how to do it using the pi hosted template.



34. On the menu on the left, click on settings and where it says URL, paste this into the field next to URL:

<https://raw.githubusercontent.com/pi-hosted/pi-hosted/master/template/portainer-v2-amd64.json>

Click save after you pasted the URL into the field.

This will load all the pi-hosted templates that you'll be able to deploy with minimal effort.

