

Chapter 5. Ubuntu Server 22.04 Installation Guide

About this document:

Welcome to the software installation guide for Apress book, “Introduction to Python Network Automation: The First Journey, 2nd Edition”. This guide has been created by the author as supplementary material to the book and is part of the actual book. Its purpose is to provide a clear and concise set of instructions to help you install the necessary software to follow along with the book's examples and exercises.

By following the steps outlined in this guide, you will be able to set up the required software for Python network automation and start exploring the practical concepts covered in the book. Please note that this guide is not intended to be a comprehensive resource on network automation or Python, but rather a focused guide to help you get started quickly and easily.

If you have any questions or issues during the installation process, please don't hesitate to reach out to the author or consult the resources listed in the guide. I hope this guide proves helpful in your journey toward mastering Python network automation.

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Created:	13/August/2023
Last updated:	N/A

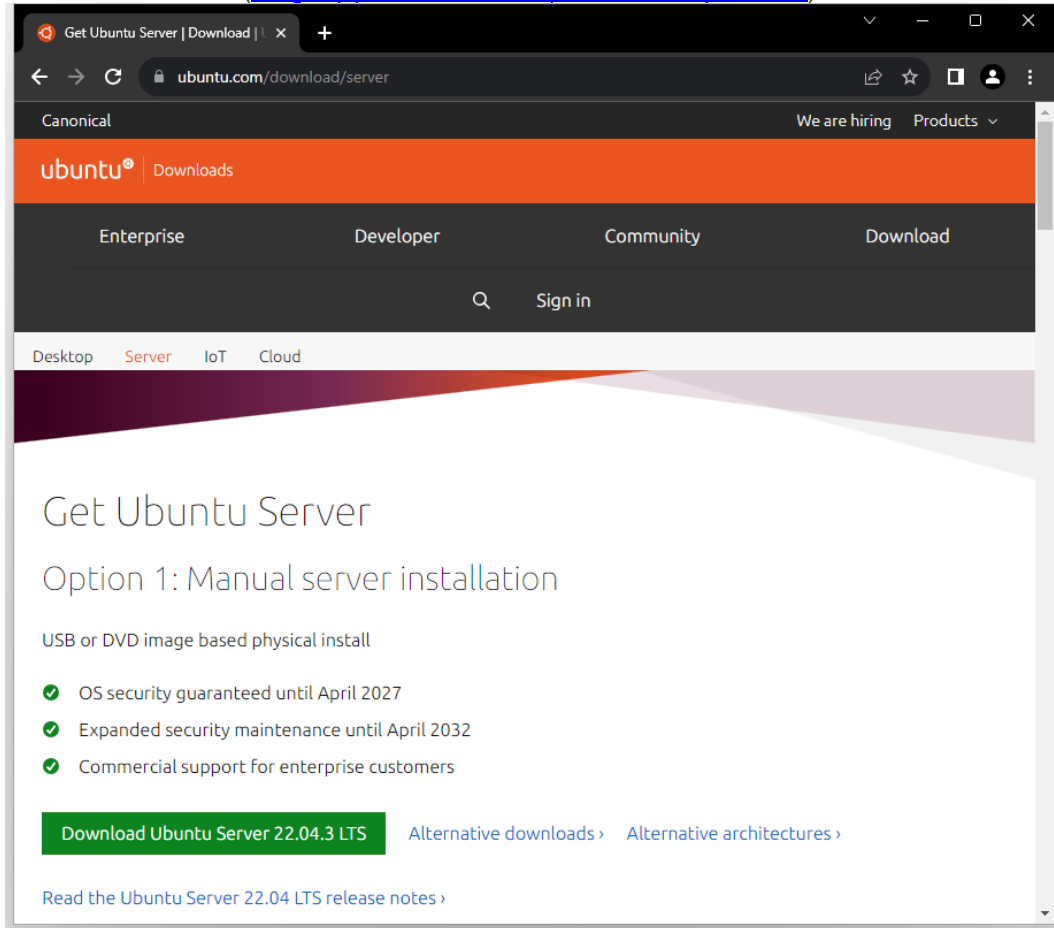
What's required?

Host OS:	Windows 11
Desktop Hypervisor:	VMware Workstation 17 Pro
File name:	Ubuntu 22.04 Server
Internet connection:	Yes

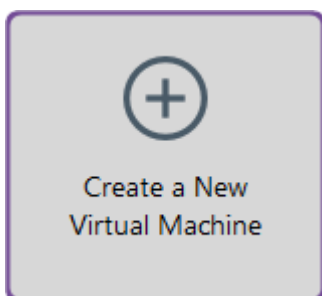
Installation Steps:

Here is a guided installation steps to create a Ubuntu 22.04 virtual machine on VMware Workstation 17.

1. First, you need to download the Ubuntu 22.04 ISO file from the official Ubuntu website (<https://ubuntu.com/download/server>).



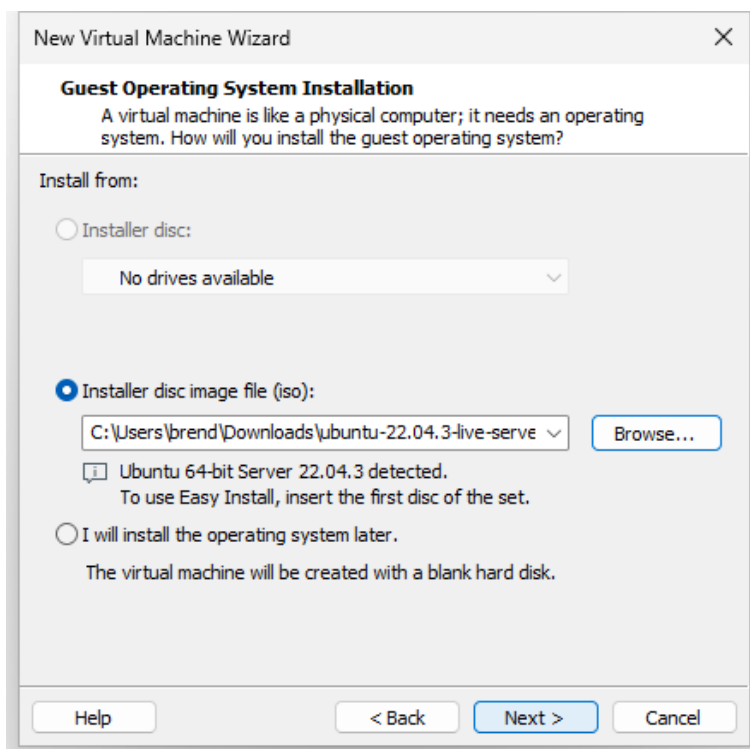
2. Open VMware Workstation 17 and click on "Create a New Virtual Machine" or go to File > New Virtual Machine.



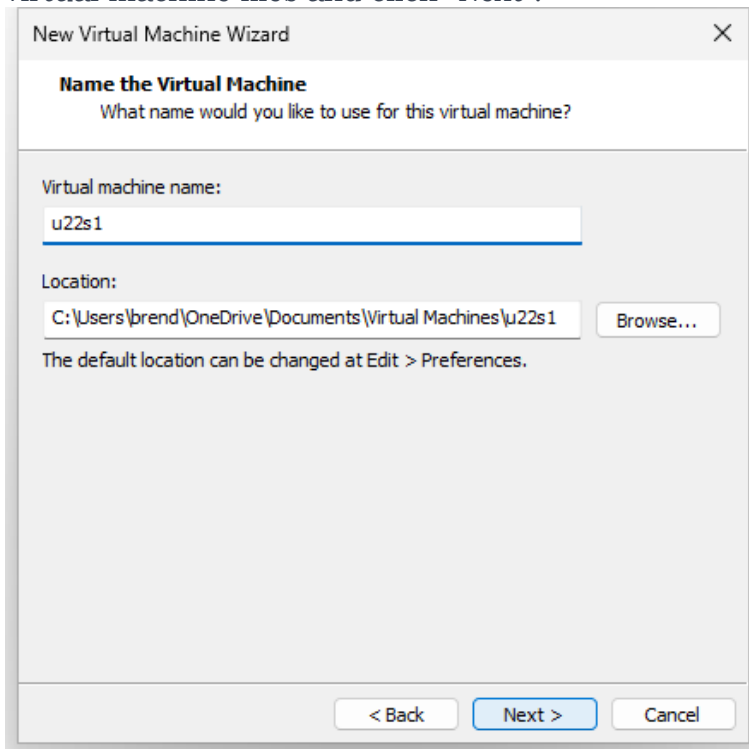
3. Select "Typical (recommended)" and click "Next".



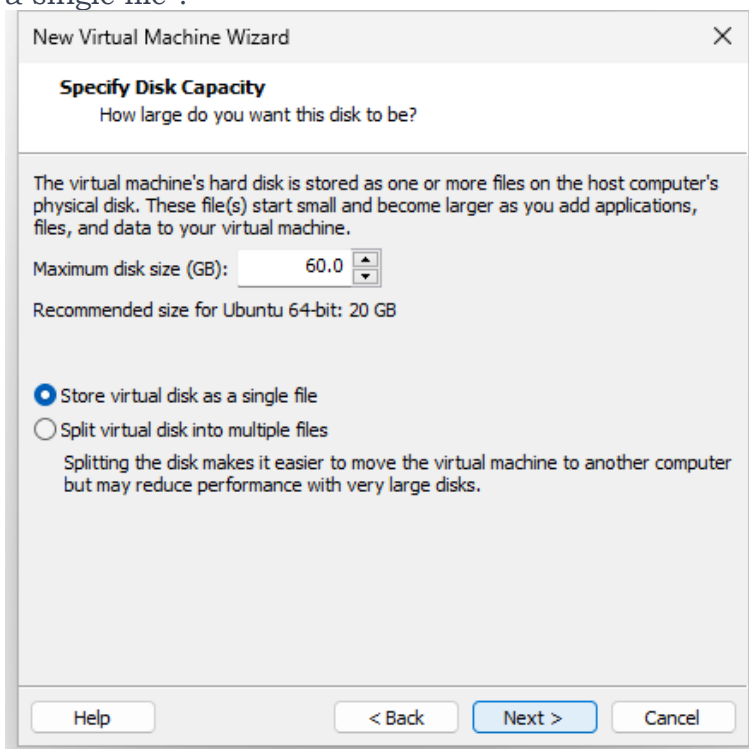
4. Choose the option "Installer disc image file (iso)" and click "Browse". Browse and select the Ubuntu 22.04 Server ISO file (ubuntu-22.04.3-live-server-amd64.iso) you downloaded earlier and click "Next".



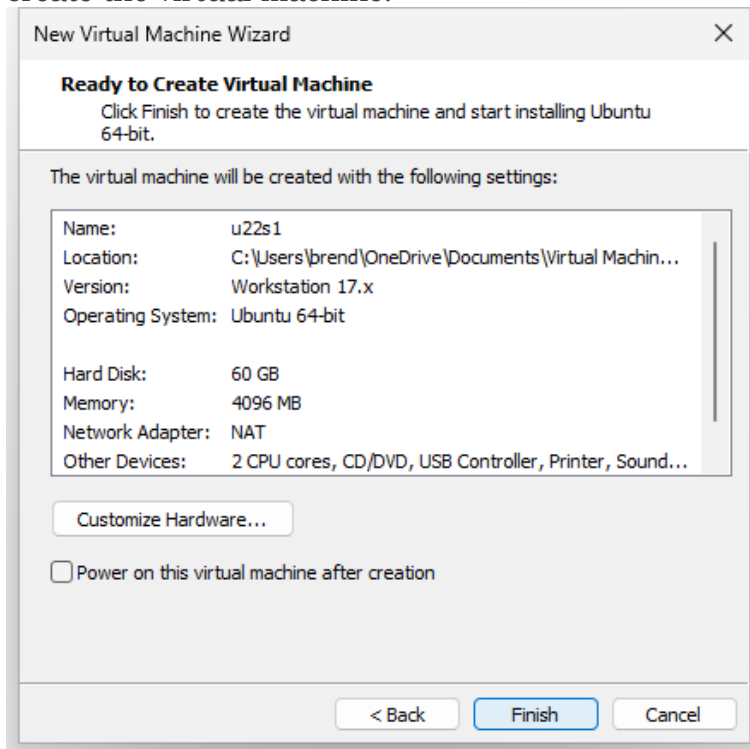
- Click "Next" and enter the name of the virtual machine, in my case u22s1 (Ubuntu 22 Server 1). Choose the location where you want to store the virtual machine files and click "Next".



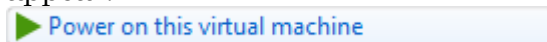
- Set the maximum disk size for the virtual machine and click "Next". Since we are using thin provisioning, the disk space will not be pre-allocated to the maximum disk size. Increasing to 60GB and selecting "Store virtual disk as a single file".



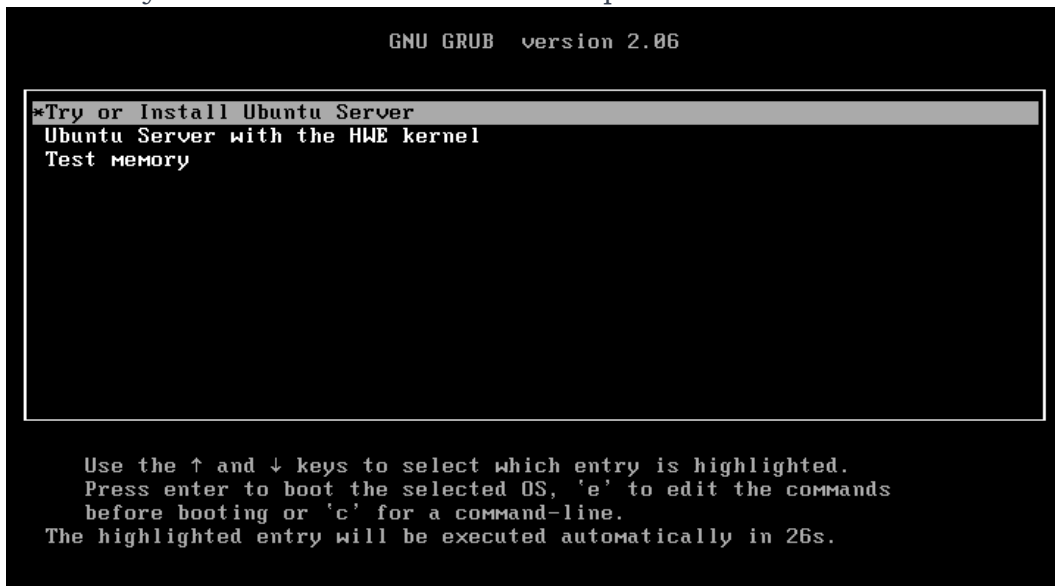
7. Unselect "Power on this virtual machine after creation". Click "Finish" to create the virtual machine.



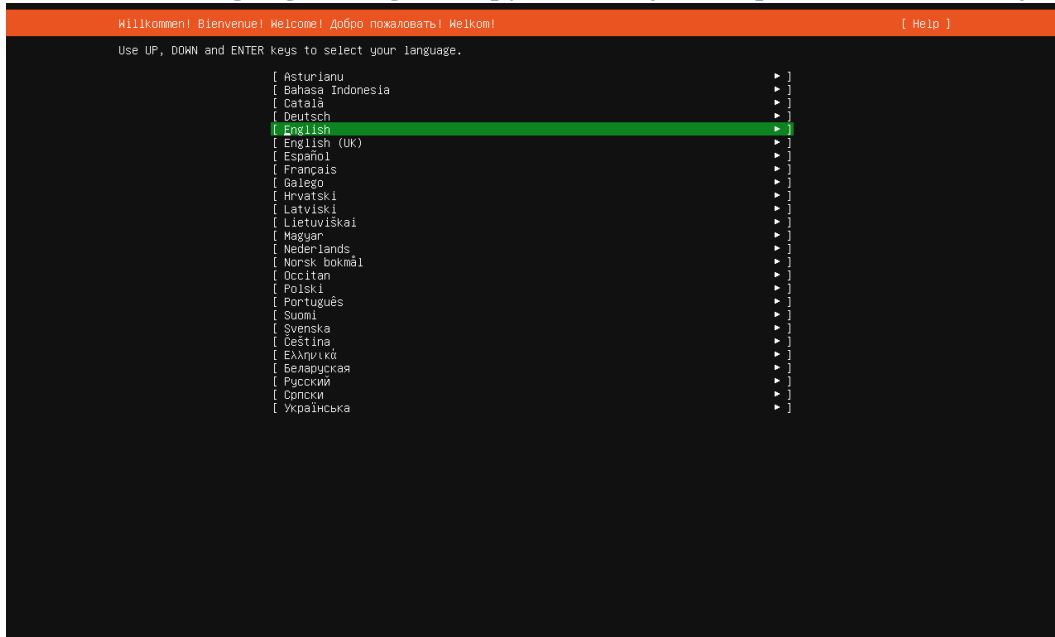
8. Power on the virtual machine and wait for the Fedora installation screen to appear.



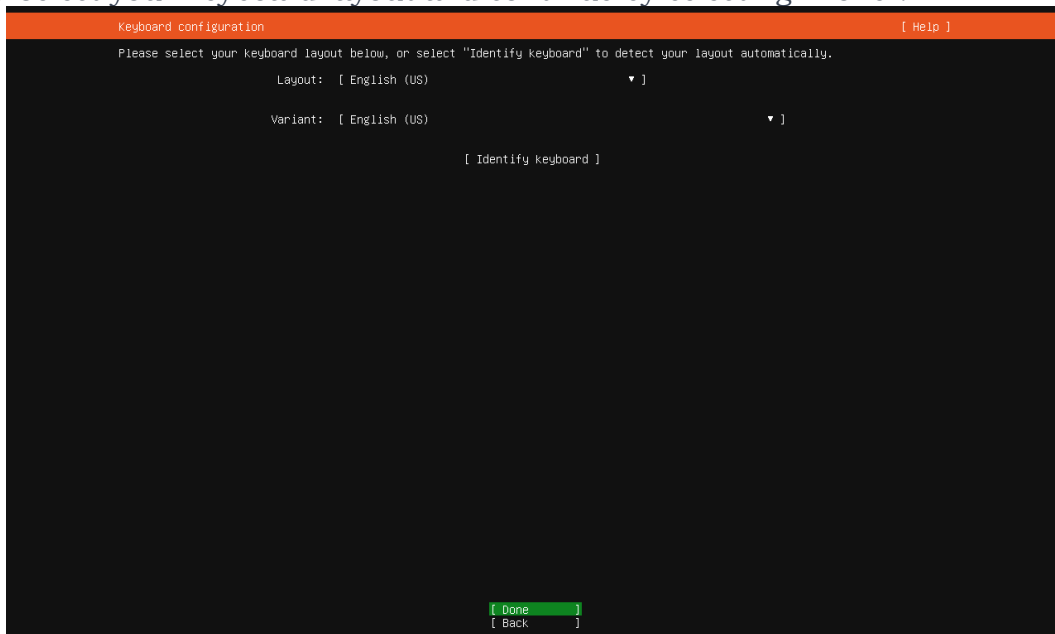
9. Select "Try or Install Ubuntu Server" and press Enter.



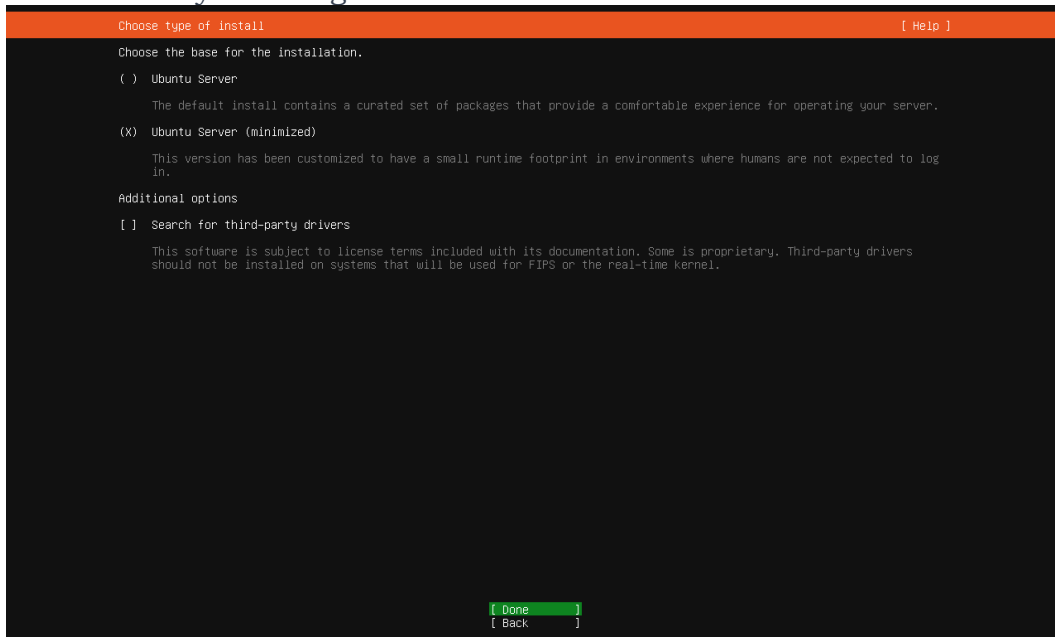
10. Choose the language using the Up/Down keys and press the Enter key.



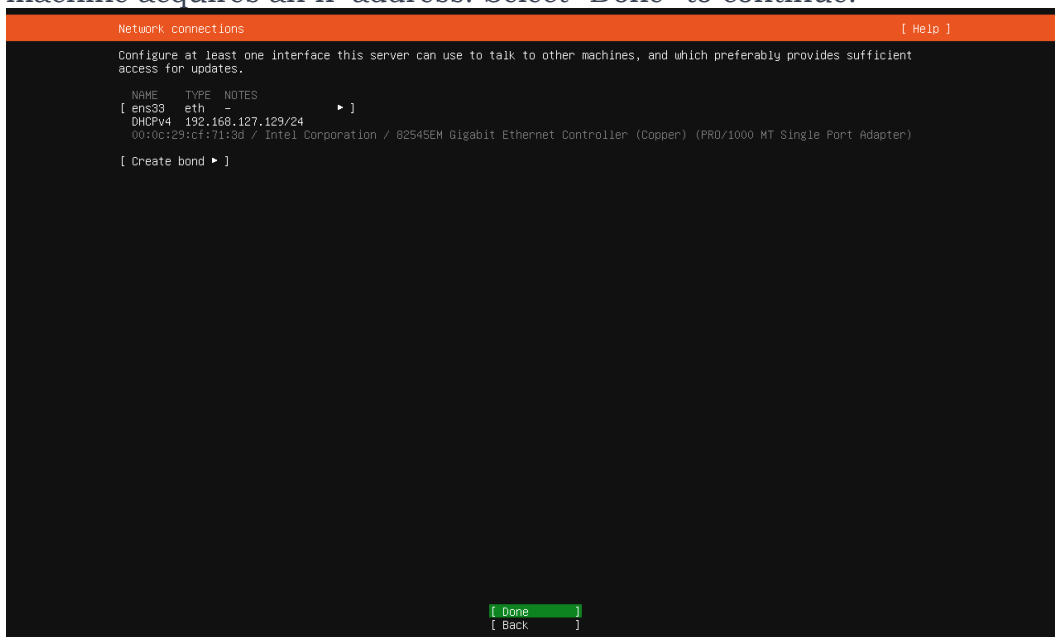
11. Select your keyboard layout and continue by selecting “Done”.



12. Change the type of install to “Ubuntu Server (minimized)” and continue the installation by selecting “Done”.



13. Leave the default setting for Network Connection for now so your virtual machine acquires an IP address. Select “Done” to continue.



14. You do not need to configure a proxy, so select “Done” to continue.

Configure proxy [Help]

If this system requires a proxy to connect to the internet, enter its details here.

Proxy address:

If you need to use a HTTP proxy to access the outside world, enter the proxy information here. Otherwise, leave this blank.

The proxy information should be given in the standard form of "http://[[user][:pass]@]host[:port]/".

[Done]
[Back]

15. The installation will read package lists. Select “Done” to continue.

Configure Ubuntu archive mirror [Help]

If you use an alternative mirror for Ubuntu, enter its details here.

Mirror address:

You may provide an archive mirror that will be used instead of the default.

This mirror location passed tests.

```
Hit:1 http://au.archive.ubuntu.com/ubuntu jammy InRelease
Get:2 http://au.archive.ubuntu.com/ubuntu jammy-updates InRelease [119 kB]
Get:3 http://au.archive.ubuntu.com/ubuntu jammy-backports InRelease [109 kB]
Get:4 http://au.archive.ubuntu.com/ubuntu jammy-security InRelease [110 kB]
Fetched 338 kB in 5s (74.5 kB/s)
Reading package lists...
```

[Done]
[Back]

16. Leave the Guided storage configuration as is and continue.

```
Guided storage configuration [ Help ]

Configure a guided storage layout, or create a custom one:

(X) Use an entire disk

    [ /dev/sda local disk 60.000G ▼ ]

    [X] Set up this disk as an LVM group
        [ ] Encrypt the LVM group with LUKS
            Passphrase:

            Confirm passphrase:

( ) Custom storage layout

[ Done ]
[ Back ]
```

```
Storage configuration [ Help ]

FILE SYSTEM SUMMARY
MOUNT POINT  SIZE  TYPE  DEVICE TYPE
[ /           28.996G new ext4 new LVM logical volume ▼ ]
[ /boot       2.000G new ext4 new partition of local disk ▼ ]

AVAILABLE DEVICES
DEVICE              TYPE  SIZE
[ ubuntu-vg (new)   LVM volume group  57.996G ► ]
[ free space                29.000G ► ]

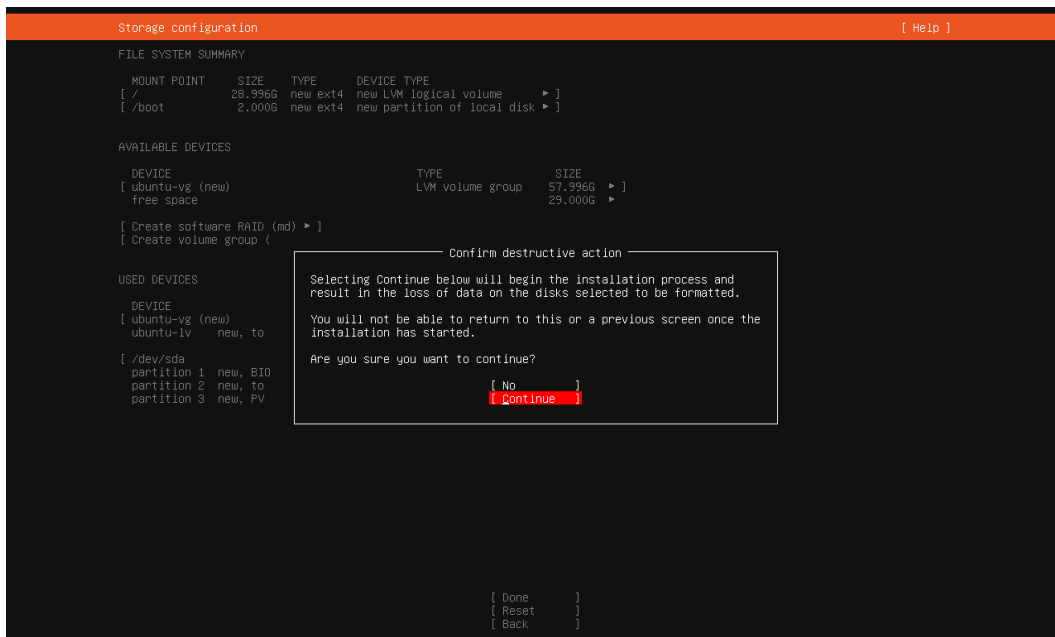
[ Create software RAID (md) ► ]
[ Create volume group (LVM) ► ]

USED DEVICES
DEVICE              TYPE  SIZE
[ ubuntu-vg (new)   LVM volume group  57.996G ► ]
[ ubuntu-lv        new, to be formatted as ext4, mounted at / 28.996G ► ]

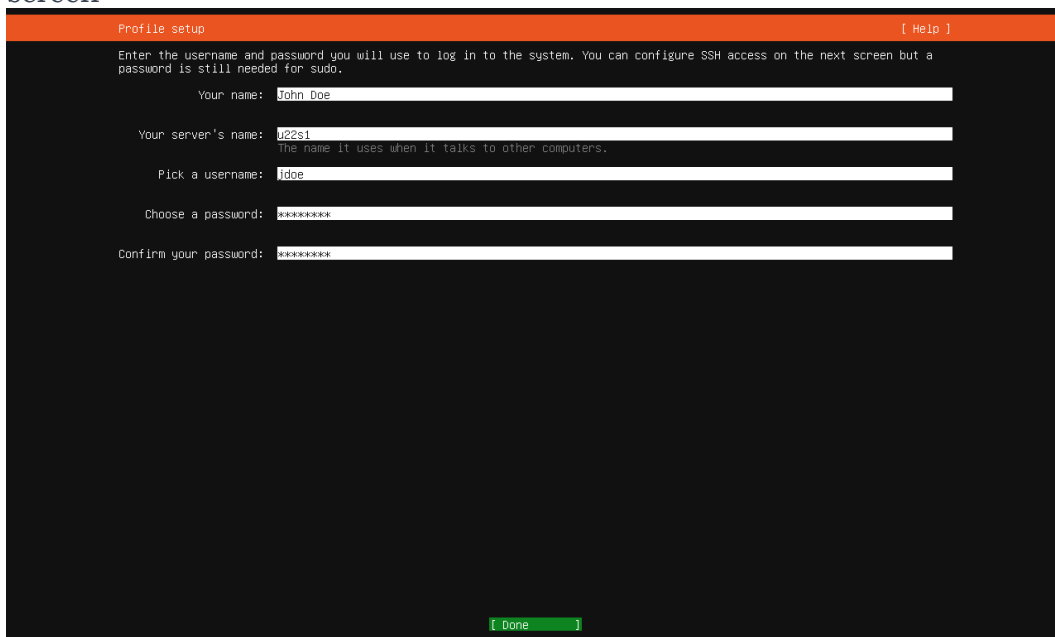
[ /dev/sda         local disk  60.000G ► ]
[ partition 1      new, BIOS grub spacer  1.000M ► ]
[ partition 2      new, to be formatted as ext4, mounted at /boot 2.000G ► ]
[ partition 3      new, PV of LVM volume group ubuntu-vg  57.997G ► ]

[ Done ]
[ Reset ]
[ Back ]
```

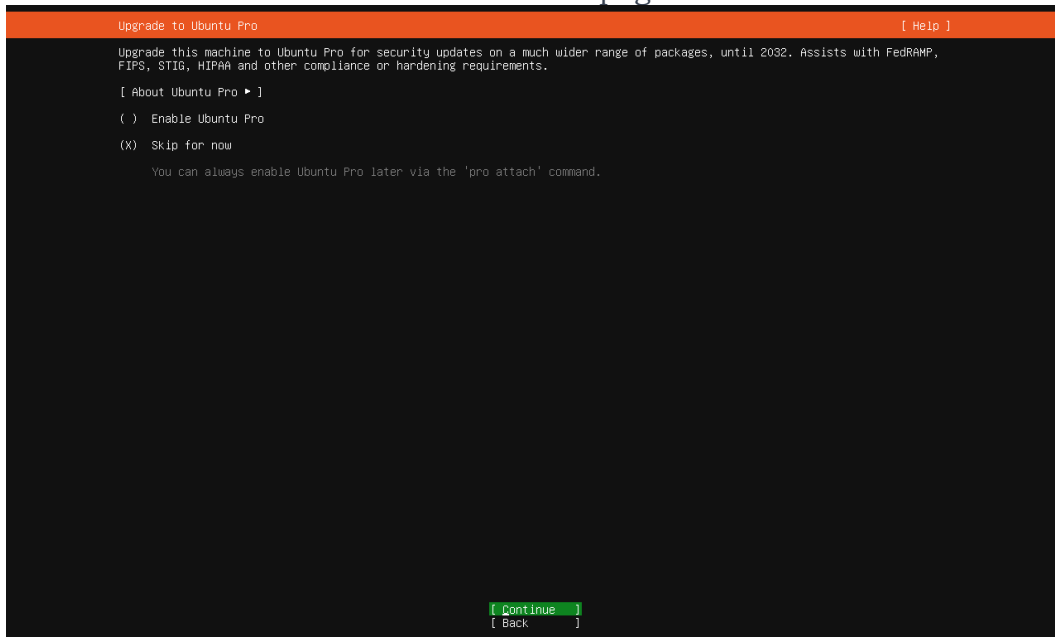
Continue to the next installation configuration screen.



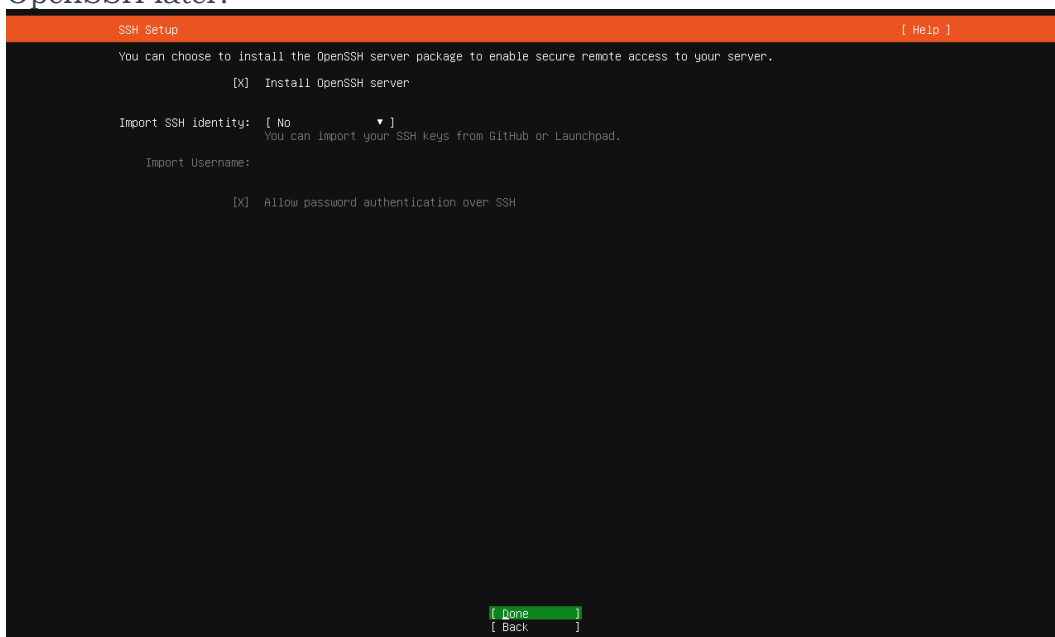
17. Enter profile information including your name, your server's name, username, and a secure password. Click on “Done” to continue to the next screen



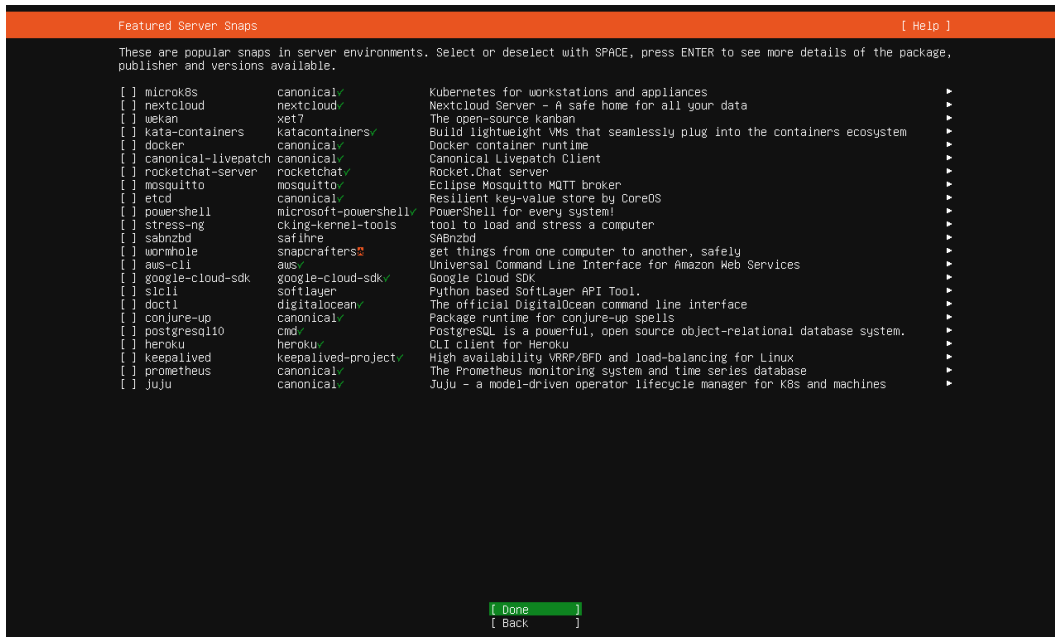
18. When prompted for 'Upgrade to Ubuntu Pro', leave the default 'Skip for now' and select 'Continue' to move to the next page.



19. Select "Install OpenSSH server" under SSH Setup and select "Done" to continue. This will save us time later as we do not have to install the OpenSSH later.

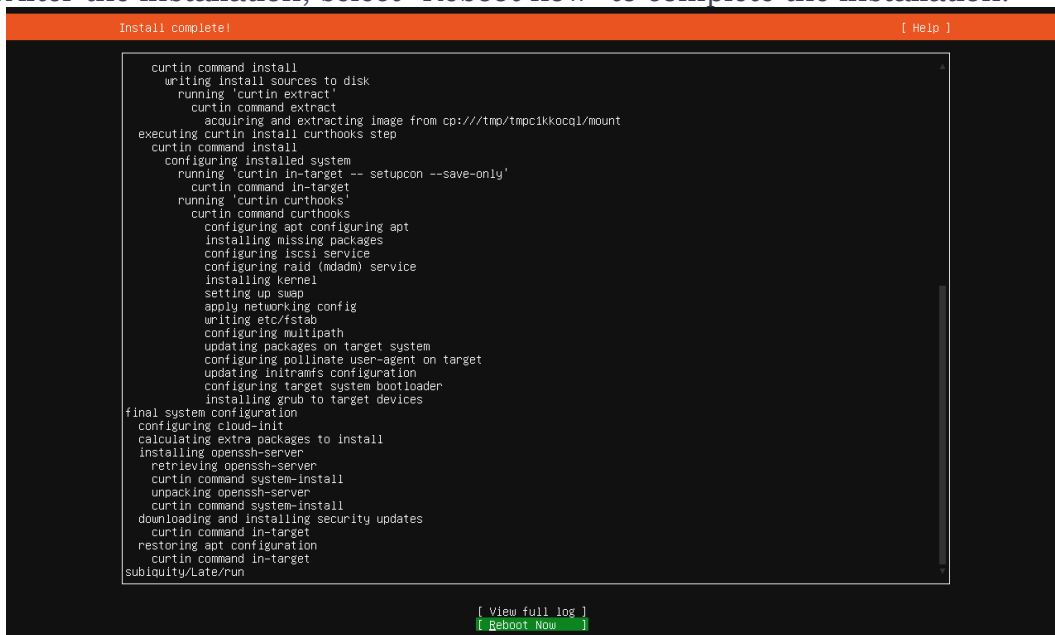


20. Leave everything unselected and click on “Done” to initialize the Ubuntu server installation.

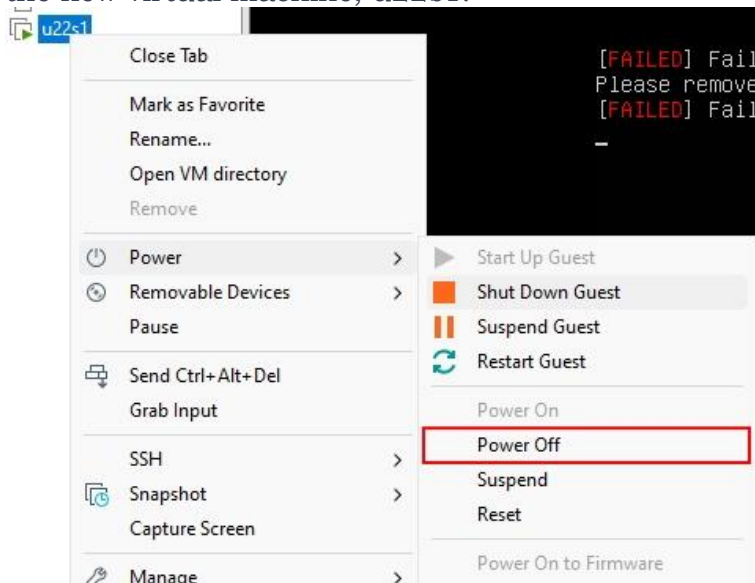


21. Wait for the installation to complete.

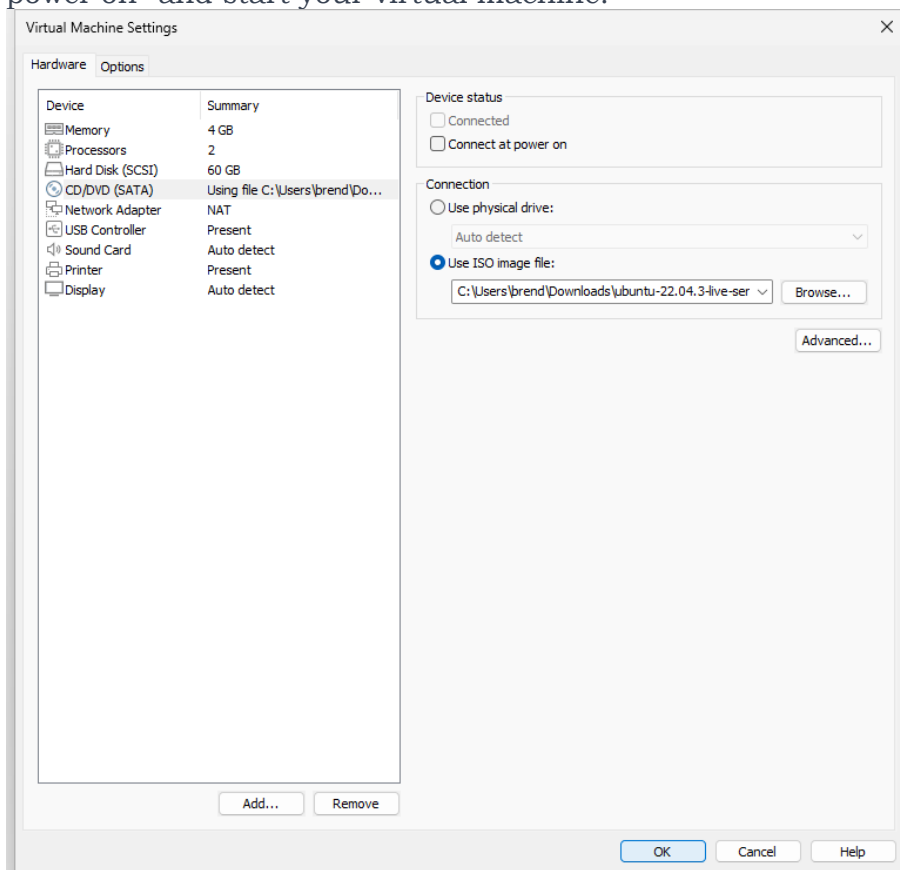
22. After the installation, select “Reboot now” to complete the installation.



23. You will get the “[FAILED] Failed unmounting /cdrom” message. Power off the new virtual machine, u22s1.



24. Select ‘Edit virtual machine settings’ on u22s1, then unselect “Connect at power on” and start your virtual machine.



25. Once your virtual Ubuntu 22 Server 1 is powered on. Log in using your username and password. If you have logged in successfully, run the **'whoami'** and **'lsb_release -a'** commands to check your username and Ubuntu version.

```
<14>Aug 13 04:07:23 cloud-init: #####
<14>Aug 13 04:07:23 cloud-init: -----BEGIN SSH HOST KEY FINGERPRINTS-----
<14>Aug 13 04:07:23 cloud-init: 1024 SHA256:23wlfC1362hj5hLKNKIt6EWRmJyx/qvReqtD+3HuVg root@u22s1 (
DSA)
<14>Aug 13 04:07:23 cloud-init: 256 SHA256:w9CXiI1JyG08HTK7jBrsLcrmV9N74RSEuufdAA1AMC8 root@u22s1 (E
CDSA)
<14>Aug 13 04:07:23 cloud-init: 256 SHA256:1Pwyyxn1nG6R0rZNdN28pJS1p/BK17qMGfcbFalVjda root@u22s1 (E
D25519)
<14>Aug 13 04:07:23 cloud-init: 3072 SHA256:9MxM78ebH2g0qboeTJxm0Ju7Wh++6si+n3tuYNyuiLo root@u22s1 (
RSA)
<14>Aug 13 04:07:23 cloud-init: -----END SSH HOST KEY FINGERPRINTS-----
<14>Aug 13 04:07:23 cloud-init: #####
-----BEGIN SSH HOST KEY KEYS-----
ecdsa-sha2-nistp256 AAAAE2VjZHNhLXNoYTItbmlzdHAyNTYAAAAIbmlzdHAyNTYAAABBBGdWqrk6YF8fqvDEgrT9ftQmXHC6
f5DYxSU9F0EwWeD0ToZg+hUVRz1C0r0rb2/cSQ31Seu3NyBD06P3/XcxqVQ= root@u22s1
ssh-ed25519 AAAAC3NzaC1lZDI1NTE5AAAAIEf5et5nQRYrsmNao/97m4LHpn8J2sdrTvgarMwGGo9V root@u22s1
ssh-rsa AAAAB3NzaC1yc2EAAAADAQABAAQGDQNJUBaknk6/Bo+Xj6Y9K0PCKUmGvDNDYiNmfm2mMZdy5w/7Cck+H6ZNIstn9oQb
EZDK1gwsal/s+AnfPfZDbJ1408+VKonhWTVhpnzbr0yxJPNny3IZF/33XouZ+Xh0wvfe1kGV6gt8JM1Qp+aBLgV1a0np3umXPiZZ
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11dDY26Y30DGIXtuMM4R9FDqWeGr7bDTL5Qkw9aJjdBDetyRSQUxc1036CmXfQ0X/2+xcKRI496F182wB2u0TRuzzGfKCYXh1M2r
kVfgXxPsp/k/QtBtPdavC2sXoejoueAJwuNhxX2Gy1JNPw9KuH05+psb1SJan8QzUWYAdxJU+76mkL0wRHhFzY41s+XIsZnRdxH
T+d3usZ7GHSmq6k1NuhIDchZBPraL8RqqN2oNwETwbVMVUw0mE= root@u22s1
-----END SSH HOST KEY KEYS-----
[ 39.701249] cloud-init[953]: Cloud-init v. 23.2.1-0ubuntu0~22.04.1 finished at Sun, 13 Aug 2023 0
4:07:23 +0000. DataSource DataSourceNone. Up 39.69 seconds
[ 39.703410] cloud-init[953]: 2023-08-13 04:07:23,694 - cc_final_message.py[WARNING]: Used fallback
k.datasource

jdoe@u22s1:~$ whoami
jdoe
jdoe@u22s1:~$ lsb_release -a
No LSB modules are available.
Distributor ID: Ubuntu
Description: Ubuntu 22.04.3 LTS
Release: 22.04
Codename: jammy
jdoe@u22s1:~$ _
```

26. If your username and password did not work properly, you must perform a password recovery, We will perform a password recovery in our Linux chapter.
27. Now power off the virtual machine for now. You will continue reading and performing some customization and housekeeping of the new OS for the rest of the chapter.

That's it! Once the installation is complete, you'll have a fully functional Ubuntu 22.04 virtual machine running on VMware Workstation 17. This virtual machine and a Fedora 38 virtual machine which will be created as part of Chapter 6 will be used for our Linux, Python, and Network Automation studies.