

Linux: Ubuntu Server, Ubuntu Desktop, and Establishing a SSH Connection Part: 1 & 2

Hunter Kirk

Grand Canyon University College of Engineering and Technology

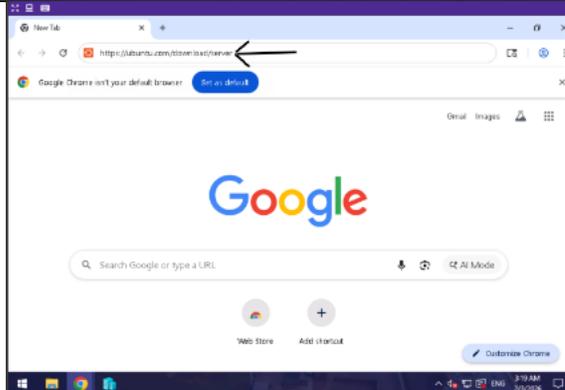
ITT 221: Linux System Administration and Maintenance

Professor: Aaron Jackson

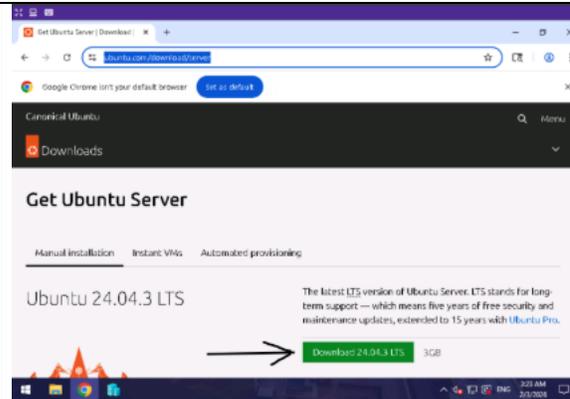
March 22nd 2026

GRAND CANYON UNIVERSITY™

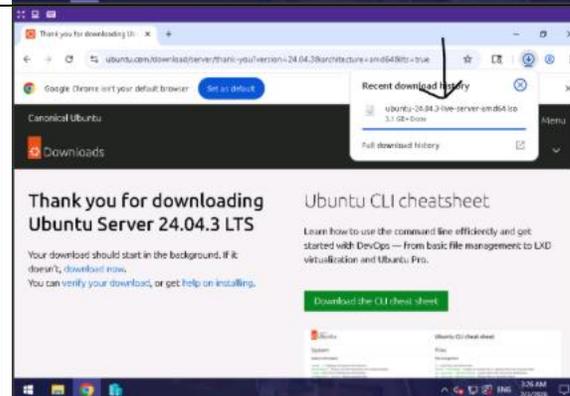
ITT-221 Step by Step Template Part 1

<ul style="list-style-type: none">• First, we will sign into our Virtual Service	 A screenshot of a virtual desktop environment. The desktop background features a sunset over a cityscape. A large purple banner with the text "GRAND CANYON UNIVERSITY™" is overlaid on the center. The taskbar at the bottom shows icons for the Start menu, File Explorer, Google Chrome, and the Virtual Machine software.
<ul style="list-style-type: none">• We will now get our “Ubuntu Server” downloaded in order to install it on our virtual machine we will create. Go to the google chrome web launcher and “Double-Click” it	 A screenshot of the same virtual desktop environment as above. A white arrow points to the Google Chrome icon in the taskbar, indicating the next step in the process.
<ul style="list-style-type: none">• Once “Open”, go to the search bar and type “https://ubuntu.com/download/server” and press “enter”	 A screenshot of a Google Chrome browser window. The address bar shows the URL "https://ubuntu.com/download/server". The page content displays the Google logo and a search bar. A white arrow points to the address bar, indicating where the URL was entered.

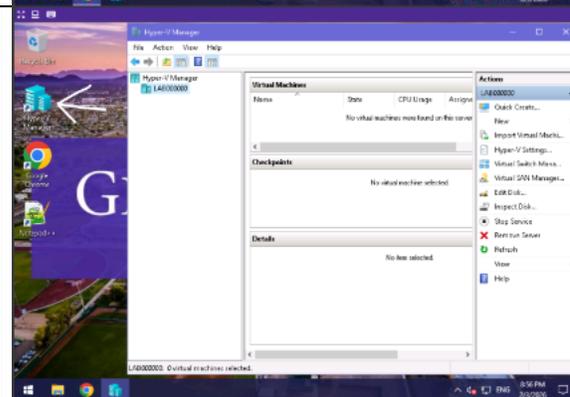
- You will then be taken to the official Ubuntu site to download the Ubuntu Server. “Click” on the green “Download 24.04.3 LTS” version of Ubuntu Server



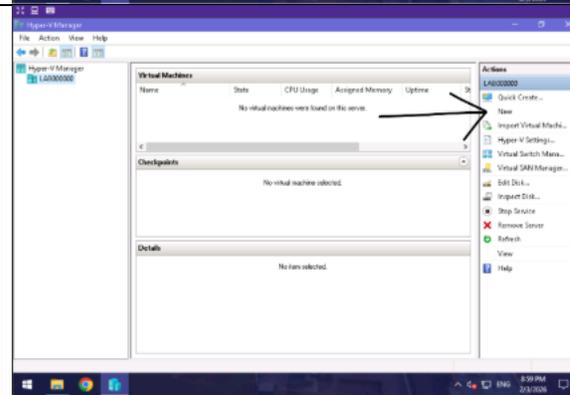
- You will now start downloading Ubuntu Server. You will see a download status timer appear. Wait for the download to finish.



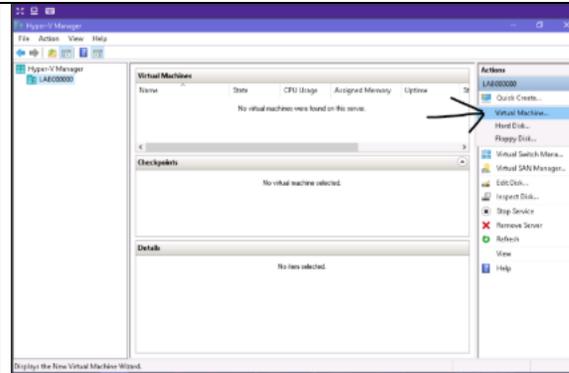
- Now we will open Hyper-V Manager



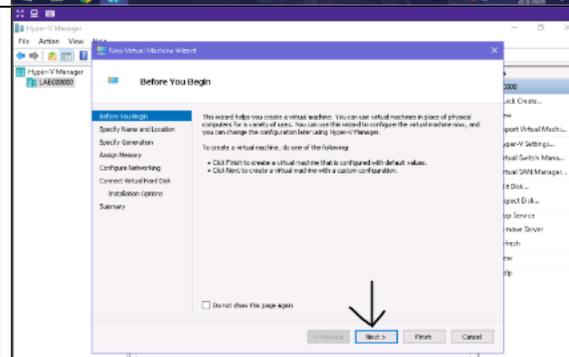
- We will now set up our Virtual Machine. “Double-Click” the “New” option



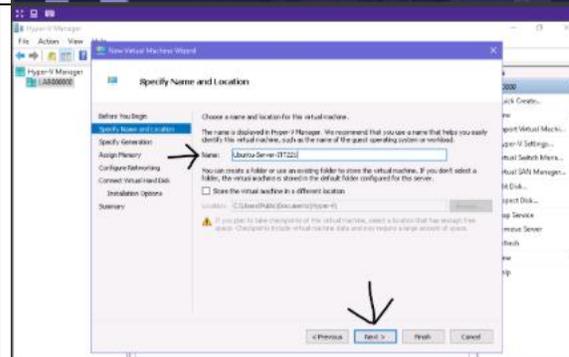
- A pop-up menu will appear. Click on the “Virtual Machine” option in the menu.



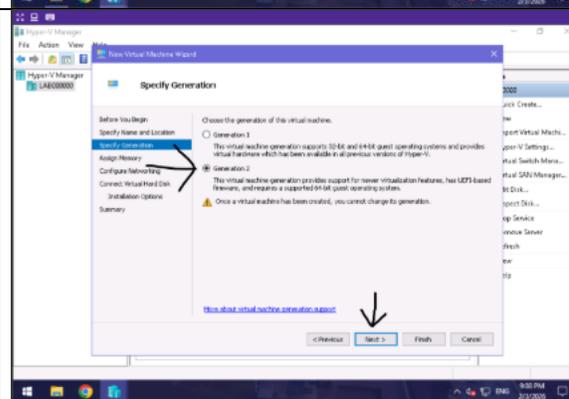
- The “Virtual Machine Wizard” menu will populate. Click “Next”



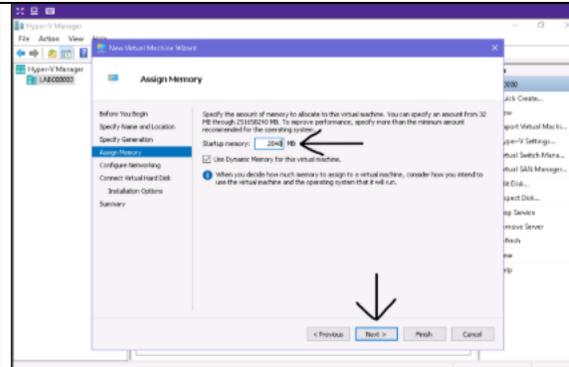
- You will be brought to the next page. In the “Name” portion on the menu, type your organization’s name. For example, I put “Ubuntu-Server-ITT221. After you have chosen a name, click the “Next” button.



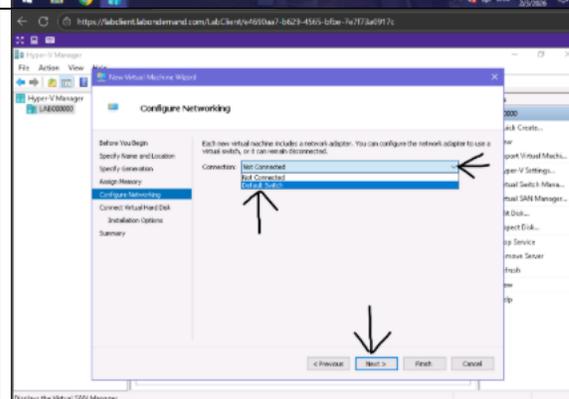
- On the next page you will be brought to click the “Generation 2” option. After that click “Next”



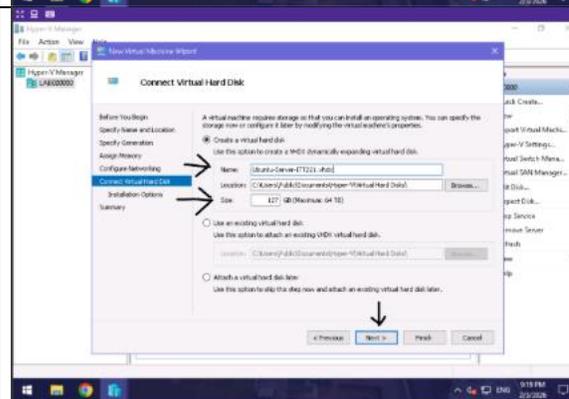
- On the next page, you will be asked to assign memory to the Virtual Machine. Click the “Setup Memory” box and type 2048. Then click “Next”



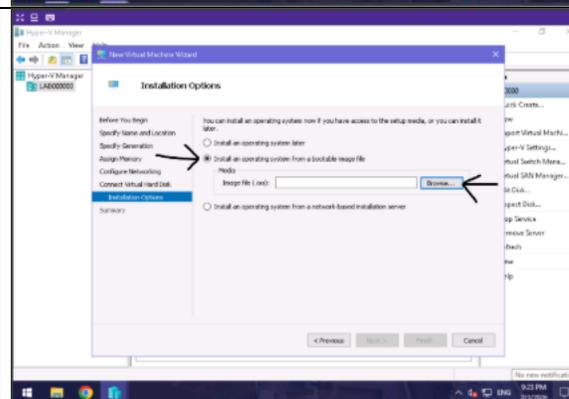
- You will then be moved to the “Configure Network” menu. Click on the drop-down menu and select the “Default Switch” option. Then click “Next”



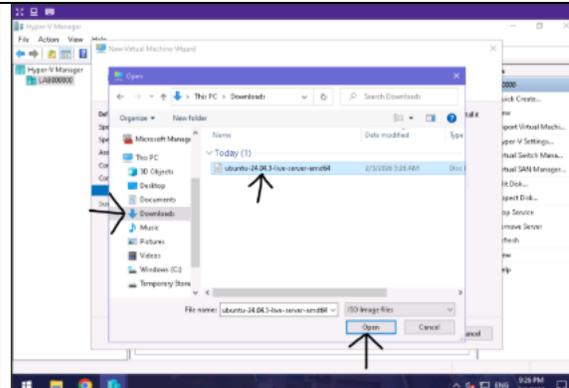
- You will now be taken to the “Connect Virtual Hard Disk”. Ensure the Virtual Machine is named correctly, and the memory is set to 127 GB. Then click “Next”



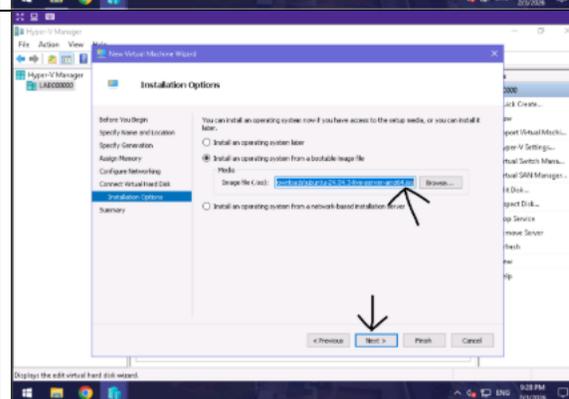
- You will now be taken to the “Installation Options” menu. Click the “Install an operating system from a bootable image file”. Click the “Browse...” option.



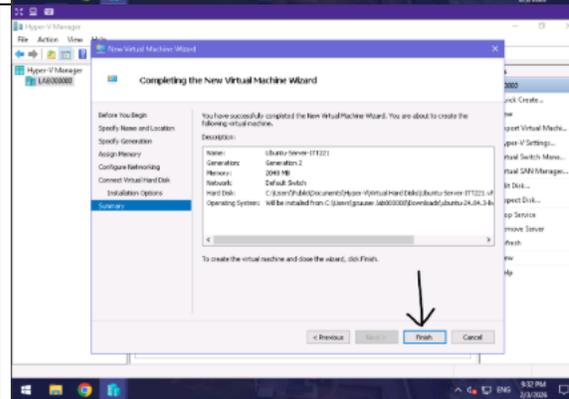
- A menu pop-up will appear. Click the “Download” tab on the left-hand portion of the menu. Click the “ubuntu-24.04.3-live-server-amd64.iso”. Then click “Open”.



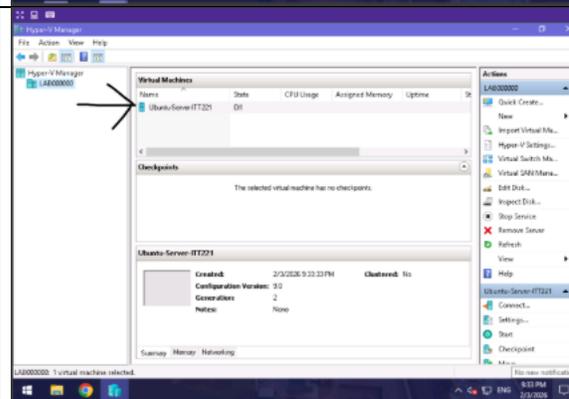
- You will be brought back to the “Installation Options” menu. Verify that in the “Image file” bar, you have the “ubuntu-24.04.3-live-server-amd64.iso” file selected. After that, click “Next”



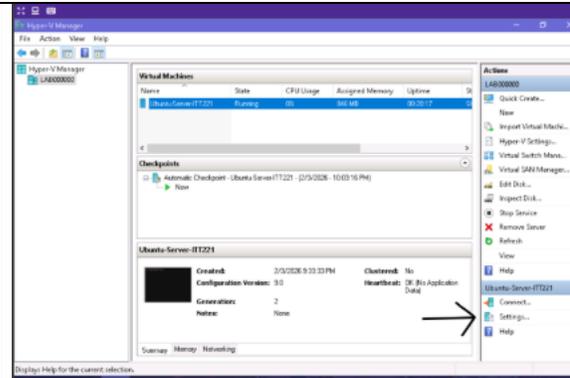
- You will now be taken to the “Completing the New Virtual Machine Wizard”. Click the “Finish” option.



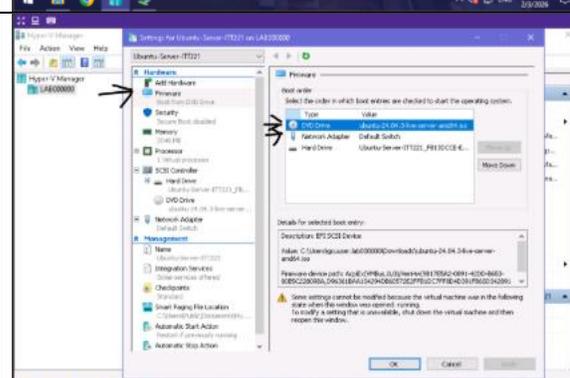
- You will now be redirected back to the Hyper-V Manager “Home Page”. In the “Virtual Machine” tab, you will see the “Ubuntu-Server-ITT221” VM.



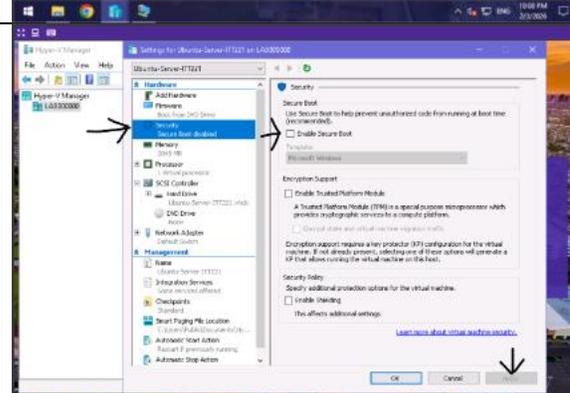
- We will now go into the “Settings” of the VM. Click the “Settings” option in the lower right-hand column of the Ubuntu Server VM.



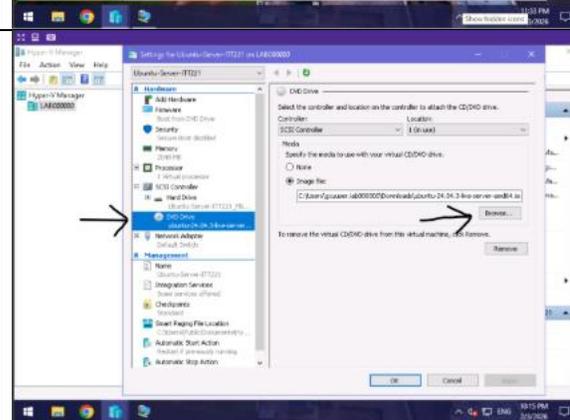
- A menu will appear. Click the “Firmware” tab on the left-hand side of the column. Ensure that the “DVD Drive” is first, and the “Network Adapter” is second.



- Next, click “Security” and uncheck the “Enable Secure Boot” box. Click “Apply”



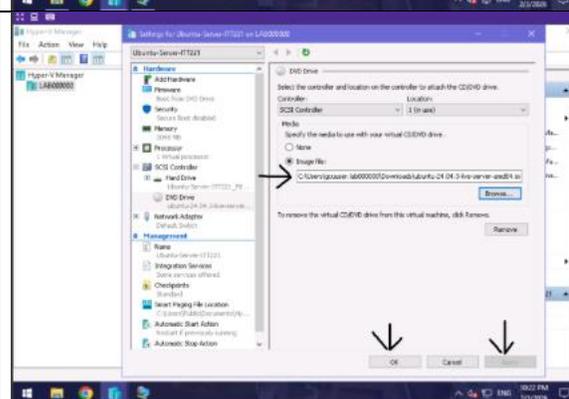
- Finally, click the “DVD Drive” on the left-hand side of the column. Click the “Image file” option. Then click the “Browse...” button



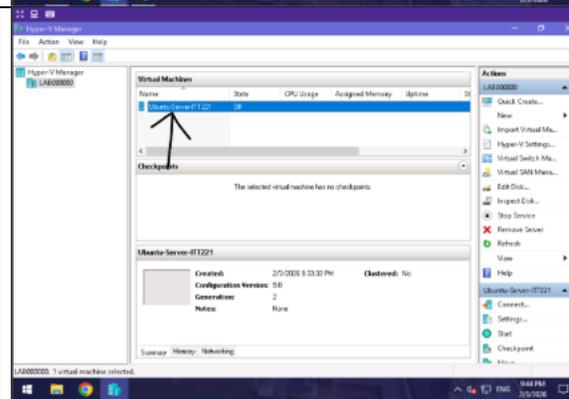
- A pop-up menu will appear. Click the “Download” option on the left-hand column. Click the “ubuntu-24.04.3-live-server-amd64.iso”. Next click open



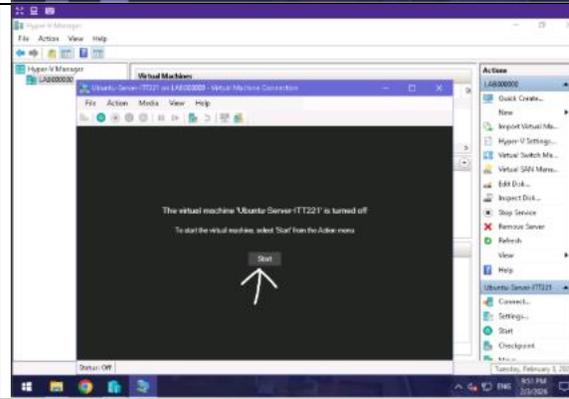
- You will be directed back to the previous menu. You will see that the “ubuntu-24.04.3-live-server-amd64.iso” file appears in the “Image file” box. Next, click “Apply”. Then click “OK”



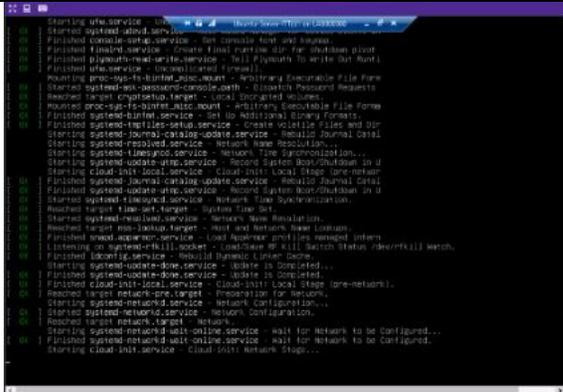
- Now that we have our Ubuntu Server setup and configured properly, we will now launch the VM. Double-click the Ubuntu Server to start the VM.



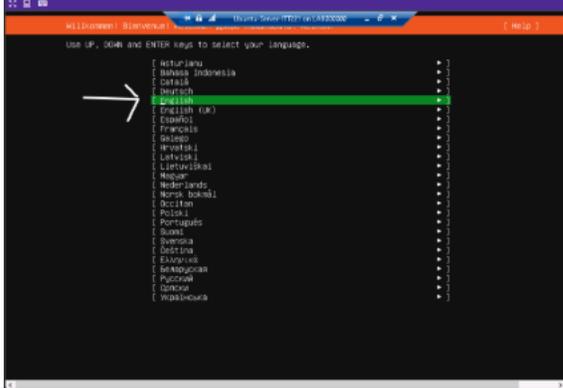
- After launching the Ubuntu Server VM, a pop-up menu will appear. Click “Start” to run the VM



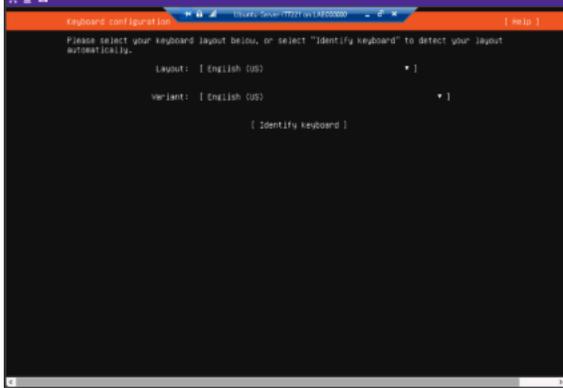
- Give your VM a few moments to boot Ubuntu Server.



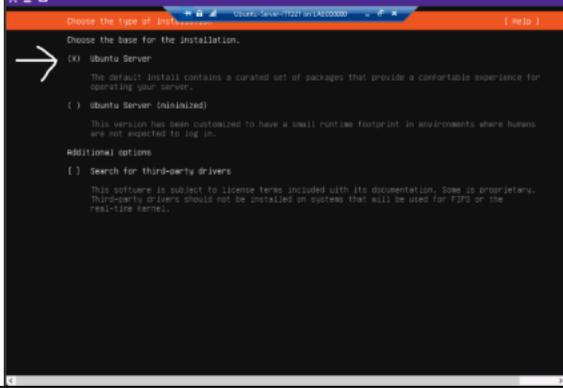
- After your VM finishes booting, you will be prompted to select a language menu. Click English and press “enter”



- You will then be pulled to a “keyboard Configuration” menu. Press “enter”



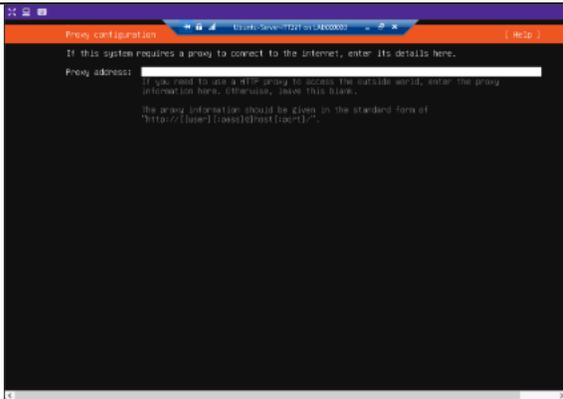
- Your next menu will be an “installation type” menu. Ensure that Ubuntu Server is selected. Then press “enter”



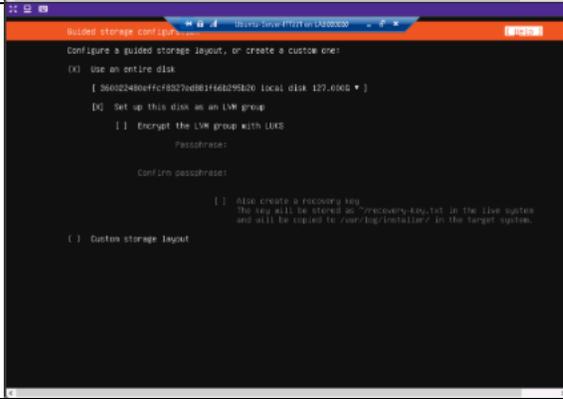
- You will then be taken to a “Network configuration” menu. Then press “Tab”

until the “Done” option is highlighted. Next press “enter”

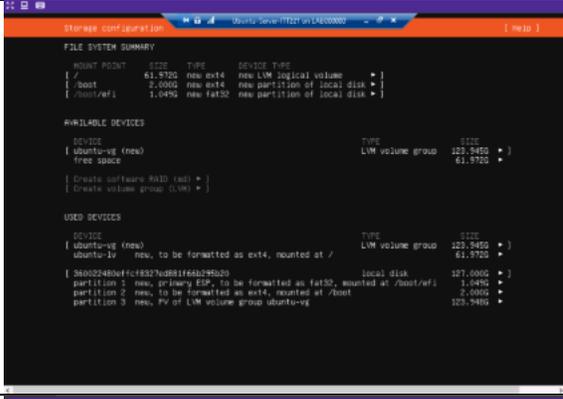
- You will be taken to the “Proxy Configuration menu. Press “Tab” until the “Done” option is highlighted. Then press “enter”



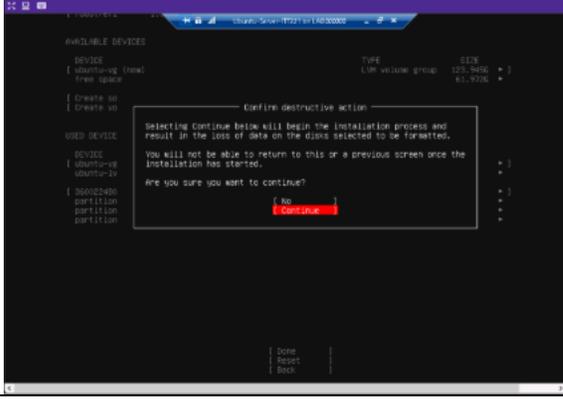
- You will then be taken to a “Guided Storage Configuration” menu. Press “Tab” until the “Done” option is highlighted. The press “enter”



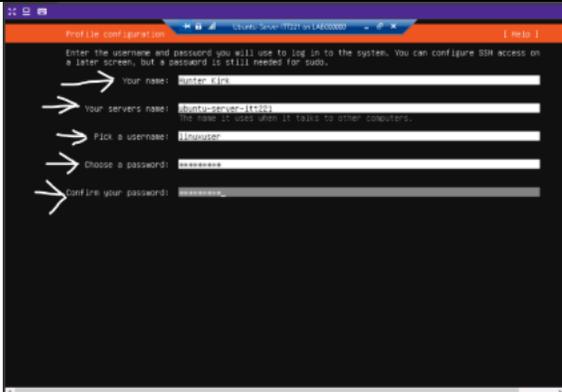
- Next, you will be taken to the “Storage Configuration” menu. Press “Tab” until the “Done” option is highlighted. Then press “enter”



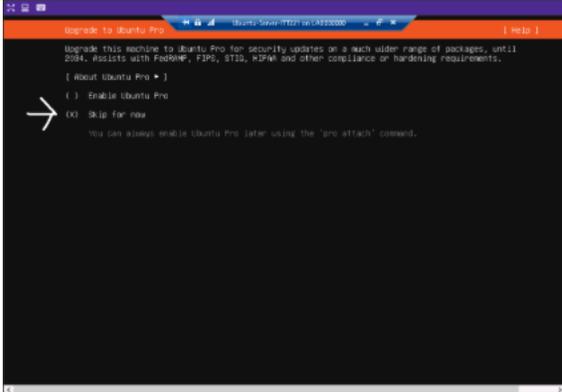
- A “Confirmation” window will appear. Press “Tab” until the “Continue” option is highlighted. Then press “enter”



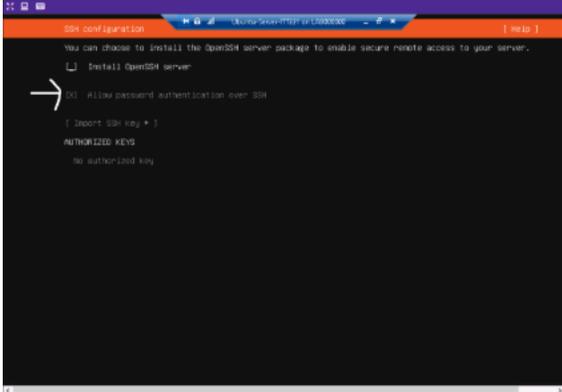
- You will now be taken to the “Profile configuration” menu. Type your name, server name, username, and password. For example, I put my full name, ubuntu-server-itt221, linuxuser, and Red.vine1 for my profile configuration. Once you are done inputting the information, press “Tab” until the “Done” option is highlighted. Then press “enter”



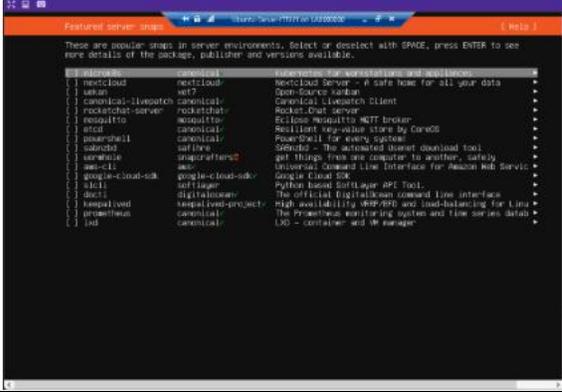
- Next, you will be taken to the “Upgrade to Ubuntu Pro” menu. Click “Skip for now”. Press “Tab” until the “Continue” option is highlighted. Then press “enter”



- You will now be taken to the “SSH Configuration” menu. Ensure that “Allow password authentication over SSH” is selected. Next, press “Tab” until the “Done” option is highlighted. Then press “enter”



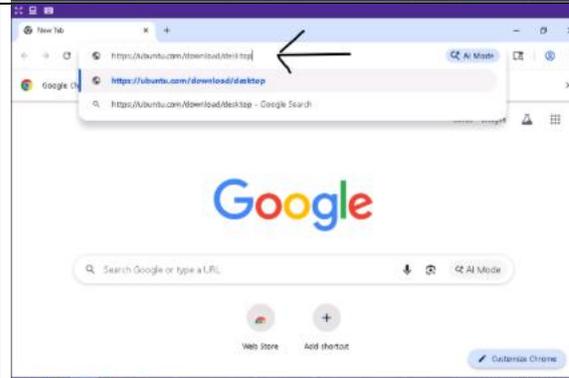
- You will be taken to the “Featured server snaps” menu. Press “Tab” until the “Done” option is highlighted. Then press “enter”



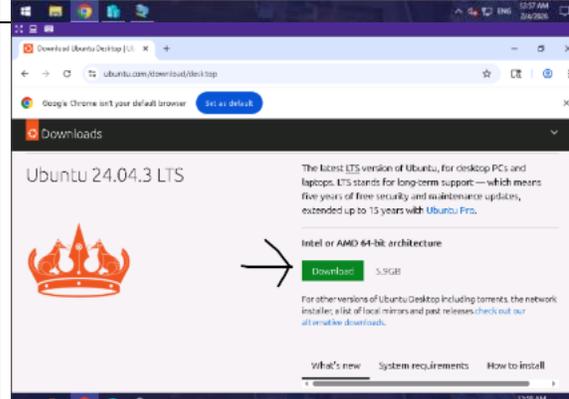
- Now we are done with the Ubuntu Server we will now be focusing on the creating the Ubuntu Desktop VM. In order to install it on our virtual machine we will create. Go to the Google Chrome web launcher and “Double-Click” it



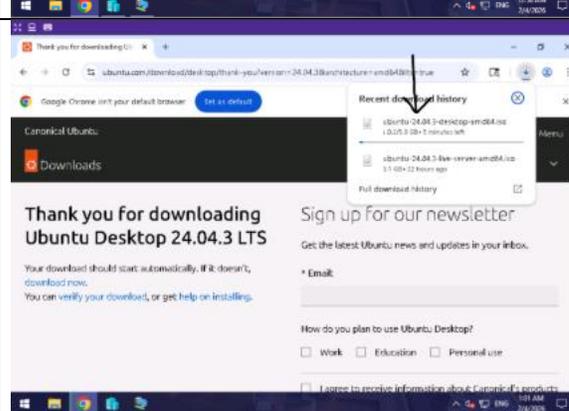
- Once “Open”, go to the search bar and type “<https://ubuntu.com/download/desktop>” and press “enter”



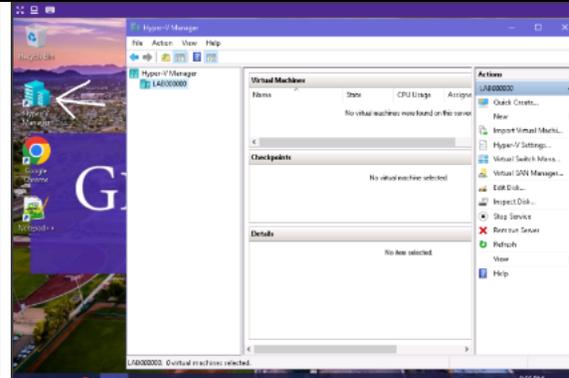
- You will then be taken to the official Ubuntu site to download the Ubuntu Desktop. “Click” on the green “Download 24.04.3 LTS” version of Ubuntu Desktop



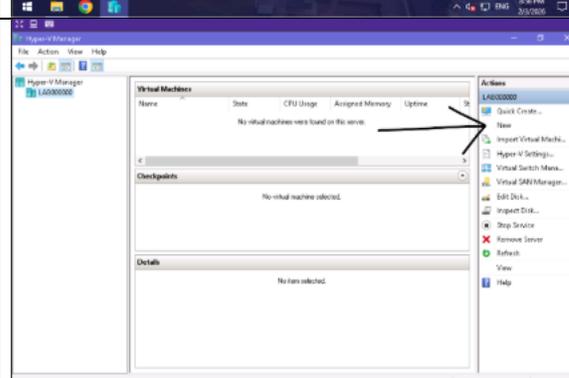
- You will now start downloading Ubuntu Desktop. You will see a download status timer appear. Wait for the download to finish.



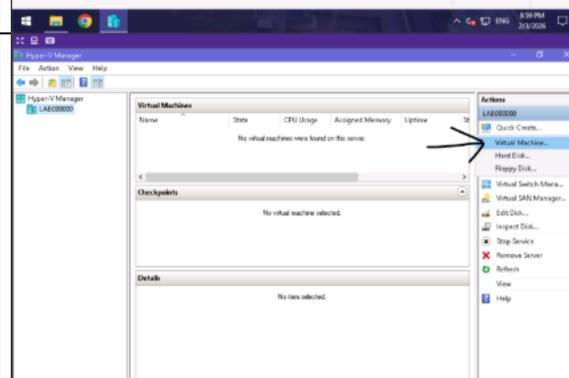
- Now we will open Hyper-V Manager



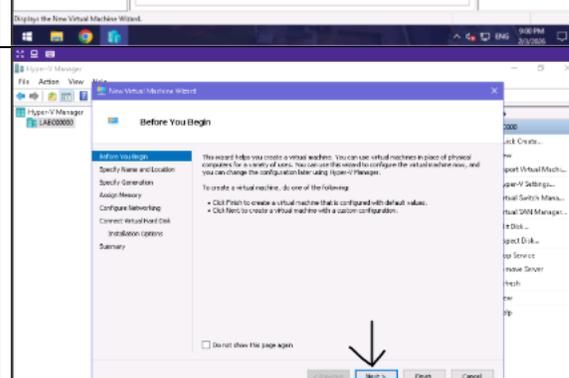
- We will now set up our Virtual Machine. "Double-Click" the "New" option



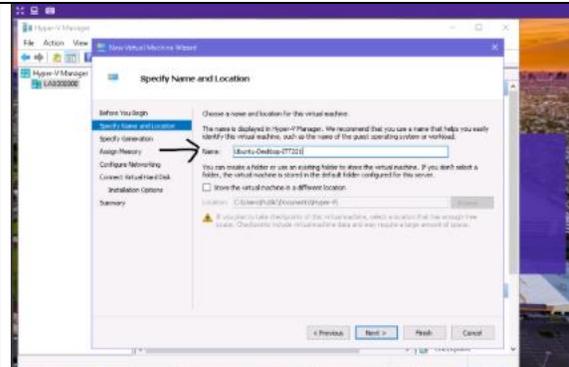
- A pop-up menu will appear. Click on the "Virtual Machine" option in the menu.



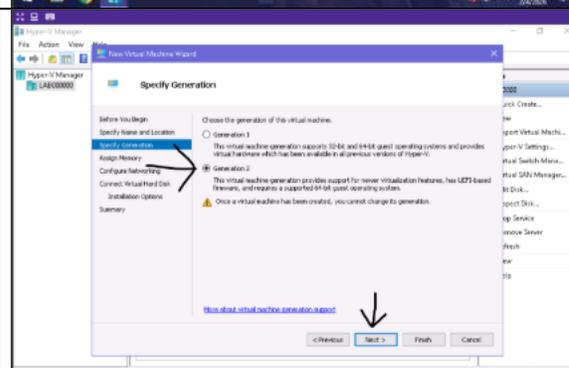
- The "Virtual Machine Wizard" menu will populate. Click "Next"



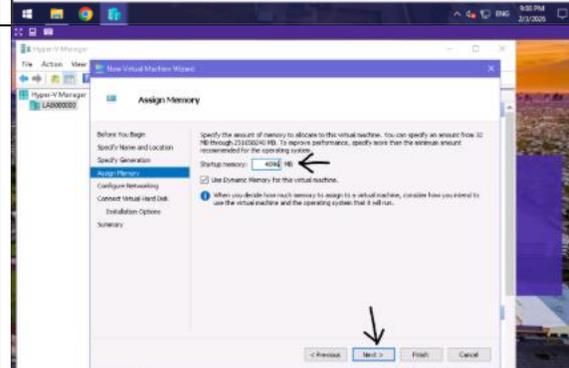
- You will be brought to the next page. In the “Name” portion on the menu, type your organization’s name. For example, I put “Ubuntu-Desktop-ITT221. After you have chosen a name, click the “Next” button.



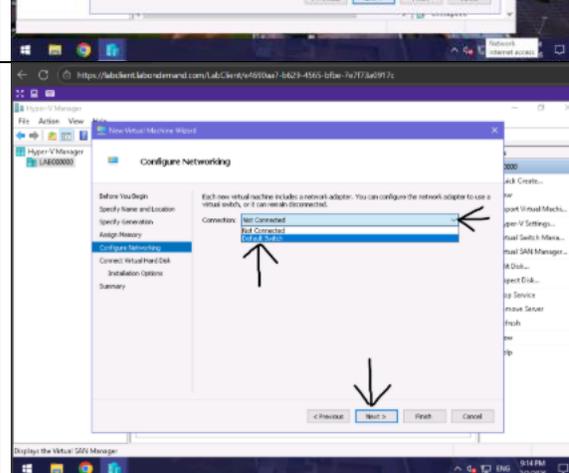
- On the next page you will be brought to click the “Generation 2” option. After that click “Next”



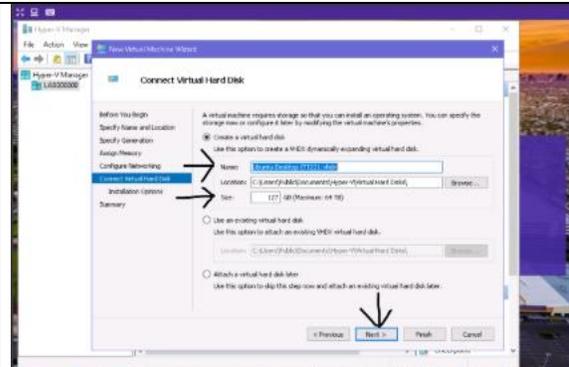
- On the next page, you will be asked to assign memory to the Virtual Machine. Click the “Setup Memory” box and type 4096. Then click “Next”



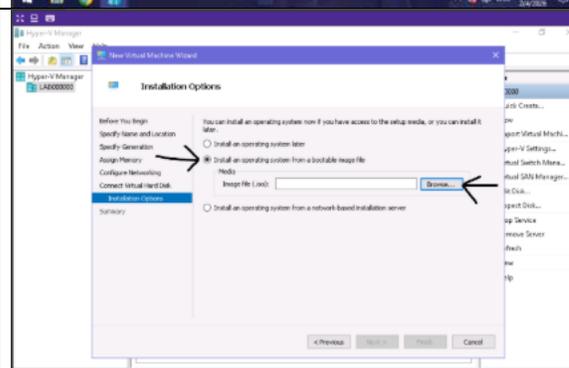
- You will then be moved to the “Configure Network” menu. Click on the drop-down menu and select the “Default Switch” option. Then click “Next”



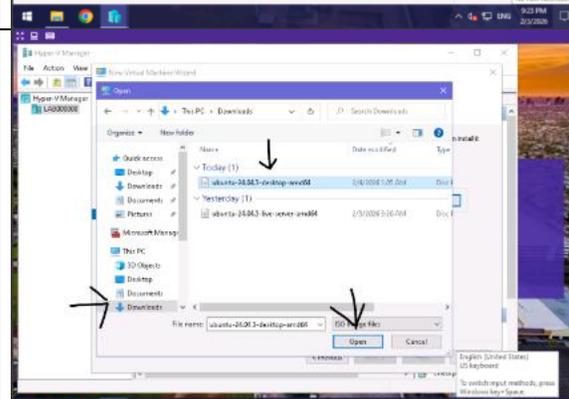
- You will now be taken to the “Connect Virtual Hard Disk”. Ensure the Virtual Machine is named correctly, and the memory is set to 127 GB. Then click “Next”



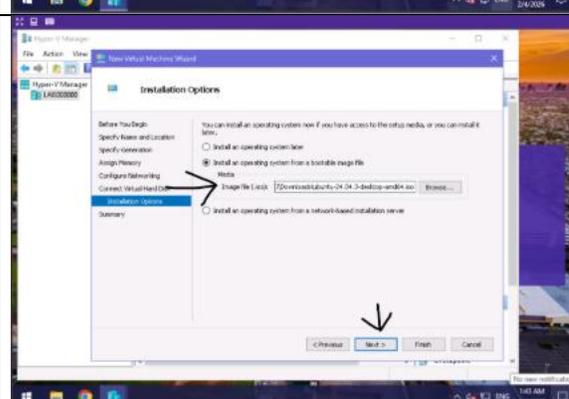
- You will now be taken to the “Installation Options” menu. Click the “Install an operating system from a bootable image file”. Click the “Browse...” option.



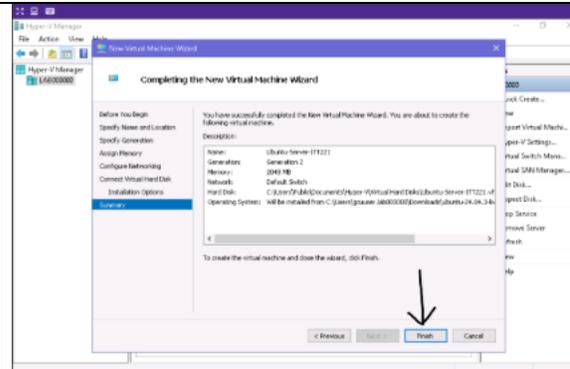
- A menu pop-up will appear. Click the “Download” tab on the left-hand portion of the menu. Click the “ubuntu-24.04.3-live-desktop-amd64.iso”. Then click “Open”.



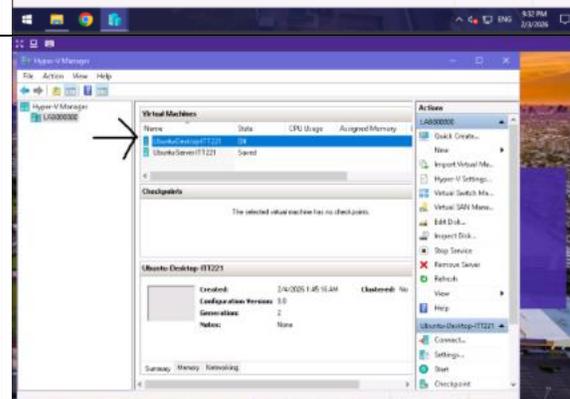
- You will be brought back to the “Installation Options” menu. Verify that in the “Image file” bar, you have the “ubuntu-24.04.3-live-desktop-amd64.iso” file selected. After that, click “Next”



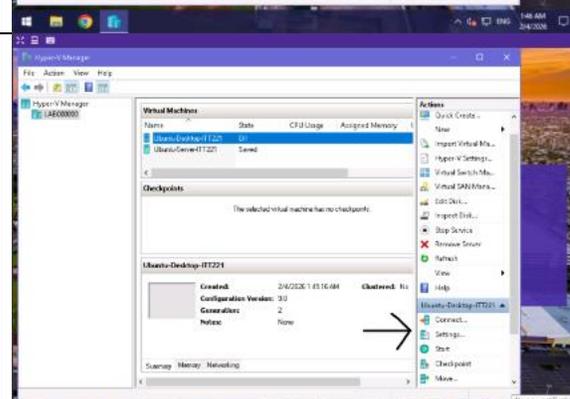
- You will now be taken to the “Completing the New Virtual Machine Wizard”. Click the “Finish” option.



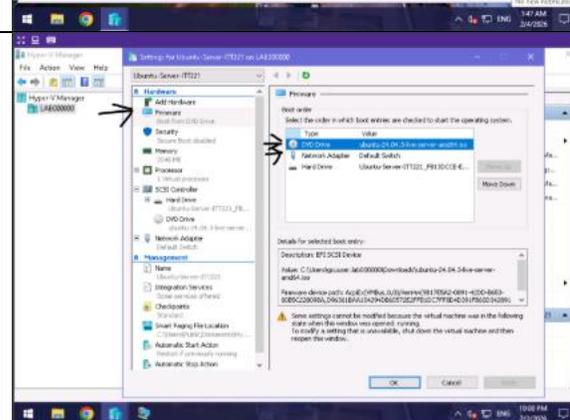
- You will now be redirected back to the Hyper-V Manager “Home Page”. In the “Virtual Machine” tab, you will see the “Ubuntu-Desktop-ITT221” VM.



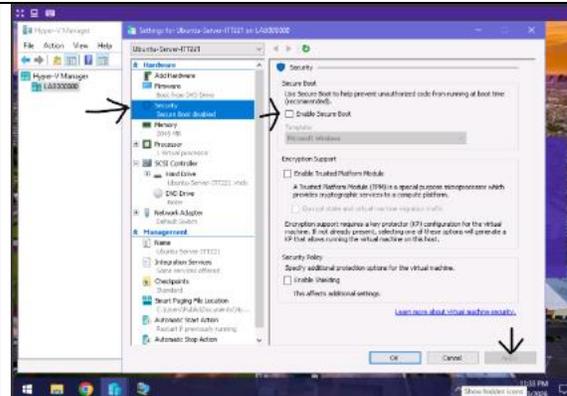
- We will now go into the “Settings” of the VM. Click the “Settings” option in the lower right-hand column of the Ubuntu Desktop VM.



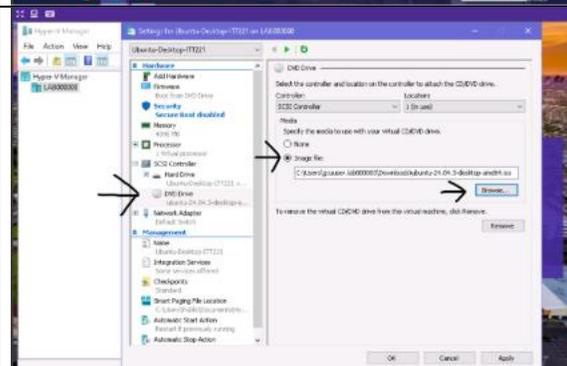
- A menu will appear. Click the “Firmware” tab on the left-hand side of the column. Ensure that the “DVD Drive” is first, and the “Network Adapter” is second.



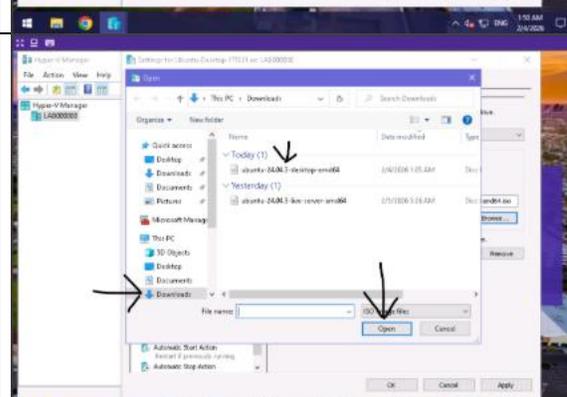
- Next, click “Security” and uncheck the “Enable Secure Boot” box. Click “Apply”



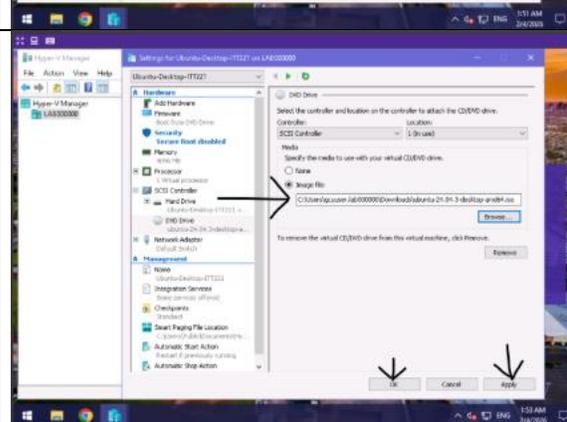
- Finally, click the “DVD Drive” on the left-hand side of the column. Click the “Image file” option. Then click the “Browse...” button



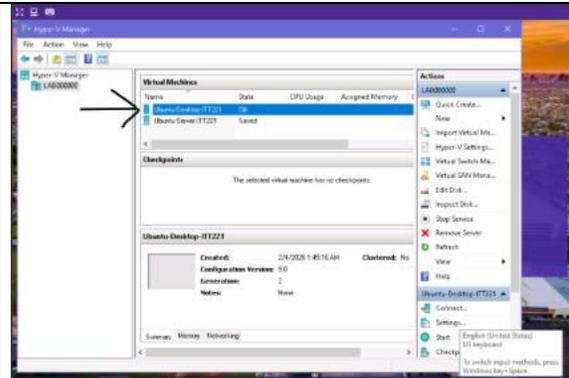
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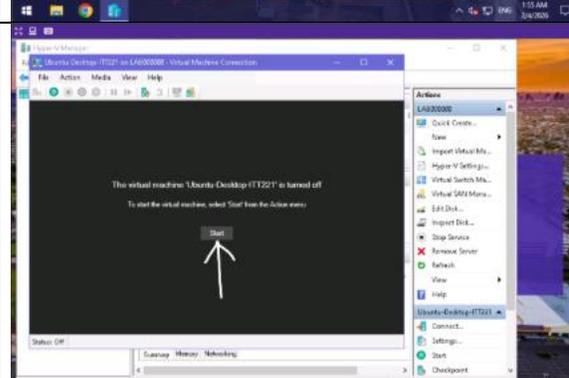
- You will be directed back to the previous menu. You will see that the “ubuntu-24.04.3-live-desktop-amd64.iso” file appears in the “Image file” box. Next, click “Apply”. Then click “OK”



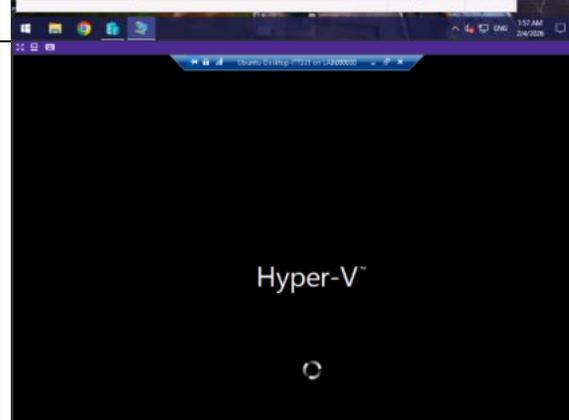
- Now that we have our Ubuntu Desktop setup and configured properly, we will now launch the VM. Double-click the Ubuntu Desktop to start the VM.



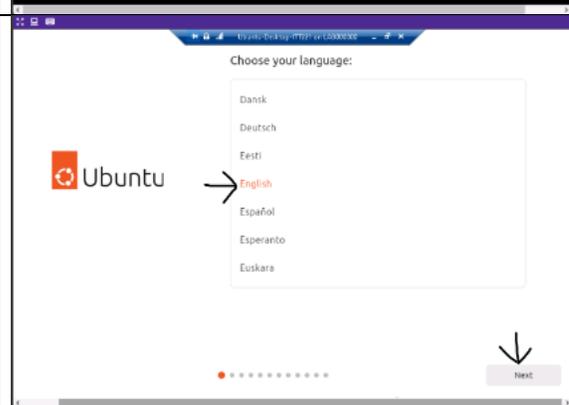
- After launching the Ubuntu Desktop VM, a pop-up menu will appear. Click “Start” to run the VM



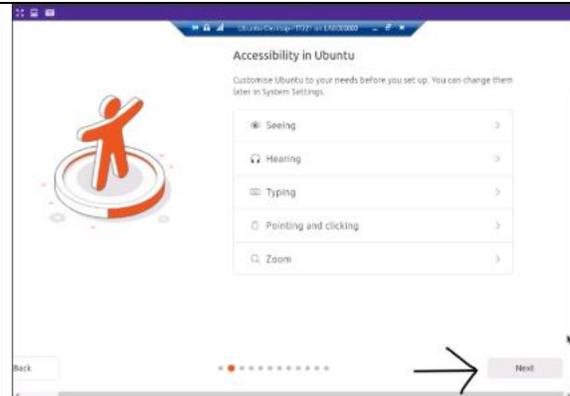
- Give your VM a few moments to boot Ubuntu Desktop.



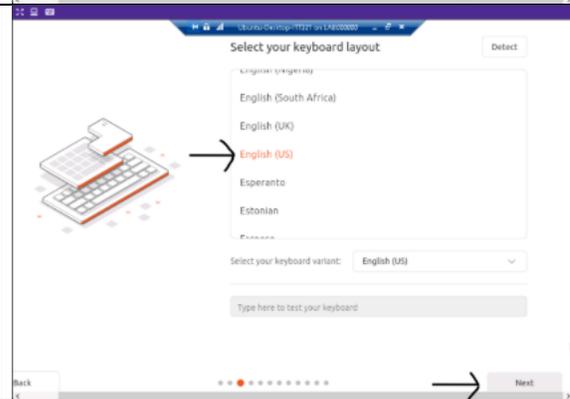
- After your VM finishes booting, you will be prompted to select a language menu. Click English and press “Next”



- You will not be taken to the “Accessibility in Ubuntu” menu. Now we will press “Next”



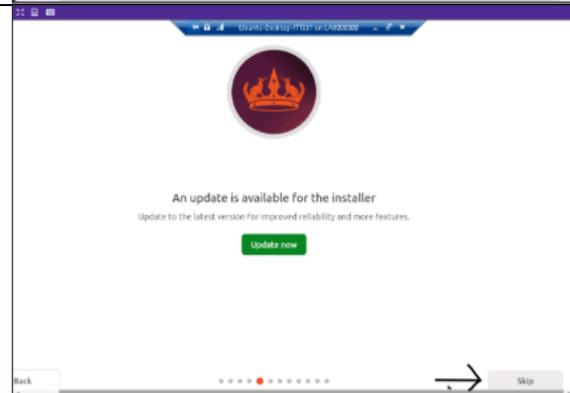
- The next menu you will encounter will be the “Select your keyboard layout”. Select English and then press “Next”



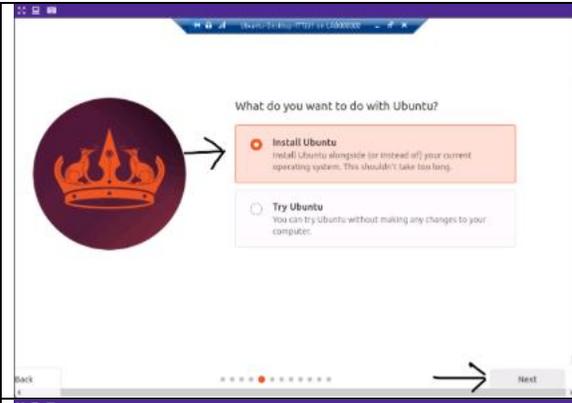
- You will now appear on the “Connection to the internet” menu. Ensure “wired connection” is selected and press “Next”



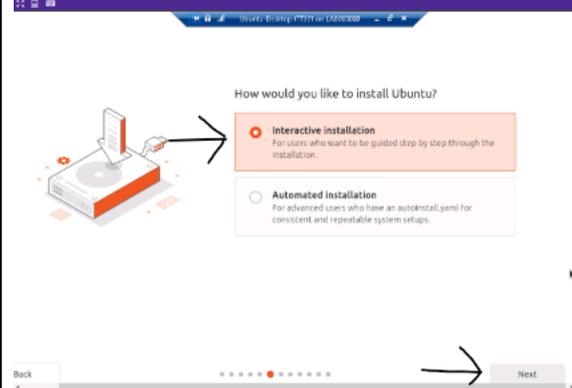
- Your next menu will read “An update is available for the installer”. Press “Skip”



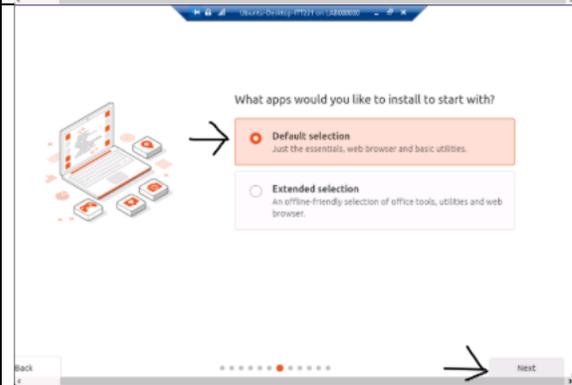
- The following menu is the “What do you want to do with Ubuntu”. Ensure the “Install Ubuntu” option is selected. Press “Next”



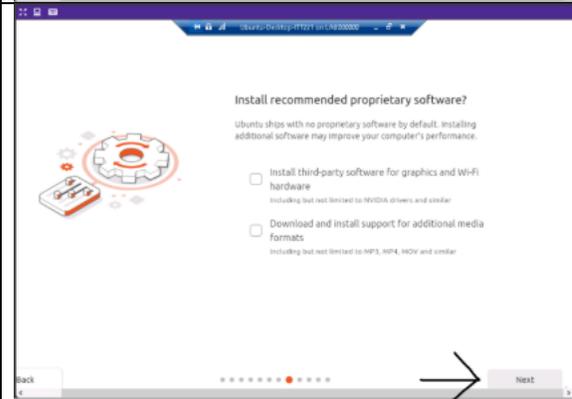
- The following menu will be “How would you like to install Ubuntu?”. Verify you have selected the “Interactive Installation” and press “Next”



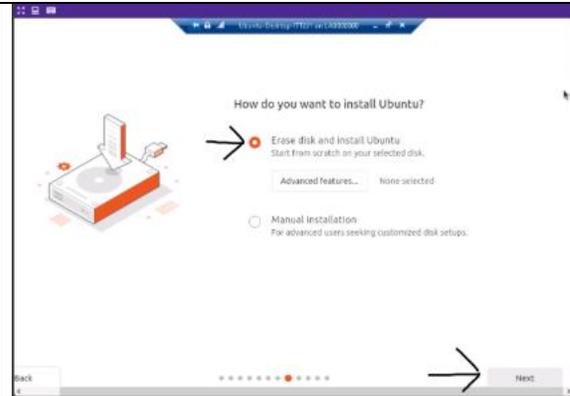
- Next you will appear at the “What apps would you like to install to start with?” menu. Select “Default” and press “Next”



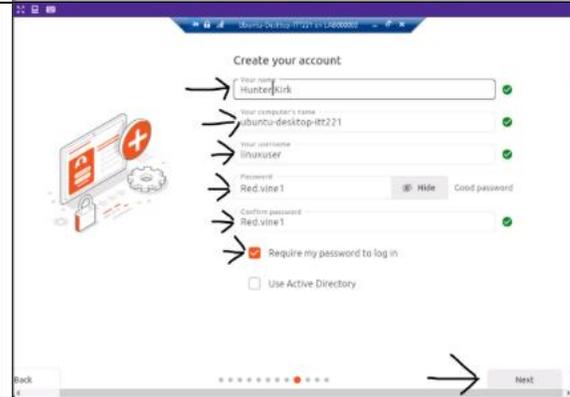
- You will then be brought to the “Install recommended proprietary software” menu. Leave all boxes unchecked and press “Next”



- The following menu will ask “How do you want to install Ubuntu?”. Select the “Erase disk and install Ubuntu” and press “Next”



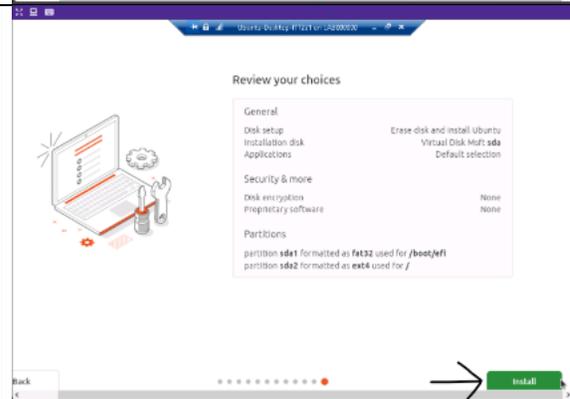
- You will now be taken to the “Create your profile” menu. Type your name, computers name, username, and password. For example, I put my full name, ubuntu-desktop-itt221, linuxuser, and Red.vine1 for my profile configuration. Ensure the “Require my password to login” is checked and press “Next”



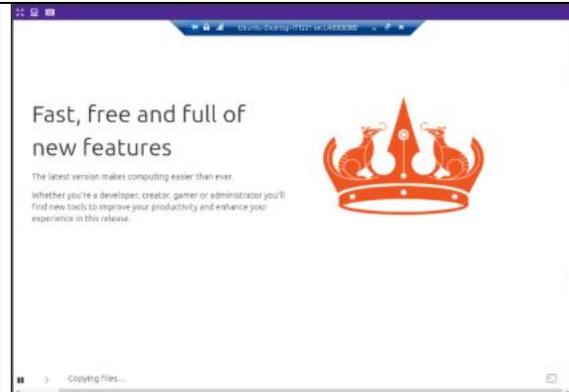
- You will be taken to a menu where you can select your region. Once you have selected your reanion, press “Next”



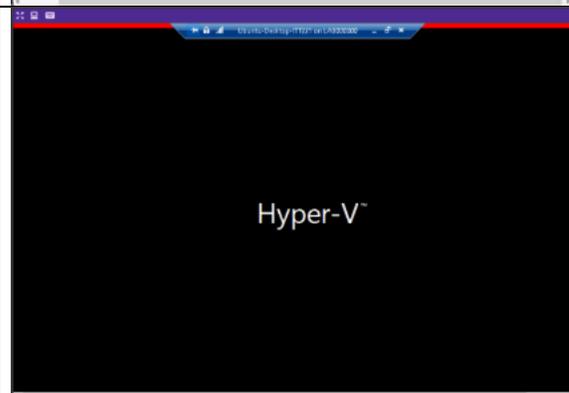
- You will be taken to the “Review your choices” menu. Select “Install”



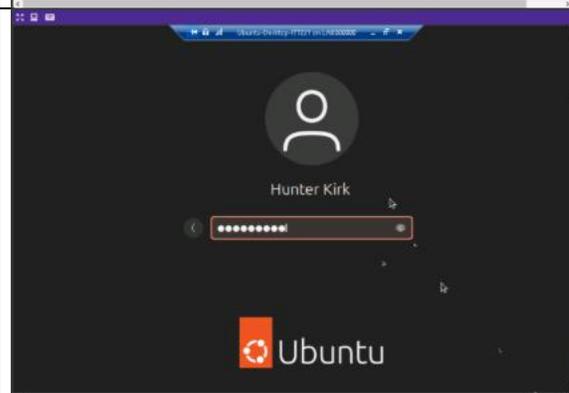
- You will now be taken to an installation window. Wait until the installation is done. When asked, to reboot system, select the “Restart Now” option



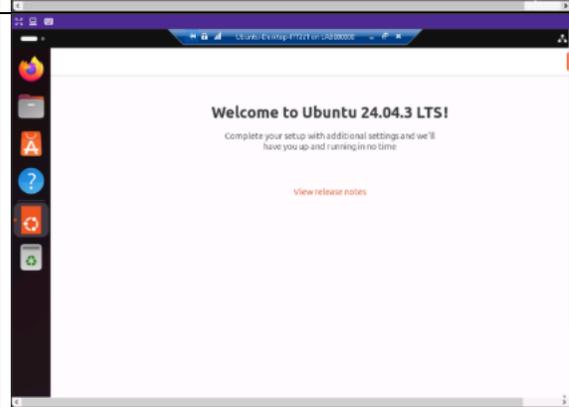
- Once you have restarted the VM your screen should look something similar to this.



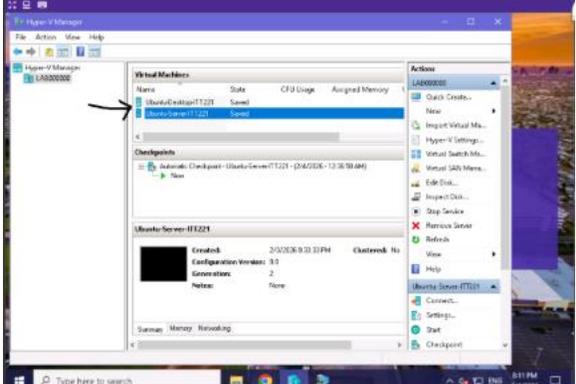
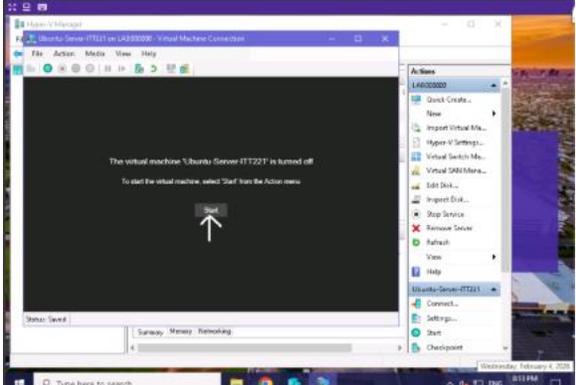
- Log into the Ubuntu Desktop using the username and password we set in the configuration menu



- If preformed properly your welcome page will look like this



ITT-221 Step by Step Template Part 2

<ul style="list-style-type: none">• We will be setting up SSH Connection and Key Authentication. First, we will need to log into our system.	
<ul style="list-style-type: none">• Next, we will need to launch Hyper-V Manager	
<ul style="list-style-type: none">• Now we will launch our “Ubuntu Server” VM	
<ul style="list-style-type: none">• A pop-up window will appear. Click “Start”	

<ul style="list-style-type: none"> After the command is finished running type “sudo apt install openssl-server -y”. Press “enter” 	<pre> \$ sudo apt install openssl-server -y Reading package lists... Done Building dependency tree... Done Reading state information... Done selecting previously unselected package libopenssh-server-1:9.6p1-3ubuntu1.4. Preparing to unpack .../libopenssh-server-1:9.6p1-3ubuntu1.4.deb ... Unpacking libopenssh-server-1:9.6p1-3ubuntu1.4 (7.6.0-30) ... selecting previously unselected package openssl-server. Preparing to unpack .../openssl-server-1:9.6p1-3ubuntu1.4_7.6.0-30.deb ... Unpacking openssl-server (7.6.0-30) ... selecting previously unselected package ncurses-term. Preparing to unpack .../ncurses-term-6.4+20240113-1ubuntu2_all.deb ... Unpacking ncurses-term (6.4+20240113-1ubuntu2) ... selecting previously unselected package ssh-import-id. Preparing to unpack .../ssh-import-id-5.11-ubuntu2.24.04.1_all.deb ... Unpacking ssh-import-id (5.11-ubuntu2.24.04.1) ... Setting up ssh-import-id (5.11-ubuntu2.24.04.1) ... Setting up openssl-client (1:9.6p1-3ubuntu1.4) ... Setting up libopenssh-server-1:9.6p1-3ubuntu1.4 ... Setting up ncurses-term (6.4+20240113-1ubuntu2) ... Setting up openssl-sftp-server (1:9.6p1-3ubuntu1.4) ... Setting up openssl-server (1:9.6p1-3ubuntu1.4) ... Creating config file /etc/ssh/sshd_config with new version Created symlink /etc/systemd/system/sockets.target.wants/ssh.socket → /usr/lib/systemd/system/ssh.socket. Created symlink /etc/systemd/system/ssh.service.requires/ssh.socket → /usr/lib/systemd/system/ssh.socket. Processing triggers for ufw (0.36-2.4) ... Processing triggers for man-db (2.12.0-4build2) ... Processing triggers for libc-bin (2.39-0ubuntu7) ... Scanning processes... Scanning Linux images... Running kernel seems to be up-to-date. No services need to be restarted. No containers need to be restarted. No user sessions are running outdated binaries. libopenssh-server-1:9.6p1-3ubuntu1.4 No VM guests are running outdated hypervisor (qemu) binaries on this host. libopenssh-server-1:9.6p1-3ubuntu1.4 </pre>
<ul style="list-style-type: none"> Now after the install is complete on the next command line type “sudo systemctl enable ssh”. Press “enter” 	<pre> \$ sudo systemctl enable ssh Reading package lists... Done Building dependency tree... Done Reading state information... Done selecting previously unselected package libopenssh-server-1:9.6p1-3ubuntu1.4. Preparing to unpack .../libopenssh-server-1:9.6p1-3ubuntu1.4.deb ... Unpacking libopenssh-server-1:9.6p1-3ubuntu1.4 (7.6.0-30) ... selecting previously unselected package openssl-server. Preparing to unpack .../openssl-server-1:9.6p1-3ubuntu1.4_7.6.0-30.deb ... Unpacking openssl-server (7.6.0-30) ... selecting previously unselected package ncurses-term. Preparing to unpack .../ncurses-term-6.4+20240113-1ubuntu2_all.deb ... Unpacking ncurses-term (6.4+20240113-1ubuntu2) ... selecting previously unselected package ssh-import-id. Preparing to unpack .../ssh-import-id-5.11-ubuntu2.24.04.1_all.deb ... Unpacking ssh-import-id (5.11-ubuntu2.24.04.1) ... Setting up ssh-import-id (5.11-ubuntu2.24.04.1) ... Setting up openssl-client (1:9.6p1-3ubuntu1.4) ... Setting up libopenssh-server-1:9.6p1-3ubuntu1.4 ... Setting up ncurses-term (6.4+20240113-1ubuntu2) ... Setting up openssl-sftp-server (1:9.6p1-3ubuntu1.4) ... Setting up openssl-server (1:9.6p1-3ubuntu1.4) ... Creating config file /etc/ssh/sshd_config with new version Created symlink /etc/systemd/system/sockets.target.wants/ssh.socket → /usr/lib/systemd/system/ssh.socket. Created symlink /etc/systemd/system/ssh.service.requires/ssh.socket → /usr/lib/systemd/system/ssh.socket. Processing triggers for ufw (0.36-2.4) ... Processing triggers for man-db (2.12.0-4build2) ... Processing triggers for libc-bin (2.39-0ubuntu7) ... Scanning processes... Scanning Linux images... Running kernel seems to be up-to-date. No services need to be restarted. No containers need to be restarted. No user sessions are running outdated binaries. libopenssh-server-1:9.6p1-3ubuntu1.4 No VM guests are running outdated hypervisor (qemu) binaries on this host. libopenssh-server-1:9.6p1-3ubuntu1.4 </pre>
<ul style="list-style-type: none"> Wait till the command finishes running. Type “sudo systemctl start ssh”. Press “enter” 	<pre> \$ sudo systemctl start ssh Reading package lists... Done Building dependency tree... Done Reading state information... Done selecting previously unselected package libopenssh-server-1:9.6p1-3ubuntu1.4. Preparing to unpack .../libopenssh-server-1:9.6p1-3ubuntu1.4.deb ... Unpacking libopenssh-server-1:9.6p1-3ubuntu1.4 (7.6.0-30) ... selecting previously unselected package openssl-server. Preparing to unpack .../openssl-server-1:9.6p1-3ubuntu1.4_7.6.0-30.deb ... Unpacking openssl-server (7.6.0-30) ... selecting previously unselected package ncurses-term. Preparing to unpack .../ncurses-term-6.4+20240113-1ubuntu2_all.deb ... Unpacking ncurses-term (6.4+20240113-1ubuntu2) ... selecting previously unselected package ssh-import-id. Preparing to unpack .../ssh-import-id-5.11-ubuntu2.24.04.1_all.deb ... Unpacking ssh-import-id (5.11-ubuntu2.24.04.1) ... Setting up ssh-import-id (5.11-ubuntu2.24.04.1) ... Setting up openssl-client (1:9.6p1-3ubuntu1.4) ... Setting up libopenssh-server-1:9.6p1-3ubuntu1.4 ... Setting up ncurses-term (6.4+20240113-1ubuntu2) ... Setting up openssl-sftp-server (1:9.6p1-3ubuntu1.4) ... Setting up openssl-server (1:9.6p1-3ubuntu1.4) ... Creating config file /etc/ssh/sshd_config with new version Created symlink /etc/systemd/system/sockets.target.wants/ssh.socket → /usr/lib/systemd/system/ssh.socket. Created symlink /etc/systemd/system/ssh.service.requires/ssh.socket → /usr/lib/systemd/system/ssh.socket. Processing triggers for ufw (0.36-2.4) ... Processing triggers for man-db (2.12.0-4build2) ... Processing triggers for libc-bin (2.39-0ubuntu7) ... Scanning processes... Scanning Linux images... Running kernel seems to be up-to-date. No services need to be restarted. No containers need to be restarted. No user sessions are running outdated binaries. libopenssh-server-1:9.6p1-3ubuntu1.4 No VM guests are running outdated hypervisor (qemu) binaries on this host. libopenssh-server-1:9.6p1-3ubuntu1.4 </pre>
<ul style="list-style-type: none"> Again wait till the command finishes running. Type “sudo systemctl status ssh”. Press “enter” 	<pre> \$ sudo systemctl status ssh Reading package lists... Done Building dependency tree... Done Reading state information... Done selecting previously unselected package libopenssh-server-1:9.6p1-3ubuntu1.4. Preparing to unpack .../libopenssh-server-1:9.6p1-3ubuntu1.4.deb ... Unpacking libopenssh-server-1:9.6p1-3ubuntu1.4 (7.6.0-30) ... selecting previously unselected package openssl-server. Preparing to unpack .../openssl-server-1:9.6p1-3ubuntu1.4_7.6.0-30.deb ... Unpacking openssl-server (7.6.0-30) ... selecting previously unselected package ncurses-term. Preparing to unpack .../ncurses-term-6.4+20240113-1ubuntu2_all.deb ... Unpacking ncurses-term (6.4+20240113-1ubuntu2) ... selecting previously unselected package ssh-import-id. Preparing to unpack .../ssh-import-id-5.11-ubuntu2.24.04.1_all.deb ... Unpacking ssh-import-id (5.11-ubuntu2.24.04.1) ... Setting up ssh-import-id (5.11-ubuntu2.24.04.1) ... Setting up openssl-client (1:9.6p1-3ubuntu1.4) ... Setting up libopenssh-server-1:9.6p1-3ubuntu1.4 ... Setting up ncurses-term (6.4+20240113-1ubuntu2) ... Setting up openssl-sftp-server (1:9.6p1-3ubuntu1.4) ... Setting up openssl-server (1:9.6p1-3ubuntu1.4) ... Creating config file /etc/ssh/sshd_config with new version Created symlink /etc/systemd/system/sockets.target.wants/ssh.socket → /usr/lib/systemd/system/ssh.socket. Created symlink /etc/systemd/system/ssh.service.requires/ssh.socket → /usr/lib/systemd/system/ssh.socket. Processing triggers for ufw (0.36-2.4) ... Processing triggers for man-db (2.12.0-4build2) ... Processing triggers for libc-bin (2.39-0ubuntu7) ... Scanning processes... Scanning Linux images... Running kernel seems to be up-to-date. No services need to be restarted. No containers need to be restarted. No user sessions are running outdated binaries. libopenssh-server-1:9.6p1-3ubuntu1.4 No VM guests are running outdated hypervisor (qemu) binaries on this host. libopenssh-server-1:9.6p1-3ubuntu1.4 </pre>

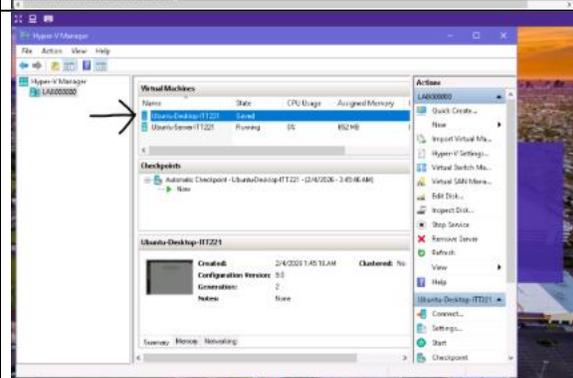
- Let the command run. Once the command is finished you will see that the SSH is installed, enabled, and active.

```

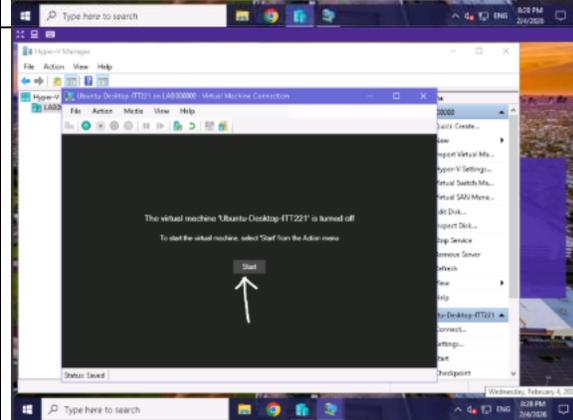
Processing triggers for libc-bin (4.3.0-1ubuntu1) ...
Cleaning process...
Cleaning linux images...
Mounting kernel seems to be up-to-date.
No services need to be restarted.
No containers need to be restarted.
No user sessions are running outdated binaries.
No VM guests are running outdated hypervisor (qemu) binaries on this host.
[ubuntu@ubuntu-server-117221 ~]$ sudo systemctl enable ssh
Synchronizing state of ssh.service with SysV service script with /usr/lib/systemd/systemd-ysv-install.
Executing: /usr/lib/systemd/systemd-ysv-install enable ssh
Created symlink /etc/systemd/system/ssh.service → /usr/lib/systemd/system/ssh.service.
Created symlink /etc/systemd/system/ssh.target.wants/ssh.service → /usr/lib/systemd/system/ssh.service.
[ubuntu@ubuntu-server-117221 ~]$ sudo systemctl start ssh
[ubuntu@ubuntu-server-117221 ~]$ sudo systemctl status ssh
● ssh.service - OpenSSH Secure Shell server
   Loaded: loaded (/usr/lib/systemd/system/ssh.service; enabled; preset: enabled)
   Active: active (running) since Wed 2025-02-04 20:46:08 UTC; 58h 37s ago
     Main PID: 599 (sshd)
     CGroup: /systemd/system/ssh.service
            └─599 sshd: /usr/sbin/sshd -D [listener] 0 of 20-100 startups

Feb 04 20:46:08 ubuntu-server-117221 systemd[1]: Starting ssh.service - OpenSSH Secure Shell server...
Feb 04 20:46:08 ubuntu-server-117221 sshd[599]: Server listening on 0.0.0.0 port 22.
Feb 04 20:46:08 ubuntu-server-117221 sshd[599]: Server listening on :: port 22.
Feb 04 20:46:08 ubuntu-server-117221 systemd[1]: Started ssh.service - OpenSSH Secure Shell server.
[ubuntu@ubuntu-server-117221 ~]$
  
```

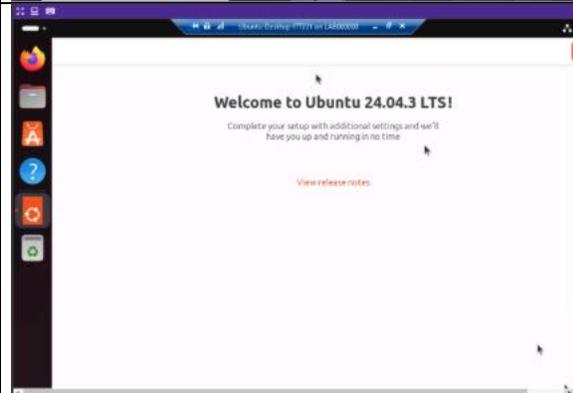
- Now we will minimize the Ubuntu Server VM and open the “Ubuntu Desktop” VM

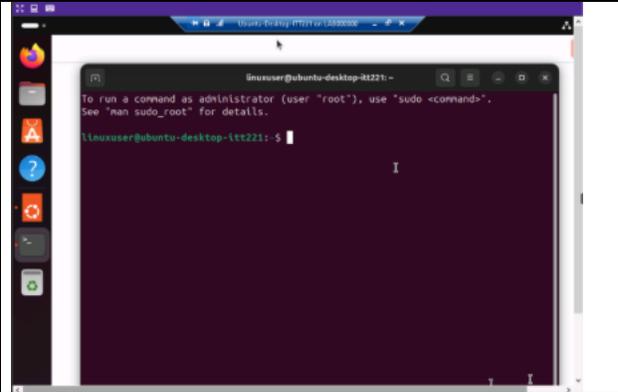
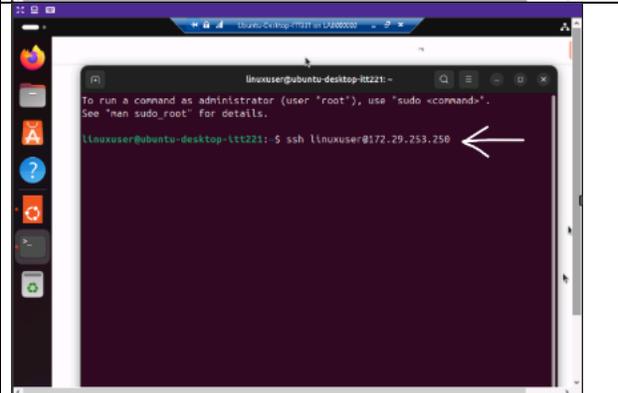
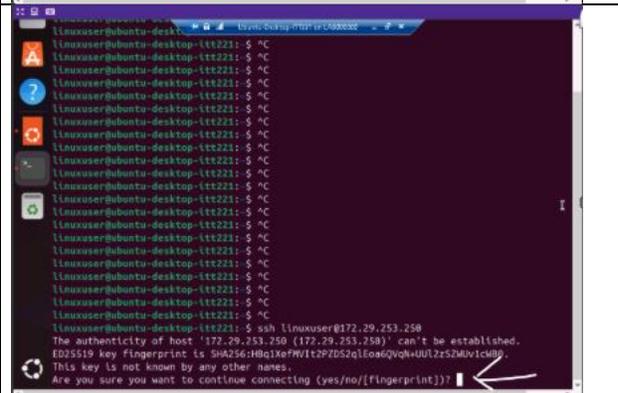
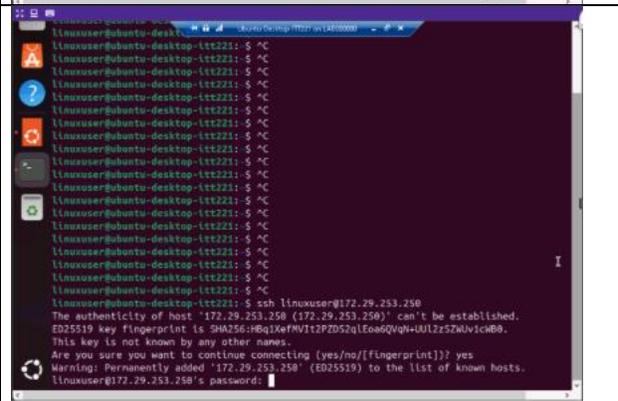


- A pop-up window will appear. Click “Start”



- Now that we are in our Ubuntu Desktop VM we will need to log in.



<ul style="list-style-type: none">• Open the “Terminal” application. To open the “Terminal” application, press and hold “Ctrl + Alt + T”	
<ul style="list-style-type: none">• Once the Terminal application is open. Type “ssh linuxuser@<server_ip>”. Press “enter”. Press “enter”. For example, my command line shows “ssh linuxuser@172.29.253.250”	
<ul style="list-style-type: none">• On the following command line you will be asked “To trust the host”. Type “Yes”. Press “eneter”	
<ul style="list-style-type: none">• You will then be prompted to type in the server's password. For example, mine is Red.vine1	

- You will receive a confirmation screen. If done properly your screen should look like this

```

Linuxuser@172.29.253.250:~$ ssh Linuxuser@172.29.253.250
Linuxuser@172.29.253.250's password:
Welcome to Ubuntu 24.04.3 LTS (GNU/Linux 6.8.0-94-generic x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:    https://landscape.canonical.com
 * Support:       https://ubuntu.com/pro

System Information as of Wed Feb  4 09:46:15 PM UTC 2026

System load:  0.0      Processes:    99
Usage of /:   8.1% of 60.7GB  Users logged in:  1
Memory usage: 41%      IPv4 address for eth0: 172.29.253.250
Swap usage:   0%

Expanded Security Maintenance for Applications is not enabled.

63 updates can be applied immediately.
To see these additional updates run: apt list --upgradable

Enable ESM Apps to receive additional future security updates.
See https://ubuntu.com/esm or run: sudo pro status

Linuxuser@ubuntu-server-1t2221:~$

```

- Now type “exit” into the command line. Press “enter”

```

Linuxuser@ubuntu-server-1t2221:~$ exit
logout
Connection to 172.29.253.250 closed.
Linuxuser@ubuntu-desktop-1t2221:~$

```

- Now type “ssh-keygen -t rsa -b 4096”. Press “enter”

```

Linuxuser@ubuntu-server-1t2221:~$ exit
logout
Connection to 172.29.253.250 closed.
Linuxuser@ubuntu-desktop-1t2221:~$ ssh-keygen -t rsa -b 4096

```

- You will be asked to “Enter file in which to save the key” press “enter”

```

Linuxuser@ubuntu-server-1t2221:~$ exit
logout
Connection to 172.29.253.250 closed.
Linuxuser@ubuntu-desktop-1t2221:~$ ssh-keygen -t rsa -b 4096
Generating public/private rsa key pair.
Enter file in which to save the key (/home/linuxuser/.ssh/id_rsa):
Enter passphrase (empty for no passphrase):

```

- You then will be asked to “Enter passphrase” press “enter”

```

Linuxuser@ubuntu-server-itt221:~$ ssh-keygen -t rsa -b 4096
Generating public/private rsa key pair:
Enter file in which to save the key (/home/linuxuser/.ssh/id_rsa):
Enter passphrase (empty for no passphrase):
Enter same passphrase again:

```

- You will be asked to “Enter same passphrase again” press “enter”

```

Linuxuser@ubuntu-server-itt221:~$ ssh-keygen -t rsa -b 4096
Generating public/private rsa key pair:
Enter file in which to save the key (/home/linuxuser/.ssh/id_rsa):
Enter passphrase (empty for no passphrase):
Enter same passphrase again:

```

- If done properly your screen will look like this

```

Linuxuser@ubuntu-server-itt221:~$ ssh-keygen -t rsa -b 4096
Generating public/private rsa key pair:
Enter file in which to save the key (/home/linuxuser/.ssh/id_rsa):
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Your identification has been saved in /home/linuxuser/.ssh/id_rsa
Your public key has been saved in /home/linuxuser/.ssh/id_rsa.pub
The key fingerprint is:
SHA256:X8VBxVLAZ:QZUVS1ZnsBDFBEAH1YKk5FV7DErLrWk Linuxuser@ubuntu-desktop-itt221
The key's randomart image is:
+--[RSA 4096]-----
|
|..+-----+
|o+ EoBo..
|o . + =B.+
|o o . . +
|..+-----+
+----[SHA256]-----
Linuxuser@ubuntu-desktop-itt221:~$

```

- In the command line type “ssh-copy-id linuxuser@172.29.253.250”. Press “enter”

```

Linuxuser@ubuntu-server-itt221:~$ ssh-copy-id linuxuser@172.29.253.250

```

- You will be prompted to type in your password. Type in your password and press “enter”. When you have finished let the command run your screen will look like this

```
Linux user@ubuntu-desktop-1tt221:~$ ssh-copy-id linuxuser@172.29.253.250
/usr/bin/ssh-copy-id: INFO: attempting to log in with the new key(s), to filter out any that
are already installed
/usr/bin/ssh-copy-id: INFO: 1 key(s) remain to be installed -- if you are prompted now it
is to install the new keys
linuxuser@172.29.253.250's password:
Number of key(s) added: 1

Now try logging into the machine, with: "ssh 'linuxuser@172.29.253.250'"
and check to make sure that only the key(s) you wanted were added.

linuxuser@ubuntu-desktop-1tt221:~$
```

- To verify proper operation in the command line, type “ssh linuxuser@172.29.253.250”. Press “enter”. When done correctly, your screen will look like this. No password prompt will be asked

```
Linux user@ubuntu-desktop-1tt221:~$ ssh linuxuser@172.29.253.250
Welcome to Ubuntu 24.04.3 LTS (GNU/Linux 6.8.0-94-generic x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:    https://landscape.canonical.com
 * Support:       https://ubuntu.com/pro

System information as of Wed Feb  4 18:08:16 PM UTC 2026

System load:  0.0          Processes:      98
Usage of /:   8.1% of 69.78GB  Users logged in:  1
Memory usage: 41%          IPv4 address for eth0: 172.29.253.250
Swap usage:   0%

Expanded Security Maintenance for Applications is not enabled.

63 updates can be applied immediately.
To see these additional updates run: apt list --upgradable

Enable ESM Apps to receive additional future security updates.
See https://ubuntu.com/esm or run: sudo pro status

Last login: Wed Feb  4 21:46:15 2026 from 172.29.251.54
linuxuser@ubuntu-server-1tt221:~$
```