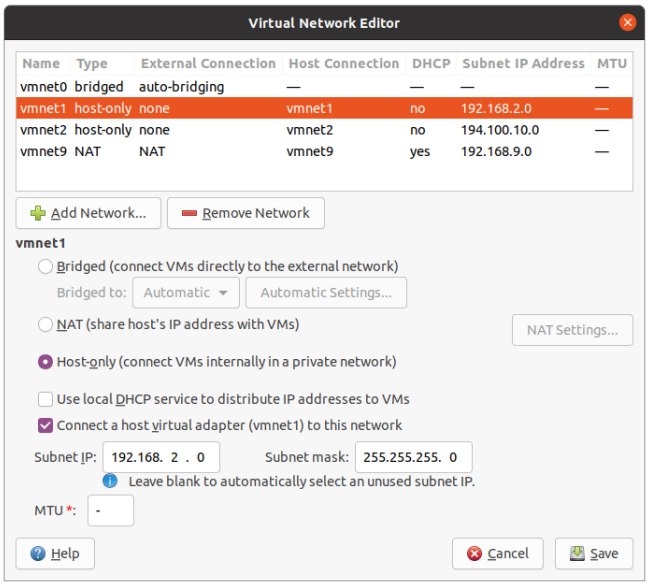
Ubuntu 20.04 Installation guide

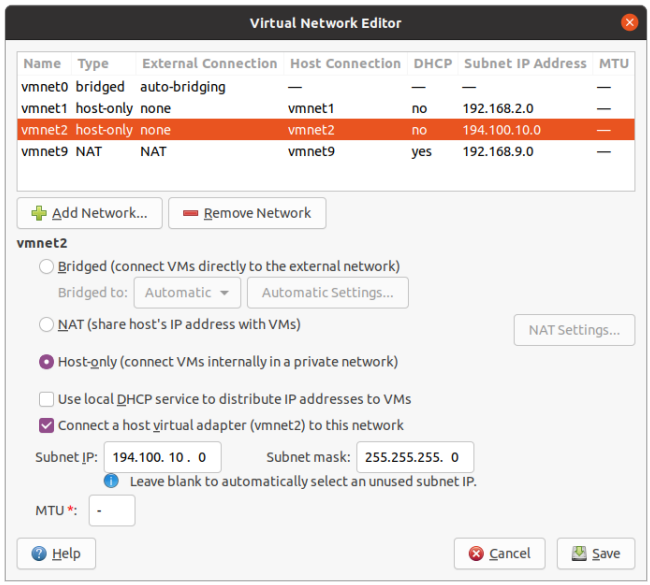
Jacobsen, Ørjan Alexander

Content: Guide for installing Ubuntu 20.04 for this research

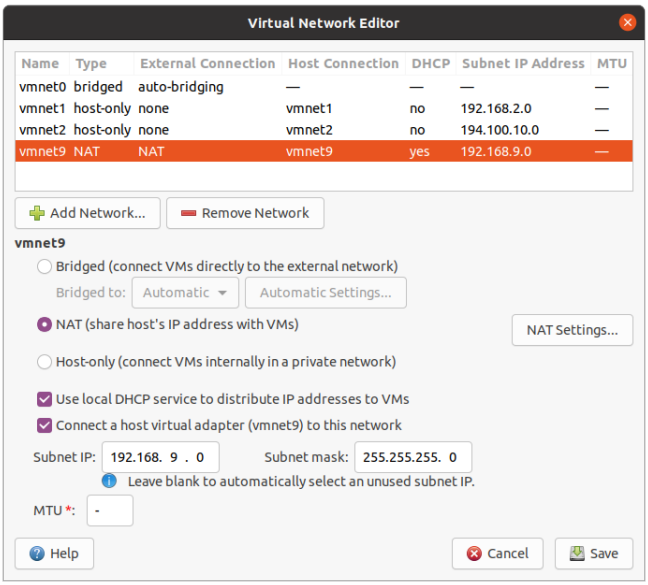
1 SETTING UP VIRTUAL NETWORK IN VMWARE WORKSTATION



(a) vmnet1 - Scanning network



(b) vmnet2 - Management network



(c) vmnet9 - Internet connectivity

Figure 1.1: Virtual network settings

To set up virtual networks in VMware Workstation, open the VIRTUAL NETWORK EDITOR which is found in under **Edit** in the Menu bar. As seen in figure 1.1, there exists four virtual networks for this setup. **vmnet0** is not to be configured for this research and would stay as default configured.

vmnet1 must be configured for the SCANNING NETWORK with the following settings, as seen in figure 1.1a:

- **Host-only**
- **Do not check the box for** *Use local DHCP service to distribute IP addresses to VMs*
- **Connect to a host virtual adapter (vmnet1) to this network**:
  - **Subnet IP:** 192.168.2.0
  - **Subnet mask:** 255.255.255.0

vmnet2 must be configured for the MANAGEMENT NETWORK with the following settings, as seen in figure 1.1b:

- **Host-only**
- **Do not check the box for** *Use local DHCP service to distribute IP addresses to VMs*
- **Connect to a host virtual adapter (vmnet2) to this network**:
  - **Subnet IP:** 194.100.10.0
  - **Subnet mask:** 255.255.255.0

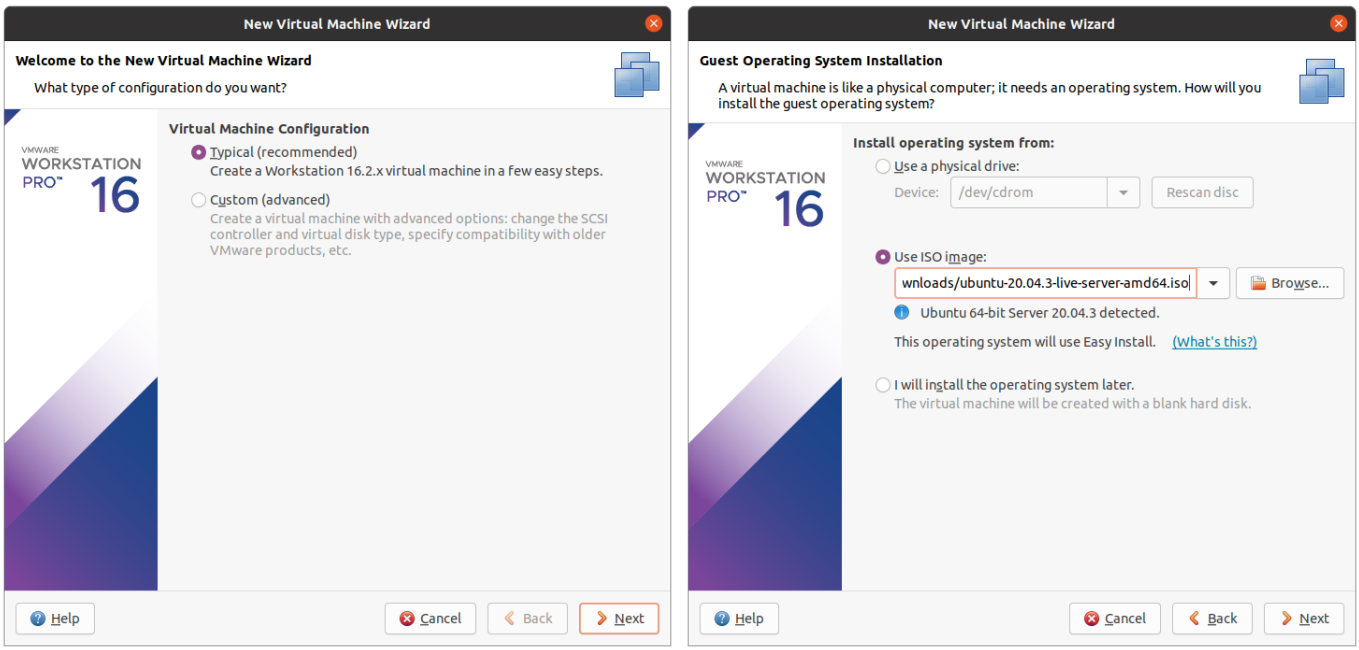
vmnet9 must be configured for the INTERNET CONNECTIVITY with the following settings, as seen in figure 1.1c:

- **Host-only**
- **Check the box for** *Use local DHCP service to distribute IP addresses to VMs*
- **Connect to a host virtual adapter (vmnet9) to this network**:
  - **Subnet IP:** 192.168.9.0
  - **Subnet mask:** 255.255.255.0

The **vmnet9** interface are to be used in rare use-cases in the Kali Linux installation, which could be activated **only** if needed to install packages and updates.

2 Creating virtual machine in VMware Workstation

In the main window of VMware Workstation, press **File** and **New Virtual Machine** in the Menu Bar. Alternatively the hotkey $CTRL + N$ could be used. Go through the guide as this steplist describes.

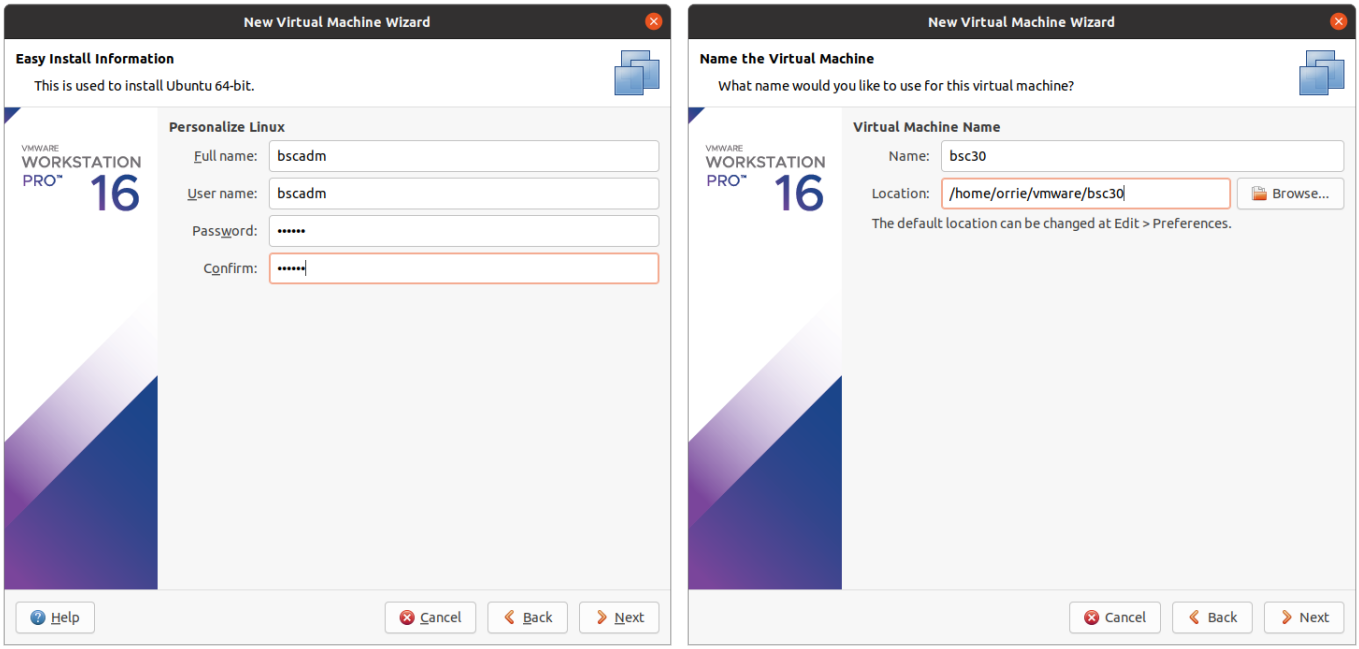


(a) VM configuration

(b) ISO image

Figure 2.1: VM configuration and ISO image

Choose **Typical** in figure 2.1a and press **Next**.
Choose the ISO image for Ubuntu 20.04 as in figure 2.1b and press **Next**.

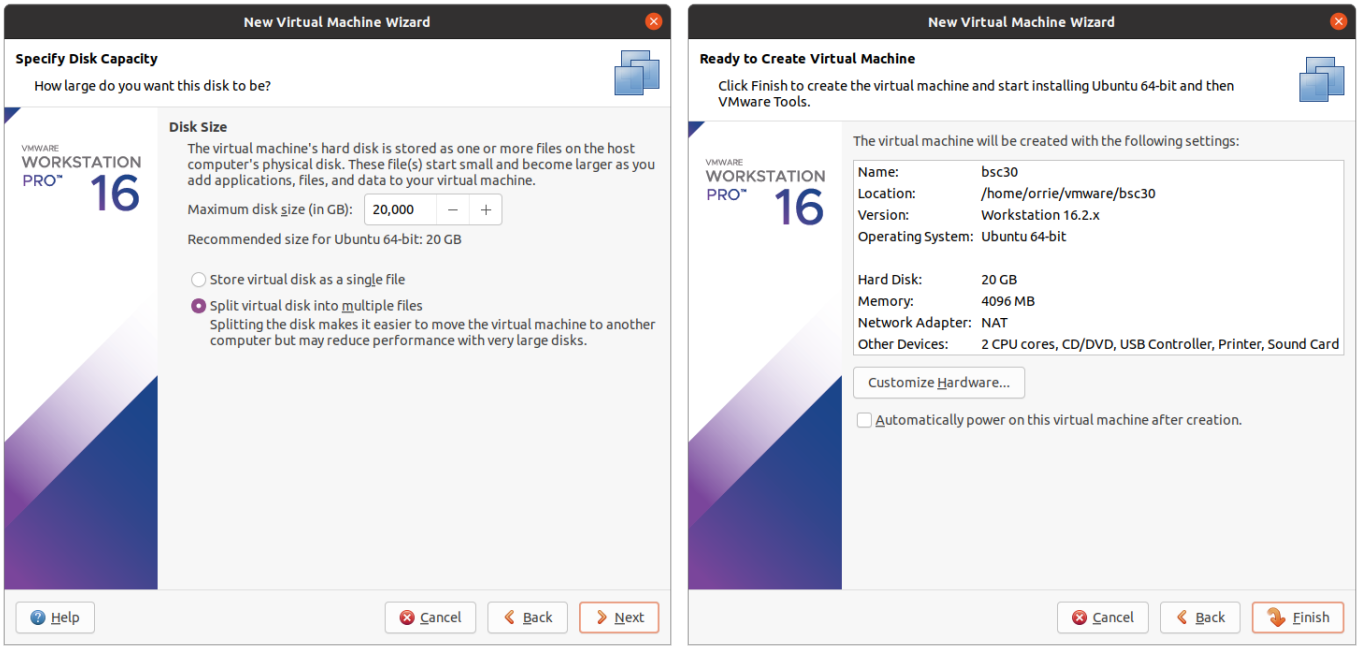


(a) Username and password

(b) Hostname

Figure 2.2: Username, password and hostname

Insert the username and password for the user like in figure 2.2a. Within this research the default user **bscadm** are used together with the password the same as the username, for simplistic reasons. Press **Next**.
Name the virtual machine (naming convention for the research is $bscXY$ where XY symbolises increment number from 01 to 20) as shown in figure 2.2b and choose location for the machine to be stored. Press **Next**.

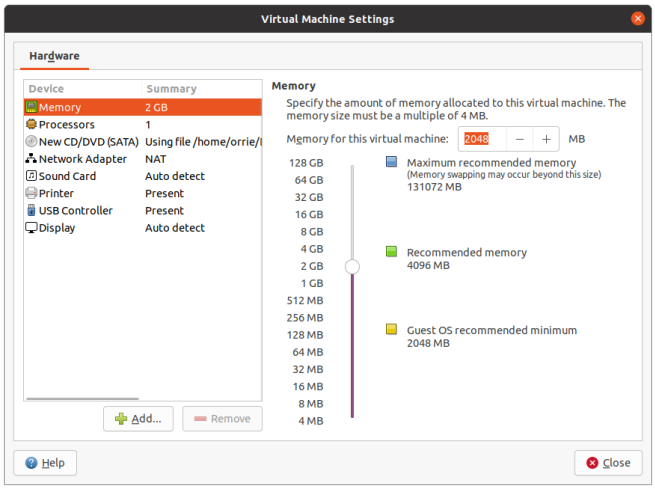


(a) Disk size

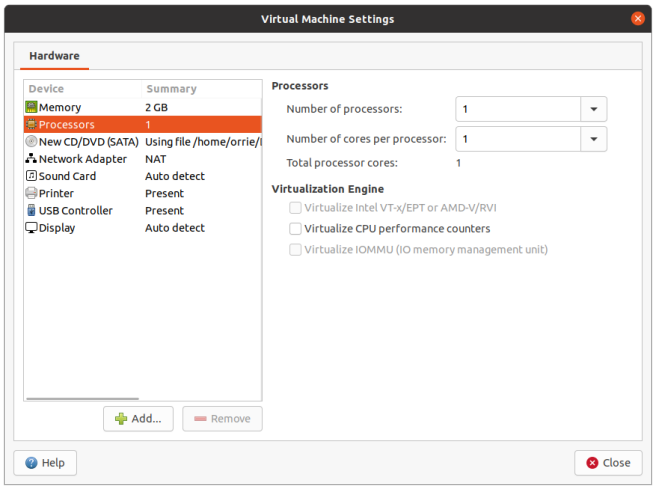
(b) VM summary

Figure 2.3: Disk size and VM summary

Choose disk size (default **20GB**) and press **Next**.
Look at the summary and press **Next** if as shown in figure 2.3b.



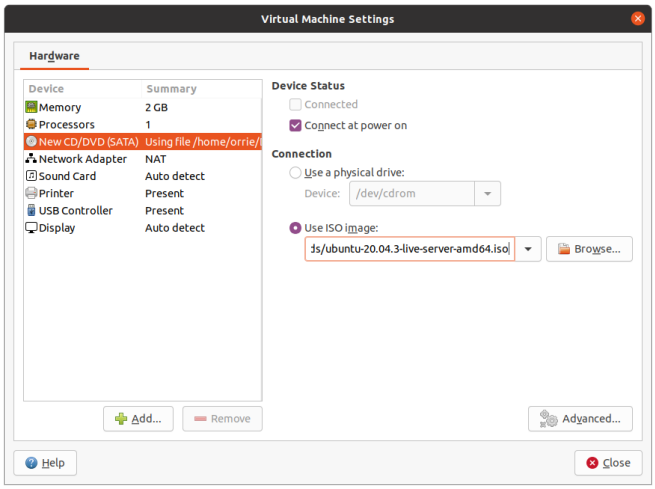
(a) Memory settings



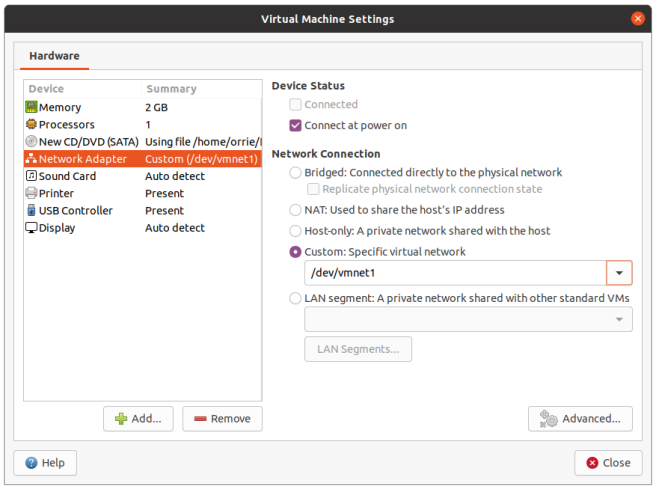
(b) Processor settings

Figure 2.4: Memory and processor settings

Choose the virtual machine and press **Edit Virtual Machine Settings**. Could be done using the Menu Bar by pressing **VM** and **Settings**.
Configure memory and processors as shown in figure 2.4.



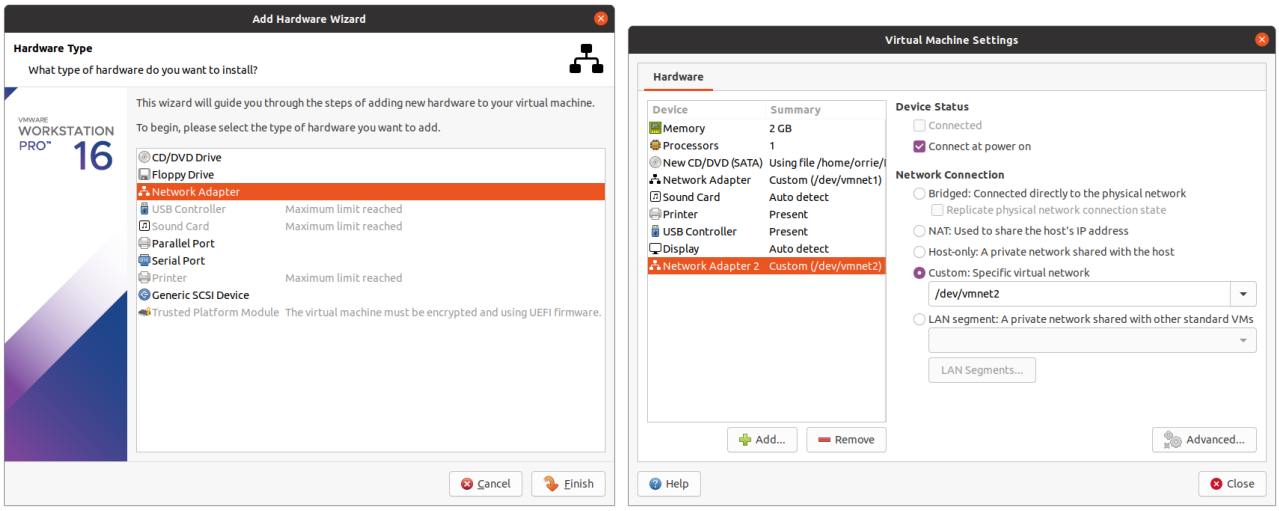
(a) ISO image



(b) Network adapter 1 settings

Figure 2.5: ISO image and network adapter 1

Check the settings against figure 2.5. The ISO image for the Ubuntu installation must be chosen and the **Network adapter 1** must be connected and set to use **Custom /dev/vmnet1**.



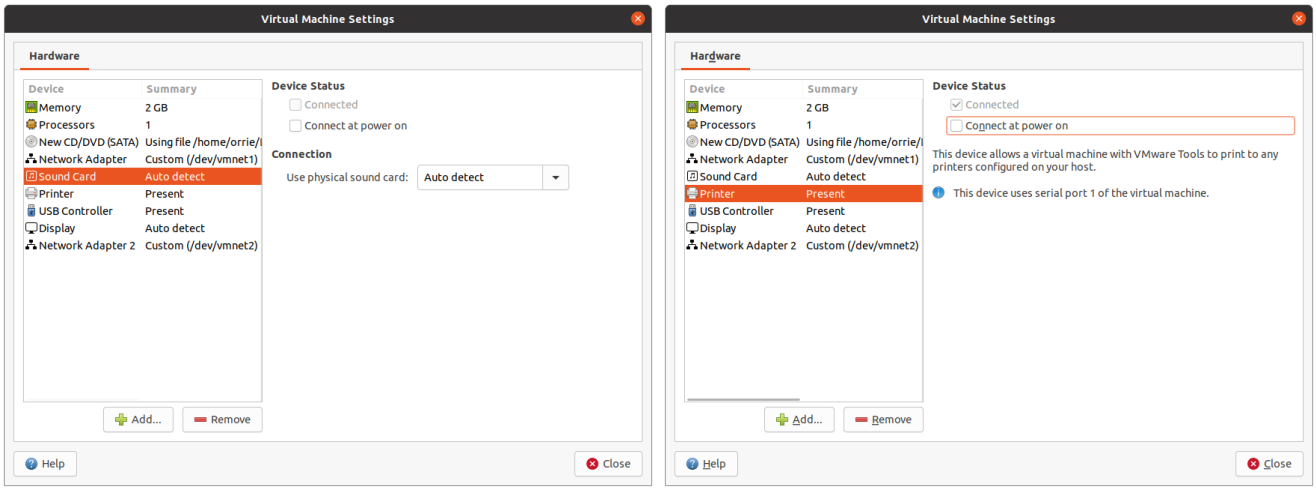
(a) Add new hardware

(b) Network adapter 2 settings

Figure 2.6: Add new network adapter and configure

Press **Add** and chose **Network adapter** and press **Finish** as shown in figure 2.6.

The **Network adapter 2** must be configured to **Connected at power on** and set to **Custom /dev/vmnet2**.

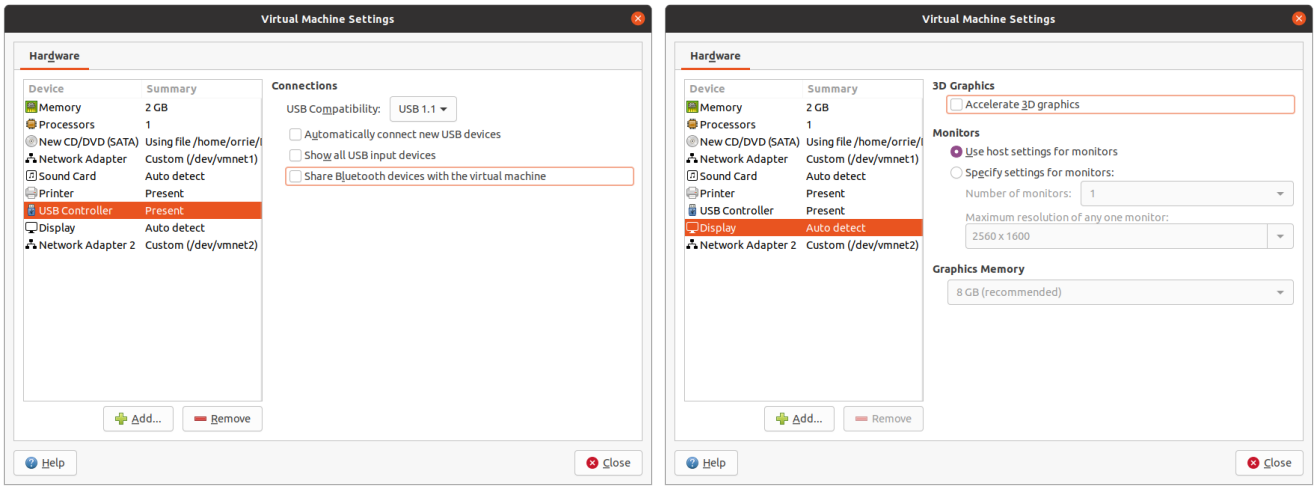


(a) Sound card settings

(b) Printer settings

Figure 2.7: Sound card and printer settings

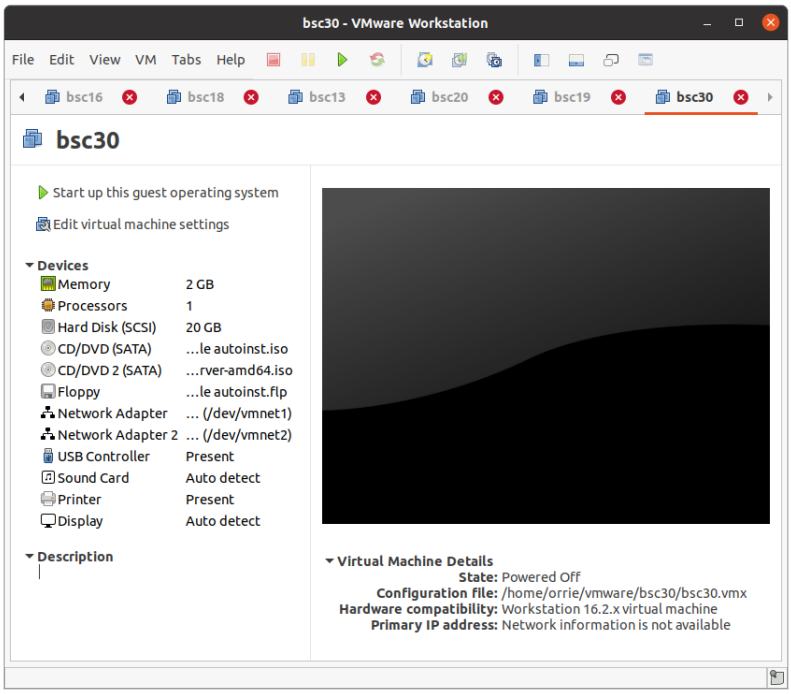
The sound card and printer do not need to be connected as shown in 2.7.



(a) USB settings (b) Display settings

Figure 2.8: USB controller and display settings

Disable all settings on the USB controller and Display as shown in figure 2.8.



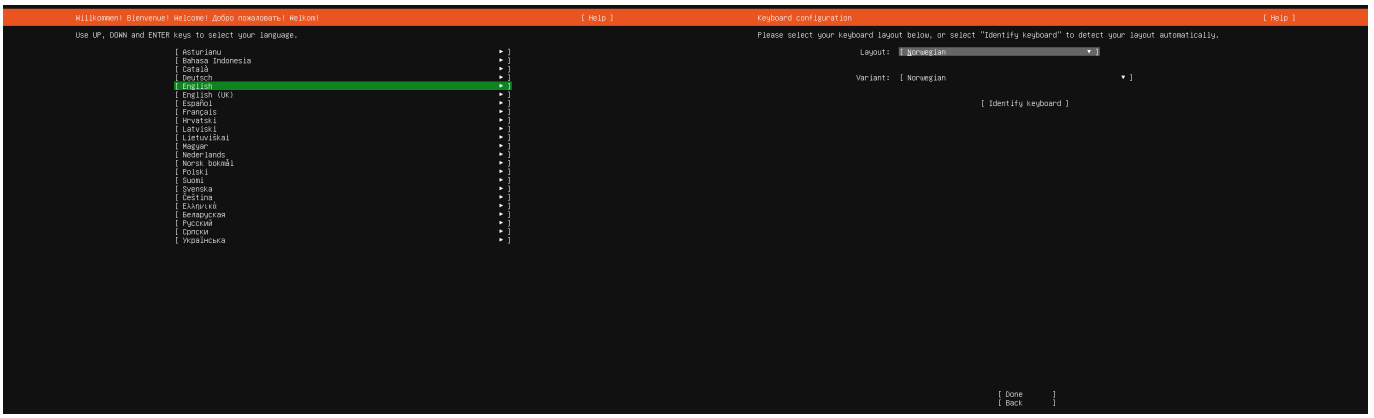
(a) New VM settings summary

Figure 2.9: New VM settings summary

Check the settings for the virtual machine, it should be similar as in figure 2.9.

3 INSTALLING UBUNTU 20.04

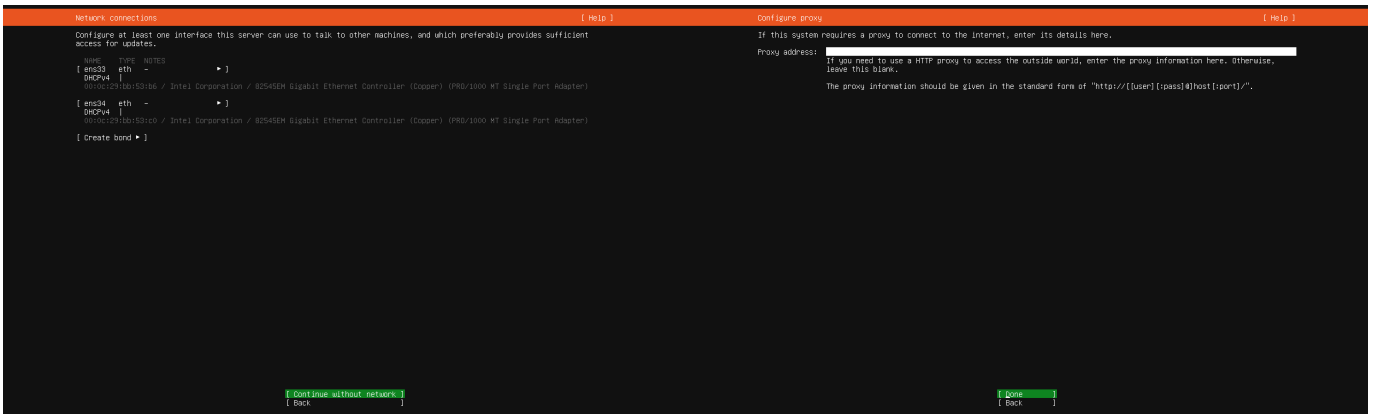
Now, **Power on** the virtual machine and a installation is prompted. Continue with the steps as follows.



(a) Language settings (b) Keyboard settings

Figure 3.1: Language and keyboard settings

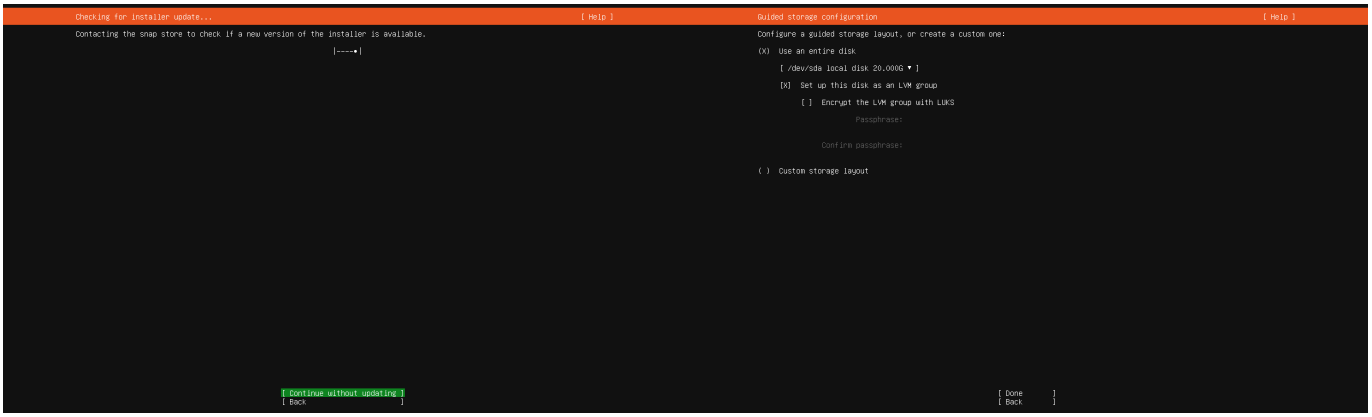
Choose **English** language and preferred keyboard layout.



(a) Network settings (b) Proxy settings

Figure 3.2: Network and proxy settings

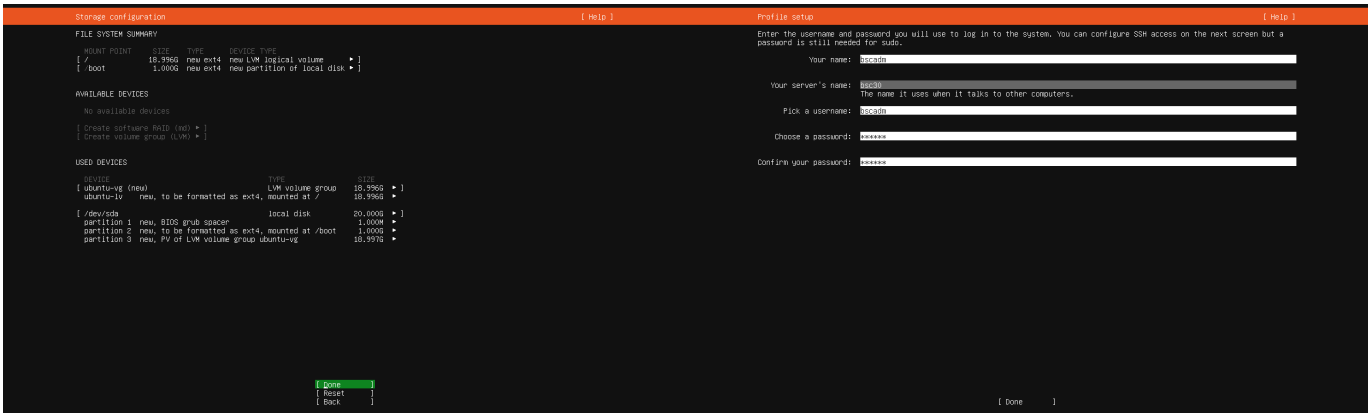
No need for configurating network now. Proceed, same with proxy settings.



(a) Snap settings (b) Storage settings

Figure 3.3: Snap and storage settings

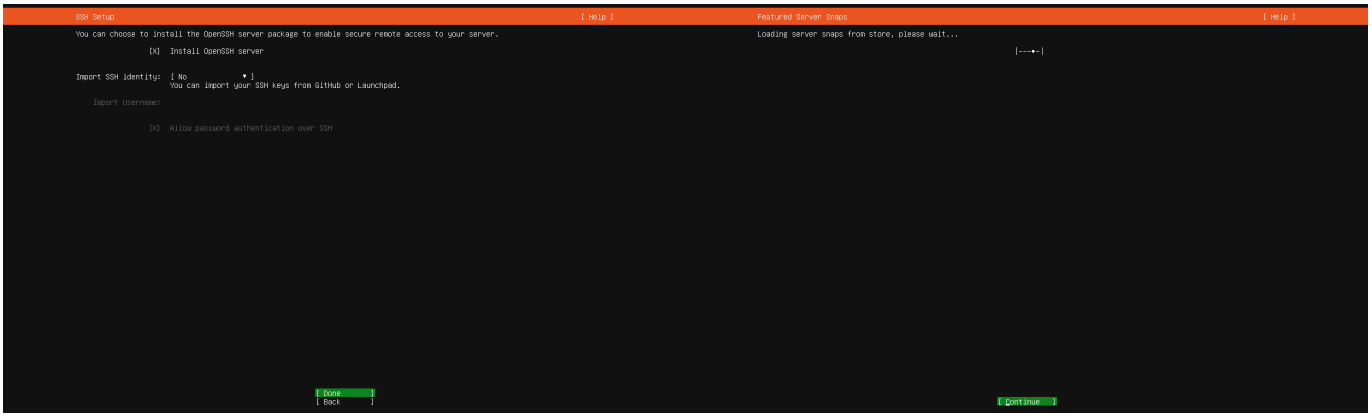
Default settings for Snap seems fine, continue. Same with the disk settings, will use the whole disk.



(a) Disk settings (b) Users settings

Figure 3.4: Disk and users settings

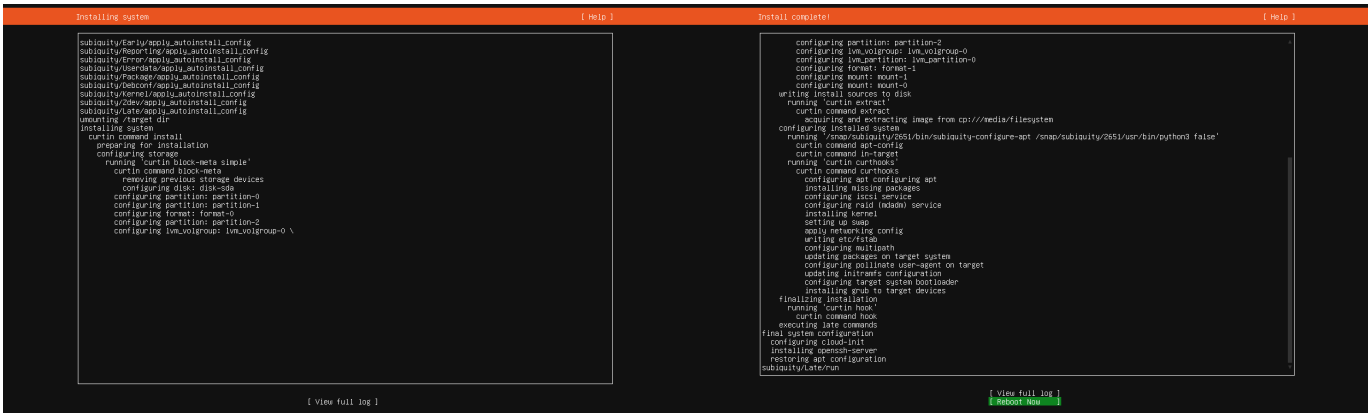
The default partitioning settings seems fine, continue.
Within the user fields preferred username and password are entered.
For this research is the **bscadm** used, and must be used. The password are set to the same as username for simplistic reasons.



(a) SSH settings (b) Snap

Figure 3.5: SSH and snap

Check the box for installing OpenSSH server since the worker are managed through SSH. Continue from Snap.



(a) Installing (b) Install done

Figure 3.6: Installation

An installation prompt will now be shown, and when this completes reboot the OS.