
NWTK

Debian Install

Gabriel Martin

3BHIT

September 20th 2023

Contents

1	Getting Debian Linux	2
1.1	Downloading the installation image	2
2	Installing Debian Linux	2
2.1	Creating the Virtual Machine	2
2.2	The installation procedure	3

1 Getting Debian Linux

1.1 Downloading the installation image

We can get the free open-source Debian ISO image from the official debian.org/distrib/ webpage. Here we can choose one of the following installation options:

- Small installation image (net-installer): This is a small image and therefore ideal for flash drives but needs a network connection to install the required packages.
- Full installation image: Includes all basic packages and makes it easy to install Debian without an internet connection.
- Cloud image: A preinstalled installation of Debian ready to be deployed.
- Live boot image: Can be used to boot into a Debian installation without installing it to disk.

For the rest of this paper, we will continue using the net-installer image because we have an available network connection to use.

2 Installing Debian Linux

2.1 Creating the Virtual Machine

When we first open up VMware Workstation we are greeted with a welcome screen where we can choose to create a new Virtual Machine(Ctrl+N).

It will ask us for an installation image (iso). This is where we select the image we just downloaded from debian.org.

After that, we can choose a name for our virtual machine. This has no effect on the vm itself so you can choose whatever you like, although a memorable name would be recommended to identify your vm once you start creating more of them. We can also choose where to store the files for the vm. You can change this to whatever directory or drive you like but keep in mind that there should be enough space to install an entire operating system.

Next, it will ask us to create a virtual hard disk for our virtual machine. The default 20GB should be fine but feel free to increase the size. You can also select whether you want to split the disk into multiple files as it grows or into one big file. Splitting the vd is usually only necessary if you plan on storing the vm on a FAT32 system commonly seen on flash drives.

On the final setup screen we can review what we have selected and customize the hardware of our vm.

- Memory: The default should be 2GB but if you have enough RAM on your host system I would recommend selecting at least 4GB, otherwise 2GB should also work fine.
- Processors: The default number of virtual processors should be 1 but you can increase this value depending on your needs. We also have the option to select different virtualization options like VT-x for Intel CPUs and AMD-V for AMD CPUs but that won't be necessary for our setup.
- CD/DVD: Here we can specify the image we want our vm to use. When selected during creation the current iso file should appear here, otherwise, you have to select it now.
- Network Adapter: Since we need a network connection to set up our installation because we picked the net-installer image we should make sure this configuration is correct. The NAT network should work fine with a regular network. If you have some custom network configuration you might have to change this accordingly.
- We can ignore the rest of the options because they won't be relevant for our setup.

2.2 The installation procedure

Once we power on our vm we should be greeted with the installation menu of Debian Linux. To get a great overview of all the available options we will select the advanced install under "Advanced Options" - "Expert Install"

First, we will always select the language and region. You can pick whatever you like but to follow along selecting English as language would be recommended.

Second, we will select our keyboard layout. Make sure you select the layout of your physical keyboard so that the keymaps match.

Next, we can detect the installation media we connected to our vm. There will only be one flash drive to select because we didn't specify any other drives during the vm creation.

Then we can load all the installer components we need. For our vm setup, we don't need to select any additional packages here so we can simply hit continue.

Next, we will configure our network. By default, it will ask your IPv6-Router/DHCP-Server for a network configuration. If you don't have a DHCP server in your network you will have to configure your network manually to continue the installation.

After that, you can enter your host and domain name.

Then we can specify a password for our root user and create a separate user account for our machine. Make sure to use memorable passwords for your user account!

Next, it will ask us for a NTP server to configure the local system clock. Here the default time server will work just fine.

Now we get to the most complicated part of the setup: Partitioning the hard disk: We will select the manual partition option for our primary drive (sda). It will ask you to create a partition table compatible with your platform. Now you can format and partition your drive. Make sure to select the following options:

- Select the full disk space.
- Select Primary partition as partition type.
- Select ext-4 as your filesystem.
- Tick the bootable flag.

Then save and write the changes to disk.

Now we can install the base system to our freshly partitioned hard drive. We will also select the current kernel version and include all system drivers.

Next, we will configure the package manager. It will ask us if we have any additional installation media which we don't. We can then select a network

mirror to pull our packages from. Leaving this at the default mirror for the Debian distro is usually fine. Since we are only using this VM for testing we can also include non-free software packages.

Next we can specify what tools we want to install. We will deselect all options to get a simple base installation without a graphical desktop environment.

Now it is time to install the GRUB bootloader to our primary drive.

After the installation finishes the system will automatically reboot. If everything worked fine you should be greeted by a fresh Debian Linux installation.