

How to run Raspberry Pi Desktop on Windows or macOS

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In this article, **TipsMake.com** will show you how to use a PC or Mac to run the desktop operating system of the Raspberry Pi Foundation, Debian with the Raspberry Pi Desktop (for brevity, the article will call it 'Raspberry Pi Desktop ' from now on).

This Raspbian-like operating system (as the name implies, both operating systems are based on Debian) allows you to use a PC or Mac as an alternative to the Raspberry Pi. That's useful when testing projects at a time when it's not convenient to use the Pi. This is also interesting as it supports the familiar Raspbian interface with PC or Mac hardware, much more powerful than the little Pi.

The easiest way to get the Raspberry Pi Desktop up and running is to install the operating system, but that will require you to dedicate a computer (or at least a hard drive partition) to the project. If you want to continue running Windows or macOS on your computer, the best way is to run your Raspberry Pi Desktop on a virtual machine - that's exactly what we'll show you in this tutorial.

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Step 1: Download and install VirtualBox

Since you will be running Raspberry Pi Desktop on a virtual machine, the first step is to download the Oracle VM VirtualBox. You can download the software from the **Downloads** page of VirtualBox. Just choose the version that matches your operating system (there are two options: Windows version and macOS version). After downloading the executable, install VirtualBox by following the instructions of the setup wizard.

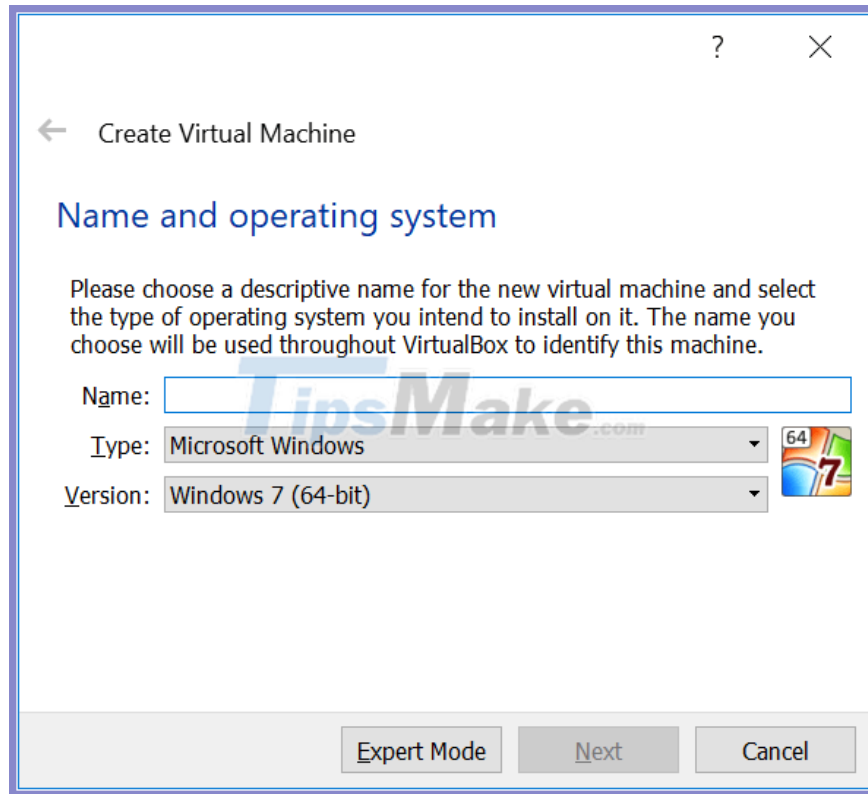
Step 2: Download Debian with Raspberry Pi Desktop

Next, you will need to download the Raspberry Pi Desktop image file from the Raspberry Pi Foundation's website.

Step 3: Launch VirtualBox and create a new virtual machine

You have now downloaded both VirtualBox and Raspberry Pi Desktop. You're ready to launch VirtualBox and create a new virtual machine.

Click **New** and you will see a screen like this:



Of course, you don't want to create a Windows virtual machine, so let's change the settings a bit. First, choose a descriptive name for the virtual machine (ex: 'Raspberry Pi'), then choose **Linux** from the **Type** drop-down menu and **Debian (64-bit)** from the **Version** drop-down menu . Then, click **Next**.

On the next screen you can use the recommended memory capacity of 1024MB - this option corresponds to the memory capacity of the Raspberry Pi 3.

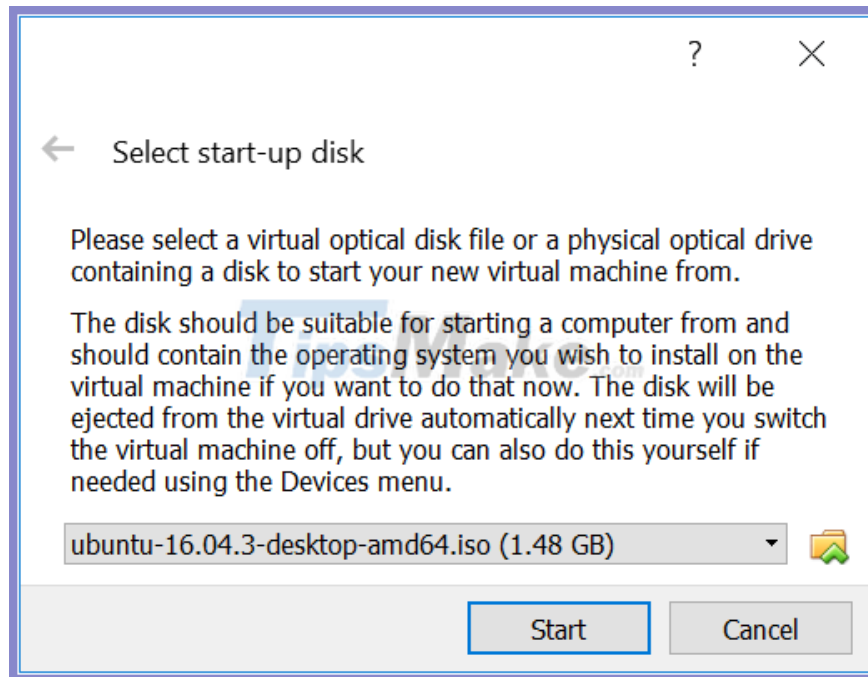
The next screen is to add the hard drive to your new virtual machine. Just click **Create** , unless you have some reason to modify the settings. Then, click Next on this screen and again on the next screen.

Finally, you can choose the capacity of your hard drive. The example used the recommended 8GB capacity, but you might want a larger hard drive. When you're ready, click **Create**.

Now, the virtual machine settings are all set up.

Step 4: Install Raspberry Pi Desktop

Click **Start** to begin installing Raspberry Pi Desktop. You will see a screen like this:



Browse to the folder where you saved the Raspberry Pi Desktop image file, select the file, and click **Start**. What you will see next is a menu titled **Debian GNU / Linux installer boot menu**. Use the arrow keys - or i - and **Enter** to select **Install**.

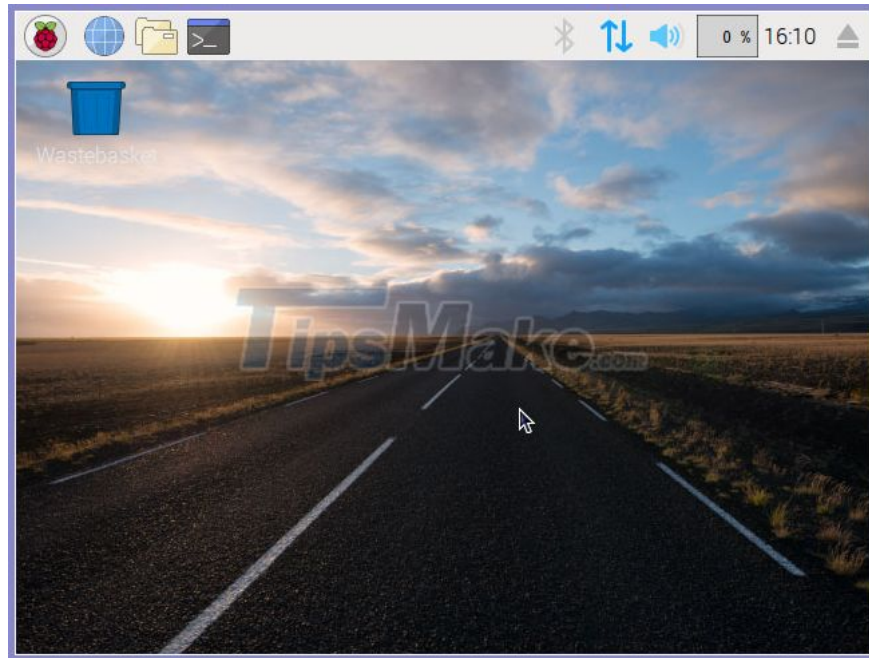
On the next screen, select your preferred keyboard layout and continue by pressing **Enter**.

Choose **Guided** - use the entire drive and keep pressing **Enter** to go to the **Select disk to partition** option and choose **Partitioning scheme**. Finally, click **Finish partitioning and write changes to disk**.

You can try to do something while the system is installed.

After a while, the installation wizard will prompt you: '*Install the GRYB boot loader to the master boot record?*' (Install GRYB boot loader into Master Boot Record'. Click **Yes** and select / **dev / sda**.

When the wizard is done installing everything, you should see a screen like this:



If you've used Raspbian before, this screen is very familiar, right?

Step 5: Make the virtual machine interactive

The virtual machine is now successfully running Raspberry Desktop, but the screen size is a bit small and it doesn't get bigger when you click **Maximize**. You can make your machine more interactive by installing VirtualBox Guest Additions. Guest Additions make it possible to resize the screen, use the clipboard, and share files between your PC or Mac and the virtual machine.

To do this, first open up Terminal and make sure your system is up to date:

```
sudo apt-get update sudo apt-get upgrade
```

You will have to enter the commands because the virtual machine doesn't cooperate very well yet.

Now you are ready to install the VirtualBox Guest Additions:

```
sudo apt-get install linux-headers-$(uname -r) virtualbox-guest-dkms virtualbox-
```

Once Guest Extensions are installed, click the **Devices** menu and choose **Shared Clipboard > Bidirectional** .

If you restarted the virtual machine now, you should be able to use the same clipboard on both your PC or Mac and the virtual machine. You can also change the screen size. But don't restart! Instead, first add a user to the **vboxsf** group to enable file sharing between the virtual machine and the PC or Mac:

```
sudo adduser pi vboxsf
```

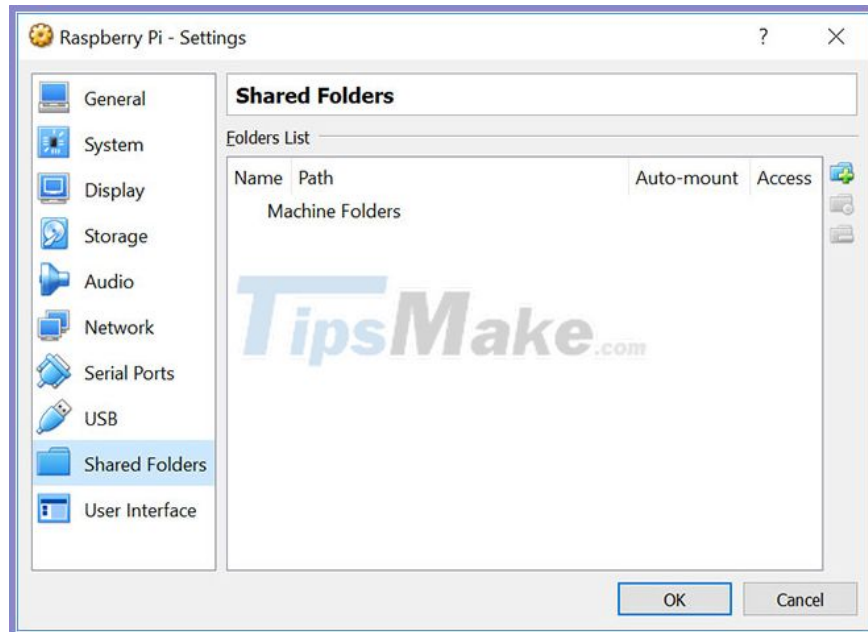
Now you're ready to shut down the virtual machine and set up a shared folder. Here is the shutdown command:

```
shutdown -h now
```

Step 6: Set up shared folders

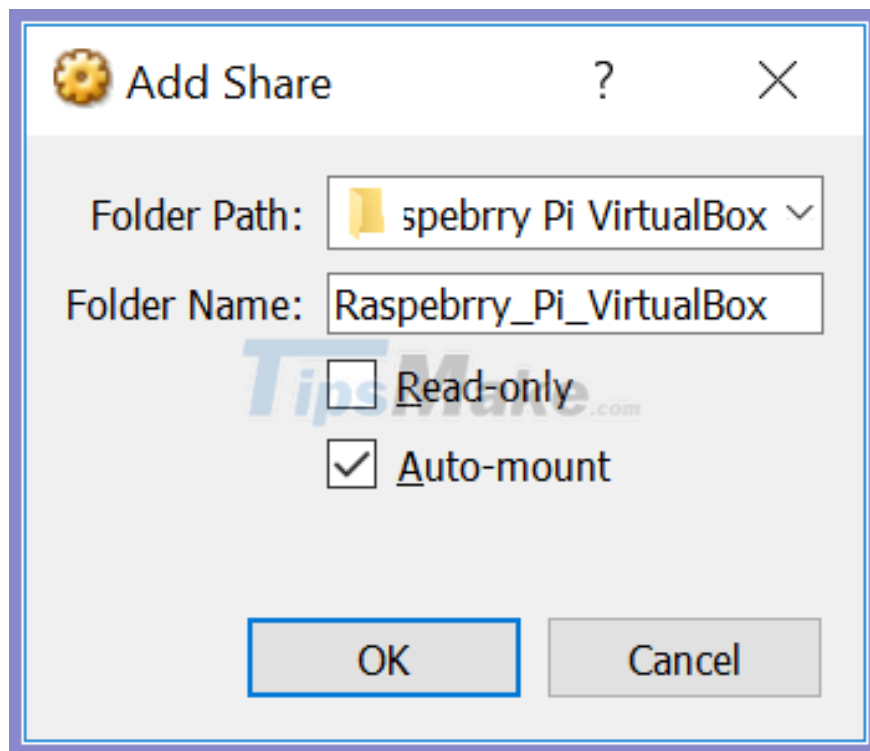
To set up shared folders, right-click on the virtual machine name and select **Settings...** or press **Ctrl + S** with the virtual machine selected.

From the menu that opens, select **Shared Folders**.



Click the button with the green plus sign to add a new shared folder.

From the many **Folder Path** drop-down menus, choose **Other...** and then choose the folder you want to share. When you're ready, click **OK** and choose **Auto-mount**.



If you restart the virtual machine and launch the file manager, you should see your share directory with the prefix '**sf_**' in the / **media** directory . Any files you put in that folder will show up in the respective folder in / on PC or Mac and vice versa.

It's done! You now have a Raspberry Pi Desktop running on a virtual machine on a PC or Mac, and you can easily use the clipboard and manage folders while working on the next project.

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