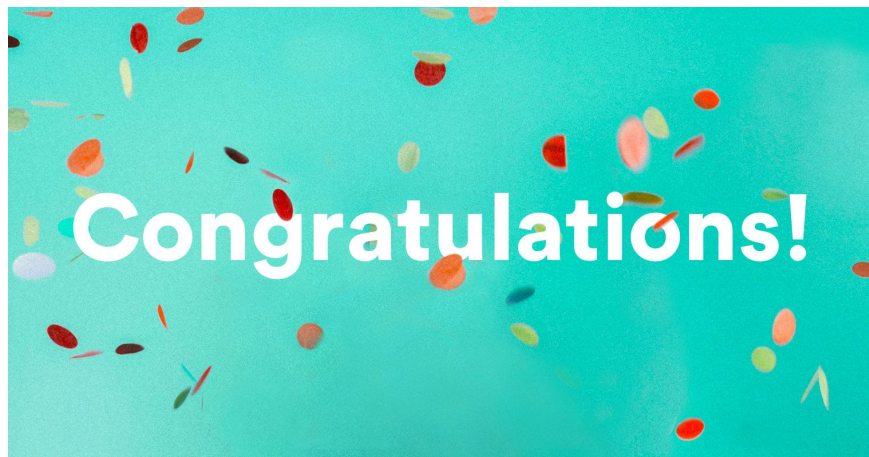




Speed Team Instructions

TLDR (In-Depth Instructions Below)

1. Download the VirtualBox image linked in the email sent to you, and download/install VirtualBox + Guest Additions. (Make sure virtualization is enabled in your BIOS)
2. Save the VBox image in a safe place on your system, configure the settings for your specific configuration, and make sure you are using **Bridged** as your network adapter.
3. Boot the VM, and login to Debian using the credentials given to you. Configure the VM to your needs and make sure the internet is working.
4. Login to Riot inside of the VM and submit the following information to your speed team leader:
 - a. Is everything properly working in the VM? If not, what's wrong?
 - b. What network adapter are you using? You should not be using NAT.
 - c. What are your speeds in the host vs speeds in the guest?
 - d. What is your timezone?
 - e. Submit the availability link sent to you in the messages.
5. You can shutdown the VM at this point. You will be contacted through email with a day & time (currently 24 hour gaps) for you to get your testing done.
6. Boot into the VM during that time slot and you'll find necessary downloads/login information for your VPN within your Riot messages.
7. Configure the VPN in the network manager, and make sure it's properly working by doing a quick IP check in Firefox.
8. Do all of your speed testing using the Firefox Bookmarks, a stopwatch, and input results into the spreadsheet.
9. Save the spreadsheet into your completed tests folder on the desktop, then send it to your speed team leader through Riot. You'll receive a confirmation that you're complete.
10. Disconnect from the VPN! Delete the VPN configuration files. And remove the VPN from the network manager. The only difference in the VM after speed testing should be the addition of your completed spreadsheet.





In-Depth Instructions

1. You should've received an email with the following information:

- a. A Tester Number. This will look something like: **4C**
- b. A link to download the Virtual Machine (VM) files.
- c. Login credentials for your Matrix account & Debian user account. Only login to your Matrix account inside the VM.

2. Set Up Your Virtual Machine (VM)

- a. Follow the link in the email to download the preconfigured speed team VM.
- b. While it's downloading, download and install [VirtualBox](#) and the extension pack. (Make sure virtualization is enabled in your BIOS)

VirtualBox 6.1.4 platform packages

- [Windows hosts](#)
- [OS X hosts](#)
- [Linux distributions](#)
- [Solaris hosts](#)

The binaries are released under the terms of the GPL version 2.

See the [changelog](#) for what has changed.

You might want to compare the checksums to verify the integrity of dow

- [SHA256 checksums](#), [MD5 checksums](#)

Note: After upgrading VirtualBox it is recommended to upgrade the gue

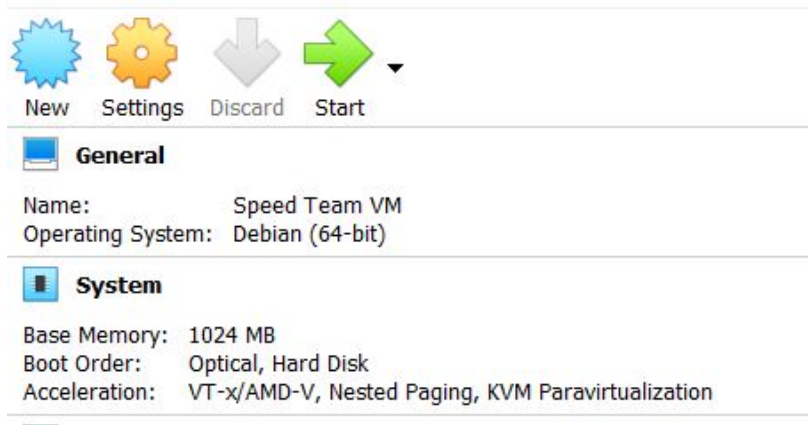
VirtualBox 6.1.4 Oracle VM VirtualBox Extension Pack

- [All supported platforms](#)

- c. Once the ZIP has finished downloading and VirtualBox is installed, extract the ZIP to a safe place, such as your **Documents** folder. Then, open the Speed Team Virtual Machine (It should automatically open VirtualBox & import the VM)

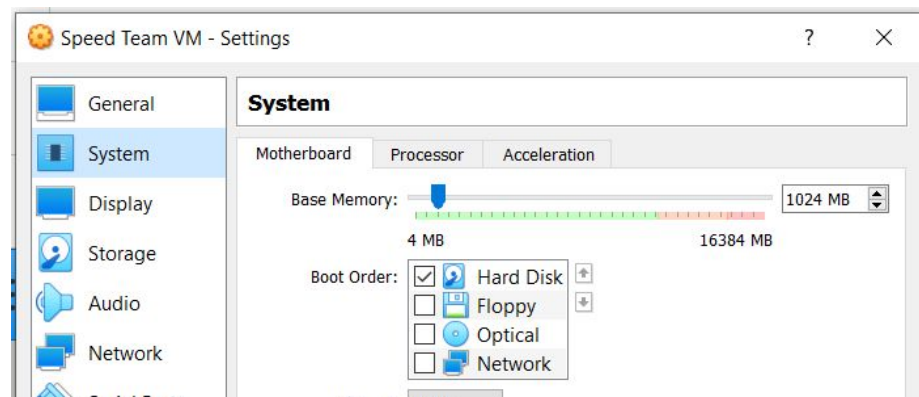


- d. From here, verify the settings/configuration will work on your system.

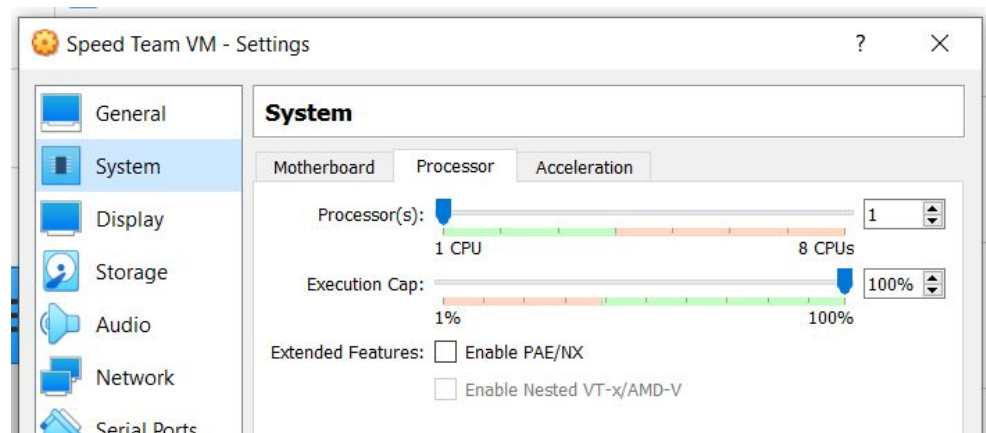


Click **settings**

All settings should work by default, but we can optimize a few based on your specific configuration.

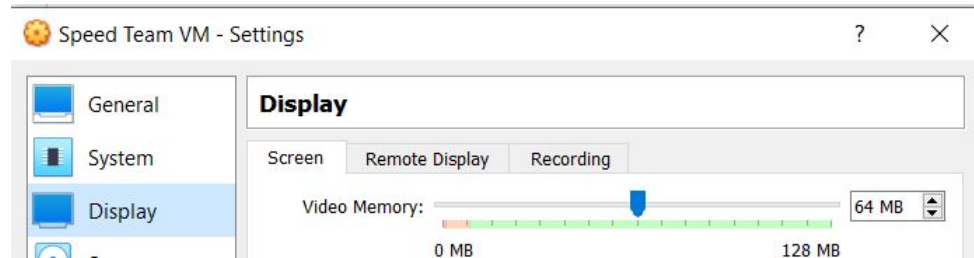


Increase RAM to whatever your system is comfortable with. This VM is light and shouldn't need more than **2048 MB**. Stay in the green.

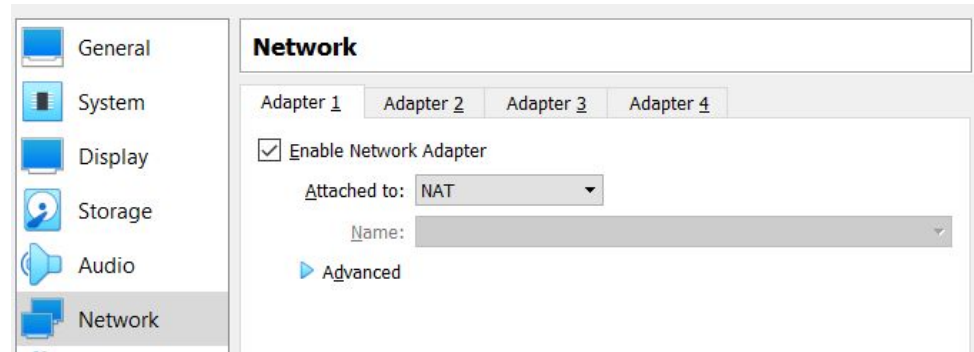


You can increase the **number of CPUs**. Stay in the green.

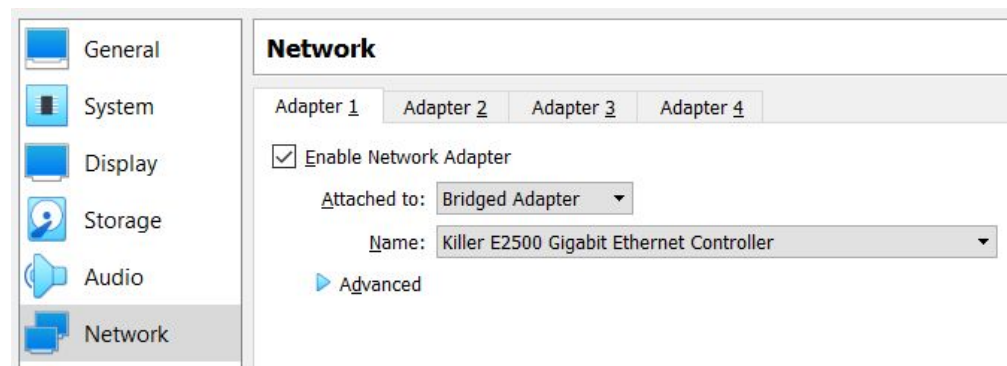
V2



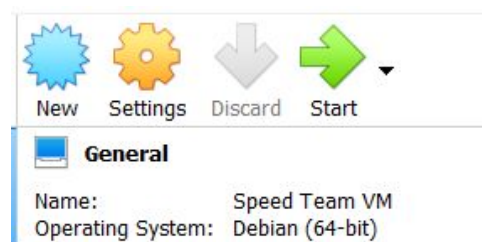
In **Display**, you can max this out. I set mine to 64 MB but you can go higher.



The most important setting is your network setting. By default, this will be **NAT**. Make this **Bridged Network**, then you can select the specific device you will use for testing. Ideally, this will be **ethernet**.



- e. That should wrap up configuration. Click Okay, select the VM, and click **Start**. Everything should boot up properly.

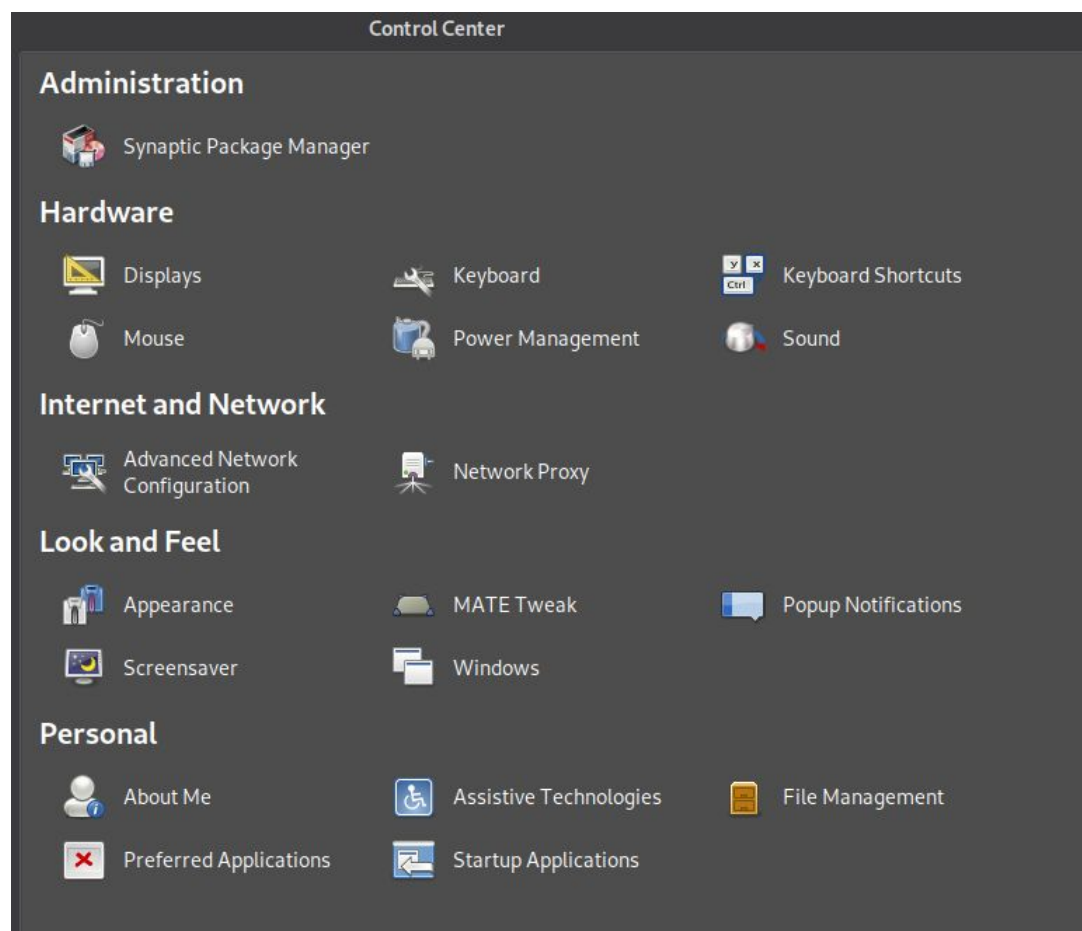
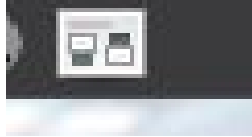


--At this point you should be at a Debian login screen. Do not continue until this is done--



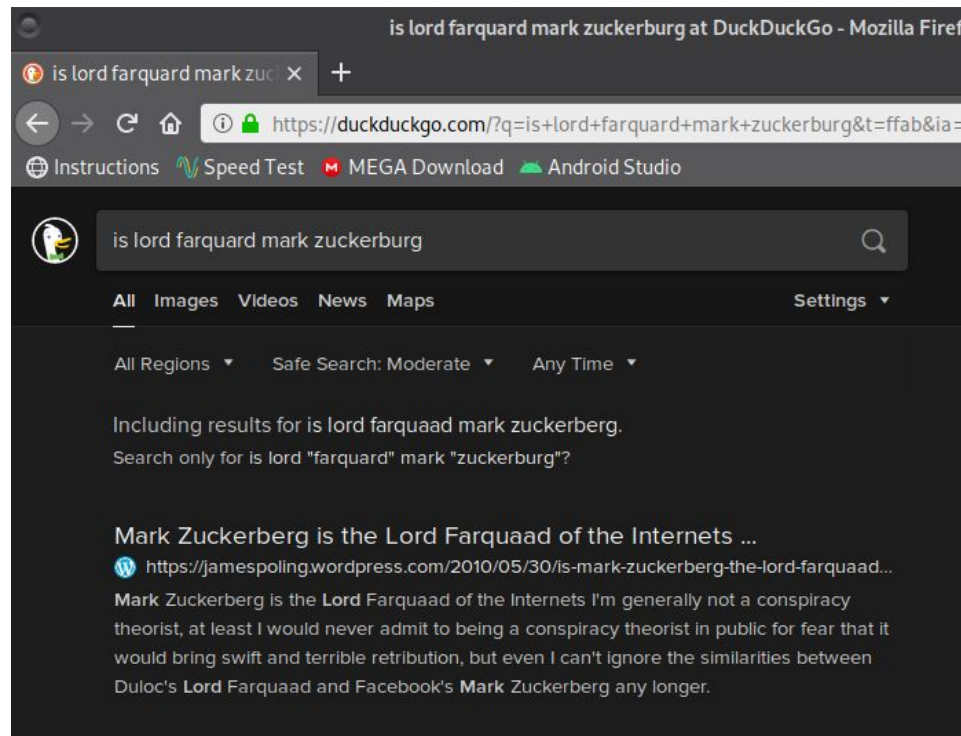
3. Setup Testing Environment

- a. First, login to Debian. This information was supplied in the original email. You can go full-screen in VirtualBox by pressing **Right Ctrl + F**
- b. Your applications and system preferences are located in the **Top Left** of your screen. Verify your keyboard configuration, date & time, and make any visual/accessibility changes you want to make.





- c. Open Firefox ESR, and do a quick search to make sure your internet is working.



- d. Now, open **Riot** (The Blue R) in the launcher, and login with the credentials you were given in the original **email**. You should have an open conversation with your team leader. Do not interact with this yet.
- e. To make sure speeds are good, do a **control speed test**. Go back to your host machine by either pressing **Right Ctrl + F** or hovering your cursor to the mid-bottom of the screen. Then do an internet speed test on your host. Note the numbers. Boot back into the VM and do a speed test. (Make sure you are **NOT using NAT**, go back to step 2d for more help)
- f. Final step: Report back your success in Riot! Copy and paste this message with the following information to your team leader:
- 1) Is everything properly working in the VM? If not, what's wrong?
 - 2) What network adapter are you using? You should not be using NAT.
 - 3) What are your speeds in the host vs speeds in the guest?
 - 4) What is your timezone?
 - 5) Submit the availability link sent to you in the messages.

--You may now shut down the VM. You will shortly receive an email with the designated day/time you will be speed testing based on your availability.--



4. VPN Setup

- a. Once you're given a day to test, log in to the VM and open your Riot messages. You should receive an OpenVPN profile or whatever is needed to set up a VPN connection. If it's an OpenVPN profile, move it to the Desktop Folder **OpenVPN Profiles**
- b. For most tests, you will be using the OpenVPN GUI. Click on the network panel



- c. Click VPN Connections and select add a connection



- d. In the dropdown, select Import a configuration



V2



- e. In the file explorer, select the profile you should have saved in **Desktop/OpenVPN Profiles**
- f. Now, for most services, your only step left is to enter login credentials in the configuration screen. Then click **Save** to create the VPN Configuration.

The screenshot shows the 'Authentication' window in OpenVPN. It has a dark grey background. At the top, the title 'Authentication' is in white. Below it, there are three fields: 'Type:' with a dropdown menu showing 'Password', 'User name:' with a text input field, and 'Password:' with a text input field. A small icon of two people is visible in the bottom right corner of the window.

- g. You should now be able to toggle between enabling and disabling the VPN.

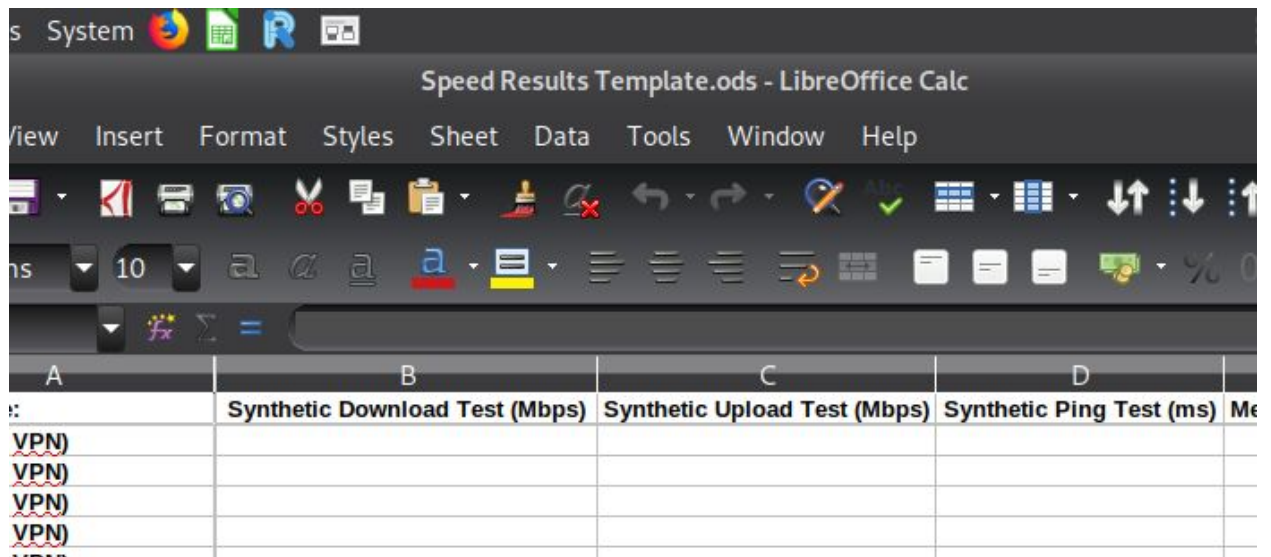


- h. Search "What is my ip" on DuckDuckGo in Firefox ESR with the VPN **disabled** and **enabled** to do a quick test to see if you're connecting properly.

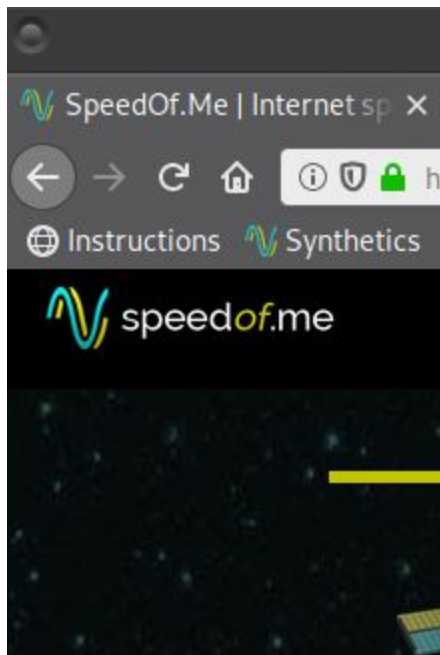


5. Speed Testing!

- a. Now it's time to finally get testing! First, we need to do control tests. Your VPN should be **DISABLED** for this first round of tests. Make sure:
 - i. Your host OS is disconnected from any VPNs
 - ii. There is minimal network activity on both the Host and System OS as well as your other devices on the network.
 - iii. You are NOT using NAT in VirtualBox.
 - iv. You are connected using ethernet, avoid WiFi.
- b. Open the testing spreadsheet by clicking the sheets button at the top of the screen



- c. All of these tests are bookmarked in Firefox ESR. Start with **Synthetics**.



V2



- d. Do this test 5 times **WITHOUT** a VPN. Put your results down each time in the spreadsheet. The control average will be automatically calculated, only input your results.

	A	B	C	D
1	VPN Name:	Synthetic Download Test (Mbps)	Synthetic Upload Test (Mbps)	Synthetic Ping Test (ms)
2	Test 1 (No VPN)	50	12	10
3	Test 2 (No VPN)	60	15	15
4	Test 3 (No VPN)	70	10	5
5	Test 4 (No VPN)	40	14	8
6	Test 5 (No VPN)	50	10	12
7	Control Average	54	12.2	10
8				

- e. There is also a real-world download test in Firefox ESR. One is the **Ubuntu** download and the other is **Android Studio**.

MEGA Download
 Android Studio

EN
 Create Account

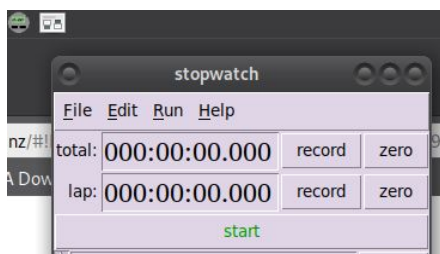
SpeedTest.zip
 1.55 GB

☐ Transfer with MEGA Desktop App [Read more](#)

Import to

Download

- f. Time these downloads using either your phone, or the included stopwatch tool on the top panel. Click **START** right as the download begins, and **STOP** right when the download is finished.



V2



- g. Input all your real-world results as they happen in **SECONDS**. Do this test 3 times **WITHOUT** a VPN.

A	B	C	D	E	F
VPN Name:	Synthetic Download Test (Mbps)	Synthetic Upload Test (Mbps)	Synthetic Ping Test (ms)	Mega Download Test (Seconds)	Android Studio Test (Seconds)
Test 1 (No VPN)	50	12	10	300	280
Test 2 (No VPN)	60	15	15	350	300
Test 3 (No VPN)	70	10	5	300	320
Test 4 (No VPN)	40	14	8	N/A	N/A
Test 5 (No VPN)	50	10	12	N/A	N/A
Control Average	54	12.2	10	316.67	300
Test 1 (With VPN)					

- h. Repeat steps A-G but with your **VPN ENABLED**. Your spreadsheet should look similar:

A	B	C	D	E	F
VPN Name:	Synthetic Download Test (Mbps)	Synthetic Upload Test (Mbps)	Synthetic Ping Test (ms)	Mega Download Test (Seconds)	Android Studio Test (Seconds)
Test 1 (No VPN)	50	12	10	300	280
Test 2 (No VPN)	60	15	15	350	300
Test 3 (No VPN)	70	10	5	300	320
Test 4 (No VPN)	40	14	8	N/A	N/A
Test 5 (No VPN)	50	10	12	N/A	N/A
Control Average	54	12.2	10	316.67	300
Test 1 (With VPN)	40	10	15	350	300
Test 2 (With VPN)	50	8	20	400	300
Test 3 (With VPN)	60	8	20	300	320
Test 4 (With VPN)	30	10	25	N/A	N/A
Test 5 (With VPN)	40	10	30	N/A	N/A
VPN Average	44	9.2	22	350	306.67
Results (Performance/100%)	81.48%	75.41%	12	90.48%	97.83%

- i. Input the final information on the bottom to finalize your test.

18	Tester Number	0A
19	Continent	North America
20	Country	United States
21	VPN Server Used	Server #108

- j. Now **Save As** and save this final spreadsheet in the **Completed Tests** folder on your desktop in the **.XLS format**, and **send your team leader this spreadsheet on Riot**.
- k. At this point, **DISCONNECT** from the VPN! **DO NOT** leave it running. There are likely limited simultaneous devices. Also **delete** the configuration file and any trace of it in the settings. Remove the entry in the Network Manager as well. The VM should be identical to when you first booted it up, outside of your completed spreadsheet.
- l. Wait for the review to be published! Your hard work is much appreciated and is helping a great cause! You will receive a followup email with information on the next VPN to test.

