Creating VPN files (wireguard) for each Reneal Server (Using the VPN USB drive in Tanzania)

**Note: This should only be run by someone very familiar with using the Linux command line! Instructions must be followed exactly!**

You must create the VPN files in the master account on a Reneal server. Then you will install the created files onto each newly built server. All necessary files will be on the VPN flash drive.

Step 1: Boot up the server that you will be using to create the VPN files (you can use the JR Reneal server). Sign in to the master account and insert the VPN USB flash drive.

Step 2: Copy the VPN creation files from the VPN USB drive to the JR Reneal server – YOU SHOULD ONLY HAVE TO DO THIS ONE TIME, THE FIRST TIME YOU DO THIS PROCESS ON THE JR RENEAL SERVER

cd ~/CodeDevelopment/newSystemBuild

sudo cp -pR /media/master/RENEALVPN/makeWireguardVpnFiles .

cd makeWireguardVpnFiles

chmod 744 buildWgConf0.sh

chmod 744 buildWgConf1.sh

Step 3: Make a file with a list of the new school names

Go to the directory ~/CodeDevelopment/newSystemBuild/makeWireguardVpnFiles Create a text file in this directory. An example file name might be 2025Aschools\_wg

In this text file, put one school per row, with new school names (“school\_name”) added to “-main-server”. Make sure there is no space in the entry, and make sure there is no extra line at the end of the text file.

Here is an example of what each line would look like in this file:

akeri-main-server

amsha-main-server

mukulat-main-server

sanya\_juu-main-server

Step 4: Edit the bash files that build the wg0.conf and wg1.conf files for each school. You need to edit the starting address for wireguard (you must coordinate this with Rene, to get the correct starting number).

While still in the ~/CodeDevelopment/newSystemBuild/makeWireguardVpnFiles directory, use a text editor to edit the two programs that build the wireguard VPN files

NOTE: YOU MUST HAND-EDIT THE STARTING ADDRESS (ADDR) FOR WIREGUARD IN THE TWO SCRIPT FILES: buildWgConf0.sh and buildWgConf1.sh (You must discuss with Rene to get the correct starting address each time!)

*For 2024B, the wireguard starting address was 117 [eleven servers]*

*For 2025A, the wireguard starting address was 128 [ten servers]*

*For 2025B, the wireguard addresses will start with 139*

Step 5: Now you will run the script to build the new wg0.conf files for each school

Go to the wg0 folder

cd wg0

Confirm that you are in the ~/CodeDevelopment/newSystemBuild/makeWireguardVpnFiles/wg0 directory

cat ~/CodeDevelopment/newSystemBuild/makeWireguardVpnFiles/2025Aschools\_wg | ~/CodeDevelopment/newSystemBuild/makeWireguardVpnFiles/buildWgConf0.sh

This will create the files and put them in ~/CodeDevelopment/newSystemBuild/makeWireguardVpnFiles/wg0

Step 6: Repeat this for the new wg1.conf files for each school

Go to the ~/CodeDevelopment/newSystemBuild/makeWireguardVpnFiles/wg1 directory

cat ~/CodeDevelopment/newSystemBuild/makeWireguardVpnFiles/2025Aschools\_wg | ~/CodeDevelopment/newSystemBuild/makeWireguardVpnFiles/buildWgConf1.sh

This will create the files and put them in ~/CodeDevelopment/newSystemBuild/makeWireguardVpnFiles/wg1

Step 7: Now copy the VPN files you have just created to the VPN flash drive so they can be installed on each individual new server

cd /media/master/RENEALVPN/NewWireguardFiles

cp -pRu ~/CodeDevelopment/newSystemBuild/makeWireguardVpnFiles/wg0 .

cp -pRu ~/CodeDevelopment/newSystemBuild/makeWireguardVpnFiles/wg1 .

Step 8: Edit the program install\_info\_wireguard.py with the school name information

YOU MUST HAND EDIT install\_info\_wireguard.py WITH THE NAMES OF THE SCHOOLS

cd /media/master/RENEALVPN/NewWireguardFiles

Use a text editor to change the list of school names in install\_info\_wireguard.py

Step 9: Install the files on each individual server

Then for each new server you are building, you will install the wireguard files.

Boot the new server, sign in to the master account

Insert the VPN USB drive and run the install\_info\_wireguard.py program

cd /media/master/RENEALVPN/NewWireguardFiles

sudo python3 install\_info\_wireguard.py

You will be prompted to enter the name of the school for this new server when you run the program, which will be matched against the list that you hand-edited in install\_info\_wireguard.py

This program will put the VPN files in /etc/wireguard on your new server

Step 10: Add the newly-created VPN addresses to the full list of hosts

You will need to inform Rene of the school names and the VPN wireguard addresses (10.9.0.##). She will add them to the full list of hosts in the “hosts” file.