**Create a Digital Ocean account**

**Create a Droplet in Digital Ocean**

1. Use this link to [DigitalOcean.com] (https://m.do.co/c/d33d59113ab6) to sign up with your school email and Agent Miller’s credit card

2. Choose the lowest price tier - $6 per month

3. Create an Ubuntu droplet

4. Select all the basic options

5. Choose password instead of ssh key

6. Name the project -

7. Droplet IP

Terminal:

1. **Connect to the droplet you just made:**

      1. Cmd: ssh root@165.232.143.161

      2. Say yes to continue connecting and input the password you made during setup

2. **Docker install**: [https://thematrix.dev/install-docker-and-docker-compose-on-ubuntu-20-04/] (https://thematrix.dev/install-docker-and-docker-compose-on-ubuntu-20-04/)

      1. **Install necessary tools**:

            1. Cmd: sudo apt install apt-transport-https ca-certificates curl software-properties-common -y

      2. **Add Docker Key**

            1. Cmd: curl -fsSL [https://download.docker.com/linux/ubuntu/gpg] (https://download.docker.com/linux/ubuntu/gpg) | sudo apt-key add -

      3. **Add docker repo**

            1. 32bit / 64bit OS

                  1. Cmd: sudo add-apt-repository \"deb [arch=amd64] [https://download.docker.com/linux/ubuntu] (https://download.docker.com/linux/ubuntu) \$(lsb\_release -cs) \stable"

            2. **Switch to repo**

                  1. Cmd: apt-cache policy docker-ce

      4. **Install Docker**

            1. Cmd: sudo apt install docker-ce -y

            2. **Run without root:**

                  1. Cmd: sudo usermod -aG docker ${USER}

      5. **Install Docker-Compose**

            1. Cmd: sudo curl -L "https://github.com/docker/compose/releases/download/1.27.4/docker-compose-$(uname -s)-$(uname -m)" -o /usr/local/bin/docker-compose

            2. Permissions

                  1. Cmd: sudo chmod +x /usr/local/bin/docker-compose

      6. **Docker check**

            1. sudo docker run hello-world

            2. docker compose version

3. **WireGuard setup:**

      1. Make directories for wireguard config and a yml file for compose

            1. Cmd:

               mkdir -p ~/wireguard/

               mkdir -p ~/wireguard/config/

               nano ~/wireguard/docker-compose.yml

            2. Paste config below into the nano:

                  1.

                        version: '3.8'

                        services:

                          wireguard:

                            container\_name: wireguard

                            image: linuxserver/wireguard

                            environment:

                              - PUID=1000

                              - PGID=1000

                              - TZ=Asia/Hong\_Kong

                              - SERVERURL=1.2.3.4

                              - SERVERPORT=51820

                              - PEERS=pc1,pc2,phone1

                              - PEERDNS=auto

                              - INTERNAL\_SUBNET=10.0.0.0

                            ports:

                              - 51820:51820/udp

                            volumes:

                              - type: bind

                                source: ./config/

                                target: /config/

                              - type: bind

                                source: /lib/modules

                                target: /lib/modules

                            restart: always

                            cap\_add:

                              - NET\_ADMIN

                              - SYS\_MODULE

                            sysctls:

                              - net.ipv4.conf.all.src\_valid\_mark=1

                              - TZ needs to be changed for your time zone, I am cst so i am in america/chicago which is CST6CDT

                              - SERVERURL is the address of your droplet server, the one you used to in the ssh root@ command

4. **Starting Wireguard**

                  1. Cmd: cd ~/wireguard/

                  2. Cmd: docker-compose up -d

5. **Check logs to get the QR code**:

docker logs wireguard

**Test Your VPN**

**Mobile Device**

1. Open the Wireguard app and scan the QR code from the logs.

2. \*\*Before connecting\*\*:

3. Visit [IPLeak.net](https://ipleak.net/) and screenshot your local IP.

4. \*\*After connecting\*\*:

5. Turn on the Wireguard VPN and revisit IPLeak.net.

6. Screenshot the VPN IP to confirm it is active.

**Laptop**

1. Install the Wireguard app for your laptop: [https://www.wireguard.com/install/] (https://www.wireguard.com/install/)

      2. Launch the program and select the add tunnel dropdown on the left hand side of the screen, then click add empty tunnel.

      3. Upon creation a dialog box will pop up, with the text

            1. [Interface]

            2. PrivateKey= (whatever your private key is)

      5. Next go back to terminal and find your peer.conf files

            1. cd ~/wireguard/

            2. cd config

            3. cd peer\_pc1 (that was one of the peer names set, if you named it differently than your command will be cd (yourpeername))

            4. cat peer\_pc1.conf (cat your peer file)

      6. After using cat on your peer.conf file copy all the contents over to the dialog box fireguard produced when adding an empty terminal and ensure that it replaces what came with the dialog box.

      7. Give the tunnel a name and click save, afterwards hit the activate button and your vpn should work.

