For those who don't know markdown, here is a cheat sheet: https://www.markdownguide.org/cheat-sheet/

Project 3 - Wireguard Docker Container

Create a Digital Ocean account

Create a Droplet in DigitalOcean

- 1. Use this link to <u>DigitalOcean.com</u> 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 of the basic options
- 5. Choose password instead of ssh key TulsaTime@1865edu
- 6. Name the project Wireguard project
- 7. Droplet IP 64.23.171.188

Install Wireguard

- 1. SSH into the droplet by opening a terminal and typing ssh root@[ip]
 - a. Where you would replace [ip] with the IP of your DigitalOcean Droplet
- 2. Install the dependencies/packages needed to run docker. Commands: sudo apt install docker, sudo apt install docker-compose, sudo apt install wireguard
 - 3. Set up Wireguard using Docker Compose:
 - a. Create a directory for Wireguard:

mkdir -p /opt/wireguard cd /opt/wireguard

b. Create a docker-compose.yml file:

nano docker-compose.yml

c. Add the following configuration to docker-compose.yml:

yaml docker-compose.yml

GNU nano 8.1 version: '3.8' services:

wireguard:

container_name: wireguard image: linuxserver/wireguard

environment:

- PUID=1000
- PGID=1000
- TZ=American/New York
- SERVERURL=45.55.41.235
- 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
 - d. Save and exit.

2. Run Wireguard:

docker-compose up -d

3. 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:
 - a. Visit IPLeak.net and screenshot your local IP.
- 3. After connecting:
 - a. Turn on the Wireguard VPN and revisit IPLeak.net.
 - b. Screenshot the VPN IP to confirm it is active.

Laptop

1. Find the configuration file:

Is /opt/wireguard/config

2. Copy the .conf file to your laptop.

In our case the .conf file contained:

[Interface]

PrivateKey = iLwC8xbCzwVd5j9s7Et/72d6keAAVTlkmxcY/wX6Ako= ListenPort = 518

.20

Address = 10.0.0.2/32

DNS = 10.0.0.1

[Peer]

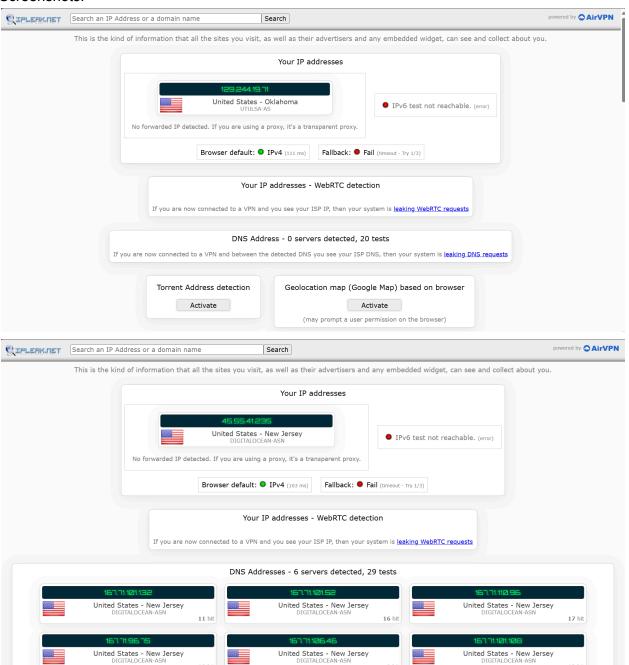
PublicKey = P5GnsQQZk4X0KilGkKNg5ND/XZjV0KP7QDNuShSCcG4= PresharedKey = 5X6AWptfcPEHqhgi3nVIEb6vx833rLQic/ofl4TMy5s=

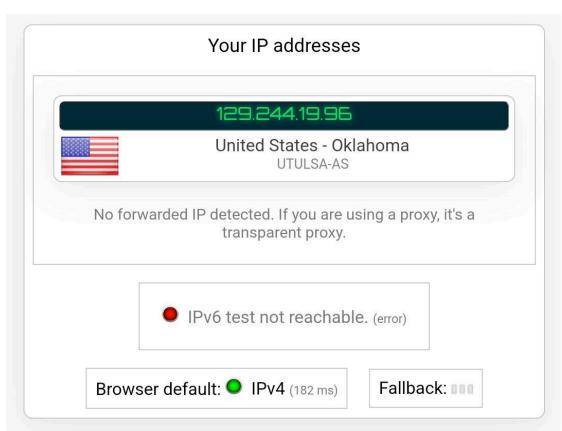
AllowedIPs = 0.0.0.0/0, ::/0

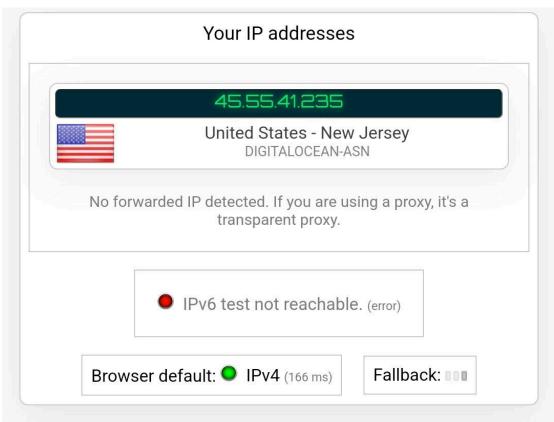
Endpoint = 45.55.41.235:51820

- 3. Import the file into the Wireguard app or CLI.
- 4. Follow the same steps as mobile to confirm functionality using IPLeak.net.

Screenshots:







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