

# Remote Access

Allowing remote access is just a matter of setting up a new *Wireguard* interface, allowing incoming traffic to that interface, and making sure the firewall allows that traffic to connect to the rest of the network.

## Create Interface

```
# cd /etc/wireguard
# umask 077
# wg genkey | tee guard.key | wg pubkey > guard.pub
# printf "[Interface]\nPrivateKey = %s\n" `cat guard.key`
```

Then I modified my file to finish configuring the interface and allow a `[Peer]` for my laptop.

```
# /etc/wireguard/guard.conf
[Interface]
PrivateKey = ****
+ Address = 10.0.2.1/28, 2001:db8:2ebf:2::1/64
+ ListenPort = 51820
+
+ [Peer]
+ PublicKey = lz5ceR0+tCN3BLTWehZxSplzdbABRT8geqifFxubHUA=
+ AllowedIPs = 10.0.2.4/32, 2001:db8:2ebf:1::4/128
+ PresharedKey = ***
```

**Line 4:** Sets an IPv4 and IPv6 address for this interface. These will be the servers IPs on each virtual subnet.

**Line 5:** Sets the port to listen to for this interface. It is just the default *Wireguard* port and I'll allow traffic through the firewall for it soon.

**Line 7-10:** Declare a peer, define the public key to use when communicating and validating any connections, set what IPs the peer is allowed to use on each virtual subnet, and configure a pre-shared key for additional security.

A preshard key can be generated by running `wg genpsk` and must be the same on both the `[Peer]` block on the server and the `[Interface]` block on the client.

# Firewall Configuration

First I had to declare a new interface and since I want it to be as if I was sitting on my laptop at home, I put it in the `lan` zone.

```
# /etc/shorewall/interfaces
...
#ZONE INTERFACE OPTIONS
...
wg WGAZSE1_IF tcpflags,nosmurfs,routefilter,logmartians,physical=wgazse1
+ lan WGGUARD_IF tcpflags,nosmurfs,routefilter,logmartians,physical=wgguard
```

```
# /etc/shorewall/interfaces
...
#ZONE INTERFACE OPTIONS
...
wg WGAZSE1_IF tcpflags,nosmurfs,routefilter,logmartians,physical=wgazse1
+ lan WGGUARD_IF tcpflags,forward=1,physical=wgguard
```

For outside clients to connect I need to add a rule that allows them to connect to the firewall on port 51820.

```
# /etc/shorewall[6]/rules
+ ACCEPT wan,lan $FW udp 51820
```

The last step is to once again setup masquerading so traffic from clients on the *Wireguard* subnet appear to be originating from the `wgguard` interface which is in the `lan` zone.

```
# /etc/shorewall/snat
+ MASQUERADE 10.0.2.0/28 WAN_IF,LAN_IF,DMZ_IF
```

```
# /etc/shorewall6/snat
+ MASQUERADE fde9:2375:2ebf:2::/64 WAN_IF,LAN_IF,DMZ_IF
```

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