

# CS 4400 System Administration

## Project 8: Configure a VPN for Remote Workers

### Project Information:

Activity Points	1
Due Date	Monday of Week 15

---

### Description:

While the atmosphere here at COMPANYNAME is one of joy and whimsy, there are times when an employee may need to work from home or another location. When they do so, they need access to their files and the software packages required to do their jobs.

To facilitate these telecommuters, you will set up VPN server on pfSense. This solution should **allow employees from outside the organization to obtain an IP address from inside the organization**. In other words, once a user has established a VPN connection, they should be able to directly ping other devices inside the organization subnet.

Unfortunately, users that VPN often do so with personal computers, and these non-managed computers may be less secure. Because of that, we want to create a separate “VPN user” subnet that could be subjected to extra monitoring and/or firewall rules. Before starting the configurations for this project, please configure one more VPN subnet separate from any DMZ/desktop subnet on pfsense. Users with a VPN IP address should be able to access servers on the DMZ but not be able to ping or otherwise access desktops.

Moving on with VPN configuration, pfSense supports three choices: IPsec, OpenVPN, or WireGuard. You should (1) configure one of these three choices on pfSense, (2) provision a Windows desktop outside your organization network (if it doesn’t already exist), (3) install the corresponding VPN client on the desktop outside the organization, and (4) test that the outside desktop can successfully VPN and obtain an internal IP address.

### Your documentation should include:

- A short description of what software you used and why you chose it
- A summary of the steps you took to add a VPN subnet as well as an updated network diagram
- A summary of the steps you took to configure the VPN server on pfSense and the client on the outside desktop
- Any configuration files you edited
- Don’t forget to selectively open your firewall(s) to allow these connections, but don’t open the rules too permissively

**Resources:**

- Choosing a VPN solution for pfSense: <https://docs.netgate.com/pfsense/en/latest/vpn/selection.html>
- Guide to set up wireguard with pfsense: <https://www.wundertech.net/how-to-set-up-wireguard-on-pfsense/>