

# COMP 204 Lab 1

---

## Scenario

A small Web 2.0 social networking startup business, Twistvine®, wants to set up a small corporate network to support their development and marketing team in Austin, Texas. Since the company is small and self-funded from the founder's savings, it was decided to share a single connection to the Internet using an open-source router platform based on FreeBSD. As a



consultant, you have been hired to implement the network that will support their internal software development and marketing users. However, the client also wishes knowledge transfer about the network configuration. Therefore, you must also create step-by-step documentation on how the network devices are configured, complete with screen-shots at the appropriate places.

## Goal state

The goal of the network implementation is threefold: providing safe Internet access to all clients behind a single IP address, permitting unfettered access to resources inside the network, and documenting the implementation. There is no need for external users to access internal resources as their software product will be hosted for production at a co-location facility.

## Recommended reading

You should read the following articles about technologies related to this lab scenario

- Firewalling: [http://en.wikipedia.org/wiki/Firewall\\_\(networking\)](http://en.wikipedia.org/wiki/Firewall_(networking))
- Network Address Translation: [http://en.wikipedia.org/wiki/Network\\_address\\_translation](http://en.wikipedia.org/wiki/Network_address_translation)
- DHCP: <http://en.wikipedia.org/wiki/Dhcp>
- The m0n0wall documentation: <http://doc.m0n0.ch/handbook-single/>

The router software used is called "pfSense," which is based on m0n0wall. The web-site for pfSense is <http://www.pfsense.org/>.

## Network diagram

The diagram of Figure 1 represents the proper setup for this assignment.

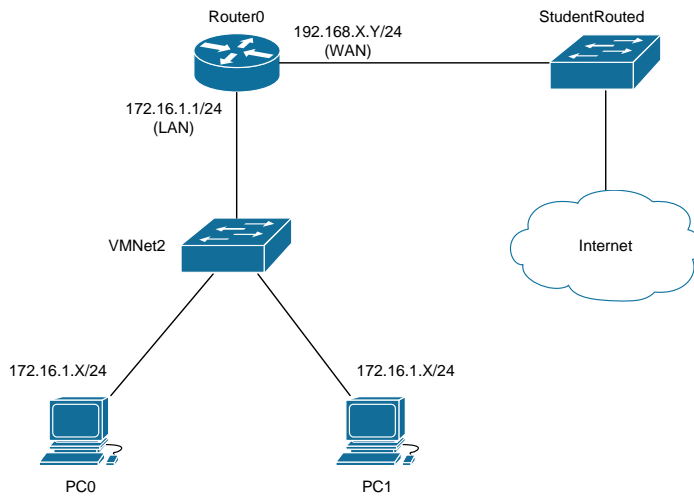


Figure 1: Network setup for scenario 1.

## Assignment

Using VMware and the Router0, PC0, and PC1, implement the network diagram of Figure 1.

1. Document your configuration work in a single Word document.
  - a. Provide screen shots of key points in the configuration similar to those given in the initial software installation instructions.
  - b. You should include some text-based explanations about what is going on in each screen shot and each step.
2. Include the following test screen shots in the same document:
  - a. A screen shot of PC0 pinging PC1 and vice-versa.
  - b. A screen shot of PC0 and PC1 accessing the page <http://cs.franklin.edu/~whittakt/verify.php>