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Firewall Design and methodologies

Firewalls are a necessary part of any secure system. There are various ways to implement them, but the one I will be discussing is IPTables. Using IPTables is not exceedingly difficult, I was able to reference the manual and was presented with a wealth of information on the proper syntax to use while setting up a firewall rule set. Some of the options are to allow established sessions through, opening single ports 9or ranges of ports) to allow incoming traffic into the server, as well as blocking traffic. Once these options have been configured to a user’s desired settings, they only have to save the rules to a script that executes on start up. Once the file is saved, they will need to restart the firewall in order to have any newly applied rules be utilized by the server.

One of the most important aspects of properly setting up a firewall is the security it provides. A well designed firewall will help prevent brute-force password attacks. They can also be used to block DDoS attacks against a server. This can be accomplished by blocking the range or IP address of the attack as well as filtering any necessary ports/ traffic as well. Firewalls can also be used to help isolate various systems on a network, further protecting them from inside and outside attackers. As mentioned earlier, the best way to maintain security is through maintaining the server as it should be. This includes keeping all packages up to date as well as navigating through logs to further secure against attackers.

As a part of the pseudo code part, I actually went ahead and installed a minecraft server distribution to my linode and then configured my firewall to allow traffic in on the appropriate port (25565). This is set up to allow incoming traffic for the minecraft server through the firewall. I accomplished this by setting IPTables to allow TCP traffic in on the correct port. Once I did this, I had to save the configuration and then restart the firewall in order to make it work. I have been sick with the flu the last few days and I procrastinated on my homework like usual.