VIRTUAL FIREWALL IMPLEMENTATION

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Project Part 3: Virtual Firewall Implementation

Objective

To enhance the cybersecurity LAB environment by deploying Pfsense , which provides network traffic inspection and filtering between Kali Linux and Windows virtual machines.

Components used:

1. Kali Linux
2. Windows 7
3. Oracle virtual box machine

Virtual firewall setup

I downloaded pfsense ISO image, created a new virtual machine , I connected to NAT and Internal network for both WAN and LAN. I set IP address on LAN 192.168.1.1/24, I configured pfsense DHCP, enabled LAN interface and resolved DNS by enabling default 8.8.8.8. WAN blocked all inbound traffic by default, LAN I allowed HTTP, HTTPS, ICMP, Blocked other FTP ,SSH ports

I connected to pfsense LAN virtual network i verified IP 192.168.1.1. I pinged external IP 8.8.8.8 which was successful, opened website and confirmed that HTTP and HTTPS are opening, FTP and SSH are blocked

Observation and Summary

Pfsense firewall successfully segmented the internal LAB network. Traffic was routed and filtered by defined rules.