Virtual IT Infrastructure with Monitoring

Executive Summary

This Project simulated a real-world IT Infrastructure using virtualization tools like VirtualBox or Proxmox. It includes server configuration (Windows/Linux), network segmentation (pfSense), and monitoring (Nagios/Zabbix). The project builds foundational knowledge in system and network administration.

Environment Setup

- Virtualization Tool: VirtualBox
- Operating Systems: Windows Server 2022, Ubuntu
- Tools: pfSense, Netdata

[network diagram and ip schema here]

Step-by-Step Implementation

Phase 1: Setup of Windows Server (AD, DNS, DHCP, File Server)
Phase 2: pfSense firewall rules and VLANS
Phase 3: Linux admin basics and system hardening
Phase 4: Monitoring with Netdata

Lessons Learned

Challenges of virtual networking, benefits of monitoring, real-world troubleshooting

Future Enhancements

- Use Terraform to automate setup
- Add centralized logging with Graylog
- Simulate hybrid cloud integration

Key Takeaways

- Hands on IT infrastructure deployment
- Strong experience with sysadmin tools
- Improved understanding of networking and security