**Network Project for Weeks 7-8:**

**Network Scanning with NMAP**

Utilizing the powerful capabilities of NMAP, I conducted a comprehensive scan of the network by inputting the command "nmap storage.Me.io". This command promptly revealed the IP address associated with the target. Alternatively, specifying the IP address directly, as in "nmap (IP address)", yielded identical results.

By appending the "-v" option to the command, I enhanced the depth of the scan, providing a more intricate analysis of the network topology. Similarly, employing the "-vS" option allowed for a thorough examination of port states, disclosing whether they were open, in addition to the identification of the corresponding servers in use.

During the scanning process, I discovered the presence of two distinct IP addresses within the network infrastructure. Remarkably, NMAP seamlessly accommodated simultaneous scans of both addresses, efficiently furnishing the pertinent information for each. The entire scanning operation concluded within a mere 7.13 seconds, underscoring the expeditious nature of NMAP's performance.

Furthermore, this endeavor afforded me valuable insights into optimizing my workflow within the Linux environment. Notably, I acquired the knowledge of employing the "time" command preceding any operation, facilitating the precise measurement of its duration.

Overall, the utilization of NMAP not only facilitated a comprehensive assessment of the network but also contributed to refining my proficiency in Linux system administration techniques.

**Exploring Network Activity with Wireshark**

Embarking on an exploration of network activity with Wireshark, I found the experience to be both intuitive and insightful. Despite the relatively modest scale of my personal network, Wireshark provided a comprehensive overview of the data traversing it, thereby highlighting its inherent utility.

Even within the confines of my personal network, the capabilities of Wireshark were readily apparent, offering valuable glimpses into the intricacies of network communication. This initial encounter served as a compelling demonstration of Wireshark's efficacy and laid a solid foundation for further exploration.

Looking ahead, I anticipate delving deeper into Wireshark's functionalities, recognizing its pivotal role in my journey toward mastering ethical hacking. As I continue to hone my skills in this domain, the comprehensive understanding of network activity afforded by Wireshark promises to be an invaluable asset, empowering me to navigate the complexities of cybersecurity with confidence and precision.