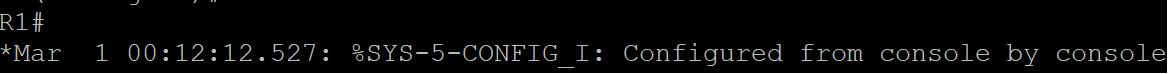
Brady Venneman

GRE over IPSEC

4/1/2024

Switches, routers, and PC’s

1. 
2. A black screen with numbers

   Description automatically generated
3. R1: 192.168.2.10 192.168.1.1 R2: 192.168.2.10 192.168.2.1
4. Phase 1 establishes the secure channel for communication between routers and then phase 2 defines the security policy for the traffic that will be tunneled
5. It shows the ipsec session is established between the routers and the status of them. The local and remote router ip address match the configurations and the encryptions used.

The most valuable feature of this lab was the hands-on experience with securing a GRE tunnel with IPSec. It walked us through the process of configuration on both routers including things like adjusting MTU and choosing encryption algorithms. This lab provided a practical understanding of how to combine GRE tunneling with IPSec for a secure communication channel. In preparation for this lab, I reviewed the concepts of GRE tunnels and IPSec encryption, including their purposes and limitations. I looked over the commands used to configure both protocols on Cisco routers.

This lab experience reinforced the importance of network security. While GRE tunnels provide a way to connect remote networks, they themselves do not offer encryption. The lab demonstrated how IPSec can be used to secure the tunnel and protect sensitive data. Overall, the lab expanded my knowledge of both GRE tunnels and IPSec, and more importantly, how they can work together to provide secure network communication. My advice to someone preparing for this lab for the first time would be to focus on understanding the basic concepts of GRE tunnels and IPSec encryption. Additionally, pay close attention to the details in the configuration steps. Small mistakes can lead to long amounts of time troubleshooting.