You are tasked with designing a network with multiple security zones, multiple user groups, and multiple physical switches.   
  
1.) Describe the network topology

Two physical switches with 3 VLANs, VLAN 1 will have unused ports placed on it and will be unused. Trunking will also be disabled on this VLAN. VLAN’s 2 & 3 will include the user groups.

2.) Identify Layer 2 Vulnerabilities

CAM Overflow, ARP Poisoning, VLAN Hopping with 802.1q Double Encapsulation, overtaking trunk port with Spanning Tree Attack, Session Hijacking, MAC Spoofing, DHCP Flooding

3.) Propose solutions to overcome the vulnerabilities

Limit # of MAC Addresses per port

Put all unused ports on separate VLAN (VLAN1)

DO NOT USE VLAN1

Use Root Guard / BDPU Guard

Use DHCP Snooper

Use Dynamic ARP Inspection