**Lab Report Day 2**

**Building a GNS3 Network With our Instructor**

**Objective (Main Goal)**

In this lab class, we tried to build a basic network topology using GNS3. The goal was to configure various network devices and connect them to simulate a functioning network, which would serve as a foundation for studying network attacks.

**These are some of the steps we have followed on that day:**

**Step 1: Designing the Network Topology**

Out instructor began by drawing a basic network topology on the blackboard and then he drew it in GNS3, which included routers, switches, and end devices.

**Step 2: Configuring Network Devices**

**Switch Configuration:** We configured the switch to add VLANs, which are essential for segmenting network traffic and enhancing security.

**Router Configuration:** The router was configured to manage the routing of traffic between different VLANs and ensure proper network communication.

**VPCS Configuration:** Virtual PCs (VPCS) were configured to simulate end devices within the network, allowing us to test connectivity and network performance.

**Step 3: Connecting GNS3 Router to the LAN**

We connected the GNS3 router to our local area network (LAN) to allow interaction between the simulated network and the physical network.

**Step 1: Connected the Ethernet NIC to the GNS3 environment.**

**Step 2: Ran GNS3 as an administrator/root to ensure proper permissions.**

**Step 3: Added a cloud connector to the topology, which represents the physical network.**

**Step 4: Configured the cloud device by selecting the computer's Ethernet adapter and adding it to the topology.**

**Step 5: Configured the router’s terminal to match the VLAN settings of our LAN.**

**Step 6: Tested connectivity by using the ping command to ensure successful communication between the virtual and physical networks.**

**Special issue encountered by me:**

During booting my GNS3 machine the machine sent me an update, by mistaken I clicked the update button which led me for version incompatibility but thanks to my fellow classmate I reinstalled the former version and I proceeded with my task!

**Conclusion**

On this lab day our instructor successfully guided us through the process of building and configuring a basic network topology in GNS3. We configured switches, routers, and virtual PCs, and established a connection between the GNS3 simulated environment and our physical LAN. This setup will be crucial for further exploration of network security concepts and simulations of network attacks. The knowledge gained from this lab forms a strong foundation for understanding how networks operate and how they can be secured against various threats.