SPYPRO SECURITY SOLUTIONS Pvt. Ltd.,
C Y B E R   S E C U R I T Y

3-Days Workshop on Networking

Day 1: Networking Fundamentals

1. Introduction to Networking

2. What is computer networking?

3. Importance of networking in modern technology.

4. Network Models and Protocols

5. OSI (Open Systems Interconnection) Model and TCP/IP Model.

6. Explanation of each layer and its functions.

7. Network Devices and Topologies

8. Understanding various networking devices (routers, switches, hubs, etc.).

9. Different types of network topologies (star, bus, ring, mesh, etc.).

10. IP Addressing and Subnetting

11. Basics of IP addresses (IPv4 and IPv6).

12. Subnetting concepts and subnetting practice.

13. **Day 2: Local Area Networks (LANs) and Network Services**

14. Ethernet and LAN Technologies

15. Introduction to Ethernet and its standards (e.g., 10/100/1000 Mbps, Gigabit, etc.).

16. VLANs (Virtual LANs) and their benefits.

17. Network Address Translation (NAT)

18. Understanding NAT and its role in private and public IP addressing.

19. DHCP (Dynamic Host Configuration Protocol)

20. How DHCP works and its importance in dynamic IP allocation.

21. DNS (Domain Name System)

22. The role of DNS in translating domain names to IP addresses.

23. Introduction to Network Security

24. Basic security concepts (firewalls, encryption, authentication, etc.).

25. **Day 3: Wide Area Networks (WANs) and Troubleshooting**

26. WAN Technologies

27. Overview of WAN technologies (leased lines, MPLS, VPNs, etc.).

28. Differences between WAN and LAN.

29. Introduction to Routing

30. Explanation of routing concepts and routing protocols (e.g., RIP, OSPF, BGP).

31. Network Troubleshooting

32. Common networking issues and how to diagnose and resolve them.

33. Network monitoring tools and techniques.

34. Wireless Networking

35. Basics of wireless networking (Wi-Fi standards, security considerations).

36. Future Trends in Networking

37. A brief overview of emerging networking technologies and trends.

The above outline provides a basic structure for the 3-day networking workshop.

Depending on the participants' background and interests, you may choose to dive deeper

into certain topics or allocate more time to hands-on exercises and practical

demonstrations. Additionally, having networking equipment or virtual labs for hands-on

practice would greatly enhance the learning experience

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