Computer Networking (NI307)

32 Hours

Outline

This course covers basics topics in Computer Networking.

It explores the world of networking, how the internet works, hardware and software required for establishing connection between computers networks and clouds

Target Audience

Specifically the course is intended for Microsoft's services code developers but generally, many kinds of students' profiles could join the course assuming they have basic understanding of OS as detailed in the prerequisite

Prerequisites

Students should have basic knowledge of what is windows OS, of ideas like IP address, subnet musk and default gateway

Contents

OSI Model VS TCP Model

- 7 layers of OSI model of communication
- 5 layers of TCP model of communication
- Encapsulation
- TCP and UDP protocols

IP Address (3rd layer)

- Ipv4 address built method and rules
- Subnet musk structure
- Default gateway
- Binary to DNN translation

Network Equipment (1st to 3rd layers)

- Cables and connectors
- Mac-address
- Network adapter
- Hub
- Switch
- Router

LAN – Local Area Network (2nd layer)

- Introduction of LAN
- IP addresses availability in LAN
- Connecting PC in LAN according to IP address
- Arp table

Wan – wide area network (3rd to 7th layer)

- Internet
- Routing
- DNS translating method
- HTTP vs. HTTPs protocol

Subnetting

- Creating small networks
- Divide big network to sub-networks by number of computer required

Routing (4th layer)

- Introduction of routing
- Different method of routing
- Static and default routing
- Rip routing protocol
- OSPF routing protocol
- EIGRP routing protocol