

## Introduction to Networking

### IP Address

- \* Ipv4 • Classes • Subnet Mask
- \* Network Id and Host ID
- \* Public IP & Private IP

### Ipv6 - Introduction to IPv6

## OSI Model

## Subnetting

- \* Types of subnetting - FLSM, VLSM

## Introduction to router

- \* Types of routers
- \* Router companies

## Cisco Hierarchical design

- \* Access layer • Core layer
- \* Distribution layer

## Router components

### Internal components

- \* RAM • ROM • NVRAM
- \* Flash Memory • Processor

### External Components

- \* Ports • Local administrative port
- \* Remote administrative port

## Interfaces

- \* LAN interface • Ethernet
- \* AUI • Fast Ethernet
- \* Gigabit Ethernet • WAN interface
- \* Serial • Smart serial

## Boot sequence of a router

## Emulation software

- \* Hyper Terminal or putty

## Simulation software

- \* Cisco packet tracer • GNS3
- \* Cisco Networking labs • SDM

## Initial configuration on a new router

### Modes of router

- \* User • Privilege • Interface
- \* Line • Router
- \* Global configuration

## Routing

- \* Rules of routing • Types of routing
- \* Routing - Default, Static, Dynamic

## Routing protocols

- \* Distance vector • RIPv1, IGRP
- \* Link state • OSPF
- \* Hybrid • RIPv2, EIGRP

## Password recovery

ACL - Numbered ACL, Named ACL - Standard, Extended

## Introduction to switches

- \* Types • Switches companies

## Cisco Hierarchical Switches design

- \* Access layer • Core layer
- \* Distribution layer

## Switch components

### Internal

- \* RAM • ROM • NVRAM
- \* Flash Memory • Processor

### External

- \* Interfaces • Fast Ethernet
- \* Gigabit Ethernet • Ports
- \* Local / Remote administration

## Initial configuration on a new switch

### Modes of switch

- \* User • Privilege • Interface
- \* Global configuration • Line • Vlan

## VLAN

- \* Demand for VLAN • Trunking

## VTP

Assigning IP address to switch

Spanning Tree Protocol

- \* STP • PVSTP • RVSTP

## Port security

## InterVLAN routing (Router on stick)

Wireless technologies

- \* Types • Security
- \* Wireless standards



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