

31-01-2025

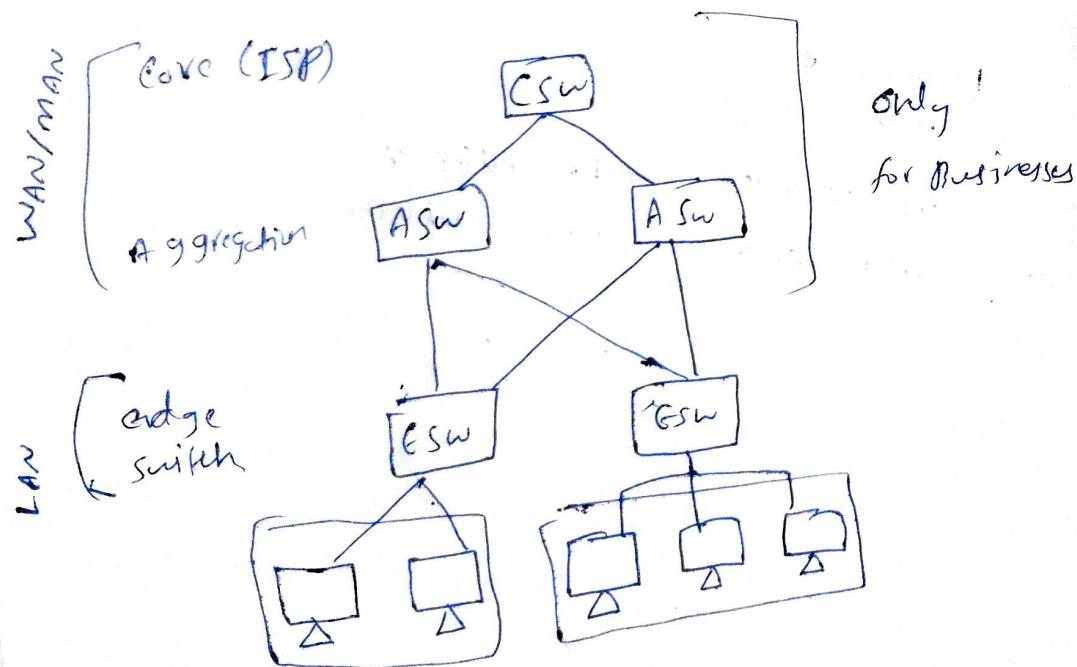
Switching:

A network switch can work in 3 ways:

1) Edge switches;

2) Aggregation switches

3) Core switches.



Components of Switch:

Boot process of switch:

Power On self Test - checks the hardware

The ROM loads the Bootstrap program and searches for the IOS
Bootstrap initiates low-level hardware functions

IOS from flash is loaded.
(like ready to work)

The Startup configuration is loaded from the NVRAM

Boot process is completed as everything is loaded into the RAM (OS and our config loaded into ram) then its ready

IOS: Internetwork Operating System
(Cisco's own proprietary OS)

NVRAM: non volatile RAM

Ram points to POST to flash to get OS

Power on
↓

POST

ROM

FLASH

NVRAM

RAM

LAB

To show mac address table

swt# ~~show mac~~

#show mac -

#show mac-address-table

Switch Configuration:-

swt> ← user mode

→ swt> enable ^{or sen} ← convert normal user to privileged user mode (administrator)

swt# reload.

help
swt#?

Tab-completes full cmd
sen
>enable

administrator → Global Priv mode

→ swt# configure terminal

→ swt(config)#?

→ swt(config)# Line ?
... # Line console 0

→ # Password Charan@123

→ # login

→ # exit

→ exit

20

swt# copy running-config startup-config

→ save the config

banner motd (To write the banner)

→ switch(config)# banner motd \$ ← To end the line with '\$' or any char.

VLAN - virtual LAN

= concept switching.

- 4,094 VLAN can create in a single switch. (but there is reserved VLAN also)

→ Switch# show vlan brief.

VLAN Ranges:-

• VLAN 0, 4095: These are reserved VLAN which cannot be seen or used.

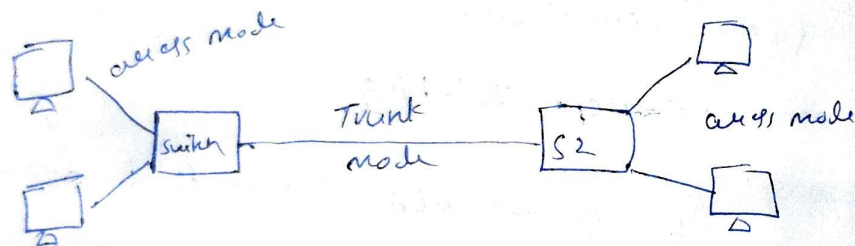
• VLAN 1: It is the default VLAN of this switch. By default, all switch ports are in VLAN. This VLAN can't be deleted or edited but can be used.

• VLAN 2 - 1001 - Normal range.

• VLAN 1002-1005

• VLAN

2 VLAN mode (2 diff connections)



Access mode - PC/Laptop & Switch.

Trunk mode - Switch & switch.

[VLAN - is to divide the LAN virtually]

Creating VLAN

→ Switch(config)# Vlan 10

→ -vlan)# name ITTEAM

→ # exit

repeat another

2 - 1001

→ Switch# Show Vlan brief.

→ Switch(config)# interface fastEthernet 0/1

→ (config-if) #Switchport mode access

→ #Switchport access vlan 10
exit

22

Administer Azure cloud

- what is cloud?

[Signature]

- 1 Gas

- Pa us

- Ex: we have web server we need to develop web application in Dev tools.

SaaS

- CRM, ERP, community, Analytics, Billing, etc.
- no need to install application
- straight away, without doing anything
- gmail,

Azure

23

compute → CPU, memory. (virtual machine generally)

services:

- Building applications
- Hosting websites & services
- Analyzing data
- Storing data.

services offered by Azure

Computer services

- VM
- App services
- Azure Kubernetes Service (AKS)

Network Services

- Virtual network
- Load Balancer
- Azure CDN (content Delivery network):

Storage Services:

- Blob storage
- Disk storage
- File storage

Database Services

- Azure SQL Database
- Cosmos DB
- Azure Database for MySQL/PostgreSQL

AI and Machine Learning

- Azure ML
- Cognitive Service

Core Services of Azure

1. Identity management - user configuration

Login to cloud

- using "ms entra id."

SBO - Single sign on

Virtual Network

- Every network should given a name

