CN

Lab Assignment - 3

Title: Virtual LAN

Aim: Design and configure a virtual LAN using packet tracer.

Objectives: To understand the concept of VLAN and implement it using packet tracer.

Theory:

1) What is VLAN?

→) A custom network which is created from one or more Local Area Network. It enables a group of devices available in multiple networks to be combined into one logical network.

2) Collision Domain: A network segment connected by a shared medium or through repeaters where simultaneous data transmission collide with one another.

3) Broadcast Domain: A logical division of computer network in which all nodes can reach each other by broadcast at the data link layer.

4) Collision Domain and Broadcast Domain in networking devices (Hub, switch and Router)

⇒ A networ collision occurs when more than one device attempts to send a packet on a network segment at the same time. A broadcast domain is logical division of a computer network in which all nodes can read each other by broadcast at data link layer

5) Access Port and Trunk Port

The purpose of a tagged or 'trucket' port is to pass traffic or multiple VLAN's whereas an untagged or 'access' port accepts traffic for only a single VLAN.

Students Observation

Thus, we have designed and configured a virtual LAN using packet tracer.

FAQ's

Ans 1) A VLAN allows different computers and devices to be connected virtually to each other as if they were in a LAN sharing a single broadcast domain. A VLAN is helpful for organizational use mainly because it can be used to segment a larger network into smaller segment

Ans 2) A trunk port allows you to send all those signals for each switch or router accross a single trunk link. In contrast to an access port, a trunk port must use tagging in order to allow signals to get to correct end point.

Ans 3) Boxon Netsim
GNS 3
VIRL.
EVE-NG   by (Pt) 21/11/2022

Ans 4) LAN (Local Area Network) is a group of network device which allow communication between connected device.
VLANS (Virtual local Area Network) is used to enhance the performance of LAN's.