TRƯỜNG ĐẠI HỌC CÔNG NGHỆ THÔNG TIN - ĐHQG-HCM
KHOA MẠNG MÁY TÍNH VÀ TRUYỀN THÔNG

INTER-VLAN ROUTING

QUẢN TRỊ MẠNG VÀ HỆ THỐNG
Networks and Systems Administration

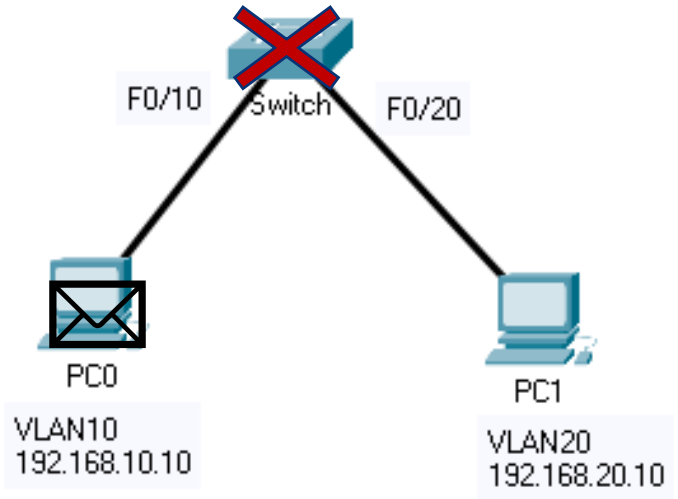
MSc. Trần Thị Dung

CONTENT

- Overview
- Legacy Inter-VLAN Routing
- Router-on-a-stick Inter-VLAN Routing
- Multilayer Switch Inter-VLAN Routing
- Inter-VLAN Routing Configuration

Overview

- Layer 2 switches cannot forward traffic between VLANs without the assistance of a router.
- Inter-VLAN routing is a process for forwarding network traffic from one VLAN to another, using a router.
- 3 types of Inter-VLAN Routing
  - Legacy Inter-VLAN Routing
  - Router-on-a-stick Inter-VLAN Routing
  - Multilayer Switch Inter-VLAN Routing



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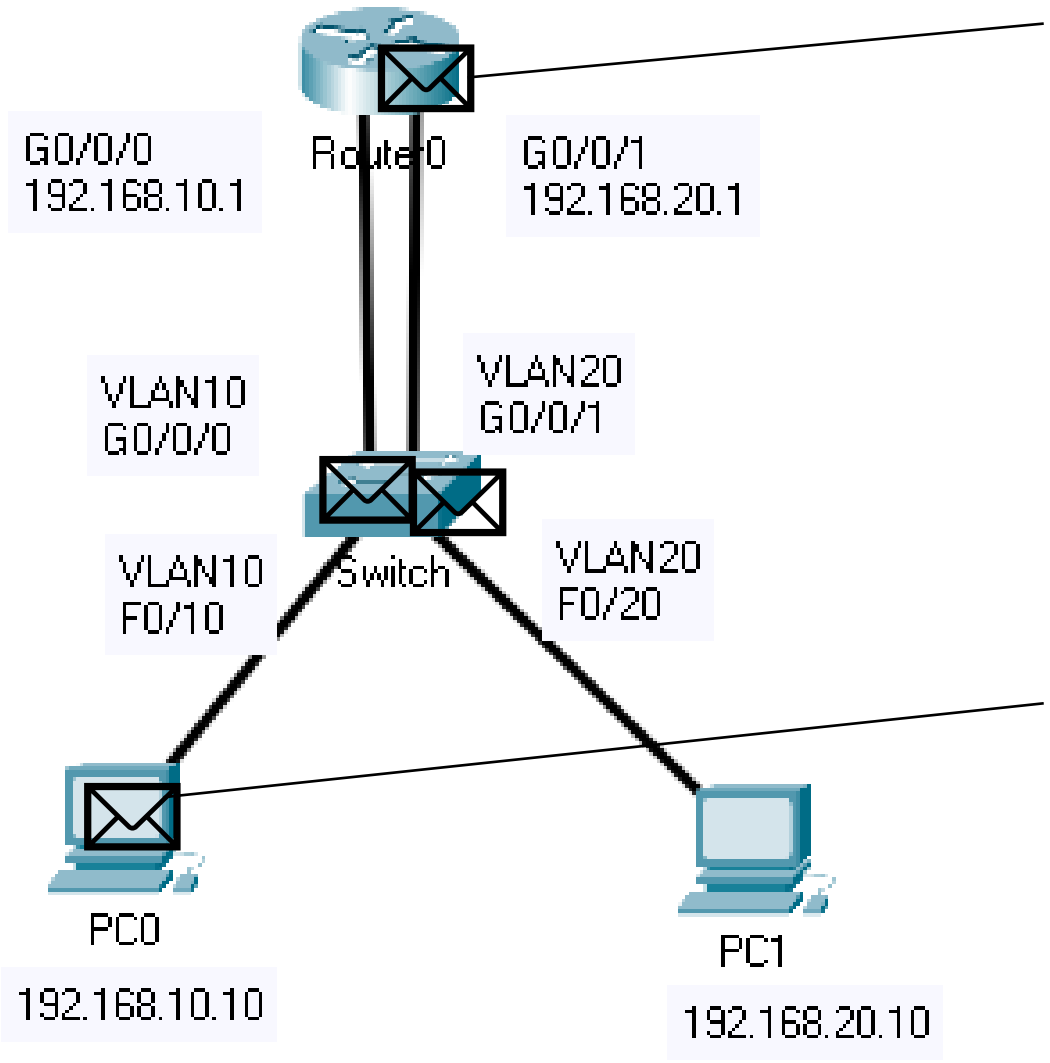
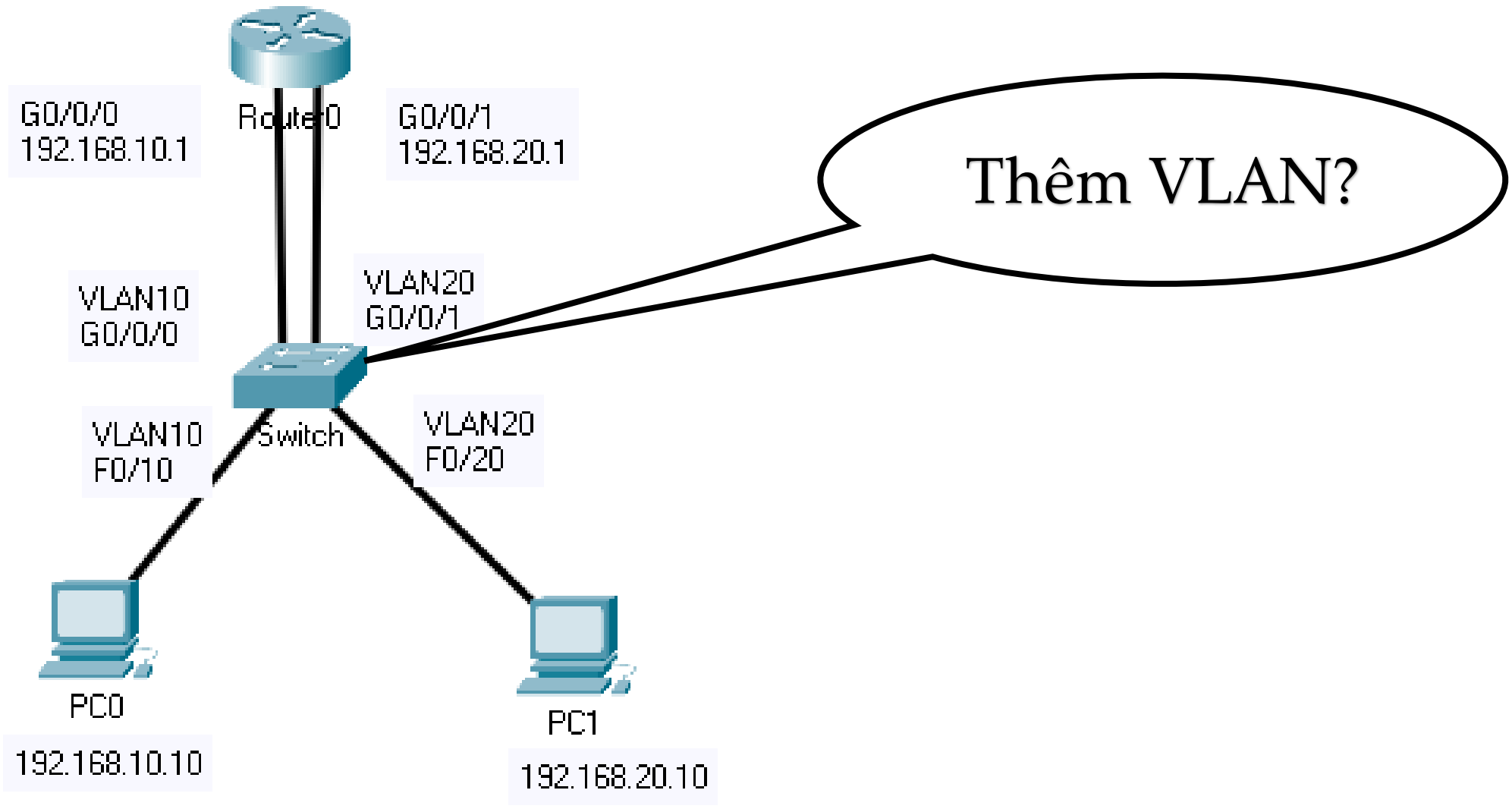
Legacy Inter-VLAN Routing



SIP: PC0, DIP: PC1
SMAC: G0/0/1 of R, DMAC: PC1

SIP: PC0, DIP: PC1
SMAC: PC0, DMAC: G0/0/0 of R

Legacy Inter-VLAN Routing



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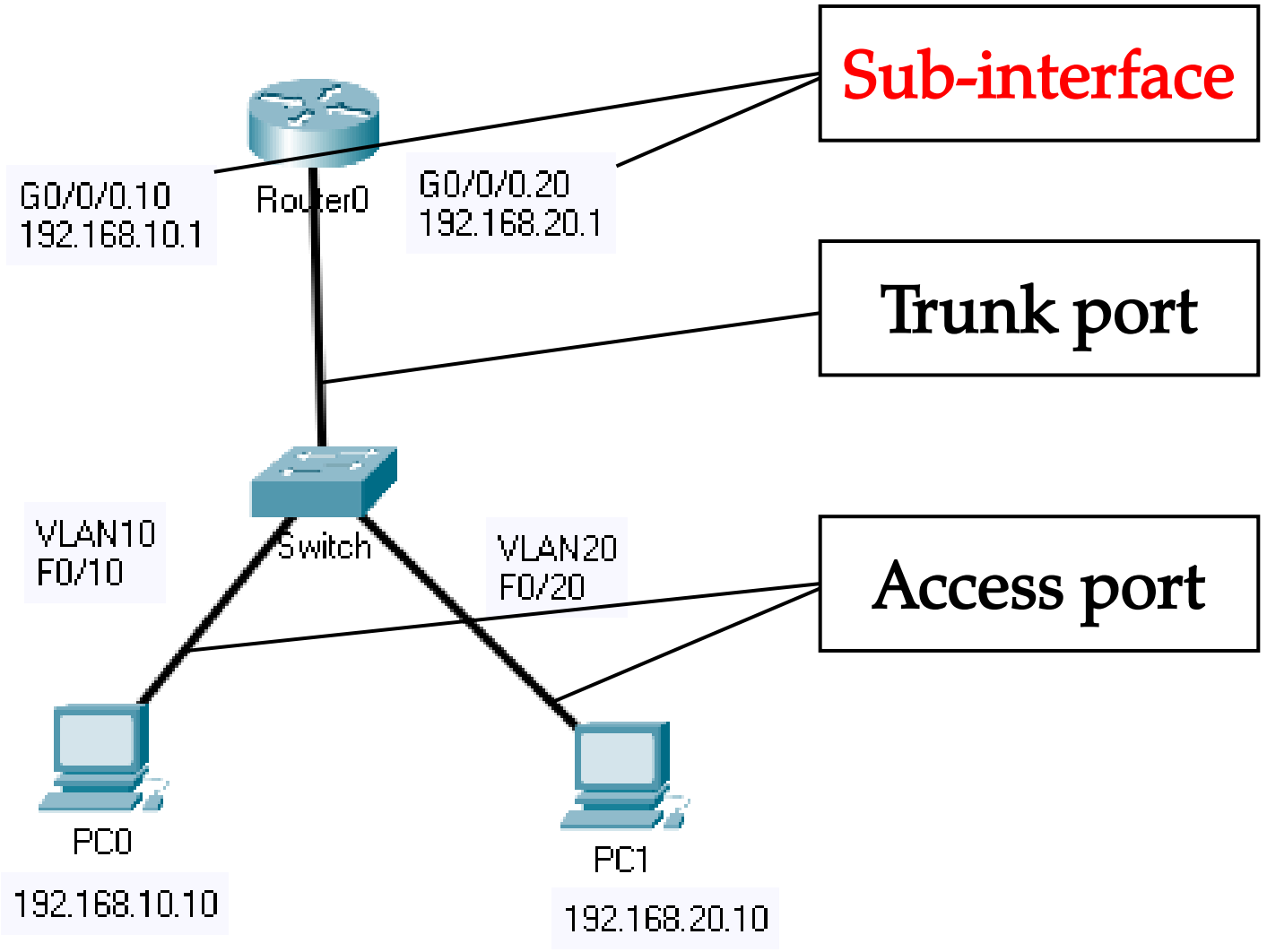
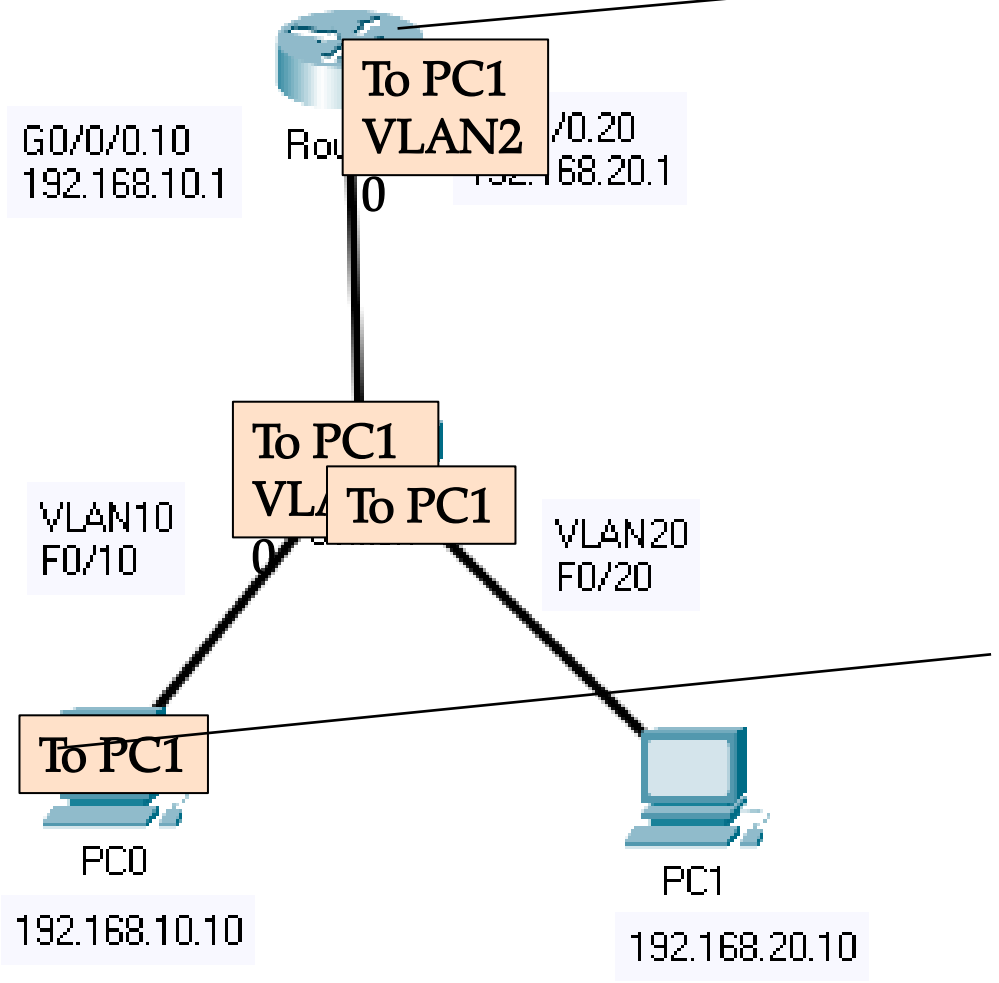
Router-on-a-stick Inter-VLAN Routing



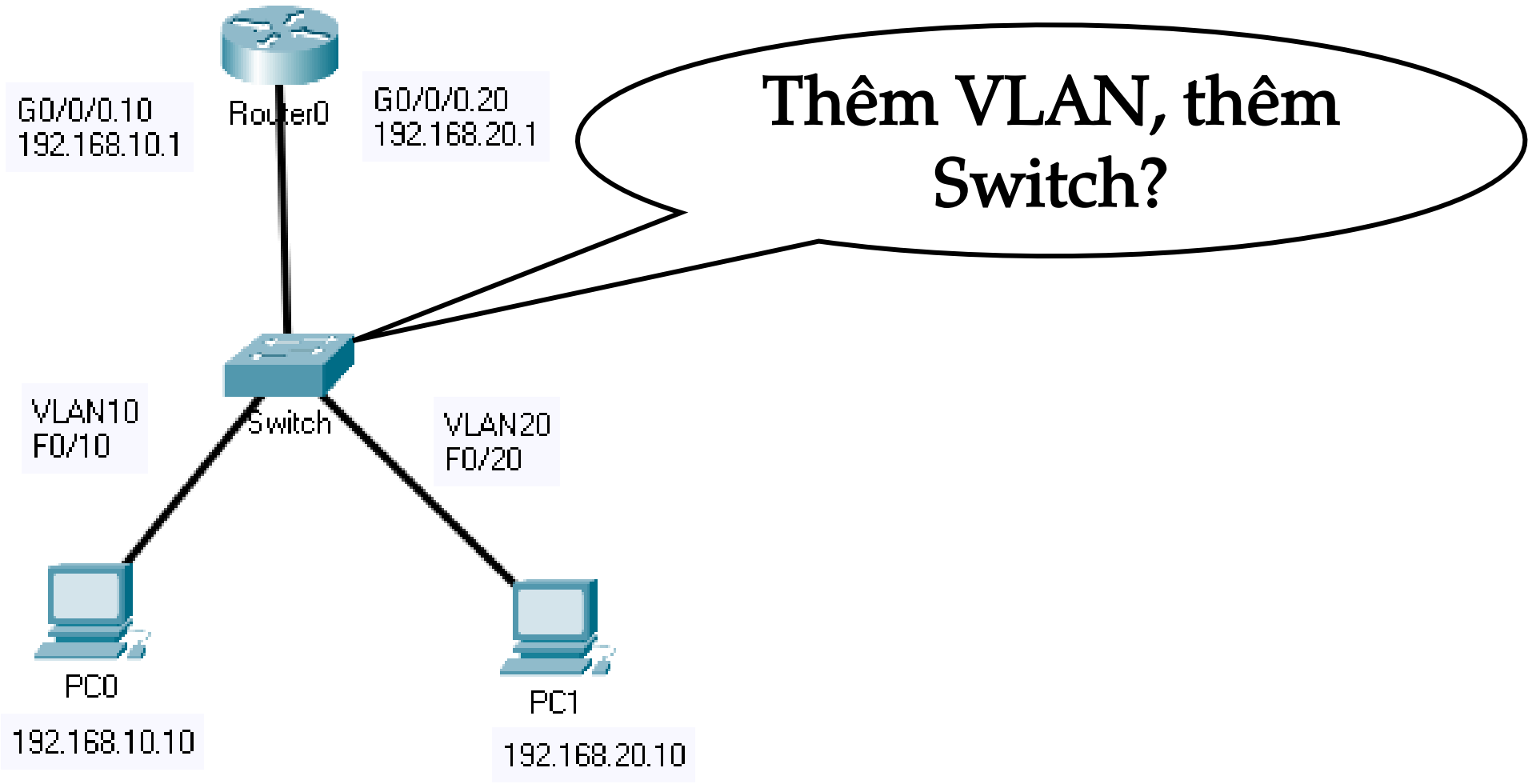
Router-on-a-stick Inter-VLAN Routing



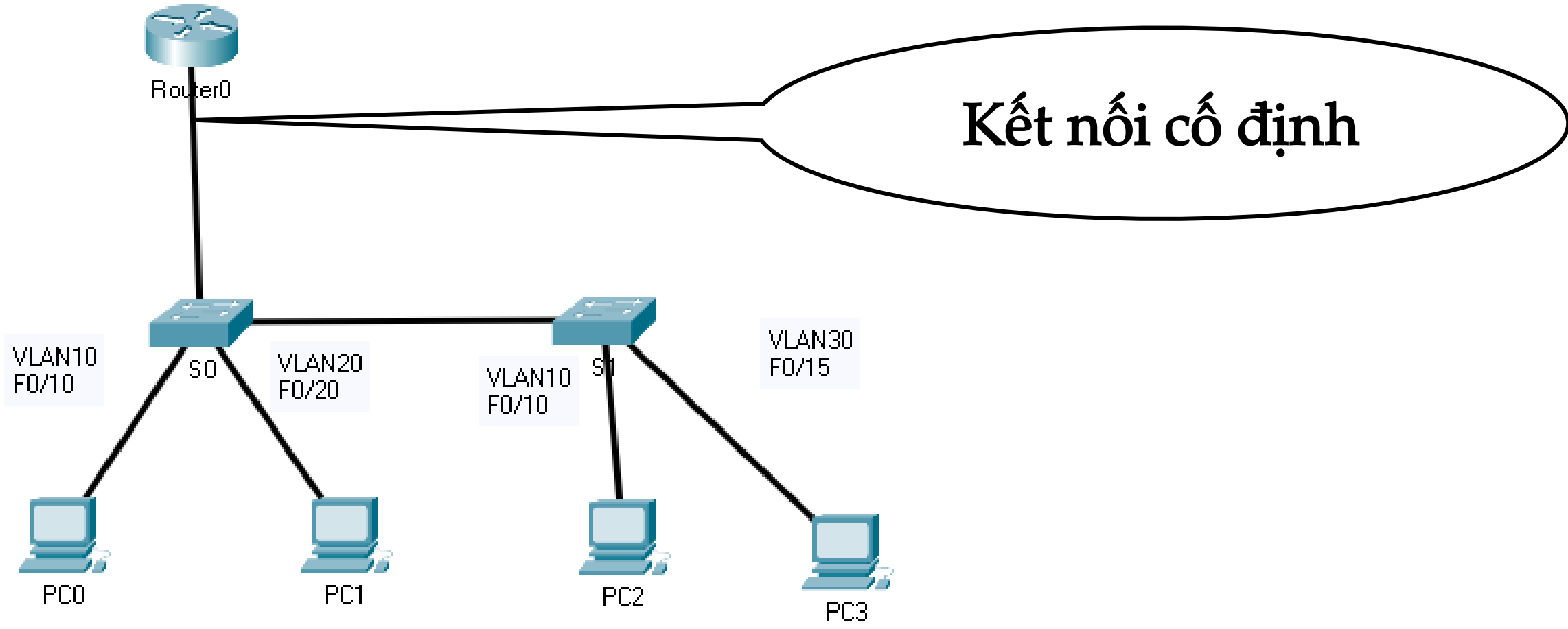
SIP: PC0, DIP: PC1
SMAC: G0/0/0.20 of R, DMAC: PC1

SIP: PC0, DIP: PC1
SMAC: PC0, DMAC: G0/0/0.10 of R

Router-on-a-stick Inter-VLAN Routing



Router-on-a-stick Inter-VLAN Routing



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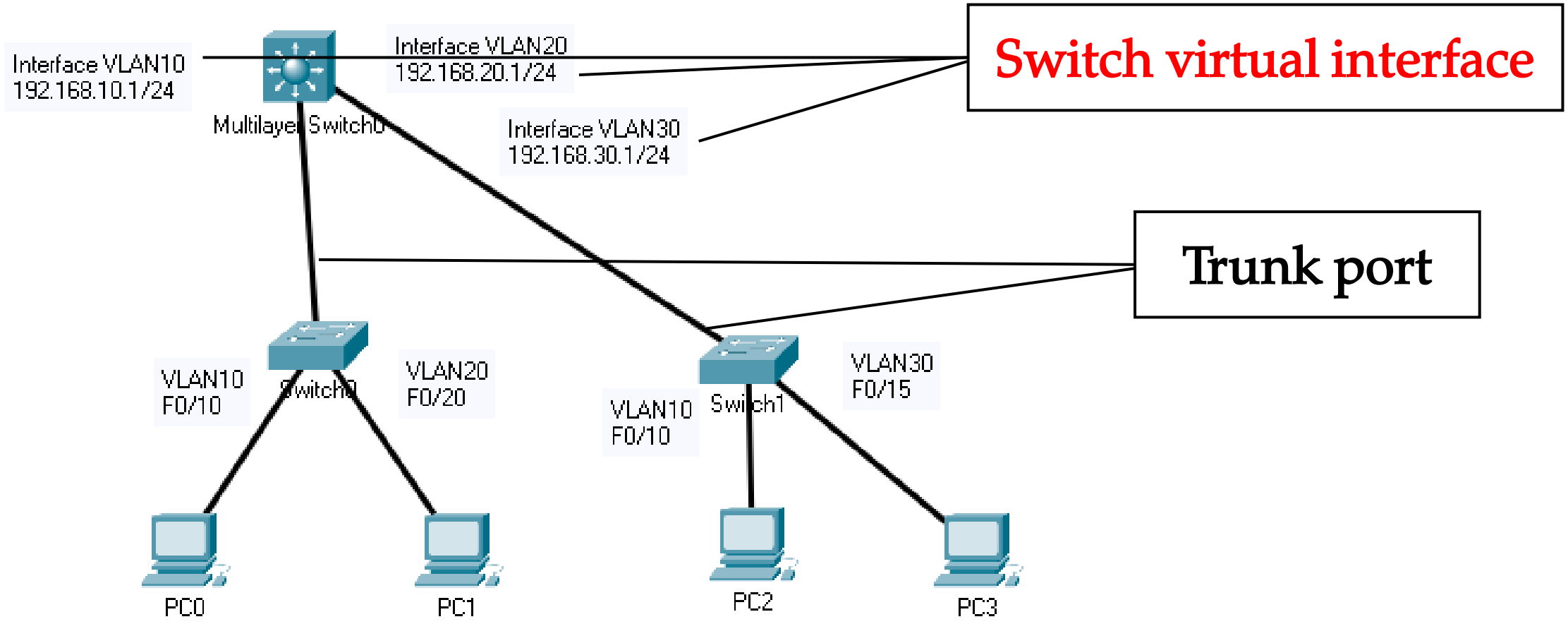
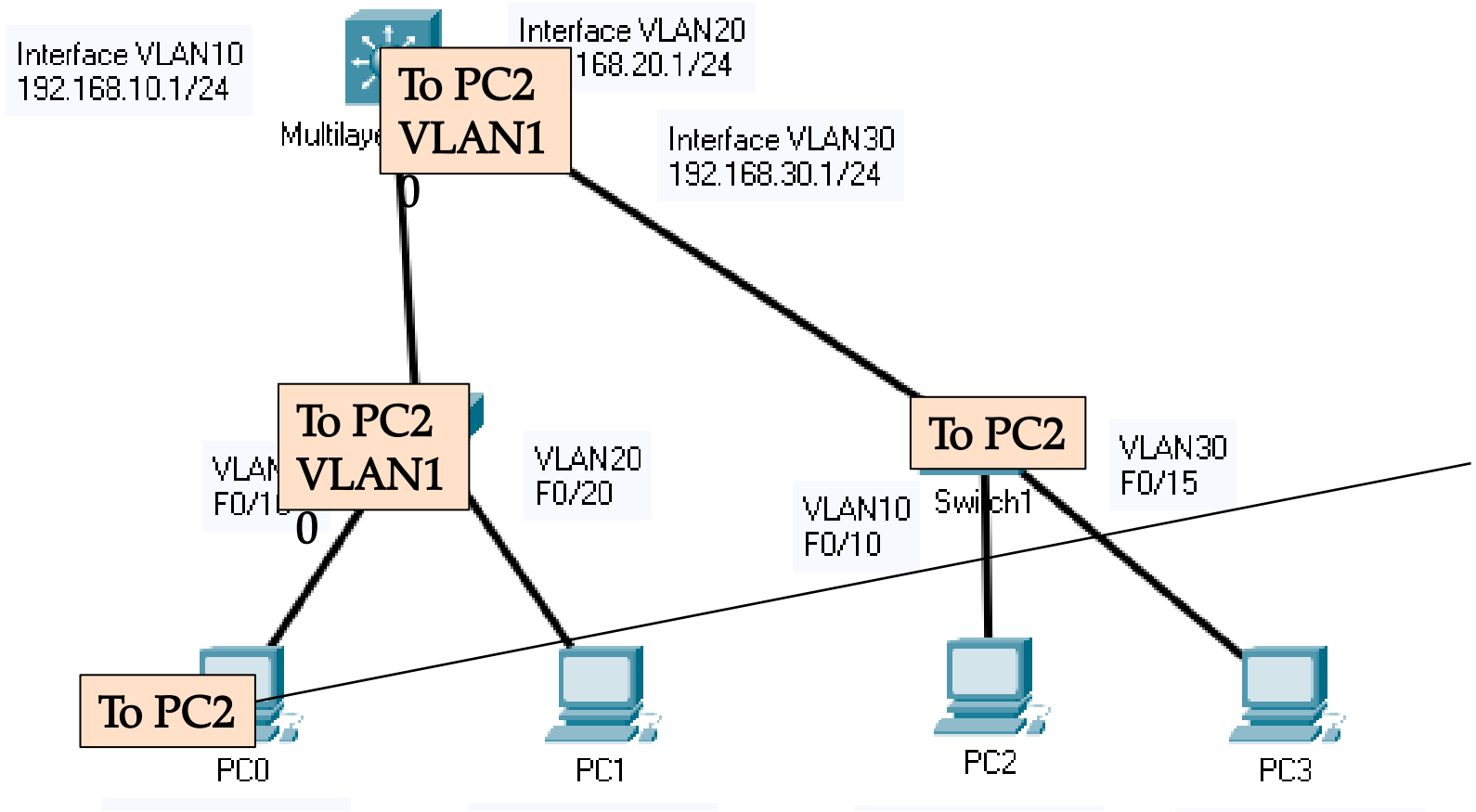
Multilayer Switch Inter-VLAN Routing

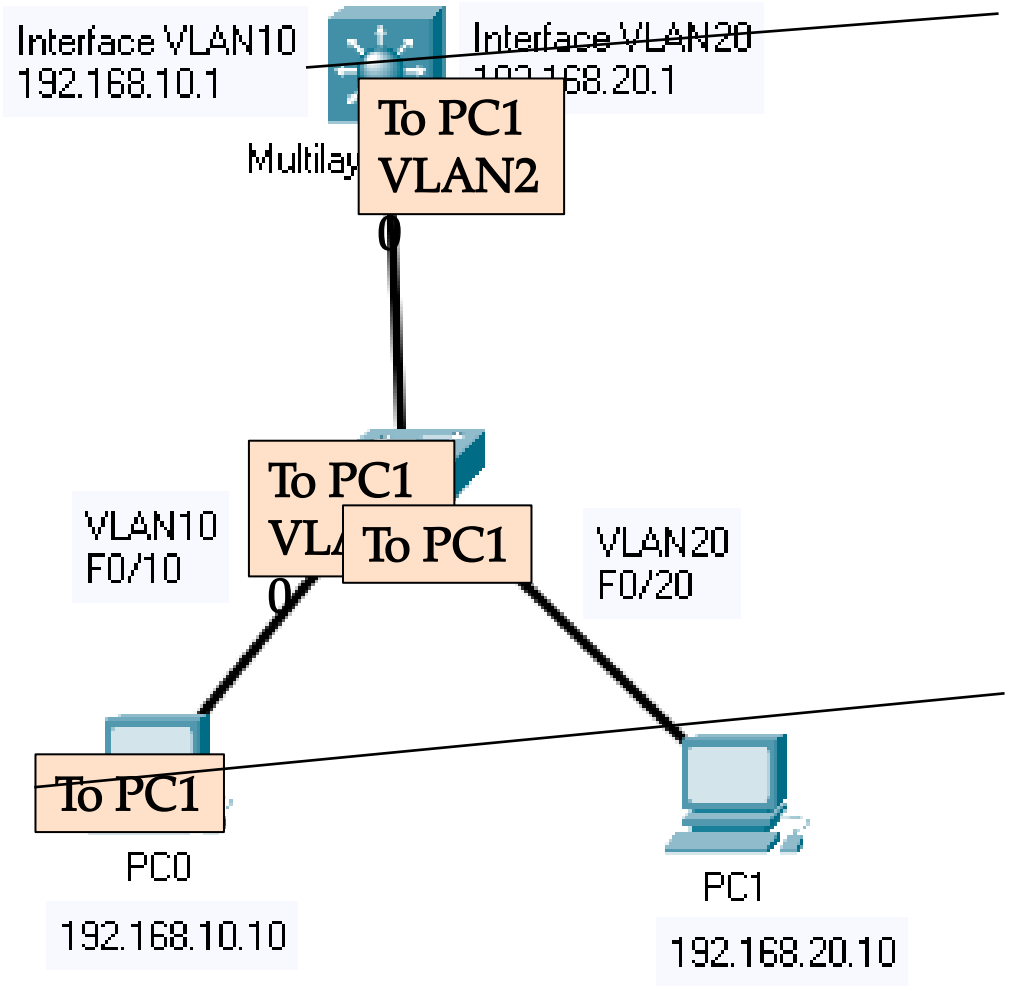


Multilayer Switch Inter-VLAN Routing



SIP: PC0, DIP: PC2
SMAC: PC0, DMAC: PC2

Multilayer Switch Inter-VLAN Routing



SIP: PC0, DIP: PC1
SMAC: Interface VLAN20, DMAC: PC1

SIP: PC0, DIP: PC1
SMAC: PC0, DMAC: Interface VLAN10