

CISCO LAB

2012-09-17

大綱

Switch 交換器原理(Hub、Switch)

- Hub : LAB-1
- Switch : LAB-2

基本操作

- EXEC&Show : LAB-3
- Configure : LAB-4

大綱

Layer 2 : Single-LAN

- Single-LAN : LAB-5

Layer 2 : Multi-LAN

- Multi-LAN : LAB-6
- Homework – 1
- Homework – 2

SWITCH 交換器原理

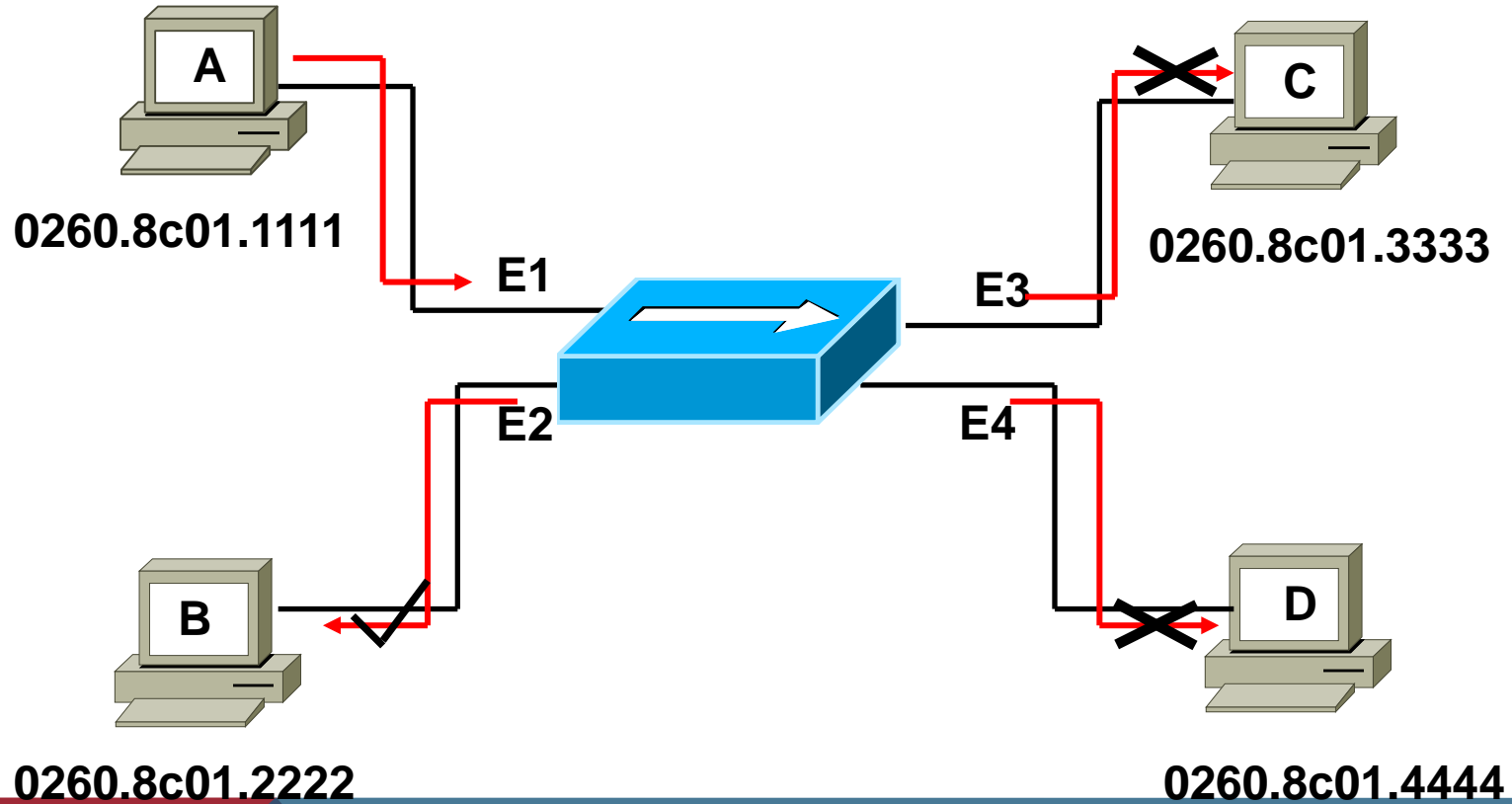
Address Learning

- MAC Address Table
- Aging time

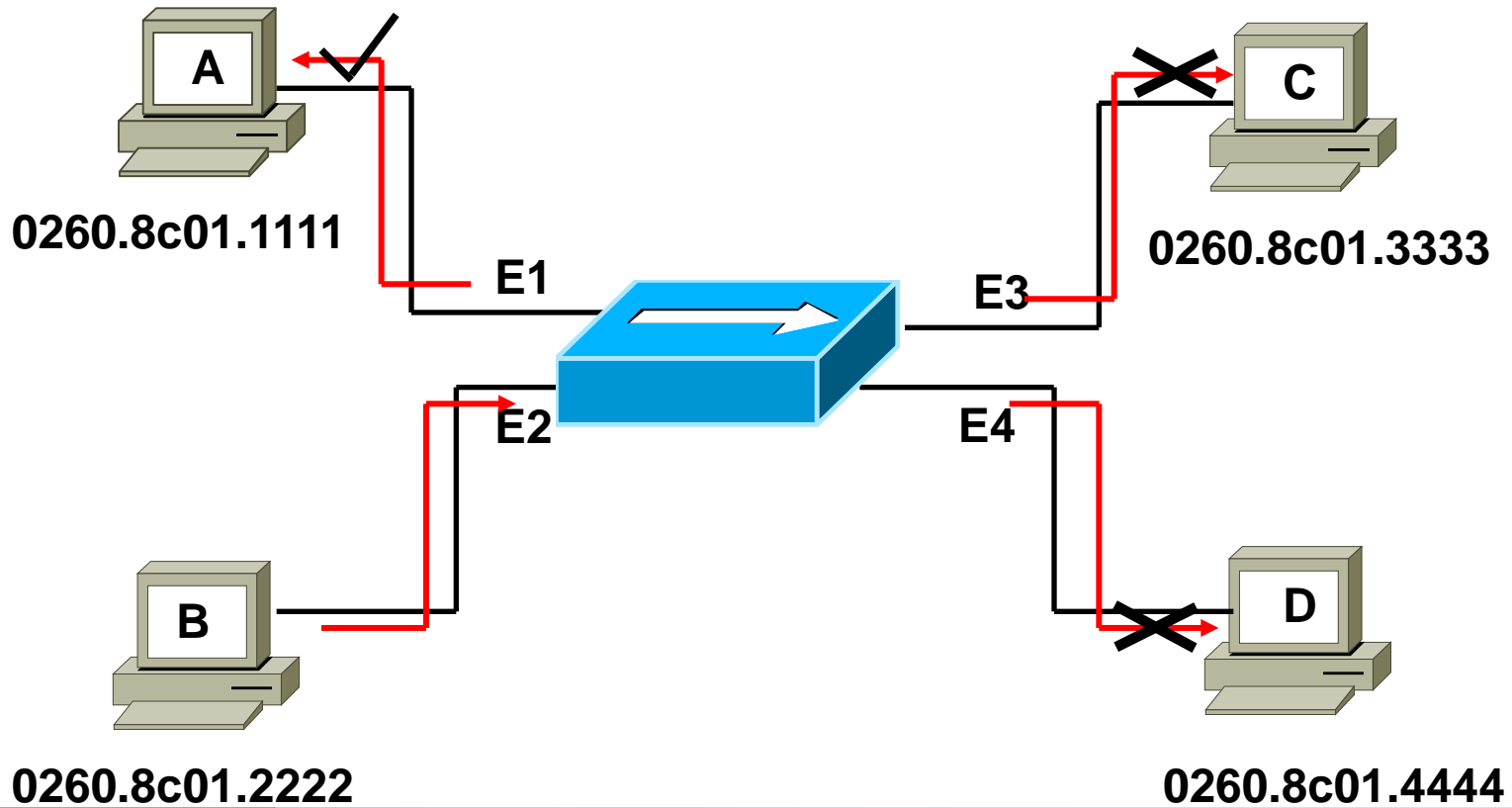
Packet Forwarding / Filtering



DYNAMIC MAC ADDRESS - BROADCAST

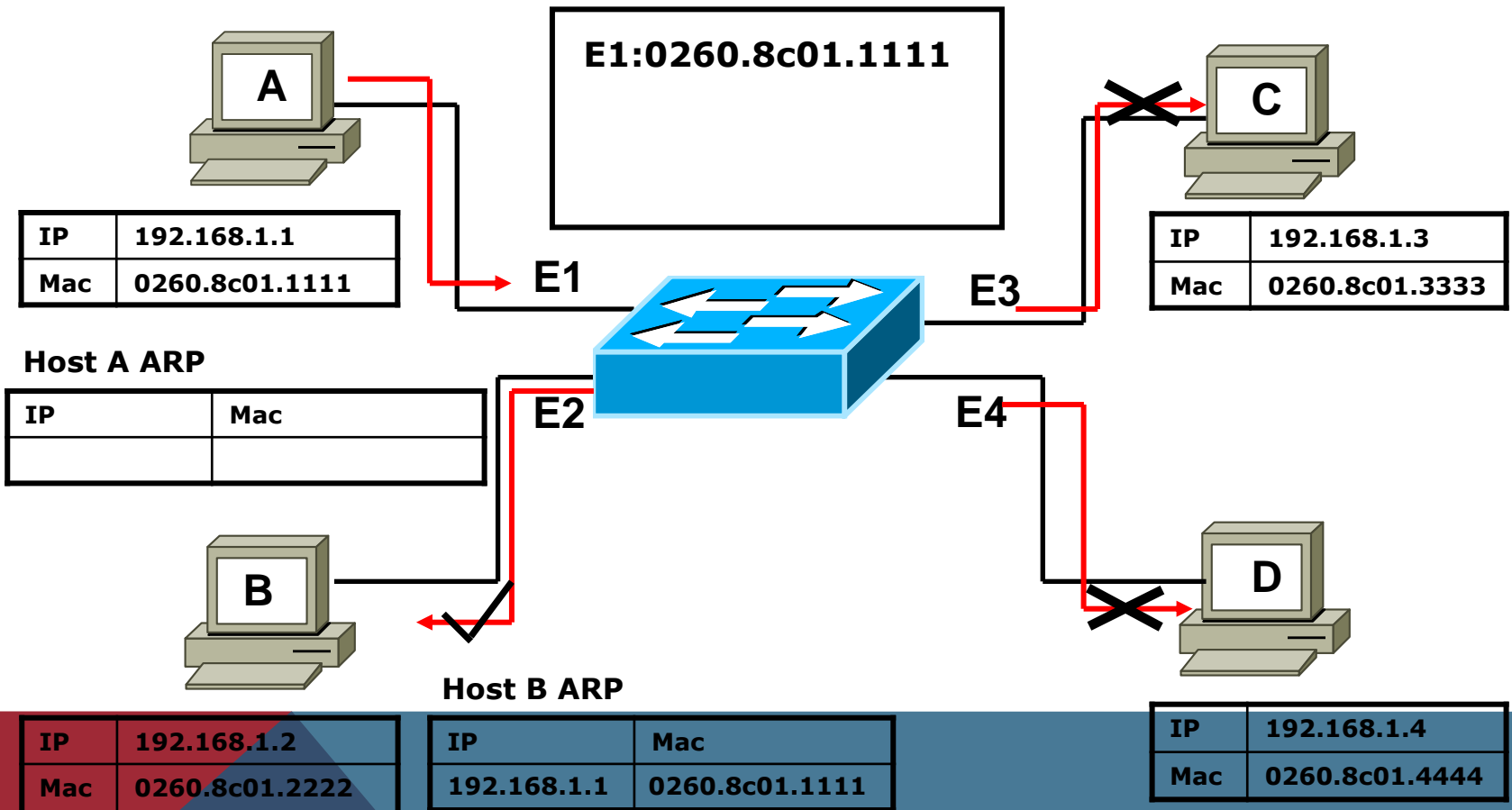


DYNAMIC MAC ADDRESS - BROADCAST



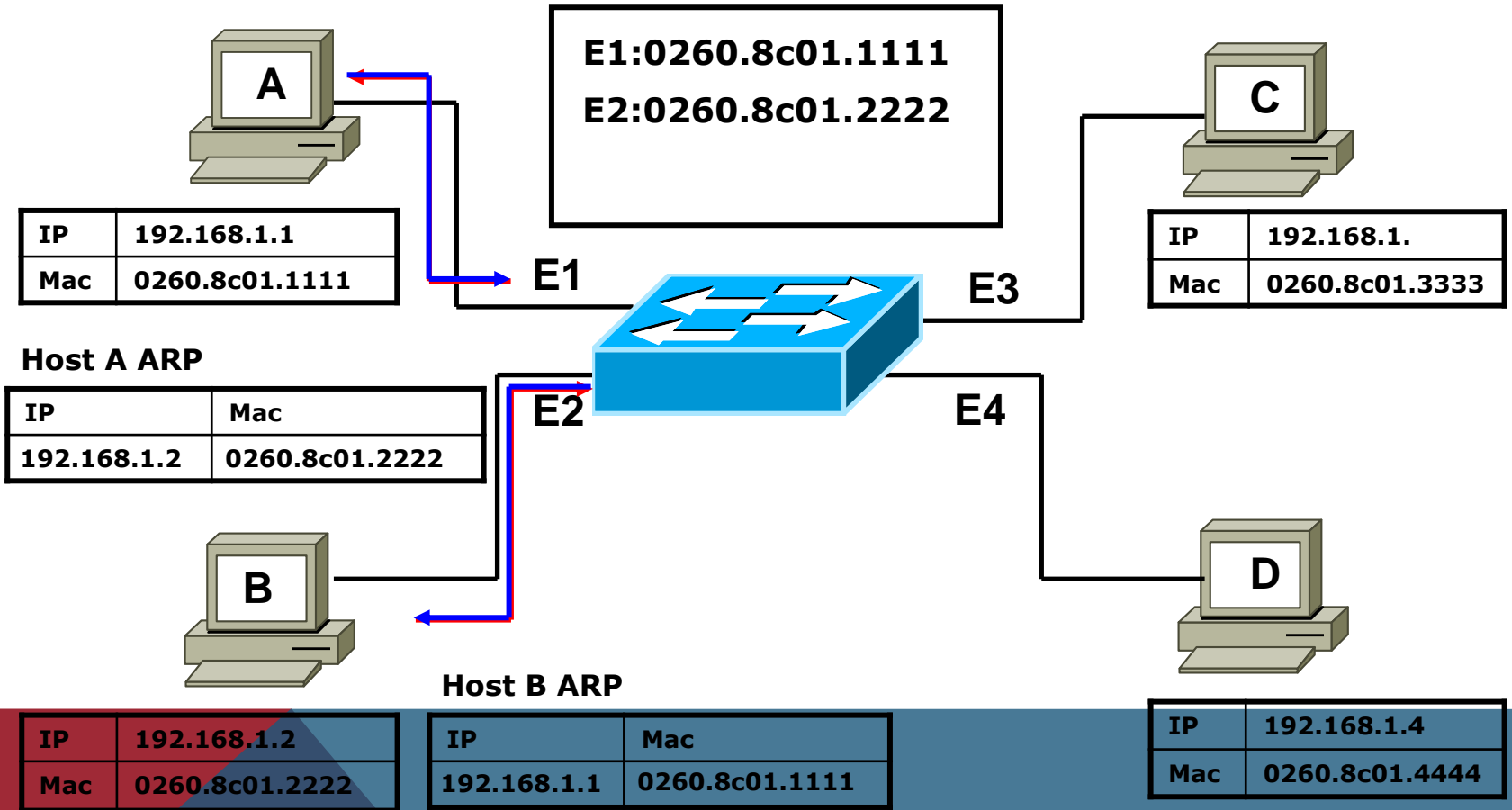
DYNAMIC MAC ADDRESS - ARP

MAC Address Table



DYNAMIC MAC ADDRESS - ARP

MAC Address Table



基本操作

EXEC Session

- User EXEC Level
- Privileged EXEC Level

Configuration Mode

Show

Configuration

save



基本操作 - EXEC SESSION

Step 1 : Switch>

Step 2 : Switch>enable

Step 3 : Switch#configure terminal

Step 4 : Switch(config)#

基本操作 - SHOW

show ?

show version

- **show ver + [tab]**
- **Show ver**

show running-config / startup-config

show mac address-table

show interface ?

基本操作 - SHOW

show user

show history

- Ctrl-p / up-arrow key
- Ctrl-n / down arrow key

show clock

show logging

基本操作 - CONFIGURATION

Hostname

Time

- Clock set
- NTP (Timezone / NTP Server)

Interface

- Shutdown / No Shutdown
- Set IP Address

基本操作 - CONFIGURATION

Console / VTY

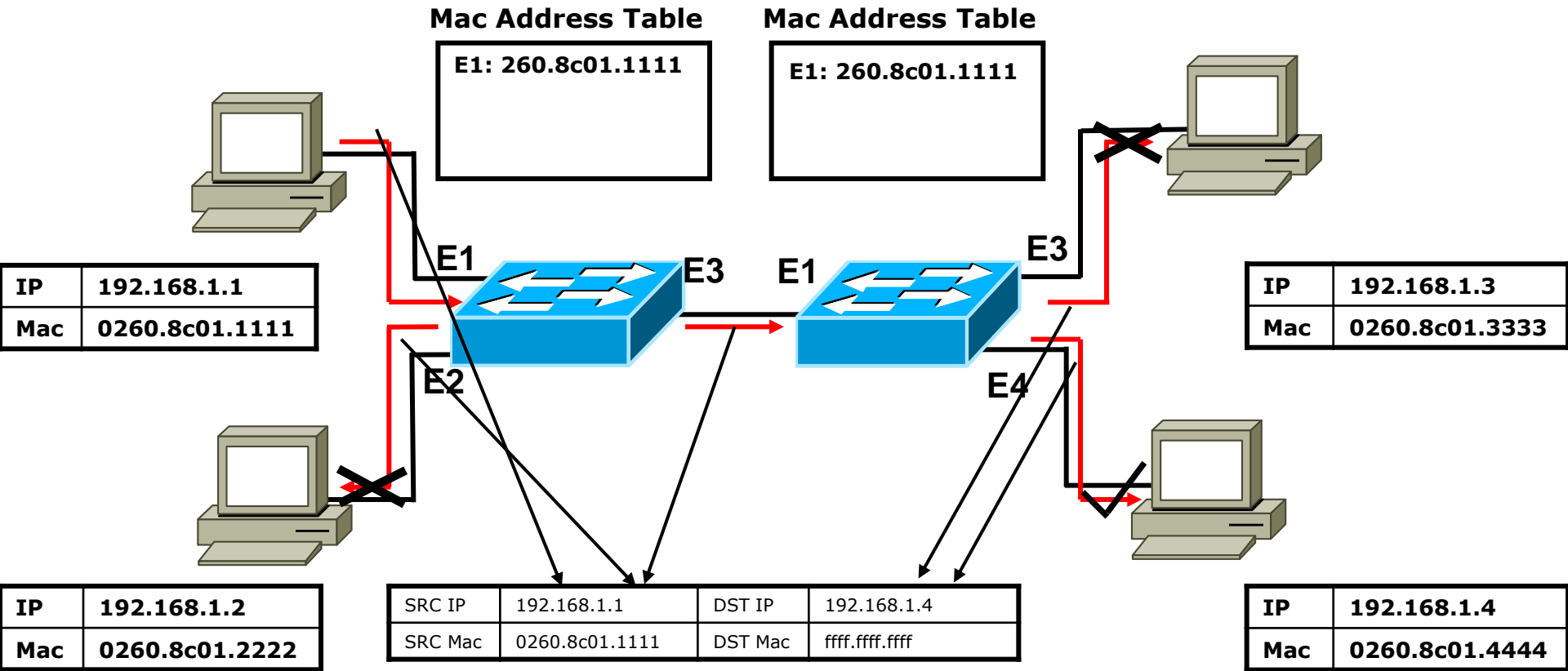
- Password (login / enable)
- Password Encryption

Default Gateway

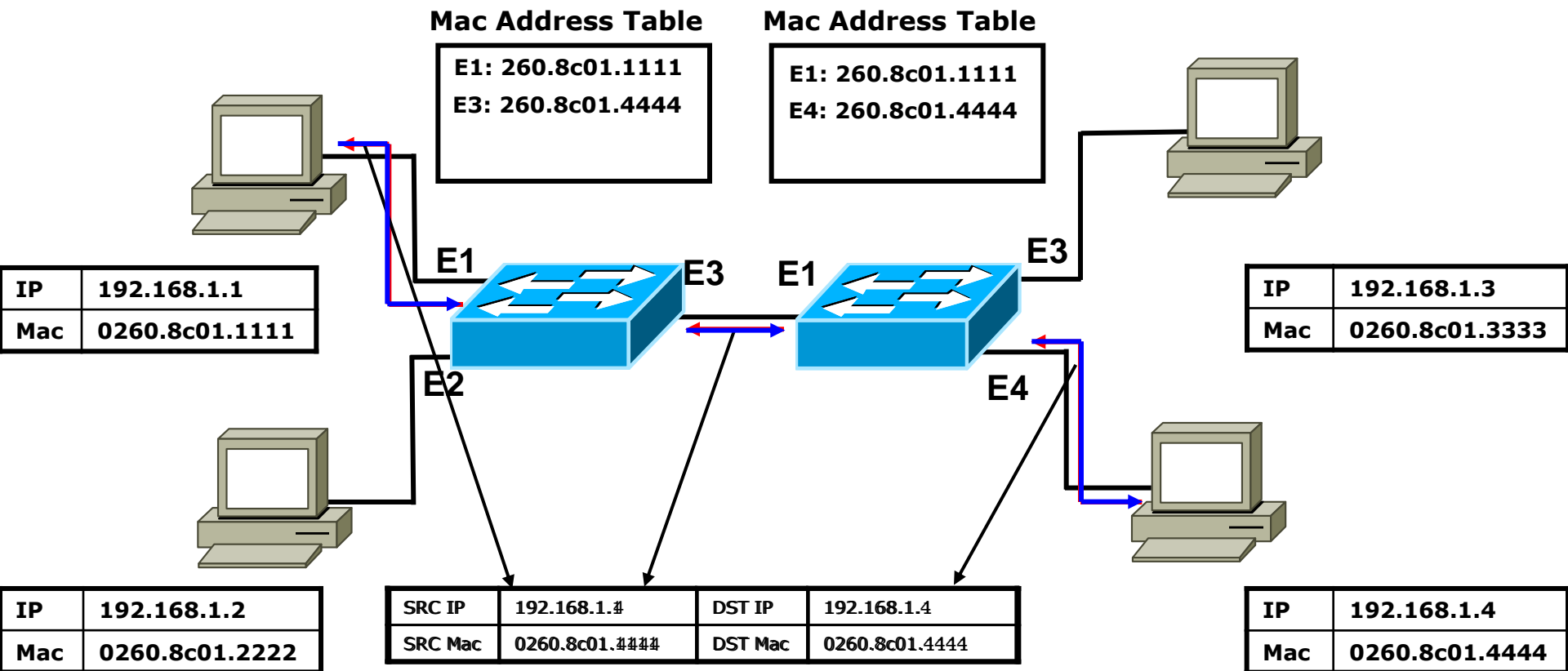
Domain Name System

- (no) ip domain-lookup
- ip name-server

SINGLE-LAN



SINGLE-LAN



MULTI-LAN

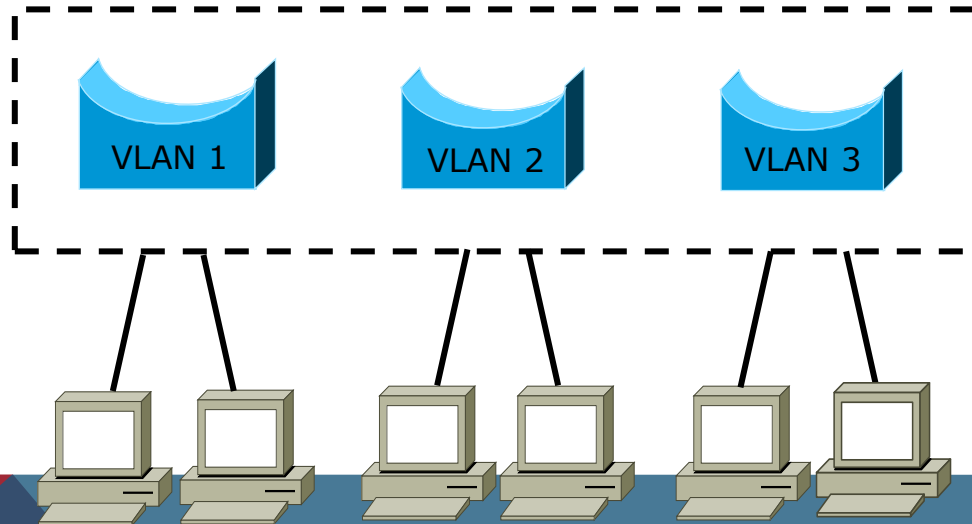
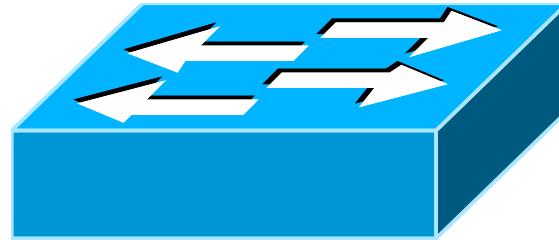
VLAN (Virtual Local Area Network)

Trunk

VTP Mode



MULTI-LAN - VLAN



Homework - 1

- 使用HW-1.pkt
- 設定Switch Hostname
 - 與Lab上switch名稱相同
- Password
 - Con0、VTY : cisco
 - Enable : CISCO
 - 密碼需加密
- 新增VLAN
 - VLAN 99
 - VLAN Name : VLAN_99
 - 管理用VLAN，IP請自訂，但MNG-1設備必須能telnet到Switch進行管理
 - VLAN 10、VLAN 11
 - VLAN Name : VLAN_10、VLAN_11
 - PC0、PC1、PC2在VLAN_10
 - PC3、PC4、PC5在VLAN_11

Homework - 2

- 使用HW-2.pkt
- 請先使用PING測試各PC間的連線
- 請再加上一條跳線連接Switch0及Switch1
- 再次使用PING測試各PC間的連線
- 使用模擬器的Simulation觀察封包的流向
- 請說明是什麼原因造成在多接上一條線後會造成PC間無法連線?