

VLAN实验:三层交换原理思科认证 PDF转换可能丢失图片或格式, 建议阅读原文

https://www.100test.com/kao_ti2020/590/2021_2022_VLAN_E5_AE_9E_E9_AA_8C_c101_590390.htm Switch#vlan database %

Warning: It is recommended to configure VLAN from config mode, as VLAN database mode is being deprecated. Please consult user documentation for configuring VTP/VLAN in config mode.

Switch(vlan)# vlan 2 name marking VLAN 2 added: Name: marking

Switch(vlan)# vlan 3 name counting VLAN 3 added: Name:

counting 2 分配端口 Switch(config)#interface FastEthernet0/1

Switch(config-if)#switchport mode access

Switch(config-if)#switchport access vlan 2 Switch(config-if)#exit

Switch(config)#interface FastEthernet0/2

Switch(config-if)#switchport access vlan 2

Switch(config-if)#interface FastEthernet0/3

Switch(config-if)#switchport access vlan 3

Switch(config-if)#interface FastEthernet0/4

Switch(config-if)#switchport access vlan 3 Switch(config-if)#exit

Switch(config)#exit Switch# 3 Show vlan 查看信息 Switch#show

vlan VLAN Name Status Ports -----

----- 1 default active Fa0/5, Fa0/6,

Fa0/7, Fa0/8 Fa0/9, Fa0/10, Fa0/11, Fa0/12 Fa0/13, Fa0/14, Fa0/15,

Fa0/16 Fa0/17, Fa0/18, Fa0/19, Fa0/20 Fa0/21, Fa0/22, Fa0/23,

Fa0/24 2 marking active Fa0/1, Fa0/2 3 counting active Fa0/3, Fa0/4

1002 fddi-default active 1003 token-ring-default active 1004

fddinet-default active 1005 trnet-default active VLAN Type SAID

```
MTU Parent RingNo BridgeNo Stp BrdgMode Trans1 Trans2 ----
----- 1
enet 100001 1500 - - - - - 0 0 2 enet 100002 1500 - - - - - 0 0 3 enet
100003 1500 - - - - - 0 0 1002 enet 101002 1500 - - - - - 0 0 1003 enet
101003 1500 - - - - - 0 0
```

其实做这个实验很简单就是划分子网，主要是为了说明三层交换机最本质工作原理，即一次路由，多次交换结合arp的工作原理，两台主机通讯时，传统的2层交换机进行arp广播寻找目标mac地址，，当目的主机在同一网段内时，不需涉及网关。否则由网关回复arp广播。传统的2层交换模块不能实现网间互访，而三层交互交换机的三层路由模块把源和目的IP地址缓存交换机中，随后第3层中跨子网的包传送将不再由路由器来进行。实验中的三层交换机充当了传统网络中的路由器的角色，通过它可以实现网间互访。

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