

```
Switch>
Switch>
Switch>
Switch>
Switch>
Switch>
Switch>
Switch>
Switch>
Switch>
Switch>
Switch>enable
Switch#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#
Switch(config)#
Switch(config)#
Switch(config)#
Switch(config)#
Switch(config)#
Switch(config)#
Switch(config)#
Switch(config)#
```

交换机连接情况

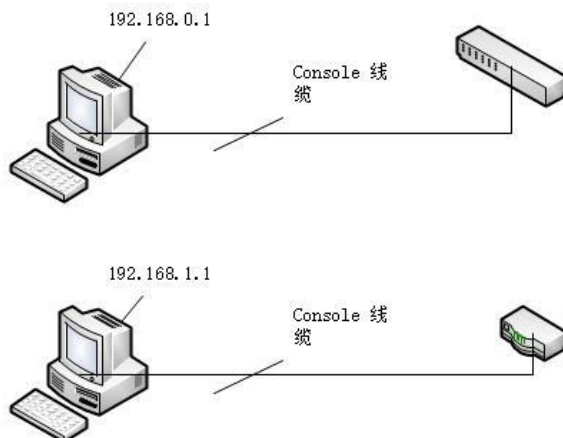
```
Router con0 is now available

Press RETURN to get started.

Router>enable
Router#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#_
```

路由器的连接与配置

图例		
图例副标题		
符号	计数	说明
	1	交换机
	2	PC
	1	路由器



VLAN	Name	Status	Ports
1	default	active	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, Gi0/1, Gi0/2
2	zhangjh	active	Fa0/1, Fa0/2, Fa0/3
3	hexl	active	Fa0/4, Fa0/5, Fa0/6
1002	fddi-default	act/unsup	
1003	token-ring-default	act/unsup	
1004	fddinet-default	act/unsup	
1005	trnet-default	act/unsup	

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	fddi	101002	1500	-	-	-	-	-	0	0
1003	tr	101003	1500	-	-	-	-	-	0	0
1004	fdnet	101004	1500	-	-	-	ieee	-	0	0

交换机 VLAN 划分结果

```

C:\ 命令提示符
Windows IP Configuration

Ethernet adapter 本地连接:

    Connection-specific DNS Suffix  . : 
    IP Address. . . . . : 192.168.0.1
    Subnet Mask . . . . . : 255.255.255.0
    Default Gateway . . . . . : 

C:\Documents and Settings\Administrator>ping 192.168.0.3

Pinging 192.168.0.3 with 32 bytes of data:

Reply from 192.168.0.3: bytes=32 time<1ms TTL=128
Reply from 192.168.0.3: bytes=32 time<1ms TTL=128
Reply from 192.168.0.3: bytes=32 time<1ms TTL=128
Reply from 192.168.0.3: bytes=32 time<1ms TTL=128

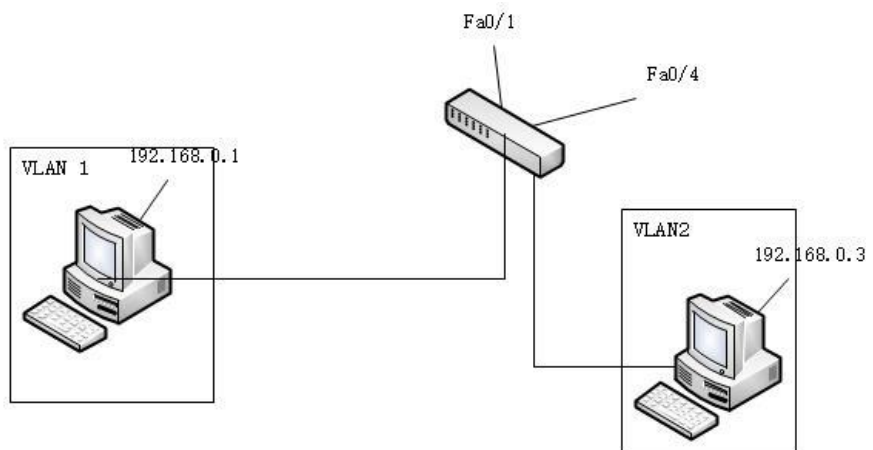
Ping statistics for 192.168.0.3:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\Documents and Settings\Administrator>

```

Ipconfig 以及 ping 命令执行结果

图例		
图例副标题		
符号	计数	说明
	1	交换机
	2	PC



交换机 vlan 划分拓扑图

```

CA 命令提示符
Reply from 192.168.0.3: bytes=32 time<1ms TTL=128
Reply from 192.168.0.3: bytes=32 time<1ms TTL=128
Reply from 192.168.0.3: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.0.3:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\Documents and Settings\Administrator>ping 192.168.1.1

Pinging 192.168.1.1 with 32 bytes of data:

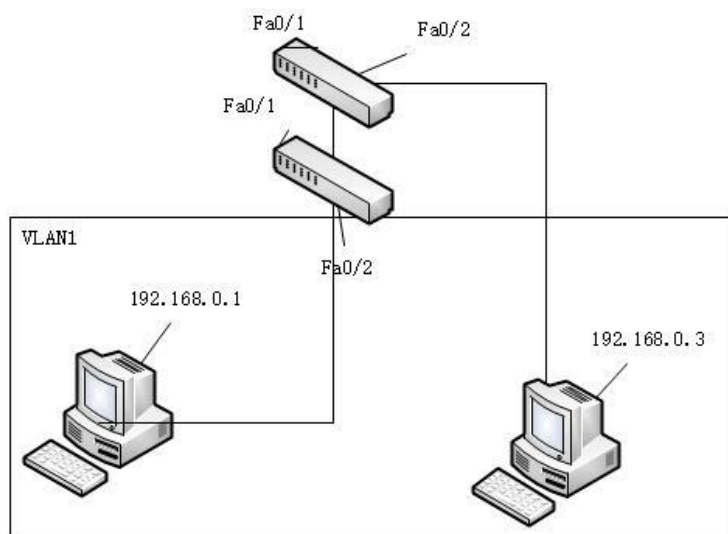
Destination host unreachable.
Destination host unreachable.
Destination host unreachable.
Destination host unreachable.

Ping statistics for 192.168.1.1:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

C:\Documents and Settings\Administrator>

```

图例		
图例副标题		
符号	计数	说明
	2	交换机
	2	PC



跨交换机 vlan 实验

rjhzs - 超级终端											
文件(F) 编辑(E) 查看(V) 呼叫(C) 传送(T) 帮助(H)											
VLAN Name Status Ports											
1	default	active	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, Gi0/1, Gi0/2								
2	zhangjh	active	Fa0/1, Fa0/2, Fa0/3								
3	hexl	active	Fa0/4, Fa0/5, Fa0/6								
1002	fddi-default	act/unsup									
1003	token-ring-default	act/unsup									
1004	fddinet-default	act/unsup									
1005	trnet-default	act/unsup									
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	fddi	101002	1500	-	-	-	-	-	0	0	
1003	tr	101003	1500	-	-	-	-	-	0	0	
1004	fdnet	101004	1500	-	-	-	ieee	-	0	0	
--More--											

交换机 VLAN 划分结果

```

命令提示符
Windows IP Configuration

Ethernet adapter 本地连接:

    Connection-specific DNS Suffix  . : 
    IP Address. . . . . : 192.168.0.1
    Subnet Mask . . . . . : 255.255.255.0
    Default Gateway . . . . . : 

C:\Documents and Settings\Administrator>ping 192.168.0.3

Pinging 192.168.0.3 with 32 bytes of data:

Reply from 192.168.0.3: bytes=32 time<1ms TTL=128
Reply from 192.168.0.3: bytes=32 time<1ms TTL=128
Reply from 192.168.0.3: bytes=32 time<1ms TTL=128
Reply from 192.168.0.3: bytes=32 time<1ms TTL=128

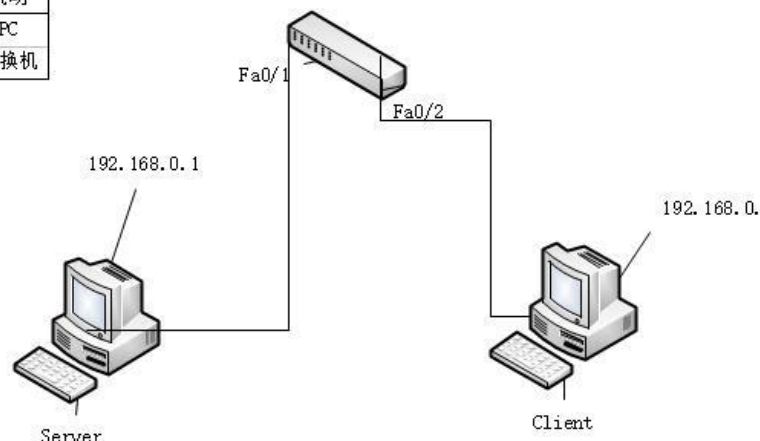
Ping statistics for 192.168.0.3:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\Documents and Settings\Administrator>

```

Ipconfig 以及 ping 命令执行结果

图例		
图例副标题		
符号	计数	说明
	2	PC
	1	交换机



DNS 服务器连接拓扑图

```
C:\ 命令提示符
Microsoft Windows [版本 5.2.3790]
(C) 版权所有 1985-2003 Microsoft Corp.

C:\Documents and Settings\Administrator>ipconfig

Windows IP Configuration

Ethernet adapter 本地连接:

    Connection-specific DNS Suffix  . : 
    IP Address. . . . .               : 192.168.0.1
    Subnet Mask . . . . .             : 255.255.255.0
    Default Gateway . . . . .         : 

C:\Documents and Settings\Administrator>nslookup www.zjh.com
*** Default servers are not available
Server:  UnKnown
Address:  127.0.0.1

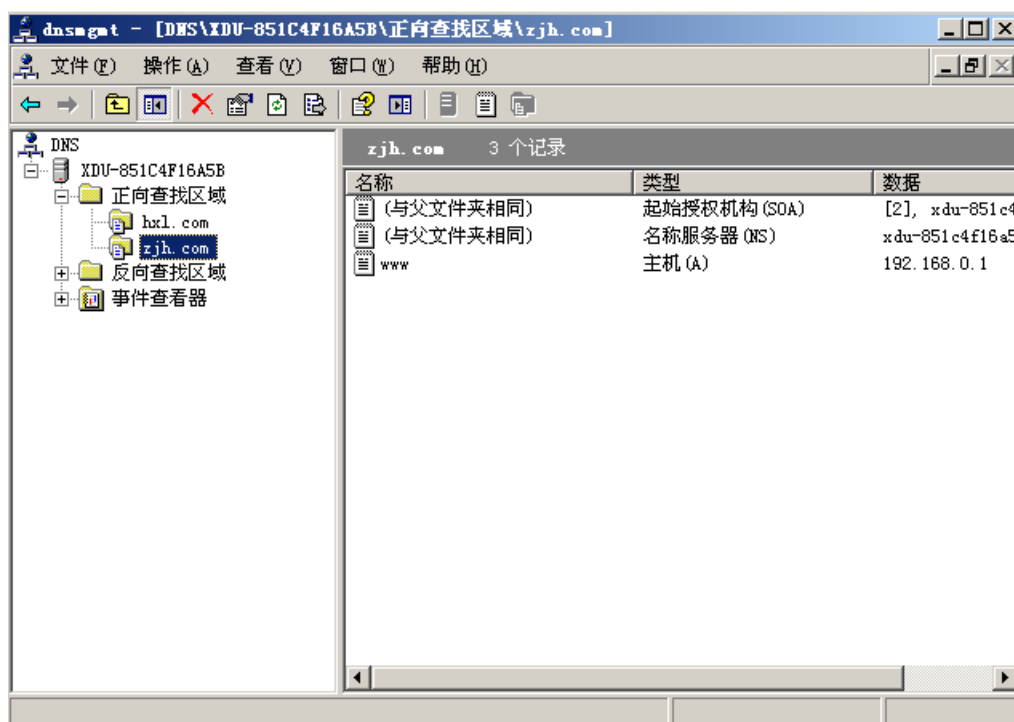
Name:     www.zjh.com
Address:  192.168.0.1

C:\Documents and Settings\Administrator>nslookup www.hxl.com
*** Default servers are not available
Server:  UnKnown
Address:  127.0.0.1

Name:     www.hxl.com
Address:  192.168.0.2

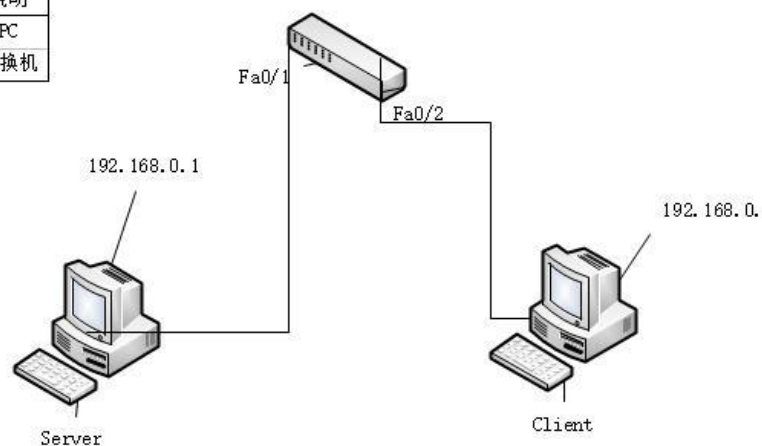
C:\Documents and Settings\Administrator>ping www.zjh.com
```

Ipconfig 以及 nslookup 执行结果

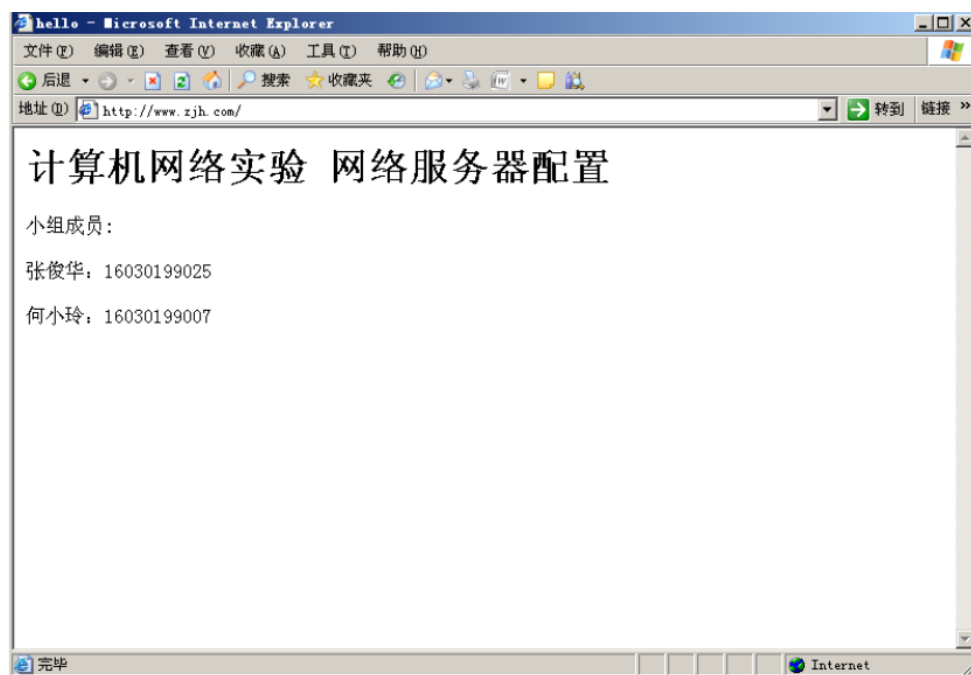


Dns 配置结果

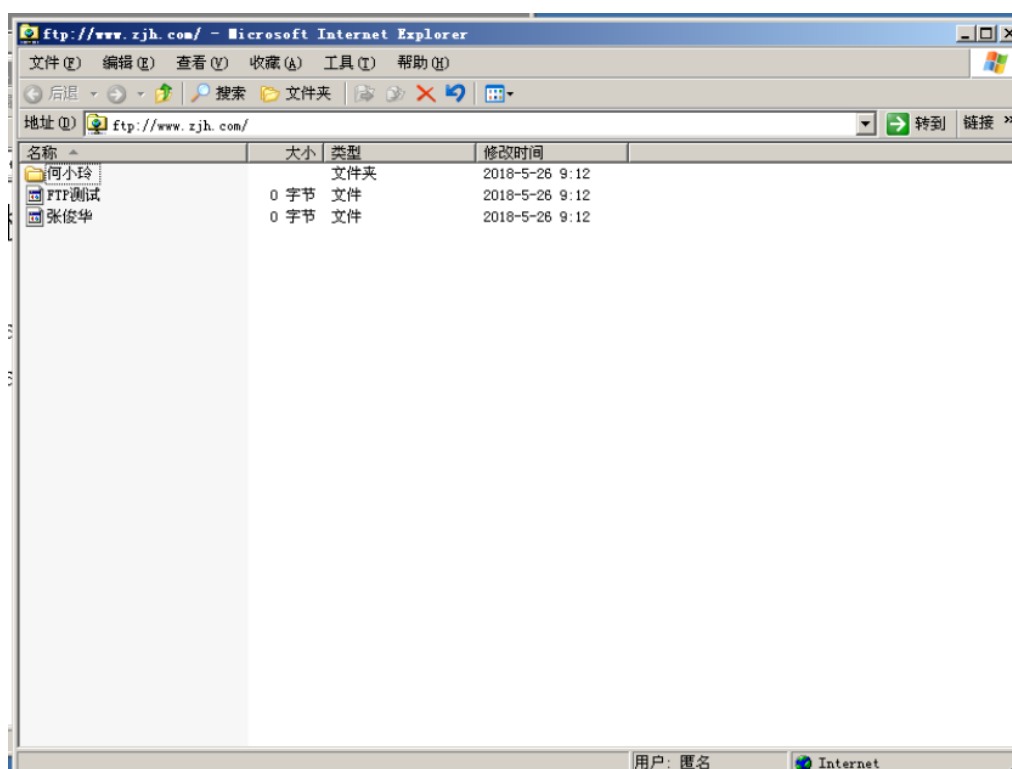
图例		
图例副标题		
符号	计数	说明
	2	PC
	1	交换机



IIS 服务器连接拓扑图

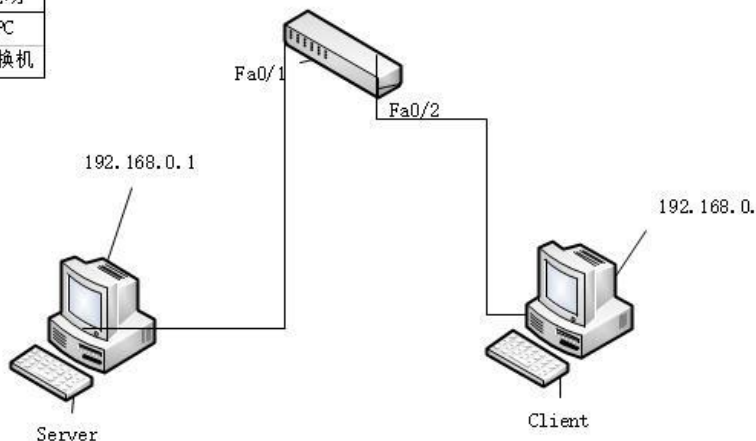


http 服务器访问结果

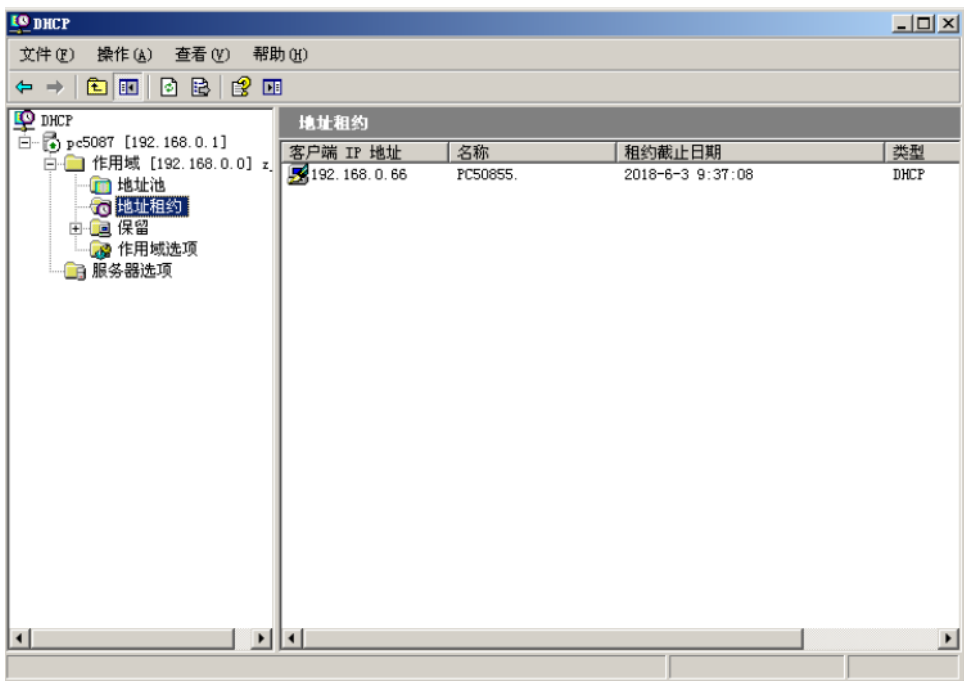


ftp 服务器访问结果

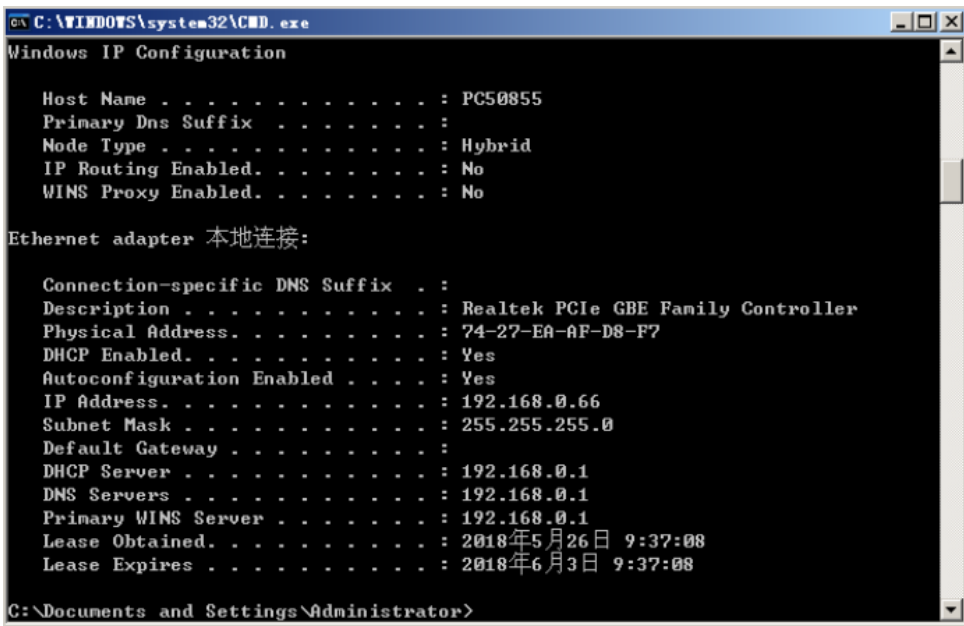
图例		
图例副标题		
符号	计数	说明
	2	PC
	1	交换机



DHCP 服务器客户机连接拓扑图



DHCP 服务器租约分配结果



DHCP 客户机自动 ip 地址获取结果



```
zjh - 超级终端
文件(F) 编辑(E) 查看(V) 呼叫(C) 传送(T) 帮助(H)

Router(config-if)#interface fa0/0.1
*Mar 1 00:01:23.591: %LINK-3-UPDOWN: Interface FastEthernet0/0, changed s
o up
Router(config-subif)#
*Mar 1 00:01:26.215: %LINEPROTO-5-UPDOWN: Line protocol on Interface Fast
et0/0, changed state to up
Router(config-subif)#
Router(config-subif)#interface fa0/0.1
Router(config-subif)#encapsulation dotq1 1

% Invalid input detected at '^' marker.

Router(config-subif)#encapsulation dot10 1
Router(config-subif)#ip address 192.168.1.254 255.255.255.0
Router(config-subif)#interface fa0/0.2
Router(config-subif)#encapsulation dot10 2
Router(config-subif)#ip address 192.168.2.254 255.255.255.0
Router(config-subif)#exit
Router(config)#no shut
% Incomplete command.

Router(config)#exit
Router#
*Mar 1 00:05:13.491: %SYS-5-CONFIG_I: Configured from console by console

已连接 1:46:44 自动检测 9600 8-N-1 SCROLL CAPS NUM 捕获 打印回显
```

单臂路由路由器配置结果

```
C:\Documents and Settings\Administrator>ping 192.168.2.1

Pinging 192.168.2.1 with 32 bytes of data:

Request timed out.
Reply from 192.168.2.1: bytes=32 time<1ms TTL=127
Reply from 192.168.2.1: bytes=32 time<1ms TTL=127
Reply from 192.168.2.1: bytes=32 time<1ms TTL=127

Ping statistics for 192.168.2.1:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\Documents and Settings\Administrator>ping 192.168.2.1

Pinging 192.168.2.1 with 32 bytes of data:

Reply from 192.168.2.1: bytes=32 time<1ms TTL=127
Reply from 192.168.2.1: bytes=32 time<1ms TTL=127
Reply from 192.168.2.1: bytes=32 time<1ms TTL=127
Reply from 192.168.2.1: bytes=32 time<1ms TTL=127

Ping statistics for 192.168.2.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\Documents and Settings\Administrator>
```

单臂路由连通性测试



zjh - 超级终端

文件(F) 编辑(E) 查看(V) 呼叫(C) 传送(T) 帮助(H)

VLAN	Name	Status	Ports
1	default	active	Gi1/0/1, Gi1/0/2, Gi1/0/3, Gi1/0/4, Gi1/0/5, Gi1/0/6, Gi1/0/7, Gi1/0/8, Gi1/0/9, Gi1/0/11, Gi1/0/12, Gi1/0/13, Gi1/0/14, Gi1/0/15, Gi1/0/16, Gi1/0/17, Gi1/0/18, Gi1/0/19, Gi1/0/20, Gi1/0/21, Gi1/0/22, Gi1/0/23, Gi1/0/24, Gi1/0/25, Gi1/0/26, Gi1/0/27, Gi1/0/28
2	dinghaoyu	active	Gi1/0/10
3	WinzVlan3	active	
1002	fddi-default	act/unsup	
1003	token-ring-default	act/unsup	
1004	fddinet-default	act/unsup	
1005	trnet-default	act/unsup	

VLAN	Type	SAID	MTU	Parent	RingNo	BridgeNo	Stp	BrdgMode	Transl	1
1	enet	100001	1500	-	-	-	-	-	0	0
2	enet	100002	1500	-	-	-	-	-	0	0

--More--

已连接 2:41:30 自动检测 9600 8-N-1 SCROLL CAPS NUM 捕获 打印回显

三层交换路由交换机配置结果

C:\ 命令提示符

Pinging 192.168.2.1 with 32 bytes of data:

Reply from 192.168.2.1: bytes=32 time<1ms TTL=127

Reply from 192.168.2.1: bytes=32 time<1ms TTL=127

Reply from 192.168.2.1: bytes=32 time<1ms TTL=127

Reply from 192.168.2.1: bytes=32 time<1ms TTL=127

Ping statistics for 192.168.2.1:

Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),

Approximate round trip times in milli-seconds:

Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\Documents and Settings\Administrator>ipconfig

Windows IP Configuration

Ethernet adapter 本地连接:

Connection-specific DNS Suffix . :

IP Address. . . . . : 192.168.1.1

Subnet Mask . . . . . : 255.255.255.0

Default Gateway . . . . . : 192.168.1.254

C:\Documents and Settings\Administrator>ping 192.168.2.1

Pinging 192.168.2.1 with 32 bytes of data:

Reply from 192.168.2.1: bytes=32 time<1ms TTL=127

Reply from 192.168.2.1: bytes=32 time<1ms TTL=127

Reply from 192.168.2.1: bytes=32 time<1ms TTL=127

Reply from 192.168.2.1: bytes=32 time<1ms TTL=127

Ping statistics for 192.168.2.1:

Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),

Approximate round trip times in milli-seconds:

Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\Documents and Settings\Administrator>

三层交换连通性测试结果

```

C:\命令提示符
C:\Documents and Settings\Administrator>ping 192.168.2.1

Pinging 192.168.2.1 with 32 bytes of data:

Reply from 192.168.2.1: bytes=32 time=2ms TTL=127
Reply from 192.168.2.1: bytes=32 time<1ms TTL=127
Reply from 192.168.2.1: bytes=32 time<1ms TTL=127
Reply from 192.168.2.1: bytes=32 time<1ms TTL=127

Ping statistics for 192.168.2.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 2ms, Average = 0ms

C:\Documents and Settings\Administrator>ipconfig

Windows IP Configuration

Ethernet adapter 本地连接:

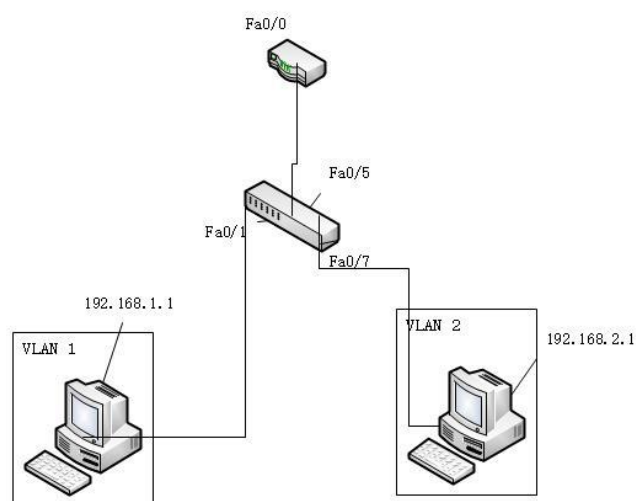
    Connection-specific DNS Suffix  . : 
    IP Address. . . . . : 192.168.1.1
    Subnet Mask . . . . . : 255.255.255.0
    Default Gateway . . . . . : 192.168.1.254

C:\Documents and Settings\Administrator>_

```

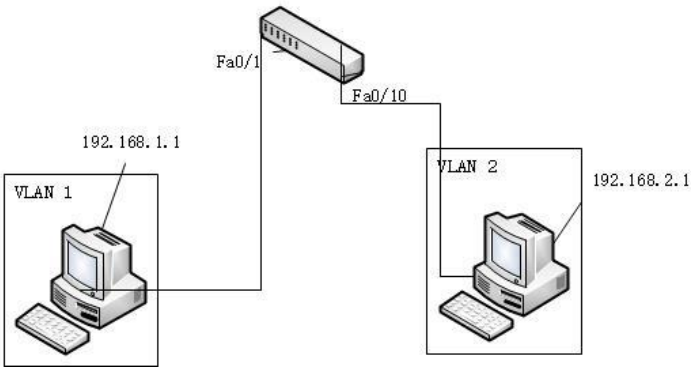
直连路由测试结果

图例		
图例副标题		
符号	计数	说明
	2	PC
	1	路由器
	1	交换机



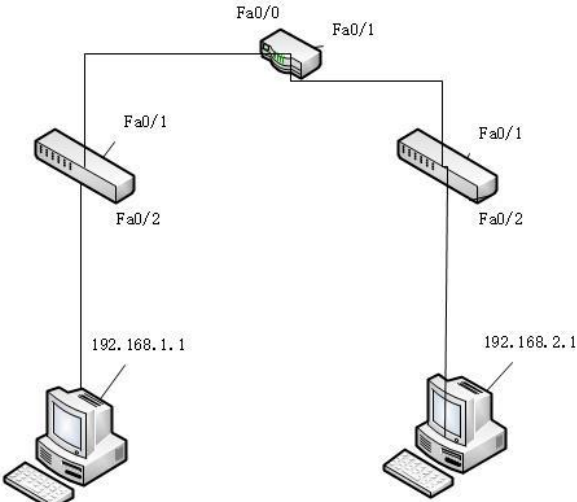
单臂路由连接拓扑图

图例		
图例副标题		
符号	计数	说明
	2	PC
	1	交换机



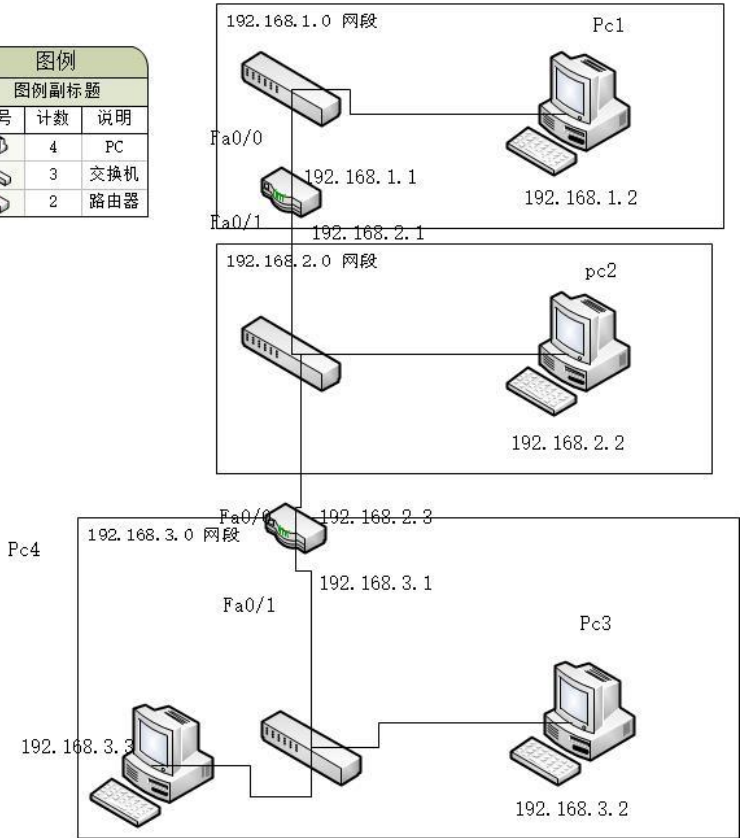
三层交换连接拓扑图

图例		
图例副标题		
符号	计数	说明
	2	PC
	1	路由器
	2	交换机



直连路由连接拓扑图

图例		
图例副标题		
符号	计数	说明
	4	PC
	3	交换机
	2	路由器



静态路由拓扑图

```
xjh - 超级终端
文件(F) 编辑(E) 查看(V) 呼叫(C) 传送(T) 帮助(H)
Press RETURN to get started.

Router>enable
Router#show ip route
Codes: C - connected, S - static, R - RIP, M - mobile, B - BGP
        D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
        N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
        E1 - OSPF external type 1, E2 - OSPF external type 2
        i - IS-IS, su - IS-IS summary, L1 - IS-IS level-1, L2 - IS-IS level-2
        ia - IS-IS inter area, * - candidate default, U - per-user static route
        o - ODR, P - periodic downloaded static route

Gateway of last resort is not set

C    192.168.1.0/24 is directly connected, FastEthernet0/0
C    192.168.2.0/24 is directly connected, FastEthernet0/1
S    192.168.3.0/24 [1/0] via 192.168.2.3
Router#
```

路由器 1 路由表

```
test3 - 超级终端
文件(F) 编辑(E) 查看(V) 呼叫(C) 传送(T) 帮助(H)
!
!
interface FastEthernet0/0
 ip address 192.168.2.3 255.255.255.0

Router#show ipconfig
% Invalid input detected at '^' marker.

Router#show ip route
Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP
        D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
        N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
        E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP
        i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS inter area
        * - candidate default, U - per-user static route, o - ODR
        P - periodic downloaded static route

Gateway of last resort is not set

S    192.168.1.0/24 [1/0] via 192.168.2.1
C    192.168.2.0/24 is directly connected, FastEthernet0/0
C    192.168.3.0/24 is directly connected, FastEthernet0/1
Router#_
```

路由器 2 路由表

```
命令提示符
Reply from 192.168.3.2: bytes=32 time<1ms TTL=126

Ping statistics for 192.168.3.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\Documents and Settings\Administrator>ipconfig

Windows IP Configuration

Ethernet adapter 本地连接:

    Connection-specific DNS Suffix  . : 
    IP Address. . . . .               : 192.168.1.2
    Subnet Mask . . . . .             : 255.255.255.0
    Default Gateway . . . . .         : 192.168.1.1

C:\Documents and Settings\Administrator>ping 192.168.3.2

Pinging 192.168.3.2 with 32 bytes of data:

Reply from 192.168.3.2: bytes=32 time=1ms TTL=126
Reply from 192.168.3.2: bytes=32 time<1ms TTL=126
Reply from 192.168.3.2: bytes=32 time<1ms TTL=126
Reply from 192.168.3.2: bytes=32 time<1ms TTL=126

Ping statistics for 192.168.3.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\Documents and Settings\Administrator>ping 192.168.2.2

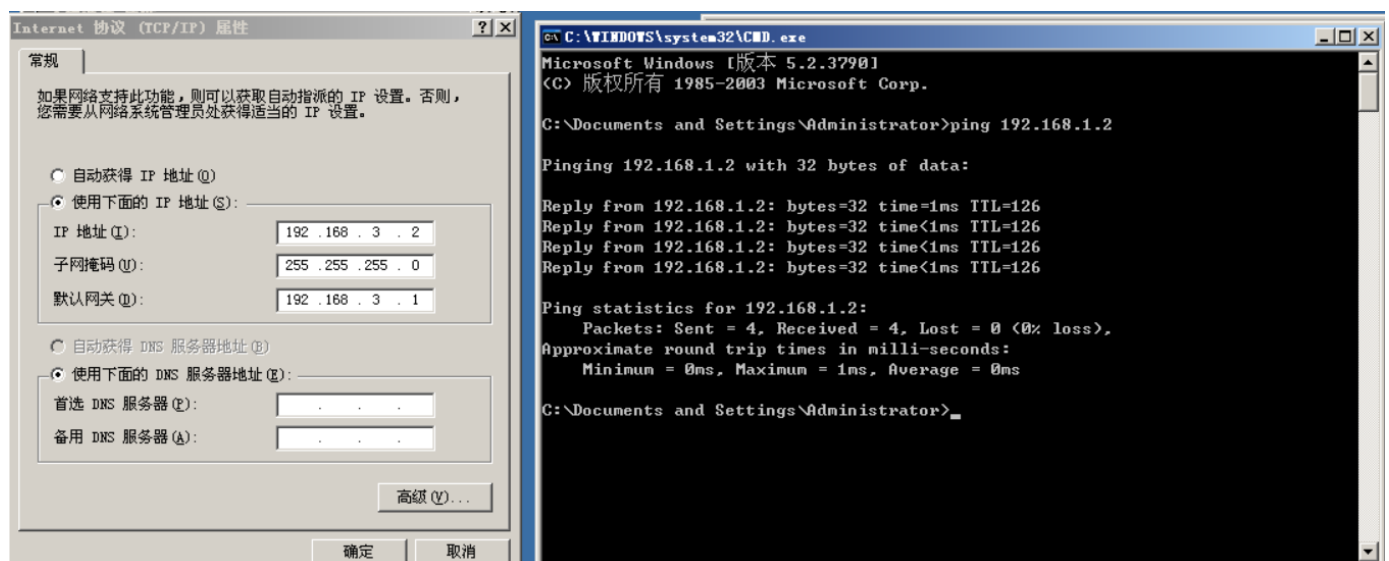
Pinging 192.168.2.2 with 32 bytes of data:

Reply from 192.168.2.2: bytes=32 time=1ms TTL=127
Reply from 192.168.2.2: bytes=32 time<1ms TTL=127
Reply from 192.168.2.2: bytes=32 time<1ms TTL=127
Reply from 192.168.2.2: bytes=32 time<1ms TTL=127

Ping statistics for 192.168.2.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\Documents and Settings\Administrator>
```

Ipconfig, 2 网段, 3 网段连通性



其他网段对 1 网段的连通性