实验名称：交换机的基本配置	
实验台号：	实验时间：
实验小组：张楷	
实验目的： •掌握交换机命令行各种操作模式的区别； •能够使用各种帮助信息； •以及用命令进行基本的配置。	
实验环境说明：PC	

实验过程、步骤（可另附页、使用网络拓扑图等辅助说明）及结果：

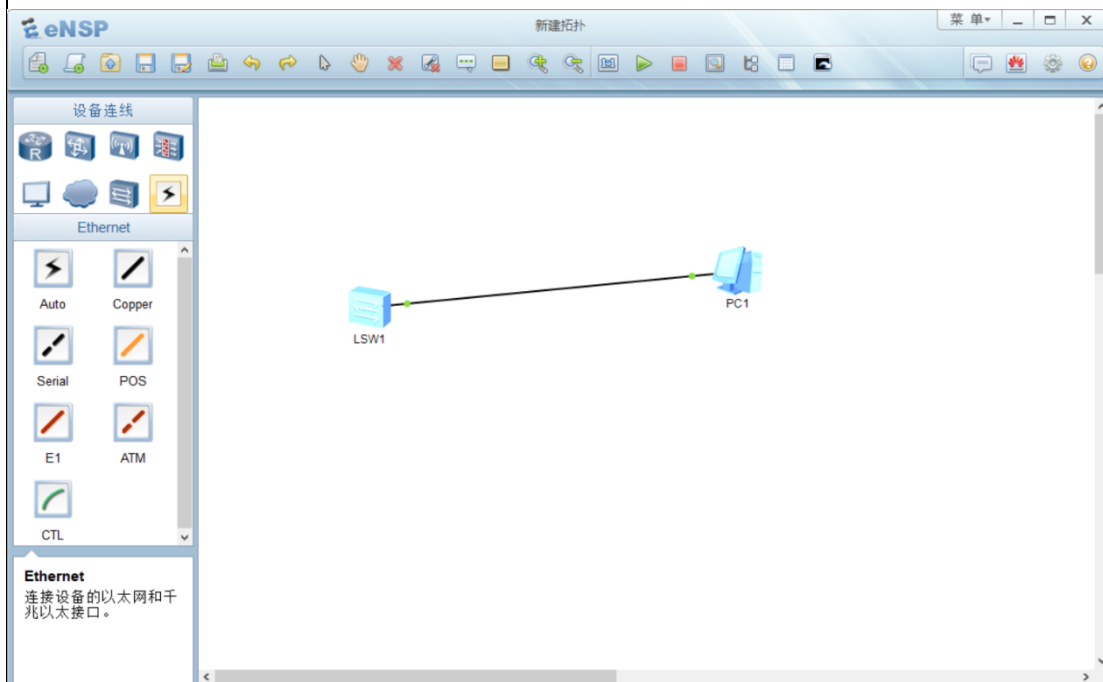一、 交换机的连接

通过 eNSP 软件建立起 PC 与交换机连接的拓扑；

图 1 用 eNSP 软件建立起的拓扑

二、 交换机各个操作模式之间的切换

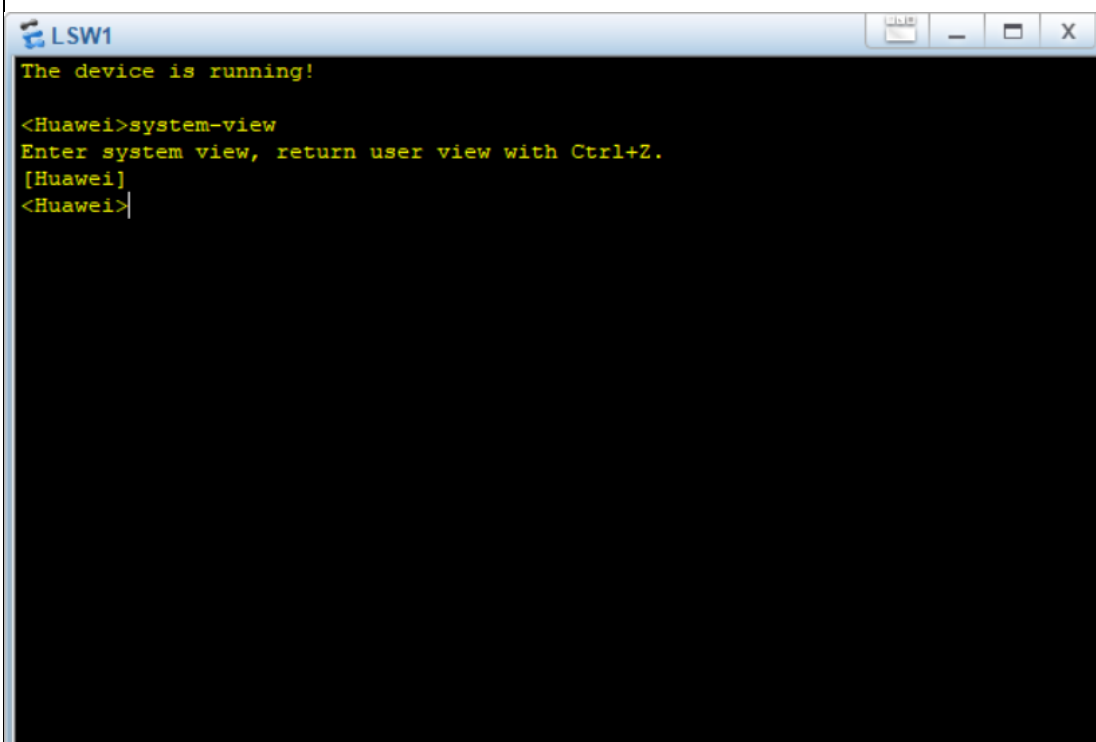输入 system-view 进入系统视图，按下 Ctrl + z 键切回用户视图；

图 2 用户视图和系统视图的切换

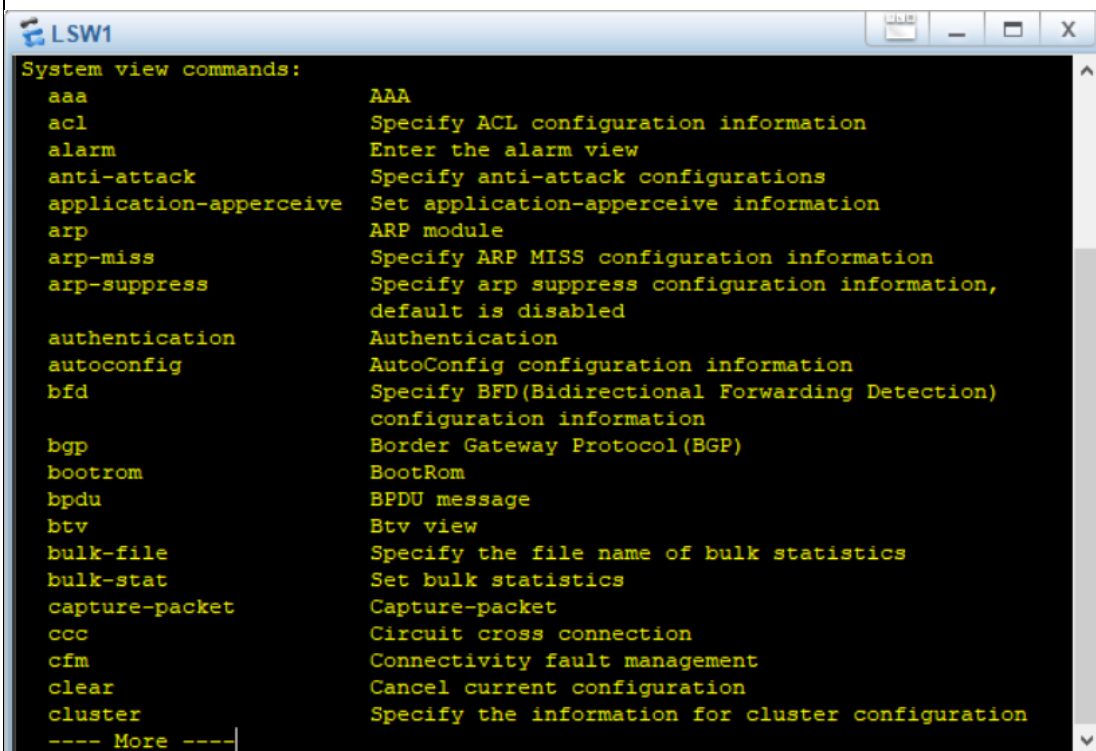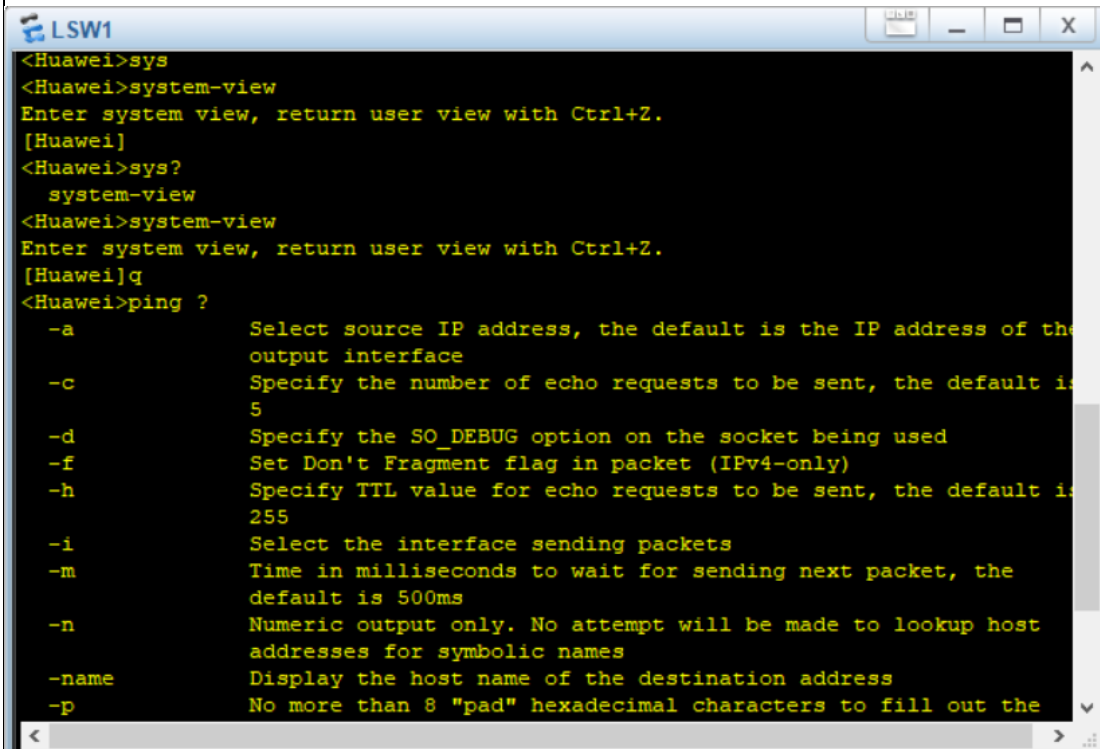## 三、 交换机命令行基本功能

1. 在系统模式下，键入"?"，显示系统模式可执行的命令；

图 3 系统模式可执行命令

2. 使用命令简写、Tab 键补齐命令，显示相似命令,使用 "?" 显示命令参数。

在用户模式下，键入 sys,按下 Tab 键，自动补全为 system-view;键入 sys?，显示相似命令为 system-view; q 为 quit 命令的简写，可以从系统视图返回用户视图；键入 ping ?命令，显示出 ping 命令后可以跟随的参数。


```
LSW1                                                    _  □  X
<Huawei>sys
<Huawei>system-view
Enter system view, return user view with Ctrl+Z.
[Huawei]
<Huawei>sys?
  system-view
<Huawei>system-view
Enter system view, return user view with Ctrl+Z.
[Huawei]q
<Huawei>ping ?
  -a          Select source IP address, the default is the IP address of the
              output interface
  -c          Specify the number of echo requests to be sent, the default is
              5
  -d          Specify the SO_DEBUG option on the socket being used
  -f          Set Don't Fragment flag in packet (IPv4-only)
  -h          Specify TTL value for echo requests to be sent, the default is
              255
  -i          Select the interface sending packets
  -m          Time in milliseconds to wait for sending next packet, the
              default is 500ms
  -n          Numeric output only. No attempt will be made to lookup host
              addresses for symbolic names
  -name       Display the host name of the destination address
  -p          No more than 8 "pad" hexadecimal characters to fill out the
```
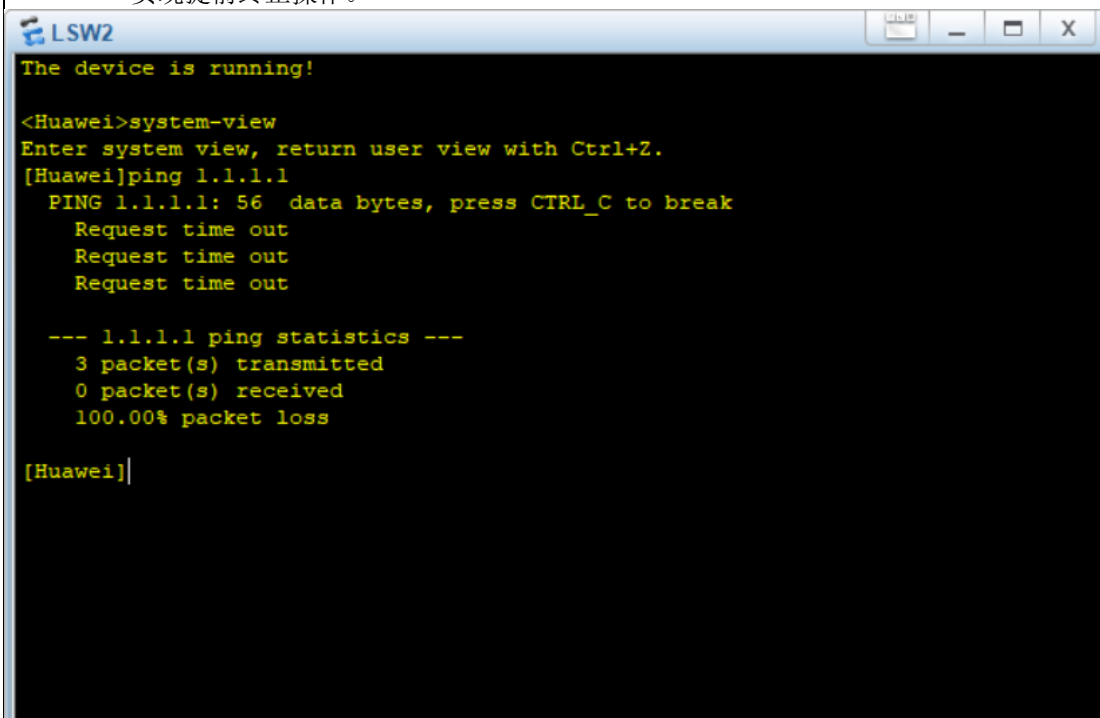
图 4

3. Ping 命令使用以及强制终止。

在系统视图下，键入 ping 1.1.1.1 命令，发现不能 ping 通目标地址；按下 Ctrl+c 键实现提前终止操作。


```
LSW2                                                    _  □  X
The device is running!

<Huawei>system-view
Enter system view, return user view with Ctrl+Z.
[Huawei]ping 1.1.1.1
  PING 1.1.1.1: 56  data bytes, press CTRL_C to break
    Request time out
    Request time out
    Request time out

  --- 1.1.1.1 ping statistics ---
    3 packet(s) transmitted
    0 packet(s) received
    100.00% packet loss

[Huawei]
```

图 5 ping 以及 ping 的终止

四、配置交换机的名称

键入 sysname JWZ5 命令,将交换机名字改为 JWZ5。

```
<Huawei>system-view
Enter system view, return user view with Ctrl+Z.
[Huawei]ping 1.1.1.1
  PING 1.1.1.1: 56  data bytes, press CTRL_C to break
    Request time out
    Request time out
    Request time out

  --- 1.1.1.1 ping statistics ---
    3 packet(s) transmitted
    0 packet(s) received
    100.00% packet loss

[Huawei]sysname
                  ^
Error:Incomplete command found at '^' position.
[Huawei]sys
[Huawei]sysname  JWZ5
[JWZ5]
Dec  4 2020 19:33:45-08:00 JWZ5 DS/4/DATASYNC_CFGCHANGE:OID 1.3.6.1.4.1.2011.5
5.191.3.1 configurations have been changed. The current change number is 4, the
change loop count is 0, and the maximum number of records is 4095.`
            ^
Error: Unrecognized command found at '^' position.
[JWZ5]
```
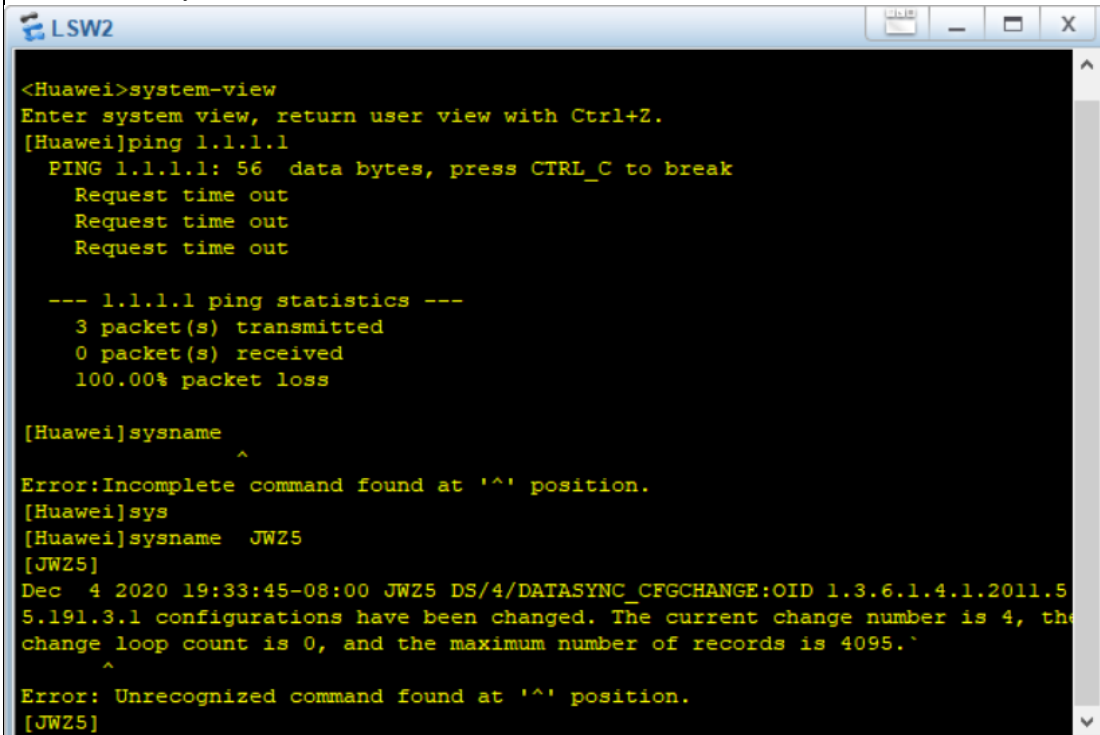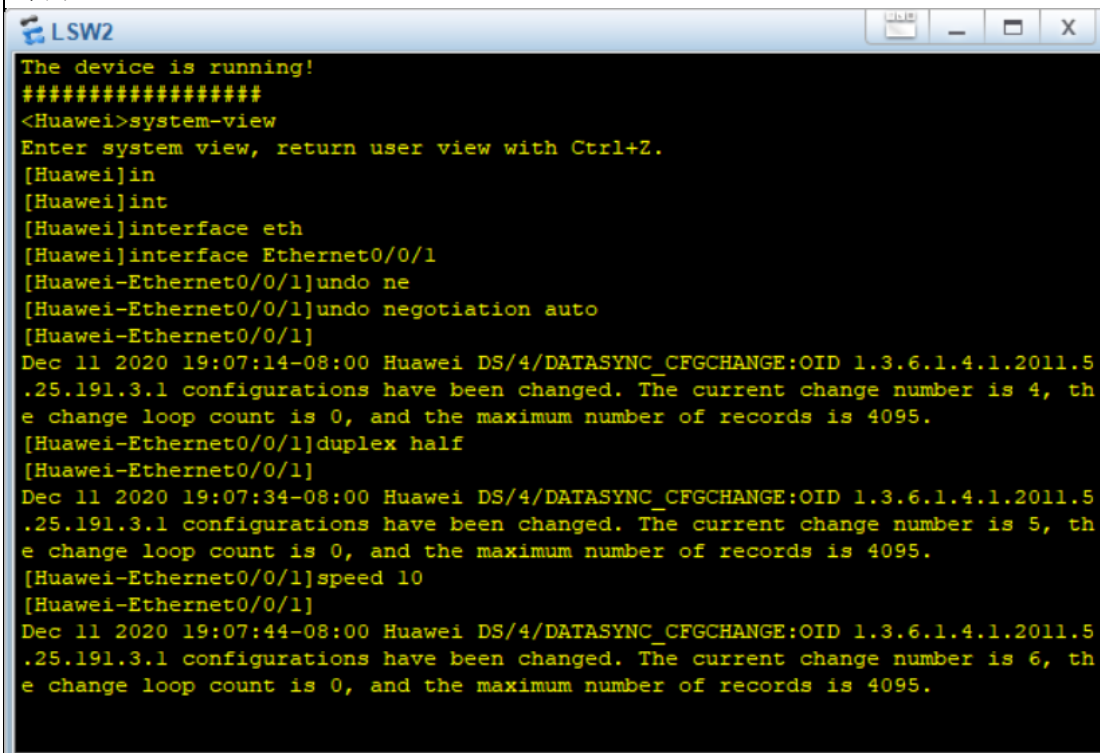
图 6 JWZ5

五、配置交换机端口速率、双工信息

进入系统视图,输入 interface Ethernet0/0/1 进入一个端口,输入 undo negotiation auto 命令,关闭自协商模式。输入 duplex half 命令设置为半双工模式,speed 10 命令设置端口速率为 10MB/s
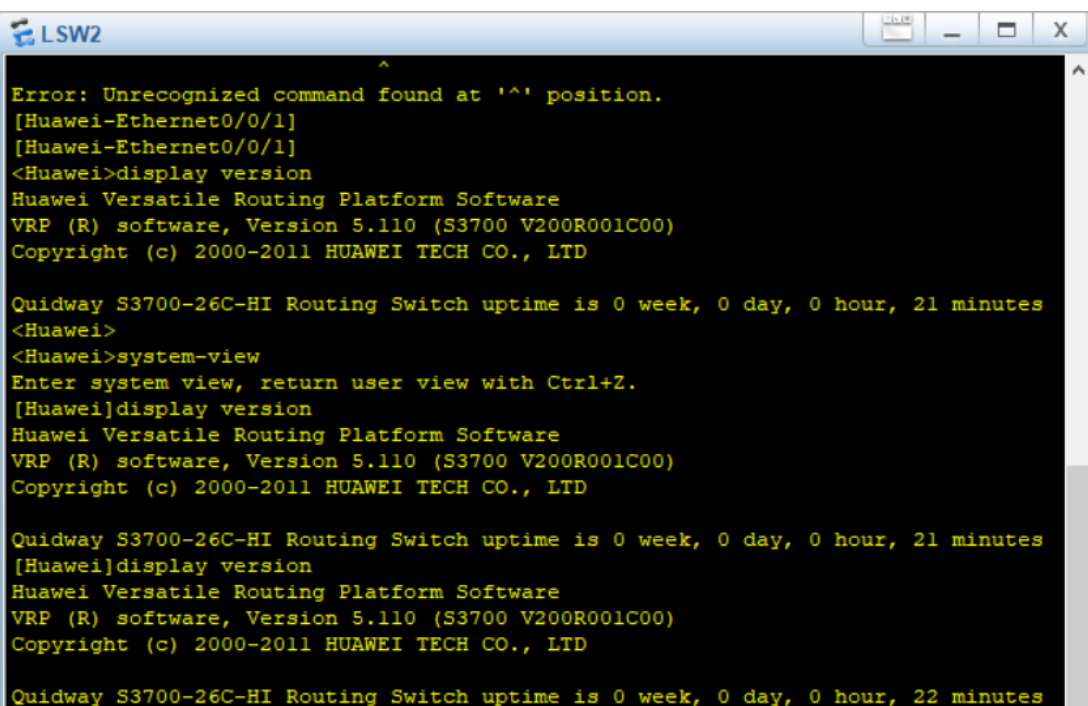
```
The device is running!
####################
<Huawei>system-view
Enter system view, return user view with Ctrl+Z.
[Huawei]in
[Huawei]int
[Huawei]interface eth
[Huawei]interface Ethernet0/0/1
[Huawei-Ethernet0/0/1]undo ne
[Huawei-Ethernet0/0/1]undo negotiation auto
[Huawei-Ethernet0/0/1]
Dec 11 2020 19:07:14-08:00 Huawei DS/4/DATASYNC_CFGCHANGE:OID 1.3.6.1.4.1.2011.5
.25.191.3.1 configurations have been changed. The current change number is 4, th
e change loop count is 0, and the maximum number of records is 4095.
[Huawei-Ethernet0/0/1]duplex half
[Huawei-Ethernet0/0/1]
Dec 11 2020 19:07:34-08:00 Huawei DS/4/DATASYNC_CFGCHANGE:OID 1.3.6.1.4.1.2011.5
.25.191.3.1 configurations have been changed. The current change number is 5, th
e change loop count is 0, and the maximum number of records is 4095.
[Huawei-Ethernet0/0/1]speed 10
[Huawei-Ethernet0/0/1]
Dec 11 2020 19:07:44-08:00 Huawei DS/4/DATASYNC_CFGCHANGE:OID 1.3.6.1.4.1.2011.5
.25.191.3.1 configurations have been changed. The current change number is 6, th
e change loop count is 0, and the maximum number of records is 4095.
```

图 7 设置端口速率和双工信息

六、查看交换机的系统信息和配置信息

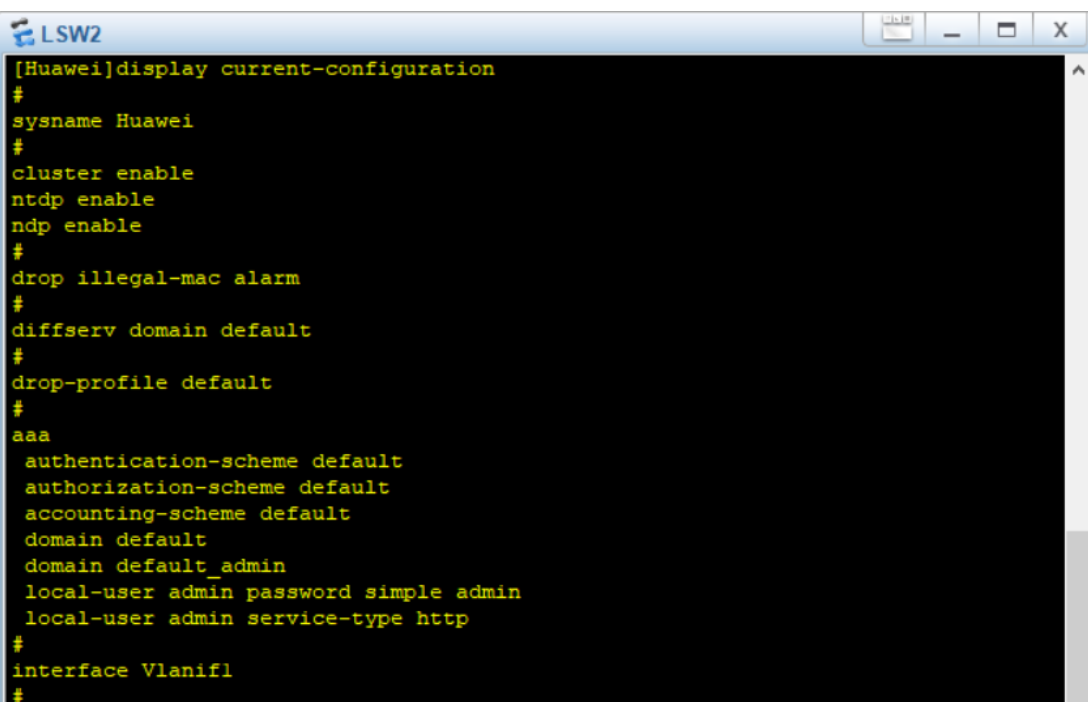输入 display version 命令查看系统信息，输入 display current-configuration 查看配置信息

```
LSW2                                                                    □  _  □  X
                                    ^
Error: Unrecognized command found at '^' position.
[Huawei-Ethernet0/0/1]
[Huawei-Ethernet0/0/1]
<Huawei>display version
Huawei Versatile Routing Platform Software
VRP (R) software, Version 5.110 (S3700 V200R001C00)
Copyright (c) 2000-2011 HUAWEI TECH CO., LTD

Quidway S3700-26C-HI Routing Switch uptime is 0 week, 0 day, 0 hour, 21 minutes
<Huawei>
<Huawei>system-view
Enter system view, return user view with Ctrl+Z.
[Huawei]display version
Huawei Versatile Routing Platform Software
VRP (R) software, Version 5.110 (S3700 V200R001C00)
Copyright (c) 2000-2011 HUAWEI TECH CO., LTD

Quidway S3700-26C-HI Routing Switch uptime is 0 week, 0 day, 0 hour, 21 minutes
[Huawei]display version
Huawei Versatile Routing Platform Software
VRP (R) software, Version 5.110 (S3700 V200R001C00)
Copyright (c) 2000-2011 HUAWEI TECH CO., LTD

Quidway S3700-26C-HI Routing Switch uptime is 0 week, 0 day, 0 hour, 22 minutes
```
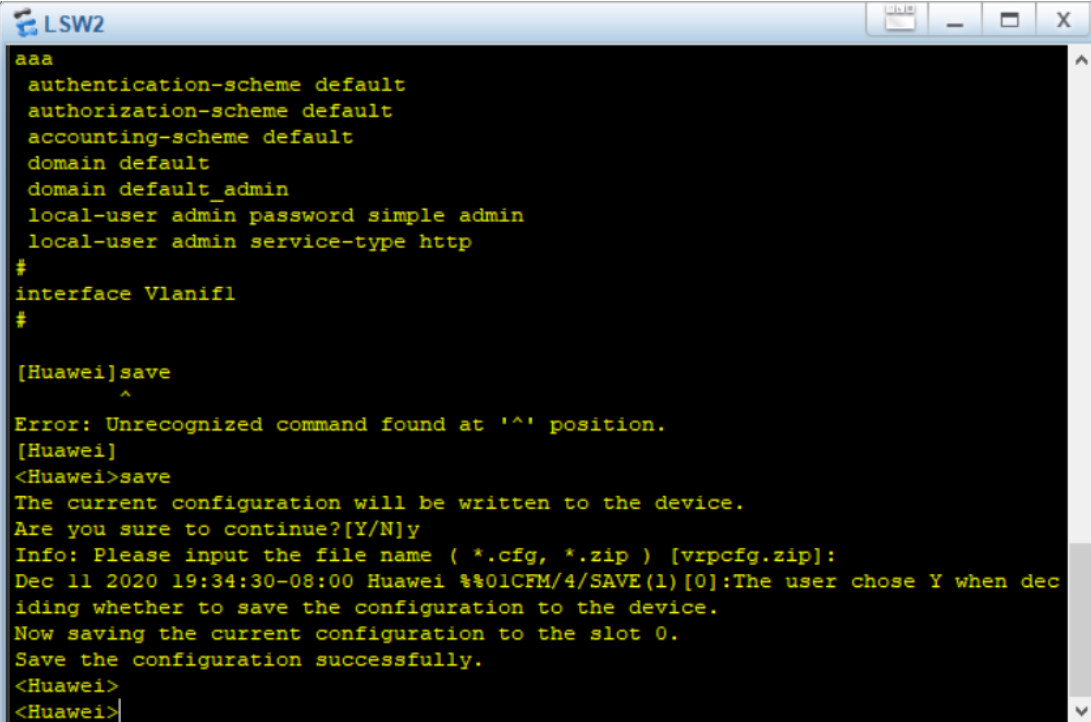
图 9 系统信息

```
LSW2                                                                    □  _  □  X
[Huawei]display current-configuration
#
sysname Huawei
#
cluster enable
ntdp enable
ndp enable
#
drop illegal-mac alarm
#
diffserv domain default
#
drop-profile default
#
aaa
 authentication-scheme default
 authorization-scheme default
 accounting-scheme default
 domain default
 domain default_admin
 local-user admin password simple admin
 local-user admin service-type http
#
interface Vlanif1
#
```

图 8 配置信息

七、保存交换机配置

在用户视图中,输入 save 命令，保存配置信息。


```
  LSW2

aaa
 authentication-scheme default
 authorization-scheme default
 accounting-scheme default
 domain default
 domain default_admin
 local-user admin password simple admin
 local-user admin service-type http
#
interface Vlanif1
#

[Huawei]save
         ^
Error: Unrecognized command found at '^' position.
[Huawei]
<Huawei>save
The current configuration will be written to the device.
Are you sure to continue?[Y/N]y
Info: Please input the file name ( *.cfg, *.zip ) [vrpcfg.zip]:
Dec 11 2020 19:34:30-08:00 Huawei %%01CFM/4/SAVE(l)[0]:The user chose Y when dec
iding whether to save the configuration to the device.
Now saving the current configuration to the slot 0.
Save the configuration successfully.
<Huawei>
<Huawei>
```

图 10 保存

实验总结（遇到的问题及解决办法、体会）：
了解了交换机的一些基本配置，很有帮助

器材、工具领用及归还负责人：张楷	实验记录人：（签名）张楷
实验执笔人：（签名）张楷	报告协助人：（签名）张楷
小组成员签名：（签名）张楷	
验收人：	成绩评定：