Факультет Инфокоммуникационных сетей и систем

Кафедра Защищенных систем связи

Лабораторная работа №3

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Цель лабораторной работы: Поиск неисправностей в сети малого размера

1. Настройка маршрутизатора

```
1  ho R1
2  no ip domain-lookup
3  enable secret Ciscoenpa55
4  line con 0
5  password Ciscoconpa55
6  login local
7  exec-timeout 5
8  exit
9  security passwords min-length 10
10 service password-encryption
11 banner motd @access is prohibited@
12 int g0/0
13 ip address 192.168.0.1 255.255.255.128
14 ipv6 address 2001:DB8:ACAD::1/64
15 ipv6 address FE80::1 link-local
16 description Staff
17 no sh
18 exit
19 int g0/1
20 ip address 192.168.0.129 255.255.255.192
21 ipv6 address 2001:DB8:ACAD:1::1/64
22 ipv6 address FE80::1 link-local
23 description Sales
24 no sh
25 exit
26 int g0/2
27 ip address 192.168.0.193 255.255.255.224
28 ipv6 address 2001:DB8:ACAD:2::1/64
29 ipv6 address FE80::1 link-local
30 description IT
31 no sh
32 exit
33 ip domain-name CCNA-lab.com
34 crypto key generate rsa
35 1024
36 line vty 0 15
37 transport input ssh
38 login local
39 exec-timeout 5
```

```
40 exit
41 username Admin1 privilege 15 secret Admin1pa55
42 login block-for 180 attempts 4 within 120
43
```

2. Настройка коммутаторов

```
1 ho S1
2 int vlan 1
3 ip address 192.168.0.2 255.255.255.128
4 no sh
5 exit
6 ip default-gateway 192.168.0.1
7 no ip domain-lookup
8 enable secret Ciscoenpa55
9 service password-encryption
10 line con 0
11 password Ciscoconpa55
12 login
13 exec-timeout 5
14 exit
15 line vty 0 15
16 exec-timeout 5
17 exit
18
19 ho S2
20 int vlan 1
21 ip address 192.168.0.130 255.255.255.192
22 no sh
23 exit
24 ip default-gateway 192.168.0.129
25 no ip domain-lookup
26 enable secret Ciscoenpa55
27 service password-encryption
28 line con 0
29 password Ciscoconpa55
30 login
31 exec-timeout 5
32 exit
33 line vty 0 15
34 exec-timeout 5
35 exit
36
```

```
37 ho S3
38 int vlan 1
39 ip address 192.168.0.194 255.255.255.224
40 no sh
41 exit
42 ip default-gateway 192.168.0.193
43 no ip domain-lookup
44 enable secret Ciscoenpa55
45 service password-encryption
46 line con 0
47 password Ciscoconpa55
48 login
49 exec-timeout 5
50 exit
51 line vty 0 15
52 exec-timeout 5
53 exit
54
```

3. run conf R1

```
1 version 15.1
2 no service timestamps log datetime msec
3 no service timestamps debug datetime msec
4 service password-encryption
5 security passwords min-length 10
6 !
7 hostname R1
8 !
9 login block-for 180 attempts 4 within 120
10 !
11 enable secret 5 $1$mERr$Amm/da5NtiazLuZDbgqZ60
12 !
13 no ip cef
14 ipv6 unicast-routing
15 !
16 no ipv6 cef
17 !
18 username Admin1 privilege 15 secret 5 $1$mERr$Ty/EkWXcSXEwIckISrps8/
19 !
20 license udi pid CISCO2911/K9 sn FTX1524Z5CA
21 !
22 no ip domain-lookup
```

```
23 ip domain-name CCNA-lab.com
24 !
25 spanning-tree mode pvst
26 !
27 interface GigabitEthernet0/0
28  description Staff
29  ip address 192.168.0.1 255.255.255.128
30  duplex auto
31  speed auto
32  ipv6 address FE80::1 link-local
33  ipv6 address 2001:DB8:ACAD::1/64
34 !
35 interface GigabitEthernet0/1
36  description Sales
37  ip address 192.168.0.129 255.255.255.192
38  duplex auto
39  speed auto
40  ipv6 address FE80::1 link-local
41  ipv6 address 2001:DB8:ACAD:1::1/64
42 !
43 interface GigabitEthernet0/2
44  description IT
45  ip address 192.168.0.193 255.255.255.224
46  duplex auto
47  speed auto
48  ipv6 address FE80::1 link-local
49  ipv6 address 2001:DB8:ACAD:2::1/64
50 !
51 interface Serial0/0/0
52  no ip address
53  clock rate 2000000
54  shutdown
55 !
56 interface Serial0/0/1
57  ip address 172.16.1.2 255.255.255.252
58  ipv6 address FE80::1 link-local
59  ipv6 address 2001:DB8:2::1/64
60 !
61 interface Vlan1
62  no ip address
63  shutdown
64 !
```

```
65 ip classless
66 ip route 0.0.0.0 0.0.0.0 172.16.1.1
67 !
68 ip flow-export version 9
69 !
70 ipv6 route ::/0 2001:DB8:2::2
71 !
72 ip access-list extended sl_def_acl
73  deny tcp any any eq telnet
74  deny tcp any any eq www
75  deny tcp any any eq 22
76  permit tcp any any eq 22
77 !
78 banner motd ^Caccess is prohibited^C
79 !
80 line con 0
81  exec-timeout 5 0
82  password 7 0802455D0A1606181C1B0D517F
83  login local
84 !
85 line aux 0
86 !
87 line vty 0 4
88  exec-timeout 5 0
89  login local
90  transport input ssh
91 line vty 5 15
92  exec-timeout 5 0
93  login local
94  transport input ssh
95 !
96 end
97
```

4. **run conf S1**

```
1 version 12.2
2 no service timestamps log datetime msec
3 no service timestamps debug datetime msec
4 service password-encryption
5 !
6 hostname S1
7 !
```

```
 8 enable secret 5 $1$mERr$Amm/da5NtiazLuZDbgqZ60
 9 !
10 no ip domain-lookup
11 !
12 spanning-tree mode pvst
13 spanning-tree extend system-id
14 !
15 interface FastEthernet0/1
16 .
17 .
18 .
19 interface FastEthernet0/24
20 !
21 interface GigabitEthernet0/1
22 !
23 interface GigabitEthernet0/2
24 !
25 interface Vlan1
26 ip address 192.168.0.2 255.255.255.128
27 !
28 ip default-gateway 192.168.0.1
29 !
30 line con 0
31 password 7 0802455D0A1606181C1B0D517F
32 login
33 exec-timeout 5 0
34 !
35 line vty 0 4
36 exec-timeout 5 0
37 login
38 line vty 5 15
39 exec-timeout 5 0
40 login
41 !
42 end
43
```

5. run conf S2

```
1 version 12.2
2 no service timestamps log datetime msec
3 no service timestamps debug datetime msec
4 service password-encryption
```

```
 5 !
 6 hostname S2
 7 !
 8 enable secret 5 $1$mERr$Amm/da5NtiazLuZDbgqZ60
 9 !
10 no ip domain-lookup
11 !
12 spanning-tree mode pvst
13 spanning-tree extend system-id
14 !
15 interface FastEthernet0/1
16 .
17 .
18 .
19 interface FastEthernet0/24
20 !
21 interface GigabitEthernet0/1
22 !
23 interface GigabitEthernet0/2
24 !
25 interface Vlan1
26 ip address 192.168.0.130 255.255.255.192
27 !
28 ip default-gateway 192.168.0.129
29 !
30 line con 0
31 password 7 0802455D0A1606181C1B0D517F
32 login
33 exec-timeout 5 0
34 !
35 line vty 0 4
36 exec-timeout 5 0
37 login
38 line vty 5 15
39 exec-timeout 5 0
40 login
41 !
42 end
43
```

6. run conf S3

```
 1 version 12.2
```

```
2 no service timestamps log datetime msec
3 no service timestamps debug datetime msec
4 service password-encryption
5 !
6 hostname S3
7 !
8 enable secret 5 $1$mERr$Amm/da5NtiazLuZDbgqZ60
9 !
10 no ip domain-lookup
11 !
12 spanning-tree mode pvst
13 spanning-tree extend system-id
14 !
15 interface FastEthernet0/1
16 .
17 .
18 .
19 interface FastEthernet0/24
20 !
21 interface GigabitEthernet0/1
22 !
23 interface GigabitEthernet0/2
24 !
25 interface Vlan1
26  ip address 192.168.0.194 255.255.255.224
27 !
28 ip default-gateway 192.168.0.193
29 !
30 line con 0
31  password 7 0802455D0A1606181C1B0D517F
32  login
33  exec-timeout 5 0
34 !
35 line vty 0 4
36  exec-timeout 5 0
37  login
38 line vty 5 15
39  exec-timeout 5 0
40  login
41 !
42 end
43
```