Лабораторная работа №3

• Настройка на коммутаторах протокола LACP агрегирования каналов технологии EtherChannel

• LW-SW-1

```
L2-SW-1(config)#int range g0/0-1
L2-SW-1(config-if-range)#shut
L2-SW-1(config-if-range)#channel-group 1 mode active
L2-SW-1(config-if-range)#no shut
L2-SW-1(config)#int range g0/2-3
L2-SW-1(config-if-range)#shut
L2-SW-1(config-if-range)#channel-group 2 mode active
L2-SW-1(config-if-range)#no shut
L2-SW-1(config)#int range g1/0-1
L2-SW-1(config-if-range)#shut
L2-SW-1(config-if-range)#channel-group 3 mode active
L2-SW-1(config-if-range)#no shut
L2-SW-1(config)#int range g1/2-3
L2-SW-1(config-if-range)#shut
\verb+L2-SW-1(config-if-range)\#channel-group 4 mode active
L2-SW-1(config-if-range)#no shut
L2-SW-1(config)#int g2/0
L2-SW-1(config-if)#shut
L2-SW-1(config-if)#channel-group 4 mode active
L2-SW-1(config-if)#no shut
```

L2-SW-1#sh int stats				
Port-channel1				
Switching pa	h Pkts In	Chars In	Pkts Out	Chars Out
Processo	or 669	60232	0	0
Route cacl	ie 0	0	0	0
Tota	1 669	60232	0	0
Port-channel2				
Switching pa	h Pkts In	Chars In	Pkts Out	Chars Out
Processo	r 721	63124	0	0
Route cacl	ie 0	0	0	0
Tota	1 721	63124	0	0
Port-channel3				
Switching pa	h Pkts In	Chars In	Pkts Out	Chars Out
Processo	or 666	60264	0	0
Route cacl	ie 0	0	0	0
Tota	1 666	60264	0	0
Port-channel4				
Switching pa	h Pkts In	Chars In	Pkts Out	Chars Out
Processo	or 828	81255	0	0
Route cacl	ie 0	0	0	0
Tota	1 828	81255	0	0

```
L2-SW-1#sh sp
VLAN0001
  Spanning tree enabled protocol ieee
  Root ID Priority 24577
           Address 0cec.7252.0000
            This bridge is the root
           Hello Time 2 sec Max Age 20 sec Forward Delay 15 sec
 Bridge ID Priority 24577 (priority 24576 sys-id-ext 1)
           Address 0cec.7252.0000
            Hello Time 2 sec Max Age 20 sec Forward Delay 15 sec
           Aging Time 300 sec
Interface
                   Role Sts Cost Prio.Nbr Type
-----

      Desg FWD 4
      128.65
      Shr

      Desg FWD 4
      128.66
      Shr

      Desg FWD 3
      128.67
      Shr

      Desg FWD 3
      128.68
      Shr

Po3
Po2
```

LW-SW-2

```
L2-SW-2(config)#int range g0/0-2
L2-SW-2(config-if-range)#shut
L2-SW-2(config-if-range)#channel-group 4 mode passive
L2-SW-2(config-if-range)#no shut
L2-SW-2(config)#int g0/3
L2-SW-2(config-if)#shut
L2-SW-2(config-if)#channel-group 5 mode active
L2-SW-2(config-if)#no shut
L2-SW-2(config)#int g1/0
L2-SW-2(config-if)#shut
{\tt L2-SW-2} ({\tt config-if}) {\tt \#channel-group} \ {\tt 5} \ {\tt mode} \ {\tt active}
L2-SW-2(config-if)#no shut
L2\text{-SW-2}(config)#int range g1/1-2
L2-SW-2(config-if-range)#shut
L2-SW-2(config-if-range)#channel-group 6 mode active
L2-SW-2(config-if-range)#no shut
L2-SW-2(config)#int g1/3
L2-SW-2(config-if)#shut
L2-SW-2(config-if)#channel-group 7 mode active
L2-SW-2(config-if)#no shut
L2-SW-2(config)#int g2/0
L2-SW-2(config-if)#shut
L2-SW-2(config-if)#channel-group 7 mode active
L2-SW-2(config-if)#no shut
```

```
L2-SW-2#sh int stats
Port-channel7
           Switching path Pkts In Chars In Pkts Out Chars Out

        Processor
        1230
        90143
        0
        0

        Route cache
        0
        0
        0
        0

        Total
        1230
        90143
        0
        0

Port-channel6
           Switching path Pkts In Chars In Pkts Out Chars Out
                Processor 1317 94939 0 0
Route cache 0 0 0 0
Total 1317 94939 0 0
Port-channel5
           Switching path Pkts In Chars In Pkts Out Chars Out
                 Processor 1267 92102 0 0

Route cache 0 0 0 0

Total 1267 92102 0 0
                Route cache
Total
Port-channel4
           Switching path Pkts In Chars In Pkts Out Chars Out

        Processor
        1493
        114968
        0
        0

        Route cache
        0
        0
        0
        0

        Total
        1493
        114968
        0
        0
```

L2-SW-2#sh sp

VLAN0001

Spanning tree enabled protocol ieee

Root ID Priority 24577

Address 0cec.7252.0000

Cost 4
Port 65 (Port-channel4)

Hello Time 2 sec Max Age 20 sec Forward Delay 15 sec

Bridge ID Priority 28673 (priority 28672 sys-id-ext 1)

Address 0ca9.270d.0000

Hello Time 2 sec Max Age 20 sec Forward Delay 15 sec

Aging Time 300 sec

Interface	Role Sts Cost	г Туре
Po4	Root FWD 4	Shr
Po5	Altn BLK 3	Shr
Po6	Altn BLK 3	Shr
Po7	Altn BLK 3	Shr

LW-SW-3

L2-SW-3(config)#int range g0/0-1

L2-SW-3(config-if-range)#shut

L2-SW-3(config-if-range)#channel-group 1 mode passive

L2-SW-3(config-if-range)#no shut

L2-SW-3(config)#int range g0/2-3

L2-SW-3(config-if-range)#shut

L2-SW-3(config-if-range)#channel-group 7 mode passive

L2-SW-3(config-if-range)#no shut

L2-SW-3#sh int stats

Port-channel1

Switching path	Pkts In	Chars In	Pkts Out	Chars Out
Processor	1416	98124	0	0
Route cache	0	0	0	0
Total	1416	98124	0	0
Port-channel7				
Switching path	Pkts In	Chars In	Pkts Out	Chars Out
Processor	921	72604	0	0
Route cache	0	0	0	0
Total	921	72604	0	0

LW-SW-4

```
L2-SW-4(config)#int range g0/0-1
L2-SW-4(config-if-range)#shut
L2-SW-4(config-if-range)#channel-group 2 mode passive
L2-SW-4(config-if-range)#no shut

L2-SW-4(config)#int range g0/2-3
L2-SW-4(config-if-range)#shut
L2-SW-4(config-if-range)#channel-group 6 mode passive
L2-SW-4(config-if-range)#no shut
```

L2-SW-4#	sh int stats				
Port-cha	nnel2				
:	Switching path	Pkts In	Chars In	Pkts Out	Chars Out
	Processor	1356	94911	0	0
	Route cache	0	0	0	0
	Total	1356	94911	0	0
Port-cha	nnel6				
:	Switching path	Pkts In	Chars In	Pkts Out	Chars Out
	Processor	839	67612	0	0
	Route cache	0	0	0	0
	Total	839	67612	0	0

```
L2-SW-4#sh sp
VLAN0001
 Spanning tree enabled protocol ieee
 Root ID Priority 24577
          Address 0cec.7252.0000
          Cost 3
Port 66 (Port-channel2)
Hello Time 2 sec Max Age 20 sec Forward Delay 15 sec
 Bridge ID Priority 32769 (priority 32768 sys-id-ext 1)
          Address 0c2f.bdc2.0000
          Hello Time 2 sec Max Age 20 sec Forward Delay 15 sec
          Aging Time 300 sec
                 Role Sts Cost Prio.Nbr Type
Interface
------
      Desg FWD 4 128.5 Shr
Desg FWD 4 128.6 Shr
Desg FWD 3 128.65 Shr
Root FWD 3 128.66 Shr
Gi1/0
Gi1/1
Po6
Po2
```

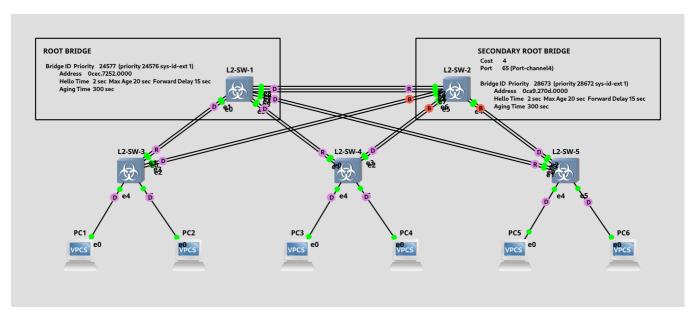
```
L2-SW-5(config)#int range g0/0-1
L2-SW-5(config-if-range)#shut
L2-SW-5(config-if-range)#channel-group 3 mode passive
L2-SW-5(config-if-range)#no shut

L2-SW-5(config)#int range g0/2-3
L2-SW-5(config-if-range)#shut
L2-SW-5(config-if-range)#channel-group 5 mode passive
L2-SW-5(config-if-range)#no shut
```

```
L2-SW-5#sh int stats
Port-channel3
      Switching path
                     Pkts In
                               Chars In
                                         Pkts Out Chars Out
                       1379
           Processor
                                  95318
                          0
                                                         0
         Route cache
                                               0
                       1379
                                                         0
              Total
                                  95318
                                               0
Port-channel5
      Switching path Pkts In
                               Chars In Pkts Out Chars Out
                      885
           Processor
                                               0
                                                         0
                                  69935
                         0
         Route cache
                                  0
                                               0
                                                         0
              Total
                          885
                                  69935
                                                         0
```

L2-SW-5#sh	ı sp			
VLAN0001				
Spanning	tree enable	d protocol ieee		
Root ID	Priority	24577		
	Address	0cec.7252.0000		
	Cost	3		
	Port	66 (Port-channe	13)	
	Hello Time	2 sec Max Age	20 sec	Forward Delay 15 sec
Bridge I	Address	_		sys-id-ext 1) Forward Delay 15 sec
Interface	Ro	le Sts Cost	Prio.Nbr	Туре
Gi1/0	De	sg FWD 4	128.5	Shr
Gi1/1	De	sg FWD 4	128.6	Shr
Po5	De	sg FWD 3	128.65	Shr
Po3	Ro	ot FWD 3	128.66	Shr

• Схема сети



• Проверка доступности персональных компьютеров

■ To PC2

```
PC1> ping 192.168.1.2

84 bytes from 192.168.1.2 icmp_seq=1 ttl=64 time=1.620 ms

84 bytes from 192.168.1.2 icmp_seq=2 ttl=64 time=10.424 ms

84 bytes from 192.168.1.2 icmp_seq=3 ttl=64 time=2.398 ms

84 bytes from 192.168.1.2 icmp_seq=4 ttl=64 time=6.965 ms

84 bytes from 192.168.1.2 icmp_seq=5 ttl=64 time=2.375 ms
```

■ To PC3

```
PC1> ping 192.168.2.1

84 bytes from 192.168.2.1 icmp_seq=1 ttl=64 time=7.791 ms

84 bytes from 192.168.2.1 icmp_seq=2 ttl=64 time=9.264 ms

84 bytes from 192.168.2.1 icmp_seq=3 ttl=64 time=5.230 ms

84 bytes from 192.168.2.1 icmp_seq=4 ttl=64 time=13.775 ms

84 bytes from 192.168.2.1 icmp_seq=5 ttl=64 time=8.563 ms
```

■ To PC4

```
PC1> ping 192.168.2.2

84 bytes from 192.168.2.2 icmp_seq=1 ttl=64 time=9.666 ms

84 bytes from 192.168.2.2 icmp_seq=2 ttl=64 time=2.110 ms

84 bytes from 192.168.2.2 icmp_seq=3 ttl=64 time=5.384 ms

84 bytes from 192.168.2.2 icmp_seq=4 ttl=64 time=6.931 ms

84 bytes from 192.168.2.2 icmp_seq=5 ttl=64 time=7.417 ms
```

■ To PC5

```
PC1> ping 192.168.3.1

84 bytes from 192.168.3.1 icmp_seq=1 ttl=64 time=5.403 ms

84 bytes from 192.168.3.1 icmp_seq=2 ttl=64 time=9.254 ms

84 bytes from 192.168.3.1 icmp_seq=3 ttl=64 time=5.658 ms

84 bytes from 192.168.3.1 icmp_seq=4 ttl=64 time=8.754 ms

84 bytes from 192.168.3.1 icmp_seq=5 ttl=64 time=7.274 ms
```

■ To PC6

```
PC1> ping 192.168.3.2

84 bytes from 192.168.3.2 icmp_seq=1 ttl=64 time=8.640 ms

84 bytes from 192.168.3.2 icmp_seq=2 ttl=64 time=12.778 ms

84 bytes from 192.168.3.2 icmp_seq=3 ttl=64 time=4.852 ms

84 bytes from 192.168.3.2 icmp_seq=4 ttl=64 time=3.326 ms

84 bytes from 192.168.3.2 icmp_seq=5 ttl=64 time=10.043 ms
```

o PC2

■ To PC3

```
PC2> ping 192.168.2.1

84 bytes from 192.168.2.1 icmp_seq=1 ttl=64 time=8.649 ms

84 bytes from 192.168.2.1 icmp_seq=2 ttl=64 time=4.912 ms

84 bytes from 192.168.2.1 icmp_seq=3 ttl=64 time=9.386 ms

84 bytes from 192.168.2.1 icmp_seq=4 ttl=64 time=7.370 ms

84 bytes from 192.168.2.1 icmp_seq=5 ttl=64 time=6.053 ms
```

■ To PC4

```
PC2> ping 192.168.2.2

84 bytes from 192.168.2.2 icmp_seq=1 ttl=64 time=15.300 ms

84 bytes from 192.168.2.2 icmp_seq=2 ttl=64 time=1.889 ms

84 bytes from 192.168.2.2 icmp_seq=3 ttl=64 time=4.917 ms

84 bytes from 192.168.2.2 icmp_seq=4 ttl=64 time=7.351 ms

84 bytes from 192.168.2.2 icmp_seq=5 ttl=64 time=15.628 ms
```

```
PC2> ping 192.168.3.1

84 bytes from 192.168.3.1 icmp_seq=1 ttl=64 time=6.011 ms

84 bytes from 192.168.3.1 icmp_seq=2 ttl=64 time=8.439 ms

84 bytes from 192.168.3.1 icmp_seq=3 ttl=64 time=6.778 ms

84 bytes from 192.168.3.1 icmp_seq=4 ttl=64 time=4.606 ms

84 bytes from 192.168.3.1 icmp_seq=5 ttl=64 time=1.966 ms
```

■ To PC6

```
PC2> ping 192.168.3.2

84 bytes from 192.168.3.2 icmp_seq=1 ttl=64 time=10.502 ms

84 bytes from 192.168.3.2 icmp_seq=2 ttl=64 time=14.782 ms

84 bytes from 192.168.3.2 icmp_seq=3 ttl=64 time=8.519 ms

84 bytes from 192.168.3.2 icmp_seq=4 ttl=64 time=6.828 ms

84 bytes from 192.168.3.2 icmp_seq=5 ttl=64 time=7.183 ms
```

PC3

■ To PC4

```
PC3> ping 192.168.2.2

192.168.2.2 icmp_seq=1 timeout

84 bytes from 192.168.2.2 icmp_seq=2 ttl=64 time=4.866 ms

84 bytes from 192.168.2.2 icmp_seq=3 ttl=64 time=7.331 ms

84 bytes from 192.168.2.2 icmp_seq=4 ttl=64 time=1.012 ms

84 bytes from 192.168.2.2 icmp_seq=5 ttl=64 time=4.372 ms
```

■ To PC5

```
PC3> ping 192.168.3.1

84 bytes from 192.168.3.1 icmp_seq=1 ttl=64 time=12.586 ms

84 bytes from 192.168.3.1 icmp_seq=2 ttl=64 time=2.243 ms

84 bytes from 192.168.3.1 icmp_seq=3 ttl=64 time=7.451 ms

84 bytes from 192.168.3.1 icmp_seq=4 ttl=64 time=3.524 ms

84 bytes from 192.168.3.1 icmp_seq=5 ttl=64 time=13.593 ms
```

■ To PC6

```
PC3> ping 192.168.3.2

84 bytes from 192.168.3.2 icmp_seq=1 ttl=64 time=3.276 ms

84 bytes from 192.168.3.2 icmp_seq=2 ttl=64 time=10.136 ms

84 bytes from 192.168.3.2 icmp_seq=3 ttl=64 time=7.496 ms

84 bytes from 192.168.3.2 icmp_seq=4 ttl=64 time=6.775 ms

84 bytes from 192.168.3.2 icmp_seq=5 ttl=64 time=9.741 ms
```

o PC4

To PC5

```
PC4> ping 192.168.3.1

84 bytes from 192.168.3.1 icmp_seq=1 ttl=64 time=47.457 ms

84 bytes from 192.168.3.1 icmp_seq=2 ttl=64 time=7.816 ms

84 bytes from 192.168.3.1 icmp_seq=3 ttl=64 time=6.483 ms

84 bytes from 192.168.3.1 icmp_seq=4 ttl=64 time=1.836 ms

84 bytes from 192.168.3.1 icmp_seq=5 ttl=64 time=8.011 ms
```

■ To PC6

```
PC4> ping 192.168.3.2

84 bytes from 192.168.3.2 icmp_seq=1 ttl=64 time=9.896 ms

84 bytes from 192.168.3.2 icmp_seq=2 ttl=64 time=1.635 ms

84 bytes from 192.168.3.2 icmp_seq=3 ttl=64 time=4.730 ms

84 bytes from 192.168.3.2 icmp_seq=4 ttl=64 time=14.912 ms

84 bytes from 192.168.3.2 icmp_seq=5 ttl=64 time=6.652 ms
```

■ To PC6

```
PC5> ping 192.168.3.2

84 bytes from 192.168.3.2 icmp_seq=1 ttl=64 time=2.154 ms

84 bytes from 192.168.3.2 icmp_seq=2 ttl=64 time=1.757 ms

84 bytes from 192.168.3.2 icmp_seq=3 ttl=64 time=0.757 ms

84 bytes from 192.168.3.2 icmp_seq=4 ttl=64 time=2.026 ms

84 bytes from 192.168.3.2 icmp_seq=5 ttl=64 time=3.767 ms
```

Show Running Command Outputs

• L2-SW-1

```
Current configuration : 5688 bytes
! Last configuration change at 14:53:15 UTC Sat Aug 17 2024
version 15.0
service timestamps debug datetime msec
service timestamps log datetime msec
no service password-encryption
service compress-config
!
hostname L2-SW-1
boot-start-marker
boot-end-marker
no aaa new-model
1
vtp domain CISCO-vIOS
vtp mode transparent
ip cef
no ipv6 cef
!
spanning-tree mode pvst
spanning-tree extend system-id
spanning-tree vlan 1 priority 24576
vlan internal allocation policy ascending
!
vlan 100
 name VLAN100
vlan 200,300
interface Port-channel4
 switchport
interface Port-channel3
 switchport
interface Port-channel2
 switchport
interface Port-channel1
  switchport
interface GigabitEthernet0/0
 media-type rj45
negotiation auto
```

```
channel-group 1 mode active
interface GigabitEthernet0/1
 media-type rj45
 negotiation auto
 channel-group 1 mode active
interface GigabitEthernet0/2
  media-type rj45
  negotiation auto
  channel-group 2 mode active
interface GigabitEthernet0/3
  media-type rj45
  negotiation auto
 channel-group 2 mode active
interface GigabitEthernet1/0
  media-type rj45
  negotiation auto
 channel-group 3 mode active
interface GigabitEthernet1/1
  media-type rj45
 negotiation auto
 channel-group 3 mode active
interface GigabitEthernet1/2
  media-type rj45
  negotiation auto
  channel-group 4 mode active
interface GigabitEthernet1/3
  media-type rj45
  negotiation auto
 channel-group 4 mode active
interface GigabitEthernet2/0
  media-type rj45
  negotiation auto
 channel-group 4 mode active
ip forward-protocol nd
no ip http server
no ip http secure-server
!
line con 0
line aux 0
line vty 0 4
line vty 5 15
!
!
end
```

• L2-SW-2

```
Current configuration : 5691 bytes
!
! Last configuration change at 14:53:15 UTC Sat Aug 17 2024
!
version 15.0
service timestamps debug datetime msec
service timestamps log datetime msec
no service password-encryption
service compress-config
!
hostname L2-SW-2
!
boot-start-marker
boot-end-marker
!
```

```
no aaa new-model
vtp domain CISCO-vIOS
vtp mode transparent
1
ip cef
no ipv6 cef
spanning-tree mode pvst
spanning-tree extend system-id
spanning-tree vlan 1 priority 28672
vlan internal allocation policy ascending
vlan 100
 name VLAN100
vlan 200,300
interface Port-channel4
 switchport
interface Port-channel5
 switchport
interface Port-channel6
  switchport
interface Port-channel7
  switchport
interface GigabitEthernet0/0
  media-type rj45
 negotiation auto
 channel-group 4 mode passive
interface GigabitEthernet0/1
  media-type rj45
  negotiation auto
 channel-group 4 mode passive
interface GigabitEthernet0/2
  media-type rj45
  negotiation auto
 channel-group 4 mode passive
interface GigabitEthernet0/3
  media-type rj45
  negotiation auto
  channel-group 5 mode active
interface GigabitEthernet1/0
  media-type rj45
  negotiation auto
  channel-group 5 mode active
interface GigabitEthernet1/1
  media-type rj45
  negotiation auto
  channel-group 6 mode active
interface GigabitEthernet1/2
  media-type rj45
negotiation auto
  channel-group 6 mode active
interface GigabitEthernet1/3
  media-type rj45
```

```
negotiation auto
 channel-group 7 mode active
interface GigabitEthernet2/0
 media-type rj45
 negotiation auto
 channel-group 7 mode active
ip forward-protocol nd
no ip http server
no ip http secure-server
line con 0
line aux 0
line vty 0 4
line vty 5 15
!
!
end
```

• L2-SW-3

```
Current configuration : 5235 bytes
! Last configuration change at 14:53:14 UTC Sat Aug 17 2024
!
version 15.0
service timestamps debug datetime {\tt msec}
service timestamps log datetime msec
no service password-encryption
service compress-config
hostname L2-SW-3
boot-start-marker
boot-end-marker
no aaa new-model
vtp domain CISCO-vIOS
vtp mode transparent
ip cef
no ipv6 cef
spanning-tree mode pvst
spanning-tree extend system-id
vlan internal allocation policy ascending
!
vlan 100
 name VLAN100
vlan 200,300
!
interface Port-channel1
 switchport
interface Port-channel7
 switchport
interface GigabitEthernet0/0
 media-type ri45
```

```
negotiation auto
  channel-group 1 mode passive
interface GigabitEthernet0/1
 media-type rj45
 negotiation auto
 channel-group 1 mode passive
interface GigabitEthernet0/2
  media-type rj45
  negotiation auto
 channel-group 7 mode passive
interface GigabitEthernet0/3
 media-type rj45
 negotiation auto
 channel-group 7 mode passive
interface GigabitEthernet1/0
 media-type rj45
 negotiation auto
interface GigabitEthernet1/1
 media-type rj45
 negotiation auto
ip forward-protocol nd
no ip http server
no ip http secure-server
line con 0
line aux 0
line vty 0 4
line vty 5 15
!
```

L2-SW-4

```
Current configuration : 5235 bytes
! Last configuration change at 14:53:15 UTC Sat Aug 17 2024
version 15.0
service timestamps debug datetime msec
service timestamps log datetime msec
no service password-encryption
service compress-config
hostname L2-SW-4
boot-start-marker
boot-end-marker
no aaa new-model
!
!
vtp domain CISCO-vIOS
vtp mode transparent
ip cef
no ipv6 cef
1
spanning-tree mode pvst
```

```
spanning-tree extend system-id
vlan internal allocation policy ascending
vlan 100
 name VLAN100
vlan 200,300
!
interface Port-channel2
 switchport
interface Port-channel6
  switchport
interface GigabitEthernet0/0
  media-type rj45
  negotiation auto
  channel-group 2 mode passive
interface GigabitEthernet0/1
 media-type rj45
 negotiation auto
 channel-group 2 mode passive
interface GigabitEthernet0/2
  media-type rj45
  negotiation auto
  channel-group 6 mode passive
interface GigabitEthernet0/3
  media-type rj45
 negotiation auto
 channel-group 6 mode passive
interface GigabitEthernet1/0
  media-type rj45
 negotiation auto
interface GigabitEthernet1/1
  media-type rj45
  negotiation auto
ip forward-protocol nd
no ip http server
no ip http secure-server
line con 0
line aux 0
line vty 0 4
line vty 5 15
!
!
end
```

L2-SW-5

```
Current configuration : 5235 bytes

!
! Last configuration change at 14:53:14 UTC Sat Aug 17 2024
!
! version 15.0
service timestamps debug datetime msec
service timestamps log datetime msec
no service password-encryption
service compress-config
!
hostname L2-SW-5
!
boot-start-marker
```

```
DOOL-EHU-Mai kei
!
no aaa new-model
vtp domain CISCO-vIOS
vtp mode transparent
ip cef
no ipv6 cef
!
spanning-tree mode pvst
spanning-tree extend system-id
vlan internal allocation policy ascending
vlan 100
 name VLAN100
vlan 200,300
!
interface Port-channel3
 switchport
interface Port-channel5
  switchport
interface GigabitEthernet0/0
  media-type rj45
  negotiation auto
  channel-group 3 mode passive
interface GigabitEthernet0/1
  media-type rj45
  negotiation auto
  channel-group 3 mode passive
interface GigabitEthernet0/2
  media-type rj45
  negotiation auto
  channel-group 5 mode passive
interface GigabitEthernet0/3
 media-type rj45
 negotiation auto
 channel-group 5 mode passive
interface GigabitEthernet1/0
 media-type rj45
 negotiation auto
interface GigabitEthernet1/1
 media-type rj45
 negotiation auto
\hbox{ip forward-protocol } \verb"nd"
no ip http server
no ip http secure-server
!
line con 0
line aux 0
line vty 0 4
line vty 5 15
!
```