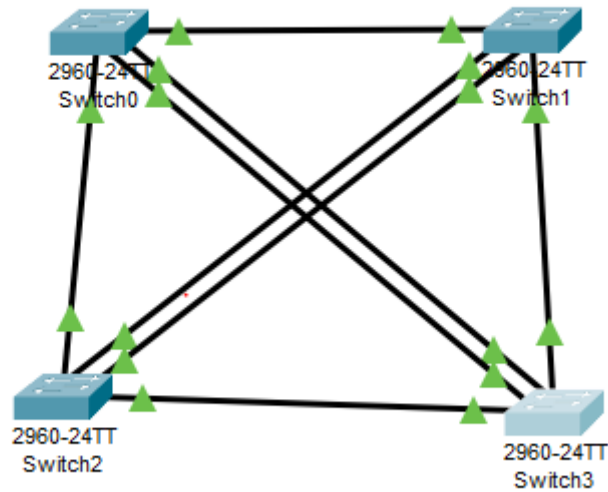Лабораторная работа №12

1) Ибраев Ерлан 30.05.2000
2) Топология

3) Switch 0

```
sw1>show vla

VLAN Name                             Status    Ports
---- -------------------------------- --------- -------------------------------
1    default                          active    Gig0/1, Gig0/2
10   VLAN10                           active
40   VLAN40                           active
110  VLAN110                          active
120  VLAN120                          active
200  UNUSED                           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
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
10   enet  100010     1500  -      -      -        -    -        0      0
40   enet  100040     1500  -      -      -        -    -        0      0
110  enet  100110     1500  -      -      -        -    -        0      0
120  enet  100120     1500  -      -      -        -    -        0      0
200  enet  100200     1500  -      -      -        -    -        0      0
1002 fddi  101002     1500  -      -      -        -    -        0      0
1003 tr    101003     1500  -      -      -        -    -        0      0
1004 fdnet 101004     1500  -      -      -        ieee -        0      0
1005 trnet 101005     1500  -      -      -        ibm  -        0      0

VLAN Type  SAID       MTU   Parent RingNo BridgeNo Stp  BrdgMode Trans1 Trans2
---- ----- ---------- ----- ------ ------ -------- ---- -------- ------ ------


Remote SPAN VLANs
------------------------------------------------------------------------------


Primary Secondary Type              Ports
------- --------- ----------------- -----------------------------------------
```

```
sw1#show spanning-tree
VLAN0010
  Spanning tree enabled protocol rstp
  Root ID    Priority    24586
             Address     0007.EC17.EAEB
             This bridge is the root
             Hello Time  2 sec  Max Age 20 sec  Forward Delay 15 sec

  Bridge ID  Priority    24586  (priority 24576 sys-id-ext 10)
             Address     0007.EC17.EAEB
             Hello Time  2 sec  Max Age 20 sec  Forward Delay 15 sec
             Aging Time  20

Interface        Role Sts Cost      Prio.Nbr Type
---------------- ---- --- --------- -------- --------------------------------
Fa0/1            Desg FWD 19        128.1    P2p
Fa0/2            Desg FWD 19        128.2    P2p
Fa0/3            Desg FWD 19        128.3    P2p
Fa0/4            Desg FWD 19        128.4    P2p
Po1              Desg FWD 9         128.27   Shr

VLAN0040
  Spanning tree enabled protocol rstp
  Root ID    Priority    24616
             Address     0001.4201.D422
             Cost        19
             Port        4(FastEthernet0/4)
             Hello Time  2 sec  Max Age 20 sec  Forward Delay 15 sec

  Bridge ID  Priority    32808  (priority 32768 sys-id-ext 40)
             Address     0007.EC17.EAEB
             Hello Time  2 sec  Max Age 20 sec  Forward Delay 15 sec
             Aging Time  20

Interface        Role Sts Cost      Prio.Nbr Type
---------------- ---- --- --------- -------- --------------------------------
Fa0/1            Desg FWD 19        128.1    P2p
Fa0/2            Desg FWD 19        128.2    P2p
Fa0/3            Altn BLK 19        128.3    P2p
Fa0/4            Root FWD 19        128.4    P2p
Po1              Desg FWD 9         128.27   Shr

VLAN0110
  Spanning tree enabled protocol rstp
  Root ID    Priority    24686
             Address     0001.96B0.099D
             Cost        19
             Port        3(FastEthernet0/3)
             Hello Time  2 sec  Max Age 20 sec  Forward Delay 15 sec

  Bridge ID  Priority    32878  (priority 32768 sys-id-ext 110)
             Address     0007.EC17.EAEB
             Hello Time  2 sec  Max Age 20 sec  Forward Delay 15 sec
             Aging Time  20

Interface        Role Sts Cost      Prio.Nbr Type
---------------- ---- --- --------- -------- --------------------------------
```

```
Interface           Role Sts Cost      Prio.Nbr Type
---------------- ---- --- --------- -------- ---------------------------
Fa0/1               Desg FWD 19        128.1    P2p
Fa0/2               Desg FWD 19        128.2    P2p
Fa0/3               Root FWD 19        128.3    P2p
Fa0/4               Altn BLK 19        128.4    P2p
Po1                 Desg FWD 9         128.27   Shr

VLAN0120
  Spanning tree enabled protocol rstp
  Root ID    Priority    24696
             Address     00E0.F968.4A1D
             Cost        9
             Port        27(Port-channel1)
             Hello Time  2 sec  Max Age 20 sec  Forward Delay 15 sec

  Bridge ID  Priority    32888  (priority 32768 sys-id-ext 120)
             Address     0007.EC17.EAEB
             Hello Time  2 sec  Max Age 20 sec  Forward Delay 15 sec
             Aging Time  20

Interface           Role Sts Cost      Prio.Nbr Type
---------------- ----- --- --------- -------- ---------------------------
Fa0/1               Desg FWD 19        128.1    P2p
Fa0/2               Desg FWD 19        128.2    P2p
Fa0/3               Desg FWD 19        128.3    P2p
Fa0/4               Altn BLK 19        128.4    P2p
Po1                 Root FWD 9         128.27   Shr

VLAN0200
  Spanning tree enabled protocol rstp
  Root ID    Priority    32968
             Address     0001.4201.D422
             Cost        19
             Port        4(FastEthernet0/4)
             Hello Time  2 sec  Max Age 20 sec  Forward Delay 15 sec

  Bridge ID  Priority    32968  (priority 32768 sys-id-ext 200)
             Address     0007.EC17.EAEB
             Hello Time  2 sec  Max Age 20 sec  Forward Delay 15 sec
             Aging Time  20

Interface           Role Sts Cost      Prio.Nbr Type
---------------- ---- --- --------- -------- ---------------------------
Fa0/1               Desg FWD 19        128.1    P2p
Fa0/2               Desg FWD 19        128.2    P2p
Fa0/3               Altn BLK 19        128.3    P2p
Fa0/4               Root FWD 19        128.4    P2p
Po1                 Desg FWD 9         128.27   Shr

sw1#3
```

```
swl#show interfaces trunk
Port          Mode          Encapsulation  Status      Native vlan
Po1           on            802.1q         trunking    200
Fa0/3         on            802.1q         trunking    200
Fa0/4         on            802.1q         trunking    200

Port          Vlans allowed on trunk
Po1           10,40,110,120,200
Fa0/3         10,40,110,120,200
Fa0/4         10,40,110,120,200

Port          Vlans allowed and active in management domain
Po1           10,40,110,120,200
Fa0/3         10,40,110,120,200
Fa0/4         10,40,110,120,200

Port          Vlans in spanning tree forwarding state and not pruned
Po1           10,40,110,120,200
Fa0/3         10,110,120
Fa0/4         10,40,200

swl#
```

```
swl#show ip interface brief
Interface            IP-Address    OK? Method Status                       Protocol
Port-channel1        unassigned    YES manual up                           up
FastEthernet0/1      unassigned    YES manual up                           up
FastEthernet0/2      unassigned    YES manual up                           up
FastEthernet0/3      unassigned    YES manual up                           up
FastEthernet0/4      unassigned    YES manual up                           up
FastEthernet0/5      unassigned    YES manual administratively down down
FastEthernet0/6      unassigned    YES manual administratively down down
FastEthernet0/7      unassigned    YES manual administratively down down
FastEthernet0/8      unassigned    YES manual administratively down down
FastEthernet0/9      unassigned    YES manual administratively down down
FastEthernet0/10     unassigned    YES manual administratively down down
FastEthernet0/11     unassigned    YES manual administratively down down
FastEthernet0/12     unassigned    YES manual administratively down down
FastEthernet0/13     unassigned    YES manual administratively down down
FastEthernet0/14     unassigned    YES manual administratively down down
FastEthernet0/15     unassigned    YES manual administratively down down
FastEthernet0/16     unassigned    YES manual administratively down down
FastEthernet0/17     unassigned    YES manual administratively down down
FastEthernet0/18     unassigned    YES manual administratively down down
FastEthernet0/19     unassigned    YES manual administratively down down
FastEthernet0/20     unassigned    YES manual administratively down down
FastEthernet0/21     unassigned    YES manual administratively down down
FastEthernet0/22     unassigned    YES manual administratively down down
FastEthernet0/23     unassigned    YES manual administratively down down
FastEthernet0/24     unassigned    YES manual administratively down down
GigabitEthernet0/1   unassigned    YES manual down                         down
GigabitEthernet0/2   unassigned    YES manual down                         down
Vlan1                unassigned    YES manual administratively down down
Vlan10               30.5.10.10    YES manual up                           up
Vlan20               unassigned    YES manual down                         down
Vlan40               30.5.40.10    YES manual up                           up
Vlan110              30.5.110.10   YES manual up                           up
Vlan120              30.5.120.10   YES manual up                           up
Vlan200              30.5.200.10   YES manual up                           up
swl#
```

4) Switch 1

```
sw2#show vlan

VLAN Name                             Status    Ports
---- -------------------------------- --------- -------------------------------
1    default                          active    Gig0/1, Gig0/2
10   VLAN10                           active
40   VLAN40                           active
110  VLAN110                          active
120  VLAN120                          active
200  VLAN200                          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
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
10   enet  100010     1500  -      -      -        -    -        0      0
40   enet  100040     1500  -      -      -        -    -        0      0
110  enet  100110     1500  -      -      -        -    -        0      0
120  enet  100120     1500  -      -      -        -    -        0      0
200  enet  100200     1500  -      -      -        -    -        0      0
1002 fddi  101002     1500  -      -      -        -    -        0      0
1003 tr    101003     1500  -      -      -        -    -        0      0
1004 fdnet 101004     1500  -      -      -        ieee -        0      0
1005 trnet 101005     1500  -      -      -        ibm  -        0      0

VLAN Type  SAID       MTU   Parent RingNo BridgeNo Stp  BrdgMode Trans1 Trans2
---- ----- ---------- ----- ------ ------ -------- ---- -------- ------ ------

Remote SPAN VLANs
------------------------------------------------------------------------------


Primary Secondary Type              Ports
------- --------- ----------------- ------------------------------------------
sw2#
```

```
sw2#show spanning-tree
VLAN0001
  Spanning tree enabled protocol rstp
  Root ID    Priority    32769
             Address     0001.4201.D422
             This bridge is the root
             Hello Time  2 sec  Max Age 20 sec  Forward Delay 15 sec

  Bridge ID  Priority    32769  (priority 32768 sys-id-ext 1)
             Address     0001.4201.D422
             Hello Time  2 sec  Max Age 20 sec  Forward Delay 15 sec
             Aging Time  20

Interface        Role Sts Cost      Prio.Nbr Type
---------------- ---- --- --------- -------- --------------------------------
Po1              Desg FWD 9         128.27   Shr

VLAN0010
  Spanning tree enabled protocol rstp
  Root ID    Priority    24586
             Address     0007.EC17.EAEB
             Cost        19
             Port        4(FastEthernet0/4)
             Hello Time  2 sec  Max Age 20 sec  Forward Delay 15 sec

  Bridge ID  Priority    32778  (priority 32768 sys-id-ext 10)
             Address     0001.4201.D422
             Hello Time  2 sec  Max Age 20 sec  Forward Delay 15 sec
             Aging Time  20

Interface        Role Sts Cost      Prio.Nbr Type
---------------- ---- --- --------- -------- --------------------------------
Po1              Desg FWD 9         128.27   Shr
Fa0/2            Desg FWD 19        128.2    P2p
Fa0/1            Desg FWD 19        128.1    P2p
Fa0/3            Altn BLK 19        128.3    P2p
Fa0/4            Root FWD 19        128.4    P2p

VLAN0040
  Spanning tree enabled protocol rstp
  Root ID    Priority    24616
             Address     0001.4201.D422
             This bridge is the root
             Hello Time  2 sec  Max Age 20 sec  Forward Delay 15 sec

  Bridge ID  Priority    24616  (priority 24576 sys-id-ext 40)
             Address     0001.4201.D422
             Hello Time  2 sec  Max Age 20 sec  Forward Delay 15 sec
             Aging Time  20

Interface        Role Sts Cost      Prio.Nbr Type
---------------- ---- --- --------- -------- --------------------------------
Po1              Desg FWD 9         128.27   Shr
Fa0/2            Desg FWD 19        128.2    P2p
Fa0/1            Desg FWD 19        128.1    P2p
Fa0/3            Desg FWD 19        128.3    P2p
Fa0/4            Desg FWD 19        128.4    P2p

VLAN0110
  Spanning tree enabled protocol rstp
```

```
VLAN0110
  Spanning tree enabled protocol rstp
  Root ID    Priority    24686
             Address     0001.96B0.099D
             Cost        9
             Port        27(Port-channel1)
             Hello Time  2 sec  Max Age 20 sec  Forward Delay 15 sec

  Bridge ID  Priority    32878  (priority 32768 sys-id-ext 110)
             Address     0001.4201.D422
             Hello Time  2 sec  Max Age 20 sec  Forward Delay 15 sec
             Aging Time  20

Interface         Role Sts Cost      Prio.Nbr Type
---------------- ---- --- --------- -------- --------------------------------
Po1               Root FWD 9          128.27   Shr
Fa0/2             Desg FWD 19         128.2    P2p
Fa0/1             Desg FWD 19         128.1    P2p
Fa0/3             Desg FWD 19         128.3    P2p
Fa0/4             Desg FWD 19         128.4    P2p

VLAN0120
  Spanning tree enabled protocol rstp
  Root ID    Priority    24696
             Address     00E0.F968.4A1D
             Cost        19
             Port        3(FastEthernet0/3)
             Hello Time  2 sec  Max Age 20 sec  Forward Delay 15 sec

  Bridge ID  Priority    32888  (priority 32768 sys-id-ext 120)
             Address     0001.4201.D422
             Hello Time  2 sec  Max Age 20 sec  Forward Delay 15 sec
             Aging Time  20

Interface         Role Sts Cost      Prio.Nbr Type
---------------- ---- --- --------- -------- --------------------------------
Po1               Desg FWD 9          128.27   Shr
Fa0/2             Desg FWD 19         128.2    P2p
Fa0/1             Desg FWD 19         128.1    P2p
Fa0/3             Root FWD 19         128.3    P2p
Fa0/4             Desg FWD 19         128.4    P2p

VLAN0200
  Spanning tree enabled protocol rstp
  Root ID    Priority    32968
             Address     0001.4201.D422
             This bridge is the root
             Hello Time  2 sec  Max Age 20 sec  Forward Delay 15 sec

  Bridge ID  Priority    32968  (priority 32768 sys-id-ext 200)
             Address     0001.4201.D422
             Hello Time  2 sec  Max Age 20 sec  Forward Delay 15 sec
             Aging Time  20

Interface         Role Sts Cost      Prio.Nbr Type
---------------- ---- --- --------- -------- --------------------------------
Po1               Desg FWD 9          128.27   Shr
Fa0/2             Desg FWD 19         128.2    P2p
Fa0/1             Desg FWD 19         128.1    P2p
Fa0/3             Desg FWD 19         128.3    P2p
Fa0/4             Desg FWD 19         128.4    P2p
```

```
sw2#show interfaces trunk
Port            Mode            Encapsulation  Status          Native vlan
Po1             on              802.1q         trunking        200
Fa0/3           on              802.1q         trunking        200
Fa0/4           on              802.1q         trunking        200


Port            Vlans allowed on trunk
Po1             1-1005
Fa0/3           10,40,110,120,200
Fa0/4           10,40,110,120,200


Port            Vlans allowed and active in management domain
Po1             1,10,40,110,120,200
Fa0/3           10,40,110,120,200
Fa0/4           10,40,110,120,200


Port            Vlans in spanning tree forwarding state and not pruned
Po1             1,10,40,110,120,200
Fa0/3           40,110,120,200
Fa0/4           10,40,110,120,200

sw2#
```

```
sw2#show ip interface brief
Interface           IP-Address       OK? Method Status                     Protocol
Port-channel1       unassigned       YES manual up                         up
FastEthernet0/1     unassigned       YES manual up                         up
FastEthernet0/2     unassigned       YES manual up                         up
FastEthernet0/3     unassigned       YES manual up                         up
FastEthernet0/4     unassigned       YES manual up                         up
FastEthernet0/5     unassigned       YES manual administratively down down
FastEthernet0/6     unassigned       YES manual administratively down down
FastEthernet0/7     unassigned       YES manual administratively down down
FastEthernet0/8     unassigned       YES manual administratively down down
FastEthernet0/9     unassigned       YES manual administratively down down
FastEthernet0/10    unassigned       YES manual administratively down down
FastEthernet0/11    unassigned       YES manual administratively down down
FastEthernet0/12    unassigned       YES manual administratively down down
FastEthernet0/13    unassigned       YES manual administratively down down
FastEthernet0/14    unassigned       YES manual administratively down down
FastEthernet0/15    unassigned       YES manual administratively down down
FastEthernet0/16    unassigned       YES manual administratively down down
FastEthernet0/17    unassigned       YES manual administratively down down
FastEthernet0/18    unassigned       YES manual administratively down down
FastEthernet0/19    unassigned       YES manual administratively down down
FastEthernet0/20    unassigned       YES manual administratively down down
FastEthernet0/21    unassigned       YES manual administratively down down
FastEthernet0/22    unassigned       YES manual administratively down down
FastEthernet0/23    unassigned       YES manual administratively down down
FastEthernet0/24    unassigned       YES manual administratively down down
GigabitEthernet0/1  unassigned       YES manual down                       down
GigabitEthernet0/2  unassigned       YES manual down                       down
Vlan1               unassigned       YES manual administratively down down
Vlan10              30.5.10.40       YES manual up                         up
Vlan40              30.5.40.40       YES manual up                         up
Vlan110             30.5.110.40      YES manual up                         up
Vlan120             30.5.120.40      YES manual up                         up
Vlan200             30.5.200.40      YES manual up                         up
sw2#
```

5) Switch2

```
sw4#show vlan

VLAN Name                             Status    Ports
---- -------------------------------- --------- -------------------------------
1    default                          active    Gig0/1, Gig0/2
10   VLAN10                           active
40   VLAN40                           active
110  VLAN110                          active
120  VLAN120                          active
200  UNUSED                           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
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 Transl Trans2
---- ----- ---------- ----- ------ ------ -------- ---- -------- ------ ------
1    enet  100001     1500  -      -      -        -    -        0      0
10   enet  100010     1500  -      -      -        -    -        0      0
40   enet  100040     1500  -      -      -        -    -        0      0
110  enet  100110     1500  -      -      -        -    -        0      0
120  enet  100120     1500  -      -      -        -    -        0      0
200  enet  100200     1500  -      -      -        -    -        0      0
1002 fddi  101002     1500  -      -      -        -    -        0      0
1003 tr    101003     1500  -      -      -        -    -        0      0
1004 fdnet 101004     1500  -      -      -        ieee -        0      0
1005 trnet 101005     1500  -      -      -        ibm  -        0      0

VLAN Type  SAID       MTU   Parent RingNo BridgeNo Stp  BrdgMode Transl Trans2
---- ----- ---------- ----- ------ ------ -------- ---- -------- ------ ------

Remote SPAN VLANs
------------------------------------------------------------------------------


Primary Secondary Type              Ports
------- --------- ----------------- ------------------------------------------
sw4#
```

```
sw4#  show spanning-tree
VLAN0001
  Spanning tree enabled protocol rstp
  Root ID    Priority    32769
             Address     0001.4201.D422
             Cost        9
             Port        27(Port-channel1)
             Hello Time  2 sec  Max Age 20 sec  Forward Delay 15 sec

  Bridge ID  Priority    32769  (priority 32768 sys-id-ext 1)
             Address     0001.96B0.099D
             Hello Time  2 sec  Max Age 20 sec  Forward Delay 15 sec
             Aging Time  20

Interface         Role Sts Cost      Prio.Nbr Type
---------------- ---- --- --------- -------- --------------------------------
Po1               Root FWD 9         128.27   Shr

VLAN0010
  Spanning tree enabled protocol rstp
  Root ID    Priority    24586
             Address     0007.EC17.EAEB
             Cost        19
             Port        3(FastEthernet0/3)
             Hello Time  2 sec  Max Age 20 sec  Forward Delay 15 sec

  Bridge ID  Priority    32778  (priority 32768 sys-id-ext 10)
             Address     0001.96B0.099D
             Hello Time  2 sec  Max Age 20 sec  Forward Delay 15 sec
             Aging Time  20

Interface         Role Sts Cost      Prio.Nbr Type
---------------- ---- --- --------- -------- --------------------------------
Fa0/4             Altn BLK 19        128.4    P2p
Fa0/3             Root FWD 19        128.3    P2p
Po1               Altn BLK 9         128.27   Shr

VLAN0040
  Spanning tree enabled protocol rstp
  Root ID    Priority    24616
             Address     0001.4201.D422
             Cost        9
             Port        27(Port-channel1)
             Hello Time  2 sec  Max Age 20 sec  Forward Delay 15 sec

  Bridge ID  Priority    32808  (priority 32768 sys-id-ext 40)
             Address     0001.96B0.099D
             Hello Time  2 sec  Max Age 20 sec  Forward Delay 15 sec
             Aging Time  20

Interface         Role Sts Cost      Prio.Nbr Type
---------------- ---- --- --------- -------- --------------------------------
Fa0/4             Desg BLK 19        128.4    P2p
Fa0/3             Desg BLK 19        128.3    P2p
Po1               Root FWD 9         128.27   Shr

VLAN0110
  Spanning tree enabled protocol rstp
  Root ID    Priority    24686
             Address     0001.96B0.099D
```

```
VLAN0110
  Spanning tree enabled protocol rstp
  Root ID    Priority    24686
             Address     0001.96B0.099D
             This bridge is the root
             Hello Time   2 sec  Max Age 20 sec  Forward Delay 15 sec

  Bridge ID  Priority    24686  (priority 24576 sys-id-ext 110)
             Address     0001.96B0.099D
             Hello Time   2 sec  Max Age 20 sec  Forward Delay 15 sec
             Aging Time   20

Interface          Role Sts Cost      Prio.Nbr Type
---------------- ---- --- --------- -------- --------------------------------
Fa0/4              Desg FWD 19        128.4    P2p
Fa0/3              Desg FWD 19        128.3    P2p
Po1                Desg FWD 9         128.27   Shr


VLAN0120
  Spanning tree enabled protocol rstp
  Root ID    Priority    24696
             Address     00E0.F968.4A1D
             Cost        19
             Port        4(FastEthernet0/4)
             Hello Time   2 sec  Max Age 20 sec  Forward Delay 15 sec

  Bridge ID  Priority    32888  (priority 32768 sys-id-ext 120)
             Address     0001.96B0.099D
             Hello Time   2 sec  Max Age 20 sec  Forward Delay 15 sec
             Aging Time   20

Interface          Role Sts Cost      Prio.Nbr Type
---------------- ---- --- --------- -------- --------------------------------
Fa0/4              Root FWD 19        128.4    P2p
Fa0/3              Altn BLK 19        128.3    P2p
Po1                Altn BLK 9         128.27   Shr


VLAN0200
  Spanning tree enabled protocol rstp
  Root ID    Priority    32968
             Address     0001.4201.D422
             Cost        9
             Port        27(Port-channel1)
             Hello Time   2 sec  Max Age 20 sec  Forward Delay 15 sec

  Bridge ID  Priority    32968  (priority 32768 sys-id-ext 200)
             Address     0001.96B0.099D
             Hello Time   2 sec  Max Age 20 sec  Forward Delay 15 sec
             Aging Time   20

Interface          Role Sts Cost      Prio.Nbr Type
---------------- ---- --- --------- -------- --------------------------------
Fa0/4              Desg BLK 19        128.4    P2p
Fa0/3              Desg BLK 19        128.3    P2p
Po1                Root FWD 9         128.27   Shr

sw4#
```

```
sw4# show interfaces trunk
Port          Mode         Encapsulation  Status         Native vlan
Po1           on           802.1q         trunking       200
Fa0/3         on           802.1q         trunking       200
Fa0/4         on           802.1q         trunking       200


Port          Vlans allowed on trunk
Po1           1-1005
Fa0/3         10,40,110,120,200
Fa0/4         10,40,110,120,200


Port          Vlans allowed and active in management domain
Po1           1,10,40,110,120,200
Fa0/3         10,40,110,120,200
Fa0/4         10,40,110,120,200


Port          Vlans in spanning tree forwarding state and not pruned
Po1           1,110,200
Fa0/3         10,110
Fa0/4         110,120

sw4#
```

```
sw4#show ip interface brief
Interface            IP-Address      OK? Method Status                    Protocol
Port-channel1        unassigned      YES manual up                        up
FastEthernet0/1      unassigned      YES manual up                        up
FastEthernet0/2      unassigned      YES manual up                        up
FastEthernet0/3      unassigned      YES manual up                        up
FastEthernet0/4      unassigned      YES manual up                        up
FastEthernet0/5      unassigned      YES manual administratively down down
FastEthernet0/6      unassigned      YES manual administratively down down
FastEthernet0/7      unassigned      YES manual administratively down down
FastEthernet0/8      unassigned      YES manual administratively down down
FastEthernet0/9      unassigned      YES manual administratively down down
FastEthernet0/10     unassigned      YES manual administratively down down
FastEthernet0/11     unassigned      YES manual administratively down down
FastEthernet0/12     unassigned      YES manual administratively down down
FastEthernet0/13     unassigned      YES manual administratively down down
FastEthernet0/14     unassigned      YES manual administratively down down
FastEthernet0/15     unassigned      YES manual administratively down down
FastEthernet0/16     unassigned      YES manual administratively down down
FastEthernet0/17     unassigned      YES manual administratively down down
FastEthernet0/18     unassigned      YES manual administratively down down
FastEthernet0/19     unassigned      YES manual administratively down down
FastEthernet0/20     unassigned      YES manual administratively down down
FastEthernet0/21     unassigned      YES manual administratively down down
FastEthernet0/22     unassigned      YES manual administratively down down
FastEthernet0/23     unassigned      YES manual administratively down down
FastEthernet0/24     unassigned      YES manual administratively down down
GigabitEthernet0/1   unassigned      YES manual down                      down
GigabitEthernet0/2   unassigned      YES manual down                      down
Vlan1                unassigned      YES manual administratively down down
Vlan10               30.5.10.110     YES manual up                        up
Vlan40               30.5.40.110     YES manual up                        up
Vlan110              30.5.110.110    YES manual up                        up
Vlan120              30.5.120.110    YES manual up                        up
Vlan200              30.5.200.110    YES manual up                        up
sw4#
```

6) Switch3

```
sw3#show vlan

VLAN Name                             Status    Ports
---- -------------------------------- --------- -------------------------------
1    default                          active    Gig0/1, Gig0/2
10   VLAN10                           active
40   VLAN40                           active
110  VLAN110                          active
120  VLAN120                          active
200  UNUSED                           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
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 Transl Trans2
---- ----- ---------- ----- ------ ------ -------- ---- -------- ------ ------
1    enet  100001     1500  -      -      -        -    -        0      0
10   enet  100010     1500  -      -      -        -    -        0      0
40   enet  100040     1500  -      -      -        -    -        0      0
110  enet  100110     1500  -      -      -        -    -        0      0
120  enet  100120     1500  -      -      -        -    -        0      0
200  enet  100200     1500  -      -      -        -    -        0      0
1002 fddi  101002     1500  -      -      -        -    -        0      0
1003 tr    101003     1500  -      -      -        -    -        0      0
1004 fdnet 101004     1500  -      -      -        ieee -        0      0
1005 trnet 101005     1500  -      -      -        ibm  -        0      0

VLAN Type  SAID       MTU   Parent RingNo BridgeNo Stp  BrdgMode Transl Trans2
---- ----- ---------- ----- ------ ------ -------- ---- -------- ------ ------


Remote SPAN VLANs
------------------------------------------------------------------------------


Primary Secondary Type              Ports
------- --------- ----------------- -----------------------------------------
sw3#  |
```

```
sw3#show spanning-tree
VLAN0010
  Spanning tree enabled protocol rstp
  Root ID    Priority    24586
             Address     0007.EC17.EAEB
             Cost        9
             Port        27(Port-channel1)
             Hello Time  2 sec  Max Age 20 sec  Forward Delay 15 sec

  Bridge ID  Priority    32778  (priority 32768 sys-id-ext 10)
             Address     00E0.F968.4A1D
             Hello Time  2 sec  Max Age 20 sec  Forward Delay 15 sec
             Aging Time  20

Interface         Role Sts Cost      Prio.Nbr Type
---------------- ---- --- --------- -------- --------------------------------
Fa0/3             Desg BLK 19        128.3    P2p
Fa0/4             Desg BLK 19        128.4    P2p
Po1               Altn BLK 9         128.27   Shr


VLAN0040
  Spanning tree enabled protocol rstp
  Root ID    Priority    24616
             Address     0001.4201.D422
             Cost        19
             Port        3(FastEthernet0/3)
             Hello Time  2 sec  Max Age 20 sec  Forward Delay 15 sec

  Bridge ID  Priority    32808  (priority 32768 sys-id-ext 40)
             Address     00E0.F968.4A1D
             Hello Time  2 sec  Max Age 20 sec  Forward Delay 15 sec
             Aging Time  20

Interface         Role Sts Cost      Prio.Nbr Type
---------------- ---- --- --------- -------- --------------------------------
Fa0/3             Root FWD 19        128.3    P2p
Fa0/4             Altn BLK 19        128.4    P2p
Po1               Altn BLK 9         128.27   Shr


VLAN0110
  Spanning tree enabled protocol rstp
  Root ID    Priority    24686
             Address     0001.96B0.099D
             Cost        19
             Port        4(FastEthernet0/4)
             Hello Time  2 sec  Max Age 20 sec  Forward Delay 15 sec

  Bridge ID  Priority    32878  (priority 32768 sys-id-ext 110)
             Address     00E0.F968.4A1D
             Hello Time  2 sec  Max Age 20 sec  Forward Delay 15 sec
             Aging Time  20

Interface         Role Sts Cost      Prio.Nbr Type
---------------- ---- --- --------- -------- --------------------------------
Fa0/3             Altn BLK 19        128.3    P2p
Fa0/4             Root FWD 19        128.4    P2p
Po1               Altn BLK 9         128.27   Shr


VLAN0120
  Spanning tree enabled protocol rstp
  Root ID    Priority    24686
```

```
VLAN0120
  Spanning tree enabled protocol rstp
  Root ID    Priority    24696
             Address     00E0.F968.4A1D
             This bridge is the root
             Hello Time  2 sec  Max Age 20 sec  Forward Delay 15 sec

  Bridge ID  Priority    24696  (priority 24576 sys-id-ext 120)
             Address     00E0.F968.4A1D
             Hello Time  2 sec  Max Age 20 sec  Forward Delay 15 sec
             Aging Time  20

Interface        Role Sts Cost      Prio.Nbr Type
---------------- ---- --- --------- -------- --------------------------------
Fa0/3            Desg FWD 19        128.3    P2p
Fa0/4            Desg FWD 19        128.4    P2p
Po1              Desg FWD 9         128.27   Shr

VLAN0200
  Spanning tree enabled protocol rstp
  Root ID    Priority    32968
             Address     0001.4201.D422
             Cost        19
             Port        3(FastEthernet0/3)
             Hello Time  2 sec  Max Age 20 sec  Forward Delay 15 sec

  Bridge ID  Priority    32968  (priority 32768 sys-id-ext 200)
             Address     00E0.F968.4A1D
             Hello Time  2 sec  Max Age 20 sec  Forward Delay 15 sec
             Aging Time  20

Interface        Role Sts Cost      Prio.Nbr Type
---------------- ---- --- --------- -------- --------------------------------
Fa0/3            Root FWD 19        128.3    P2p
Fa0/1            Desg FWD 19        128.1    P2p
Fa0/2            Desg FWD 19        128.2    P2p
Fa0/4            Altn BLK 19        128.4    P2p
Po1              Altn BLK 9         128.27   Shr

sw3#
```

```
sw3#show interfaces trunk
Port        Mode         Encapsulation  Status        Native vlan
Po1         on           802.1q         trunking      200
Fa0/3       on           802.1q         trunking      200
Fa0/4       on           802.1q         trunking      200

Port        Vlans allowed on trunk
Po1         10,40,110,120
Fa0/3       10,40,110,120,200
Fa0/4       10,40,110,120,200

Port        Vlans allowed and active in management domain
Po1         10,40,110,120
Fa0/3       10,40,110,120,200
Fa0/4       10,40,110,120,200

Port        Vlans in spanning tree forwarding state and not pruned
Po1         120
Fa0/3       40,120,200
Fa0/4       110,120

sw3#
```

```
sw3#show ip interface brief
Interface              IP-Address      OK? Method Status                 Protocol
Port-channel1          unassigned      YES manual up                     up
FastEthernet0/1        unassigned      YES manual up                     up
FastEthernet0/2        unassigned      YES manual up                     up
FastEthernet0/3        unassigned      YES manual up                     up
FastEthernet0/4        unassigned      YES manual up                     up
FastEthernet0/5        unassigned      YES manual administratively down down
FastEthernet0/6        unassigned      YES manual administratively down down
FastEthernet0/7        unassigned      YES manual administratively down down
FastEthernet0/8        unassigned      YES manual administratively down down
FastEthernet0/9        unassigned      YES manual administratively down down
FastEthernet0/10       unassigned      YES manual administratively down down
FastEthernet0/11       unassigned      YES manual administratively down down
FastEthernet0/12       unassigned      YES manual administratively down down
FastEthernet0/13       unassigned      YES manual administratively down down
FastEthernet0/14       unassigned      YES manual administratively down down
FastEthernet0/15       unassigned      YES manual administratively down down
FastEthernet0/16       unassigned      YES manual administratively down down
FastEthernet0/17       unassigned      YES manual administratively down down
FastEthernet0/18       unassigned      YES manual administratively down down
FastEthernet0/19       unassigned      YES manual administratively down down
FastEthernet0/20       unassigned      YES manual administratively down down
FastEthernet0/21       unassigned      YES manual administratively down down
FastEthernet0/22       unassigned      YES manual administratively down down
FastEthernet0/23       unassigned      YES manual administratively down down
FastEthernet0/24       unassigned      YES manual administratively down down
GigabitEthernet0/1     unassigned      YES manual down                   down
GigabitEthernet0/2     unassigned      YES manual down                   down
Vlan1                  unassigned      YES manual administratively down down
Vlan10                 30.5.10.120     YES manual up                     up
Vlan40                 30.5.40.120     YES manual up                     up
Vlan110                30.5.110.120    YES manual up                     up
Vlan120                30.5.120.120    YES manual up                     up
Vlan200                30.5.200.120    YES manual up                     up
sw3#
```