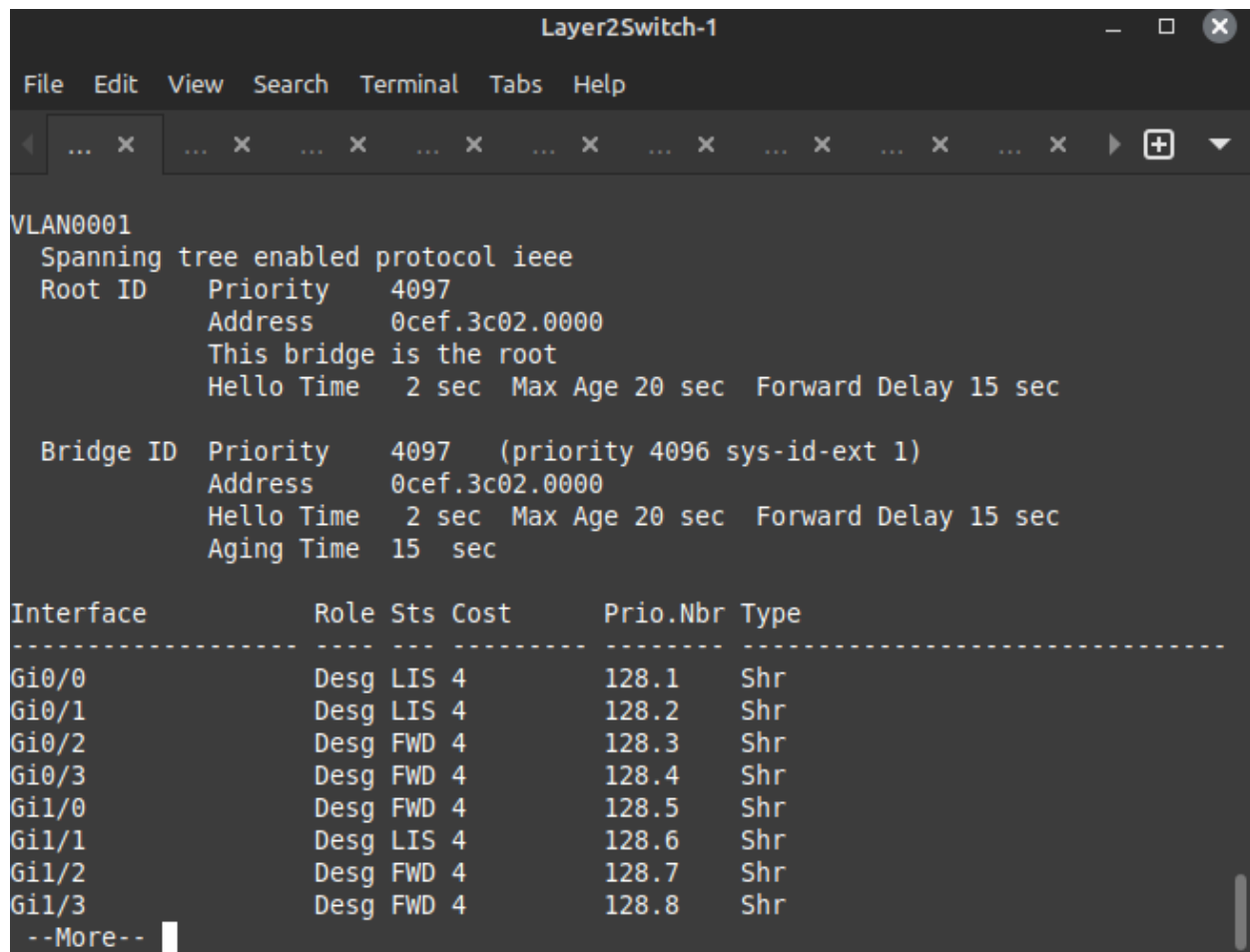


Назначим 1 коммутатор корневым для протокола STP, пользуясь командами из предыдущей лабораторной работы:

```
>en
```

```
>conf t
```

```
>spanning-tree vlan 1 priority 4096
```



```
Layer2Switch-1
File Edit View Search Terminal Tabs Help
... x ... x ... x ... x ... x ... x ... x ... x
VLAN0001
Spanning tree enabled protocol ieee
Root ID    Priority    4097
           Address    0cef.3c02.0000
           This bridge is the root
           Hello Time  2 sec  Max Age 20 sec  Forward Delay 15 sec

Bridge ID  Priority    4097  (priority 4096 sys-id-ext 1)
           Address    0cef.3c02.0000
           Hello Time  2 sec  Max Age 20 sec  Forward Delay 15 sec
           Aging Time  15 sec

Interface      Role Sts Cost      Prio.Nbr Type
-----
Gi0/0          Desg LIS 4        128.1 Shr
Gi0/1          Desg LIS 4        128.2 Shr
Gi0/2          Desg FWD 4        128.3 Shr
Gi0/3          Desg FWD 4        128.4 Shr
Gi1/0          Desg FWD 4        128.5 Shr
Gi1/1          Desg LIS 4        128.6 Shr
Gi1/2          Desg FWD 4        128.7 Shr
Gi1/3          Desg FWD 4        128.8 Shr
--More--
```

Командой `ip адрес/маска` назначим ip адреса для каждого из VPCS. Назначенные адреса в диапазоне от 10.10.10.10 до 10.10.10.15 с маской 24.

```
PC1
File Edit View Search Terminal Tabs Help
... x ... x ... x ... x ... x ... x ... x ... x
Trying 217.71.138.4...
Connected to 217.71.138.4.
Escape character is '^]'.

Welcome to Virtual PC Simulator, version 0.8.3
Dedicated to Daling.
Build time: Sep  9 2023 11:15:00
Copyright (c) 2007-2015, Paul Meng (mirnshi@gmail.com)
All rights reserved.

VPCS is free software, distributed under the terms of the "BSD" licence.
Source code and license can be found at vpcs.sf.net.
For more information, please visit wiki.freecode.com.cn.

Press '?' to get help.

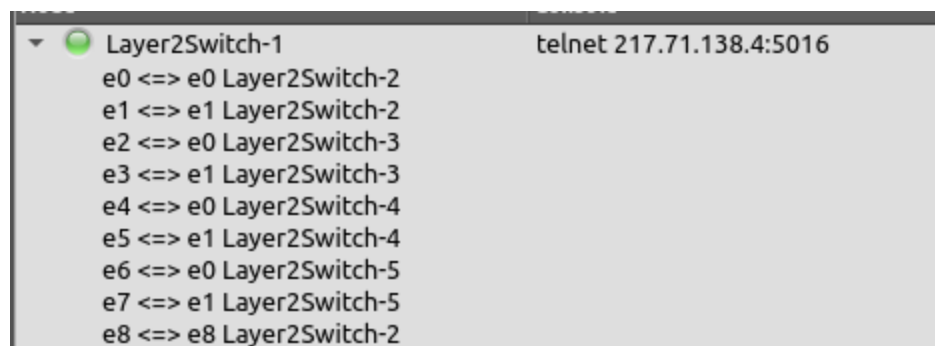
Executing the startup file

PC1> ip 10.10.10.10/24
Checking for duplicate address...
PC1 : 10.10.10.10 255.255.255.0

PC1> 
```

Настраиваем протокол LACP для интерфейсов Gi0/0, Gi0/1, Gi2/0 коммутатора Layer2Switch-1 ведущих к Layer2Switch-2, Gi0/2, Gi0/3 ведущих к Layer2Switch-3, Gi1/0, Gi1/1 ведущих к Layer2Switch-4, Gi1/2, Gi1/3 ведущих к Layer2Switch-5

Interface	Role	Sts	Cost	Prio.	Nbr	Type
Gi0/0	Desg	FWD	4	128.1	Shr	
Gi0/1	Desg	FWD	4	128.2	Shr	
Gi0/2	Desg	FWD	4	128.3	Shr	
Gi0/3	Desg	FWD	4	128.4	Shr	
Gi1/0	Desg	FWD	4	128.5	Shr	
Gi1/1	Desg	FWD	4	128.6	Shr	
Gi1/2	Desg	FWD	4	128.7	Shr	
Gi1/3	Desg	FWD	4	128.8	Shr	
Gi2/0	Desg	FWD	4	128.9	Shr	



```
>en
>conf t
>interface Gi*/*
>shutdown
>channel-group * mode active
>no shutdown
```

Вместо * - номера интерфейсов выше, номер группы. Команды применяются для каждого интерфейса.

```

Aug 14 14:23:50.719: IOS-3 conf: 1- configured from console by console
VIOS-L2-01#show etherchannel port-channel
Channel-group listing:
-----
Group: 1
-----
Port-channels in the group:
-----
Port-channel: Po1    (Primary Aggregator)
-----
Age of the Port-channel   = 0d:00h:12m:01s
Logical slot/port        = 16/0          Number of ports = 0
HotStandBy port = null
Port state                = Port-channel Ag-Not-Inuse
Protocol                  = LACP
Port security              = Disabled

Group: 2
-----
Port-channels in the group:
-----
Port-channel: Po2    (Primary Aggregator)
-----
Age of the Port-channel   = 0d:00h:04m:48s
Logical slot/port        = 16/1          Number of ports = 0
HotStandBy port = null
Port state                = Port-channel Ag-Not-Inuse
Protocol                  = LACP
Port security              = Disabled

Group: 3
-----
Port-channels in the group:
-----
Port-channel: Po3    (Primary Aggregator)
-----
Age of the Port-channel   = 0d:00h:03m:28s
Logical slot/port        = 16/2          Number of ports = 0
HotStandBy port = null
Port state                = Port-channel Ag-Not-Inuse
Protocol                  = LACP
Port security              = Disabled

Group: 4

```

Далее перейдем к коммутаторам Layer2Switch-2,3,4,5:

Сделаем такие же действие с единственным отличием:

>channel-group * mode passive (включится когда получит LACP сообщение)

```
vIOS-L2-01>sh ip int br
Interface                IP-Address      OK? Method Status      Protocol
GigabitEthernet0/0      unassigned      YES unset    up          up
GigabitEthernet0/1      unassigned      YES unset    up          up
GigabitEthernet0/2      unassigned      YES unset    up          up
GigabitEthernet0/3      unassigned      YES unset    up          up
GigabitEthernet1/0      unassigned      YES unset    up          up
GigabitEthernet1/1      unassigned      YES unset    up          up
GigabitEthernet1/2      unassigned      YES unset    up          up
GigabitEthernet1/3      unassigned      YES unset    up          up
GigabitEthernet2/0      unassigned      YES unset    up          up
Port-channel4           unassigned      YES unset    up          up
Port-channel3           unassigned      YES unset    up          up
Port-channel2           unassigned      YES unset    up          up
Port-channel1           unassigned      YES unset    up          up
vIOS-L2-01>
```

Переводим 1 группу каналов в режим trunk:

```
>interface port-channel 1
```

```
>switchport trunk encapsulation dot1q
```

```
>switchport mode trunk
```

Проверяем работоспособность режима агрегации:

```
vIOS-L2-01>sh ip int br
Interface                IP-Address      OK? Method Status      Protocol
GigabitEthernet0/0      unassigned      YES unset    up          up
GigabitEthernet0/1      unassigned      YES unset    up          up
GigabitEthernet0/2      unassigned      YES unset    up          up
GigabitEthernet0/3      unassigned      YES unset    up          up
GigabitEthernet1/0      unassigned      YES unset    up          up
GigabitEthernet1/1      unassigned      YES unset    up          up
GigabitEthernet1/2      unassigned      YES unset    up          up
GigabitEthernet1/3      unassigned      YES unset    up          up
GigabitEthernet2/0      unassigned      YES unset    up          up
Port-channel4           unassigned      YES unset    up          up
Port-channel3           unassigned      YES unset    up          up
Port-channel2           unassigned      YES unset    up          up
Port-channel1           unassigned      YES unset    down        down
vIOS-L2-01>
```