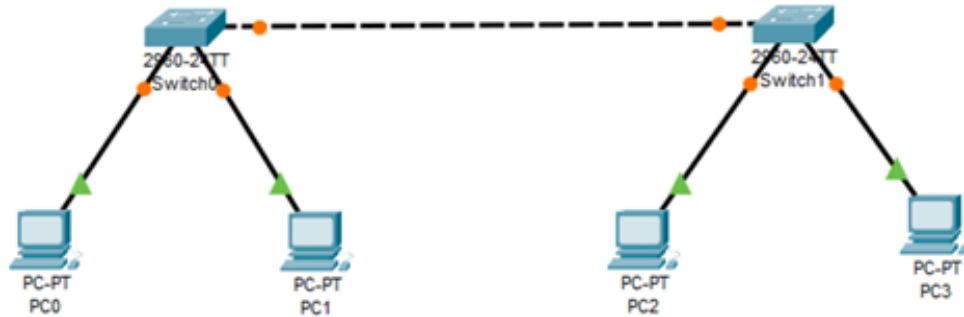


## Практическая работа 26 – Связываем VLAN с помощью роутера

### 1. Строю сеть



### 2. Настраиваю ip для каждого пк

IP Configuration	
<input type="radio"/> DHCP	
<input checked="" type="radio"/> Static	
IPv4 Address	192.168.1.1
Subnet Mask	255.255.255.0

IP Configuration	
<input type="radio"/> DHCP	
<input checked="" type="radio"/> Static	
IPv4 Address	192.168.2.1
Subnet Mask	255.255.255.0

IP Configuration	
<input type="radio"/> DHCP	
<input checked="" type="radio"/> Static	
IPv4 Address	192.168.1.2
Subnet Mask	255.255.255.0

IP Configuration	
<input type="radio"/> DHCP	
<input checked="" type="radio"/> Static	
IPv4 Address	192.168.2.2
Subnet Mask	255.255.255.0

### 3. Конфигурация 0 и 1 свитча (код идентичен)

```
Switch>
Switch>
Switch>en
Switch#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#int fa0/1
Switch(config-if)#sw ac vl 10
% Access VLAN does not exist. Creating vlan 10
Switch(config-if)#no sh
Switch(config-if)#int fa0/2
Switch(config-if)#sw ac vl 20
% Access VLAN does not exist. Creating vlan 20
Switch(config-if)#no sh
Switch(config-if)#ex
Switch(config)#
```

### 4. Прокладываю Trunk-порт (для 0 и 1 свитчей аналогично)

```
Switch#
Switch#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#
Switch(config)#int gi0/1
Switch(config-if)#sw mode trunk
Switch(config-if)#no sh
Switch(config-if)#ex
Switch(config)#
Switch(config)#
```

### 5. Пингую

```
C:\>ping 192.168.1.2

Pinging 192.168.1.2 with 32 bytes of data:

Reply from 192.168.1.2: bytes=32 time<1ms TTL=128
Reply from 192.168.1.2: bytes=32 time<1ms TTL=128
Reply from 192.168.1.2: bytes=32 time<1ms TTL=128
Reply from 192.168.1.2: bytes=32 time=2ms TTL=128

Ping statistics for 192.168.1.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 2ms, Average = 0ms
```

## 6. Добавляю роутер и конфигурирую его

```
Router>en
Router#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#int fa0/0
Router(config-if)#ip ad 192.168.1.100
% Incomplete command.
Router(config-if)#ip ad 192.168.1.100 255.255.255.0
Router(config-if)#no sh
Router(config-if)#int fal/0
Router(config-if)#ip ad 192.168.2.100 255.255.255.0
Router(config-if)#no sh
Router(config-if)#
Router(config-if)#
```

## 7. Конфигурирую свитчи 1 и 0 с роутером

```
Switch>
Switch>en
Switch#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
Switch(config)#int fa0/3
Switch(config-if)#sw ac vl 10
Switch(config-if)#no sh
Switch(config-if)#ex
Switch(config)#
```

```
Switch>en
Switch#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
Switch(config)#int fo0/3
      ^
% Invalid input detected at '^' marker.

Switch(config)#int fa0/3
Switch(config-if)#sw ac vl 20
Switch(config-if)#no sh
Switch(config-if)#ex
Switch(config)#
```

## 8. Добавляю шлюзы

Gateway/DNS IPv4	
<input type="radio"/> DHCP	
<input checked="" type="radio"/> Static	
Default Gateway	<input type="text" value="192.168.1.100"/>
DNS Server	<input type="text"/>

Gateway/DNS IPv4	
<input type="radio"/> DHCP	
<input checked="" type="radio"/> Static	
Default Gateway	<input type="text" value="192.168.2.100"/>
DNS Server	<input type="text"/>

## Задания:

### 9. Пингую с ПК0 в ПК3

```
C:\>ping 192.168.2.2

Pinging 192.168.2.2 with 32 bytes of data:

Request timed out.
Reply from 192.168.2.2: bytes=32 time=1ms TTL=127
Reply from 192.168.2.2: bytes=32 time=1ms TTL=127
Reply from 192.168.2.2: bytes=32 time=1ms TTL=127

Ping statistics for 192.168.2.2:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 1ms, Maximum = 1ms, Average = 1ms
```

### 10. Добавляю vlan30 с двумя устройствами

The screenshot displays the Cisco Packet Tracer interface. On the left, a 'Command Prompt' window shows the results of a ping command from PC0 to PC3 (192.168.3.2). The output indicates a successful ping with 0% loss and 0ms round trip times.

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 192.168.3.2

Pinging 192.168.3.2 with 32 bytes of data:

Reply from 192.168.3.2: bytes=32 time<1ms TTL=128
Reply from 192.168.3.2: bytes=32 time<1ms TTL=128
Reply from 192.168.3.2: bytes=32 time<1ms TTL=128
Reply from 192.168.3.2: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.3.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms
C:\>
```

On the right, the network topology is shown in the 'Physical' tab. It features a central 'Router-PT Router0' connected to two '2951-PT Switches'. The left switch is connected to three PCs (PC0, PC1, PC6), and the right switch is connected to three PCs (PC2, PC3, PC7). A dashed line indicates a connection between the two switches. The interface includes a toolbar at the top and a status bar at the bottom showing the time as 00:57:39.