

Создание макета сети в Cisco Packet Tracer

КУРС: АДМИНИСТРИРОВАНИЕ КОМПЬЮТЕРНЫХ СЕТЕЙ

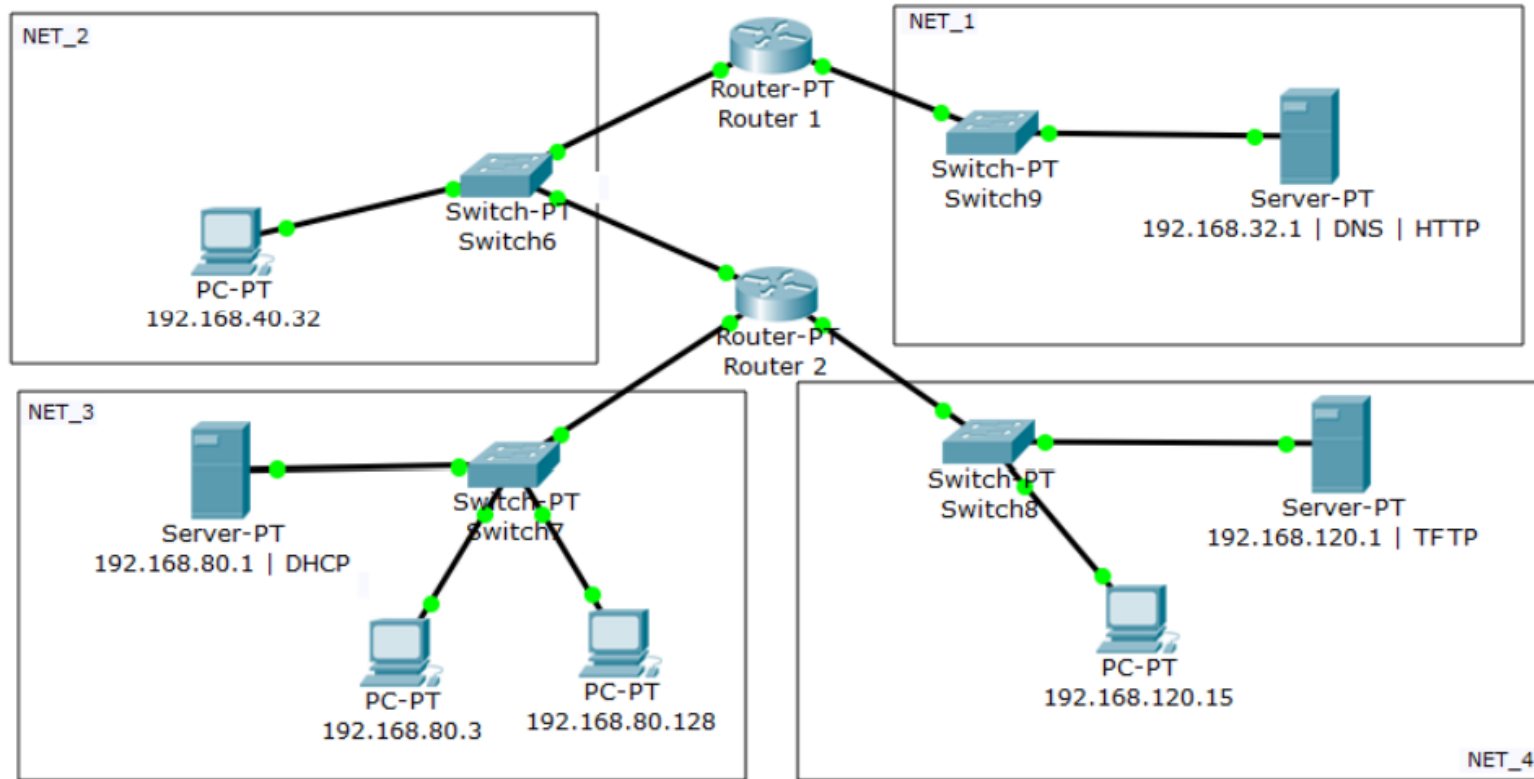
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ГРУППА: 13541/2

Цель работы

- Ознакомиться с Cisco Packet Tracer.
- Построить в Packet Tracer компьютерную сеть.
- Настроить сервисы DNS, DHCP, TFTP.
- Протестировать сеть.

Схема компьютерной сети



Настройка подсети NET_1

IP Configuration	
Interface	FastEthernet0
IP Configuration	
<input type="radio"/> DHCP	<input checked="" type="radio"/> Static
IP Address	192.168.32.1
Subnet Mask	255.255.255.0
Default Gateway	192.168.32.128
DNS Server	192.168.32.1

Настройка роутера 1

FastEthernet0/0

Port Status ☐ On

Bandwidth ☒ 100 Mbps ☐ 10 Mbps ☒ Auto

Duplex ☒ Half Duplex ☐ Full Duplex ☒ Auto

MAC Address 0090.2B68.3202

IP Configuration

IP Address

Subnet Mask

Tx Ring Limit 10

FastEthernet1/0

Port Status ☐ On

Bandwidth ☒ 100 Mbps ☐ 10 Mbps ☒ Auto

Duplex ☒ Half Duplex ☐ Full Duplex ☒ Auto

MAC Address 0050.0F22.18CD

IP Configuration

IP Address 192.168.40.57

Subnet Mask 255.255.255.0

Tx Ring Limit 10

RIP Routing

Network

Network Address

192.168.32.0

192.168.40.0

Настройка подсети NET_2

IP Configuration	
IP Configuration	
<input type="radio"/> DHCP	<input checked="" type="radio"/> Static
IP Address	192.168.40.32
Subnet Mask	255.255.255.0
Default Gateway	192.168.40.2
DNS Server	192.168.32.1

Настройка роутера 2

FastEthernet0/0	
Port Status	<input type="checkbox"/> On
Bandwidth	<input checked="" type="radio"/> 100 Mbps <input type="radio"/> 10 Mbps <input checked="" type="checkbox"/> Auto
Duplex	<input checked="" type="radio"/> Half Duplex <input type="radio"/> Full Duplex <input checked="" type="checkbox"/> Auto
MAC Address	0004.9A12.6123
IP Configuration	
IP Address	192.168.40.2
Subnet Mask	255.255.255.0
Tx Ring Limit	10

FastEthernet1/0	
Port Status	<input type="checkbox"/> On
Bandwidth	<input checked="" type="radio"/> 100 Mbps <input type="radio"/> 10 Mbps <input checked="" type="checkbox"/> Auto
Duplex	<input checked="" type="radio"/> Half Duplex <input type="radio"/> Full Duplex <input checked="" type="checkbox"/> Auto
MAC Address	0001.632C.8735
IP Configuration	
IP Address	192.168.80.2
Subnet Mask	255.255.255.0
Tx Ring Limit	10

FastEthernet4/0	
Port Status	<input type="checkbox"/> On
Bandwidth	<input type="radio"/> 100 Mbps <input type="radio"/> 10 Mbps <input checked="" type="checkbox"/> Auto
Duplex	<input type="radio"/> Half Duplex <input type="radio"/> Full Duplex <input checked="" type="checkbox"/> Auto
MAC Address	00E0.F949.5668
IP Configuration	
IP Address	192.168.120.2
Subnet Mask	255.255.255.0
Tx Ring Limit	10

RIP Routing	
Network	
Network Address	
192.168.40.0	
192.168.80.0	
192.168.120.0	

Настройка подсети NET_3

IP Configuration	
Interface	FastEthernet0
IP Configuration	
<input type="radio"/> DHCP	<input checked="" type="radio"/> Static
IP Address	192.168.80.1
Subnet Mask	255.255.255.0
Default Gateway	192.168.80.2
DNS Server	192.168.32.1

IP Configuration	
IP Configuration	
<input checked="" type="radio"/> DHCP	<input type="radio"/> Static
IP Address	
Subnet Mask	
Default Gateway	
DNS Server	

IP Configuration	
IP Configuration	
<input type="radio"/> DHCP	<input checked="" type="radio"/> Static
IP Address	192.168.80.128
Subnet Mask	255.255.255.0
Default Gateway	192.168.80.2
DNS Server	192.168.32.1

Настройка NET_4

IP Configuration	
IP Configuration	
<input type="radio"/> DHCP	<input checked="" type="radio"/> Static
IP Address	192.168.120.15
Subnet Mask	255.255.255.0
Default Gateway	192.168.120.2
DNS Server	192.168.32.1

IP Configuration	
Interface	FastEthernet0
IP Configuration	
<input type="radio"/> DHCP	<input checked="" type="radio"/> Static
IP Address	192.168.120.1
Subnet Mask	255.255.255.0
Default Gateway	192.168.120.2
DNS Server	192.168.32.1

Настройка сервисов

DNS

DNS Service ☒ On ☐ Off

Resource Records

Name Type

Address

No.	Name	Type	Detail
0	www.helloworld.com	A Record	192.168.32.1

DHCP

Interface Service ☒ On ☐ Off

Pool Name

Default Gateway

DNS Server

Start IP Address :

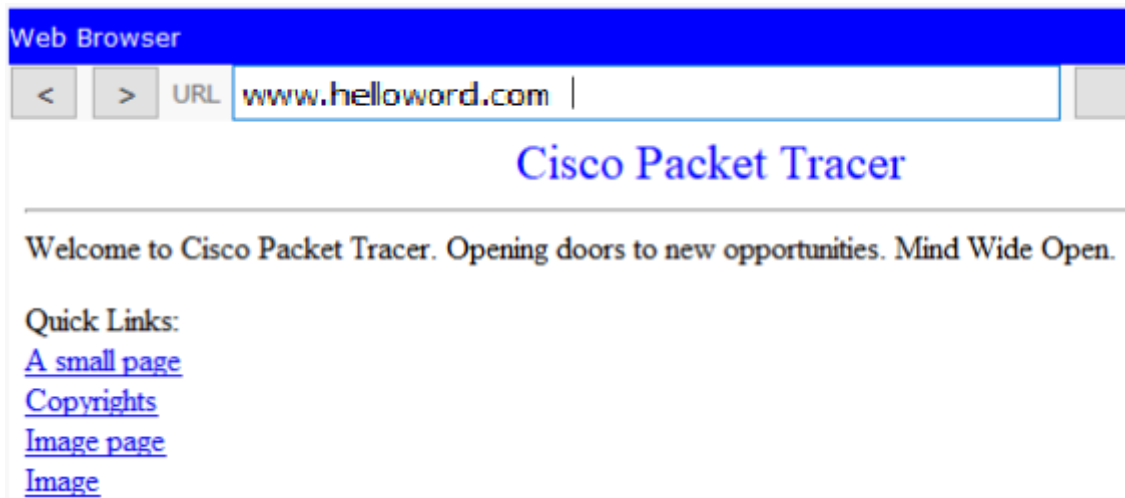
Subnet Mask:

Maximum number of Users :

TFTP Server:

Pool Name	Default Gateway	DNS Server	Start IP Address	Subnet Mask	Max User	TFTP
server...	192.168.80.2	192.168....	192.168.80.3	255.255....	100	0.0.0.0

Тестирование



```
C:\>ipconfig
FastEthernet0 Connection:( default port)
    Link-local IPv6 Address . . . . . : FE80::2E0:A3FF:FEA3:7605
    IP Address . . . . . : 192.168.40.32
    Subnet Mask . . . . . : 255.255.255.0
    Default Gateway . . . . . : 192.168.40.2

C:\>ping 192.168.120.15
Pinging 192.168.120.15 with 32 bytes of data:
Reply from 192.168.120.15: bytes=32 time=1ms TTL=127
Reply from 192.168.120.15: bytes=32 time=1ms TTL=127
Reply from 192.168.120.15: bytes=32 time=1ms TTL=127
Reply from 192.168.120.15: bytes=32 time<1ms TTL=127

Ping statistics for 192.168.120.15:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms
```

Выводы

Cisco Packet Tracer представляет собой удобный инструмент для построения макетов сетей, предоставляя множество инструментов для настройки узлов сети. Большим преимуществом можно считать множество готовых решений, особенно в плане реализации популярных сетевых сервисов.