

Презентация по лабораторной работе №12

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29 апреля 2025 г.

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Цель и задачи

Приобретение практических навыков по настройке доступа локальной сети к внешней сети посредством NAT

Требуется подключить локальную сеть организации к сети Интернет с учётом ограничений, накладываемых на определённые подсети локальной сети.

Процесс выполнения лабораторной работы

provider-teyuboglu-sw-1

Physical Config CLI Attributes

IOS Command Line Interface

```
Switch(config)#line vty 0 4
Switch(config-line)#pass cisco
Switch(config-line)#login
Switch(config-line)#exit
Switch(config)#line console 0
Switch(config-line)#pass cisco
Switch(config-line)#login
Switch(config-line)#enable secret cisco
Switch(config)#serv pass
Switch(config)#user admin priv 1 secret cisco
Switch(config)#int r f0/1-f0/24
Switch(config-if-range)#sw mode trunk

Switch(config-if-range)#
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed state to down

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed state to up

Switch(config-if-range)#vlan 4
Switch(config-vlan)#name nat
Switch(config-vlan)#int vlan 4
Switch(config-if)#
%LINK-5-CHANGED: Interface Vlan4, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Vlan4, changed state to up

Switch(config-if)#no sh
Switch(config-if)#^Z
Switch#
%SYS-5-CONFIG_I: Configured from console by console

Switch#w m
Building configuration...
[OK]
Switch#
```

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provider-teyuboglu-gw-1

Physical Config **CLI** Attributes

IOS Command Line Interface

```
Router(config)#int f0/0
Router(config-if)#no sh

Router(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up

Router(config-if)#int f0/0.4
Router(config-subif)#
%LINK-5-CHANGED: Interface FastEthernet0/0.4, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0.4, changed state to up

Router(config-subif)#enc dot1Q 4
Router(config-subif)#ip addr 198.51.100.1 255.255.255.240
Router(config-subif)#desc donskaya
Router(config-subif)#int f0/1
Router(config-if)#no sh

Router(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/1, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed state to up

Router(config-if)#ip addr 192.0.2.1 255.255.255.0
Router(config-if)#desc inet
Router(config-if)#^Z
Router#
%SYS-5-CONFIG_I: Configured from console by console

Router#w m
Building configuration...
[OK]
Router#
```

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msk-donskaya-teyuboglu-gw-1

Physical Config CLI Attributes

IOS Command Line Interface

```
..!!!!
Success rate is 80 percent (4/5), round-trip min/avg/max = 0/0/0 ms

msk-donskaya-teyuboglu-gw-1#
msk-donskaya-teyuboglu-gw-1#
msk-donskaya-teyuboglu-gw-1#conf t
Enter configuration commands, one per line. End with CNTL/Z.
msk-donskaya-teyuboglu-gw-1(config)#ip route 0.0.0.0 0.0.0.0 198.51.100.1
msk-donskaya-teyuboglu-gw-1(config)#ip nat pool main-pool 198.51.100.2 198.51.100.14
netmask 255.255.240
^
% Invalid input detected at '^' marker.

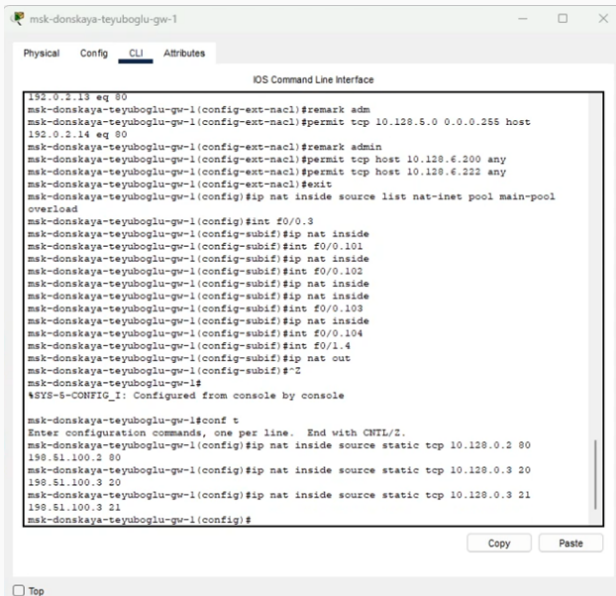
msk-donskaya-teyuboglu-gw-1(config)#ip nat pool main-pool 198.51.100.2 198.51.100.14
netmask 255.255.255.240
msk-donskaya-teyuboglu-gw-1(config)#ip access-list extend
% Incomplete command.
msk-donskaya-teyuboglu-gw-1(config)#ip access-list extend extend
^
% Invalid input detected at '^' marker.

msk-donskaya-teyuboglu-gw-1(config)#ip access-list extend
^
% Invalid input detected at '^' marker.

msk-donskaya-teyuboglu-gw-1(config)#ip access-list extend
% Incomplete command.
msk-donskaya-teyuboglu-gw-1(config)#ip access-list extend nat-inet
msk-donskaya-teyuboglu-gw-1(config-ext-nacl)#remark dk
msk-donskaya-teyuboglu-gw-1(config-ext-nacl)#permit tcp 10.128.3.0 0.0.0.255 host
192.0.2.11 eq 80
msk-donskaya-teyuboglu-gw-1(config-ext-nacl)#permit tcp 10.128.3.0 0.0.0.255 host
192.0.2.12 eq 80
msk-donskaya-teyuboglu-gw-1(config-ext-nacl)#
```

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The screenshot shows a network device's CLI interface with the title bar "msk-donskaya-teyuboglu-gw-1". The interface has tabs for "Physical", "Config", "CLI", and "Attributes", with "CLI" being the active tab. The main window displays the "IOS Command Line Interface" with a series of configuration commands and their outputs. The commands include setting ACLs, permitting traffic, exiting configuration, and configuring NAT. The output shows the current configuration state and a confirmation message from the console.

```
192.0.2.13 eq 80
msk-donskaya-teyuboglu-gw-1(config-ext-nacl)#remark adm
msk-donskaya-teyuboglu-gw-1(config-ext-nacl)#permit tcp 10.128.5.0 0.0.0.255 host
192.0.2.14 eq 80
msk-donskaya-teyuboglu-gw-1(config-ext-nacl)#remark admin
msk-donskaya-teyuboglu-gw-1(config-ext-nacl)#permit tcp host 10.128.6.200 any
msk-donskaya-teyuboglu-gw-1(config-ext-nacl)#permit tcp host 10.128.6.222 any
msk-donskaya-teyuboglu-gw-1(config-ext-nacl)#exit
msk-donskaya-teyuboglu-gw-1(config)#ip nat inside source list nat-inet pool main-pool
overload
msk-donskaya-teyuboglu-gw-1(config)#int f0/0.3
msk-donskaya-teyuboglu-gw-1(config-subif)#ip nat inside
msk-donskaya-teyuboglu-gw-1(config-subif)#int f0/0.101
msk-donskaya-teyuboglu-gw-1(config-subif)#ip nat inside
msk-donskaya-teyuboglu-gw-1(config-subif)#int f0/0.102
msk-donskaya-teyuboglu-gw-1(config-subif)#ip nat inside
msk-donskaya-teyuboglu-gw-1(config-subif)#ip nat inside
msk-donskaya-teyuboglu-gw-1(config-subif)#int f0/0.103
msk-donskaya-teyuboglu-gw-1(config-subif)#ip nat inside
msk-donskaya-teyuboglu-gw-1(config-subif)#int f0/0.104
msk-donskaya-teyuboglu-gw-1(config-subif)#int f0/1.4
msk-donskaya-teyuboglu-gw-1(config-subif)#ip nat out
msk-donskaya-teyuboglu-gw-1(config-subif)#^Z
msk-donskaya-teyuboglu-gw-1#
%SYS-5-CONFIG_I: Configured from console by console

msk-donskaya-teyuboglu-gw-1#conf t
Enter configuration commands, one per line. End with CNTL/Z.
msk-donskaya-teyuboglu-gw-1(config)#ip nat inside source static tcp 10.128.0.2 80
198.51.100.2 80
msk-donskaya-teyuboglu-gw-1(config)#ip nat inside source static tcp 10.128.0.3 20
198.51.100.3 20
msk-donskaya-teyuboglu-gw-1(config)#ip nat inside source static tcp 10.128.0.3 21
198.51.100.3 21
msk-donskaya-teyuboglu-gw-1(config)#
```

At the bottom right of the CLI window, there are "Copy" and "Paste" buttons. At the very bottom of the image, there is a "Top" button.

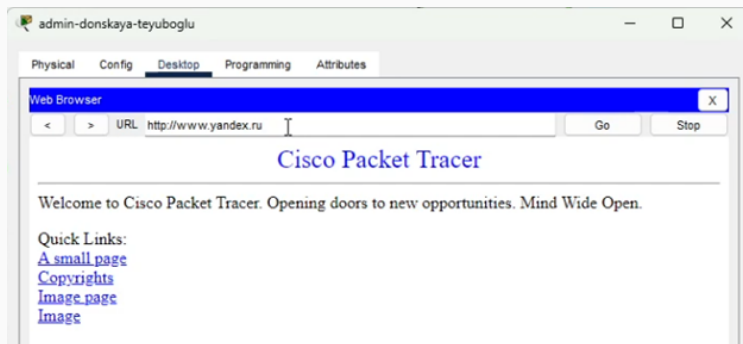


Рис. 5: Доступ есть

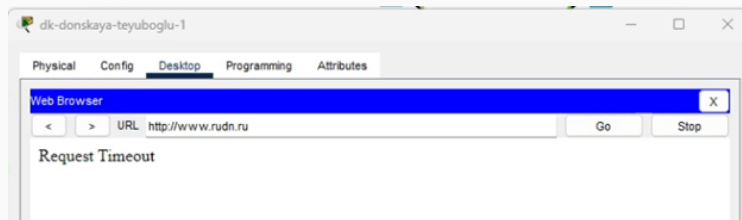


Рис. 6: Доступа нет

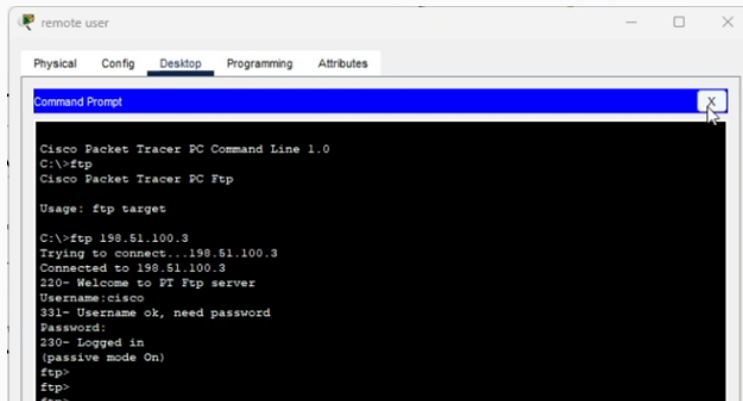
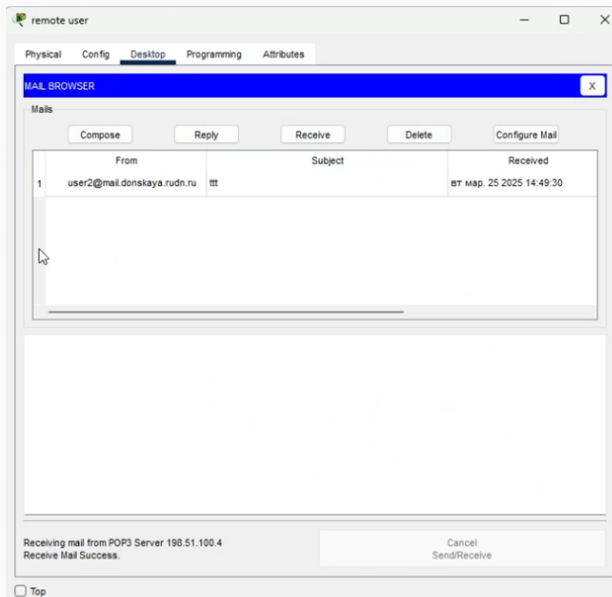


Рис. 7: Доступ из внешней сети: FTP



Выводы по проделанной работе

Провели подготовительные мероприятия для подключения к глобальной сети.