

Презентация по лабораторной работе №12

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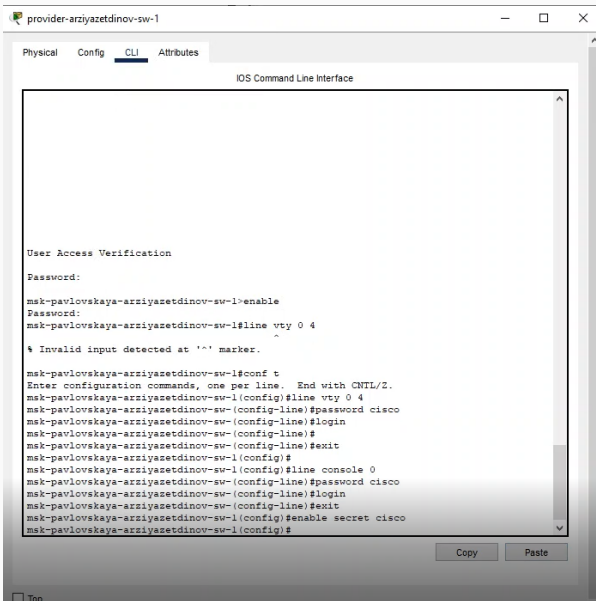
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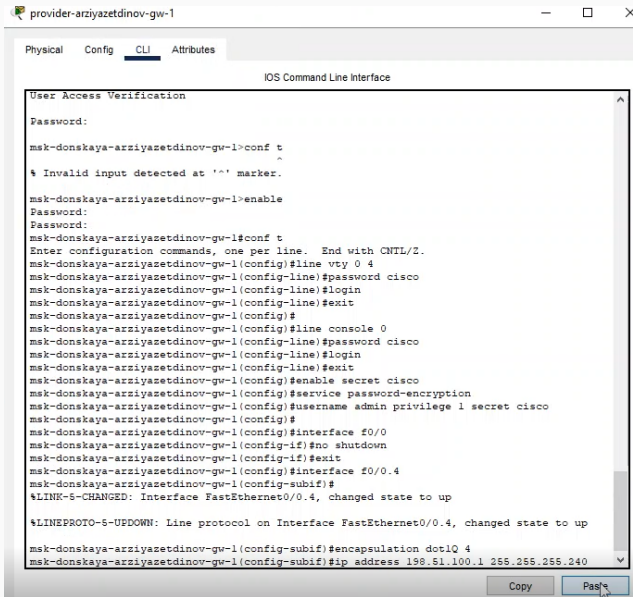
Цель и задачи

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-arziyazetdinov-gw-1

Physical  Config  CLI  Attributes

IOS Command Line Interface

User Access Verification

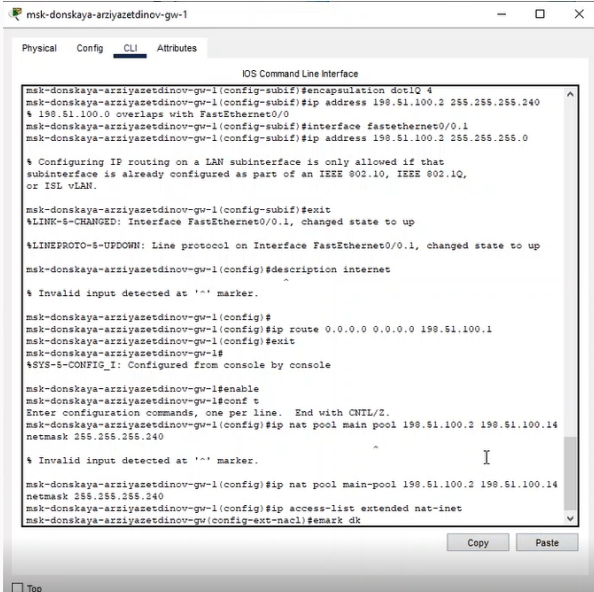
Password:

msk-donskaya-arziyazetdinov-gw-1>conf t
^
% Invalid input detected at '^' marker.

msk-donskaya-arziyazetdinov-gw-1>enable
Password:
Password:
msk-donskaya-arziyazetdinov-gw-1#conf t
Enter configuration commands, one per line. End with CNTL/Z.
msk-donskaya-arziyazetdinov-gw-1(config)#line vty 0 4
msk-donskaya-arziyazetdinov-gw-1(config-line)#password cisco
msk-donskaya-arziyazetdinov-gw-1(config-line)#login
msk-donskaya-arziyazetdinov-gw-1(config-line)#exit
msk-donskaya-arziyazetdinov-gw-1(config)#
msk-donskaya-arziyazetdinov-gw-1(config)#line console 0
msk-donskaya-arziyazetdinov-gw-1(config-line)#password cisco
msk-donskaya-arziyazetdinov-gw-1(config-line)#login
msk-donskaya-arziyazetdinov-gw-1(config-line)#exit
msk-donskaya-arziyazetdinov-gw-1(config)#enable secret cisco
msk-donskaya-arziyazetdinov-gw-1(config)#service password-encryption
msk-donskaya-arziyazetdinov-gw-1(config)#username admin privilege 1 secret cisco
msk-donskaya-arziyazetdinov-gw-1(config)#
msk-donskaya-arziyazetdinov-gw-1(config)#interface #0/0
msk-donskaya-arziyazetdinov-gw-1(config-if)#no shutdown
msk-donskaya-arziyazetdinov-gw-1(config-if)#exit
msk-donskaya-arziyazetdinov-gw-1(config)#interface #0/0.4
msk-donskaya-arziyazetdinov-gw-1(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

msk-donskaya-arziyazetdinov-gw-1(config-subif)#encapsulation dot1Q 4
msk-donskaya-arziyazetdinov-gw-1(config-subif)#ip address 198.51.100.1 255.255.255.240
```



```
msk-donskaya-arziyazetdinov-gw-1
Physical Config CLI Attributes
IOS Command Line Interface
msk-donskaya-arziyazetdinov-gw-1(config-subif)#encapsulation dot1Q 4
msk-donskaya-arziyazetdinov-gw-1(config-subif)#ip address 198.51.100.2 255.255.255.240
% 198.51.100.0 overlaps with FastEthernet0/0
msk-donskaya-arziyazetdinov-gw-1(config-subif)#interface fastEthernet0/0.1
msk-donskaya-arziyazetdinov-gw-1(config-subif)#ip address 198.51.100.2 255.255.255.0

% Configuring IP routing on a LAN subinterface is only allowed if that
subinterface is already configured as part of an IEEE 802.10, IEEE 802.1Q,
or ISL vLAN.

msk-donskaya-arziyazetdinov-gw-1(config-subif)#exit
%LINK-S-CHANGED: Interface FastEthernet0/0.1, changed state to up

%LINEPROTO-S-UPDOWN: Line protocol on Interface FastEthernet0/0.1, changed state to up

msk-donskaya-arziyazetdinov-gw-1(config)#description internet
^
% Invalid input detected at '^' marker.

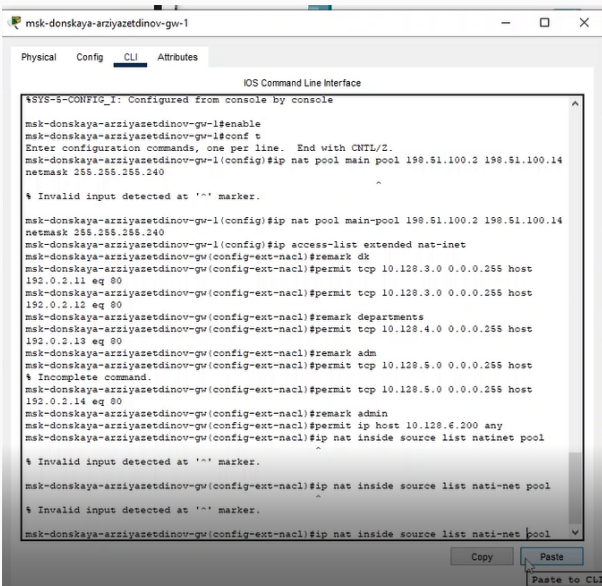
msk-donskaya-arziyazetdinov-gw-1(config)#
msk-donskaya-arziyazetdinov-gw-1(config)#ip route 0.0.0.0 0.0.0.0 198.51.100.1
msk-donskaya-arziyazetdinov-gw-1(config)#exit
msk-donskaya-arziyazetdinov-gw-1#
%SYS-S-CONFIG_I: Configured from console by console

msk-donskaya-arziyazetdinov-gw-1#enable
msk-donskaya-arziyazetdinov-gw-1#conf t
Enter configuration commands, one per line. End with CNTL/Z.
msk-donskaya-arziyazetdinov-gw-1(config)#ip nat pool main pool 198.51.100.2 198.51.100.14
netmask 255.255.255.240
^
% Invalid input detected at '^' marker.

msk-donskaya-arziyazetdinov-gw-1(config)#ip nat pool main-pool 198.51.100.2 198.51.100.14
netmask 255.255.255.240
msk-donskaya-arziyazetdinov-gw-1(config)#ip access-list extended nat-inet
msk-donskaya-arziyazetdinov-gw-1(config-ext-nacl)#emark dk
```

Copy Paste

Top



The screenshot shows a network configuration window titled "msk-donskaya-arziyazetdinov-gw-1". It has tabs for "Physical", "Config", "CLI", and "Attributes", with "CLI" selected. The main area displays the "IOS Command Line Interface" with a series of configuration commands and their outputs. The commands are entered in a text area, and the outputs are shown below them. The configuration includes enabling the device, setting the configuration mode, and configuring NAT pools and access lists. The output shows the configuration being applied and some errors for invalid input markers.

```
msk-donskaya-arziyazetdinov-gw-1#enable
msk-donskaya-arziyazetdinov-gw-1#conf t
Enter configuration commands, one per line. End with CNTL/Z.
msk-donskaya-arziyazetdinov-gw-1(config)#ip nat pool main pool 198.51.100.2 198.51.100.14
netmask 255.255.255.240

% Invalid input detected at '^' marker.

msk-donskaya-arziyazetdinov-gw-1(config)#ip nat pool main-pool 198.51.100.2 198.51.100.14
netmask 255.255.255.240
msk-donskaya-arziyazetdinov-gw-1(config)#ip access-list extended nat-inet
msk-donskaya-arziyazetdinov-gw(config-ext-nacl)#remark dk
msk-donskaya-arziyazetdinov-gw(config-ext-nacl)#permit tcp 10.128.3.0 0.0.0.255 host
192.0.2.11 eq 80
msk-donskaya-arziyazetdinov-gw(config-ext-nacl)#permit tcp 10.128.3.0 0.0.0.255 host
192.0.2.12 eq 80
msk-donskaya-arziyazetdinov-gw(config-ext-nacl)#remark departments
msk-donskaya-arziyazetdinov-gw(config-ext-nacl)#permit tcp 10.128.4.0 0.0.0.255 host
192.0.2.13 eq 80
msk-donskaya-arziyazetdinov-gw(config-ext-nacl)#remark adm
msk-donskaya-arziyazetdinov-gw(config-ext-nacl)#permit tcp 10.128.5.0 0.0.0.255 host
% Incomplete command.
msk-donskaya-arziyazetdinov-gw(config-ext-nacl)#permit tcp 10.128.5.0 0.0.0.255 host
192.0.2.14 eq 80
msk-donskaya-arziyazetdinov-gw(config-ext-nacl)#remark admin
msk-donskaya-arziyazetdinov-gw(config-ext-nacl)#permit ip host 10.128.6.200 any
msk-donskaya-arziyazetdinov-gw(config-ext-nacl)#ip nat inside source list natinet pool

% Invalid input detected at '^' marker.

msk-donskaya-arziyazetdinov-gw(config-ext-nacl)#ip nat inside source list nati-net pool

% Invalid input detected at '^' marker.

msk-donskaya-arziyazetdinov-gw(config-ext-nacl)#ip nat inside source list nati-net pool
```

At the bottom of the window, there are buttons for "Copy", "Paste", and "Paste to CLI".

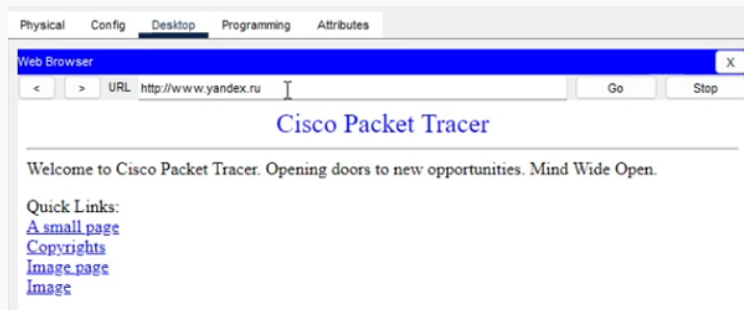


Рис. 5: Доступ есть

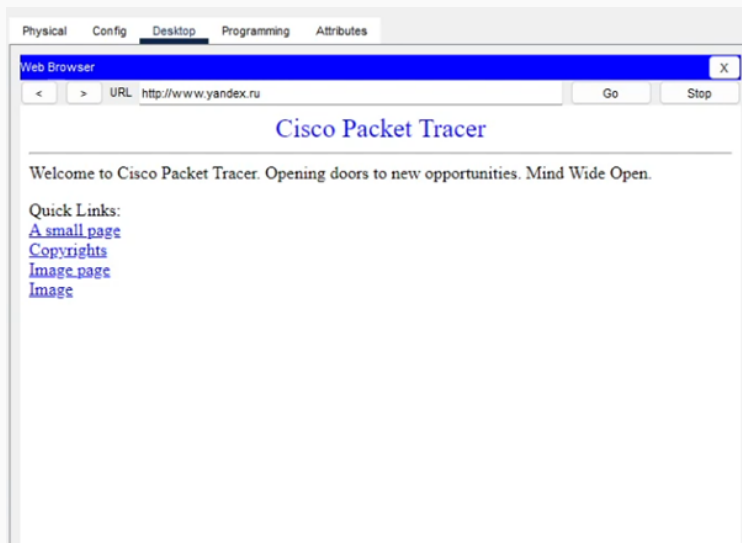


Рис. 6: Доступа нет

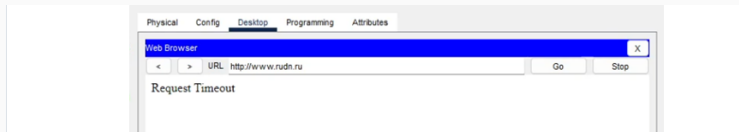


Рис. 7: Доступ из внешней сети: FTP

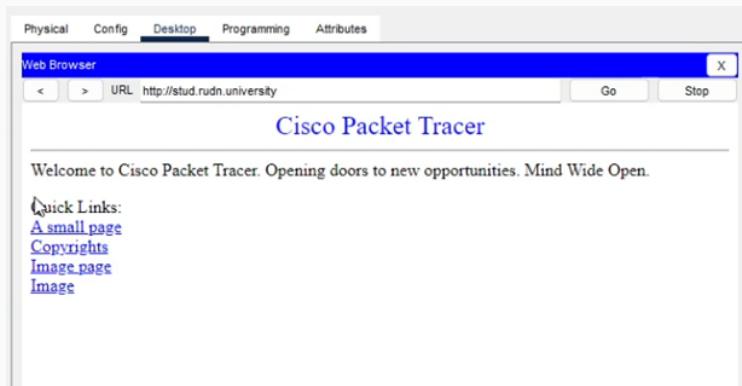


Рис. 8: Доступ из внешней сети: эл. почта

Выводы по проделанной работе

Провели подготовительные мероприятия для подключения к глобальной сети.