

Лабораторная работа № 14

Статическая маршрутизация в Интернете

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Вводная часть

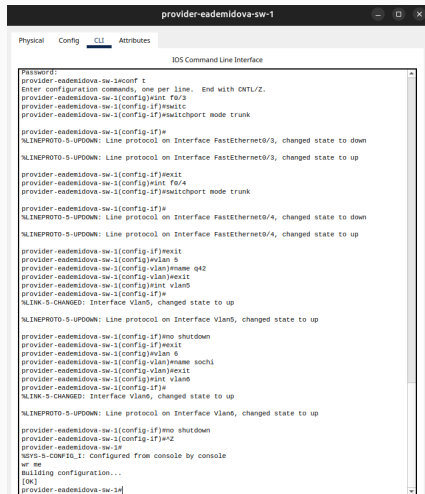
Цели и задачи

Настроить взаимодействие через сеть провайдера посредством статической маршрутизации локальной сети организации с сетью основного здания, расположенного в 42-м квартале в Москве, и сетью филиала, расположенного в г. Сочи.

1. Настроить связь между территориями.
2. Настроить оборудование, расположенное в квартале 42 в Москве.
3. Настроить оборудование, расположенное в филиале в г. Сочи.
4. Настроить статическую маршрутизацию между территориями.
5. Настроить статическую маршрутизацию на территории квартала 42 в г. Москве.
6. Настроить NAT на маршрутизаторе msk-donskaya-gw-1.

Выполнение лабораторной работы

Настройка линка между площадками



```
provider-eademidova-sw-1
Physical Config CLI Attributes
IOS Command Line Interface
Password:
provider-eademidova-sw-1#conf t
Enter configuration commands, one per line. End with CNTL/Z.
provider-eademidova-sw-1(config)#int fa0/3
provider-eademidova-sw-1(config-if)#switc
provider-eademidova-sw-1(config-if)#switchport mode trunk

provider-eademidova-sw-1(config-if)#
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/3, changed state to down
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/3, changed state to up

provider-eademidova-sw-1(config-if)#exit
provider-eademidova-sw-1(config)#int fa0/4
provider-eademidova-sw-1(config-if)#switchport mode trunk

provider-eademidova-sw-1(config-if)#
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/4, changed state to down
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/4, changed state to up

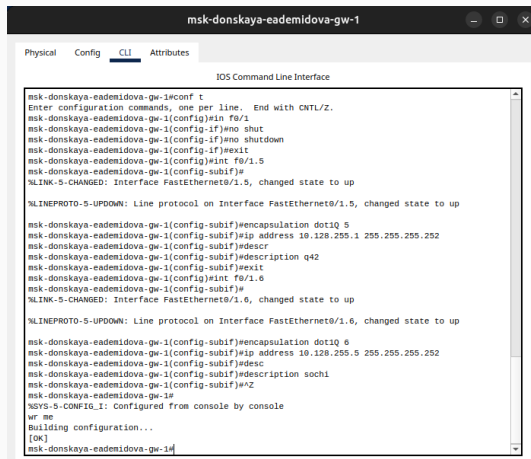
provider-eademidova-sw-1(config-if)#exit
provider-eademidova-sw-1(config)#vlan 5
provider-eademidova-sw-1(config-vlan)#name q42
provider-eademidova-sw-1(config-vlan)#exit
provider-eademidova-sw-1(config)#int vlan5
provider-eademidova-sw-1(config-if)#
%LINK-5-CHANGED: Interface Vlan5, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface Vlan5, changed state to up

provider-eademidova-sw-1(config-if)#no shutdown
provider-eademidova-sw-1(config-if)#exit
provider-eademidova-sw-1(config)#vlan 6
provider-eademidova-sw-1(config-vlan)#name sochi
provider-eademidova-sw-1(config-vlan)#exit
provider-eademidova-sw-1(config)#int vlan6
provider-eademidova-sw-1(config-if)#
%LINK-5-CHANGED: Interface Vlan6, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface Vlan6, changed state to up

provider-eademidova-sw-1(config-if)#no shutdown
provider-eademidova-sw-1(config-if)#^Z
provider-eademidova-sw-1#
%SYS-5-CONFIG_I: Configured from console by console
w* me
Building configuration...
[OK]
provider-eademidova-sw-1#
```

Рис. 1: Настройка интерфейсов коммутатора provider-eademidova-sw-1

Настройка линка между площадками



```
msk-donskaya-eademidova-gw-1
Physical Config CLI Attributes
IOS Command Line Interface

msk-donskaya-eademidova-gw-1#conf t
Enter configuration commands, one per line. End with CNTL/Z.
msk-donskaya-eademidova-gw-1(config)#in f0/1
msk-donskaya-eademidova-gw-1(config-if)#no shut
msk-donskaya-eademidova-gw-1(config-if)#no shutdown
msk-donskaya-eademidova-gw-1(config-if)#exit
msk-donskaya-eademidova-gw-1(config)#int f0/1.5
msk-donskaya-eademidova-gw-1(config-subif)#
%LINK-5-CHANGED: Interface FastEthernet0/1.5, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1.5, changed state to up

msk-donskaya-eademidova-gw-1(config-subif)#encapsulation dot1q 5
msk-donskaya-eademidova-gw-1(config-subif)#ip address 10.128.255.1 255.255.255.252
msk-donskaya-eademidova-gw-1(config-subif)#descr
msk-donskaya-eademidova-gw-1(config-subif)#description q42
msk-donskaya-eademidova-gw-1(config-subif)#exit
msk-donskaya-eademidova-gw-1(config)#int f0/1.6
msk-donskaya-eademidova-gw-1(config-subif)#
%LINK-5-CHANGED: Interface FastEthernet0/1.6, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1.6, changed state to up

msk-donskaya-eademidova-gw-1(config-subif)#encapsulation dot1q 6
msk-donskaya-eademidova-gw-1(config-subif)#ip address 10.128.255.5 255.255.255.252
msk-donskaya-eademidova-gw-1(config-subif)#desc
msk-donskaya-eademidova-gw-1(config-subif)#description sochi
msk-donskaya-eademidova-gw-1(config-subif)#^Z
msk-donskaya-eademidova-gw-1#
%SYS-5-CONFIG_I: Configured from console by console
wr me
Building configuration...
[OK]
msk-donskaya-eademidova-gw-1#
```

Рис. 2: Настройка интерфейсов маршрутизатора msk-donskaya-eademidova-gw-1

Настройка линка между площадками



```
msk-q42-eademidova-gw-1
Physical Config CLI Attributes
IOS Command Line Interface

Password:
msk-q42-eademidova-gw-1>en
Password:
msk-q42-eademidova-gw-1#conf t
Enter configuration commands, one per line. End with CNTL/Z.
msk-q42-eademidova-gw-1(config)#int f0/1
msk-q42-eademidova-gw-1(config-if)#no shu
msk-q42-eademidova-gw-1(config-if)#no shutdown

msk-q42-eademidova-gw-1(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
exit
msk-q42-eademidova-gw-1(config)#int f0/1.5
msk-q42-eademidova-gw-1(config-subif)#
%LINK-5-CHANGED: Interface FastEthernet0/1.5, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1.5, changed state to up

msk-q42-eademidova-gw-1(config-subif)#encapsulation dot1Q 5
msk-q42-eademidova-gw-1(config-subif)#ip address 10.128.255.2 255.255.255.252
msk-q42-eademidova-gw-1(config-subif)#desc
msk-q42-eademidova-gw-1(config-subif)#description donskaya
msk-q42-eademidova-gw-1(config-subif)#^Z
msk-q42-eademidova-gw-1#
%SYS-5-CONFIG_I: Configured from console by console
wr me
Building configuration...
[OK]
msk-q42-eademidova-gw-1#
```

Рис. 3: Настройка интерфейсов маршрутизатора msk-q42-eademidova-gw-1

Настройка линка между площадками

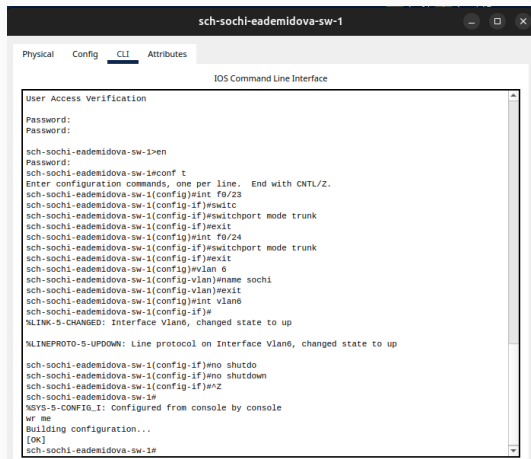


Рис. 4: Настройка интерфейсов коммутатора sch-sochi-eademiodova-sw-1

Настройка линка между площадками

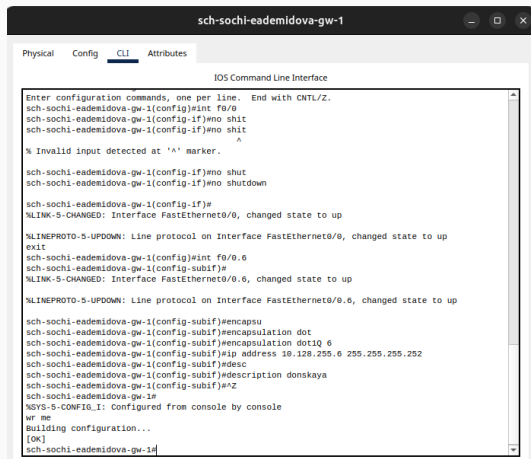
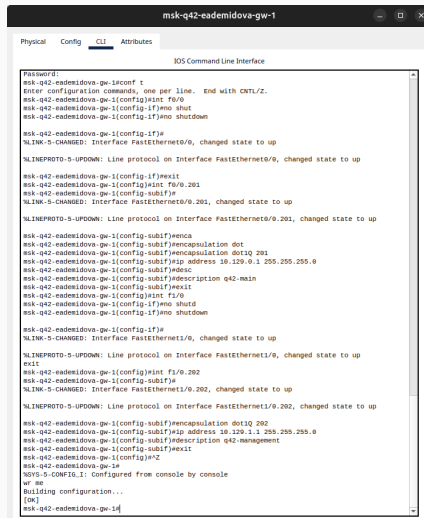


Рис. 5: Настройка интерфейсов маршрутизатора sch-sochi-eademiova-gw-1

Настройка площадки 42-го квартала



```
msk-q42-eademidova-gw-1
Physical Config CLI Attributes
IOS Command Line Interface
Password:
msk-q42-eademidova-gw-1#conf t
Enter configuration commands, one per line. End with CNTL/Z.
msk-q42-eademidova-gw-1(config)#int f0/0
msk-q42-eademidova-gw-1(config-if)#no shut
msk-q42-eademidova-gw-1(config-if)#no shutdown

msk-q42-eademidova-gw-1(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

msk-q42-eademidova-gw-1(config-if)#exit
msk-q42-eademidova-gw-1(config)#int f0/0.201
msk-q42-eademidova-gw-1(config-subif)#
%LINK-5-CHANGED: Interface FastEthernet0/0.201, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0.201, changed state to up

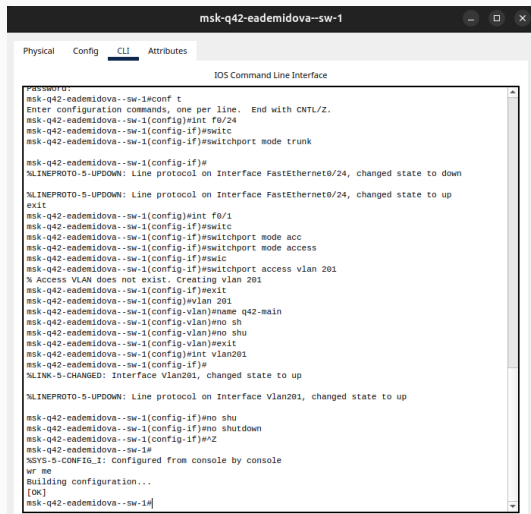
msk-q42-eademidova-gw-1(config-subif)#enca
msk-q42-eademidova-gw-1(config-subif)#encapsulation dot
msk-q42-eademidova-gw-1(config-subif)#encapsulation dot1q 201
msk-q42-eademidova-gw-1(config-subif)#ip address 10.129.0.1 255.255.255.0
msk-q42-eademidova-gw-1(config-subif)#desc
msk-q42-eademidova-gw-1(config-subif)#description q42-main
msk-q42-eademidova-gw-1(config-subif)#exit
msk-q42-eademidova-gw-1(config)#int f1/0
msk-q42-eademidova-gw-1(config-if)#no shutd
msk-q42-eademidova-gw-1(config-if)#no shutdown

msk-q42-eademidova-gw-1(config-if)#
%LINK-5-CHANGED: Interface FastEthernet1/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet1/0, changed state to up
exit
msk-q42-eademidova-gw-1(config)#int f1/0.202
msk-q42-eademidova-gw-1(config-subif)#
%LINK-5-CHANGED: Interface FastEthernet1/0.202, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet1/0.202, changed state to up

msk-q42-eademidova-gw-1(config-subif)#encapsulation dot1q 202
msk-q42-eademidova-gw-1(config-subif)#ip address 10.129.1.1 255.255.255.0
msk-q42-eademidova-gw-1(config-subif)#description q42-management
msk-q42-eademidova-gw-1(config-subif)#exit
msk-q42-eademidova-gw-1(config)#^Z
msk-q42-eademidova-gw-1#
%SYS-5-CONFIG-I: Configured from console by console
wr
Building configuration...
[OK]
msk-q42-eademidova-gw-1#
```

Рис. 6: Настройка интерфейсов маршрутизатора msk-q42-eademidova-gw-1

Настройка площадки 42-го квартала



```
msk-q42-eademidova-sw-1
Physical Config CLI Attributes
IOS Command Line Interface
Password:
msk-q42-eademidova-sw-1#conf t
Enter configuration commands, one per line. End with CNTL/Z.
msk-q42-eademidova-sw-1(config)#int f0/24
msk-q42-eademidova-sw-1(config-if)#switc
msk-q42-eademidova-sw-1(config-if)#switchport mode trunk

msk-q42-eademidova-sw-1(config-if)#
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/24, changed state to down

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/24, changed state to up
exit
msk-q42-eademidova-sw-1(config)#int f0/1
msk-q42-eademidova-sw-1(config-if)#switc
msk-q42-eademidova-sw-1(config-if)#switchport mode acc
msk-q42-eademidova-sw-1(config-if)#switchport mode access
msk-q42-eademidova-sw-1(config-if)#swic
msk-q42-eademidova-sw-1(config-if)#switchport access vlan 201
% Access VLAN does not exist. Creating vlan 201
msk-q42-eademidova-sw-1(config-if)#exit
msk-q42-eademidova-sw-1(config)#vlan 201
msk-q42-eademidova-sw-1(config-vlan)#name q42-main
msk-q42-eademidova-sw-1(config-vlan)#no sh
msk-q42-eademidova-sw-1(config-vlan)#no shu
msk-q42-eademidova-sw-1(config-vlan)#exit
msk-q42-eademidova-sw-1(config)#int vlan201
msk-q42-eademidova-sw-1(config-if)#
%LINK-5-CHANGED: Interface Vlan201, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Vlan201, changed state to up

msk-q42-eademidova-sw-1(config-if)#no shu
msk-q42-eademidova-sw-1(config-if)#no shutdown
msk-q42-eademidova-sw-1(config-if)#^Z
msk-q42-eademidova-sw-1#
%SYS-5-CONFIG_I: Configured from console by console
wr me
Building configuration...
[OK]
msk-q42-eademidova-sw-1#
```

Рис. 7: Настройка интерфейсов коммутатора msk-q42-eademidova-sw-1

Настройка площадки 42-го квартала



```
msk-hostel-eademidova-gw-1#conf t
Enter configuration commands, one per line. End with CNTL/Z.
msk-hostel-eademidova-gw-1(config)#int g0/21
msk-hostel-eademidova-gw-1(config-if)#switch
msk-hostel-eademidova-gw-1(config-if)#switchport trunk enc
msk-hostel-eademidova-gw-1(config-if)#switchport trunk encapsulation dot1q
msk-hostel-eademidova-gw-1(config-if)#switchport mode trunk
msk-hostel-eademidova-gw-1(config-if)#
%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/21, changed state to down
%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/21, changed state to up
msk-hostel-eademidova-gw-1(config-if)#exit
msk-hostel-eademidova-gw-1(config)#int f0/1
msk-hostel-eademidova-gw-1(config-if)#switchport trunk encapsulation dot1q
msk-hostel-eademidova-gw-1(config-if)#switchport mode trunk
msk-hostel-eademidova-gw-1(config-if)#
%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
msk-hostel-eademidova-gw-1(config)#vlan 202
msk-hostel-eademidova-gw-1(config-vlan)#name q42-management
msk-hostel-eademidova-gw-1(config-vlan)#exit
msk-hostel-eademidova-gw-1(config)#int vlan202
msk-hostel-eademidova-gw-1(config-if)#
%LINK-3-CHANGED: Interface Vlan202, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface Vlan202, changed state to up
no shutdown
msk-hostel-eademidova-gw-1(config-if)#ip address 10.129.1.2 255.255.255.0
msk-hostel-eademidova-gw-1(config-if)#exit
msk-hostel-eademidova-gw-1(config)#vlan 301
msk-hostel-eademidova-gw-1(config-vlan)#name hostel-main
msk-hostel-eademidova-gw-1(config-vlan)#exit
msk-hostel-eademidova-gw-1(config)#int vlan301
msk-hostel-eademidova-gw-1(config-if)#
%LINK-3-CHANGED: Interface Vlan301, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface Vlan301, changed state to up
msk-hostel-eademidova-gw-1(config-if)#no shu
msk-hostel-eademidova-gw-1(config-if)#no shutdown
msk-hostel-eademidova-gw-1(config-if)#ip address 10.129.128.1 255.255.255.0
msk-hostel-eademidova-gw-1(config-if)#exit
msk-hostel-eademidova-gw-1(config)#
msk-hostel-eademidova-gw-1#
%SYS-5-CONFIG-I: Configured from console by console
wrt
Building configuration...
[OK]
msk-hostel-eademidova-gw-1#
```

Рис. 8: Настройка интерфейсов маршрутизирующего коммутатора msk-hostel-eademidova-gw-1

Настройка площадки 42-го квартала

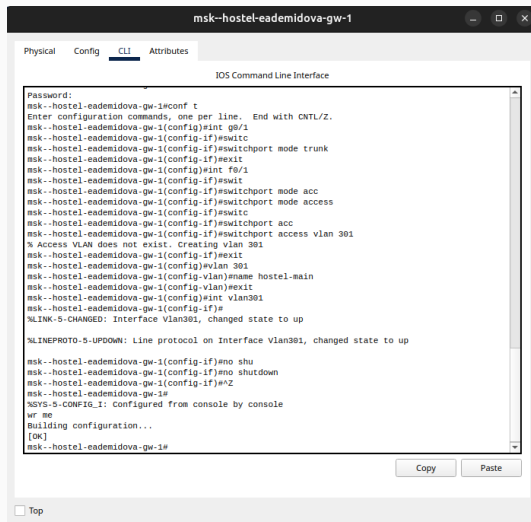
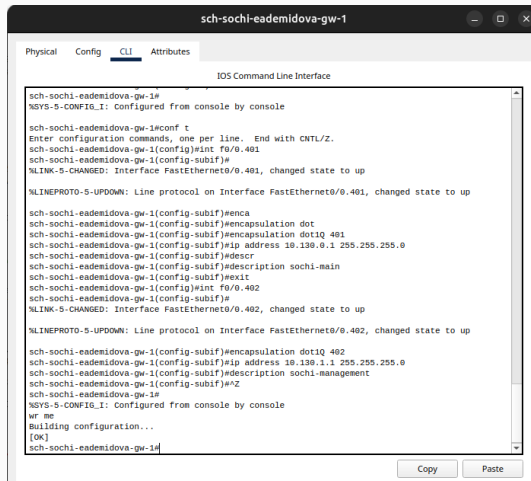


Рис. 9: Настройка интерфейсов коммутатора msk-hostel-eademiodva-sw-1

Настройка площадки в Сочи



The screenshot shows a terminal window titled "sch-sochi-eademidova-gw-1" with tabs for Physical, Config, CLI, and Attributes. The CLI tab is active, displaying the "IOS Command Line Interface". The terminal shows the following sequence of commands and outputs:

```
sch-sochi-eademidova-gw-1#
%SYS-5-CONFIG_I: Configured from console by console

sch-sochi-eademidova-gw-1#conf t
Enter configuration commands, one per line. End with CNTL/Z.
sch-sochi-eademidova-gw-1(config)#int f0/0.401
sch-sochi-eademidova-gw-1(config-subif)#
%LINK-5-CHANGED: Interface FastEthernet0/0.401, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0.401, changed state to up

sch-sochi-eademidova-gw-1(config-subif)#enca
sch-sochi-eademidova-gw-1(config-subif)#encapsulation dot
sch-sochi-eademidova-gw-1(config-subif)#encapsulation dot1Q 401
sch-sochi-eademidova-gw-1(config-subif)#ip address 10.130.0.1 255.255.255.0
sch-sochi-eademidova-gw-1(config-subif)#descr
sch-sochi-eademidova-gw-1(config-subif)#description sochi-main
sch-sochi-eademidova-gw-1(config-subif)#exit
sch-sochi-eademidova-gw-1(config)#int f0/0.402
sch-sochi-eademidova-gw-1(config-subif)#
%LINK-5-CHANGED: Interface FastEthernet0/0.402, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0.402, changed state to up

sch-sochi-eademidova-gw-1(config-subif)#encapsulation dot1Q 402
sch-sochi-eademidova-gw-1(config-subif)#ip address 10.130.1.1 255.255.255.0
sch-sochi-eademidova-gw-1(config-subif)#description sochi-management
sch-sochi-eademidova-gw-1(config-subif)#^Z
sch-sochi-eademidova-gw-1#
%SYS-5-CONFIG_I: Configured from console by console

wr me
Building configuration...
[OK]
sch-sochi-eademidova-gw-1#
```

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

Рис. 10: Настройка интерфейсов маршрутизатора sch-sochi-eademidova-gw-1

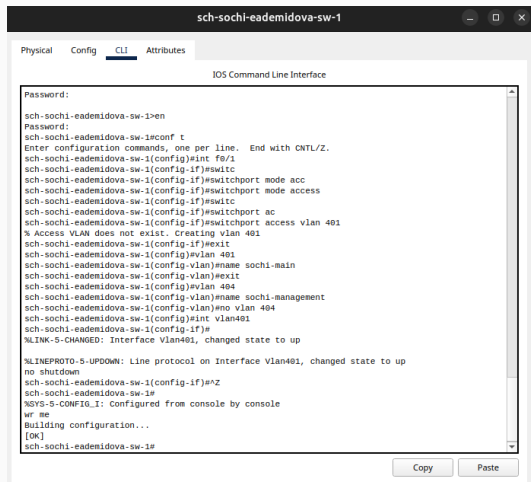
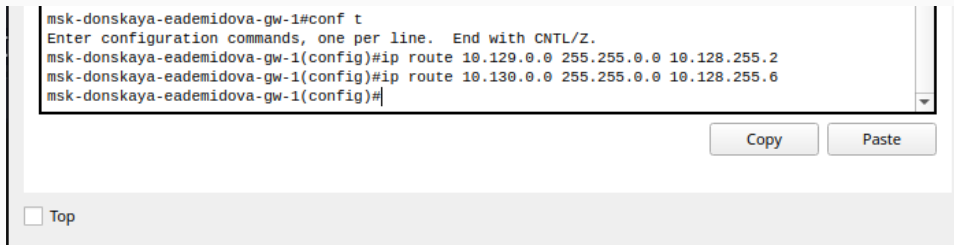


Рис. 11: Настройка интерфейсов коммутатора sch-sochi-sw-1

Настройка маршрутизации между площадками



```
msk-donskaya-eademidova-gw-1#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
msk-donskaya-eademidova-gw-1(config)#ip route 10.129.0.0 255.255.0.0 10.128.255.2
msk-donskaya-eademidova-gw-1(config)#ip route 10.130.0.0 255.255.0.0 10.128.255.6
msk-donskaya-eademidova-gw-1(config)#
```

☐ Top

Рис. 12: Настройка маршрутизатора msk-donskaya-gw-1

Настройка маршрутизации между площадками

```
msk-q42-eademidova-gw-1#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
msk-q42-eademidova-gw-1(config)#ip route 0.0.0.0 0.0.0.0 10.128.255.1
msk-q42-eademidova-gw-1(config)#^Z
msk-q42-eademidova-gw-1#
%SYS-5-CONFIG_I: Configured from console by console
wr me
Building configuration...
[OK]
msk-q42-eademidova-gw-1#
```

Copy

Paste

Рис. 13: Настройка маршрутизатора msk-q42-gw-1

Настройка маршрутизации между площадками

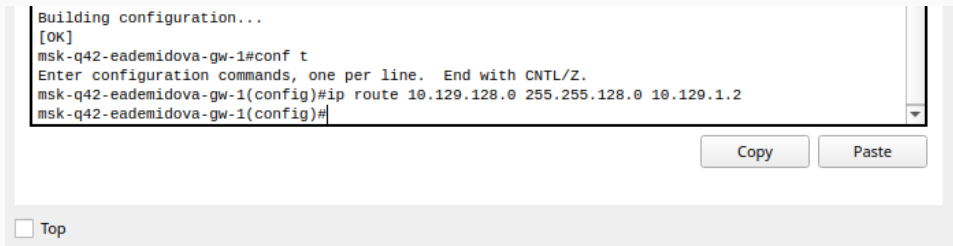
```
sch-sochi-eademidova-gw-1#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
sch-sochi-eademidova-gw-1(config)#ip route 0.0.0.0 0.0.0.0 10.128.255.5
sch-sochi-eademidova-gw-1(config)#^Z
sch-sochi-eademidova-gw-1#
%SYS-5-CONFIG_I: Configured from console by console
wr me
Building configuration...
[OK]
sch-sochi-eademidova-gw-1#
```

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Рис. 14: Настройка маршрутизатора sch-sochi-gw-1

Настройка маршрутизации на 42 квартале



```
Building configuration...
[OK]
msk-q42-eademidova-gw-1#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
msk-q42-eademidova-gw-1(config)#ip route 10.129.128.0 255.255.128.0 10.129.1.2
msk-q42-eademidova-gw-1(config)#
```

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Рис. 15: Настройка маршрутизатора msk-q42-gw-1

Настройка маршрутизации на 42 квартале

```
msk-hostel-eademidova-gw-1#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
msk-hostel-eademidova-gw-1(config)#ip rout
msk-hostel-eademidova-gw-1(config)#ip routing
msk-hostel-eademidova-gw-1(config)#ip route 0.0.0.0 0.0.0.0 10.129.1.1
msk-hostel-eademidova-gw-1(config)#
```

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Рис. 16: Настройка интерфейсов маршрутизирующего коммутатора msk-hostel-gw-1

Настройка NAT на маршрутизаторе msk-donskaya-gw-1

```
[OK]
msk-donskaya-eademidova-gw-1#conf t
Enter configuration commands, one per line. End with CNTL/Z.
msk-donskaya-eademidova-gw-1(config)#int f0/1.5
msk-donskaya-eademidova-gw-1(config-subif)#ip nat inside
msk-donskaya-eademidova-gw-1(config-subif)#exit
msk-donskaya-eademidova-gw-1(config)#int f0/1.6
msk-donskaya-eademidova-gw-1(config-subif)#ip nat inside
msk-donskaya-eademidova-gw-1(config-subif)#exit
msk-donskaya-eademidova-gw-1(config)#ip acc
msk-donskaya-eademidova-gw-1(config)#ip access-list extended nat-inet
msk-donskaya-eademidova-gw-1(config-ext-nacl)#remark q42
msk-donskaya-eademidova-gw-1(config-ext-nacl)#permit ip host 10.129.0.200 any
msk-donskaya-eademidova-gw-1(config-ext-nacl)#permit ip host 10.129.128.200 any
msk-donskaya-eademidova-gw-1(config-ext-nacl)#remark sochi
msk-donskaya-eademidova-gw-1(config-ext-nacl)#permit ip host 10.130.0.200 any
msk-donskaya-eademidova-gw-1(config-ext-nacl)#^Z
msk-donskaya-eademidova-gw-1#
%SYS-5-CONFIG_I: Configured from console by console
wr me
Building configuration...
[OK]
msk-donskaya-eademidova-gw-1#
```

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Рис. 17: Настройка NAT на маршрутизаторе msk-donskaya-gw-1

```
msk-donskaya-eademidova-gw-1#ping 10.128.255.2

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 10.128.255.2, timeout is 2 seconds:
.!!!!
Success rate is 80 percent (4/5), round-trip min/avg/max = 0/0/0 ms

msk-donskaya-eademidova-gw-1#ping 10.128.255.6

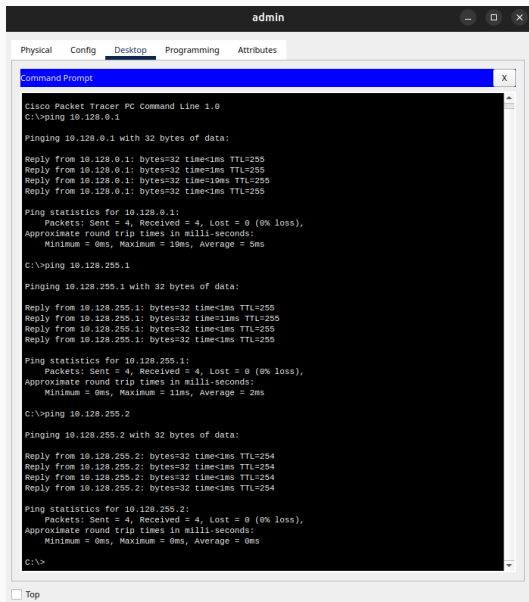
Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 10.128.255.6, timeout is 2 seconds:
.!!!!
Success rate is 80 percent (4/5), round-trip min/avg/max = 0/0/1 ms

msk-donskaya-eademidova-gw-1#
```

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Рис. 18: Проверка связи между маршрутизаторами



```
admin
Physical Config Desktop Programming Attributes
Command Prompt X

Cisco Packet Tracer PC Command Line 1.0
C:\>ping 10.128.0.1

Pinging 10.128.0.1 with 32 bytes of data:

Reply from 10.128.0.1: bytes=32 time<1ms TTL=255
Reply from 10.128.0.1: bytes=32 time<1ms TTL=255
Reply from 10.128.0.1: bytes=32 time=10ms TTL=255
Reply from 10.128.0.1: bytes=32 time<1ms TTL=255

Ping statistics for 10.128.0.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 19ms, Average = 5ms

C:\>ping 10.128.255.1

Pinging 10.128.255.1 with 32 bytes of data:

Reply from 10.128.255.1: bytes=32 time<1ms TTL=255
Reply from 10.128.255.1: bytes=32 time=11ms TTL=255
Reply from 10.128.255.1: bytes=32 time<1ms TTL=255
Reply from 10.128.255.1: bytes=32 time<1ms TTL=255

Ping statistics for 10.128.255.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 11ms, Average = 2ms

C:\>ping 10.128.255.2

Pinging 10.128.255.2 with 32 bytes of data:

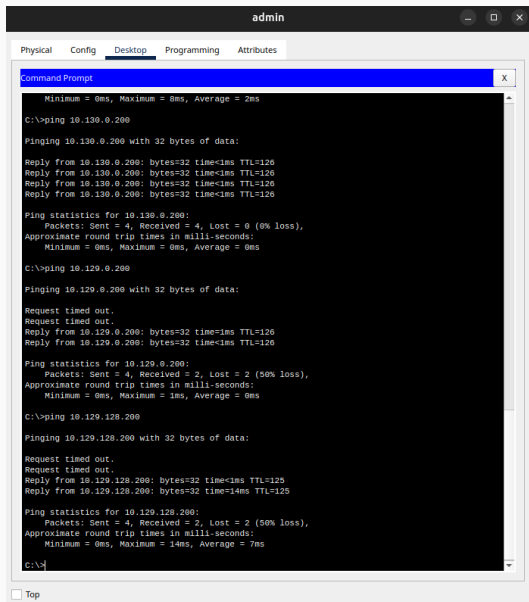
Reply from 10.128.255.2: bytes=32 time<1ms TTL=254
Reply from 10.128.255.2: bytes=32 time<1ms TTL=254
Reply from 10.128.255.2: bytes=32 time<1ms TTL=254
Reply from 10.128.255.2: bytes=32 time<1ms TTL=254

Ping statistics for 10.128.255.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>
```

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Проверка настроек



The screenshot shows a window titled "admin" with tabs for Physical, Config, Desktop, Programming, and Attributes. The "Desktop" tab is active, displaying a "Command Prompt" window. The command prompt shows the execution of three ping commands from a C:\ prompt. The first command, "ping 10.130.0.200", shows successful results with 0% loss and 0ms round trip times. The second command, "ping 10.129.0.200", shows a 50% loss rate and 1ms round trip times. The third command, "ping 10.129.128.200", also shows a 50% loss rate and 7ms round trip times. A "Top" button is visible at the bottom left of the window.

```
admin
Physical Config Desktop Programming Attributes
Command Prompt X
Minimum = 0ms, Maximum = 8ms, Average = 2ms
C:\>ping 10.130.0.200
Pinging 10.130.0.200 with 32 bytes of data:
Reply from 10.130.0.200: bytes=32 time<1ms TTL=126
Reply from 10.130.0.200: bytes=32 time<1ms TTL=126
Reply from 10.130.0.200: bytes=32 time<1ms TTL=126
Reply from 10.130.0.200: bytes=32 time<1ms TTL=126
Ping statistics for 10.130.0.200:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms
C:\>ping 10.129.0.200
Pinging 10.129.0.200 with 32 bytes of data:
Request timed out.
Request timed out.
Reply from 10.129.0.200: bytes=32 time=1ms TTL=126
Reply from 10.129.0.200: bytes=32 time=1ms TTL=126
Ping statistics for 10.129.0.200:
    Packets: Sent = 4, Received = 2, Lost = 2 (50% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms
C:\>ping 10.129.128.200
Pinging 10.129.128.200 with 32 bytes of data:
Request timed out.
Request timed out.
Reply from 10.129.128.200: bytes=32 time<1ms TTL=125
Reply from 10.129.128.200: bytes=32 time=14ms TTL=125
Ping statistics for 10.129.128.200:
    Packets: Sent = 4, Received = 2, Lost = 2 (50% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 14ms, Average = 7ms
C:\>
```

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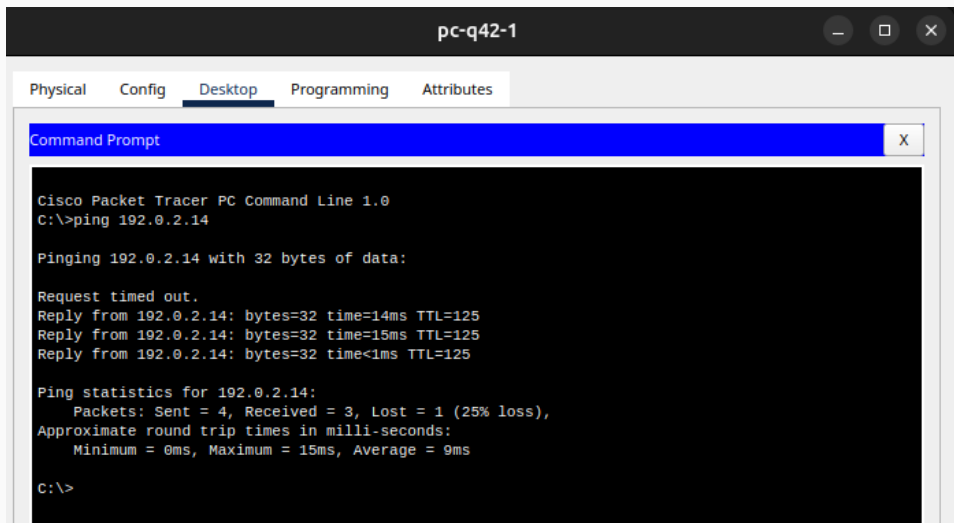


Рис. 21: Проверка доступа в Интернет

Выводы

В результате выполнения лабораторной были приобретены практические навыки по настройке взаимодействия через сеть провайдера посредством статической маршрутизации локальной сети организации с сетью основного здания, расположенного в 42-м квартале в Москве, и сетью филиала, расположенного в г. Сочи.