

Презентация по лабораторной работе №14

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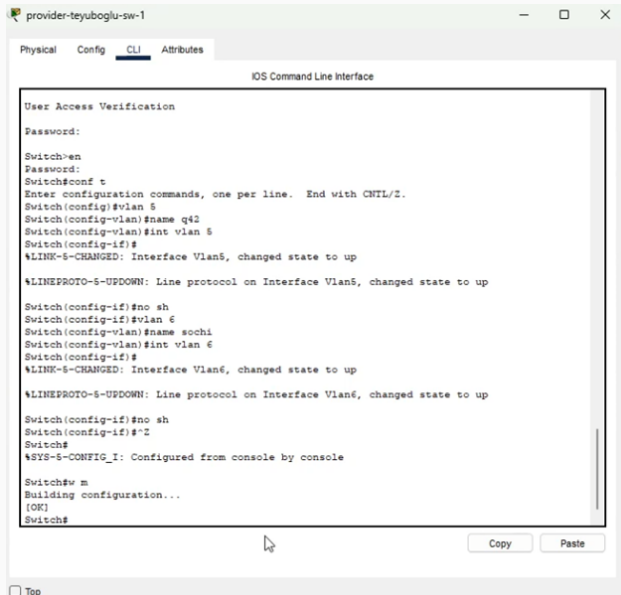
Цель и задачи

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 (см. раздел 14.3.1).
2. Настроить оборудование, расположенное в квартале 42 в Москве (см. раздел 14.3.2).
3. Настроить оборудование, расположенное в филиале в г. Сочи (см. раздел 14.3.3).
4. Настроить статическую маршрутизацию между территориями (см. раздел 14.3.4).
5. Настроить статическую маршрутизацию на территории квартала 42 в г. Москве (см. раздел 14.3.5).
6. Настроить NAT на маршрутизаторе msk-donskaya-gw-1 (см. раздел 14.3.6).
7. При выполнении работы необходимо учитывать соглашение об именовании (см. раздел 2.5).

Процесс выполнения лабораторной работы

Настройка интерфейсов коммутатора provider-sw-1



The screenshot shows a network configuration window titled "provider-teyuboglu-sw-1". It has tabs for "Physical", "Config", "CLI", and "Attributes", with "CLI" selected. The main area is titled "IOS Command Line Interface" and displays a series of commands and their outputs for configuring two VLANs. The commands include enabling the switch, entering configuration mode, creating VLAN 5 and VLAN 6, naming them, and saving the configuration. The window also features a "Copy" button, a "Paste" button, and a "Top" button at the bottom.

```
provider-teyuboglu-sw-1
Physical Config CLI Attributes
IOS Command Line Interface

User Access Verification
Password:
Switch>en
Password:
Switch#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#vlan 5
Switch(config-vlan)#name q42
Switch(config-vlan)#int vlan 5
Switch(config-if)#
%LINK-5-CHANGED: Interface Vlan5, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface Vlan5, changed state to up

Switch(config-if)#no sh
Switch(config-if)#vlan 6
Switch(config-vlan)#name sochi
Switch(config-vlan)#int vlan 6
Switch(config-if)#
%LINK-6-CHANGED: Interface Vlan6, changed state to up
%LINEPROTO-6-UPDOWN: Line protocol on Interface Vlan6, changed state to up

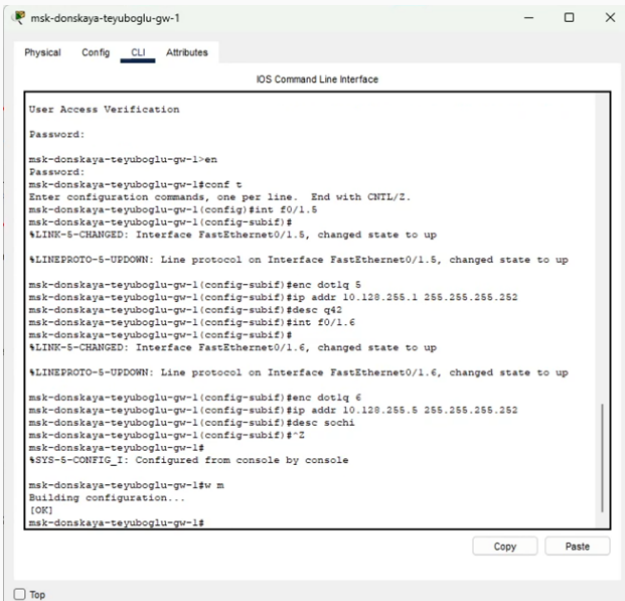
Switch(config-if)#no sh
Switch(config-if)#^Z
Switch#
%SYS-5-CONFIG_I: Configured from console by console

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

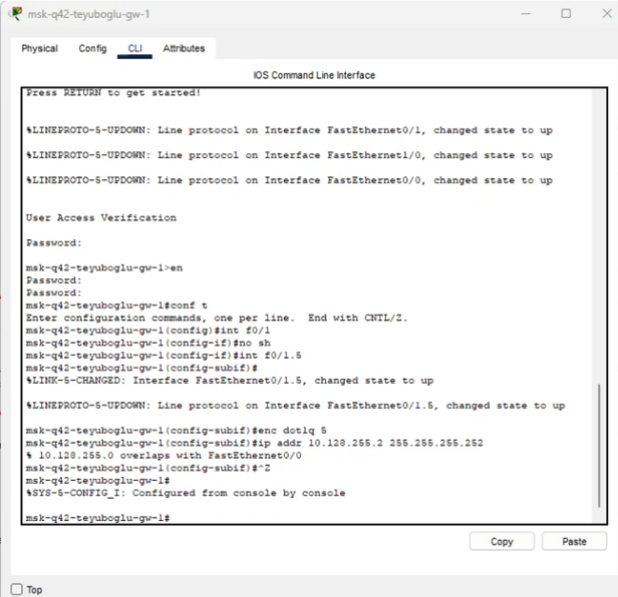
Copy Paste

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Настройка интерфейсов маршрутизатора msk-donskaya-gw-1



Настройка интерфейсов маршрутизатора msk-q42-gw-1



The screenshot shows a terminal window titled "msk-q42-teyuboglu-gw-1" with tabs for Physical, Config, CLI (selected), and Attributes. The CLI tab displays the "IOS Command Line Interface". The terminal text is as follows:

```
Press RETURN to get started!

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet1/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up

User Access Verification

Password:

msk-q42-teyuboglu-gw-1>en
Password:
Password:
msk-q42-teyuboglu-gw-1#conf t
Enter configuration commands, one per line. End with CNTL/Z.
msk-q42-teyuboglu-gw-1(config)#int f0/1
msk-q42-teyuboglu-gw-1(config-if)#no sh
msk-q42-teyuboglu-gw-1(config-if)#int f0/1.5
msk-q42-teyuboglu-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-teyuboglu-gw-1(config-subif)#enc dot1q 5
msk-q42-teyuboglu-gw-1(config-subif)#ip addr 10.128.255.2 255.255.255.252
% 10.128.255.0 overlaps with FastEthernet0/0
msk-q42-teyuboglu-gw-1(config-subif)#^Z
msk-q42-teyuboglu-gw-1#
%SYS-5-CONFIG_I: Configured from console by console

msk-q42-teyuboglu-gw-1#
```

At the bottom right of the terminal window are "Copy" and "Paste" buttons. At the bottom left of the overall window is a "Top" button.

Настройка интерфейсов маршрутизатора msk-q42-gw-1

```
msk-q42-teyuboglu-gw-1(config-if)#ip addr 10.129.0.1 255.255.255.0
msk-q42-teyuboglu-gw-1(config-if)#int fl/0
msk-q42-teyuboglu-gw-1(config-if)#no sh
msk-q42-teyuboglu-gw-1(config-if)#in fl/0.202
msk-q42-teyuboglu-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-teyuboglu-gw-1(config-subif)#enc dot1q 202
msk-q42-teyuboglu-gw-1(config-subif)#ip addr 10.129.1.1 255.255.255.0
msk-q42-teyuboglu-gw-1(config-subif)#
```

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Рис. 4: Настройка интерфейсов маршрутизатора msk-q42-gw-1

Настройка интерфейсов коммутатора sch-sochi-sw-1

sch-sochi-teyuboglu-sw-1

Physical Config CLI Attributes

IOS Command Line Interface

User Access Verification

Password:

```
sch-sochi-teyuboglu-sw-1>en
Password:
sch-sochi-teyuboglu-sw-1#conf t
Enter configuration commands, one per line. End with CNTL/Z.
sch-sochi-teyuboglu-sw-1(config)#int f0/23
sch-sochi-teyuboglu-sw-1(config-if)#sw mode trunk

sch-sochi-teyuboglu-sw-1(config-if)#
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/23, changed state to down

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/23, changed state to up

sch-sochi-teyuboglu-sw-1(config-if)#int f0/24
sch-sochi-teyuboglu-sw-1(config-if)#sw mode trunk
sch-sochi-teyuboglu-sw-1(config-if)#vlan 6
sch-sochi-teyuboglu-sw-1(config-vlan)#name sochi
sch-sochi-teyuboglu-sw-1(config-vlan)#int vlan 6
sch-sochi-teyuboglu-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

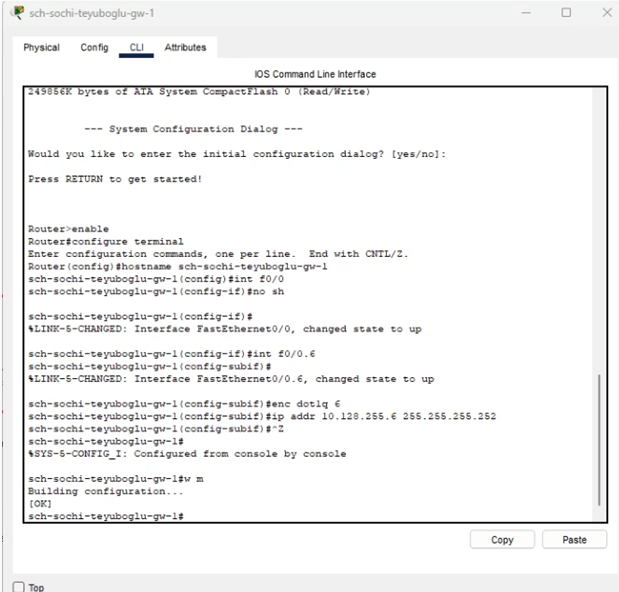
sch-sochi-teyuboglu-sw-1(config-if)#no sh
sch-sochi-teyuboglu-sw-1(config-if)#^Z
sch-sochi-teyuboglu-sw-1#
%SYS-5-CONFIG_I: Configured from console by console

sch-sochi-teyuboglu-sw-1#w m
Building configuration...
[OK]
sch-sochi-teyuboglu-sw-1#
```

Copy Paste

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Настройка интерфейсов маршрутизатора sch-sochi-gw-1



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

```
249856K bytes of ATA System CompactFlash 0 (Read/Write)

--- System Configuration Dialog ---

Would you like to enter the initial configuration dialog? [yes/no]:

Press RETURN to get started!

Router>enable
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#hostname sch-sochi-teyuboglu-gw-1
sch-sochi-teyuboglu-gw-1(config)#int f0/0
sch-sochi-teyuboglu-gw-1(config-if)#no sh

sch-sochi-teyuboglu-gw-1(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up

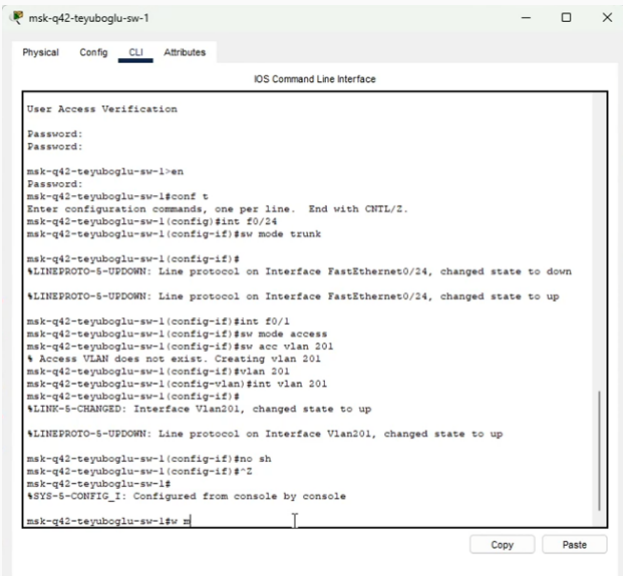
sch-sochi-teyuboglu-gw-1(config-if)#int f0/0.6
sch-sochi-teyuboglu-gw-1(config-subif)#
%LINK-5-CHANGED: Interface FastEthernet0/0.6, changed state to up

sch-sochi-teyuboglu-gw-1(config-subif)#enc dot1q 6
sch-sochi-teyuboglu-gw-1(config-subif)#ip addr 10.128.255.6 255.255.255.252
sch-sochi-teyuboglu-gw-1(config-subif)#^Z
sch-sochi-teyuboglu-gw-1#
%SYS-5-CONFIG_I: Configured from console by console

sch-sochi-teyuboglu-gw-1#w m
Building configuration...
[OK]
sch-sochi-teyuboglu-gw-1#
```

At the bottom of the terminal window, there are "Copy" and "Paste" buttons. Below the terminal window, there is a checkbox labeled "Top".

Настройка площадки 42-го квартала. Настройка интерфейсов коммутатора msk-q42-sw-1



The screenshot shows a network configuration window titled "msk-q42-teyuboglu-sw-1". It has tabs for "Physical", "Config", "CLI", and "Attributes". The "CLI" tab is active, displaying the "IOS Command Line Interface". The interface shows a series of commands and their outputs:

```
User Access Verification
Password:
Password:

msk-q42-teyuboglu-sw-1>en
Password:
msk-q42-teyuboglu-sw-1#conf t
Enter configuration commands, one per line. End with CNTL/Z.
msk-q42-teyuboglu-sw-1(config)#int f0/24
msk-q42-teyuboglu-sw-1(config-if)#sw mode trunk

msk-q42-teyuboglu-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

msk-q42-teyuboglu-sw-1(config-if)#int f0/1
msk-q42-teyuboglu-sw-1(config-if)#sw mode access
msk-q42-teyuboglu-sw-1(config-if)#sw acc vlan 201
% Access VLAN does not exist. Creating vlan 201
msk-q42-teyuboglu-sw-1(config-if)#vlan 201
msk-q42-teyuboglu-sw-1(config-vlan)#int vlan 201
msk-q42-teyuboglu-sw-1(config-if)#
%LINK-5-CHANGED: Interface Vlan201, changed state to up

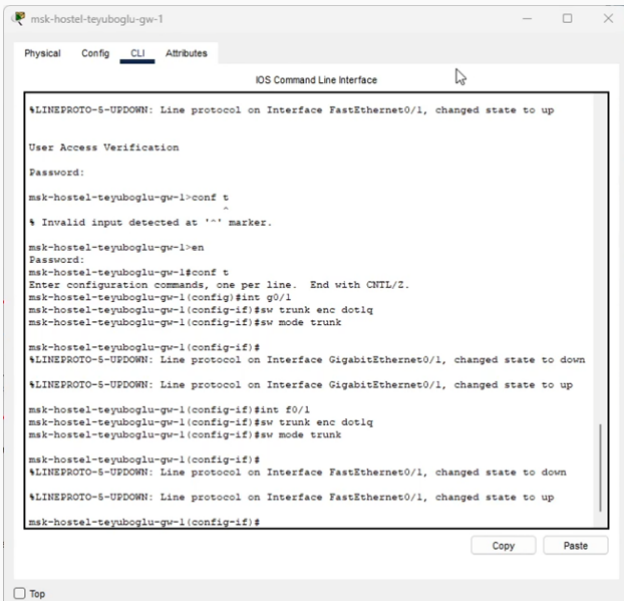
%LINEPROTO-5-UPDOWN: Line protocol on Interface Vlan201, changed state to up

msk-q42-teyuboglu-sw-1(config-if)#no sh
msk-q42-teyuboglu-sw-1(config-if)#^Z
msk-q42-teyuboglu-sw-1#
%SYS-5-CONFIG_I: Configured from console by console

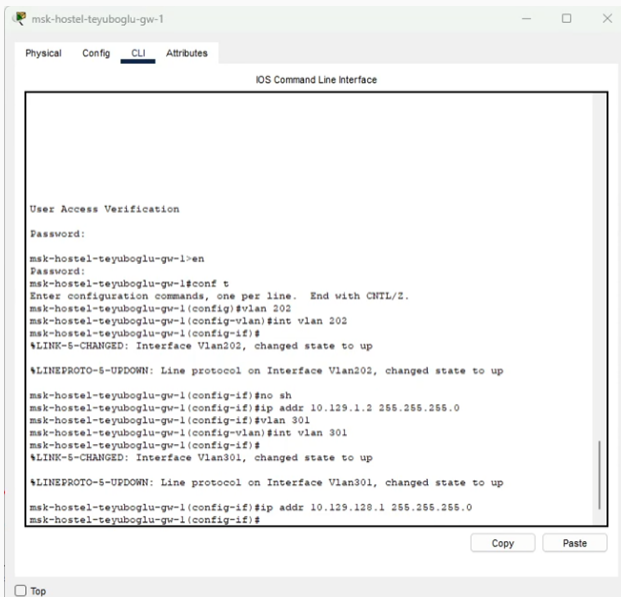
msk-q42-teyuboglu-sw-1#w m
```

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

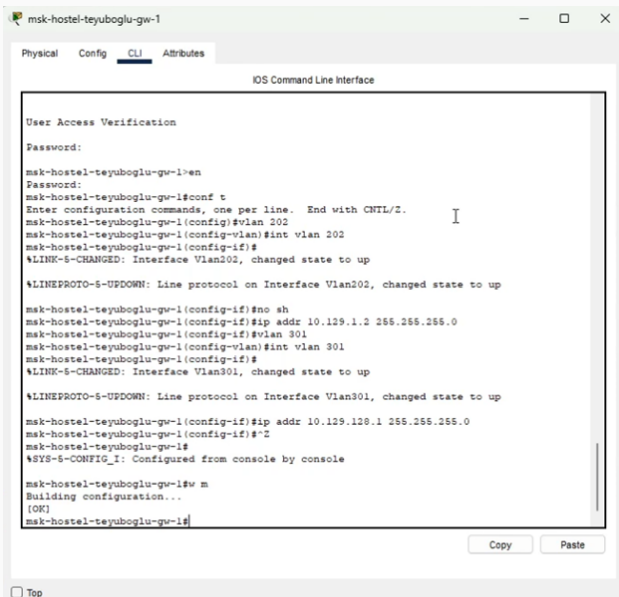
Настройка интерфейсов маршрутизирующего коммутатора msk-hostel-gw-1



Настройка интерфейсов маршрутизирующего коммутатора msk-hostel-gw-1



Настройка интерфейсов маршрутизирующего коммутатора msk-hostel-gw-1



The screenshot shows a web-based CLI interface for a device named 'msk-hostel-teyuboglu-gw-1'. The 'CLI' tab is selected. The interface displays the following commands and system messages:

```
User Access Verification
Password:
msk-hostel-teyuboglu-gw-1>en
Password:
msk-hostel-teyuboglu-gw-1#conf t
Enter configuration commands, one per line. End with CNTL/Z.
msk-hostel-teyuboglu-gw-1(config)#vlan 202
msk-hostel-teyuboglu-gw-1(config-vlan)#int vlan 202
msk-hostel-teyuboglu-gw-1(config-if)#
%LINK-5-CHANGED: Interface Vlan202, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface Vlan202, changed state to up
msk-hostel-teyuboglu-gw-1(config-if)#no sh
msk-hostel-teyuboglu-gw-1(config-if)#ip addr 10.129.1.2 255.255.255.0
msk-hostel-teyuboglu-gw-1(config-if)#vlan 301
msk-hostel-teyuboglu-gw-1(config-vlan)#int vlan 301
msk-hostel-teyuboglu-gw-1(config-if)#
%LINK-5-CHANGED: Interface Vlan301, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface Vlan301, changed state to up
msk-hostel-teyuboglu-gw-1(config-if)#ip addr 10.129.128.1 255.255.255.0
msk-hostel-teyuboglu-gw-1(config-if)#^Z
msk-hostel-teyuboglu-gw-1#
%SYS-5-CONFIG_I: Configured from console by console
msk-hostel-teyuboglu-gw-1#w m
Building configuration...
[OK]
msk-hostel-teyuboglu-gw-1#
```

At the bottom of the CLI window, there are 'Copy' and 'Paste' buttons. Below the window, there is a 'Top' button.

Настройка интерфейсов коммутатора msk-hostel-sw-1

msk-hostel-teyuboglu-sw-1

Physical Config CLI Attributes

IOS Command Line Interface

```
%LINK-5-CHANGED: Interface GigabitEthernet0/1, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/1, changed state to up
%LINK-5-CHANGED: Interface FastEthernet0/1, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed state to up
%SPANTRIE-2-RECV_FVID_ERR: Received 802.1Q BPDU on non trunk GigabitEthernet0/1 VLAN1.
%SPANTRIE-2-BLOCK_FVID_LOCAL: Blocking GigabitEthernet0/1 on VLAN0001. Inconsistent port
type.

%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/1, changed state to down
%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/1, changed state to up

User Access Verification

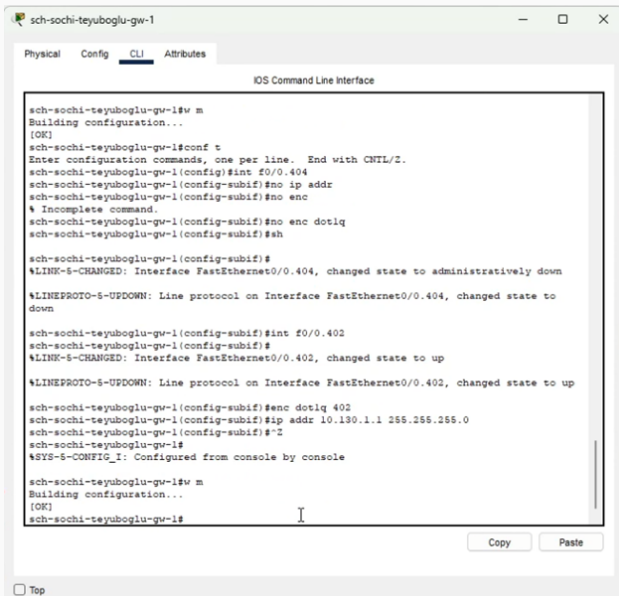
Password:

msk-hostel-teyuboglu-sw-1>en
Password:
msk-hostel-teyuboglu-sw-1#conf t
Enter configuration commands, one per line. End with CNTL/Z.
msk-hostel-teyuboglu-sw-1(config)#int g0/1
msk-hostel-teyuboglu-sw-1(config-if)#sw mode trunk
msk-hostel-teyuboglu-sw-1(config-if)#int f0/1
msk-hostel-teyuboglu-sw-1(config-if)#sw mode acce
msk-hostel-teyuboglu-sw-1(config-if)#sw acc vlan 301
% Access VLAN does not exist. Creating vlan 301
msk-hostel-teyuboglu-sw-1(config-if)#
```

Copy Paste

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Настройка площадки в Сочи. Настройка интерфейсов маршрутизатора sch-sochi-gw-1



The screenshot shows a network device configuration window titled "sch-sochi-teyuboglu-gw-1". It has tabs for "Physical", "Config", "CLI", and "Attributes", with "CLI" selected. The main area is labeled "IOS Command Line Interface" and contains a terminal session. The session shows the user entering configuration commands for two interfaces, f0/0.404 and f0/0.402. For f0/0.404, the user sets the IP address to 10.130.1.1, enables it, and sets the description to "404". For f0/0.402, the user sets the IP address to 10.130.1.1, enables it, and sets the description to "402". The session ends with the user entering the "w" command to save the configuration.

```
sch-sochi-teyuboglu-gw-1#w m
Building configuration...
[OK]
sch-sochi-teyuboglu-gw-1#conf t
Enter configuration commands, one per line. End with CNTL/Z.
sch-sochi-teyuboglu-gw-1(config)#int f0/0.404
sch-sochi-teyuboglu-gw-1(config-subif)#no ip addr
sch-sochi-teyuboglu-gw-1(config-subif)#no enc
% Incomplete command.
sch-sochi-teyuboglu-gw-1(config-subif)#no enc dotiq
sch-sochi-teyuboglu-gw-1(config-subif)#sh

sch-sochi-teyuboglu-gw-1(config-subif)#
%LINK-5-CHANGED: Interface FastEthernet0/0.404, changed state to administratively down

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0.404, changed state to
down

sch-sochi-teyuboglu-gw-1(config-subif)#int f0/0.402
sch-sochi-teyuboglu-gw-1(config-subif)#
%LINK-5-CHANGED: Interface FastEthernet0/0.402, changed state to up

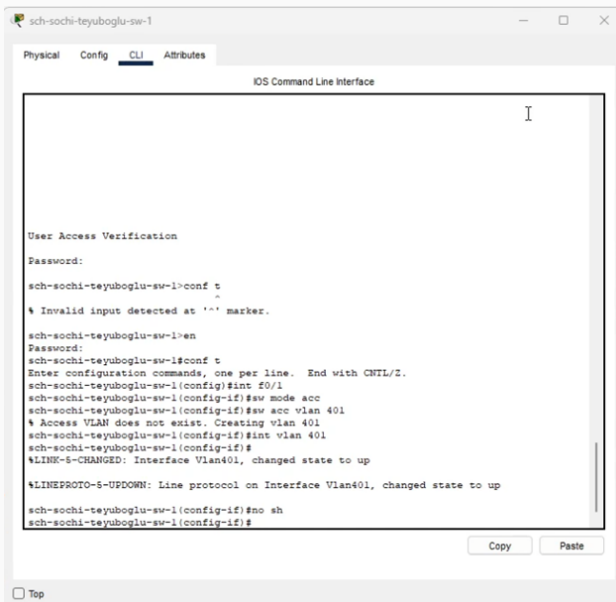
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0.402, changed state to up

sch-sochi-teyuboglu-gw-1(config-subif)#enc dotiq 402
sch-sochi-teyuboglu-gw-1(config-subif)#ip addr 10.130.1.1 255.255.255.0
sch-sochi-teyuboglu-gw-1(config-subif)#^Z
sch-sochi-teyuboglu-gw-1#
%SYS-5-CONFIG_I: Configured from console by console

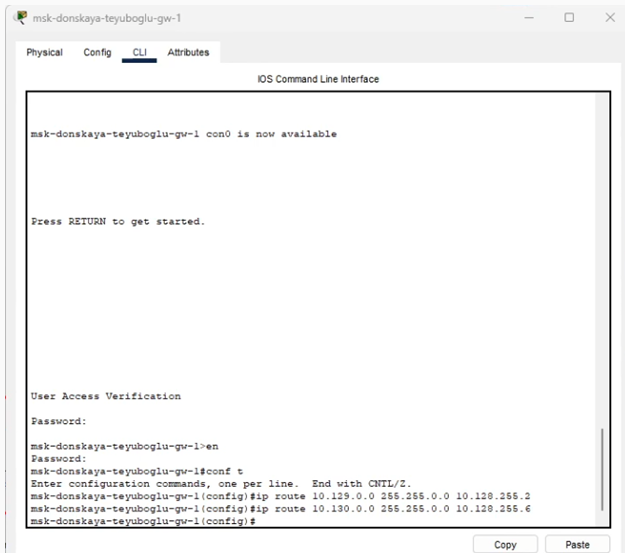
sch-sochi-teyuboglu-gw-1#w m
Building configuration...
[OK]
sch-sochi-teyuboglu-gw-1#
```

At the bottom right of the terminal window, there are "Copy" and "Paste" buttons. At the bottom left of the overall window, there is a "Top" button.

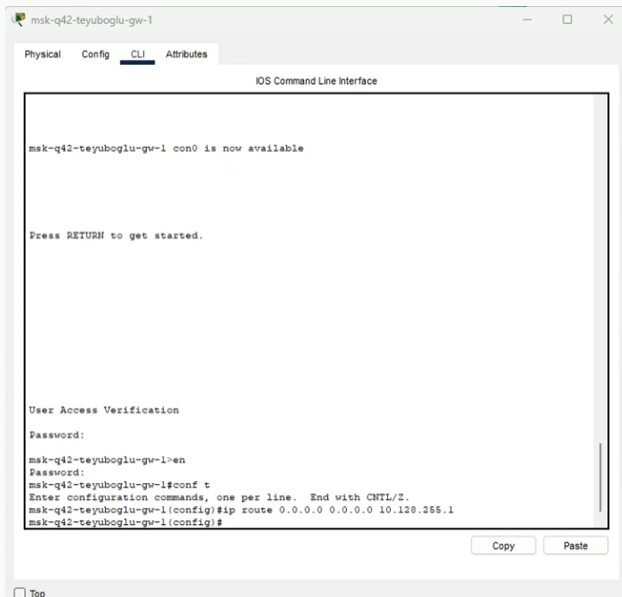
Настройка интерфейсов коммутатора sch-sochi-sw-1



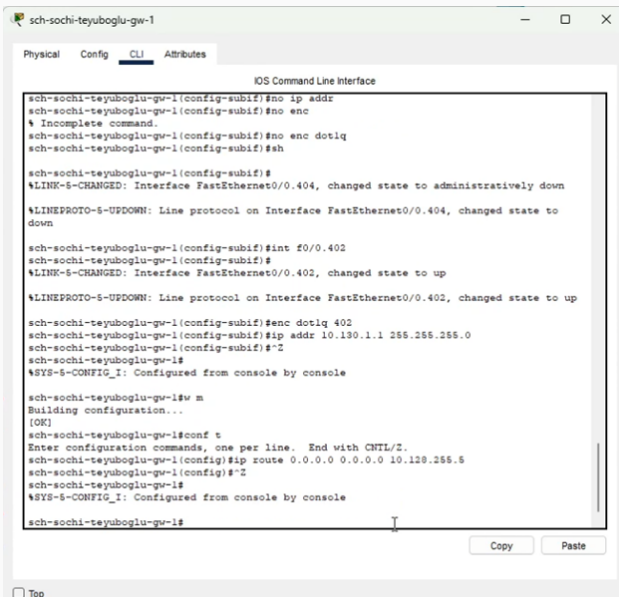
Настройка маршрутизации между площадками. Настройка маршрутизатора msk-donskaya-gw-1



Настройка маршрутизатора msk-q42-gw-1



Настройка маршрутизатора sch-sochi-gw-1



The screenshot shows a window titled "sch-sochi-teyuboglu-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 responses:

```
sch-sochi-teyuboglu-gw-1(config-subif)#no ip addr
sch-sochi-teyuboglu-gw-1(config-subif)#no enc
% Incomplete command.
sch-sochi-teyuboglu-gw-1(config-subif)#no enc dot1q
sch-sochi-teyuboglu-gw-1(config-subif)#sh

sch-sochi-teyuboglu-gw-1(config-subif)#
%LINK-5-CHANGED: Interface FastEthernet0/0.404, changed state to administratively down

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0.404, changed state to down

sch-sochi-teyuboglu-gw-1(config-subif)#int f0/0.402
sch-sochi-teyuboglu-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

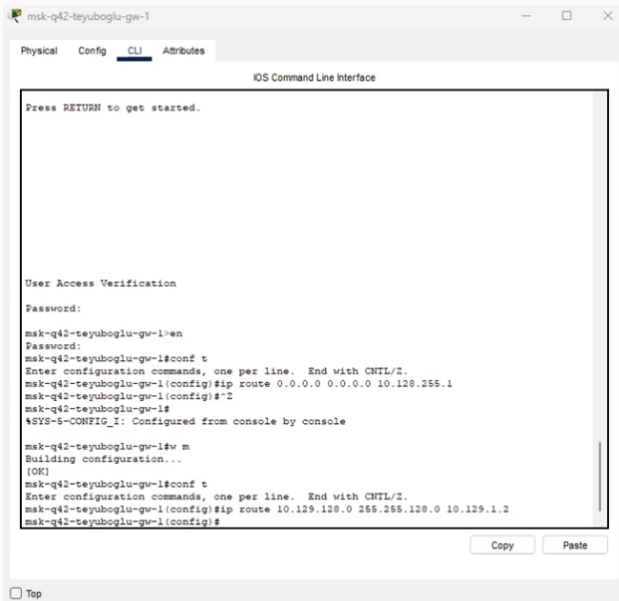
sch-sochi-teyuboglu-gw-1(config-subif)#enc dot1q 402
sch-sochi-teyuboglu-gw-1(config-subif)#ip addr 10.130.1.1 255.255.255.0
sch-sochi-teyuboglu-gw-1(config-subif)#^Z
sch-sochi-teyuboglu-gw-1#
%SYS-5-CONFIG_I: Configured from console by console

sch-sochi-teyuboglu-gw-1#w m
Building configuration...
[OK]
sch-sochi-teyuboglu-gw-1#conf t
Enter configuration commands, one per line. End with CNTL/Z.
sch-sochi-teyuboglu-gw-1(config)#ip route 0.0.0.0 0.0.0.0 10.120.255.5
sch-sochi-teyuboglu-gw-1(config)#^Z
sch-sochi-teyuboglu-gw-1#
%SYS-5-CONFIG_I: Configured from console by console

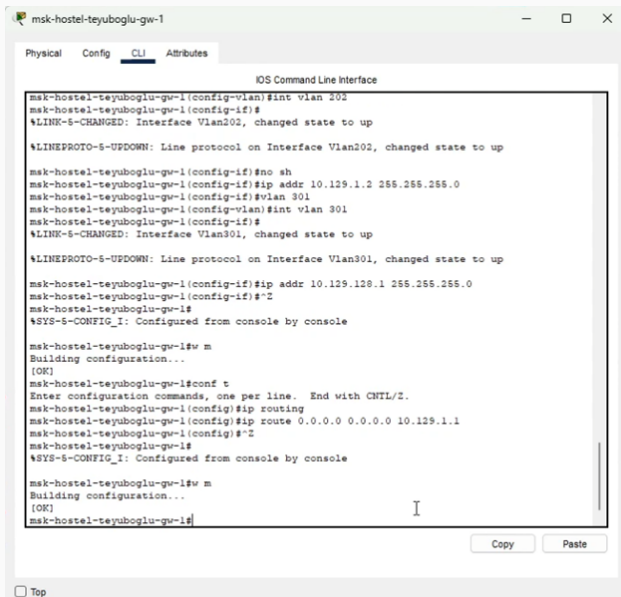
sch-sochi-teyuboglu-gw-1#
```

At the bottom of the window, there are "Copy" and "Paste" buttons, and a "Top" button in the footer.

Настройка маршрутизации на 42 квартале. Настройка маршрутизатора msk-q42-gw-1



Настройка интерфейсов маршрутизирующего коммутатора msk-hostel-gw-1



msk-hostel-teyuboglu-gw-1

Physical Config CLI Attributes

IOS Command Line Interface

```
msk-hostel-teyuboglu-gw-1(config-vlan)#int vlan 202
msk-hostel-teyuboglu-gw-1(config-if)#
%LINK-5-CHANGED: Interface Vlan202, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Vlan202, changed state to up

msk-hostel-teyuboglu-gw-1(config-if)#no sh
msk-hostel-teyuboglu-gw-1(config-if)#ip addr 10.129.1.2 255.255.255.0
msk-hostel-teyuboglu-gw-1(config-if)#vlan 301
msk-hostel-teyuboglu-gw-1(config-vlan)#int vlan 301
msk-hostel-teyuboglu-gw-1(config-if)#
%LINK-5-CHANGED: Interface Vlan301, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Vlan301, changed state to up

msk-hostel-teyuboglu-gw-1(config-if)#ip addr 10.129.129.1 255.255.255.0
msk-hostel-teyuboglu-gw-1(config-if)#^Z
msk-hostel-teyuboglu-gw-1#
%SYS-5-CONFIG_I: Configured from console by console

msk-hostel-teyuboglu-gw-1#w m
Building configuration...
[OK]
msk-hostel-teyuboglu-gw-1#conf t
Enter configuration commands, one per line. End with CNTL/Z.
msk-hostel-teyuboglu-gw-1(config)#ip routing
msk-hostel-teyuboglu-gw-1(config)#ip route 0.0.0.0 0.0.0.0 10.129.1.1
msk-hostel-teyuboglu-gw-1(config)#^Z
msk-hostel-teyuboglu-gw-1#
%SYS-5-CONFIG_I: Configured from console by console

msk-hostel-teyuboglu-gw-1#w m
Building configuration...
[OK]
msk-hostel-teyuboglu-gw-1#
```

Copy Paste

☐ Top

Настройка NAT на маршрутизаторе msk-donskaya-gw-1

msk-donskaya-teyuboglu-gw-1

Physical Config CLI Attributes

IOS Command Line Interface

```
msk-donskaya-teyuboglu-gw-1>en
Password:
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 10.129.0.0 255.255.0.0 10.128.255.2
msk-donskaya-teyuboglu-gw-1(config)#ip route 10.130.0.0 255.255.0.0 10.128.255.6
msk-donskaya-teyuboglu-gw-1(config)#int f0/1.5
msk-donskaya-teyuboglu-gw-1(config-subif)#ip nat inside
msk-donskaya-teyuboglu-gw-1(config-subif)#int f0/1.6
msk-donskaya-teyuboglu-gw-1(config-subif)#ip nat inside
msk-donskaya-teyuboglu-gw-1(config-subif)#ip access-
% Incomplete command.
msk-donskaya-teyuboglu-gw-1(config-subif)#ip access-l
^
% Invalid input detected at '^' marker.
msk-donskaya-teyuboglu-gw-1(config-subif)#ip access-l
^
% Invalid input detected at '^' marker.
msk-donskaya-teyuboglu-gw-1(config-subif)#exit
msk-donskaya-teyuboglu-gw-1(config)#ip access-list extended nat-inet
msk-donskaya-teyuboglu-gw-1(config-ext-nacl)#remark q42
msk-donskaya-teyuboglu-gw-1(config-ext-nacl)#permit ip host 10.129.0.200 any
msk-donskaya-teyuboglu-gw-1(config-ext-nacl)#permit ip host 10.129.129.200 any
msk-donskaya-teyuboglu-gw-1(config-ext-nacl)#remark sochi
msk-donskaya-teyuboglu-gw-1(config-ext-nacl)#permit ip host 10.130.0.200 any
msk-donskaya-teyuboglu-gw-1(config-ext-nacl)#^Z
msk-donskaya-teyuboglu-gw-1#
%SYS-5-CONFIG_I: Configured from console by console
msk-donskaya-teyuboglu-gw-1#
```

Copy Paste

☐ Top

Конфигурация IP для оконечных устройств.

The screenshot shows a network management interface with a window titled "msk-hostel-teyuboglu-pc-1". The "Desktop" tab is selected, and the "IP Configuration" section is highlighted in blue. The "Interface" dropdown is set to "FastEthernet0".

IP Configuration

Interface: FastEthernet0

IP Configuration

☐ DHCP ☒ Static

IPv4 Address: 10.129.128.200

Subnet Mask: 255.255.255.0

Default Gateway: 10.129.128.1

DNS Server: 0.0.0.0

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address: /

Link Local Address: FE80::2D0:BAFF:FE26:717D

Default Gateway:

DNS Server:

802.1X

☐ Use 802.1X Security

Конфигурация IP для оконечных устройств.

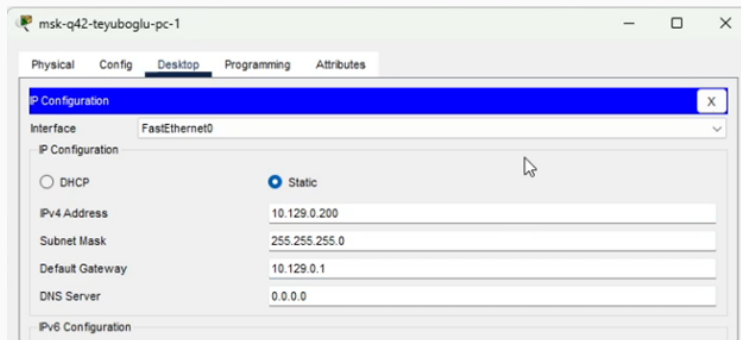


Рис. 21: Конфигурация IP

Конфигурация IP для оконечных устройств.

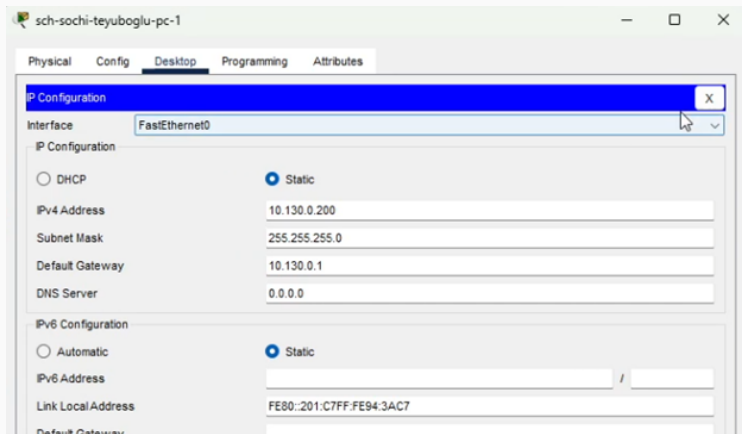
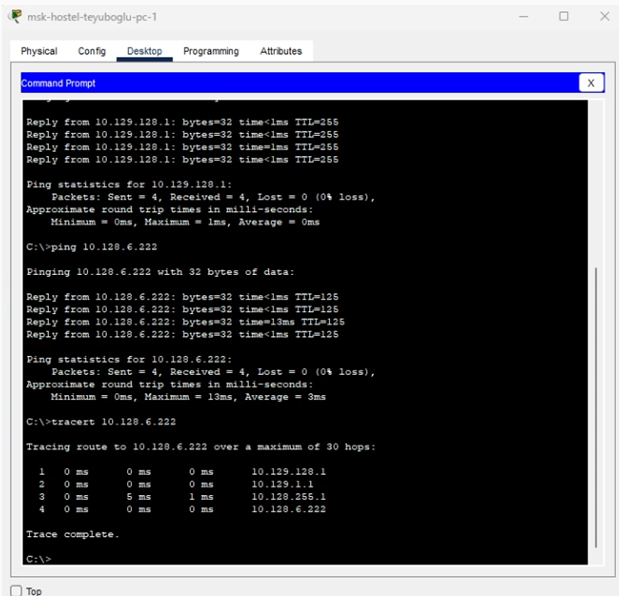


Рис. 22: Конфигурация IP

Проверка с помощью команды ping



The screenshot shows a Windows Command Prompt window titled "msk-hostel-teyuboglu-pc-1". The window has tabs for "Physical", "Config", "Desktop", "Programming", and "Attributes", with "Desktop" selected. The Command Prompt displays the results of a ping command to 10.129.128.1 and a subsequent ping command to 10.128.6.222. It also shows the output of a tracert command to 10.128.6.222, displaying the route taken by the packets.

```
Command Prompt
Reply from 10.129.128.1: bytes=32 time<1ms TTL=255
Reply from 10.129.128.1: bytes=32 time<1ms TTL=255
Reply from 10.129.128.1: bytes=32 time<1ms TTL=255
Reply from 10.129.128.1: bytes=32 time<1ms TTL=255

Ping statistics for 10.129.128.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\>ping 10.128.6.222

Pinging 10.128.6.222 with 32 bytes of data:

Reply from 10.128.6.222: bytes=32 time<1ms TTL=125
Reply from 10.128.6.222: bytes=32 time<1ms TTL=125
Reply from 10.128.6.222: bytes=32 time=13ms TTL=125
Reply from 10.128.6.222: bytes=32 time<1ms TTL=125

Ping statistics for 10.128.6.222:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 13ms, Average = 3ms

C:\>tracert 10.128.6.222

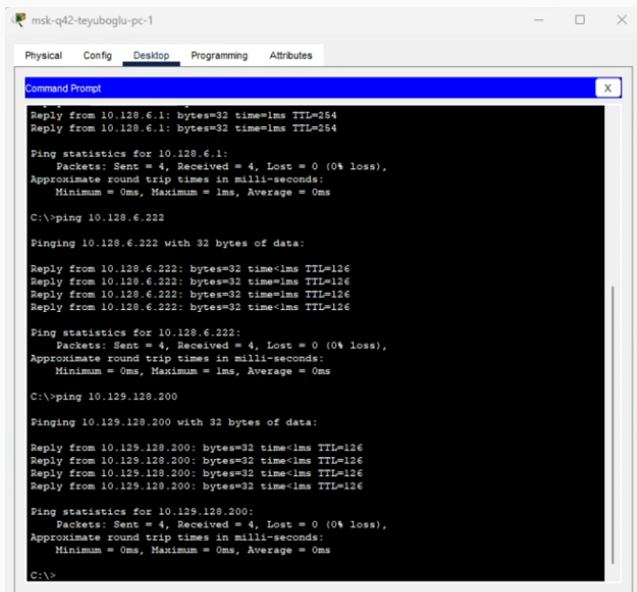
Tracing route to 10.128.6.222 over a maximum of 30 hops:

  0  0 ms    0 ms    0 ms    10.129.128.1
  1  0 ms    0 ms    0 ms    10.129.1.1
  2  0 ms    5 ms    1 ms    10.128.255.1
  3  0 ms    0 ms    0 ms    10.128.6.222

Trace complete.

C:\>
```

Проверка с помощью команды ping



The screenshot shows a Windows Command Prompt window titled "msk-q42-teyuboglu-pc-1". The window has tabs for "Physical", "Config", "Desktop", "Programming", and "Attributes", with "Desktop" selected. The Command Prompt displays the output of several ping commands. The first command is a continuous ping to 10.128.6.1, showing successful replies with 32 bytes, 1ms time, and a TTL of 254. The second command is a single ping to 10.128.6.222, showing four successful replies with 32 bytes, 1ms time, and a TTL of 126. The third command is a single ping to 10.129.128.200, also showing four successful replies with 32 bytes, 1ms time, and a TTL of 126. Ping statistics for each target are displayed, indicating 0% loss and 0ms average round trip time.

```
msk-q42-teyuboglu-pc-1
Physical Config Desktop Programming Attributes
Command Prompt
Reply from 10.128.6.1: bytes=32 time=1ms TTL=254
Reply from 10.128.6.1: bytes=32 time=1ms TTL=254

Ping statistics for 10.128.6.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\>ping 10.128.6.222

Pinging 10.128.6.222 with 32 bytes of data:

Reply from 10.128.6.222: bytes=32 time<1ms TTL=126
Reply from 10.128.6.222: bytes=32 time=1ms TTL=126
Reply from 10.128.6.222: bytes=32 time=1ms TTL=126
Reply from 10.128.6.222: bytes=32 time<1ms TTL=126

Ping statistics for 10.128.6.222:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\>ping 10.129.128.200

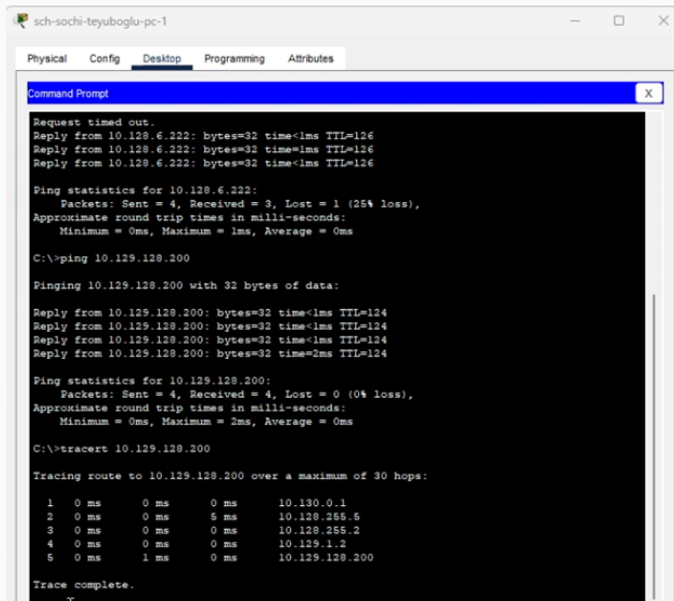
Pinging 10.129.128.200 with 32 bytes of data:

Reply from 10.129.128.200: bytes=32 time<1ms TTL=126
Reply from 10.129.128.200: bytes=32 time<1ms TTL=126
Reply from 10.129.128.200: bytes=32 time<1ms TTL=126
Reply from 10.129.128.200: bytes=32 time<1ms TTL=126

Ping statistics for 10.129.128.200:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>
```

Проверка с помощью команды ping



The screenshot shows a Windows Command Prompt window titled "sch-sochi-teyuboglu-pc-1". The window has tabs for "Physical", "Config", "Desktop", "Programming", and "Attributes", with "Desktop" selected. The Command Prompt displays the results of a ping command to 10.128.6.222, which shows a 25% loss. Then, a ping command to 10.129.128.200 is executed, showing 0% loss. Finally, a traceroute command to 10.129.128.200 is executed, showing a path of 5 hops.

```
Request timed out.  
Reply from 10.128.6.222: bytes=32 time<1ms TTL=126  
Reply from 10.128.6.222: bytes=32 time<1ms TTL=126  
Reply from 10.128.6.222: bytes=32 time<1ms TTL=126  
  
Ping statistics for 10.128.6.222:  
    Packets: Sent = 4, Received = 3, Lost = 1 (25% 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:  
  
Reply from 10.129.128.200: bytes=32 time<1ms TTL=124  
Reply from 10.129.128.200: bytes=32 time<1ms TTL=124  
Reply from 10.129.128.200: bytes=32 time<1ms TTL=124  
Reply from 10.129.128.200: bytes=32 time=2ms TTL=124  
  
Ping statistics for 10.129.128.200:  
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),  
    Approximate round trip times in milli-seconds:  
        Minimum = 0ms, Maximum = 2ms, Average = 0ms  
  
C:\>tracert 10.129.128.200  
  
Tracing route to 10.129.128.200 over a maximum of 30 hops:  
  
  0  0 ms    0 ms    0 ms    10.130.0.1  
  1  0 ms    0 ms    5 ms    10.128.255.5  
  2  0 ms    0 ms    0 ms    10.128.255.2  
  3  0 ms    0 ms    0 ms    10.129.1.2  
  4  0 ms    1 ms    0 ms    10.129.128.200  
  5  
  
Trace complete.
```

Выводы по проделанной работе

Благодаря выполнению данной лабораторной работы мы настроили 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.