

Лабораторная Работа №2. Предварительная настройка оборудования Cisco

Администрирование локальных сетей

Исаев Б.А.

Российский университет дружбы народов им. Патриса Лумумбы, Москва, Россия

- Исаев Булат Абубакарович
- НПИБд-01-22
- Российский университет дружбы народов
- [1132227131@pfur.ru]

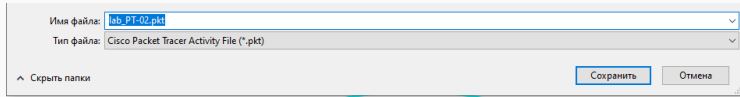
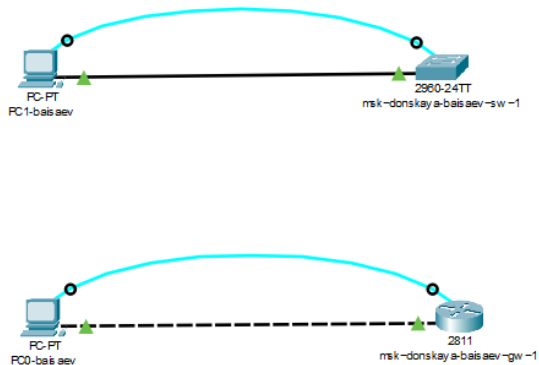


Figure 1: Создание нового проекта.

Конфигурирование оборудования Cisco



Конфигурирование оборудования Cisco

PC1-baisaev

Physical Config Desktop Programming Attributes

GLOBAL

Settings

Algorithm Settings

INTERFACE

FastEthernet0

Bluetooth

FastEthernet0

Port Status ☒ On

Bandwidth ☒ 100 Mbps ☐ 10 Mbps ☒ Auto

Duplex ☐ Half Duplex ☒ Full Duplex ☒ Auto

MAC Address 0003.E4B8.9DC4

IP Configuration

☐ DHCP

☒ Static

IPv4 Address 192.168.2.10

Subnet Mask 255.255.255.0

IPv6 Configuration

☐ Automatic

☒ Static

IPv6 Address

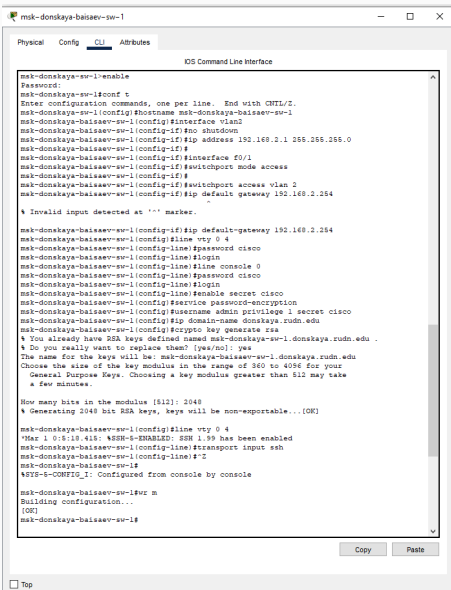
Link Local Address FE80::203:E4FF:FE88:9DC4

☐ Top

Конфигурирование оборудования Cisco



Конфигурирование оборудования Cisco



The screenshot shows a Cisco IOS Command Line Interface window titled "msk-donskaya-baisaev-sw-1". The window has tabs for "Physical", "Config", "CLI", and "Attributes", with "CLI" selected. The main area displays the following configuration commands and their outputs:

```
msk-donskaya-sw-1>enable
Password:
msk-donskaya-sw-1#conf t
Enter configuration commands, one per line. End with CNTL/Z.
msk-donskaya-sw-1(config)#hostname msk-donskaya-baisaev-sw-1
msk-donskaya-baisaev-sw-1(config)#interface vlan2
msk-donskaya-baisaev-sw-1(config-if)#no shutdown
msk-donskaya-baisaev-sw-1(config-if)#ip address 192.168.2.1 255.255.255.0
msk-donskaya-baisaev-sw-1(config-if)#
msk-donskaya-baisaev-sw-1(config-if)#interface f0/1
msk-donskaya-baisaev-sw-1(config-if)#switchport mode access
msk-donskaya-baisaev-sw-1(config-if)#
msk-donskaya-baisaev-sw-1(config-if)#switchport access vlan 2
msk-donskaya-baisaev-sw-1(config-if)#ip default gateway 192.168.2.254
^
% Invalid input detected at '^' marker.

msk-donskaya-baisaev-sw-1(config-if)#ip default-gateway 192.168.2.254
msk-donskaya-baisaev-sw-1(config)#line vty 0 4
msk-donskaya-baisaev-sw-1(config-line)#password cisco
msk-donskaya-baisaev-sw-1(config-line)#login
msk-donskaya-baisaev-sw-1(config-line)#line console 0
msk-donskaya-baisaev-sw-1(config-line)#password cisco
msk-donskaya-baisaev-sw-1(config-line)#login
msk-donskaya-baisaev-sw-1(config-line)#enable secret cisco
msk-donskaya-baisaev-sw-1(config)#service password-encryption
msk-donskaya-baisaev-sw-1(config)#username admin privilege 1 secret cisco
msk-donskaya-baisaev-sw-1(config)#crypto key generate rsa
% You already have RSA keys defined named msk-donskaya-sw-1.donskaya.rudn.edu .
% Do you really want to replace them? [yes/no]: yes
The name for the keys will be: msk-donskaya-baisaev-sw-1.donskaya.rudn.edu
Choose the size of the key modulus in the range of 360 to 4096 for your
General Purpose Keys. Choosing a key modulus greater than 512 may take
a few minutes.

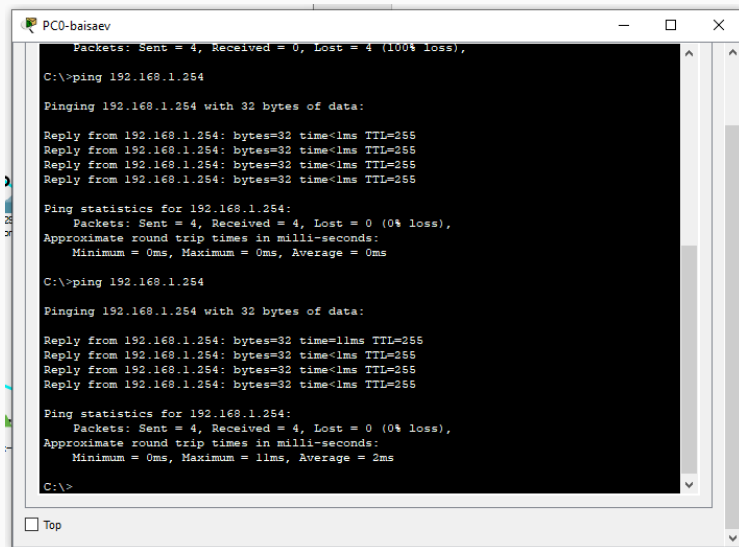
How many bits in the modulus [512]: 2048
% Generating 2048 bit RSA keys, keys will be non-exportable...[OK]

msk-donskaya-baisaev-sw-1(config)#line vty 0 4
*Mar 1 0:5:19.415: %SSH-5-ENABLED: SSH 1.99 has been enabled
msk-donskaya-baisaev-sw-1(config-line)#transport input ssh
msk-donskaya-baisaev-sw-1(config-line)#^Z
msk-donskaya-baisaev-sw-1#
%SYS-5-CONFIG_I: Configured from console by console

msk-donskaya-baisaev-sw-1#wr m
Building configuration...
[OK]
msk-donskaya-baisaev-sw-1#
```

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

Конфигурирование оборудования Cisco



```
PC0-baisaev
Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

C:\>ping 192.168.1.254

Pinging 192.168.1.254 with 32 bytes of data:

Reply from 192.168.1.254: bytes=32 time<1ms TTL=255
Reply from 192.168.1.254: bytes=32 time<1ms TTL=255
Reply from 192.168.1.254: bytes=32 time<1ms TTL=255
Reply from 192.168.1.254: bytes=32 time<1ms TTL=255

Ping statistics for 192.168.1.254:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>ping 192.168.1.254

Pinging 192.168.1.254 with 32 bytes of data:

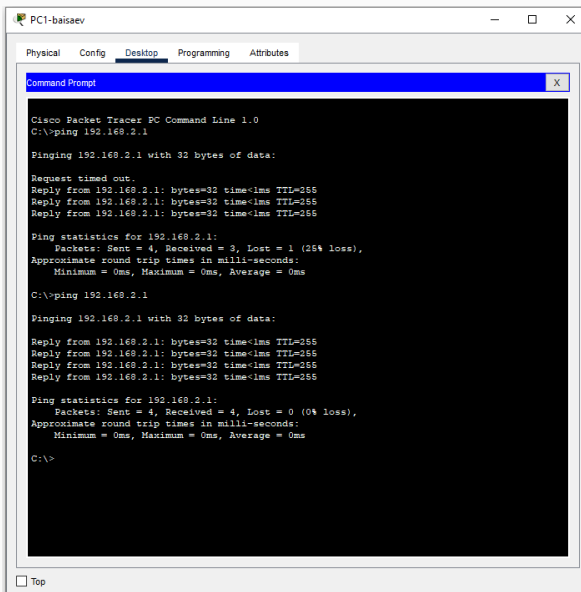
Reply from 192.168.1.254: bytes=32 time=11ms TTL=255
Reply from 192.168.1.254: bytes=32 time<1ms TTL=255
Reply from 192.168.1.254: bytes=32 time<1ms TTL=255
Reply from 192.168.1.254: bytes=32 time<1ms TTL=255

Ping statistics for 192.168.1.254:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 11ms, Average = 2ms

C:\>
```

Figure 6: Проверка работоспособности соединения PC0-baisaev -> msk-baisaev-qw-1.

Конфигурирование оборудования Cisco



The screenshot shows a window titled "PC1-baisaev" 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 the command "ping 192.168.2.1" twice. The first execution results in a 25% loss of packets, while the second execution results in 0% loss.

```
PC1-baisaev
Physical Config Desktop Programming Attributes

Command Prompt X

Cisco Packet Tracer PC Command Line 1.0
C:\>ping 192.168.2.1

Pinging 192.168.2.1 with 32 bytes of data:

Request timed out.
Reply from 192.168.2.1: bytes=32 time<1ms TTL=255
Reply from 192.168.2.1: bytes=32 time<1ms TTL=255
Reply from 192.168.2.1: bytes=32 time<1ms TTL=255

Ping statistics for 192.168.2.1:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>ping 192.168.2.1

Pinging 192.168.2.1 with 32 bytes of data:

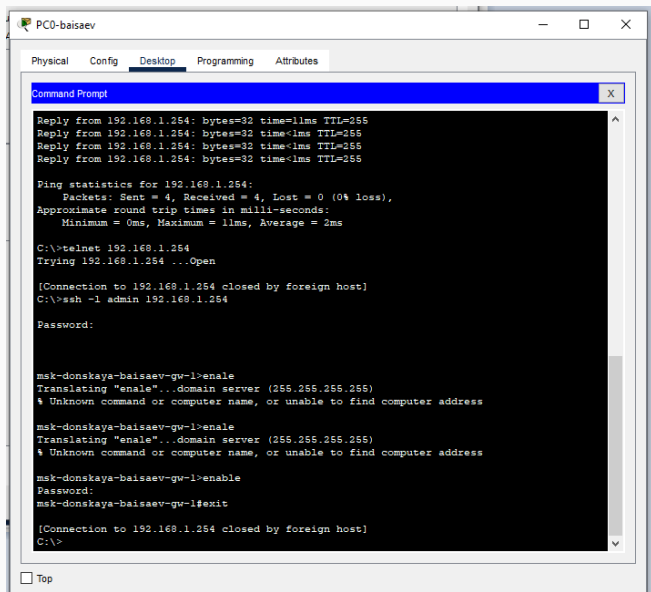
Reply from 192.168.2.1: bytes=32 time<1ms TTL=255
Reply from 192.168.2.1: bytes=32 time<1ms TTL=255
Reply from 192.168.2.1: bytes=32 time<1ms TTL=255
Reply from 192.168.2.1: bytes=32 time<1ms TTL=255

Ping statistics for 192.168.2.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>
```

☐ Top

Конфигурирование оборудования Cisco



The screenshot shows a Windows-style window titled "PC0-baisaev" with tabs for "Physical", "Config", "Desktop", "Programming", and "Attributes". The "Desktop" tab is active, displaying a "Command Prompt" window. The command prompt shows the results of a ping to 192.168.1.254, followed by attempts to connect via telnet and ssh. The telnet connection is closed by the foreign host. The ssh connection is attempted with the username 'admin' but fails because the password is incorrect. The user then attempts to enable the device using the 'enable' command, but this also fails because 'enable' is not a recognized command in the current context. Finally, the user exits the session.

```
PC0-baisaev
Physical Config Desktop Programming Attributes
Command Prompt
Reply from 192.168.1.254: bytes=32 time=11ms TTL=255
Reply from 192.168.1.254: bytes=32 time<1ms TTL=255
Reply from 192.168.1.254: bytes=32 time<1ms TTL=255
Reply from 192.168.1.254: bytes=32 time<1ms TTL=255

Ping statistics for 192.168.1.254:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 11ms, Average = 2ms

C:\>telnet 192.168.1.254
Trying 192.168.1.254 ...Open

[Connection to 192.168.1.254 closed by foreign host]
C:\>ssh -l admin 192.168.1.254

Password:

msk-donskaya-baisaev-gw-1>enable
Translating "enable"...domain server (255.255.255.255)
% Unknown command or computer name, or unable to find computer address

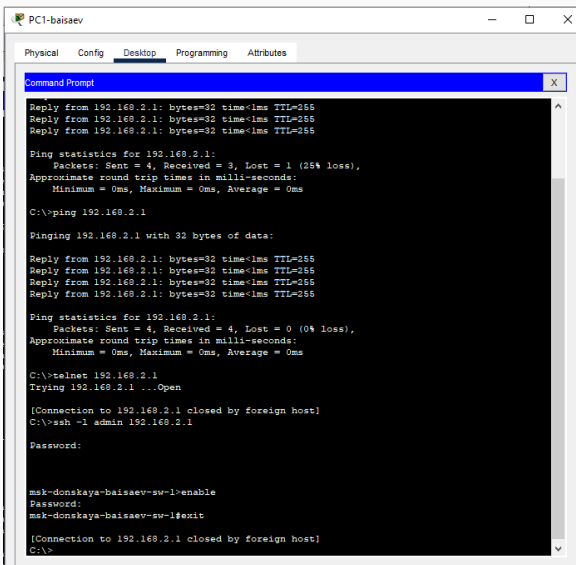
msk-donskaya-baisaev-gw-1>enable
Translating "enable"...domain server (255.255.255.255)
% Unknown command or computer name, or unable to find computer address

msk-donskaya-baisaev-gw-1>enable
Password:
msk-donskaya-baisaev-gw-1#exit

[Connection to 192.168.1.254 closed by foreign host]
C:\>
```

☐ Top

Конфигурирование оборудования Cisco



The screenshot shows a window titled "PC1-baisaev" with tabs for "Physical", "Config", "Desktop", "Programming", and "Attributes". The "Desktop" tab is active, displaying a "Command Prompt" window. The Command Prompt shows the results of a ping test to 192.168.2.1, which initially shows a 25% loss. After a second ping, the loss is 0%. It also shows a failed telnet attempt and a successful ssh connection to the same IP address.

```
PC1-baisaev
Physical Config Desktop Programming Attributes
Command Prompt X
Reply from 192.168.2.1: bytes=32 time<1ms TTL=255
Reply from 192.168.2.1: bytes=32 time<1ms TTL=255
Reply from 192.168.2.1: bytes=32 time<1ms TTL=255

Ping statistics for 192.168.2.1:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>ping 192.168.2.1

Pinging 192.168.2.1 with 32 bytes of data:

Reply from 192.168.2.1: bytes=32 time<1ms TTL=255
Reply from 192.168.2.1: bytes=32 time<1ms TTL=255
Reply from 192.168.2.1: bytes=32 time<1ms TTL=255
Reply from 192.168.2.1: bytes=32 time<1ms TTL=255

Ping statistics for 192.168.2.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>telnet 192.168.2.1
Trying 192.168.2.1 ...Open

[Connection to 192.168.2.1 closed by foreign host]
C:\>ssh -l admin 192.168.2.1

Password:

msk-donskaya-baisaev-sw-l#enable
Password:
msk-donskaya-baisaev-sw-l#exit

[Connection to 192.168.2.1 closed by foreign host]
C:\>
```

В ходе выполнения лабораторной работы были получены основные навыки по начальному конфигурированию оборудования Cisco.