



Лабораториска вежба бр. 6	GNS3 IP Конфигурација		
Стефан Милев	206055	4 - КН	14.12.2021

1 Конфигурација на рутери

Внесете ги командите користени за да ги конфигурирате рутерите.

```
R_A#config t
Enter configuration commands, one per line. End with CNTL/Z.
R_A(config)#hostname R_A
R_A(config)#enable password lab6
R_A(config)#banner motd ;
Enter TEXT message. End with the character ';'.
MOTD R_A;
R_A(config)#interface s0/0
R_A(config-if)#ip address 172.16.20.2 255.255.255.0
R_A(config-if)#description S0/0
R_A(config-if)#no shutdown
R_A(config-if)#exit
R_A(config)#interface f1/0
R_A(config-if)#no switchport
R_A(config-if)#ip address 172.16.60.1 255.255.255.0
R_A(config-if)#description F1/0
R_A(config-if)#no shutdown
R_A(config-if)#exit
R_A(config)#exit
R_A#
*Mar 1 00:41:25.943: %SYS-5-CONFIG_I: Configured from console by console
R_A#
```

```
R_B#config t
Enter configuration commands, one per line. End with CNTL/Z.
R_B(config)#hostname R_B
R_B(config)#enable password lab6
R_B(config)#banner motd ;
Enter TEXT message. End with the character ';'.
MOTD R_B;
R_B(config)#interface s0/0
R_B(config-if)#ip address 172.16.30.2 255.255.255.0
R_B(config-if)#description S0/0
R_B(config-if)#no shutdown
R_B(config-if)#e
*Mar 1 00:19:10.651: %LINK-3-UPDOWN: Interface Serial0/0, changed state to up
R_B(config-if)#exit
*Mar 1 00:19:11.655: %LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/0, changed state to up
R_B(config-if)#exit
R_B(config)#interface f1/0
R_B(config-if)#no switchport
R_B(config-if)#ip address 1
*Mar 1 00:19:30.195: %LINEPROTO-5-UPDOWN: Line protocol on Interface Vlan1, changed state to down
R_B(config-if)#ip address 1
*Mar 1 00:19:31.795: %LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/0, changed state to down
*Mar 1 00:19:32.351: %LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet1/0, changed state to up
R_B(config-if)#ip address 172.16.70.1 255.255.255.0
R_B(config-if)#description F1/0
R_B(config-if)#no shutdown
R_B(config-if)#exit
R_B(config)#exit
R_B#
*Mar 1 00:20:03.087: %SYS-5-CONFIG_I: Configured from console by console
R_B#
```



```
R_C#config t
Enter configuration commands, one per line. End with CNTL/Z.
R_C(config)#hostname R_C
R_C(config)#enable password lab6
R_C(config)#banner motd ;
Enter TEXT message. End with the character ';'.
MOTD R_C;
R_C(config)#interface s0/0
R_C(config-if)#ip address 172.16.40.2 255.255.255.0
R_C(config-if)#description S0/0
R_C(config-if)#no shutdown
R_C(config-if)#exit
R_C(config)#interface f1/0
*Mar 1 00:19:55.651: %LINK-3-UPDOWN: Interface Serial0/0, changed state to up
R_C(config)#interface f1/0
*Mar 1 00:19:56.655: %LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/0, changed state to up
R_C(config)#interface f1/0
R_C(config-if)#no switchport
R_C(config-if)#ip address
*Mar 1 00:20:10.727: %LINEPROTO-5-UPDOWN: Line protocol on Interface Vlan1, changed state to down
R_C(config-if)#ip address 172.
*Mar 1 00:20:12.887: %LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet1/0, changed state to up
R_C(config-if)#ip address 172.16.80.1 255.255.255.0
*Mar 1 00:20:21.959: %LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/0, changed state to down
R_C(config-if)#ip address 172.16.80.1 255.255.255.0
R_C(config-if)#description F1/0
R_C(config-if)#no shutdown
R_C(config-if)#exit
R_C(config)#exit
R_C#
*Mar 1 00:20:51.919: %SYS-5-CONFIG_I: Configured from console by console
R_C#
```

```

R_D#config t
Enter configuration commands, one per line. End with CNTL/Z.
R_D(config)#hostname R_D
R_D(config)#enable password lab6
R_D(config)#banner motd ;
Enter TEXT message. End with the character ';'.
MOTD R_D;
R_D(config)#interface s0/0
R_D(config-if)#ip address 172.16.50.2 255.255.255.0
R_D(config-if)#description S0/0
R_D(config-if)#no shutdown
R_D(config-if)#exit
R_D(config)#
*Mar 1 00:21:03.607: %LINK-3-UPDOWN: Interface Serial0/0, changed state to up
R_D(config)#
*Mar 1 00:21:04.611: %LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/0, changed state to up
R_D(config)#interface f1/0
R_D(config-if)#ip address 172.16.90.1 255.255.255.0

% IP addresses may not be configured on L2 links.

R_D(config-if)#no swi
*Mar 1 00:21:31.943: %LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/0, changed state to down
R_D(config-if)#no switchport
R_D(config-if)#ip address
*Mar 1 00:21:35.495: %LINEPROTO-5-UPDOWN: Line protocol on Interface Vlan1, changed state to down
R_D(config-if)#ip address 172.16.90.1 255.255.255.0
R_D(config-if)#
*Mar 1 00:21:37.651: %LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet1/0, changed state to up
R_D(config-if)#description F1/0
R_D(config-if)#no shutdown
R_D(config-if)#exit
R_D(config)#exit
R_D#
*Mar 1 00:21:52.463: %SYS-5-CONFIG_I: Configured from console by console
R_D#
```



```
R_E#config t
Enter configuration commands, one per line. End with CNTL/Z.
R_E(config)#hostname R_E
R_E(config)#enable password lab6
R_E(config)#banner motd ;
Enter TEXT message. End with the character ';'.
MOTD R_E;
R_E(config)#interface s0/0
R_E(config-if)#clock rate 64000
R_E(config-if)#ip address 172.16.20.1 255.255.255.0
R_E(config-if)#description S0/0
R_E(config-if)#no shutdown
R_E(config-if)#exit
*Mar 1 00:23:03.971: %LINK-3-UPDOWN: Interface Serial0/0, changed state to up
R_E(config-if)#exit
*Mar 1 00:23:04.975: %LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/0, changed state to up
R_E(config-if)#exit
R_E(config)#interface s0/1
R_E(config-if)#clock rate 64000
R_E(config-if)#ip address 172.16.30.1 255.255.255.0
R_E(config-if)#description S0/1
R_E(config-if)#no shutdown
R_E(config-if)#exit
R_E(config)#
*Mar 1 00:23:54.671: %LINK-3-UPDOWN: Interface Serial0/1, changed state to up
R_E(config)#
*Mar 1 00:23:55.675: %LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/1, changed state to up
R_E(config)#interface f1/0
R_E(config-if)#no switchport
R_E(config-if)#
*Mar 1 00:24:15.471: %LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet1/0, changed state to up
R_E(config-if)#ip address 172.16.10.1 255.255.255.0
R_E(config-if)#description F1/0
R_E(config-if)#no shutdown
R_E(config-if)#exit
R_E(config)#
R_F#config t
Enter configuration commands, one per line. End with CNTL/Z.
R_F(config)#hostname R_F
R_F(config)#enable password lab6
R_F(config)#banner motd ;
Enter TEXT message. End with the character ';'.
MOTD R_F;
R_F(config)#interface s0/0
R_F(config-if)#clock rate 64000
R_F(config-if)#ip address 172.16.40.1 255.255.255.0
R_F(config-if)#description S0/0
R_F(config-if)#no shutdown
R_F(config-if)#exit
R_F(config)#
*Mar 1 00:23:34.571: %LINK-3-UPDOWN: Interface Serial0/0, changed state to up
R_F(config)#
*Mar 1 00:23:35.575: %LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/0, changed state to up
R_F(config)#interface s0/1
R_F(config-if)#clock rate 64000
R_F(config-if)#ip address 172.16.50.1 255.255.255.0
R_F(config-if)#description S0/1
R_F(config-if)#no shutdown
R_F(config-if)#exit
R_F(config)#
*Mar 1 00:24:06.619: %LINK-3-UPDOWN: Interface Serial0/1, changed state to up
R_F(config)#
*Mar 1 00:24:07.623: %LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/1, changed state to up
R_F(config)#interface f1/0
R_F(config-if)#no switchport
R_F(config-if)#
*Mar 1 00:24:18.147: %LINEPROTO-5-UPDOWN: Line protocol on Interface Vlan1, changed state to down
R_F(config-if)#ip address
*Mar 1 00:24:20.303: %LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet1/0, changed state to up
R_F(config-if)#ip address 172.16.10.2 255.255.255.0
R_F(config-if)#description F1/0
R_F(config-if)#no shutdown
R_F(config-if)#exit
R_F(config)#
```

2 Проверка на конфигурацијата

2.1. Работна конфигурација

```
R_A#show run
Building configuration...

Current configuration : 1553 bytes
!
version 12.4
service timestamps debug datetime msec
service timestamps log datetime msec
no service password-encryption
!
hostname R_A
!
boot-start-marker
boot-end-marker
!
enable password lab6
!
no aaa new-model
memory-size iomem 5
no ip icmp rate-limit unreachable
!
!
ip cef
no ip domain lookup
!
--More--
```

```
R_B#show run
Building configuration...

Current configuration : 1553 bytes
!
version 12.4
service timestamps debug datetime msec
service timestamps log datetime msec
no service password-encryption
!
hostname R_B
!
boot-start-marker
boot-end-marker
!
enable password lab6
!
no aaa new-model
memory-size iomem 5
no ip icmp rate-limit unreachable
!
!
ip cef
no ip domain lookup
!
--More--
```

```
R_C#show run
Building configuration...

Current configuration : 1553 bytes
!
version 12.4
service timestamps debug datetime msec
service timestamps log datetime msec
no service password-encryption
!
hostname R_C
!
boot-start-marker
boot-end-marker
!
enable password lab6
!
no aaa new-model
memory-size iomem 5
no ip icmp rate-limit unreachable
!
!
ip cef
no ip domain lookup
!
--More-- █
```

```
R_D#show run
Building configuration...

Current configuration : 1553 bytes
!
version 12.4
service timestamps debug datetime msec
service timestamps log datetime msec
no service password-encryption
!
hostname R_D
!
boot-start-marker
boot-end-marker
!
enable password lab6
!
no aaa new-model
memory-size iomem 5
no ip icmp rate-limit unreachable
!
!
ip cef
no ip domain lookup
!
--More-- █
```



```
R_E#show run
Building configuration...

Current configuration : 1620 bytes
!
version 12.4
service timestamps debug datetime msec
service timestamps log datetime msec
no service password-encryption
!
hostname R_E
!
boot-start-marker
boot-end-marker
!
enable password lab6
!
no aaa new-model
memory-size iomem 5
no ip icmp rate-limit unreachable
!
!
ip cef
no ip domain lookup
!
```

```
R_F#show run
Building configuration...

Current configuration : 1620 bytes
!
version 12.4
service timestamps debug datetime msec
service timestamps log datetime msec
no service password-encryption
!
hostname R_F
!
boot-start-marker
boot-end-marker
!
enable password lab6
!
no aaa new-model
memory-size iomem 5
no ip icmp rate-limit unreachable
!
!
ip cef
no ip domain lookup
!
--More-- █
```



2.2. Рутирачка табела

```
R_A#show ip route
Codes: C - connected, S - static, R - RIP, M - mobile, B - BGP
       D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
       N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
       E1 - OSPF external type 1, E2 - OSPF external type 2
       i - IS-IS, su - IS-IS summary, L1 - IS-IS level-1, L2 - IS-IS level-2
       ia - IS-IS inter area, * - candidate default, U - per-user static route
       o - ODR, P - periodic downloaded static route

Gateway of last resort is not set

    172.16.0.0/24 is subnetted, 2 subnets
C       172.16.60.0 is directly connected, FastEthernet1/0
C       172.16.20.0 is directly connected, Serial0/0
R_A#
```

```
R_B#show ip route
Codes: C - connected, S - static, R - RIP, M - mobile, B - BGP
       D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
       N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
       E1 - OSPF external type 1, E2 - OSPF external type 2
       i - IS-IS, su - IS-IS summary, L1 - IS-IS level-1, L2 - IS-IS level-2
       ia - IS-IS inter area, * - candidate default, U - per-user static route
       o - ODR, P - periodic downloaded static route

Gateway of last resort is not set

    172.16.0.0/24 is subnetted, 2 subnets
C       172.16.30.0 is directly connected, Serial0/0
C       172.16.70.0 is directly connected, FastEthernet1/0
R_B#
```

```
R_C#show ip route
Codes: C - connected, S - static, R - RIP, M - mobile, B - BGP
       D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
       N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
       E1 - OSPF external type 1, E2 - OSPF external type 2
       i - IS-IS, su - IS-IS summary, L1 - IS-IS level-1, L2 - IS-IS level-2
       ia - IS-IS inter area, * - candidate default, U - per-user static route
       o - ODR, P - periodic downloaded static route

Gateway of last resort is not set

    172.16.0.0/24 is subnetted, 2 subnets
C       172.16.40.0 is directly connected, Serial0/0
C       172.16.80.0 is directly connected, FastEthernet1/0
R_C#
```



```
R_D#show ip route
Codes: C - connected, S - static, R - RIP, M - mobile, B - BGP
       D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
       N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
       E1 - OSPF external type 1, E2 - OSPF external type 2
       i - IS-IS, su - IS-IS summary, L1 - IS-IS level-1, L2 - IS-IS level-2
       ia - IS-IS inter area, * - candidate default, U - per-user static route
       o - ODR, P - periodic downloaded static route

Gateway of last resort is not set

    172.16.0.0/24 is subnetted, 2 subnets
C      172.16.50.0 is directly connected, Serial0/0
C      172.16.90.0 is directly connected, FastEthernet1/0
R_D#
```

```
R_E#show ip route
Codes: C - connected, S - static, R - RIP, M - mobile, B - BGP
       D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
       N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
       E1 - OSPF external type 1, E2 - OSPF external type 2
       i - IS-IS, su - IS-IS summary, L1 - IS-IS level-1, L2 - IS-IS level-2
       ia - IS-IS inter area, * - candidate default, U - per-user static route
       o - ODR, P - periodic downloaded static route

Gateway of last resort is not set

    172.16.0.0/24 is subnetted, 3 subnets
C      172.16.30.0 is directly connected, Serial0/1
C      172.16.20.0 is directly connected, Serial0/0
C      172.16.10.0 is directly connected, FastEthernet1/0
R_E#
```

```
R_F#show ip route
Codes: C - connected, S - static, R - RIP, M - mobile, B - BGP
       D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
       N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
       E1 - OSPF external type 1, E2 - OSPF external type 2
       i - IS-IS, su - IS-IS summary, L1 - IS-IS level-1, L2 - IS-IS level-2
       ia - IS-IS inter area, * - candidate default, U - per-user static route
       o - ODR, P - periodic downloaded static route

Gateway of last resort is not set

    172.16.0.0/24 is subnetted, 3 subnets
C      172.16.50.0 is directly connected, Serial0/1
C      172.16.40.0 is directly connected, Serial0/0
C      172.16.10.0 is directly connected, FastEthernet1/0
R_F#
```




2.3. Рутирачка табела на Рутер Е?

```
R_E#show ip route
Codes: C - connected, S - static, R - RIP, M - mobile, B - BGP
       D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
       N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
       E1 - OSPF external type 1, E2 - OSPF external type 2
       i - IS-IS, su - IS-IS summary, L1 - IS-IS level-1, L2 - IS-IS level-2
       ia - IS-IS inter area, * - candidate default, U - per-user static route
       o - ODR, P - periodic downloaded static route

Gateway of last resort is not set

    172.16.0.0/24 is subnetted, 3 subnets
C       172.16.30.0 is directly connected, Serial0/1
C       172.16.20.0 is directly connected, Serial0/0
C       172.16.10.0 is directly connected, FastEthernet1/0
R_E#show ip interface brief
Interface                IP-Address      OK? Method Status      Protocol
Serial0/0                 172.16.20.1     YES manual up          up
Serial0/1                 172.16.30.1     YES manual up          up
Serial0/2                 unassigned      YES unset   administratively down down
Serial0/3                 unassigned      YES unset   administratively down down
FastEthernet1/0           172.16.10.1     YES manual up          up
FastEthernet1/1           unassigned      YES unset   up          up
FastEthernet1/2           unassigned      YES unset   up          up
FastEthernet1/3           unassigned      YES unset   up          down
FastEthernet1/4           unassigned      YES unset   up          down
FastEthernet1/5           unassigned      YES unset   up          down
FastEthernet1/6           unassigned      YES unset   up          down
--More--
```

3. Конфигурација и проверка на домаќините

Host	IP Address	Default Gateway
H_A	172.16.10.5	Router E
H_B	172.16.10.6	Router E
H_C	172.16.10.7	Router F
H_D	172.16.10.8	Router F
H_E	172.16.60.3	_____
H_F	172.16.70.3	_____
H_G	172.16.80.3	_____
H_H	172.16.90.3	_____



- Дали работи ping од домаќинот Е до интерфејсите на рутерот А? Ако не, зошто?

```
H_E> ping 172.16.60.1
84 bytes from 172.16.60.1 icmp_seq=1 ttl=255 time=15.383 ms
84 bytes from 172.16.60.1 icmp_seq=2 ttl=255 time=15.323 ms
84 bytes from 172.16.60.1 icmp_seq=3 ttl=255 time=15.534 ms
84 bytes from 172.16.60.1 icmp_seq=4 ttl=255 time=15.664 ms
84 bytes from 172.16.60.1 icmp_seq=5 ttl=255 time=15.573 ms
```

- Дали работи ping од домаќинот Е до интерфејсите на рутерот Е? Ако не, зошто?

```
H_E> ping 172.16.20.1
172.16.20.1 icmp_seq=1 timeout
172.16.20.1 icmp_seq=2 timeout
172.16.20.1 icmp_seq=3 timeout
172.16.20.1 icmp_seq=4 timeout
172.16.20.1 icmp_seq=5 timeout
```

Домаќинот не знае каде се наоѓа рутерот.

- Дали работи ping од домаќините А и В до интерфејсите на рутерите Е и F? Ако не, зошто?

Домаќините не знаат каде се наоѓа рутерот F, а рутерот Е не може да го ping-нат дека соодветните интерфејси на рутерот f1/1 и f1/2 немаат IP адреси.

- Дали работи ping од домаќинот А до интерфејсите на рутерите Е и F и до домаќините В, С и D? Ако не, зошто?

Нема да работи заради истата причина. Доколку интерфејсите f1/1 и f1/2 на рутерот Е добијат IP адреси, тогаш ќе може сите 4 домаќини меѓусебно да се ping-нат.