A diagram of a computer network

Description automatically generated

**Alaphálózat: 192.168.1.0/24**

**Alhálózati IP címek:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Hálózat neve** | **Hálózati cím** | **Broadcast** | **Prefix** |
| **Reception** | **192.168.1.0** | **192.168.1.63** | **/26** |
| **IT** | **192.168.1.64** | **192.168.1.127** | **/26** |
| **HR** | **192.168.1.128** | **192.168.1.191** | **/26** |

**DHCP tartományok:**

|  |  |  |
| --- | --- | --- |
| **Hálózat neve** | **DHCP címtartomány** | **Kizárt Cím(ek)** |
| **Reception** | **192.168.1.6-192.168.1.61** | **192.168.1.1 – 192.168.1.5; 192.168.1.62 (nyomtató)** |
| **IT** | **192.168.1.71-192.168.1.125** | **192.168.1.65-192.168.1.70;**  **192.168.1.126 (nyomtató)** |
| **HR** | **192.168.1.131-192.168.1.189** | **192.168.1.129-192.168.1.130;**  **192.168.1.190 (nyomtató)** |

**VLAN tartományok:**

|  |  |
| --- | --- |
| **Hálózat neve** | **VLAN szám** |
| **Reception** | **10** |
| **IT** | **20** |
| **HR** | **30** |

**Eszközök:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Eszköz neve** | **VLAN** | **IP címe** | **Jelszóval védett** |
| **Router0** | **Giga 0/0.10: 10;**  **Giga 0/0.20: 20;**  **Giga 0/0.30: 30;** | **Giga 0/0.10: 192.168.1.1/26;**  **Giga 0/0.20: 192.168.1.65/26;**  **Giga 0/0.30: 192.168.1.129/26;** | **Nem** |
| **Switch0** | **Fa 0/1: 10;**  **Fa 0/4: 10;**  **Fa 0/9: 10;**  **Fa 0/2: 20;**  **Fa 0/6: 20;**  **Fa 0/7: 20;**  **Fa 0/3: 30;**  **Fa 0/5: 30;**  **Fa 0/8: 30;** | **N/a** | **Nem** |
| **PC1** | **20** | **DHCP** | **Nem** |
| **PC2** | **10** | **DHCP** | **Nem** |
| **PC0** | **30** | **DHCP** | **Nem** |
| **Wireless Router0** | **10** | **Wireless AP (DHCP)** | **2.4 GHz: „ciscopass”** |
| **Wireless Router1** | **20** | **Wireless AP (DHCP)** | **2.4 GHz: „ciscopass”** |
| **Wireless Router2** | **30** | **Wireless AP (DHCP)** | **2.4 GHz: „ciscopass”** |
| **Printer0** | **10** | **192.168.1.62/26** | **Nem** |
| **Printer2** | **20** | **192.168.1.126/26** | **Nem** |
| **Printer1** | **30** | **192.168.1.190/26** | **Nem** |
| **Smartphone0** | **20** | **DHCP** | **Nem** |
| **Smartphone1** | **30** | **DHCP** | **Nem** |
| **Smartphone2** | **10** | **DHCP** | **Nem** |

**Hálózat tesztelése:**

**Nyomtatók statikus IP-vel kommunikálnak egymással:**

A screenshot of a computer

Description automatically generated

**PC (reception) -> PC (IT)**

A screenshot of a computer

Description automatically generated

**PC (HR) -> PC (IT)**

A computer screen with white text

Description automatically generated

**PC (IT) -> PC (reception)**

A screen shot of a computer

Description automatically generated

**Telefonok kommunikálnak:**

A screenshot of a computer

Description automatically generated

**Parancsok:**

**Switch:**

Switch(config)#vlan 10

Switch(config-vlan)#name reception

Switch(config-vlan)#vlan 20

Switch(config-vlan)#name IT

Switch(config-vlan)#vlan 30

Switch(config-vlan)#name HR

Switch(config)#interface fastEthernet 0/1

Switch(config-if)#switchport mode access

Switch(config-if)#switchport access vlan 10

Switch(config-if)#no sh

Switch(config-if)#exit

Switch(config)#interface fastEthernet 0/4

Switch(config-if)#switchport mode access

Switch(config-if)#switchport access vlan 10

Switch(config-if)#no sh

Switch(config-if)#exit

Switch(config)#interface fastEthernet 0/9

Switch(config-if)#switchport mode access

Switch(config-if)#switchport access vlan 10

Switch(config-if)#no sh

Switch(config-if)#exit

Switch(config)#interface fastEthernet 0/2

Switch(config-if)#switchport mode access

Switch(config-if)#switchport access vlan 20

Switch(config-if)#no sh

Switch(config-if)#exit

Switch(config)#interface fastEthernet 0/6

Switch(config-if)#switchport mode access

Switch(config-if)#switchport access vlan 20

Switch(config-if)#no sh

Switch(config-if)#exit

Switch(config)#interface fastEthernet 0/7

Switch(config-if)#switchport mode access

Switch(config-if)#switchport access vlan 20

Switch(config-if)#no sh

Switch(config-if)#exit

Switch(config)#interface fastEthernet 0/3

Switch(config-if)#switchport mode access

Switch(config-if)#switchport access vlan 30

Switch(config-if)#no sh

Switch(config-if)#exit

Switch(config)#interface fastEthernet 0/5

Switch(config-if)#switchport mode access

Switch(config-if)#switchport access vlan 30

Switch(config-if)#no sh

Switch(config-if)#exit

Switch(config)#interface fastEthernet 0/8

Switch(config-if)#switchport mode access

Switch(config-if)#switchport access vlan 30

Switch(config-if)#no sh

Switch(config-if)#exit

Switch(config)#interface gigabitEthernet 0/1

Switch(config-if)#switchport mode trunk

Switch(config-if)#no sh

**Router:**

Router(config)#interface gigabitEthernet 0/0.10

Router(config-subif)#encapsulation dot1Q 10

Router(config-subif)#ip address 192.168.1.1 255.255.255.192

Router(config-subif)#no sh

Router(config-subif)#exit

Router(config)#interface gigabitEthernet 0/0

Router(config-if)#no sh

Router(config)#interface gigabitEthernet 0/0.20

Router(config-subif)#encapsulation dot1Q 20

Router(config-subif)#ip address 192.168.1.65 255.255.255.192

Router(config-subif)#no sh

Router(config-subif)#exit

Router(config)#interface gigabitEthernet 0/0.30

Router(config-subif)#encapsulation dot1Q 30

Router(config-subif)#ip address 192.168.1.129 255.255.255.192

Router(config-subif)#no sh

Router(config-subif)#exit

**//A recepciónak kiállított dhcp pool-t véletlenül Adminnak neveztem.**

Router(config)#ip dhcp excluded-address 192.168.1.1 192.168.1.5

Router(config)#ip dhcp excluded-address 192.168.1.62

Router(config)#ip dhcp pool Admin

Router(dhcp-config)#default-router 192.168.1.1

Router(dhcp-config)#network 192.168.1.0 255.255.255.192

Router(dhcp-config)#exit

Router(config)#ip dhcp excluded-address 192.168.1.129 192.168.1.130

Router(config)#ip dhcp excluded-address 192.168.1.190

Router(config)#ip dhcp pool HR

Router(dhcp-config)#default-router 192.168.1.129

Router(dhcp-config)#network 192.168.1.128 255.255.255.192

Router(dhcp-config)#exit

Router(config)#ip dhcp excluded-address 192.168.1.65 192.168.1.70

Router(config)#ip dhcp excluded-address 192.168.1.126

Router(config)#ip dhcp pool IT

Router(dhcp-config)#default-router 192.168.1.65

Router(dhcp-config)#network 192.168.1.64 255.255.255.192

Router(dhcp-config)#exit

**Running config Router:**

Building configuration...

Current configuration : 1497 bytes

!

version 15.1

no service timestamps log datetime msec

no service timestamps debug datetime msec

no service password-encryption

!

hostname Router

!

!

!

!

ip dhcp excluded-address 192.168.1.1 192.168.1.5

ip dhcp excluded-address 192.168.1.62

ip dhcp excluded-address 192.168.1.129 192.168.1.130

ip dhcp excluded-address 192.168.1.190

ip dhcp excluded-address 192.168.1.65 192.168.1.70

ip dhcp excluded-address 192.168.1.126

!

ip dhcp pool Admin

network 192.168.1.0 255.255.255.192

default-router 192.168.1.1

ip dhcp pool HR

network 192.168.1.128 255.255.255.192

default-router 192.168.1.129

ip dhcp pool IT

network 192.168.1.64 255.255.255.192

default-router 192.168.1.65

!

!

!

ip cef

no ipv6 cef

!

!

!

!

license udi pid CISCO2911/K9 sn FTX1524Z5IU-

!

!

!

!

!

!

!

!

!

!

!

spanning-tree mode pvst

!

!

!

!

!

!

interface GigabitEthernet0/0

no ip address

duplex auto

speed auto

!

interface GigabitEthernet0/0.10

encapsulation dot1Q 10

ip address 192.168.1.1 255.255.255.192

!

interface GigabitEthernet0/0.20

encapsulation dot1Q 20

ip address 192.168.1.65 255.255.255.192

!

interface GigabitEthernet0/0.30

encapsulation dot1Q 30

ip address 192.168.1.129 255.255.255.192

!

interface GigabitEthernet0/1

no ip address

duplex auto

speed auto

shutdown

!

interface GigabitEthernet0/2

no ip address

duplex auto

speed auto

shutdown

!

interface Vlan1

no ip address

shutdown

!

ip classless

!

ip flow-export version 9

!

!

!

!

!

!

!

line con 0

!

line aux 0

!

line vty 0 4

login

!

!

!

End

**Running config Switch0:**

Building configuration...

Current configuration : 1562 bytes

!

version 15.0

no service timestamps log datetime msec

no service timestamps debug datetime msec

no service password-encryption

!

hostname Switch

!

!

!

!

!

!

spanning-tree mode pvst

spanning-tree extend system-id

!

interface FastEthernet0/1

switchport access vlan 10

switchport mode access

!

interface FastEthernet0/2

switchport access vlan 20

switchport mode access

!

interface FastEthernet0/3

switchport access vlan 30

switchport mode access

!

interface FastEthernet0/4

switchport access vlan 10

switchport mode access

!

interface FastEthernet0/5

switchport access vlan 30

switchport mode access

!

interface FastEthernet0/6

switchport access vlan 20

switchport mode access

!

interface FastEthernet0/7

switchport access vlan 20

switchport mode access

!

interface FastEthernet0/8

switchport access vlan 30

switchport mode access

!

interface FastEthernet0/9

switchport access vlan 10

switchport mode access

!

interface FastEthernet0/10

!

interface FastEthernet0/11

!

interface FastEthernet0/12

!

interface FastEthernet0/13

!

interface FastEthernet0/14

!

interface FastEthernet0/15

!

interface FastEthernet0/16

!

interface FastEthernet0/17

!

interface FastEthernet0/18

!

interface FastEthernet0/19

!

interface FastEthernet0/20

!

interface FastEthernet0/21

!

interface FastEthernet0/22

!

interface FastEthernet0/23

!

interface FastEthernet0/24

!

interface GigabitEthernet0/1

switchport mode trunk

!

interface GigabitEthernet0/2

!

interface Vlan1

no ip address

shutdown

!

!

!

!

line con 0

!

line vty 0 4

login

line vty 5 15

login

!

!

!

!

end