Mini school network

1. I have constructed a network for small school courses in a building with two floors. In total, there are five cabinets. On the first floor, there is an admin room along with two classes, while the second floor has two more classes.
2. IP address plan

Admin Room:

DHCP – 172.168.10.2

Web Server – 172.168.10.3

DNS – 172.168.10.4

Room 1:

Network – 192.168.10.0/24

Broadcast – 192.168.10.255

Default gateway – 192.168.10.1

Start IP address – 192.168.10.11

Subnet Mask – 255.255.255.0

Room2:

Network – 192.168.2.0/24

Broadcast – 192.168.2.255

Default gateway – 192.168.2.1

Start IP address – 192.168.2.11

Subnet Mask – 255.255.255.0

Room3:

Network – 192.168.3.0/24

Broadcast – 192.168.3.255

Default gateway – 192.168.3.1

Start IP address – 192.168.3.11

Subnet Mask – 255.255.255.0

Room4:

Network – 192.168.4.0/24

Broadcast – 192.168.4.255

Default gateway – 192.168.4.1

Start IP address – 192.168.4.11

Subnet Mask – 255.255.255.0

1. List of devices used

1.Servers

2. Switch

3. Routers

4. PC/Laptops

1. Logical diagram of the constructed network (with labels: IP addresses of interfaces and networks.) – screenshot of CPT screen

Graphical user interface

Description automatically generated

1. Text description of device configuration with basic network components (router and server configuration)

DHCP Server – 172.168.10.2

Web Server - 172.168.10.3

DNS – 172.168.10.4

RouterFloor1:

Fa0/0 – 172.168.10.1

Fa0/1 - 192.168.10.1

Fa1/0 – 192.168.2.1

RouterFloor2:

Fa0/0 – 172.168.10.1

Fa0/1 – 192.168.3.1

Fa1/0 – 192.168.4.1

Wireless Router (Room1):

SSID - Room1

Password – 12345678

Wireless Router (Room3):

SSID – Room3

Password – 12345678

Wireless Router (Room2):

SSID – Room2

Password – 12345678

Wireless Router (Room4):

SSID – Room4

Password – 12345678

(IP Address – 192.168.0.1)

(Start IP Address – 192.168.0.100)

1. Test of the designed network. Confirmation of the results obtained.

Graphical user interface

Description automatically generated

Graphical user interface, text, application

Description automatically generated

Graphical user interface

Description automatically generated

1. Final remarks

This network was designed for a small educational company that has five rooms. The first room is the admin room, which houses the servers and the admin computer. The company has two floors with two rooms (classrooms) on each floor. The classrooms are equipped with student computers and a teacher's computer, and each classroom has its own private Wi-Fi network. All floors are connected to the admin room servers via routers located on each floor.