Communications and Networks Lab.

Fall 2021 Lab

Project#4

**Members:**

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Addressing Table

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Device | IP Address | Subnet Mask | Broadcast Address | Default Gateway |
| Network A | 214.210.5.0 | 255.255.255.128 | 214.210.5.127 | 214.210.5.1 |
| Network B | 214.210.4.0 | 255.255.255.0 | 214.210.4.255 | 214.210.4.1 |
| Network C | 214.210.0.0 | 255.255.252.0 | 214.210.3.255 | 214.210.0.1 |
| Network D | 177.44.0.0 | 255.255.255.0 | 174.44.0.255 | 177.44.0.1 |
| Network E | 162.12.0.0 | 255.255.255.128 | 162.12.0.127 | 162.12.0.1 |
| WAN | 214.210.5.128 | 255.255.255.252 | 214.210.5.131 | N/A |

|  |  |  |  |
| --- | --- | --- | --- |
| **UNUSED Range From** | **214.210.5.132** | **To** | **214.210.127.255** |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Device | Interface | IP Address | Subnet Mask | Default Gateway |
| Building 1 Router | Gig0/3/0 | 214.210.5.129 | 255.255.255.252 | N/A |
|  | Gig0/0 | 214.210.5.1 | 255.255.255.128 | N/A |
|  | Gig0/1 | 214.210.4.1 | 255.255.255.0 | N/A |
|  | Gig0/2/0 | 214.210.0.1 | 255.255.252.0 | N/A |
|  | Gig0/2 | 2001:DB8:ACAD:1::1 | /124 |  |
| C++ Lab Switch | VLAN 1 | 214.210.5.3 | 255.255.255.128 | 214.210.5.1 |
| C Lab Switch 1 | VLAN 1 | 214.210.5.4 | 255.255.255.128 | 214.210.5.1 |
| Net 1 | NIC | 214.210.5.6 | 255.255.255.128 | 214.210.5.1 |
| C Lab Switch 2 | VLAN 1 | 214.210.5.5 | 255.255.255.128 | 214.210.5.1 |
| PC 1 | NIC | 214.210.5.7 | 255.255.255.128 | 214.210.5.1 |
| DHCPServer1 | Fa0 | 214.210.5.2 | 255.255.255.128 | 214.210.5.1 |
| English Lab Switch | VLAN 1 | 214.210.4.2 | 255.255.255.0 | 214.210.4.1 |
| English Lab Switch 1 | VLAN 1 | 214.210.4.3 | 255.255.255.0 | 214.210.4.1 |
| Net 2 | NIC | 214.210.4.6 | 255.255.255.0 | 214.210.4.1 |
| English Lab Switch 2 | VLAN 1 | 214.210.4.4 | 255.255.255.0 | 214.210.4.1 |
| PC2 | NIC | 214.210.4.5 | 255.255.255.0 | 214.210.4.1 |
| Media Lab Switch | VLAN 1 | 214.210.0.2 | 255.255.252.0 | 214.210.0.1 |
| Media Lab Switch 1 | VLAN 1 | 214.210.0.3 | 255.255.252.0 | 214.210.0.1 |
| Net 3 | NIC | 214.210.0.5 | 255.255.252.0 | 214.210.0.1 |
| Media Lab Switch 2 | VLAN 1 | 214.210.0.4 | 255.255.252.0 | 214.210.0.1 |
| PC3 | NIC | 214.210.0.6 | 255.255.252.0 | 214.210.0.1 |
| Building 2 Router | Gig0/3/0 | 214.210.5.130 | 255.255.255.252 | N/A |
|  | Gig0/2/0 | 172.44.0.1 | 255.255.255.0 | N/A |
|  | Gig0/0 | 162.12.0.1 | 255.255.255.128 | N/A |
| Graphics Lab Switch | VLAN 1 | 177.44.0.3 | 255.255.255.0 | 177.44.0.1 |
| Graphics Lab Switch 1 | VLAN 1 | 177.44.0.4 | 255.255.255.0 | 177.44.0.1 |
| PC4 | NIC | 177.44.0.7 | 255.255.255.0 | 177.44.0.1 |
| Graphics Lab Switch 2 | VLAN 1 | 177.44.0.5 | 255.255.255.0 | 177.44.0.1 |
| PC5 | NIC | 177.44.0.6 | 255.255.255.0 | 177.44.0.1 |
| Server and Printer Farm Switch | VLAN 1 | 162.12.0.8 | 255.255.255.240 | 162.12.0.1 |
| DNS Server | Fa0 | 162.12.0.2 | 255.255.255.240 | 162.12.0.1 |
| Web Server 1 | Fa0 | 162.12.0.3 | 255.255.255.240 | 162.12.0.1 |
| Web Server 2 | Fa0 | 162.12.0.4 | 255.255.255.240 | 162.12.0.1 |
| Email Server | Fa0 | 162.12.0.5 | 255.255.255.240 | 162.12.0.1 |
| FTP Server | Fa0 | 162.12.0.6 | 255.255.255.240 | 162.12.0.1 |
| TFTP Server | Fa0 | 162.12.0.7 | 255.255.255.240 | 162.12.0.1 |
| Printer0 | Fa0 | 162.12.0.9 | 255.255.255.240 | 162.12.0.1 |
| Printer1 | Fa0 | 162.12.0.10 | 255.255.255.240 | 162.12.0.1 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Test Lab Switch | VLAN 1 | 2001:DB8:ACAD:1::5 | /124 | 2001:DB8:ACAD:1::1 |
| Test Lab Switch 1 | VLAN 1 | 2001:DB8:ACAD:1::3 | /124 | 2001:DB8:ACAD:1::1 |
| Test1 | Fa0 | 2001:DB8:ACAD:1::2 | /124 | 2001:DB8:ACAD:1::1 |
| Test Lab Switch 2 | VLAN 1 | 2001:DB8:ACAD:1::4 | /124 | 2001:DB8:ACAD:1::1 |
| Test2 | Fa0 | 2001:DB8:ACAD:1::6 | /124 | 2001:DB8:ACAD:1::1 |

Screenshots:

1. Web email:

Net1 composes the email

Graphical user interface, text, application, email

Description automatically generated

Graphical user interface, text, application

Description automatically generated

1. FTP

Net1 Uploads test.txt to the ftp server

Text

Description automatically generated

Graphical user interface, text, application

Description automatically generated

When FTP Server is access by the net2

Text

Description automatically generated

1. TFTP Server

Uploading configuration of Building-1 Router config

Text, letter

Description automatically generated

Graphical user interface, text, application, email

Description automatically generated

1. Web servers:

From Net1

Graphical user interface, text, application, email

Description automatically generated

From net2

Graphical user interface, text, application, email

Description automatically generated

From PC4

Graphical user interface, text, application, email

Description automatically generated

Ping Tests

Text

Description automatically generated

Graphical user interface, text

Description automatically generated

SSH Connection: (PASSWORD: admin)

A screenshot of a computer

Description automatically generated

Pinging Test2 from test1 within the LAN

Graphical user interface, text

Description automatically generated