Networking (IP addressing and VLANs)

Subnet range: 192.168.8.0 /22 - 192.168.11.255

Subnets and VLANs

Subnet /Mask /Vlan	First usable Address	Last Usable Address
Students /23 VLAN 0	192.168.8.1	192.168.9.254
Classroom 1 /27 VLAN 20	192.168.10.1	192.168.10.30
Classroom 2 /27 VLAN 30	192.168.10.33	192.168.10.62
Classroom 3 /27 VLAN 40	192.168.10.65	192.168.10.94
Classroom 4 /27 VLAN 50	192.168.10.97	192.168.10.126
Classroom 5 /27 VLAN 60	192.168.10.129	192.168.10.158
Classroom 6 /27 VLAN 70	192.168.10.161	192.168.10.190
Classroom 7 /27 VLAN 80	192.168.10.193	192.168.10.222
Staff /27 VLAN 90	192.168.10.225	192.168.10.254
Instructors /28 VLAN 100	192.168.11.1	192.168.11.14
IT /28 VLAN 110	192.168.11.17	192.168.11.30
DC /28 VLAN 120	192.168.11.33	192.168.11.46
Extra VLAN 130	For unused ports	
Internet VLAN 140	For the T port	
WI-FI /22 510 hosts	10.10.0.1	10.10.3.254

Notes:

Ip address of internet facing T port: 10.128.209.139/24.

Host PCs in rooms are assigned addresses via DHCP.

R1 Interface IP Addresses

G0/1.10:

Address: 192.168.8.2/23

Virtual Gateway: 192.168.8.1

DHCP Helper Address: 192.168.11.37

G0/1.20:

Address: 192.168.10.2/27

Virtual Gateway: 192.168.10.1

DHCP Helper Address: 192.168.11.37

G0/1.30:

Address: 192.168.10.34/27

Virtual Gateway: 192.168.10.33

DHCP Helper Address: 192.168.11.37

G0/1.40:

Address: 192.168.10.66/27

Virtual Gateway: 192.168.10.65

DHCP Helper Address: 192.168.11.37

G0/1.50:

Address: 192.168.10.98/27

Virtual Gateway: 192.168.10.97

DHCP Helper Address: 192.168.11.37

G0/1.60:

Address: 192.168.10.130/27

Virtual Gateway: 192.168.10.129

DHCP Helper Address: 192.168.11.37

G0/1.70:

Address: 192.168.10.162/27

Virtual Gateway: 192.168.10.161

DHCP Helper Address: 192.168.11.37

G0/1.80:

Address: 192.168.10.194/24

Virtual Gateway: 192.168..10.193

DHCP Helper Address: 192.168.11.37

G0/1.90:

Address: 192.168.10.226/27

Virtual Gateway: 192.168.10.225

DHCP Helper Address: 192.168.11.37

G0/1.100:

Address: 192.168.11.2/28

Virtual Gateway: 192.168.11.1

DHCP Helper Address: 192.168.11.37

G0/1.110:

Address: 192.168.11.18/28

Virtual Gateway: 192.168.11.17

DHCP Helper Address: 192.168.11.37

G0/1.120:

Address: 192.168.11.38

Virtual Gateway: 192.168.11.33

DHCP Helper Address: 192.168.11.37

G0/1.140:

Address: 10.128.209.139/24

R2 Interfaces

G0/0/1.10:

Address: 192.168.8.3/23

Virtual Gateway: 192.168.8.1

DHCP Helper Address: 192.168.11.37

G0/0/1.20:

Address: 192.168.10.3/27

Virtual Gateway: 192.168.10.1

DHCP Helper Address: 192.168.11.37

G0/0/1.30:

Address: 192.168.10.35/27

Virtual Gateway: 192.168.10.33

DHCP Helper Address: 192.168.11.37

G0/0/1.40:

Address: 192.168.10.67/27

Virtual Gateway: 192.168.10.65

DHCP Helper Address: 192.168.11.37

G0/0/1.50:

Address: 192.168.10.99/27

Virtual Gateway: 192.168.10.97

DHCP Helper Address: 192.168.11.37

G0/0/1.60:

Address: 192.168.10.131/27

Virtual Gateway: 192.168.10.129

DHCP Helper Address: 192.168.11.37

G0/0/1.70:

Address: 192.168.10.163/27

Virtual Gateway: 192.168.10.161

DHCP Helper Address: 192.168.11.37

G0/0/1.80:

Address: 192.168.10.195

Virtual Gateway: 192.168.10.193

DHCP Helper Address: 192.168.11.37

G0/0/1.90:

Address: 192.168.10.227/27

Virtual Gateway: 192.168.10.225

DHCP Helper Address: 192.168.11.37

G0/0/1.100:

Address: 192.168.11.3/28

Virtual Gateway: 192.168.11.1

DHCP Helper Address: 192.168.11.37

G0/0/1.110:

Address: 192.168.11.19/28

Virtual Gateway: 192.168.11.17

DHCP Helper Address: 192.168.11.37

G0/0/1.120:

Address: 192.168.11.39/28

Virtual Gateway: 192.168.11.33

DHCP Helper Address: 192.168.11.37

Domain Controllers:

Primary Proxmox Server: 192.168.11.34/28

Backup Proxmox Server: 192.168.11.45/28

DC01: 192.168.11.36/28

DC02: 192.168.11.37/28