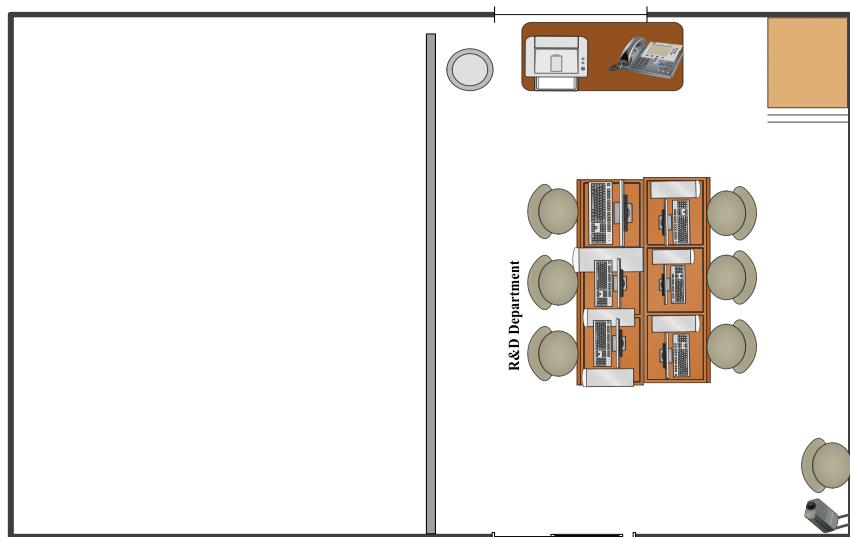


Atul Dhital Floor plan Cacis Building Second Floor



R&D Department:



Switch (Cisco Catalyst 2960 Series): Known for its reliability, high performance, and advanced features such as VLAN support.

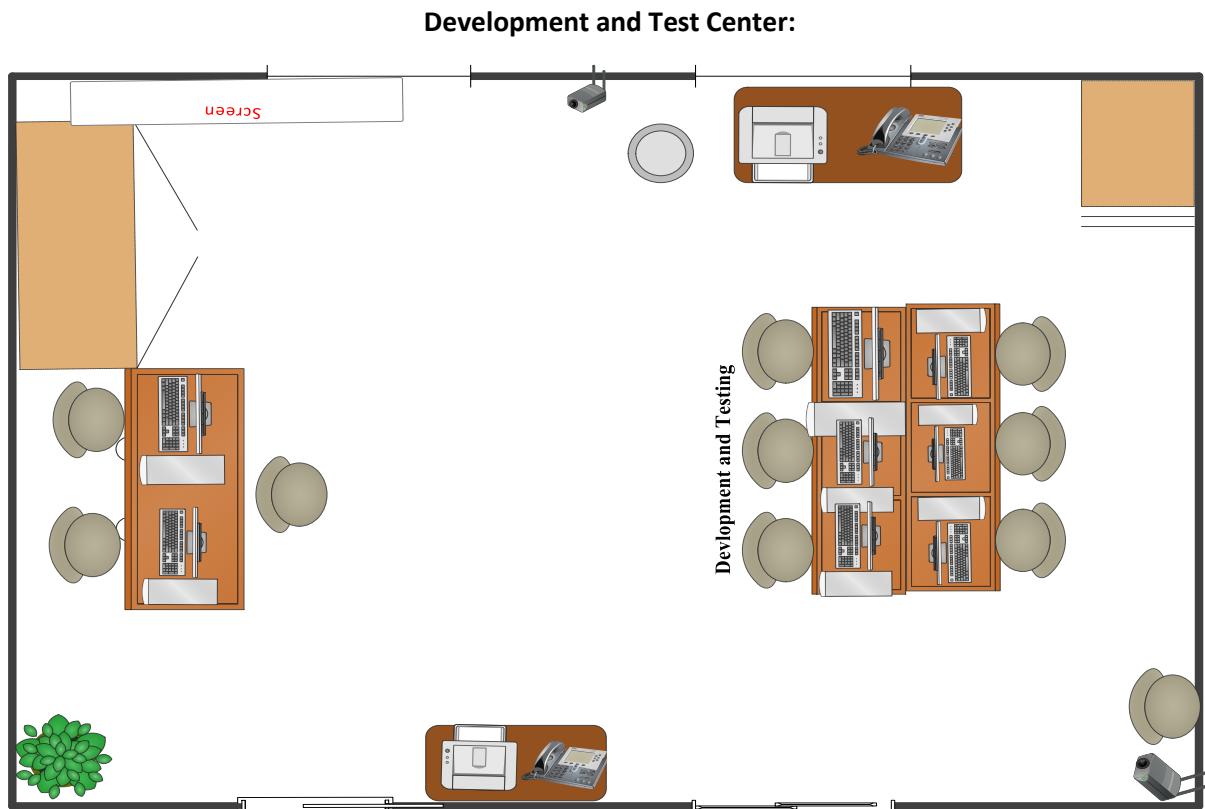
Workstation (Dell Precision 5000 Series): Powerful processing capabilities, high-end graphics and expanded storage capacity.

Server (HP ProLiant DL300 Series): Known for performance, reliability, and scalability.

Network Printer (HP LaserJet Enterprise 400 Series): Known for its fast, high-quality printing capabilities.

Hotspot Device (Ubiquiti UniFi UAP-AC-Pro): Provides reliable wireless connectivity.

CCTV (Hikvision or Dahua): Cameras are strategically placed to monitor the R&D workspace.



Development Server (Dell PowerEdge R700 Series): High performance, reliability, and scalability for resource-intensive tasks.

Test Server (Lenovo ThinkSystem SR250 Series): Compact and flexible design for a variety of test environments.

Switch (Cisco 2960 Series): Chosen for its flexibility, security features, and high-performance networking.

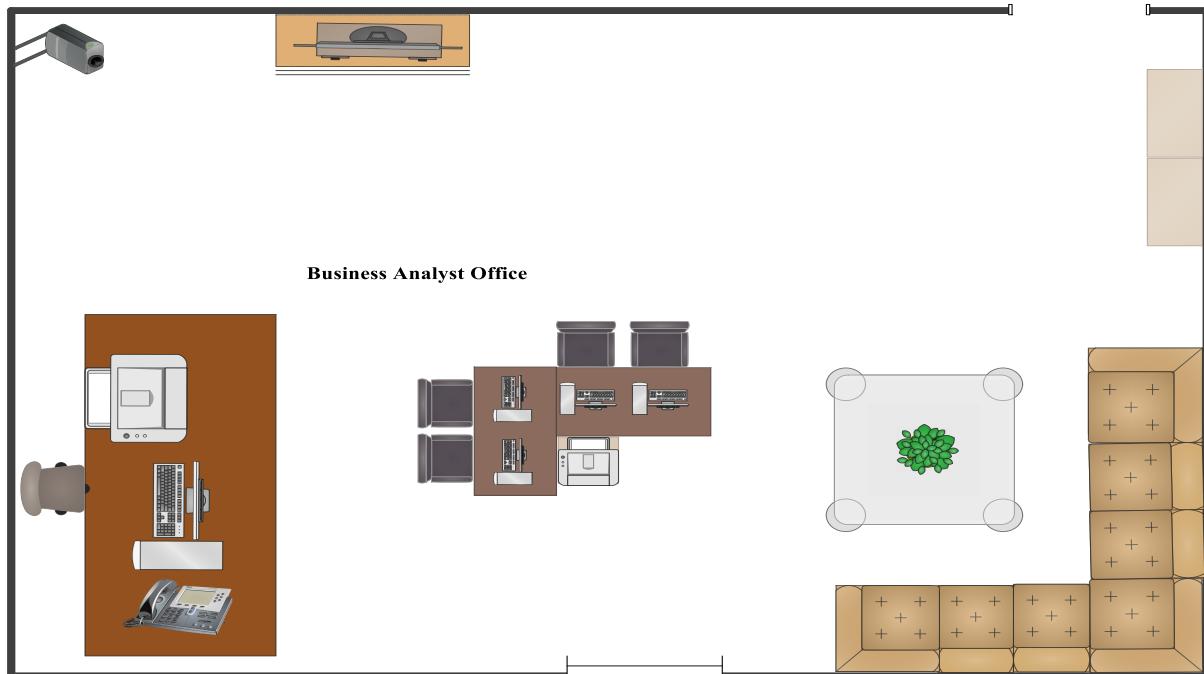
Workstation (Lenovo ThinkPad P50 Series): This balances performance, portability, and durability.

Printer (Brother HL-L5000 Series): Chosen for its fast printing speed and cost-effective operation.

Hotspot Device (NETGEAR Orbi Pro AC3000): Provides optimal performance.

CCTV (AXIS or Bosch): Surveillance cameras in development and testing areas.

Business Analysis Office



Switch (Cisco 2960 Series): This balances affordability and performance.

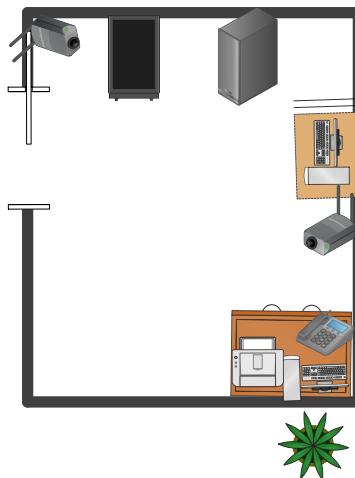
Workstation (HP Elite Desk 800 Series): Provides strong performance and security features.

Printer (Epson Eco Tank ET-4000 Series): Chosen for its profitability and respect for the environment.

Hotspot Device (Aruba Instant On AP22): Provides reliable and scalable Wi-Fi.

CCTV (Vivotek or Avigilon): Effective surveillance cameras.

Server Room:



Router There are 2 Routers for each Department:

Router1 / Router2 (Cisco ASR 1000 Series): Provides high performance and scalability for primary routing needs.

Switch (Cisco 2960 Series): Chosen for its high-speed data processing, low latency, and advanced features.

Application Server (Dell EMC PowerEdge R8000 Series): Known for performance, reliability, and scalability.

Database Server/ DHCP/DNS servers (Cisco Series): Optimized for database performance.

NAS Device (Cisco Series): Chosen for its storage capacity, reliability, and advanced features.

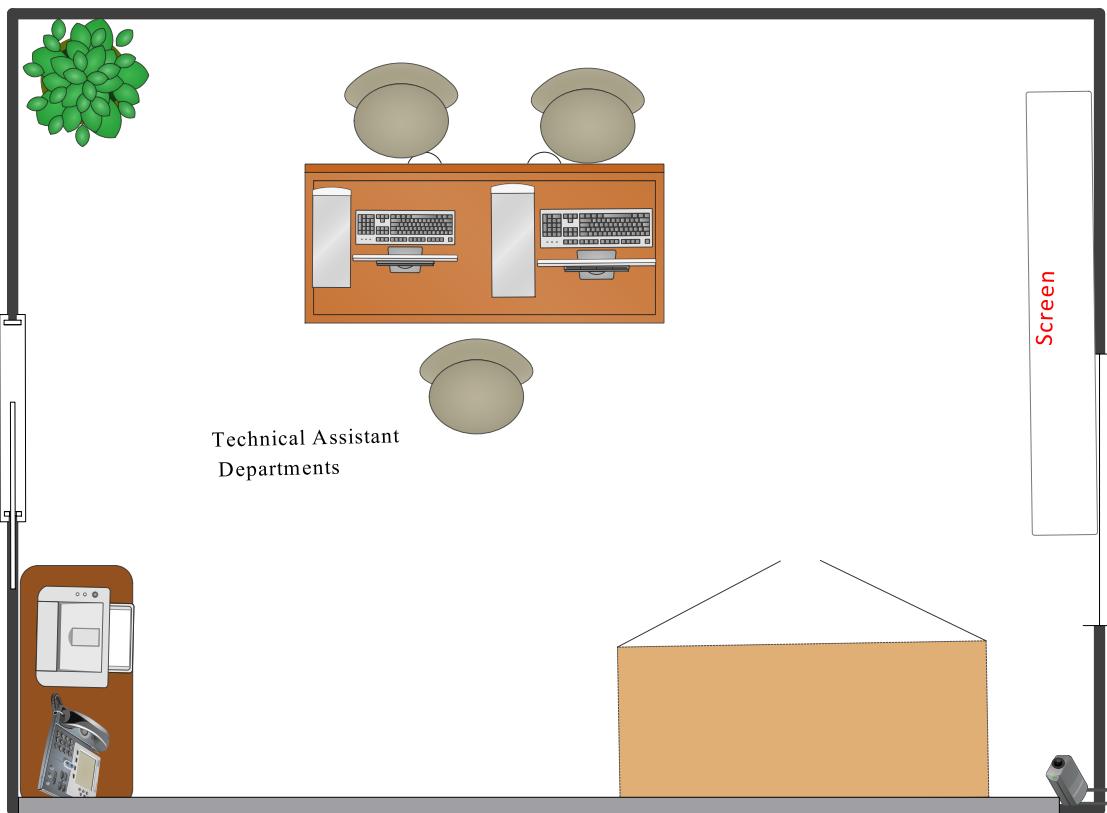
UPS (APC Smart-UPS X Series): chosen for reliable backup power.

Hotspot Appliance (Cisco Meraki MR33): Cloud-managed wireless access.

CCTV: High-quality cameras to monitor server racks and entry points.

Biometric Access (Cisco Biometric Access Control): Powerful biometric system for secure access.

Technical Support Department



Switch (Cisco 2960 Series): The combines price and performance.

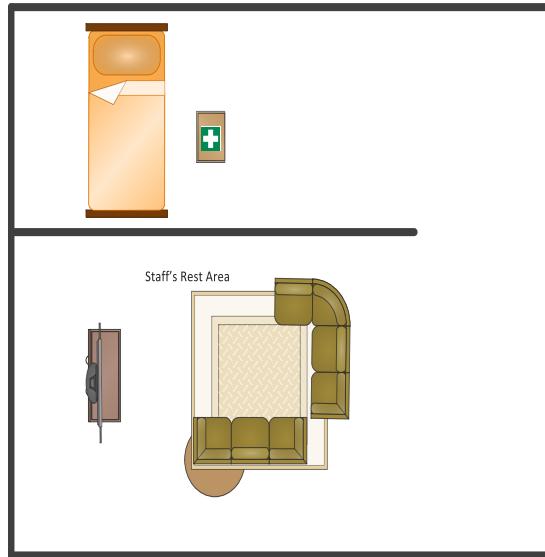
Workstation (ASUS VivoBook Series): This combines performance and affordability.

Printer (Canon imageCLASS LBP6000 Series): Chosen for its compact design, low cost, and printing reliability.

Hotspot device (TP-Link EAP225 V3): Provides dual-band Wi-Fi connection.

CCTV (Panasonic or Samsung): cameras monitor technical support areas.

Employee Rest Area:

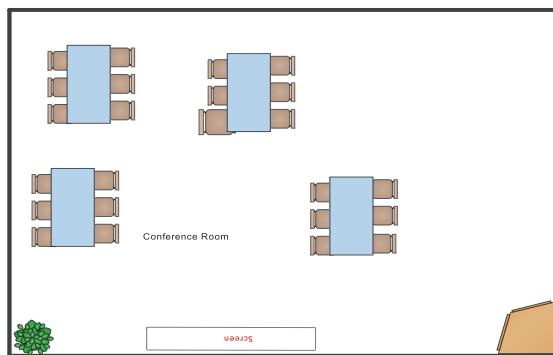


Switch (Cisco 2960 Series): The combines price and performance.

Hotspot Device (Cisco-Valet Plus): Provides reliable Wi-Fi.

CCTV: Install security cameras in common areas.

Conference room:



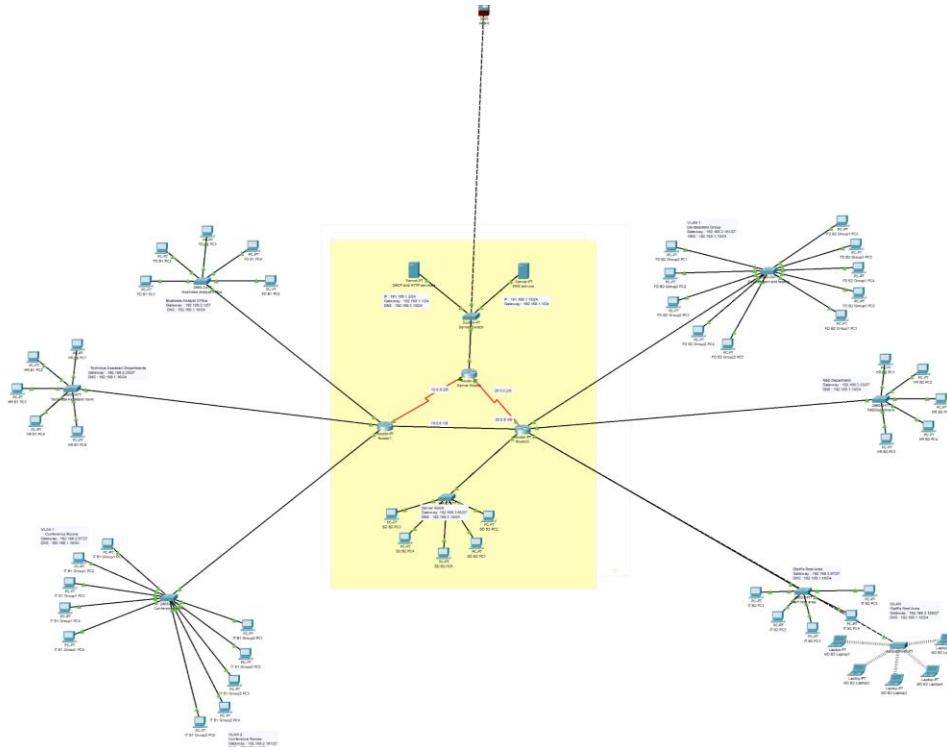
Switch (Cisco 2960 Series): The combines price and performance.

Hotspot device (D-Link DAP-2610): Provides dual-band Wi-Fi coverage.

Other devices:

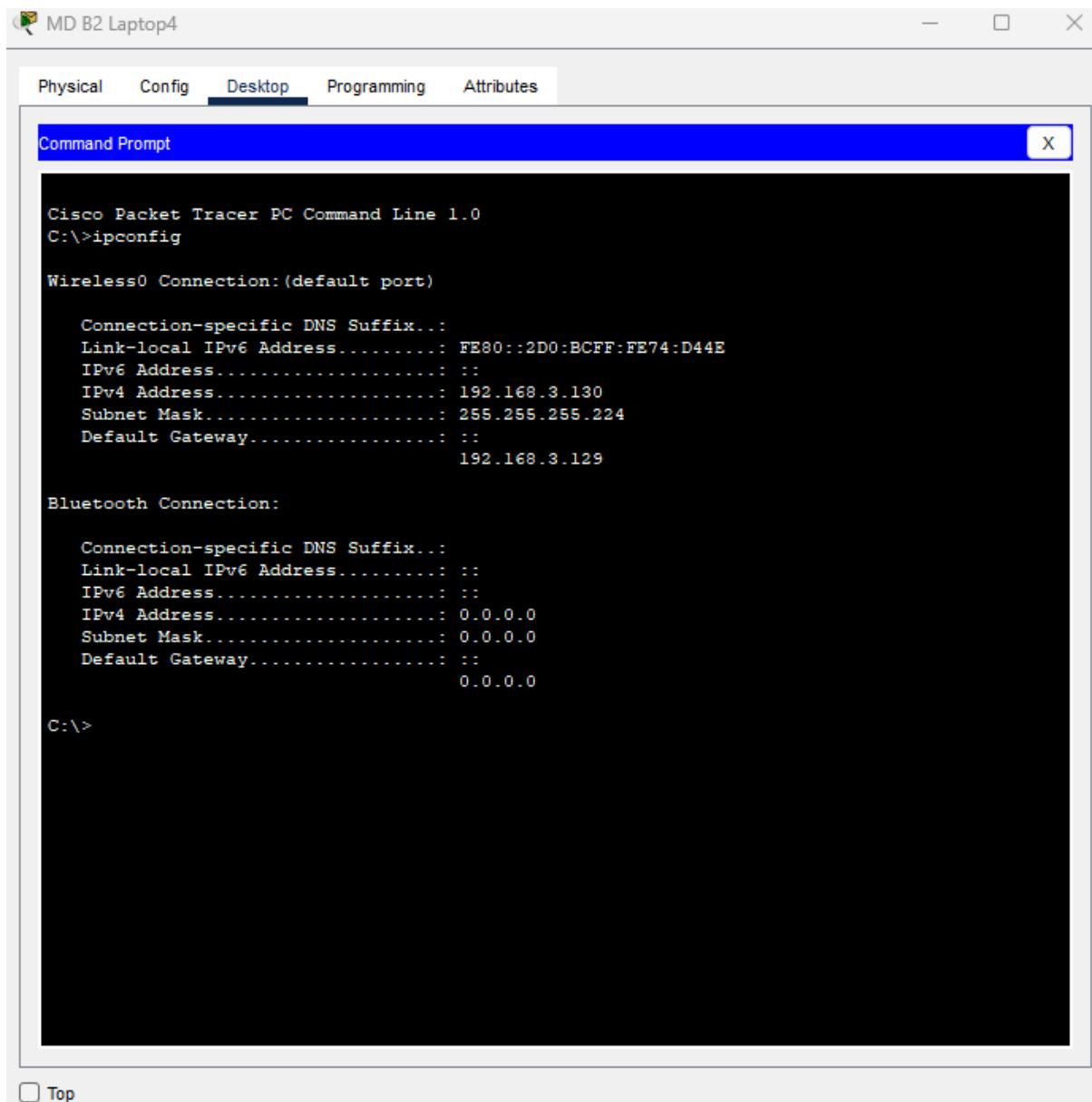
Cisco Badge Reader: Used for access management, allowing employees to use badges instead of or in addition to biometrics.

Network Design Cacis Building Second Floor



Room Name	Gateway	DNS	IP Range
R&D Department	192.168.2.1/21	192.168.1.10/24	192.168.2.1 to 192.168.7.254
Development and Testing VLAN 1	192.168.3.33/27	192.168.1.10/24	192.168.3.33 to 192.168.3.62
Development and Testing VLAN 2	192.168.3.1 /27	192.168.1.10/24	192.168.3.1 to 192.168.3.30
Business Analyst Office	192.168.2.1/21	192.168.1.10/24	192.168.2.1 to 192.168.7.254
Technical Assistant Departments	192.168.2.33/27	192.168.1.10/24	192.168.2.33 to 192.168.2.62
Conference Room VLAN 1	192.168.1.10/24	192.168.1.10/24	192.168.1.1 to 192.168.1.254
Conference Room VLAN 2	192.168.1.10/24	192.168.1.10/24	192.168.1.1 to 192.168.1.254
Staff Rest Area 1	192.168.3.97/27	192.168.1.10/24	192.168.3.97 to 192.168.3.126
Staff Rest Area 2:	192.168.3.129/27	192.168.1.10/24	192.168.3.129 to 192.168.3.158
Server	192.168.3.65/27	192.168.1.10/24	192.168.3.65 to 192.168.3.94

Configuration and Demonstration



The screenshot shows a window titled "MD B2 Laptop4" with tabs for Physical, Config, Desktop, Programming, and Attributes. The Desktop tab is selected, showing a "Command Prompt" window. The command prompt displays the output of the ipconfig command:

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ipconfig

Wireless0 Connection:(default port)

Connection-specific DNS Suffix...:
Link-local IPv6 Address.....: FE80::2D0:BCFF:FE74:D44E
IPv6 Address.....: :::
IPv4 Address.....: 192.168.3.130
Subnet Mask.....: 255.255.255.224
Default Gateway.....: :::
                           192.168.3.129

Bluetooth Connection:

Connection-specific DNS Suffix...:
Link-local IPv6 Address.....: :::
IPv6 Address.....: :::
IPv4 Address.....: 0.0.0.0
Subnet Mask.....: 0.0.0.0
Default Gateway.....: :::
                           0.0.0.0

C:\>
```

Top

Self-Reflection: This group project allowed me to learn about how IP works, how to work effectively in a group, how to make a floor plan, which was important for developing a networking concept, and how each IP communicates with one another via IP configuration.

