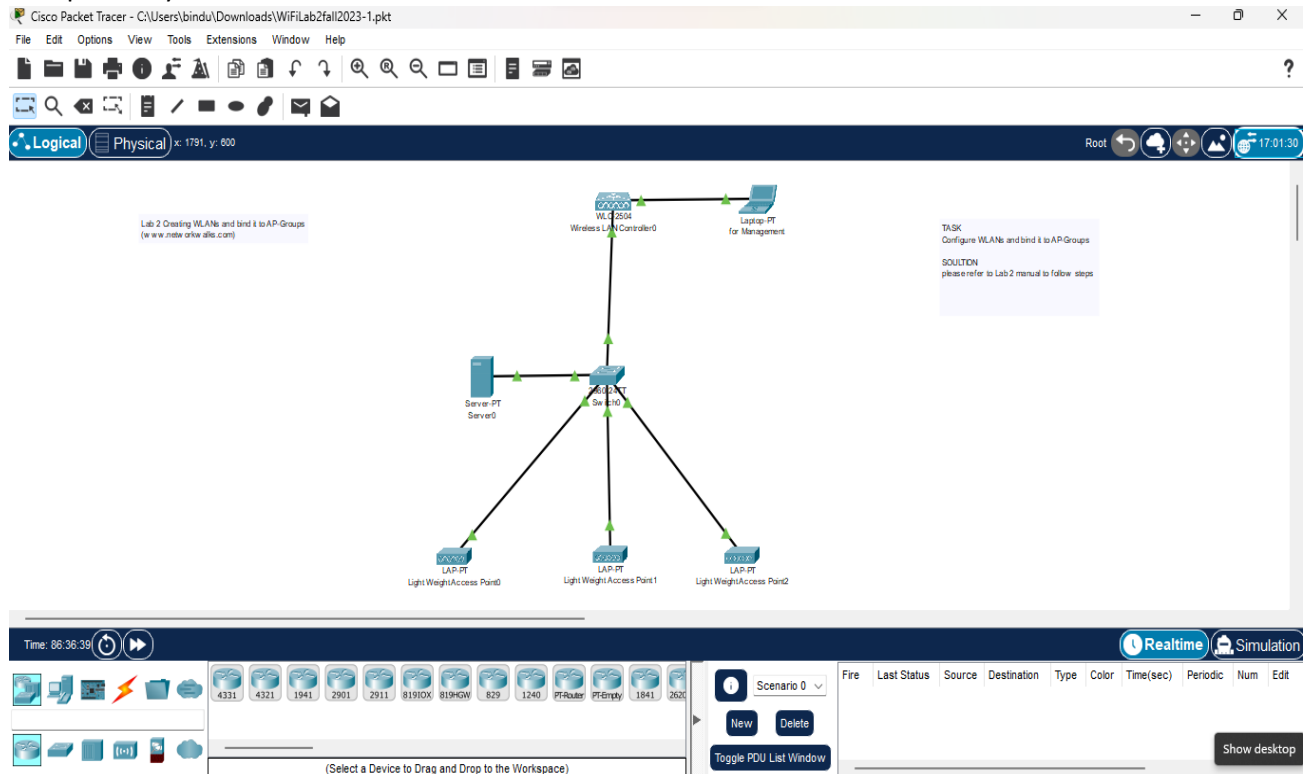


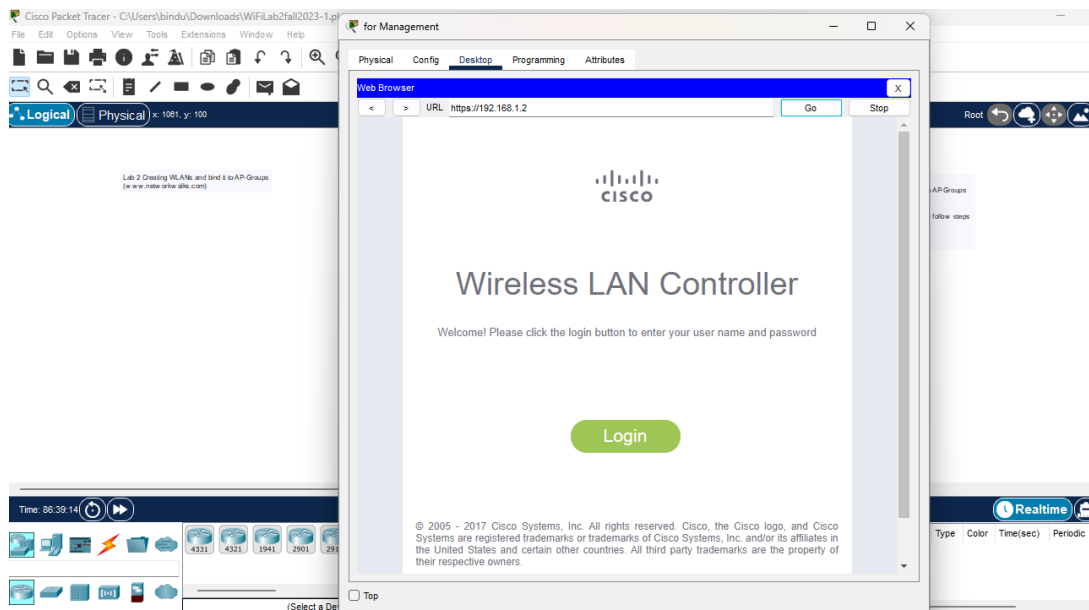
1. Downloaded and opened the cisco packet tracer file from the attached file. It had the below topology set up already.



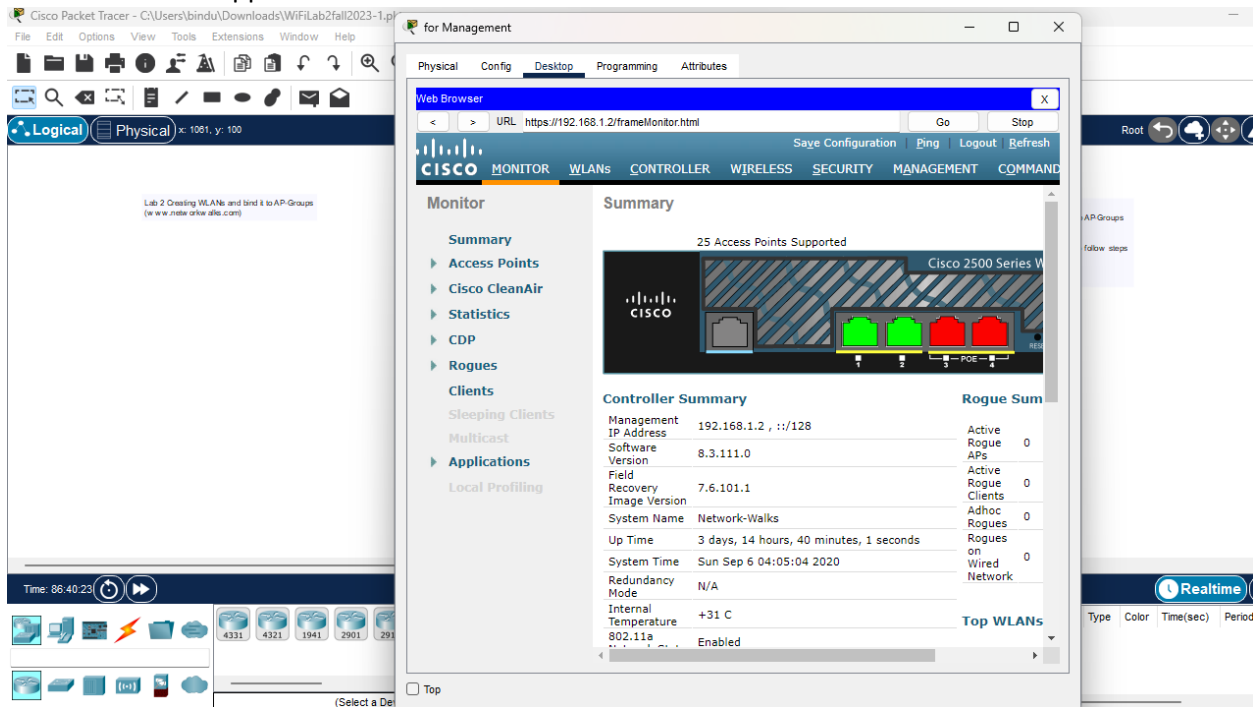
2. I've configured the WLAN controller and server. When I clicked on laptop and in browser I entered the URL as <https://192.168.1.2>. When the prompt appears, I entered the following credentials:

Username: admin

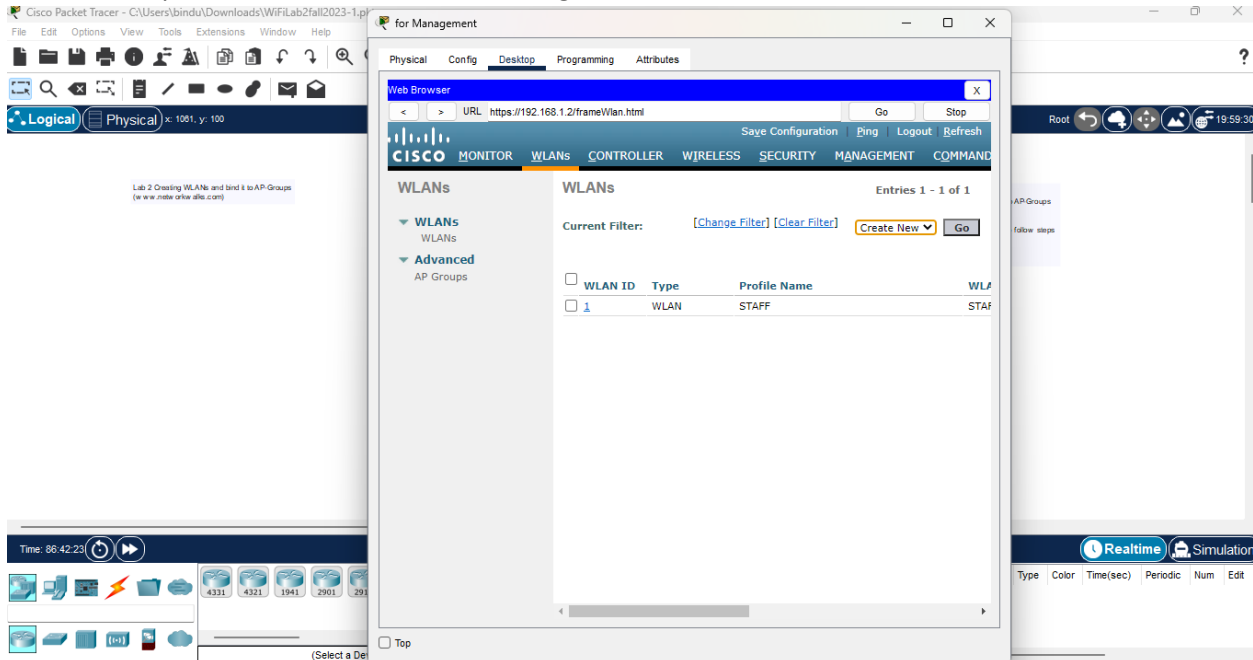
Password: admin



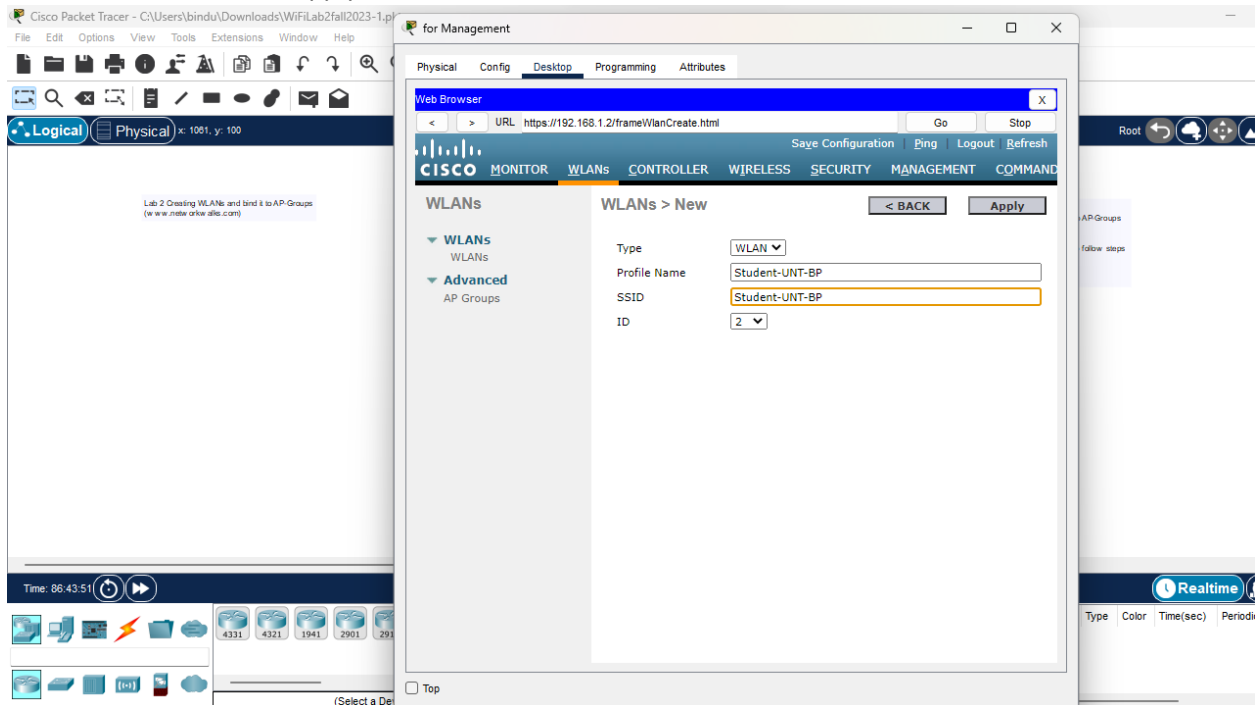
3. The below GUI appears on the screen.



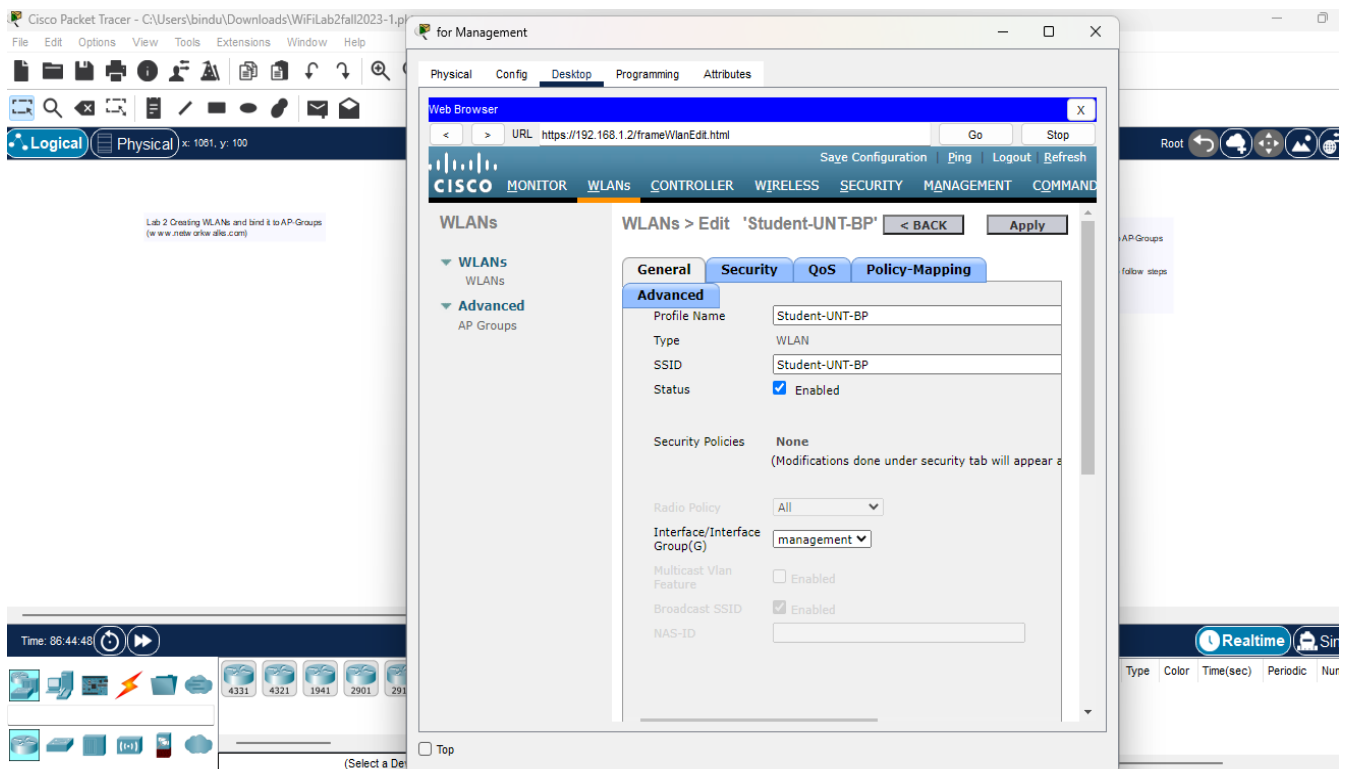
4. In WLAN option, I created a new WLAN using "Create New" with name "Student-UNT-BP".



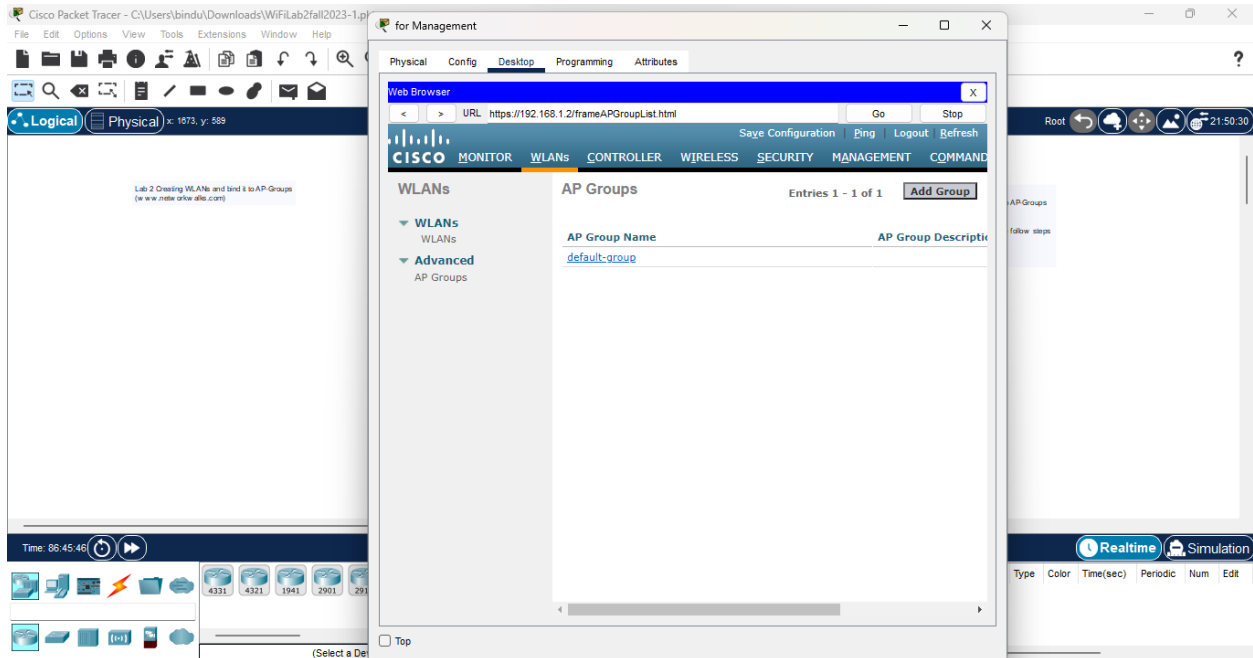
5. After this I clicked on Apply.



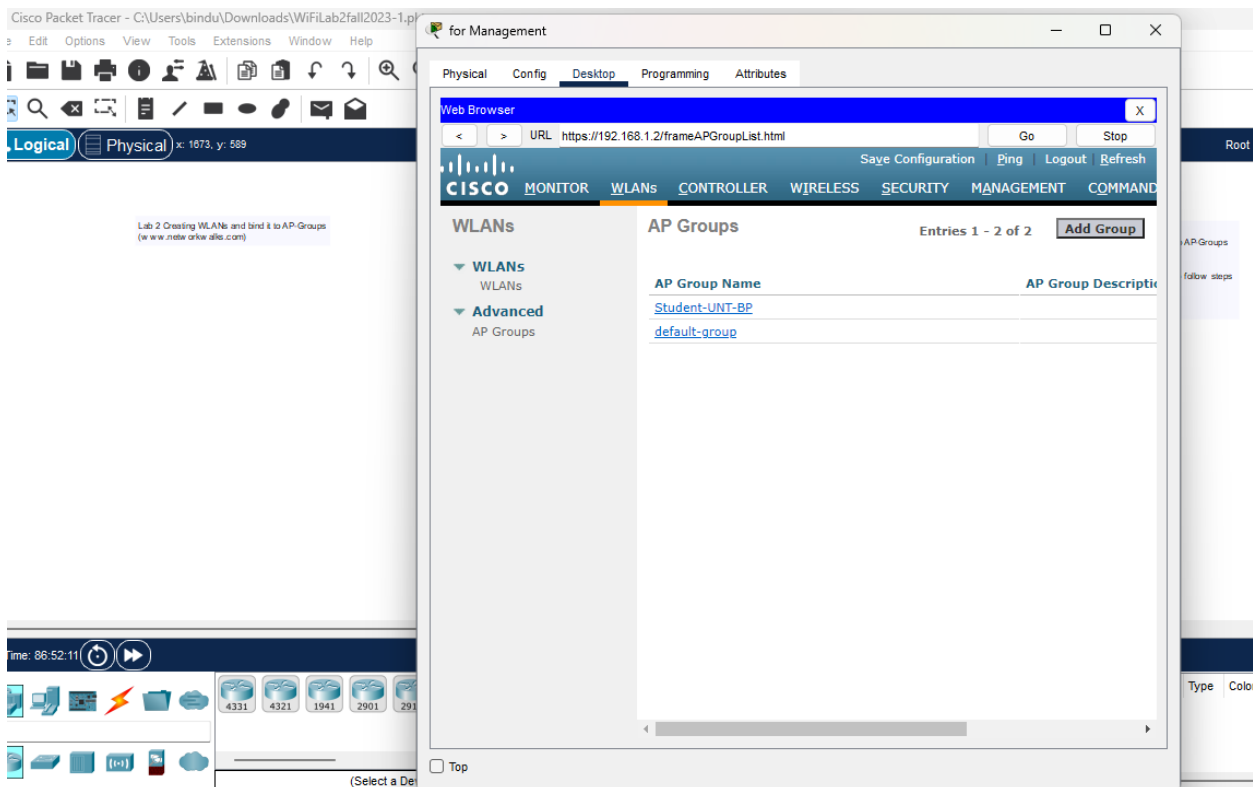
5. This screen appeared after I clicked on Apply button. And the status should be enabled. Clicked on Apply button after checking "Enabled".

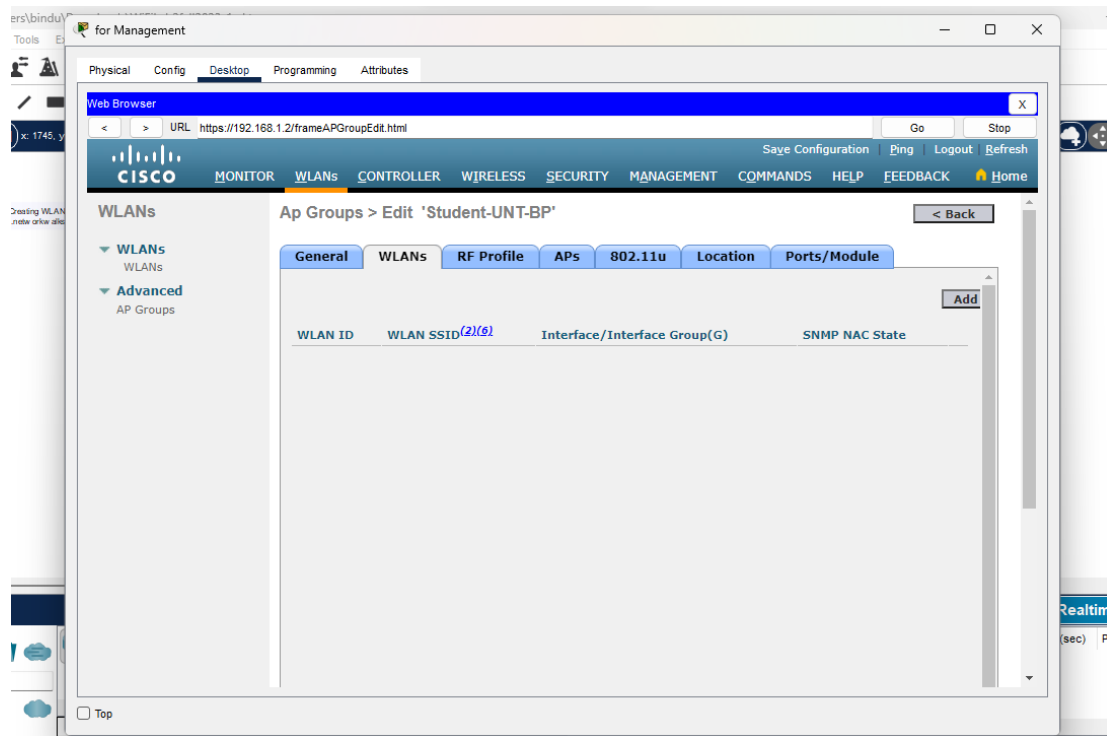


6. Now I have to create the AP group where I will be assigning the newly created WLAN to Light Weight Access Point.

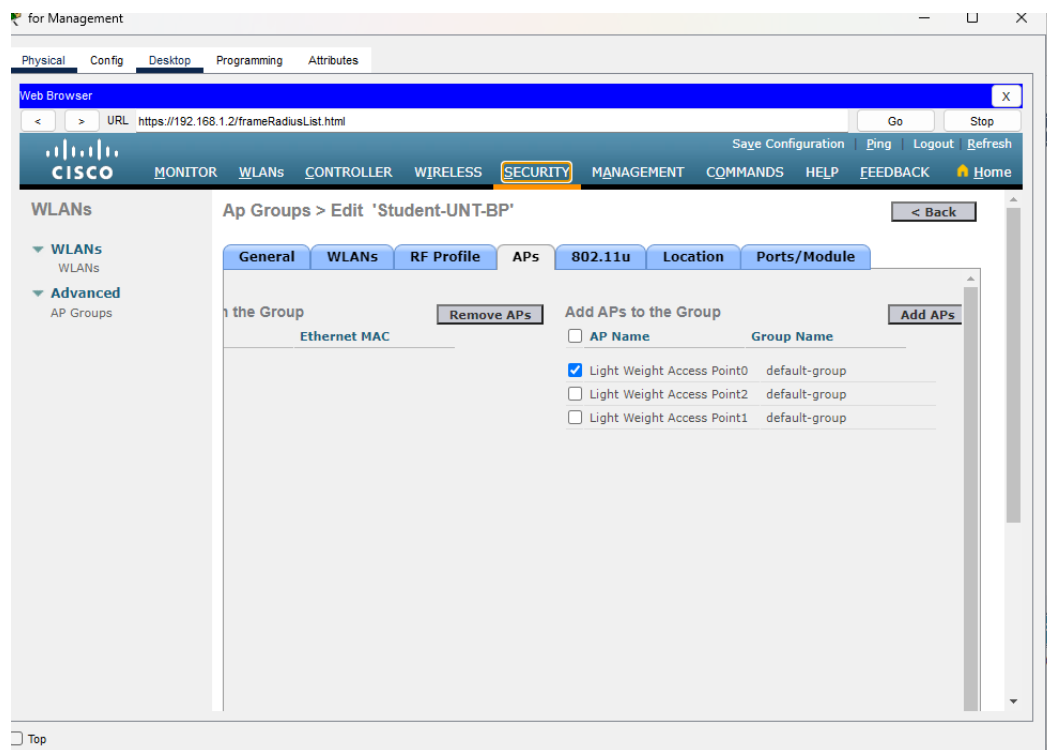


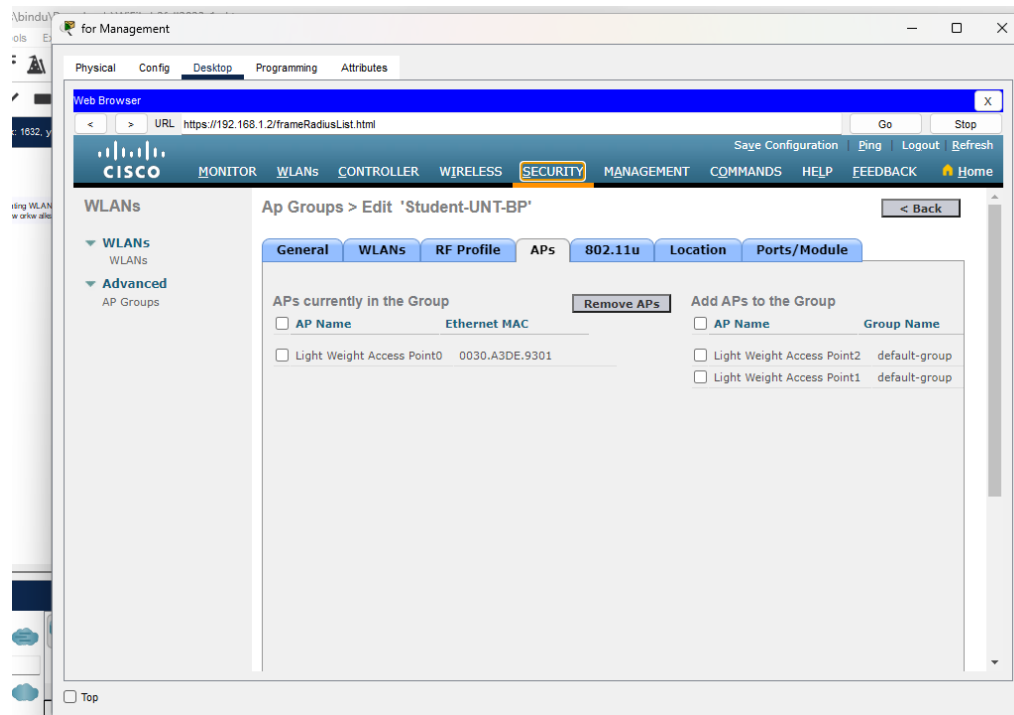
7. I've given the label to the Group as "Student-UNT-BP".



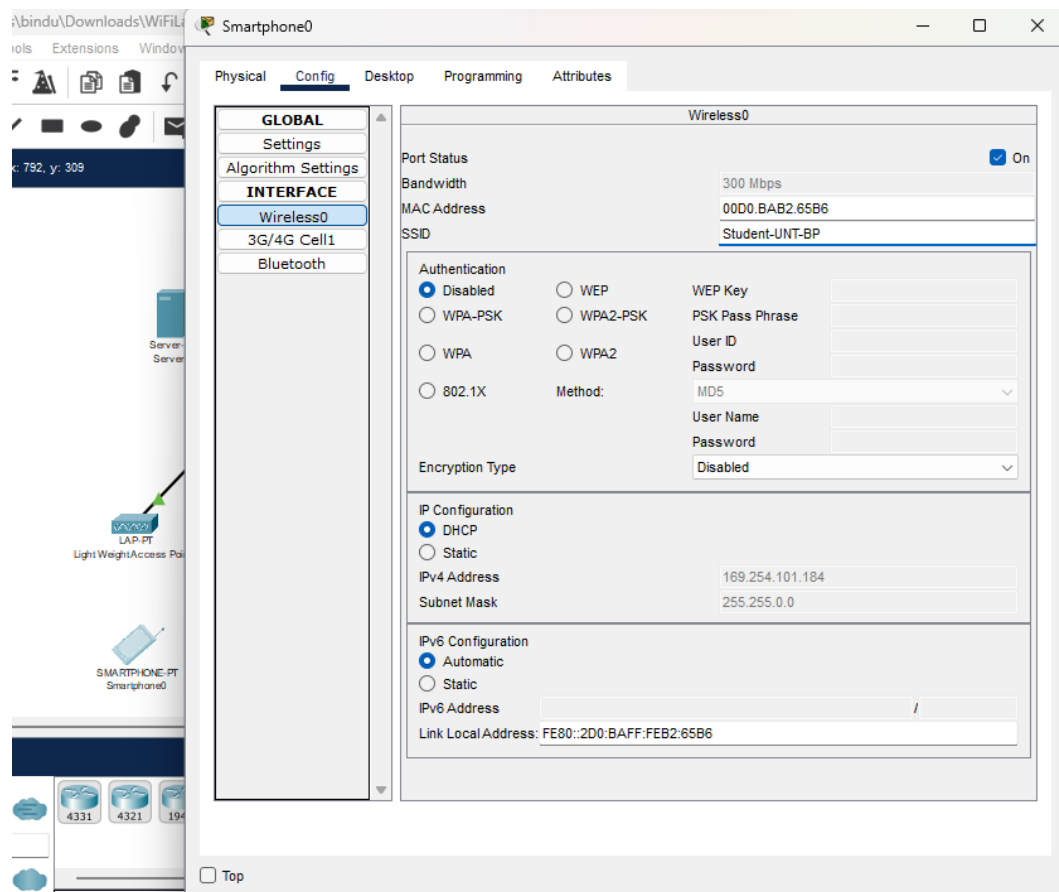


8. After clicking on the Aps, I added the Light Weight Access Point0 to “Student-UNT-BP”.

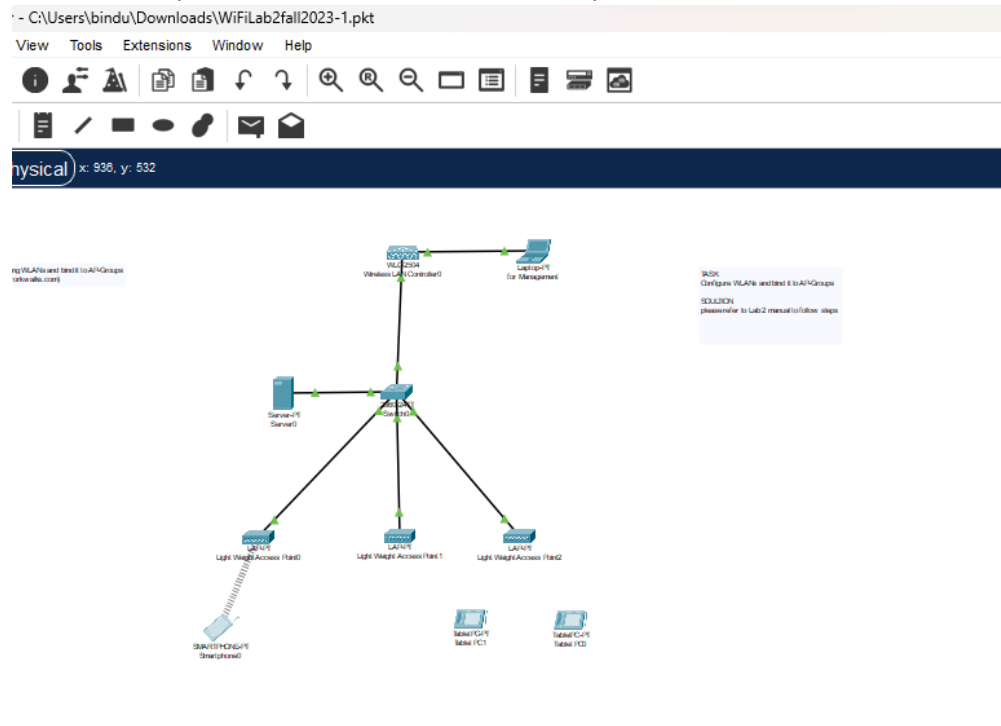




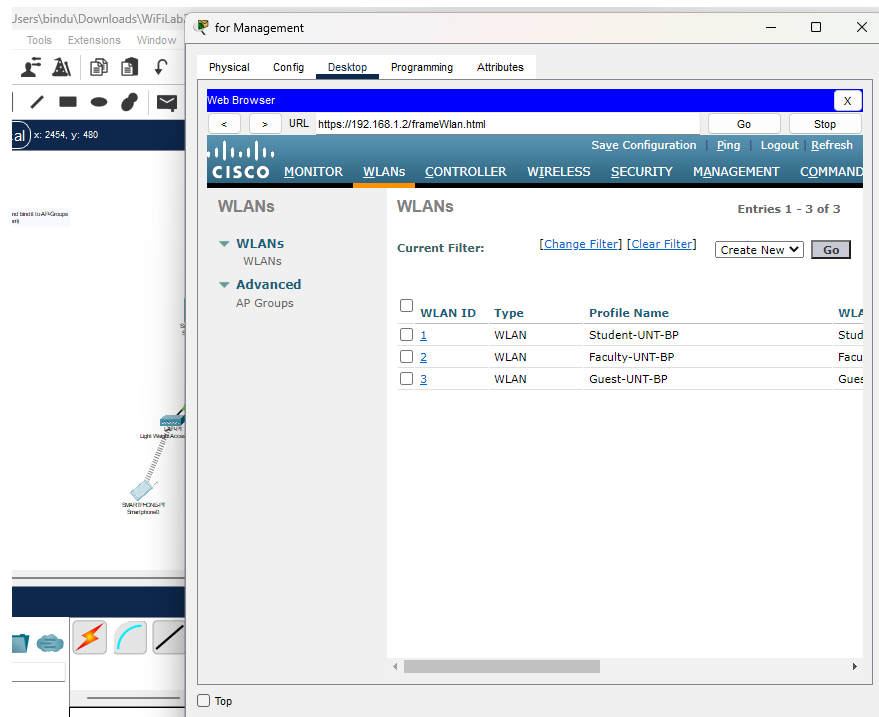
9. I clicked on smartphone and tried to connect the smartphone to the SSID “Student-UNT-BP” WLAN.



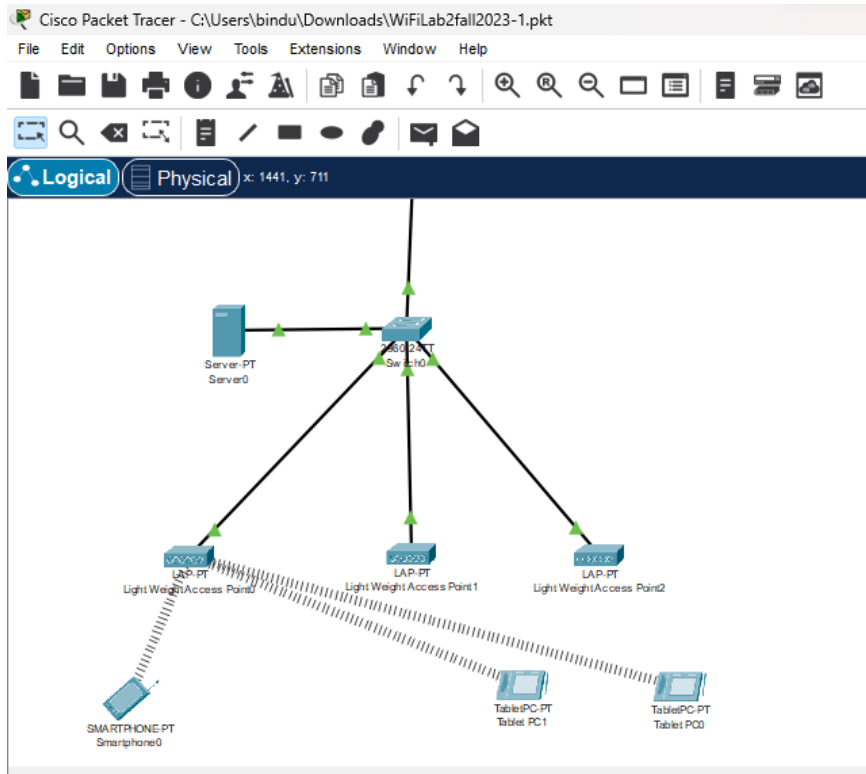
10. The smartphone is now connected to Access point0 as shown in the screenshot below.



11. I then repeated the same process and created new WLANs and named it as “Faculty-UNT-BP” and “Guest-UNT-BP”.



12. Connected the 3 devices to the access point0.



C:\Users\bindu\Downloads\WiFiLab2fall2023-1.pkt

/view Tools Extensions Window Help

Physical x: 565, y: 665

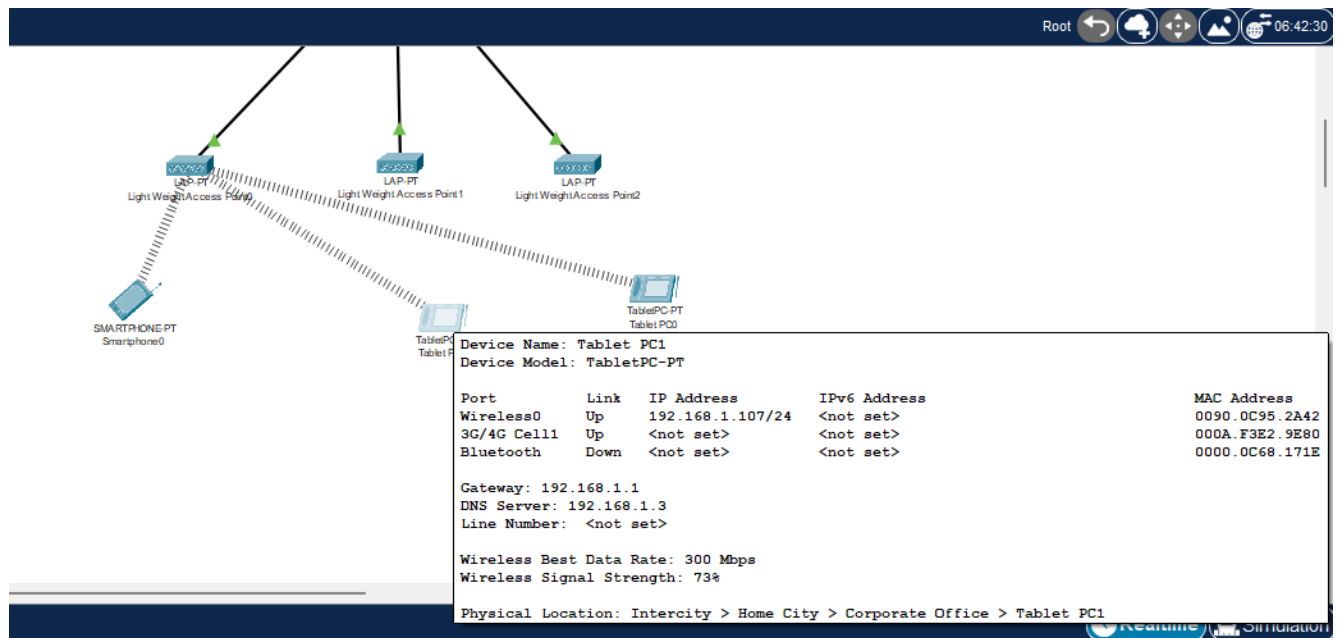
Device Name: Smartphone0
Device Model: SMARTPHONE-PT

Port	Link	IP Address	IPv6 Address	MAC Address
Wireless0	Up	192.168.1.104/24	<not set>	00D0.BAB2.65B6
3G/4G Cell1	Up	<not set>	<not set>	000B.BE70.3432
Bluetooth	Down	<not set>	<not set>	00D0.5889.435A

Gateway: 192.168.1.1
DNS Server: 192.168.1.3
Line Number: <not set>

Wireless Best Data Rate: 300 Mbps
Wireless Signal Strength: 63%

Physical Location: Intercity > Home City > Corporate Office > Smartphone0

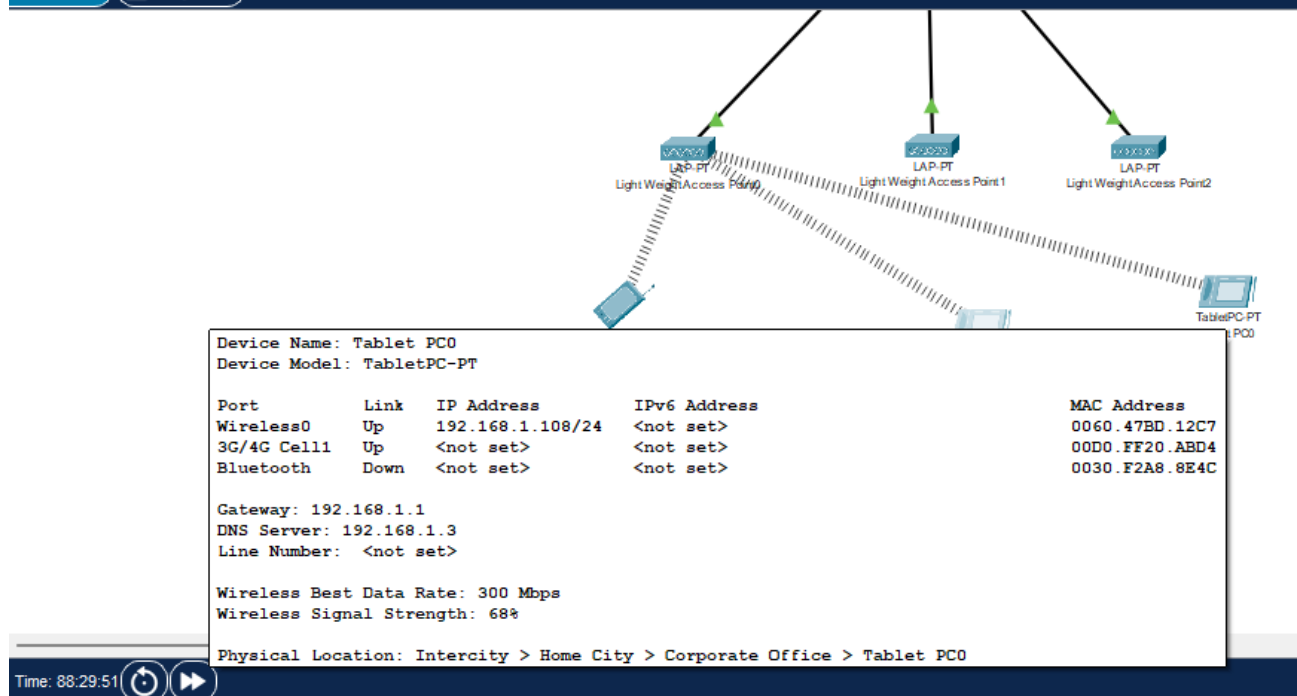


Cisco Packet Tracer - C:\Users\bindu\Downloads\WiFiLab2fall2023-1.pkt

File Edit Options View Tools Extensions Window Help



Logical Physical x: 1111, y: 679



Lightweight Access Points (LWAPs) and WLAN Controllers are components commonly used in wireless network infrastructures. Here's how they differ and the significance of a server in this topology:

Lightweight Access Points (LWAPs):

1. **Purpose:** Lightweight Access Points, as the name suggests, are access points in a wireless network that are designed to be lightweight in terms of functionality and configuration. They focus on providing wireless connectivity to devices.
2. **Functionality:** LWAPs typically have limited intelligence. They handle basic tasks like radio communication, encryption, and forwarding data to a WLAN controller.
3. **Configuration:** LWAPs are easier to deploy and manage since most of their configuration is centralized on the WLAN controller. They can be plug-and-play devices.
4. **Significance:** LWAPs are crucial for providing wireless coverage in various areas, but they rely heavily on WLAN controllers for configuration and management.

WLAN Controllers:

1. **Purpose:** WLAN Controllers are central devices that manage and control multiple LWAPs within a wireless network. They provide centralized control and intelligence for the network.
2. **Functionality:** WLAN Controllers handle tasks such as AP configuration, security policies, client authentication, load balancing, and roaming support. They offer a more comprehensive set of features.
3. **Configuration:** Configuration of access points, security policies, and network-wide settings is done on the WLAN controller. This allows for consistent management of the entire wireless network from a single point.
4. **Significance:** WLAN Controllers are essential for ensuring the reliability, security, and scalability of a wireless network. They streamline the management of multiple access points and enhance network performance.

The Significance of a Server in this Topology:

In the LWAP and WLAN Controller setup, a server is a big deal. It's where the controller software lives, and it does many crucial things:

1. **Controller Software:** The server holds the special software that controls and manages LWAPs in the network.
2. **Easy Growth:** With a server-based controller, you can grow your network by adding more access points without needing separate physical controllers.
3. **One Place for Everything:** The server-based controller makes it easy to manage the entire wireless network from one spot. It takes care of setup, security rules, and troubleshooting.
4. **Always Running:** Servers can be set up to keep the network going, even if one server breaks down.

5. **More Safety:** The server-based controller can add extra safety measures like strong passwords and detecting intruders to protect the network.
6. **Data and Reports:** Servers can collect and study network data, giving you useful information about how the network is doing and how people are using it.