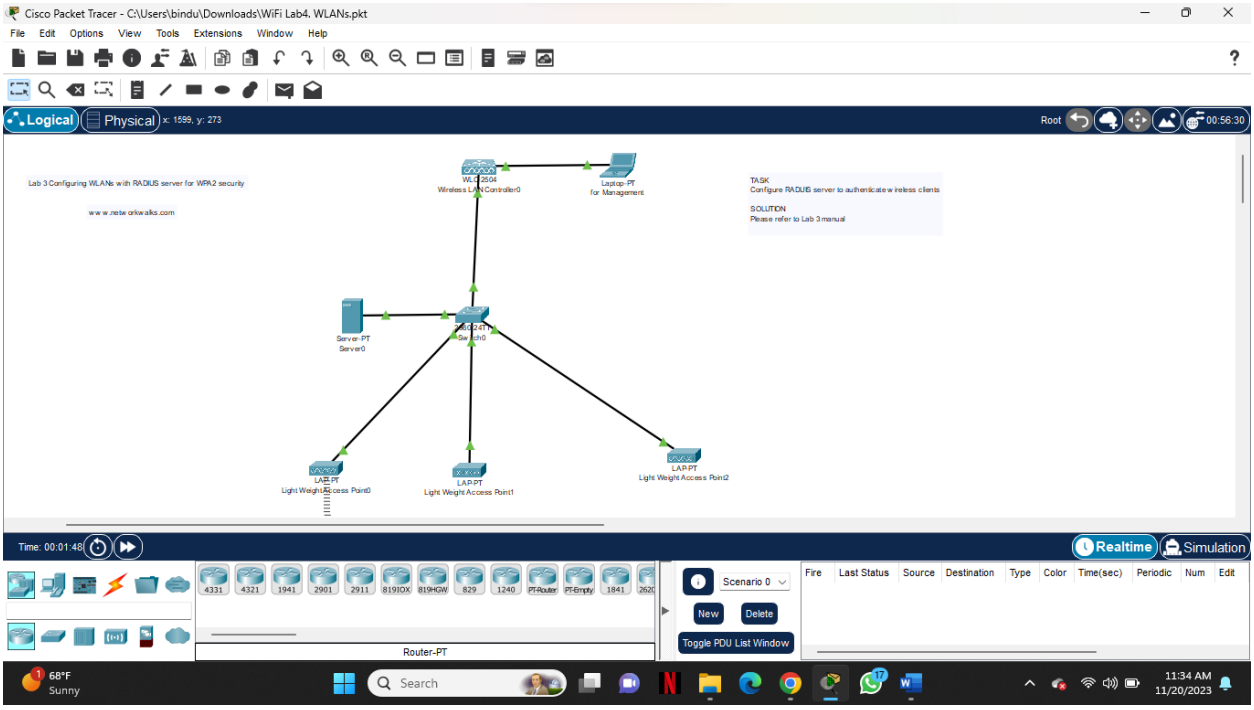
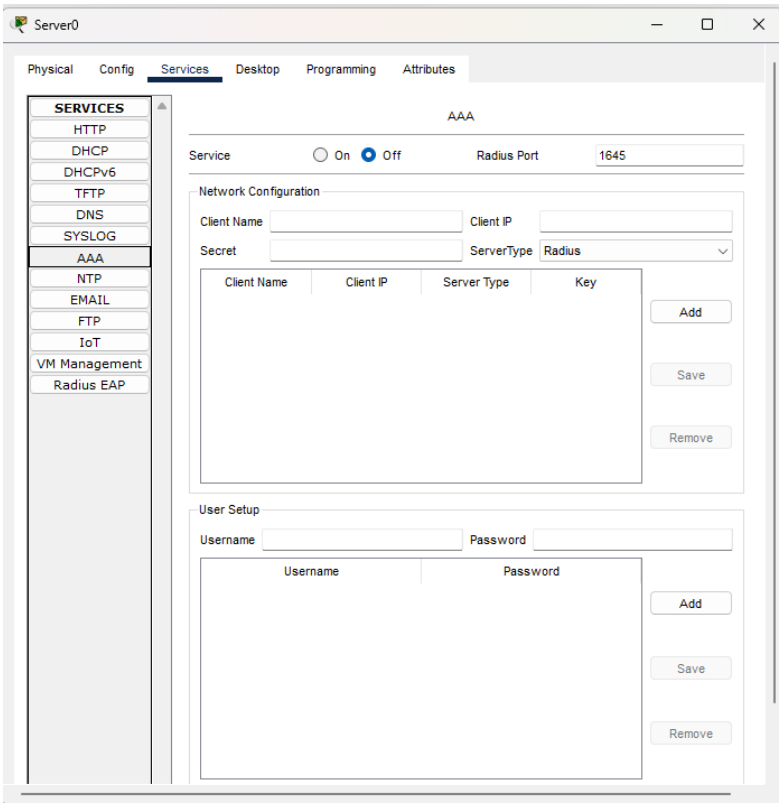
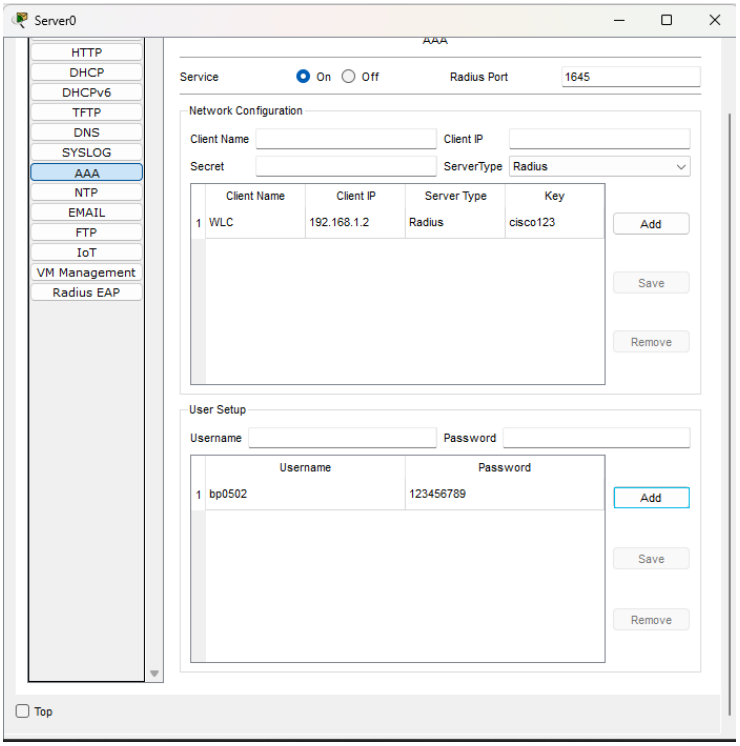
1. Downloaded and opened the cisco packet tracer file from the attached file. It had the below topology set up already.



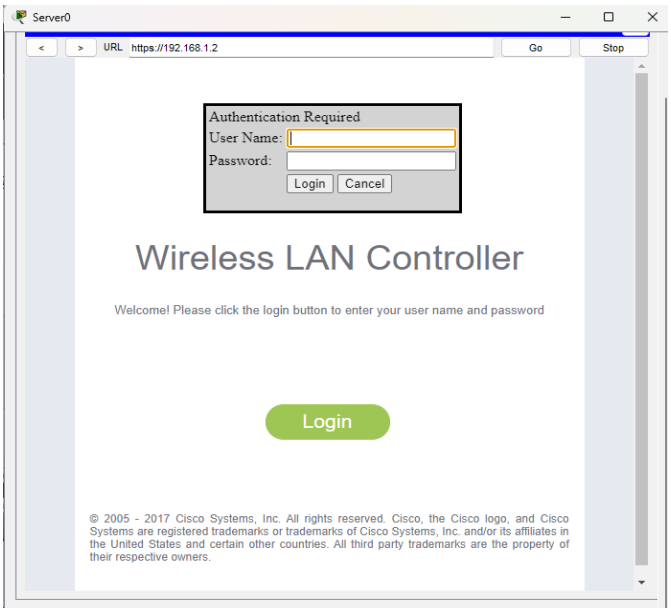
2. I clicked on server0, chose services and selected AAA as shown in figure below:

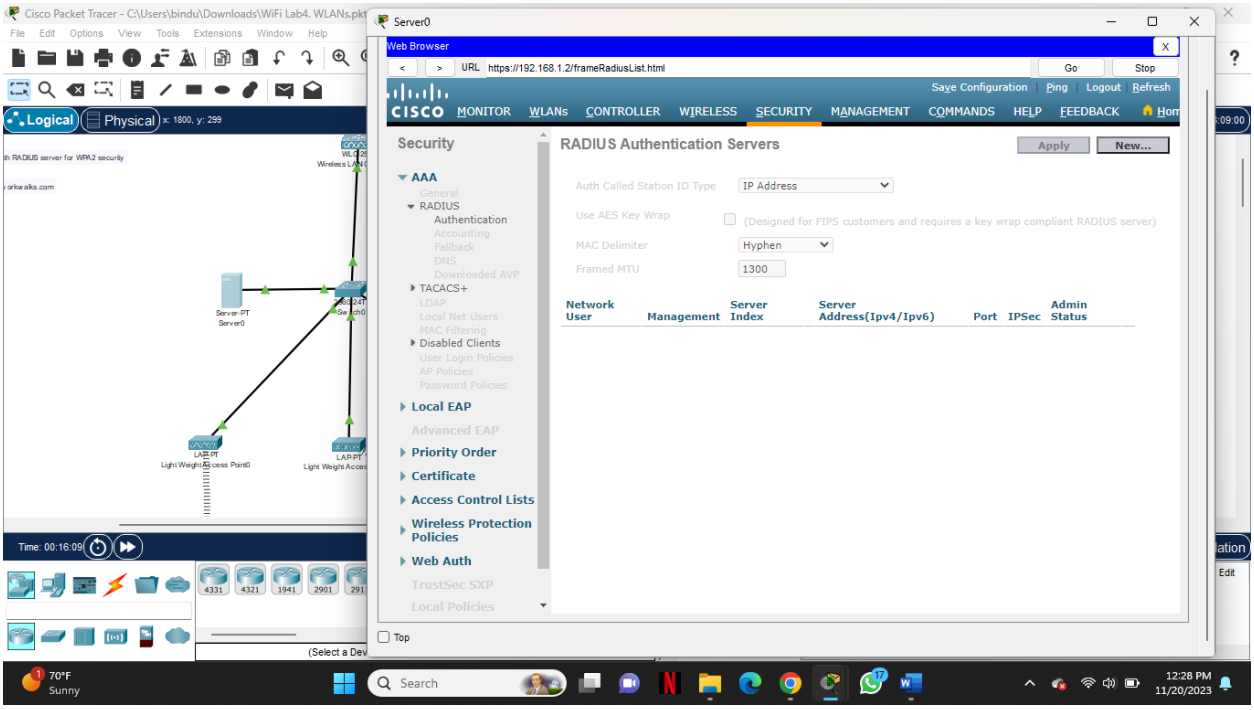


3. I turned ON the service and entered the following details -
Client Name: WLC
Client IP: 192.168.1.2
Secret: cisco123
Username: bp0502
Password: 123456789, and then clicked on ADD.

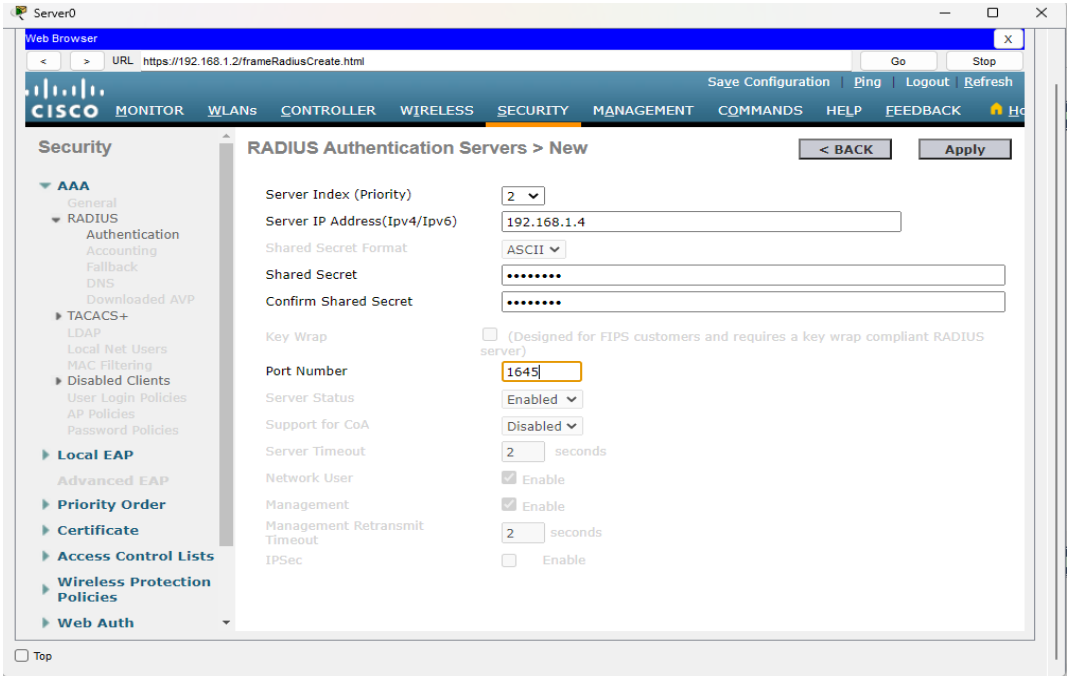


4. Now I Logged into WLC, and gave the username as admin and password as Admin123 and after logging in, I selected Security tab and created new RADIUS server as shown in below figures.

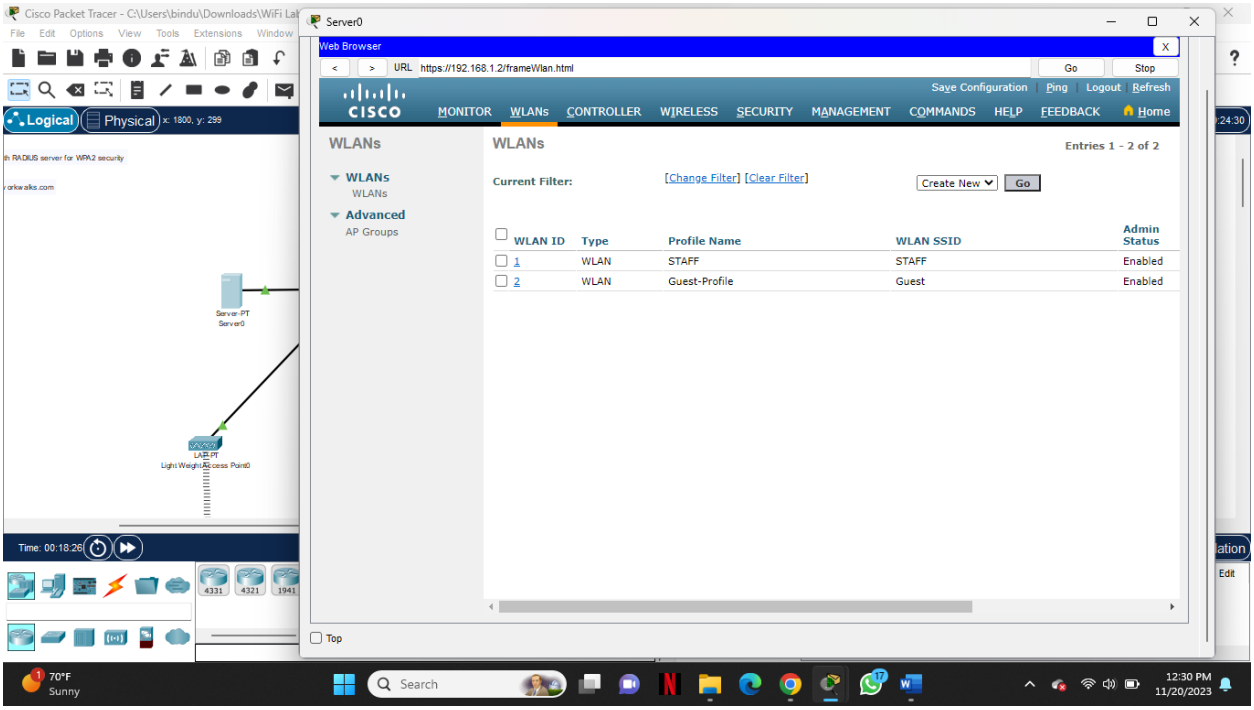




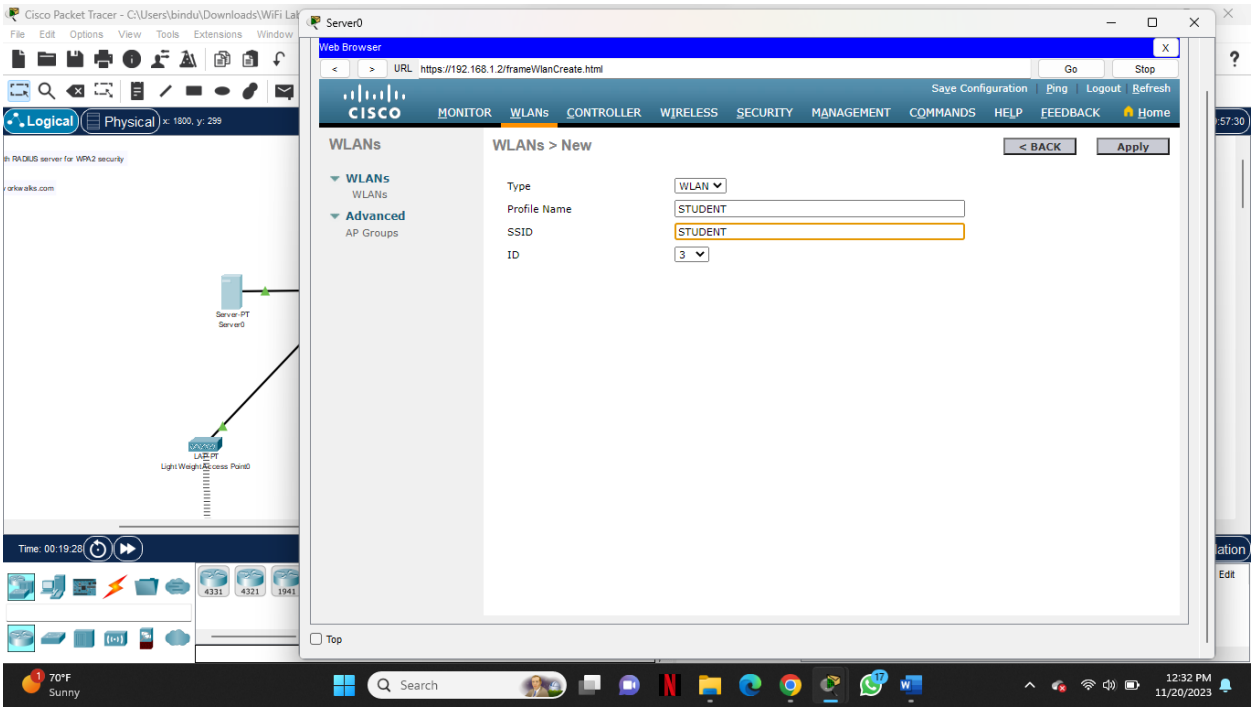
5. Entered the below information
Server IP address: 192.168.1.4
Shared secret: cisco123
Confirm Shared secret: cisco123
Adjust Port number as 1645
And then clicked on Apply.



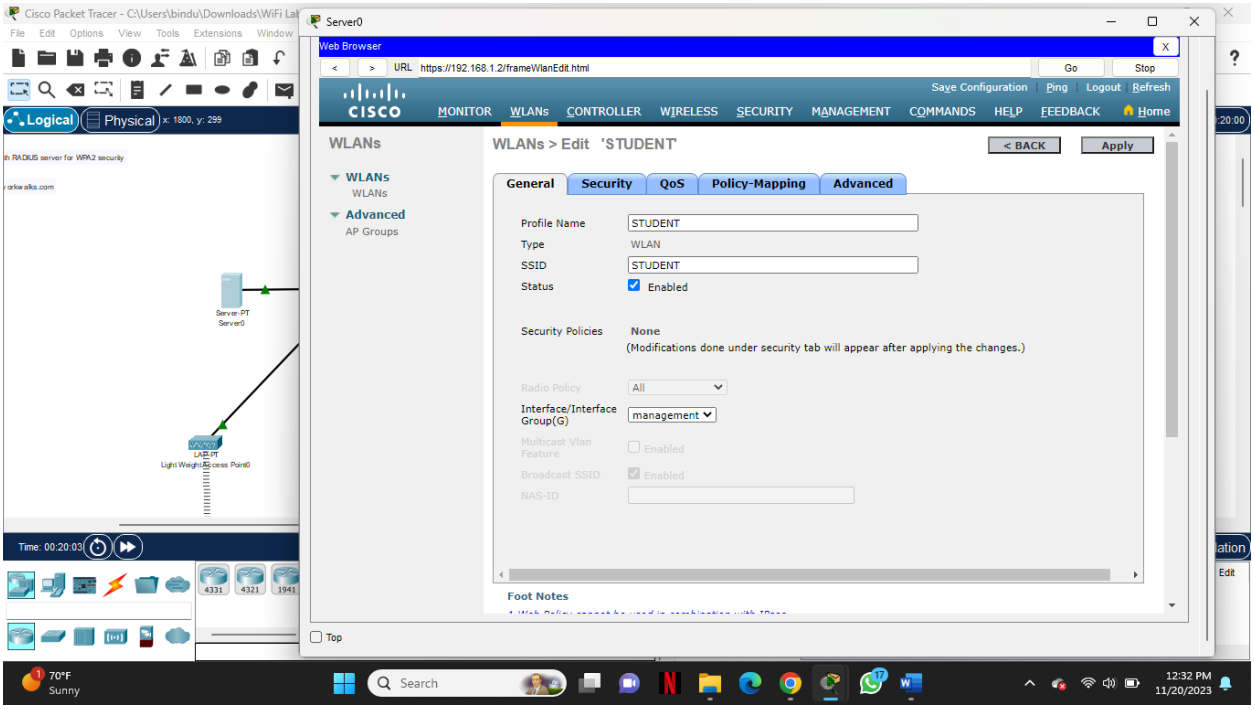
6. Now I created a WLAN by providing STUDENT SSID, navigated to WLAN tab where we can find old WLANs, Clicked on Go



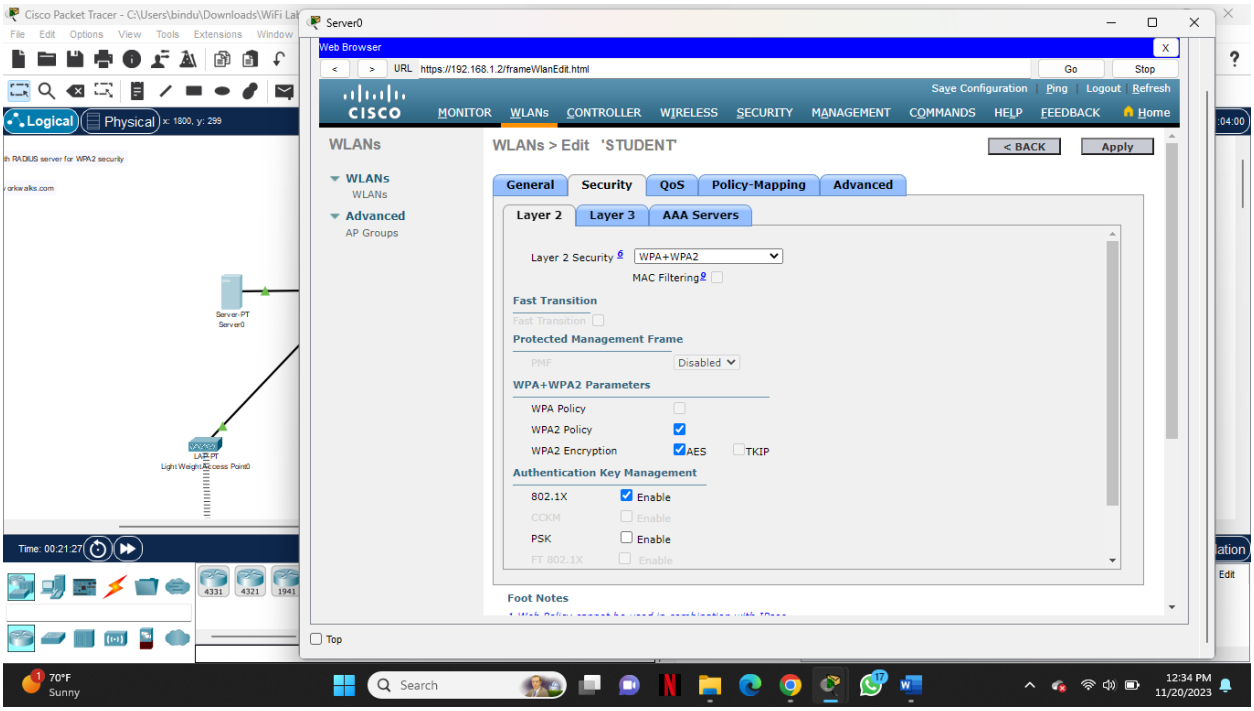
7. Gave the Profile Name and SSIS as STUDENT and clicked on apply as shown in below figure



8. After applying new WLAN, the below screen appears, and we need to make sure that the status is enabled.

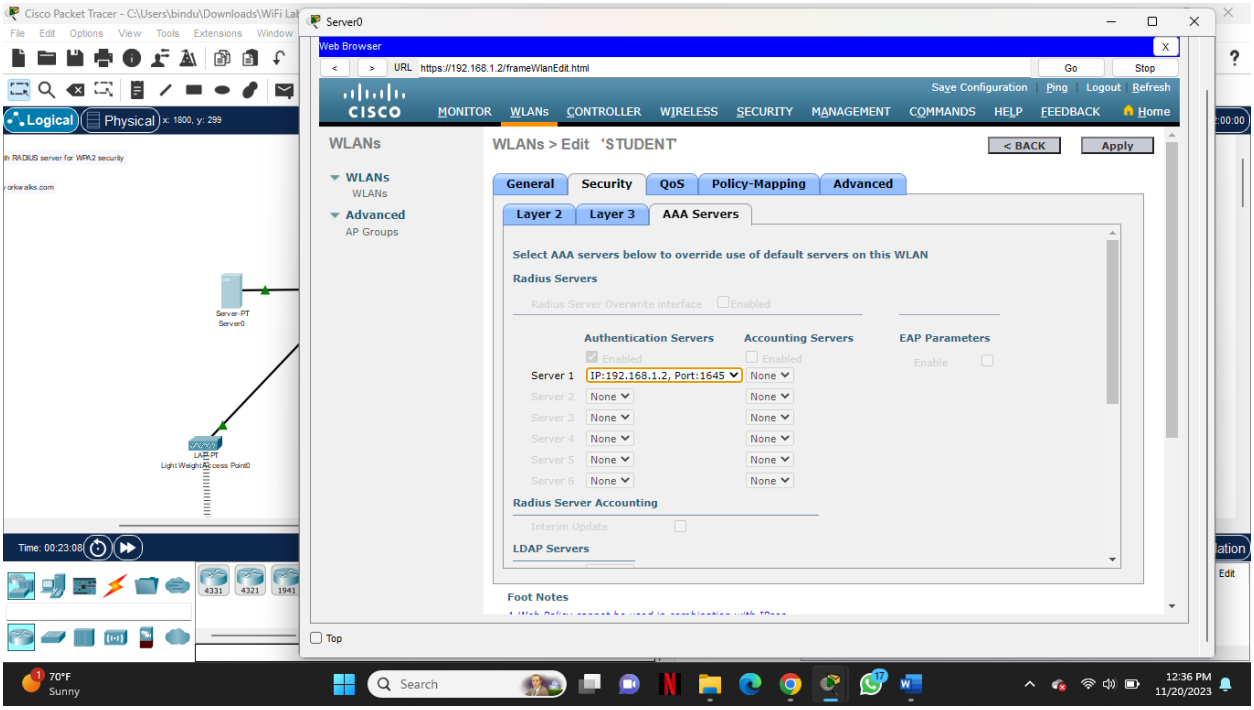


9. Now in WLAN>edit 'STUDENT', went to Security and clicked on Layer 2, selected WPA+WPA2 Enabled 802.1x as shown in below figure. Also enabled WPA2 Policy and WPA2 Encryption (AES).

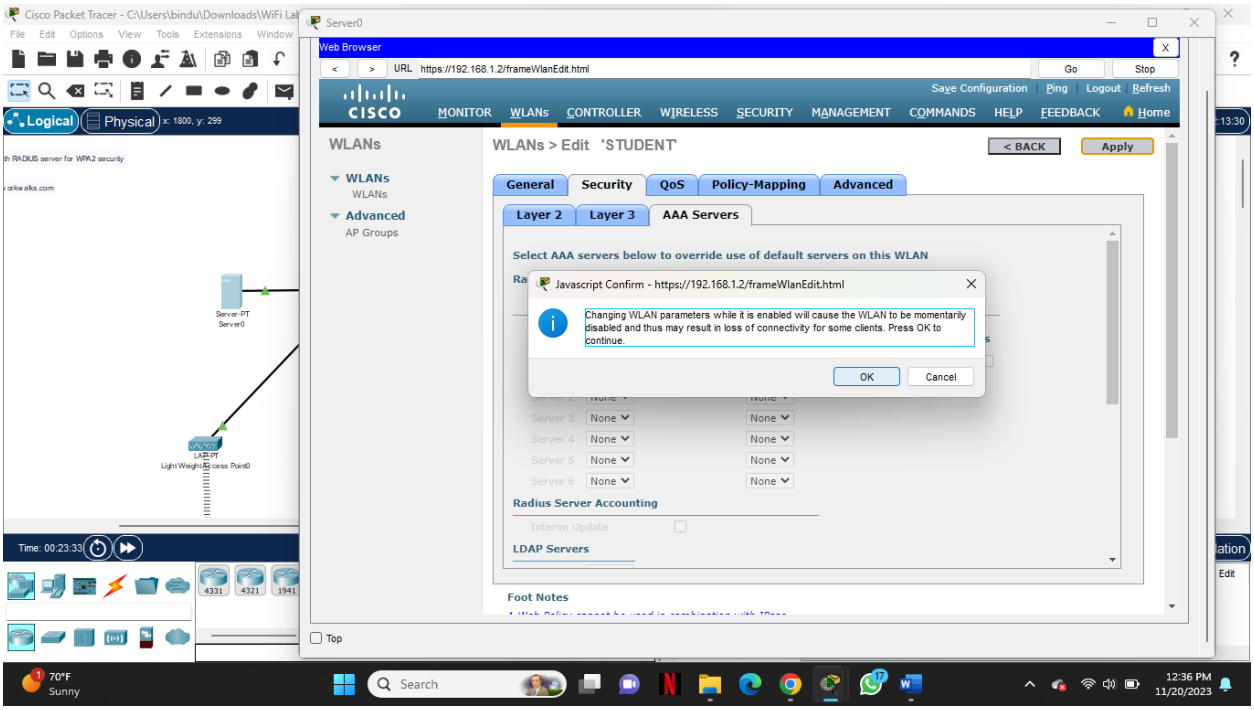


After clicking on Apply a warning message appears by saying that connectivity to clients will be lost due to this change. Selected OK, it's safe as no clients are connected to SSID STUDENTS yet.

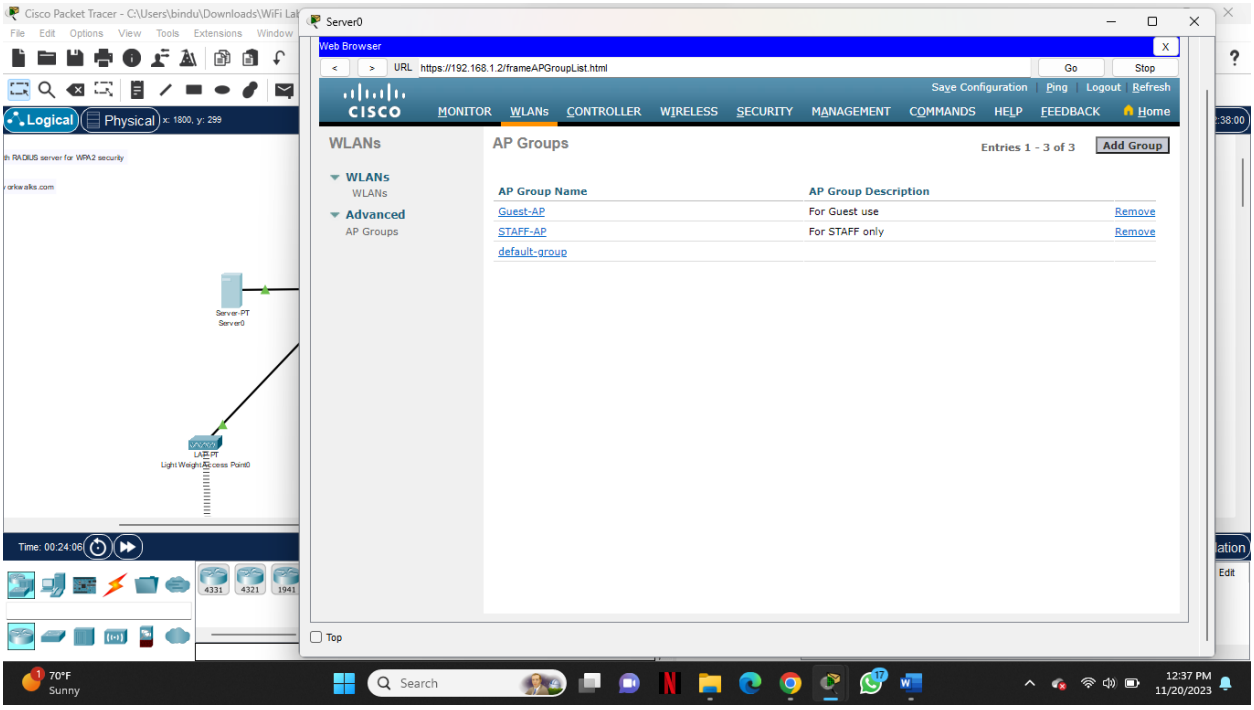
10. Now in WLAN>edit ‘STUDENT’, clicked on AAA servers tab and added the RADIUS server as below figure.



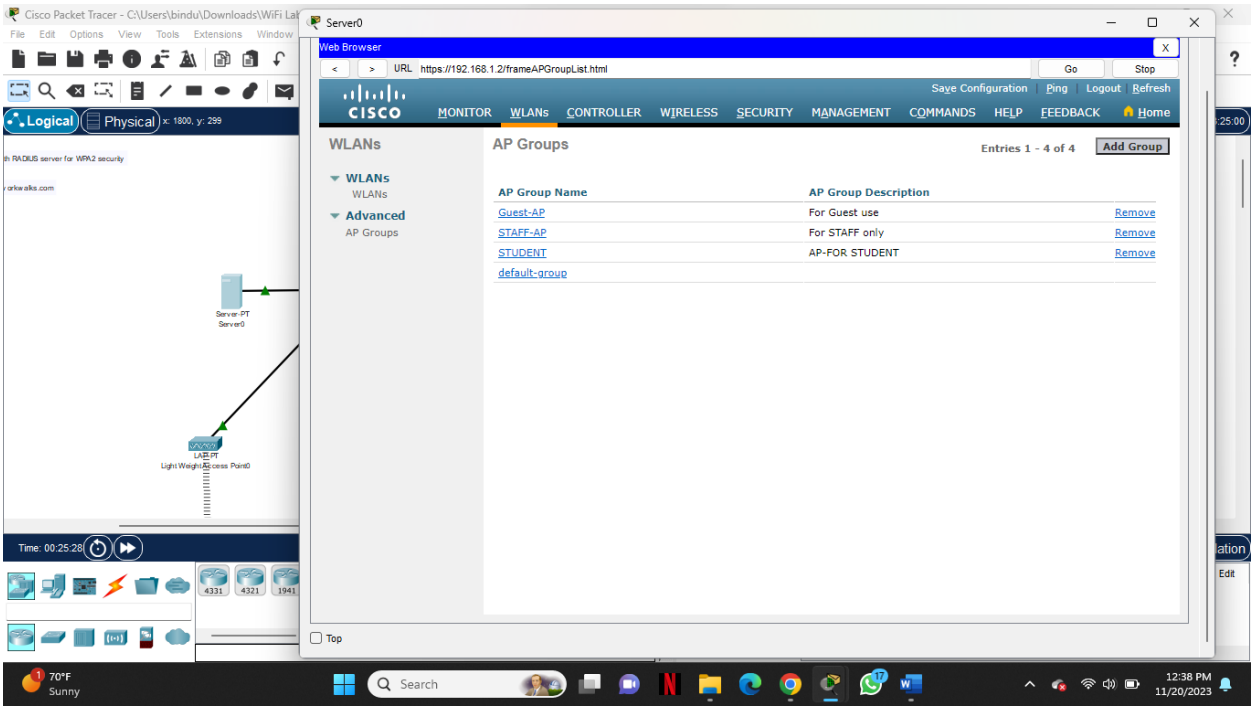
After applying I got the same warning message as step 9 and then I clicked on OK.



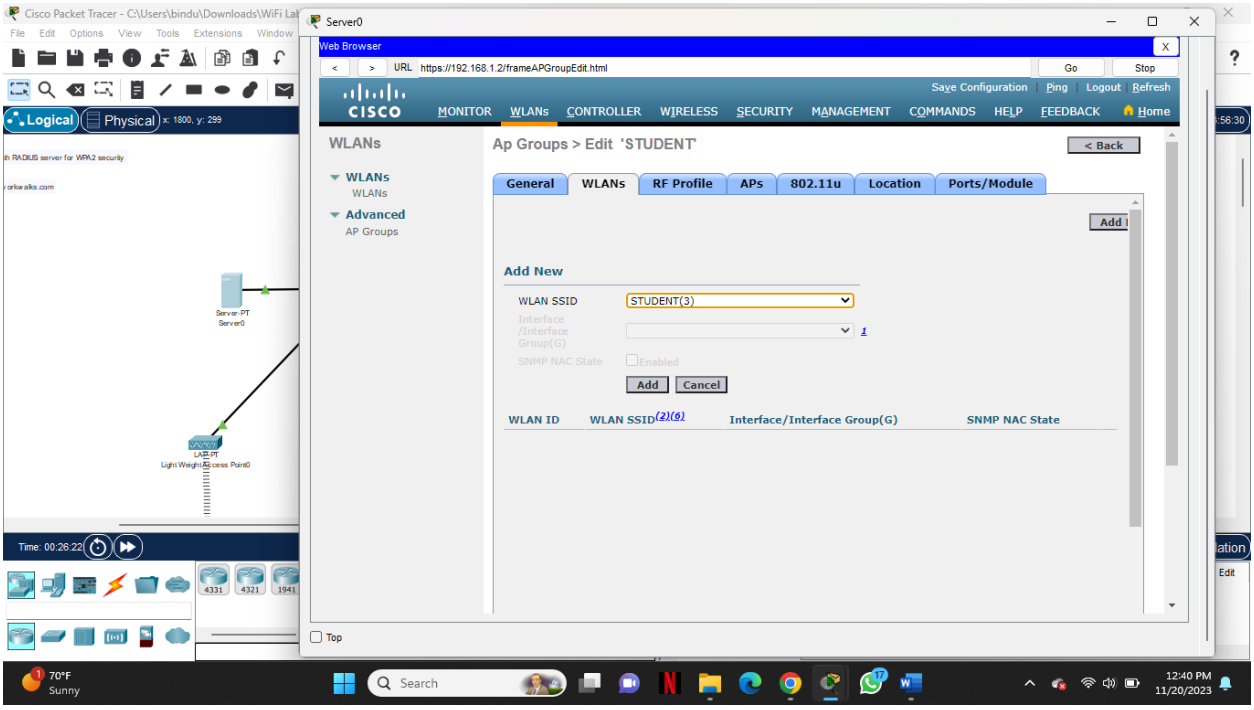
11. Now I went into WLAN and AP Groups. Clicked on Add Group in order to create AP-Group for WLAN STUDENT as shown in below figure.



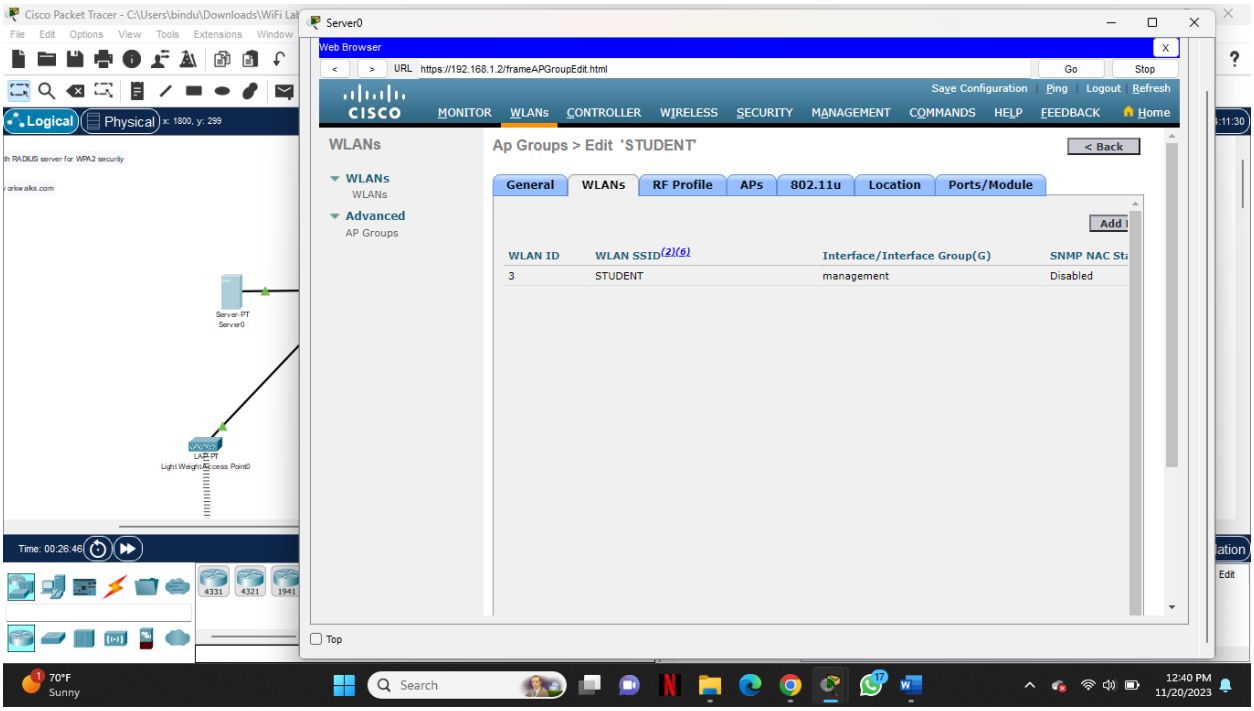
12. AP-Group named STUDENT is created, and then I clicked on the new group that I added.



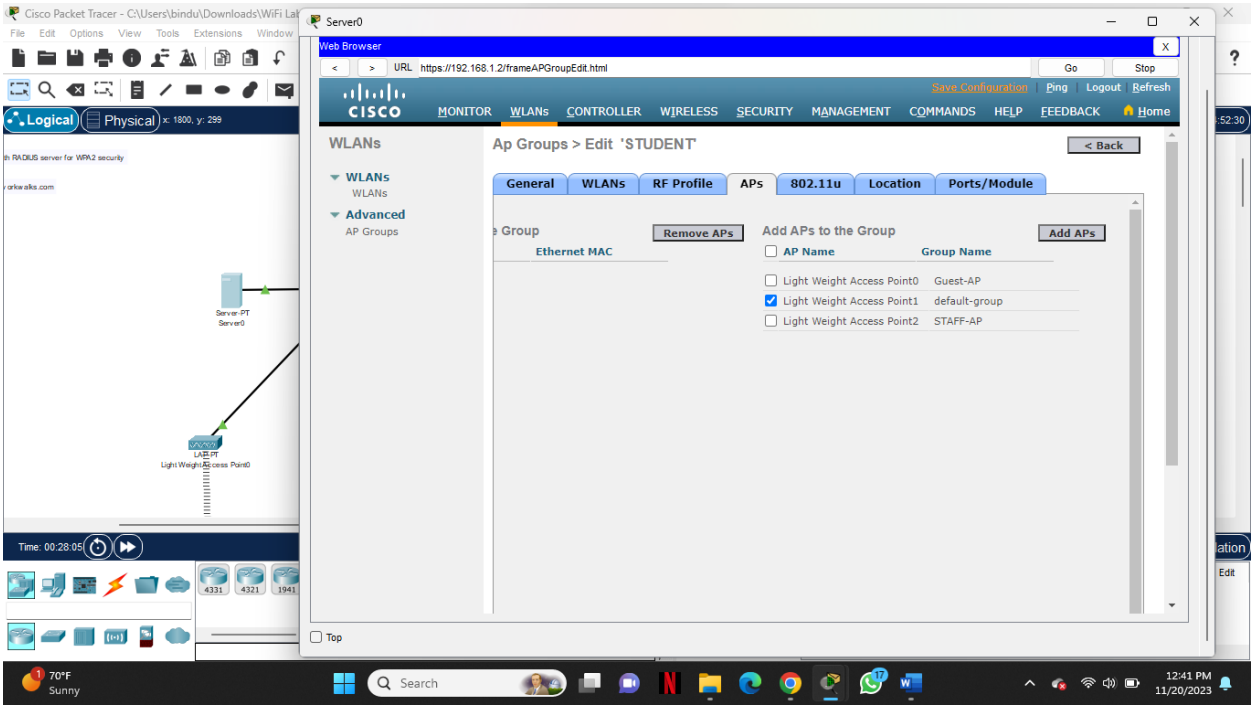
13. Now I clicked on AP-Group STUDENT and selected WLAN, from drop down menu selected STUDENT(3) for WLAN SSID then clicked on Add as below figure.



After adding below figure will display.

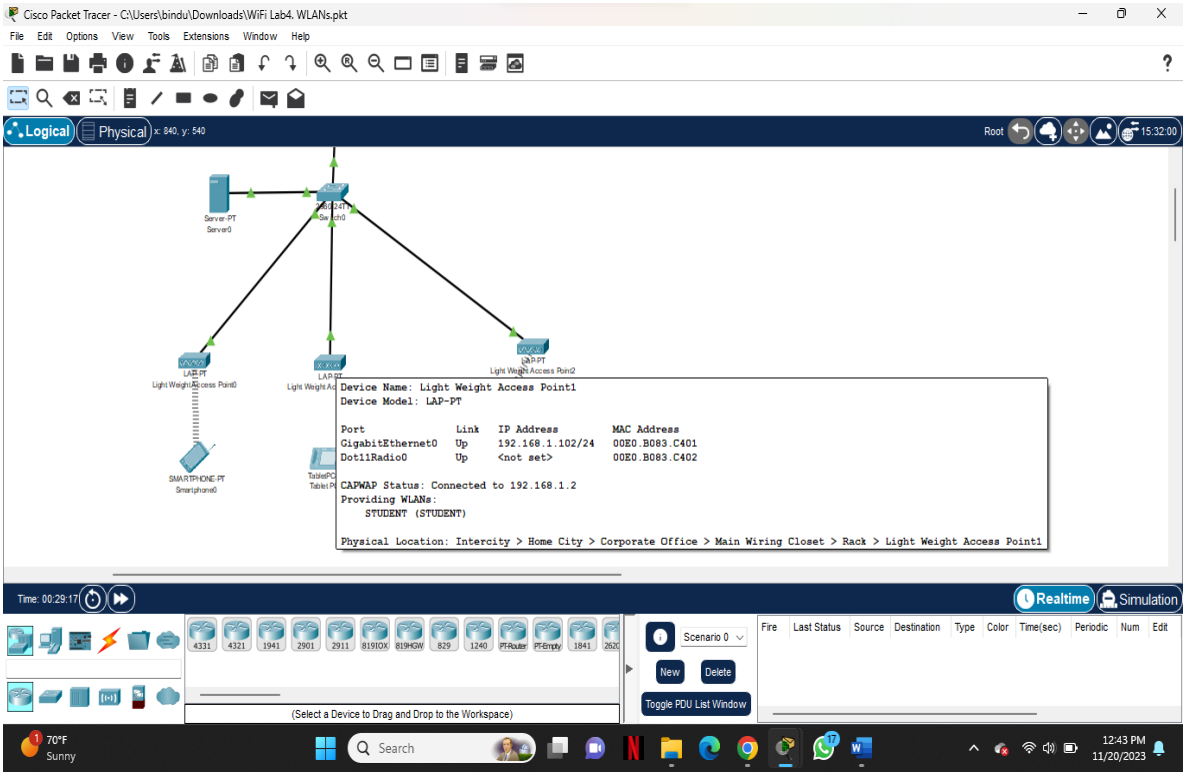


14. Now I chose APs Tab, selected Light Weight Access Point 1, then Clicked on Add Aps.

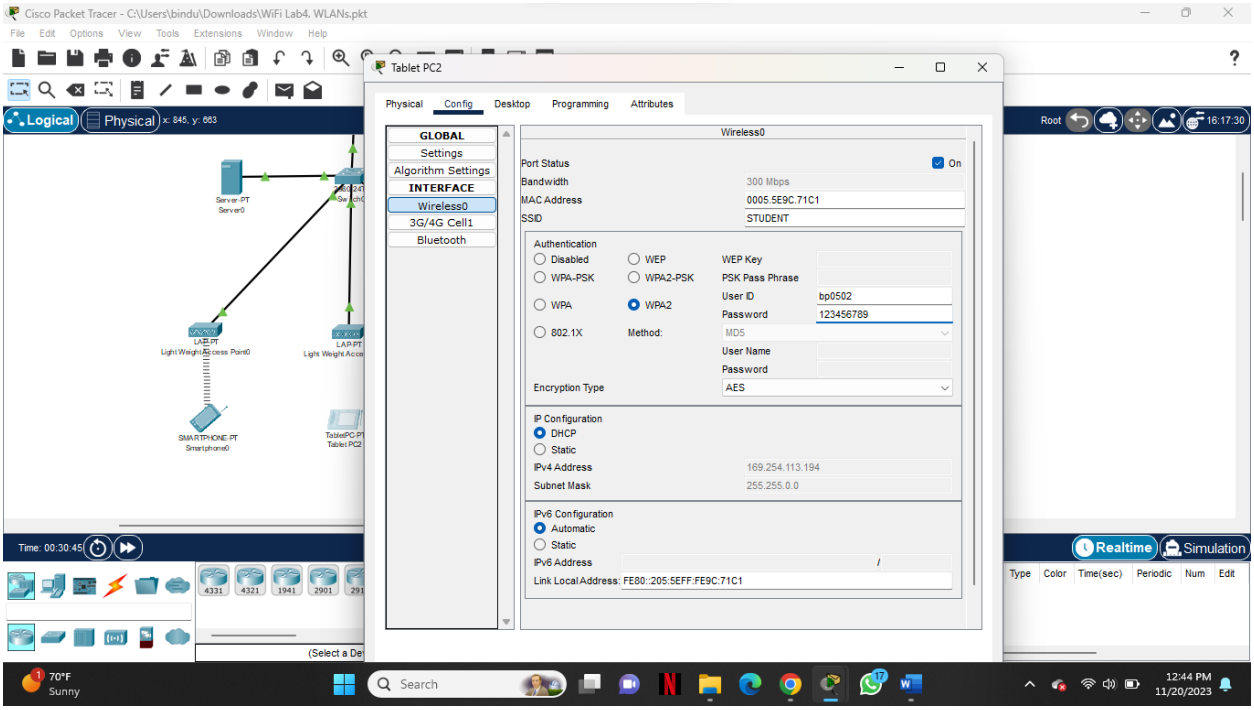


After applying I got the same warning message as step 9, and then I clicked on OK.

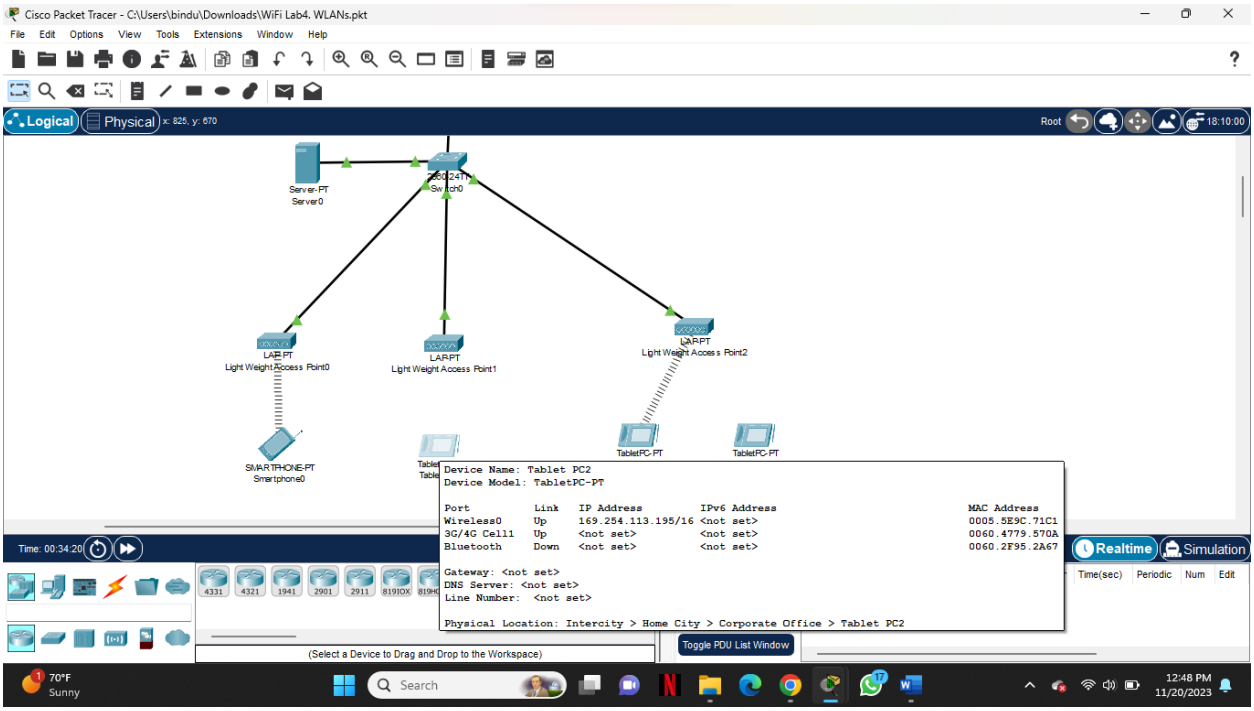
15.Now we can verify whether LWAP1 is broadcasting SSID STUDENT or not by placing cursor over AP in topology diagram. We can see that the Providing WLAN is STUDENT(STUDENT) in the below screenshot.



16. To complete the process, I chose a Tablet PC2, created a user-friendly setup for username, password, and selected correct Authentication type as below figure -



Client device is connected.



3. We have used automated IP address assignment using HTTPS (Hypertext Transfer Protocol Secure) for secure online communication. Authentication, Authorization, and Accounting are referred to as AAA. For network administration and security, AAA services are essential. They provide the management of resource access, assignment of user rights, and monitoring of user behavior.
WPA2 offers more security and it encrypts data using the Advanced Encryption Standard (AES), which is thought to be more reliable and secure. Stronger authentication is used by WPA2, which frequently combines IEEE 802.1X with EAP (Extensible Authentication Protocol). This aids in confirming a user's or device's identification before allowing access to the wireless network. The industry now uses WPA2 as the standard for protecting WiFi networks. It is regarded as a safe solution for safeguarding wireless communications and is extensively supported by a variety of Wi-Fi devices.