

## Day 151

### **Topic: Wireless Security**

**Objective:** To understand Wi-Fi security standards and crack WEP/WPA passwords.

#### **Theoretical Concepts:**

We compared WEP (broken), WPA, WPA2, and WPA3. We explained the 4-Way Handshake used in WPA2 and how attackers capture it to crack the password offline.

#### **Practical Work:**

We put our wireless adapter into Monitor Mode using *airmon-ng*. We used *airodump-ng* to scan for nearby networks and capture packets. We simulated a de-authentication attack using *aireplay-ng* to force a client to disconnect and reconnect, allowing us to capture the WPA Handshake. We then cracked the handshake file using a dictionary attack.

**Tools Used:** Aircrack-ng Suite, Wireshark.

**Outcome:** Practical experience in auditing wireless network security.