In this exercice, we need to use a tool named "aircrack-ng", a tool used especially to check and crack passwords protected with encryption protocols such as WEP, WPA and WPA2-PSK. We can see "WPA2" protocol mentioned in the exercice, also "...step in their investigation by cracking the wireless password." Command: aircrack-ng -w rockyou.txt handshake.cap

You can download "rockyou.txt" from "https://github.com/zacheller/rockyou". The key found it's 1hotchick. We "sha256" the key

THE FLAG : $ctf\{80a3045d4d9aa5b35c97b72b761c69009acfdfb87d806c3e03cb3b04addbb659\}$ ~Z4que