Set Up Your Own Hidden Private Wireless Network
Challenge

Keep your neighbors and passersby away from your wireless network! You are challenged to set up a hidden private wireless network in your home, able to provide Internet access to residents without anyone else knowing it is there.
The fastest contestant to prove the feat will receive a prize. Secret for now!

Duration: April 1, 2022 at 2:00 pm – April 4, 2022 at 2:00 pm

Format: The challenge is individual and you can complete it wherever you are, whenever you want, during the period mentioned above.

Please read the following information carefully.

A. Requirements

1. Computer with Wi-Fi and Ethernet interface cards (e.g., laptop, Raspberry Pi, etc.).
2. Linux-based Operating System (OS). You can create a bootable USB flash drive so that you do not need to install a Linux-based OS in your computer or change your computer's network configuration:
   i) For Windows OS: https://ubuntu.com/tutorials/create-a-usb-stick-on-windows#1-overview
   ii) For macOS: https://ubuntu.com/tutorials/create-a-usb-stick-on-macos#1-overview
   iii) For Ubuntu OS: https://ubuntu.com/tutorials/create-a-usb-stick-on-ubuntu#1-overview

B. Rules

1. The challenge consists of configuring an IEEE 802.11 (Wi-Fi) Access Point (AP) so that its Service Set IDentifier (SSID) is not visible.
2. The challenge must be performed using a Linux-based OS.
3. The challenge takes place from April 1, 2022 at 2:00 pm to April 4, 2022 at 2:00 pm and does not require registration.
4. The challenge is composed of multiple objectives. You will be assigned with a binary classification (0 or x points, where x is the number of points associated with a given objective) for each objective.
5. The first contestant to reach the highest number of points, which will be awarded by the organization after analyzing the information submitted by the contestants that comply all the rules presented herein, will be the winner of the challenge.
6. You must provide evidence that you have attempted to solve the challenge by **submitting via this link, within the duration of the challenge** (April 1, 2022 at 2:00 pm – April 4, 2022 at 2:00 pm), a ZIP file containing the following content:
   i) *Hostapd* daemon configuration file (i.e., "hostapd.conf").
   ii) Dynamic Host Configuration Protocol (DHCP) daemon configuration file (i.e., "dhcpd.conf").

iii) Network interface configuration file (i.e., "interfaces").

iv) *iptables* rules file (i.e., "iptales.rules").

v) A screenshot of your terminal with the output resulting from executing the command
$ ifconfig

7. You must use your unique institutional email as the name of the ZIP file submitted (e.g., "john.doe@fe.up.pt.zip"). We will use the provided email for the sole purpose of contacting you if you are the winner of the challenge. The email address provided will be eliminated within 30 days after the event.

8. Only the first submission associated with the same contestant will be considered.

C. Objectives

To win the challenge, you must try to get the maximum number of points, by successfully accomplishing the following objectives, and make your submission as soon as possible.

1. Configure your AP to operate at 2.4 GHz on channel 6 using IEEE 802.11g or IEEE 802.11n **[5 reward points]**.

2. Configure a DHCP server so that your AP assigns to stations (STAs) IP addresses within the range 10.0.0.10-10.0.0.250 **[2 reward points]**.

3. Configure the Wi-Fi interface of your AP with a suitable IP address and netmask **[3 reward points]**.

4. Configure your AP to forward data traffic between Wi-Fi and Ethernet interfaces using a Network Address Translation (NAT) configuration **[5 reward points]**.

5. Configure your AP so that its SSID is not broadcasted **[5 reward points]**.

D. Final Remarks

We suggest you consider the content of the workshop "On-demand 6G Networks using Autonomous Platforms" to solve the challenge.

After successfully completing the challenge, you will be able deploy a hidden private wireless network anytime, anywhere.

Do not waste time.

Good luck!