Scapy Basics

Mission 1: Packet Crafting

1. Craft a new packet consist of IP and ICMP protocols when the IP destination address is “8.8.8.8” and the ICMP payload is 15 bytes long. Use the “sr1()” function to send it and save the response into a new variable called “response”.
    a. What is the response ICMP type?
    b. What is the response ICMP payload?

2. Craft a new packet consist of IP and TCP protocols, send TCP with Syn flag to “8.8.8.8” port 53 and port 8080. What flag did you got as a response in each port?

Mission 2: Printing values

Scapy uses inline function to print out values called with “sprintf()” as the method of the variable - to print a value of the TCP destination port as an example you will print the value of “%TCP.dport%”, it means that output will be dependent on the certain field name.

Example:

```
p = IP()
p.sprintf("The IP default source address is %IP.src%")
```

1. Craft a new packet as described next: **IP()/TCP()/”Im the payload”**
   Print out using the variable you saved the packet in the next output:
   “The IP protocol default destination is 10.1.1.0 and the TCP default flag is S”

2. Send an ICMP echo-request to “4.4.4.4” and print out the response payload using “sprintf()” function.

Mission 3: Sniffing

Sniffing network packets done with a “sniff()” function and could contain certain parameters like filter options and number of packet counter until its stop sniffing.

1. Create a new variable and store inside its next sniffing option: “**sniff(count=10)**”
   Note: *to sniff faster make some network activity kind of open the browser and go to some website*

2. Use the variable you create above and use the next cases to show the packets contained:
    a. Output the variable
    b. Use “variable.show()” option
    c. Use “variable.summary()” option
    d. Use “variable.nsummary()” option
    e. Access only the first packet using “variable[0]”