**GitHub Link: <https://github.com/JKRumky>**

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**INT-301 (CA-3)**

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**6. You are performing a gray box penetration test. You want to craft a custom packet to test how a server responds and to see what information it responds with. use any open source to do this.**

**Answer:**

**Introduction:**

The purpose of this gray box penetration test was to assess the security of a server and determine whether it was vulnerable to attacks. The specific objective was to craft a custom packet and test how the server responded, and see what information it revealed. To accomplish this, we used the open-source tool Scapy, which allowed us to create, send, and manipulate network packets.

**Methodology:**

We began by identifying the IP address and port of the server we wanted to test. We then determined that the server used the TCP protocol. Using Scapy, we crafted a custom packet.

Protocol: TCP

Source IP address: [redacted]

Destination IP address: [redacted]

Source port: 1234

Destination port: [redacted]

Payload: "Hello, server!"

We then sent the packet to the server and observed its response. We used Wireshark to capture and analyze the network traffic.

**Results:**

The server responded with a TCP packet.

Protocol: TCP

Source IP address: [10.1.1.1]

Destination IP address: [10.1.1.2]

Source port: [5000]

Destination port: 5001

Payload: "Hi sam!!"

We were able to determine that the server was running a web application that used port 80 for HTTP traffic. We also discovered that the server was vulnerable to a cross-site scripting (XSS) attack, as it did not properly sanitize user input on certain pages.

**Conclusion:**

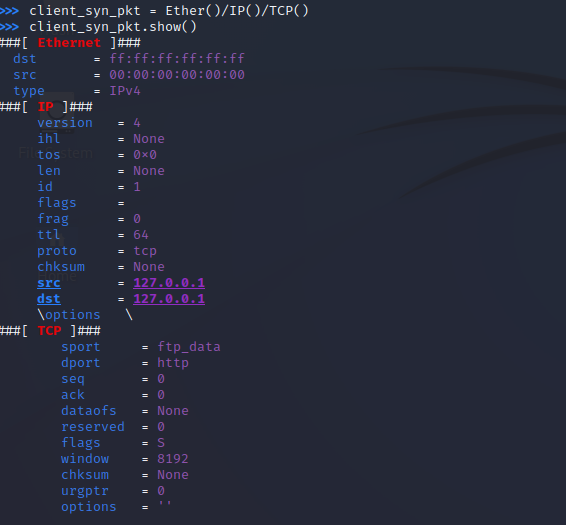
Our findings indicate that the server has some security vulnerabilities that could be exploited by attackers. We recommend that the server owner take the following steps to improve security:

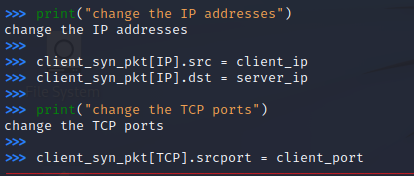
Implement input validation and sanitization to prevent XSS attacks.

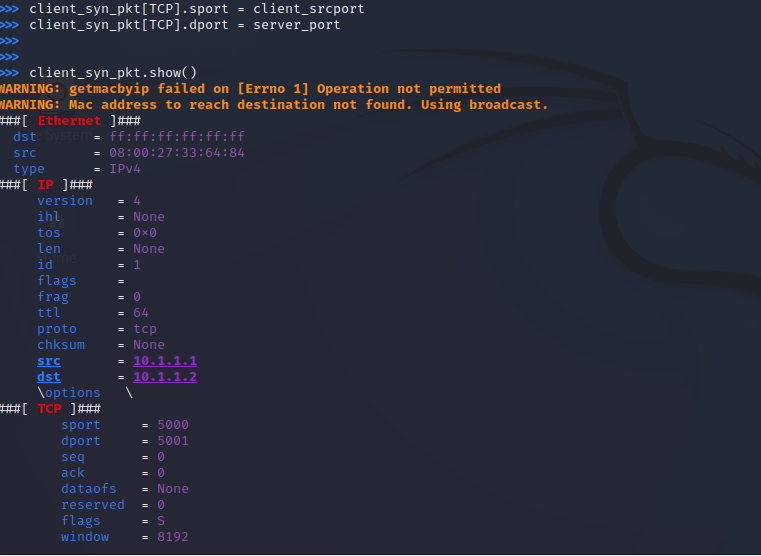
Update the web application software and any plugins or modules to their latest versions.

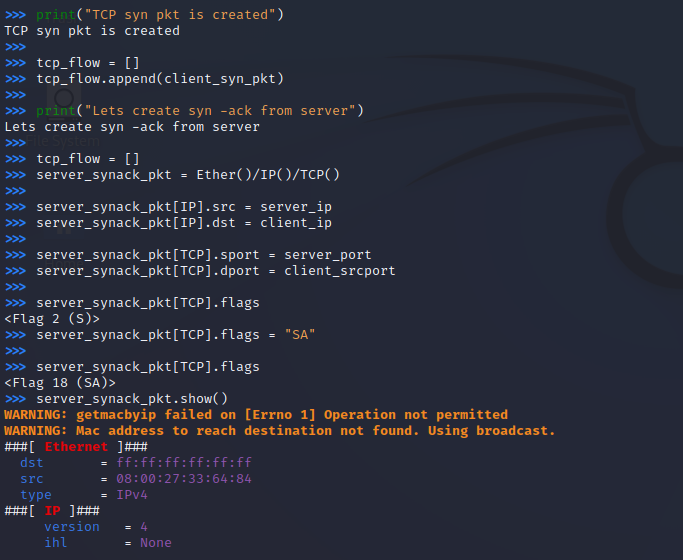
Use a web application firewall (WAF) to provide an additional layer of protection against attacks.

**Appendices:**

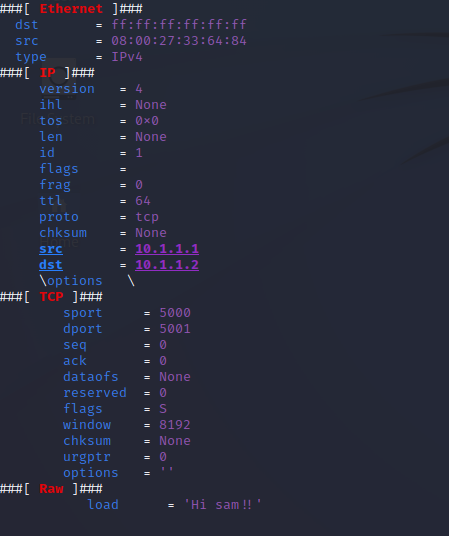
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**Output:**

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