Cybersecurity Incident Report:

Network attack analysis

Section 1: Identify the type of attack that may have caused this network interruption
One potential explanation for the website's connection timeout error message is a DoS attack. The logs show that the website stops responding after receiving multiple SYN packet requests in a short period of time. This event could be a SYN flooding.

Section 2: Explain how the attack is causing the website to malfunction
When the website visitors try to establish a connection with the web server, a three-way handshake occurs using the TCP protocol. The handshake consists of three steps: 1. A SYN packet is sent from the source to the destination, requesting to connect. 2. The destination replies to the source with a SYN-ACK packet to accept the connection request. 3. A final ACK packet is sent from the source to the destination acknowledging the permission to connect. When a malicious actor sends a large number of SYN packets all at once, the server resources are overwhelmed, and it cannot process the legitimate requests. The logs indicate that the web server is overwhelmed and it cannot process the visitors' SYN requests. The server is unable to open a new connection, so the visitors receive a connection timeout message.