HyperionDev

Setting Up for Cyber Security – Kali Linux, HTTP, and SSH

Model answer

Auto-graded task

1. A protocol essentially comprises a set of rules or guidelines that dictate how data is transmitted and received among different systems or devices within a network. It establishes the format, sequence, and error control procedures for communication, akin to a standardised language facilitating mutual understanding between devices and ensuring seamless interaction.

2. HTTP operates atop TCP (Transmission Control Protocol), which furnishes reliable, ordered, and error-checked data delivery across networked devices.

3. A successful request typically elicits a response with a status code falling within the 200 range. For instance, a status code of 200 denotes a successful request.

4. A stateless protocol, exemplified by HTTP, does not retain information regarding the state or context of prior interactions. Each client-to-server request is treated as an independent transaction, devoid of any knowledge of preceding requests.

5. The encrypted counterpart of HTTP is HTTPS (Hypertext Transfer Protocol Secure), which fortifies data transmission between clients and servers using SSL/TLS encryption.

6. In case of a key mismatch during Secure Shell (SSH) connection establishment between client and server, the connection terminates, signalling a potential security threat due to reliance on cryptographic keys for secure connectivity.

7. Among the provided MIME types:, the following are valid

   a. **image/jpeg**: Valid for JPEG images.

   b. **text/javascript**: Valid for JavaScript code.

   c. **text/calendar**: Valid for calendar data.

The following are invalid MIME types:

   d. **text/time:** No standard MIME type exists for time-related data.

   e. **text/jsx**: While JSX is a popular JavaScript syntax extension, it lacks a specific MIME type. Generally served as 'text/javascript'.

   f. **image/psd**: PSD files lack a standard MIME type. They are typically served as 'application/octet-stream' or 'image/vnd.adobe.photoshop'.

8. If a server denies permission to access a specific resource, it typically returns a status code in the 400 range, such as 403 (Forbidden) or 401 (Unauthorised), indicating refusal to authorise the request.