Week 14 Homework

**Questions**

Before you work through the questions below, please create a new file and record your answers there. This will be your homework deliverable.

**HTTP Requests and Responses**

Answer the following questions about the HTTP request and response process.

1. What type of architecture does the HTTP request and response process occur in?

**Client-Server architecture** is where the request and response process occurs

1. What are the different parts of an HTTP request?

**Request line. Header, and body**

1. Which part of an HTTP request is optional?

**Request Body**

1. What are the three parts of an HTTP response?

**Status line, header and body**

1. Which number class of status codes represents errors?

**The fourth class represents errors**

1. What are the two most common request methods that a security professional will encounter?

**GET & POST**

1. Which type of HTTP request method is used for sending data?

**POST**

1. Which part of an HTTP request contains the data being sent to the server?

**Request Body**

1. In which part of an HTTP response does the browser receive the web code to generate and style a web page?

**Response body**

**Using curl**

Answer the following questions about curl:

1. What are the advantages of using curl over the browser?

**Curl can be automated and repeated for ease of use and it’s easy to read.**

1. Which curl option is used to change the request method?

**Curl -x**

1. Which curl option is used to set request headers?

**Curl -h**

1. Which curl option is used to view the response header?

**Curl -i**

1. Which request method might an attacker use to figure out which HTTP requests an HTTP server will accept?

**GET**

**Sessions and Cookies**

Recall that HTTP servers need to be able to recognize clients from one another. They do this through sessions and cookies.

Answer the following questions about sessions and cookies:

1. Which response header sends a cookie to the client?

**Set-cookie (Cart=Bob)**

1. Which request header will continue the client's session?

**Cookie**

**Example HTTP Requests and Responses**

Look through the following example HTTP request and response and answer the following questions:

1. What is the request method?

**POST**

1. Which header expresses the client's preference for an encrypted response?

**Accept-Encoding: gzip, deflate, br**

1. Does the request have a user session associated with it?

**No**

1. What kind of data is being sent from this request body?

**Login data**

1. What is the response status code?

**200 OK**

1. What web server is handling this HTTP response?

**Apache**

1. Does this response have a user session associated to it?

**Yes, SessionID=5**

1. What kind of content is likely to be in the [page content] response body?

**text/html**

1. If your class covered security headers, what security request headers have been included?

**Strict X-“XSS-Protection”**

**Monoliths and Microservices**

**Answer the following questions about monoliths and microservices:**

1. What are the individual components of microservices called?

**Services**

1. What is a service that writes to a database and communicates to other services?

**API**

1. What type of underlying technology allows for microservices to become scalable and have redundancy?

**Containers**

**Deploying and Testing a Container Set**

**Answer the following questions about multi-container deployment:**

1. What tool can be used to deploy multiple containers at once?

**Docker**

1. What kind of file format is required for us to deploy a container set?

**YAML**

**Databases**

1. Which type of SQL query would we use to see all of the information within a table called customers?

**Select \* from customers**

1. Which type of SQL query would we use to enter new data into a table? (You don't need a full query, just the first part of the statement.)

**Insert into customers (firstname) values (‘firstname’)**

1. Why would we never run DELETE FROM <table-name>; by itself?

**Because it would delete the table**

**BONUS**

**STEP 2**

Graphical user interface, website

Description automatically generated

**-**When logged in as Ryan, he does not have access to edit users

STEP 3

#1.

Text

Description automatically generated

A picture containing text

Description automatically generated

**Question:** Did you see any obvious confirmation of a login? (Y/N)

No

#2

Text

Description automatically generated

**#3**

**Question:** How many items exist in this file?

Text

Description automatically generated

**STEP #4**

**#1. Question:** Is it obvious that we can access the Dashboard? (Y/N)

No

#2 **Question:** Look through the output where Dashboard is highlighted. Does any of the wording on this page seem familiar? (Y/N) If so, you should be successfully logged in to your Editor's dashboard.

Yes

**STEP 5**

**Question:** What happens this time?

It brings up the page and information