## **Web Development**

### **HTTP Requests and Responses**

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

|  |
| --- |
| Client-Server Architecture |

1. What are the parts of an HTTP request?

|  |
| --- |
| Request Line, Request Headers, Request Body |

1. Which part of an HTTP request is optional?

|  |
| --- |
| Request Body |

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

|  |
| --- |
| Headers, Status Line, Body |

1. Which status-code number class represents errors?

|  |
| --- |
| 400s |

1. What are the two most common request methods for a security professional to encounter?

|  |
| --- |
| GET and POST requests |

1. Which type of HTTP request method is used to send data?

|  |
| --- |
| POST Request |

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 webpage?

|  |
| --- |
| Response Body |

### **Using cURL**

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

|  |
| --- |
| Manage HTTP requests and response, test HTTP requests, support many issues at once |

1. Which curl option changes the request method?

|  |
| --- |
| -X |

1. Which curl option sets request headers?

|  |
| --- |
| -H |

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

|  |
| --- |
| -I |

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

|  |
| --- |
| Options |

### **Sessions and Cookies**

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

|  |
| --- |
| HTTP/1.1 200 OK  Content-type: text/html  Set-Cookie: cart=Bob |

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

|  |
| --- |
| GET /cart HTTP/1.1  Host: www.example.org  Cookie: cart=Bob  'Connection: keep-alive' |

### **Example HTTP Requests and Responses**

Use the following sample HTTP request and response to answer the questions in this section:

**HTTP Request**

|  |
| --- |
| POST /login.php HTTP/1.1  Host: example.com  Accept-Encoding: gzip, deflate, br  Connection: keep-alive  Content-Type: application/x-www-form-urlencoded  Content-Length: 34  Upgrade-Insecure-Requests: 1  User-Agent: Mozilla/5.0 (Linux; Android 6.0; Nexus 5 Build/MRA58N) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/80.0.3987.132 Mobile Safari/537.36  username=Barbara&password=password |

1. What is the request method?

|  |
| --- |
| POST |

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

|  |
| --- |
| Upgrade-Insecure-Requests: 1 |

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

|  |
| --- |
| No. The session is not reestablished yet |

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

|  |
| --- |
| Login credentials |

**HTTP Response**

|  |
| --- |
| HTTP/1.1 200 OK  Date: Mon, 16 Mar 2020 17:05:43 GMT  Last-Modified: Sat, 01 Feb 2020 00:00:00 GMT  Content-Encoding: gzip  Expires: Fri, 01 May 2020 00:00:00 GMT  Server: Apache  Set-Cookie: SessionID=5  Content-Type: text/html; charset=UTF-8  Strict-Transport-Security: max-age=31536000; includeSubDomains  X-Content-Type: NoSniff  X-Frame-Options: DENY  X-XSS-Protection: 1; mode=block  [page content] |

1. What is the response status code?

|  |
| --- |
| 200 |

1. What web server is handling this HTTP response?

|  |
| --- |
| Apache webserver |

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

|  |
| --- |
| Yes SessionID=5 |

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

|  |
| --- |
| HTML file |

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

|  |
| --- |
| Strict-Transport-Security: max-age=31536000; includeSubDomains |

### **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?

|  |
| --- |
| APIs |

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

|  |
| --- |
| Load Balancer Technology |

### **Deploying and Testing a Container Set**

1. What tool can you use to deploy multiple containers at once?

|  |
| --- |
| Docker |

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

|  |
| --- |
| Yaml format |

### **Databases**

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

|  |
| --- |
| SELECT column\_name FROM customers; |

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

|  |
| --- |
| INSERT INTO table\_name (column\_1, column\_2, column\_3) VALUES (value\_1, 'value\_2', value\_3); |

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

|  |
| --- |
| It deletes the table |

### **Bonus Activity: The Cookie Jar**

**Question 1**: Did you see any obvious confirmation of a login? (Y/N)

|  |
| --- |
| [Enter answer here] |

**Question 2**: How many items exist in this file?

|  |
| --- |
| [Enter answer here] |

**Question 3**: Is it obvious that you can access the dashboard? (Y/N)

|  |
| --- |
| [Enter answer here] |

**Question 4**: 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.

|  |
| --- |
| [Enter answer here] |

**Question 5**: What happens this time?

|  |
| --- |
| [Enter answer here] |

© 2022 Trilogy Education Services, a 2U, Inc. brand. All Rights Reserved.