Cybersecurity

Project 1 Technical Brief

Make a copy of this document before you begin. Place your answers below each question. This completed document will be your deliverable for Project 1. Submit it through Canvas when you're finished with the project at the end of the week.

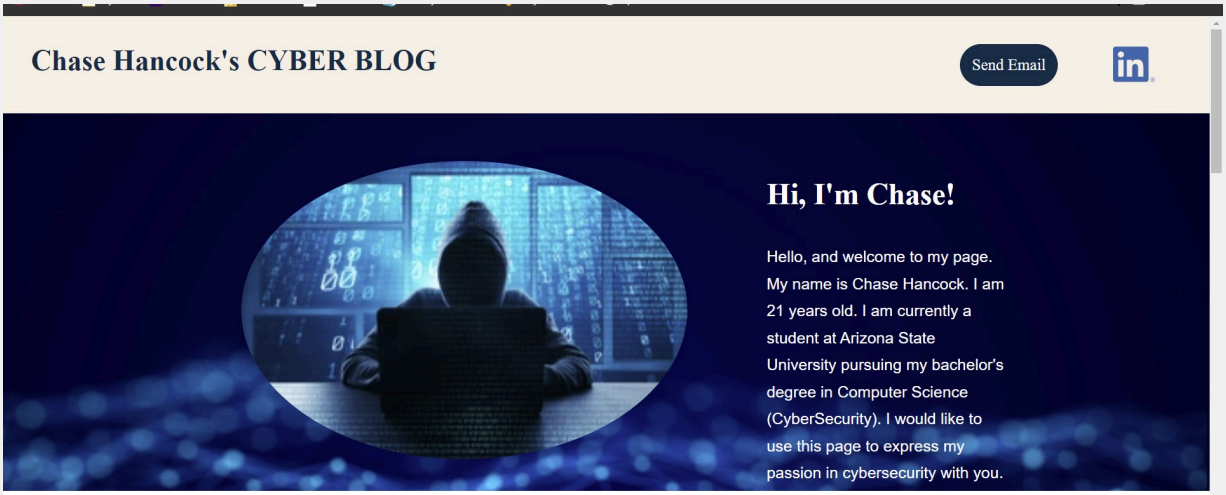
Your Web Application

Enter the URL for the web application that you created:

```
https://chasehancocksecurityresume.azurewebsites.net/
```

Paste screenshots of your website created (Be sure to include your blog posts):

```
[Paste screenshots here]
```



Day 1 Questions

General Questions

1. What option did you select for your domain (Azure free domain, GoDaddy domain)?

```
Azure
```

2. What is your domain name?

```
https://chasehancocksecurityresume.azurewebsites.net/
```

Networking Questions

1. What is the IP address of your webpage?

```
20.211.64.15
```

2. What is the location (city, state, country) of your IP address?

```
Sydney, New South Wales, Australia
```

3. Run a DNS lookup on your website. What does the NS record show?

```
chase@BOOK-EO93N9HUK1 MINGW64 ~
$ nslookup chasehancocksecurityresume.azurewebsites.net
Server:  cdns1.cox.net
Address:  68.105.28.11

Non-authoritative answer:
Name:    waws-prod-sy3-097-ef32.australiaeast.cloudapp.azure.com
Address:  20.211.64.15
Aliases:  chasehancocksecurityresume.azurewebsites.net
          waws-prod-sy3-097.sip.azurewebsites.windows.net
```

Web Development Questions

1. When creating your web app, you selected a runtime stack. What was it? Does it work on the front end or the back end?

```
PHP; Back End
```

2. Inside the `/var/www/html` directory, there was another directory called assets. Explain what was inside that directory.

```
The CSS file; the style of the web page images and links
```

3. Consider your response to the above question. Does this work with the front end or back end?

```
Front End
```

Day 2 Questions

Cloud Questions

1. What is a cloud tenant?

```
A cloud tenant is someone or a company who uses the services and resources
of a cloud computing provider.
```

2. Why would an access policy be important on a key vault?

```
If everyone had access to the key vault, anyone could make changes to the
site which can lead to several negatives including breaches.
```

3. Within the key vault, what are the differences between keys, secrets, and certificates?

```
Keys: Used for encrypting/decrypting data or signing verifying messages
Secrets: Used for storing sensitive information such as, API keys or
passwords
Certificates: Digital files to ensure a sites connection is secure SSL/TSL
```

Cryptography Questions

1. What are the advantages of a self-signed certificate?

```
  -  Cost efficient
  -  Easy to Create
```

2. What are the disadvantages of a self-signed certificate?

```
- Lack of trust
- Vulnerable to attacks
- Warning messages
```

3. What is a wildcard certificate?

```
- A single certificate to secure a single domain and subdomains
```

4. When binding a certificate to your website, Azure only provides TLS versions 1.0, 1.1, and 1.2. Explain why SSL 3.0 isn't provided.

```
SSL 3.0 is a known vulnerability
```

5. After completing the Day 2 activities, view your SSL certificate and answer the following questions:

    a. Is your browser returning an error for your SSL certificate? Why or why not?

```
- Using Azure's domain, they connected a secure SSL certificate
```

    b. What is the validity of your certificate (date range)?

```
October 31, 2023 - June 27, 2024
```

    c. Do you have an intermediate certificate? If so, what is it?

```
No
```

    d. Do you have a root certificate? If so, what is it?

```
DigiCert Global Root G2
```

e. Does your browser have the root certificate in its root store?

```
Yes
```

f. List one other root CA in your browser's root store.

```
AAA
```

Day 3 Questions

Cloud Security Questions

1. What are the similarities and differences between Azure Web Application Gateway and Azure Front Door?

```
- Azure Web Application Gateway and Azure Front Door are both types of
  load balancers. The difference between the two is Azure Front Door is
  a non-regional service where Gateway is a regional service
```

2. A feature of the Web Application Gateway and Front Door is "SSL Offloading." What is SSL offloading? What are its benefits?

```
- SSL Offloading is the process in which the SSL encryption/decryption
  tasks are "offloaded" from a web server to a dedicated hardware or
  software program
- Benefits: Better web performance, enhances security, scalability
```

3. What OSI layer does a WAF work on?

```
Layer 7
```

4. Select one of the WAF managed rules (e.g., directory traversal, SQL injection, etc.), and define it.

```
Directory Traversal: an HTTP exploit where a user can access folder or files outside of the server’s root directory
```

5. Consider the rule that you selected. Could your website (as it is currently designed) be impacted by this vulnerability if Front Door wasn’t enabled? Why or why not?

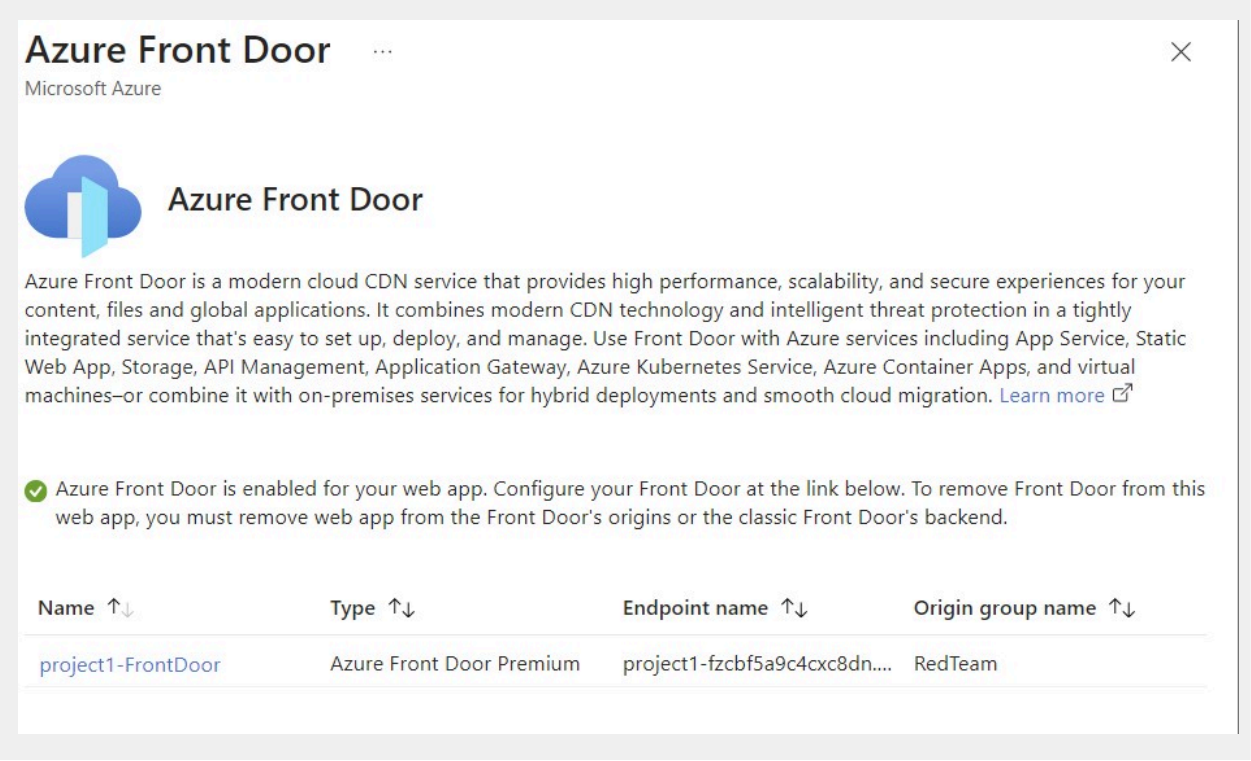
```
Yes, without the Front Door a user can successfully use a directory traversal. This is due to the fact that the best defense against these attacks are user input restrictions and the current website does not contain that.
```

6. Hypothetically, say that you create a custom WAF rule to block all traffic from Canada. Does that mean that anyone who resides in Canada would not be able to access your website? Why or why not?

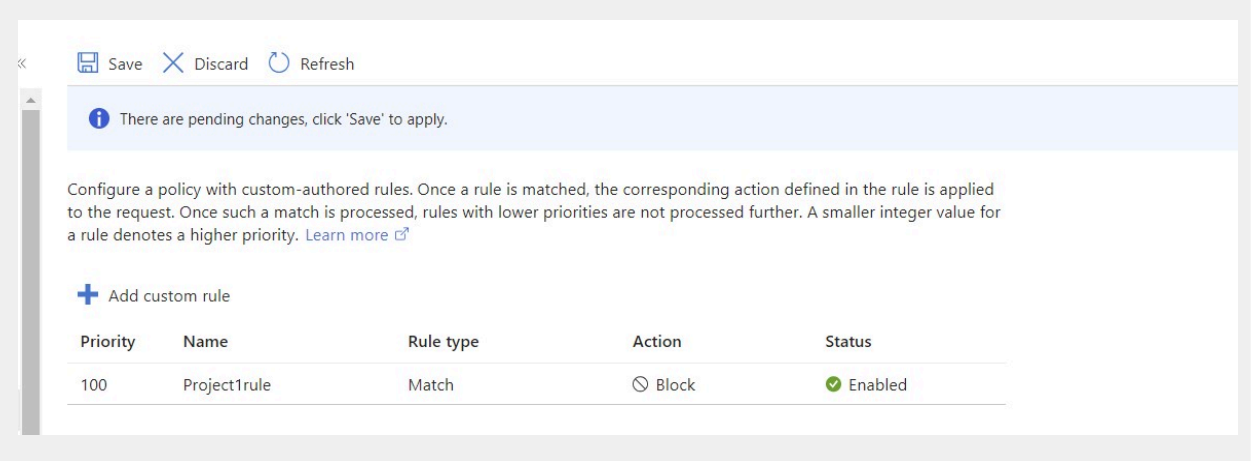
```
- The custom WAF rule created blocks all traffic originating from Canada. Theoretically it should not allow any residents from Canada to access the site; however if the user were to use a VPN they would be able to access the site.
```

7. Include screenshots below to demonstrate that your web app has the following:

    a. Azure Front Door enabled



b. A WAF custom rule



Disclaimer on Future Charges

Please type “**YES**” after one of the following options:

- ***Maintaining website after project conclusion****: I am aware that I am responsible for any charges that I incur by maintaining my website. I have reviewed the guidance for minimizing costs and monitoring Azure charges.*

  "YES"

- ***Disabling website after project conclusion****: I am aware that I am responsible for deleting all of my project resources as soon as I have gathered all of my web application screen shots and completed this document.*