Cybersecurity

Project 1 Technical Brief

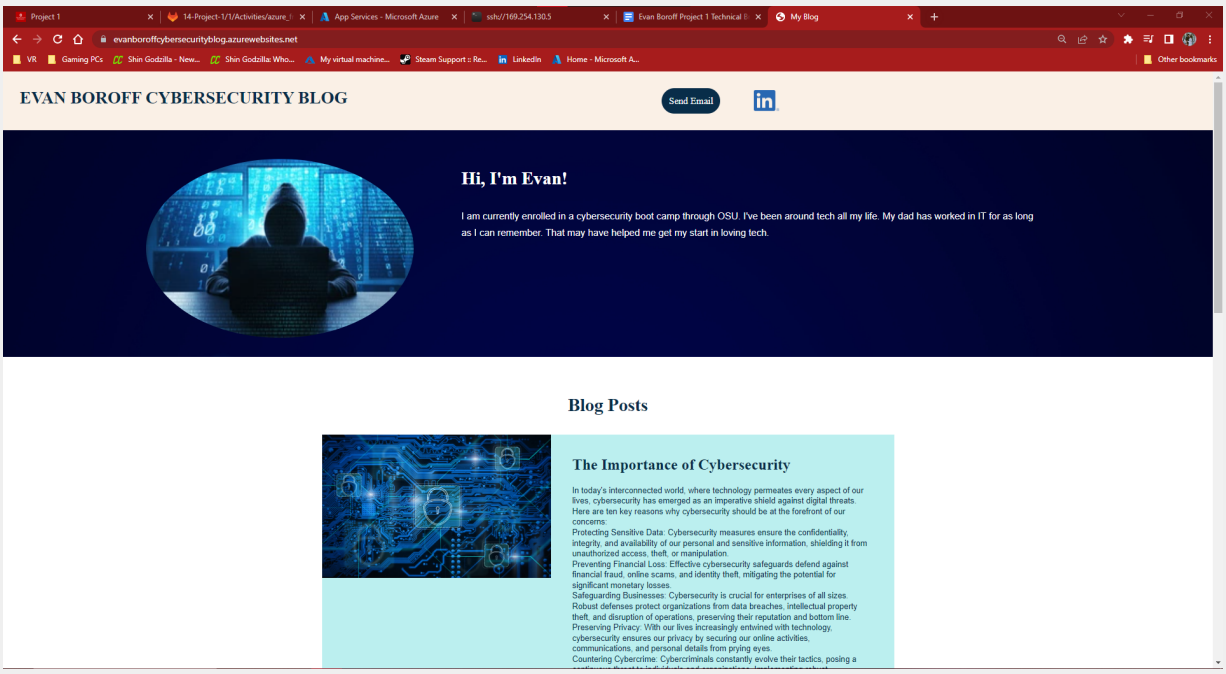
Make a copy of this document before you begin. Place your answers below each question. This completed document will be your deliverable for Project 1. Submit it through Canvas when you're finished with the project at the end of the week.

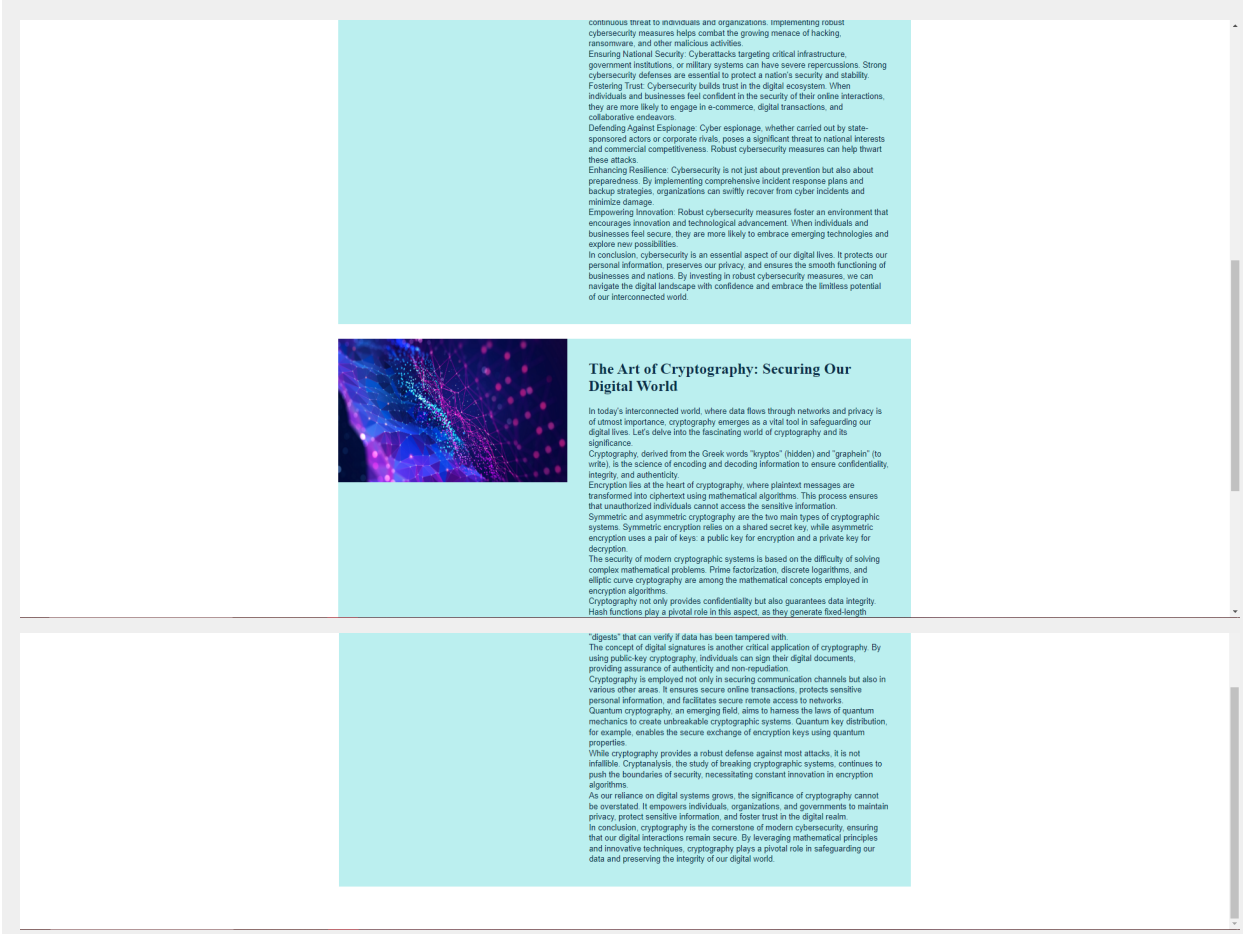
Your Web Application

Enter the URL for the web application that you created:

```
evanboroffcybersecurityblog.azurewebsites.net
```

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





Day 1 Questions

General Questions

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

```
Azure Free Domain
```

2. What is your domain name?

```
EvanBoroffCyberSecurityBlog
```

Networking Questions

1. What is the IP address of your webpage?

```
20.205.69.80
```

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

```
Hong Kong
```

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

```
evan [ ~ ]$ nslookup https://evanboroffcybersecurityblog.azurewebsites.net/
Server:         168.63.129.16
Address:        168.63.129.16#53

** server can't find https://evanboroffcybersecurityblog.azurewebsites.net/: NXDOMAIN
```

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 8.2 works backend
```

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

```
Two directories called “css” and “images.”
```

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

```
Frontend
```

Day 2 Questions

Cloud Questions

1. What is a cloud tenant?

```
The sharing of computing resources in a private or public environment that is isolated from other users and kept secret.
```

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

```
It determines whether a given security principal, namely a user, application or user group, can perform different operations on Key Vault secrets, keys, and certificates.
```

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

```
Keys: Supports multiple key types and algorithms, and enables the use of software-protected and HSM-protected keys.

Secrets: Provides secure storage of secrets, such as passwords and database connection strings.

Certificates: Supports certificates, which are built on top of keys and secrets and add an automated renewal feature.
```

Cryptography Questions

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

```
They are simple to modify or customize.
```

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

```
They do not provide any trust value.
```

3. What is a wildcard certificate?

```
A single certificate with a wildcard character in the domain name field.
```

```
This allows the certificate to secure multiple sub domain names pertaining
to the same base domain.
```

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.

```
To protect users from 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?

```
No error is returning. We are using a trusted certificate by Microsoft.
```

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

```
March 9, 2023 at 10:05:55 PM to March 3, 2024 at 10:05:55 PM
```

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

```
Yes, Microsoft Azure TLS Issuing CA 02
```

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

```
Yes, *.azurewebsites.net
```

    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.

```
Microsoft Azure TLS Issuing CA 02
```

Day 3 Questions

Cloud Security Questions

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

```
Both are layer 7, or HTTP/HTTPS, load balancers.

Front Door is non-regional and Application Gateway is regional.
```

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 removal of the SSL based encryption from incoming
traffic that a web server receives to relieve it from decryption of data.
```

3. What OSI layer does a WAF work on?

```
Layer 7, Application
```

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

```
Directory Traversal - A web security vulnerability that allows an attacker
to read arbitrary files on the server that is running an application.
```

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?

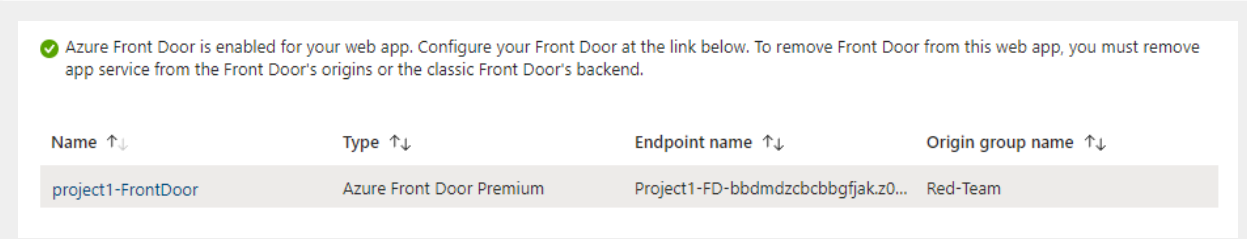
```
No, because my website requires a certificate read for every user looking to
access the website.
```

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?

```
No, because, while the user may be in Canada, who's to say that the user
isn't using a VPN to access sites that aren't accessible in Canada?
```

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.*

- ***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.* **YES**