| Cybersecurity |
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| 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://brandonsecurityblog2.azurewebsites.net/ |
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Paste screenshots of your website created (Be sure to include your blog posts):

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## Day 1 Questions

### General Questions

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

| Azure Free Domain |
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1. What is your domain name?

| https://brandonsecurityblog2.azurewebsites.net/ |
| --- |

### Networking Questions

1. What is the IP address of your webpage?

| 20.211.64.15 |
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1. What is the location (city, state, country) of your IP address?

| New South Wales, Sydney Australia |
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1. Run a DNS lookup on your website. What does the NS record show?

| When I run nslookup on my local computer for my website, we can see the server name, the IP address, and any alias for the site: |
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### 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?

| The PHP I selected for the runtime stack was php 8.2, which works on the back end |
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1. Inside the /var/www/html directory, there was another directory called assets. Explain what was inside that directory.

| When looking into the assets folder we can see the stock images that will be showing on the website, as well as the css file which has all of the font information |
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1. Consider your response to the above question. Does this work with the front end or back end?

| Front-end |
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## Day 2 Questions

### Cloud Questions

1. What is a cloud tenant?

| A cloud tenant is a user of a cloud service provider |
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1. Why would an access policy be important on a key vault?

| An Access policy on a key vault determines who can access the keys, secrets, and certificates and makes sure only you or other authorized personnel have access. |
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1. Within the key vault, what are the differences between keys, secrets, and certificates?

| Keys are used for encryption, secrets are used for authentication and access control, and certificates are used for identity verification/secure communication. |
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### Cryptography Questions

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

| Some advantages to self-signed certificates are their ease of use and no cost. Self-signed certificates are free to create and relatively quick to setup |
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1. What are the disadvantages of a self-signed certificate?

| They are not inherently trusted by the browser because they haven’t been validated by a trusted source. |
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1. What is a wildcard certificate?

| A wildcard certificate is a single cert with a wildcard character in the domain name field, allowing the cert to secure multiple sub domain names in relation to the same base domain. |
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1. 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.

| TLS 1.0. 1.1 and 1.2 have improved cryptographic security. SSL 3.0 is seen as insecure and outdated when compared to TLS, and TLS has become the industry standard. |
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1. After completing the Day 2 activities, view your SSL certificate and answer the following questions:
   1. Is your browser returning an error for your SSL certificate? Why or why not?

| It is not returning an error for my SSL Certificate because Microsoft Azure has provided a valid Certificate with my subscription |
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* 1. What is the validity of your certificate (date range)?

| Thursday, March 9, 2023 at 10:05:55PM to Sunday, March 3, 2024 at 10:05:55PM |
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* 1. Do you have an intermediate certificate? If so, what is it?

| Yes I do have an intermediate certificate, it is Microsoft Azure TLS Issuing CA 02 (Microsoft Corporation) |
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* 1. Do you have a root certificate? If so, what is it?

| Yes, the DigiCert Global Root G2 |
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* 1. Does your browser have the root certificate in its root store?

| Yes |
| --- |

* 1. List one other root CA in your browser’s root store.

| AAA Certificate Services |
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## Day 3 Questions

### Cloud Security Questions

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

| Both Azure Web App Gateway and Azure Front Door offer advanced security and load balancing, however the Gateway primarily acts to secure the web applications whereas the Front Door acts as the global entry point for the web applications. |
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1. 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 SSL encrypted incoming traffic is decrypted by an intermediate tool to relieve the web server from having to decrypt the data. This frees up the backend servers which can improve performance and response time, as well as provides an added layer of security. |
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1. What OSI layer does a WAF work on?

| Layer 7 |
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1. Select one of the WAF managed rules (e.g., directory traversal, SQL injection, etc.), and define it.

| Rule 99031003 is a default Microsoft managed rule that attempts to block all instances of SQL injection attacks |
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1. 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?

| Because the Front Door provides the extra layer of security, if it were not enabled my website would most likely be much more vulnerable to SQL injection. |
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1. 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?

| In theory yes it would block users who reside in Canada with the exception being people using a VPN. We already created a similar rule where we are blocking all traffic that is not from the US, Canada and Australia, so if we were to do the opposite we could limit the traffic from specific countries as well. |
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1. Include screenshots below to demonstrate that your web app has the following:
   1. Azure Front Door enabled

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* 1. A WAF custom rule

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## 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*](https://docs.google.com/document/d/1ZzC4oTJFdlkkeWuzuJAyVSqtDFbuAWilmwXg8PZgzMs/edit) *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.*

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