| 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://davidsecurityblog.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 |
| --- |

1. What is your domain name?

| davidsecurityblog |
| --- |

### Networking Questions

1. What is the IP address of your webpage?

| 20.119.16.1 |
| --- |

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

| Washington, Virginia, United States |
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1. Run a DNS lookup on your website. What does the NS record show?

| > nslookup davidsecurityblog.azurewebsites.net  Server: waws-prod-blu-317-22a9.eastus.cloudapp.azure.com  Address: 20.119.16.1  Aliases: davidsecurityblog.azurewebsites.net  waws-prod-blu-317.sip.azurewebsites.windows.net  DNS request timed out.  timeout was 2 seconds.  DNS request timed out.  timeout was 2 seconds.  \*\*\* Request to davidsecurityblog.azurewebsites.net timed-out |
| --- |

### 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?

| * Runtime Stack: PHP 7.4 * It runs on the backend. |
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1. Inside the /var/www/html directory, there was another directory called assets. Explain what was inside that directory.

| Within /assets, there is /css and /images. /css contains style.css and style.css.bak which I believe is the font and size configurations as well as the backup file (.bak). In the /images folder, there are the image assets for the webpage. |
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1. Consider your response to the above question. Does this work with the front end or back end?

| My best guess is it works with the front end 🙂 |
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## Day 2 Questions

### Cloud Questions

1. What is a cloud tenant?

| A person, group of people, or a company who purchase cloud computing resources. |
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1. Why would an access policy be important on a key vault?

| So only authorized users have partial or entire access to the Key, Secret, and Certificate permissions. |
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1. Within the key vault, what are the differences between keys, secrets, and certificates?

| Keys - the different algorithms used to encrypt and decrypt information.  Secrets - Provide secure storage for passwords and database connection strings.  Certificates - Built on top of keys and secrets to add an automated renewal feature. |
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### Cryptography Questions

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

| * They are free * Suitable for internal network websites * Encryption/Decryption of data is done with same ciphers used by paid SSL certs. |
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1. What are the disadvantages of a self-signed certificate?

| * Does not provide sufficient protection of data sent by a browser to the server |
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1. What is a wildcard certificate?

| A wildcard certificate is a public key which can be accessed and used by multiple sub-domains of a 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.

| Unfortunately, SSL 3.0 is no longer secure due to a critical flaw in SSLv3, which allowed an attacker to extract private information inside of an encrypted transaction. |
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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?

| No, because the certificate is valid. |
| --- |

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

| Monday, March 14, 2022 at 11:39:55 AM to Thursday, March 9, 2023 at 10:39:55 AM |
| --- |

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

| No because the issued to and issued by are from the same company. |
| --- |

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

| Yes, from Microsoft/Azure. |
| --- |

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

| Yes, Microsoft Azure TLS Issuing CA 01 |
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* 1. List one other root CA in your browser’s root store.

| AAA Certification 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?

| Similarities   * Each one resides in the front of the web application. * They work on App Layer 7. * Primary solution is a load balancer. * Allows for incorporation of a web app firewall (WAF).  Differences * Web App Gateway is more regional, to protect a web app in a single region, while the Azure Front Door is more-so global and better for when there’s multiple regions. |
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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 encryption/decryption process on a separate device so that it doesn't affect a web servers’ performance. |
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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.

| SQL Comment Sequence Detected - Any sort of commonly used SQL Injection string will be flagged. |
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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?

| No, my website would not be vulnerable if the rule was off since there’s no search bar on my webpage! |
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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?

| If someone in Canada tried to connect through a VPN, they should be able to get through. If not using a VPN, they should not be able to access the website. |
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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.*

YES!!!!

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