| 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://sclapano-securityresume.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?

| SClapano-SecurityResume |
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### Networking Questions

1. What is the IP address of your webpage?

| 20.211.64.11 |
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1. What is the location (city, state, country) of your IP address?

| Australia East |
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1. Run a DNS lookup on your website. What does the NS record show?

| sherphylle [ ~ ]$ nslookup sclapano-securityresume.azurewebsites.net  Server: 168.63.129.16  Address: 168.63.129.16#53  Non-authoritative answer:  sclapano-securityresume.azurewebsites.net canonical name = waws-prod-sy3-087.sip.azurewebsites.windows.net.  waws-prod-sy3-087.sip.azurewebsites.windows.net canonical name = waws-prod-sy3-087-0d6a.australiaeast.cloudapp.azure.com.  Name: waws-prod-sy3-087-0d6a.australiaeast.cloudapp.azure.com |
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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?

| PHP 8.0  It 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.

| Within the assets directory contains two other directories; CSS and Images.  While HTML is what structures a website, CSS is a cascading style sheet file that is used to style and lay out web pages. Images directory contains all of the images/photos that can be added onto the webpage for contextual meaning. |
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1. Consider your response to the above question. Does this work with the front end or back end?

| It works with the front-end. |
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## Day 2 Questions

### Cloud Questions

1. What is a cloud tenant?

| In the context of cloud computing, “tenancy” describes the sharing of computing resources in a secure, private, or public setting that is hidden from other users. |
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1. Why would an access policy be important on a key vault?

| Depending on the Key Vault access policy, a certain security principal, such as a user, application, or user group, may or may not be able to carry out specific activities on Key Vault secrets, keys, and certificates. |
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1. Within the key vault, what are the differences between keys, secrets, and certificates?

| *Cryptographic keys* allows for the usage of software-protected and HSM-protected keys, and supports a variety of key types and methods. *Secrets* offer safe storage for sensitive information like passwords and database connection details. *Certificates* offer an automated renewal feature and are constructed on top of keys and secrets. Whenever a certificate is generated, an accessible key and secret with the same name are also generated. |
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### Cryptography Questions

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

| * Fast, free, and easy to issue * Internal network websites and development/testing environments can both use self-signed certificates * Can be easily customized or changed to convey more metadata or have bigger key sizes * The issue of certificates has no external dependencies, which frees up time for testing. |
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1. What are the disadvantages of a self-signed certificate?

| * User personal data set at risk * Permanent “unknown publisher” warning * Data security is not guaranteed * Lack of user trust resulted from the absence of certification center signature * Possible errors in the certificate appearance and displaying in case it failed to be generated correctly |
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1. What is a wildcard certificate?

| A wildcard certificate is also known as a public key certificate and can be used with several subdomains of a domain. The main application is for using HTTPS to secure websites. However, there are many additional uses as well. |
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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.

| Microsoft has defaulted to totally disabling SSL 3.0 in Azure Websites to safeguard users from the vulnerability. |
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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?

| My browser is not returning an error for my SSL certificate as I have chosen a free domain. Therefore, I won’t be able to bind any certificate to my web application since one has already been provided by Azure. |
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* 1. What is the validity of your certificate (date range)?

| Valid from 1/08/2013 to 15/01/2038 |
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* 1. Do you have an intermediate certificate? If so, what is it?

| No. |
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* 1. Do you have a root certificate? If so, what is it?

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

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

| Microsoft Azure TLS Issuing CA 05 |
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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?

| Azure Web Application Gateway is a regional service, whereas the Azure Front Door is a non-regional service. |
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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 of removing the SSL-based encryption from incoming traffic to relieve a web server of the processing burden of decryption and/or encrypting traffic sent via SSL. Advantages of SSL offloading include faster request processing at the web application’s end and a website that loads more smoothly. |
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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.

| A malicious actor tampers with the host header in a client request in an attack known as HTTP host header injection. This tricks the virtual host or intermediary system into responding by serving the client poisoned content. |
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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?

| Yes, as one of the features of having Azure Front Door is that it seamlessly attached web application firewall (WAF), has DDoS protection, and bot protection to safeguard apps and content. |
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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?

| Yes, if Geo filtering has been enabled and has chosen the countries/region they want to block. This match type is what restricts users’ access to internet content based on the users’ geographical location. |
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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.*

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.*

Yes.

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