| 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 finish the project at the end of the week.

## Your Web Application

Enter the URL for the web application that you created:

| https://javierintocybersecurity.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?

| Javierintocybersecurity.azurewebsites.net |
| --- |

### Networking Questions

1. What is the IP address of your webpage?

| 20.211.64.21 |
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1. What is the location (city, state, country) of your IP address?

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

| Non-authoritative answer:  javierintocybersecurity.azurewebsites.net canonical name = waws-prod-sy3-107.sip.azurewebsites.windows.net.  waws-prod-sy3-107.sip.azurewebsites.windows.net canonical name = waws-prod-sy3-107-a4a2.australiaeast.cloudapp.azure.com.  Name: waws-prod-sy3-107-a4a2.australiaeast.cloudapp.azure.com  Address: 20.211.64.21 |
| --- |

### Web Development Questions

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

| PHP 8.2 which works on the back end |
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1. Inside the /var/www/html directory was another directory called assets. Explain what was inside that directory.

| Within the assets directory, there were: -CSS dir: containing a file name “styles.css” with the information laying out the structure of the blog web page. -Images dir: containing the images attached to the blog web page |
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1. Consider your response to the above question. Does this work with the front end or back end?

| It works in the front end |
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## Day 2 Questions

### Cloud Questions

1. What is a cloud tenant?

| A cloud tenant is a dedicated, isolated section of a cloud environment where resources and services are provided to a specific organization or user group. Each tenant is isolated from others to ensure security and privacy |
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1. Why would an access policy be important on a key vault?

| An access policy is important for a key vault because it controls who can access and manage sensitive information, such as keys, secrets, and certificates. Access policies help ensure that only authorized users and applications can perform specific actions like reading, writing, or deleting data |
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1. What are the differences between keys, secrets, and certificates within the key vault?

| **Keys:** Can be used for encryption and decryption in various ways, such as symmetric encryption, which uses the same key for both, or asymmetric encryption, which uses a pair of keys.  **Secrets**: These can include passwords, API keys, connection strings, and certificates. Secrets are any sensitive or confidential data that needs to be securely stored.  **Certificates:** Certificates are digital documents that use a key pair (public and private) to establish identity and enable secure communications. They include information about the certificate holder, the public key, and the certificate authority that issued it. They are used for tasks such as TLS/SSL encryption and authentication. |
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### Cryptography Questions

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

| Self-signed certificates are free.  They can be created quickly without waiting for validation from an external CA.  You have full control over the certificate issuance process and its attributes. |
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1. What are the disadvantages of a self-signed certificate?

| Self-signed certificates are not trusted by default by browsers and operating systems because they are not issued by a trusted CA.  They can pose security risks if not properly managed, as their lack of third-party validation can make them more susceptible to man-in-the-middle attacks. |
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1. What is a wildcard certificate?

| A wildcard certificate is a type of digital certificate that allows you to secure multiple subdomains of a single domain with a single certificate. It uses an asterisk ‘\*’ as a placeholder for any subdomain. |
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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 disabled SSL 3.0 in Azure websites by default to protect customers from the POODLE 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 because the web app has a SSL certificate assigned by a Root CA. |
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* 1. What is the validity of your certificate (date range)?

| Issued On  Friday, May 24, 2024 at 1:51:51 AM  Expires On  Monday, May 19, 2025 at 1:51:51 AM |
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* 1. Do you have an intermediate certificate? If so, what is it?

| Azure RSA TLS CA 03 |
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* 1. Do you have a root certificate? If so, what is it?

| DigiCert Global root G2 |
| --- |

* 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.

| ISRG Root X1 |
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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?

| Front Door is a global service that can distribute requests across regions, while Application Gateway is a regional service that can balance requests within a region. |
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1. What is SSL offloading? What are its benefits?

| SSL offloading is a technique that reduces the processing burden on servers by moving SSL encoding and decoding functions away from busy web servers to specialized devices. This allows the web servers to dedicate important CPU resources to other application processing tasks    It can improve performance. |
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1. What OSI layer does a WAF work on?

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

| URL encoding abuse attack attempt |
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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, my website could be impacted by URL encoding abuse attacks if the Azure front door wasn’t enabled.  Azure front door’s WAF helps detect and mitigate such attacks by analyzing and filtering traffic before it reaches the web app. |
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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?

| Technically yes, but there are certain factors to take into consideration such as if a person is using a VPN |
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1. Include screenshots below to demonstrate that your web app has the following:
   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 screenshots and completed this document.*

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