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| 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:

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| https://muhammad-security-resume.azurewebsites.net/ |

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)?

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| Azure free domain |

1. What is your domain name?

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| muhammad-security-resume.azurewebsites.net |

### Networking Questions

1. What is the IP address of your webpage?

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| 20.211.64.27 |

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

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| Sydney, New South Wales, Australia |

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

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| ns1-06.azure-dns.com |

### 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?

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| Php 8.2 and its in the backend |

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

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| Inside are “css” and “images” folders, they contain files for the front end of the website, such as images, logos, icons, photos, colors, fonts, spacing ect. |

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

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| Front End |

## Day 2 Questions

### Cloud Questions

1. What is a cloud tenant?

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| An isolated environment within a cloud service, that’s used by a single organization. Can be a multi-tenant cloud architecture, with multiple tenants, where they will share the same physical infrastructure but have their own separate environments. |

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

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| It helps meet regulatory requirements, enables tracking and monitoring of access, allows specific permissions for users and applications and ensures only authorized users can access sensitive data |

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

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| * Keys are for cryptographic operations (encryption, decryption, signing, and verifying data) * Secrets store sensitive configuration data (API keys and connection strings) * Certificates manage secure communication and identity (provide secure communication and identify verification |

### Cryptography Questions

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

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| They are cost-effective, quick to set up and are useful for testing and development |

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

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| Vulnerable to security risks because they don’t go through rigorous validation process like trusted authorities do. There is no warranty and has limited use. It is also complex to manage when dealing with large numbers of certificates across multiple servers |

1. What is a wildcard certificate?

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| It’s a type of SSL/TLS certificate that’s designed to secure a domain and all subdomains with a single certificate. |

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.

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| Due to several security vulnerabilities, making it insecure and obsolete. |

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?

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| No, because the certificate is valid |

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

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| --- |
| March 12 2024 – March 7 2025 |

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

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| Yes, Microsoft Azure RSA TLS Issuing CA 07 |

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

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| Yes, DigiCert Global Root G2 |

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

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| Yes |

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

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| InCommon RSA Server CA |

## Day 3 Questions

### Cloud Security Questions

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

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| Similarities   * Both are load balancers on OSI layer 7 * Both reside in front of the web application * Both support session affinity   Differences   * Front Door is global, while Application Gateway is regional * Front Door can perform path-based load balancing only at the global level while Application Gateway can load balance traffic within the virtual network. * Front Door doesn’t work at a VM or Container level so it cannot do Connection Draining, while Application Gateway can |

1. What is SSL offloading? What are its benefits?

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| It’s a process where SSL/TLS encryption and decryption are handed by a load balancer before the traffic can reach the web servers. The load balancer then ends the SSL connection and starts to communicate with the web servers using an encrypted HTTP  The benefits are that it reduces the server load, improves performance, enhances security and is scalable |

1. What OSI layer does a WAF work on?

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| The 7th layer (Application) |

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

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| SQL Injection – is a type of security vulnerability that occurs when an attacker is able to manipulate or insert malicious SQL statements into an application’s input fields, such as the search bar of a website. |

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?

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| No, my website is a blog and doesn’t have any input fields. |

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?

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| No, just because your physically in Canada doesn’t mean you can’t access the website. IP address can be changed or masked to that of another location using a VPN to access the website. Geolocation IP databases can also have errors and give a non-canadian IP to someone in Canada, which would also allow them to bypass the WAF rule. |

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.*
* ***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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