| 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:

| lars-web-app.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 |
| --- |

1. What is your domain name?

| lars-web-app.azurewebsites.net |
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### Networking Questions

1. What is the IP address of your webpage?

| 20.211.64.26 |
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1. What is the location (city, state, country) of your IP address?

| Australia New South Wales Sydney |
| --- |

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

| NS records No NS records found.  The name servers for this domain are inherited from one of its ancestor domains. Try its parent domain: [azurewebsites.net](https://www.nslookup.io/domains/azurewebsites.net/dns-records/). |
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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 8.2, 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.

| Inside the assets directly is all the asset for my webpage liek the pictures and links |
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1. Consider your response to the above question. Does this work with the front end or back end?

| Front end as they are what is showing to the user |
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## Day 2 Questions

### Cloud Questions

1. What is a cloud tenant?

| Tenancy in cloud computing refers to the sharing of computing resources in a private or public environment that is isolated from other users and kept secret. Tenancy in SaaS is divided into two types: single-tenant SaaS and multi-tenant SaaS.  https://www.loginradius.com/blog/identity/single-tenant-vs-multi-tenant/#:~:text=Tenancy%20in%20cloud%20computing%20refers,SaaS%20and%20multi%2Dtenant%20SaaS. |
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1. Why would an access policy be important on a key vault?

| To ensure that only allowed people have access to the keyvault\ |
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1. Within the key vault, what are the differences between keys, secrets, and certificates?

| Secrets are used for sensitive information that is used by, for example, an application. Typical secrets are connection strings for databases, client secrets for app registrations, passwords for ftp servers etc.  Certificates are, well, certificates like SSL certificates to secure web applications or code signing certificates for software deployments.  Keys are cryptographic keys used to encrypt for example data at rest for azure services.  https://stackoverflow.com/questions/76556055/in-laymans-terms-what-is-the-definition-and-difference-between-keys-secrets-an |
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### Cryptography Questions

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

| You do not need to pay for it and you can make it y yourself at low cost |
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1. What are the disadvantages of a self-signed certificate?

| Its authenticity cannot be verified with a CA |
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1. What is a wildcard certificate?

| It uses an \* so that the same certificate can be used by multiple sub-domains and still remain valid |
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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.

| There are security issues behind SSL 3.0 anbd you have to pay extra for a secure CA |
| --- |

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 cant verify its valid due to not CA |
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* 1. What is the validity of your certificate (date range)?

| Issued On Monday, April 8, 2024 at 7:11:56 PM  Expires On Tuesday, April 8, 2025 at 7:11:56 PM |
| --- |

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

| NO |
| --- |

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

| Yes digicert |
| --- |

* 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.

| GLobalSign |
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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 Front Door and Azure Application Gateway are both load balancers for HTTP/HTTPS traffic, but they have different scopes. 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.  <https://learn.microsoft.com/en-us/azure/frontdoor/front-door-faq#:~:text=Azure%20Front%20Door%20and%20Azure%20Application%20Gateway%20are%20both%20load,balance%20requests%20within%20a%20region>. |
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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 relieves a web server of the processing burden of encrypting and decrypting traffic sent via SSL. Every web browser is compatible with SSL security protocol, making SSL traffic common. The processing is offloaded to a separate server designed specifically to perform SSL acceleration or SSL termination.  <https://avinetworks.com/glossary/ssl-offload/#:~:text=SSL%20offloading%20relieves%20a%20web,SSL%20acceleration%20or%20SSL%20termination>. |
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1. What OSI layer does a WAF work on?

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

| directory traversal - is caused by an HTTP exploit that allows people to traverse the underlying directory strucure |
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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 it could since we have asset directory |
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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?

| It would mean that anyone from Canada would not be able to access the site, this is made possible via set of ASn’s which are assigned by country. Unless they used a VPN to modify the output IP address to a Canadian IP address range |
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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.*

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