



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:

DauidsAlphaResume.azurewebsites.net

Paste screenshots of your website created (Be sure to include your blog posts):



Blog Posts



Benefits of Cloud Computing

Cloud

The idea of migrating to the cloud can be scary, but is a worthwhile decision. My top 8 reasons to use cloud computing are as follows. Accessibility with cloud computing can allow us to access our servers anywhere and with any device. Second, we have the ability to get rid of most or all of our hardware and software allowing us to make those changes without replacing everything at once. Third, we can centralize our data security by simplifying our processes. Fourth, we potentially can have a higher performance and availability to many workstations. Fifth, we can quickly deploy applications without needing IT staff to set up servers or procure hardware. Sixth, business continuity can be an issue such as in a natural disaster, where you can access systems remotely. Seventh, cloud computing will allow significant cost-savings in the long run as you won't have to maintain expensive hardware. Eighth, cloud computing will allow us to be environmentally conscious. We reduce energy consumption and reduce our carbon footprint. I hope these notations were helpful in making your decisions to migrate to cloud computing.



Do I belong in cybersecurity?

Cybersecurity

A career in cybersecurity can be fruitful and rewarding, but may not be for everyone. Cybersecurity is a challenging career path, and will require an analytical mind and strong troubleshooting skills. If you are someone that likes to come to work each day and be able to do the same thing each day, then a career in cybersecurity may not be for you. Technology is constantly changing and you must be willing to keep up with the new trends and threats that may face in your position. Networking and following helpful reports are essential in maintaining your relevance to your organization. Compensation expectations may not be what you think. Many think that a degree and a certification will net them a six figure income. While it is possible to get there, many start between \$40,000 to \$60,000 per year. If this does not satisfy your expectations, you may want to consider an alternative route. Work hours may be hectic in your cybersecurity career. Some may even require you to work on standby even into the late hours. Please consider these conditions before you make the plunge.

Day 1 Questions

General Questions

1. What option did you select for your domain (Azure free domain, GoDaddy domain)?

Azure free domain

2. What is your domain name?

davidsalpharesume@azurewebsites.net

Networking Questions

1. What is the IP address of your webpage?

20.211.64.19

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

Sydney, New South Wales, Australia

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

```
Server: cdns01.comcast.net
Address: 2001:558:feed::1
Non-authoritative answer:
davidsalpharesume.azurewebsites.net canonical name =
waws-prod-sy3-103.sip.azurewebsites.windows.net
waws-prod-sy3-103.sip.azurewebsites.windows.net canonical name =
waws-prod-sy3-103-e6e5.australiaeast.cloudapp.azure.com
australiaeast.cloudapp.azure.com
primary name server = ns1-06.azure-dns.com
responsible mail addr = msnhst.microsoft.com
serial = 10001
refresh = 900 (15 mins)
retry = 300 (5 mins)
expire = 604800 (7 days)
default TTL = 60 (1 min)
```

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.

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

Images and formatting styles for the web page.

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

Front-end

Day 2 Questions

Cloud Questions

1. What is a cloud tenant?

A cloud tenant is an individual or a group that has access to a cloud environment that allows the sharing of computing resources.

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

To prevent bad actors from accessing keys, certifications, and secrets. Need to know-basis.

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

A key in the key vault encrypts information without releasing the private key to a user or consumer. The secrets are anything needing access controls such as api keys, certificates or passwords for a PFX file. Certificates are how web applications validate authenticity and assist in encrypting the user's traffic.

Cryptography Questions

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

They are easy to create and deploy. Additionally, they are free to generate.

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

Lack of trust validation and risk compromise.

3. What is a wildcard certificate?

This is a type of SSL certificate that can secure multiple domains. Once in place it will secure the primary domain and all subdomains automatically.

4. 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 was a leak in the encryption protocol of SSL 3.0 in 2014 making it insecure.

5. After completing the Day 2 activities, view your SSL certificate and answer the following questions:

a. Is your browser returning an error for your SSL certificate? Why or why not?

No, because azure has generated a valid certificate that has authenticated the web application.

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

Thursday March 9, 2023 at 9:05:55 to Sunday, March 3, 2024 at 9:05:55.

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

Yes, Microsoft Azure TLS Issuing CA 02

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

Yes, DigiCert Global Root G2

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

Yes

f. List one other root CA in your browser's root store.

GlobalSign Root CA

Day 3 Questions

Cloud Security Questions

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

Similarities: both reside in front of our web app in order to protect it, both are on layer 7 of OSI model, their primary solution is a load balancer, they can incorporate a web application firewall, and they have additional features such as URL path-based routing. Differences: The Web Application Gateway is more regional and is best suited for protecting a web application in a single region, where the Azure Front Door is more global and is better for a variety of regions.

2. A feature of the Web Application Gateway and Front Door is "SSL Offloading." What is SSL offloading? What are its benefits?

It is the process of removing the SSL-based encryption from incoming traffic. The benefits are a smoother and faster loading of a website.

3. What OSI layer does a WAF work on?

Layer 7

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

SQL injection attack-a cyberattack that injects malicious SQL code into an application, allowing the attacker to view or modify a database.

5. 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, because without a front door, attackers could come from any region that would make it harder to protect.

6. 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?

No, because they could use a VPN to access my web app.

7. Include screenshots below to demonstrate that your web app has the following:
 - a. Azure Front Door enabled

Azure Front Door

Microsoft Azure



Azure Front Door

Azure Front Door is a modern cloud CDN service that provides high performance, scalability, and secure experiences for your content, files and global applications. It combines modern CDN technology and intelligent threat protection in a tightly integrated service that's easy to set up, deploy, and manage. Use Front Door with Azure services including App Service, Static Web App, Storage, API Management, Application Gateway, Azure Kubernetes Service, Azure Container Apps, and virtual machines—or combine it with on-premises services for hybrid deployments and smooth cloud migration. [Learn more](#)

✓ Azure Front Door is enabled for your web app. Configure your Front Door at the link below. To remove Front Door from this web app, you must remove app service from the Front Door's origins or the classic Front Door's backend.

Name ↑↓	Type ↑↓	Endpoint name ↑↓	Origin group name ↑↓
project1-FrontDoor	Azure Front Door Premium	Project1-FD-dsc7fpexdqamcdec.z0...	Red-Team

b. A WAF custom rule

Save Discard Refresh

There are pending changes, click 'Save' to apply.

Configure a policy with custom-authored rules. Once a rule is matched, the corresponding action defined in the rule is applied to the request. Once such a match is processed, rules with lower priorities are not processed further. A smaller integer value for a rule denotes a higher priority. [Learn more](#)

+ Add custom rule

Priority	Name	Rule type	Action	Status
100	Project1rule	Match	Block	Enabled

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](#) 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.*