Building & Protecting a Web Application with Microsoft Azure

Zak Ahmed

Overview

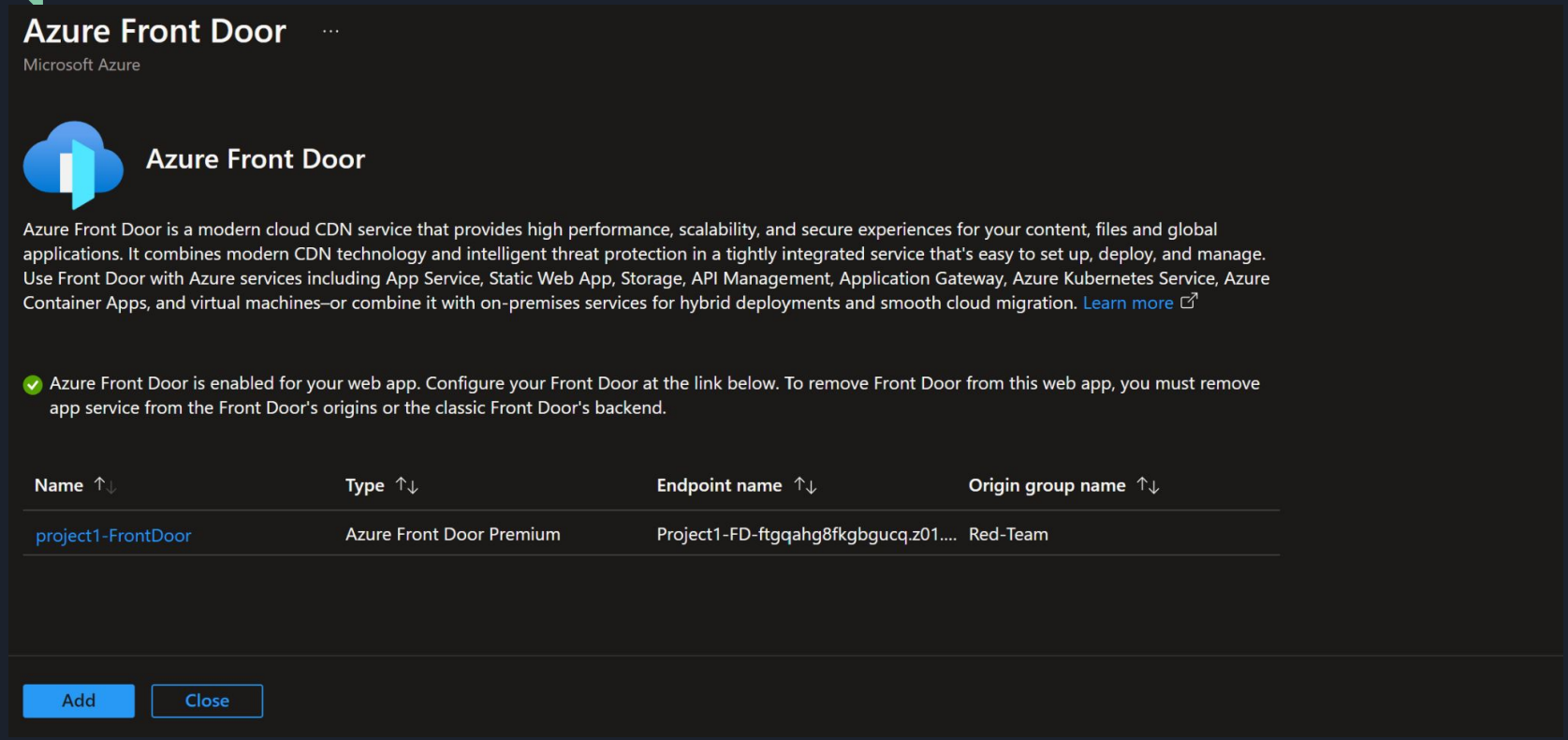
- Using Microsoft Azure Portal Services, I built a cloud-based web application that contained my cybersecurity blog
- Using Microsoft Azure's services and cloud shell, I created an Azure free domain and built an SSL certificate
- The web application was secured under a Resource Group that contained a Network Security Group, Load Balancer, Virtual Machines, and a Jump Box Provisioner

DNS Lookup

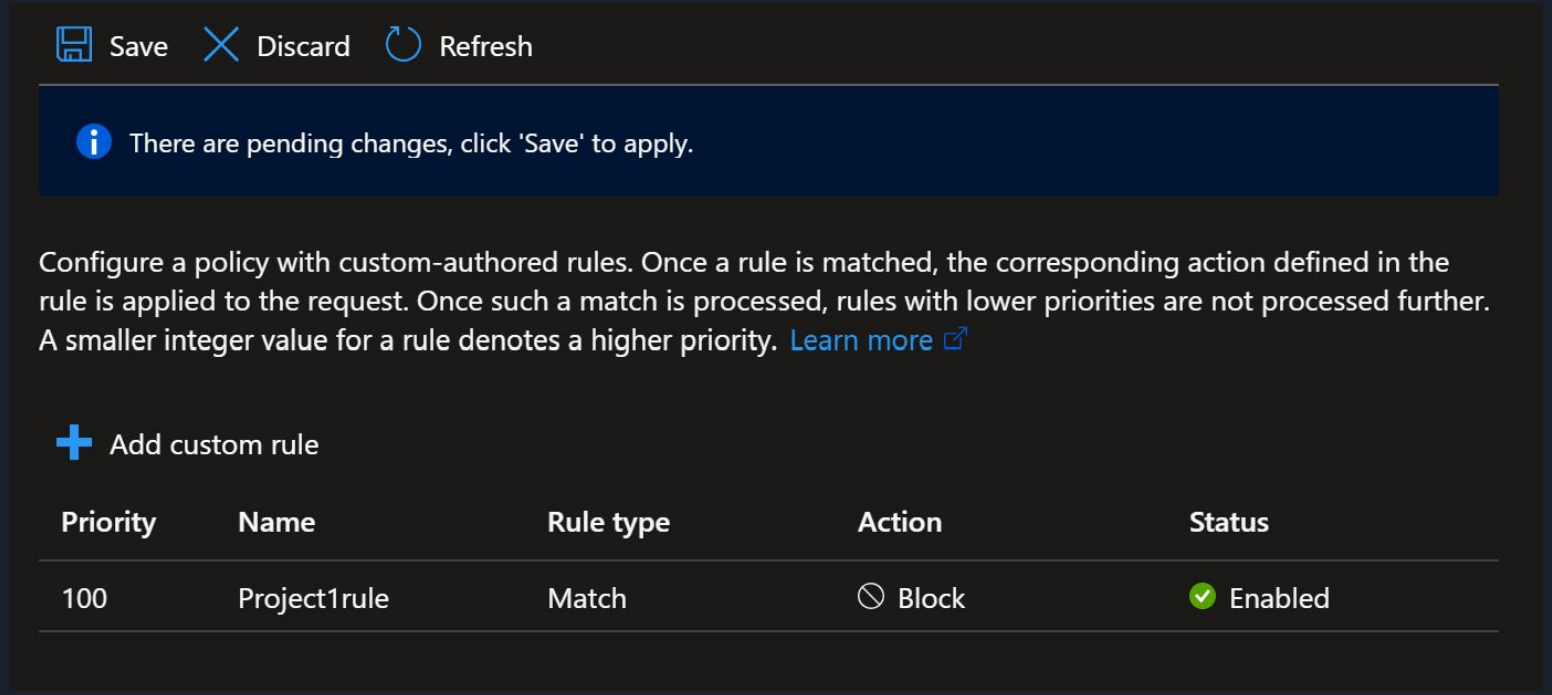
```
zakah@DESKTOP-BEGTGH9 MINGW64 ~
$ nslookup -type=A zaksecurityresume2.azurewebsites.net
Server:  cdns01.comcast.net
Address:  2001:558:feed::1

Non-authoritative answer:
Name:    waws-prod-blu-405-65c7.eastus.cloudapp.azure.com
Address:  20.119.8.28
Aliases:  zaksecurityresume2.azurewebsites.net
          waws-prod-blu-405.sip.azurewebsites.windows.net
```

Azure Front Door



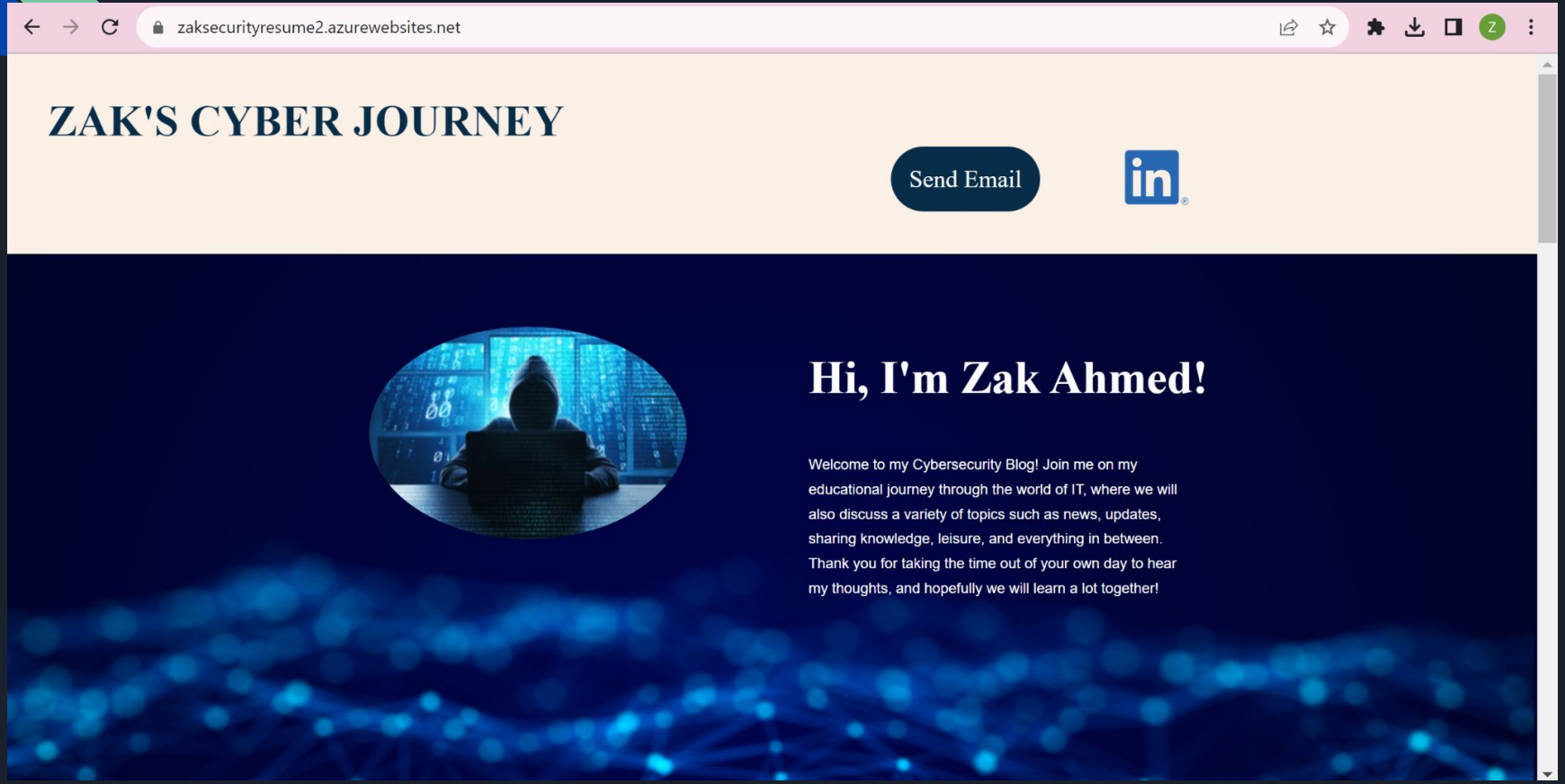
Web Application Firewall



HTML & CSS Codes

- https://docs.google.com/document/d/1itfvze_gGbpXL-aP8nkenMWVENImUtEp8GdSjnD2GzY/edit?usp=sharing
- https://docs.google.com/document/d/10ot_dF4RYNF_Kh9jLvYN_4HWZeBM6f3pvI2na2UGDOo/edit?usp=sharing

Web Application Front End



Web Application Front End

Blog Posts

Are Humans the Weakest Link in Security?

people, security risks, cybersecurity, phishing, business objectives

The idea of whether people are the weakest link in security has been discussed since the early times of socioeconomic development. Before the evolution of the internet and its pivotal role that it plays in our every day lives, the issue of security in every form has been very prevelant along with ways to combat a variety of threats. These issues persisted amongst people involved in business, politics & governance, manufacturing & merchandising, and in the private lives of every day people. Since the creation of the Internet and its evolution, the question of security has only increased. While analyzing various forms of cyberthreats and the sources they come from, one must analyze the target(s) and the vulnerabilities that are in association. While the machines and operating systems we run for our business and private solutions are man-made and have their own particualr vulnerabilities, there are also protocols and practices set in place to mitigate such issues. However, the factor of human error must always be considered, as it is quite inevitable. The exposure of private networks and systems is quite often the result of

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negligence, ignorance, phishing scams, malware that is uploaded in the system (even if it is accidental), and overall people not being aware of the cyberthreats and risks that surround them. Often times we are negligent of the data that we carry in our mobile devices and on our hard drives, and the dangers of their exposure. Systems and networks can be configured and have protocols in place to mitigate and prevent attacks. However, people are very prone to making mistakes and not being aware of the threat actors that are nearby, or from afar. In order for people to understand the depth of cybersecurity and its importance, they do need to take time to educate themselves in proper practices as well as how to reduce risk exposure and to protect the integrity of all sorts of data.

The Emergence of Cloud

cloud services, software, cloud technology, resources, security, software-based

As I am beginning my journey in the world of IT, one area in particular catches my eye quite a bit more than all of amazing and wonderful things the world of technology has to offer. I have been told that Cloud Technologies are the way of the future in technology, if you will. The emergence of hardware technologies being ran by software has created lots of opportunities for businesses and private citizens

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As I am beginning my journey in the world of IT, one area in particular catches my eye quite a bit more than all of amazing and wonderful things the world of technology has to offer. I have been told that Cloud Technologies are the way of the future in technology, if you will. The emergence of hardware technologies being ran by software has created lots of opportunities for businesses and private citizens alike who are sharing their resources, services, and daily lives/operations with clients and fellow people. Businesses have the opportunity to expand their operations and improve the quality of their respective operations. People are able to access a variety of platforms and services in every type of industry, and pursue their passions with ease and without worry of complications or limitations of hardware, physical attributes, or even geography. The implementation of cloud services in the world of technology has provided people with opportunities to grow, save on costs, share their ideas/work, and mitiage technological issues and shortcomings with ease. Understanding how cloud services work has led me to realize that it is essentially a comprehensive combination of all aspects in networking and in security. Creating and deploying cloud based software and services takes quite a bit of configuration and consideration of the security risks and rules that must be put in practice. Beyond the networking aspects of creating your cloud service, one must always consider the security infrastructure being deployed. Cloud allows us to consider a variety of aspects and questions regarding protecting the network, creating a seamless service, and how to make this technology as user-friendly as possible. I believe the implementation of cloud services in the world of technology will only grow, and I think it is very interesting and important to learn about these services, the infrastructure, and how it will impact and benefit the world of IT as well as the world around us.