Protecting Your App Using Azure's Cloud Security Features

Cybersecurity

Project Week


RECAP

Day 2 Recap

In the second day of your project work, you:

01 Created a key vault.

02 Created a self-signed certificate.

03 Imported and bound your self-signed certificate to your web application.*

04 Created and bound an app service managed certificate.*

05 Answered review questions.

* Except for the free domain users.

Today’s Class

Today’s class time will include:

Introduction to Azure Front Door

Overview of Day 3 tasks

Project work

Azure Front Door

Additional Azure Security

We have created and secured our web applications' traffic using SSL certificates, but our apps are still subject to attack by malicious actors.

Attacks can include:

- Denial of service to make the web application unavailable.
- Attacks against web vulnerabilities, such as cross-site scripting and SQL injection (which we'll cover in more detail during the Web Vulnerabilities unit).
- Attacks against misconfigurations, such as leaving insecure ports open on the web server.

Additional Azure Security

Azure has several technologies that we can use to protect against these attacks:

01 Azure Web Application Gateway

02 Azure Front Door

Both tools are viable options for securing our web applications.
Let's consider each one's features in order to choose the one that we'll use today.

Azure
Web Application
Gateway

vs.

Azure
Front Door

Similarities

- Both reside in *front* of your web application in order to protect it.
- They work on the Application Layer (7) of the OSI model.
- Their primary solution is a load balancer.
- They can incorporate a web application firewall (WAF) to protect against web vulnerability attacks.
- They have additional features such as URL path-based routing and SSL/TLS termination.

Differences

- The **Web Application Gateway** is more regional and is best suited to protect a web application in a single region in your cloud.
- The **Azure Front Door** is more global and is better suited when you have a variety of regions in a cloud environment.

Azure Front Door is also simpler
to implement. So for today's project,
you will use its features
to protect your web application.

Day 3
Project Work Overview

Day 3 Project Work

Today, we will conclude the project by completing the following steps:

01 Create a Front Door instance.

02 Analyze WAF rule sets.

03 Configure custom WAF rules.

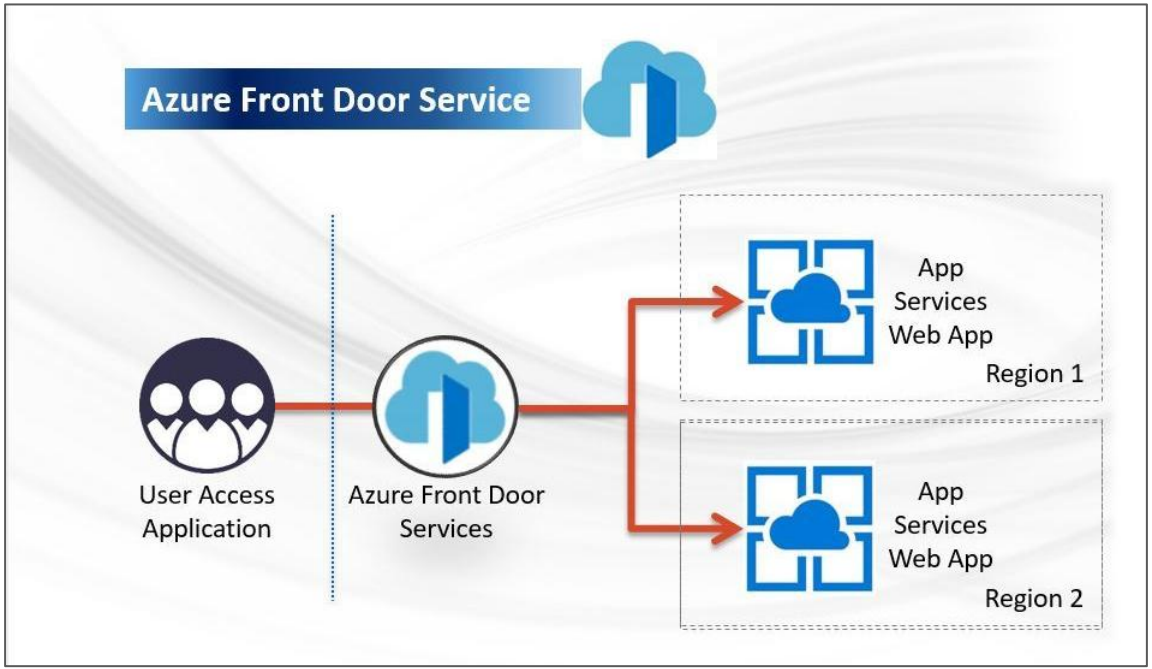
04 Analyze and remediate Security Center recommendations.

05 Answer review questions.

06 Conclude and submit your project.

Step 1 Create a Front Door

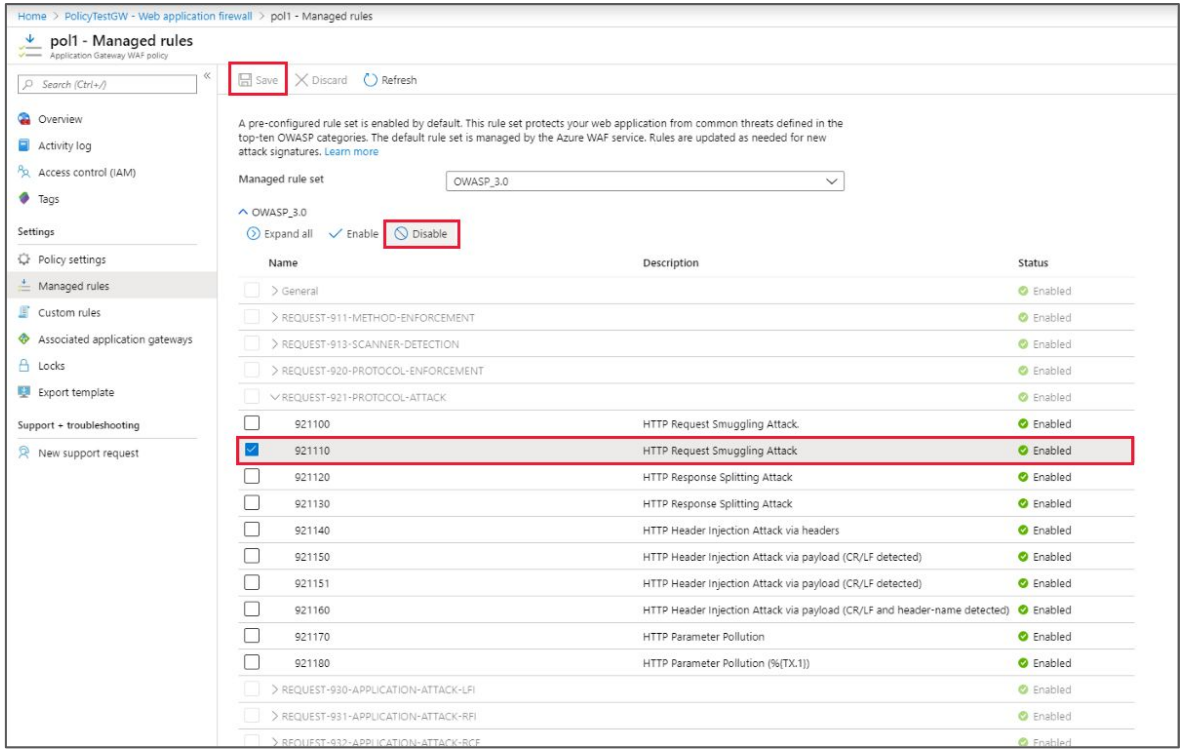
Today's first task involves creating an **Azure Front Door** resource to add cloud security protections to your web application.



Steps will be included in the activity guide.

Step 2 Analyze WAF Rule Sets

In this step, you'll analyze Azure Front Door's WAF feature.



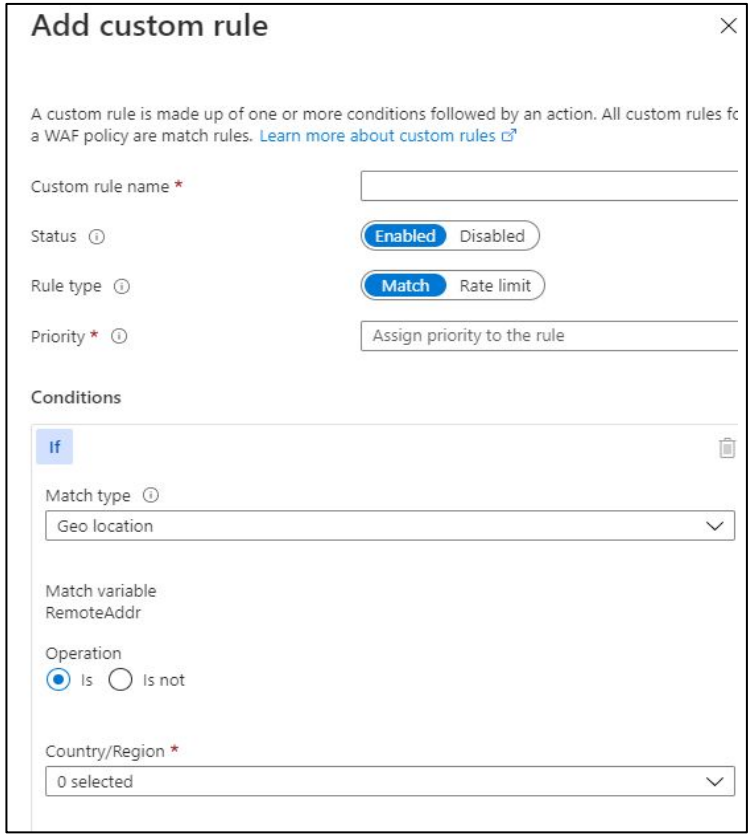
LOOK FORWARD

We will analyze the web vulnerabilities that it protects against in a later unit!

https://docs.microsoft.com

Step 3 Configure Custom WAF Rules

You will be provided an attack type scenario and learn how to set up a custom rule within the WAF to protect your web application.

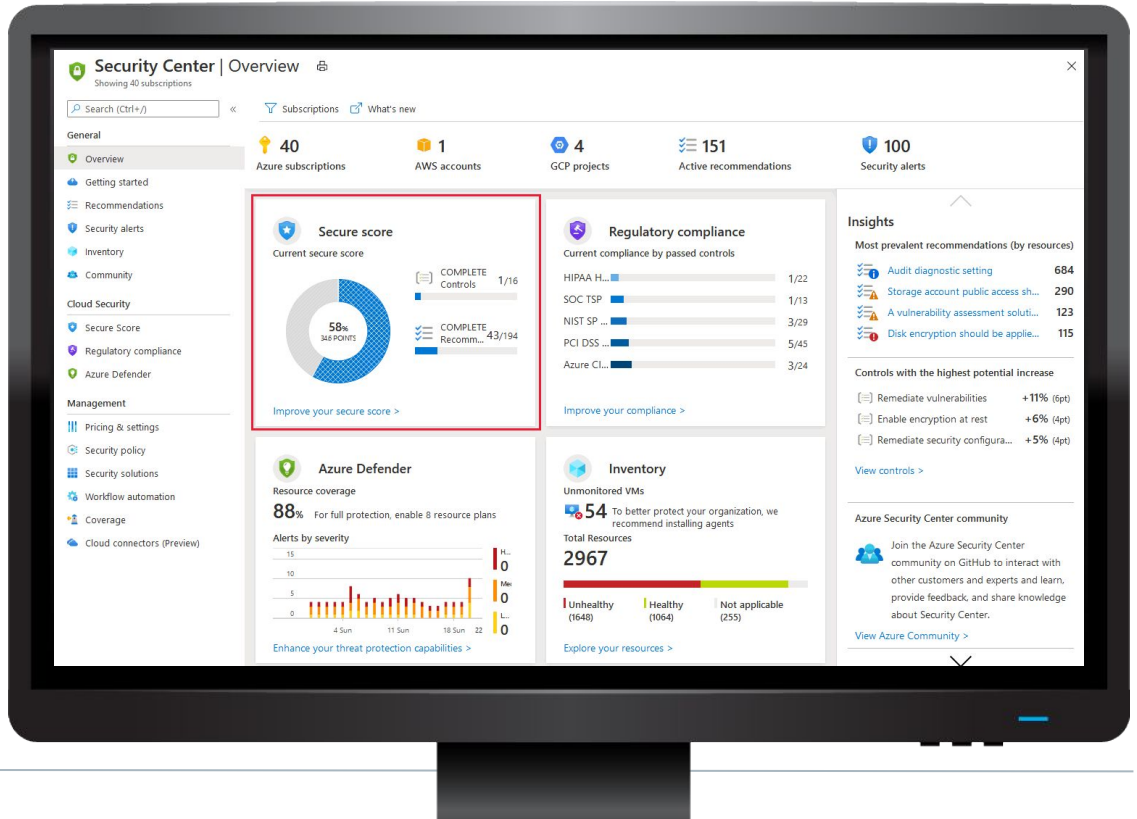


Step 4

Analyze and Remediate Security Center Recommendations

You will view security recommendations from Azure's Security Center tool and fix one of the recommendations from the Security Center dashboard.

Azure's Security Center has many features, such as custom alerting, which will not be covered in this project.



⚠️ Important ⚠️

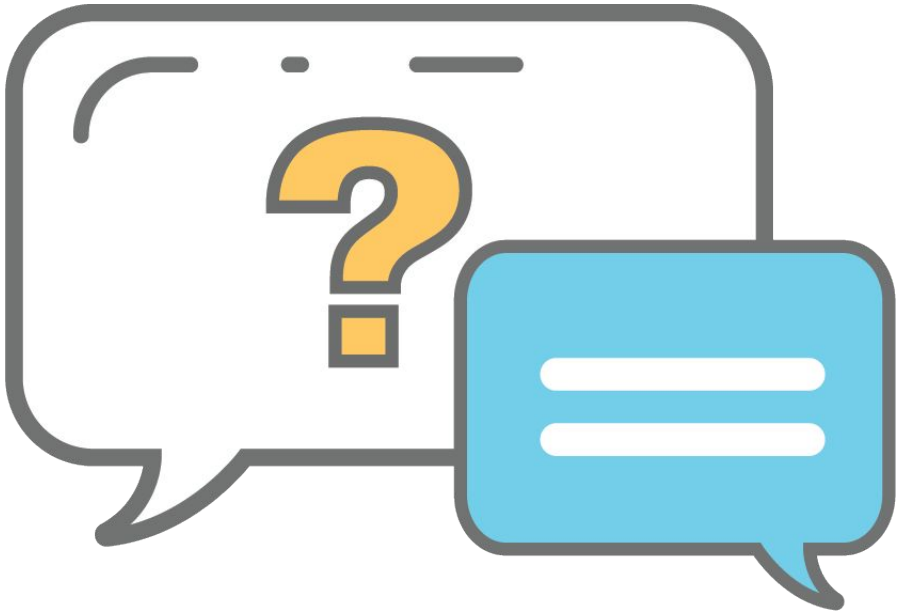
The time it takes for the security recommendations to display can vary.

This step is not required to complete the project.

Step 5 Answer Review Questions

Once you complete today's activities, you will answer several questions about the project and how it relates to concepts that we've covered in class.

Feel free to use any resources available (e.g., class notes, slides, online resources)
to answer these questions.



Step 6 Conclude and Submit Your Project

At the end of today's class, you will receive a guide with instructions for:

⚠️ Important ⚠️

You are responsible for any costs that you incur by maintaining your website and/or not deleting your resources.

Refer to the provided guide to assist with deleting resources and monitoring future expenses.

Activity: Protect Your Web Application with Azure's Security Features

In this activity, you'll complete the Day 3 tasks of your project.

Suggested Time:

To end of class

For the remainder of today's class, you will work on the daily tasks.

While each student is responsible for completing their own project, you can use your classmates, TAs, or the instructor to assist if you have any questions.

You'll add advanced security features to your web application.

Today's activity guide also provides resources explaining how to add your project to your resume and how to discuss your project to networkers and in interview scenarios.

Questions?

Project Work Time


The End