Enhance Your Web Traffic Management with Azure Application Gateway

# What is Azure Application Gateway?

Azure Application Gateway is a load balancer that operates at OSI Layer 7 (Application Layer), which means it can make routing decisions based on HTTP request attributes, such as URL paths and host headers. Unlike traditional load balancers that only consider IP addresses and ports, Application Gateway allows for more sophisticated traffic management.

# **Key Features**

1. Protocol Support: Application Gateway supports HTTP and HTTPS protocols, enabling secure and efficient communication between clients and your web applications.
2. Advanced Traffic Routing: You can route traffic based on the URL path or host headers. For example, if /signup is in the incoming URL, traffic can be directed to a specific backend pool optimized for handling sign-ups. Similarly, if /login is detected, the traffic can be routed to another backend pool designed for login operations.
3. Custom Error Pages: Application Gateway allows you to upload custom error pages, enhancing the user experience by providing more informative or branded error messages.
4. Multiple Website Hosting: You can host multiple websites using a single Application Gateway instance, simplifying the management of your web presence.

# Advanced Capabilities

Azure Application Gateway comes packed with additional features that enhance performance, security, and scalability:

* Autoscaling: Automatically adjust the number of backend servers or instances based on traffic load, ensuring that your application can handle spikes in demand without manual intervention.
* TLS Offloading: Offload the TLS/SSL processing to the Application Gateway, freeing up resources on your backend servers and improving overall performance.
* Web Application Firewall (WAF): Protect your applications from common web vulnerabilities and attacks with the integrated WAF, which helps to secure your applications against threats like SQL injection and cross-site scripting (XSS).
* Cookie-Based Session Affinity: Ensure that a user’s session is consistently routed to the same backend server, improving user experience and session management.
* URL Path-Based Routing: Direct traffic to different backend pools based on the URL path, optimizing your infrastructure by routing requests to the most appropriate server.
* Multisite Hosting: Host multiple websites with a single Application Gateway instance, simplifying the management of your infrastructure.

# Deployment Requirements

To deploy an Azure Application Gateway, you'll need a dedicated subnet within your virtual network. The entire subnet is occupied by the Application Gateway to allow for seamless scaling, meaning that the Application Gateway will use the subnet’s IP addresses as it scales.

# Performance Enhancements with Standard\_v2 SKU

Azure Application Gateway's **Standard\_v2 SKU** brings several performance enhancements:

* Auto Scaling: Automatically adjusts capacity based on traffic.
* Zone Redundancy: Increases availability by distributing resources across multiple availability zones.
* Static IP: Provides a fixed IP address for the Application Gateway, simplifying DNS management and improving reliability.

For those needing enhanced security, the **WAF\_v2 SKU** includes all the benefits of the Standard\_v2 SKU, along with integrated Web Application Firewall capabilities.



