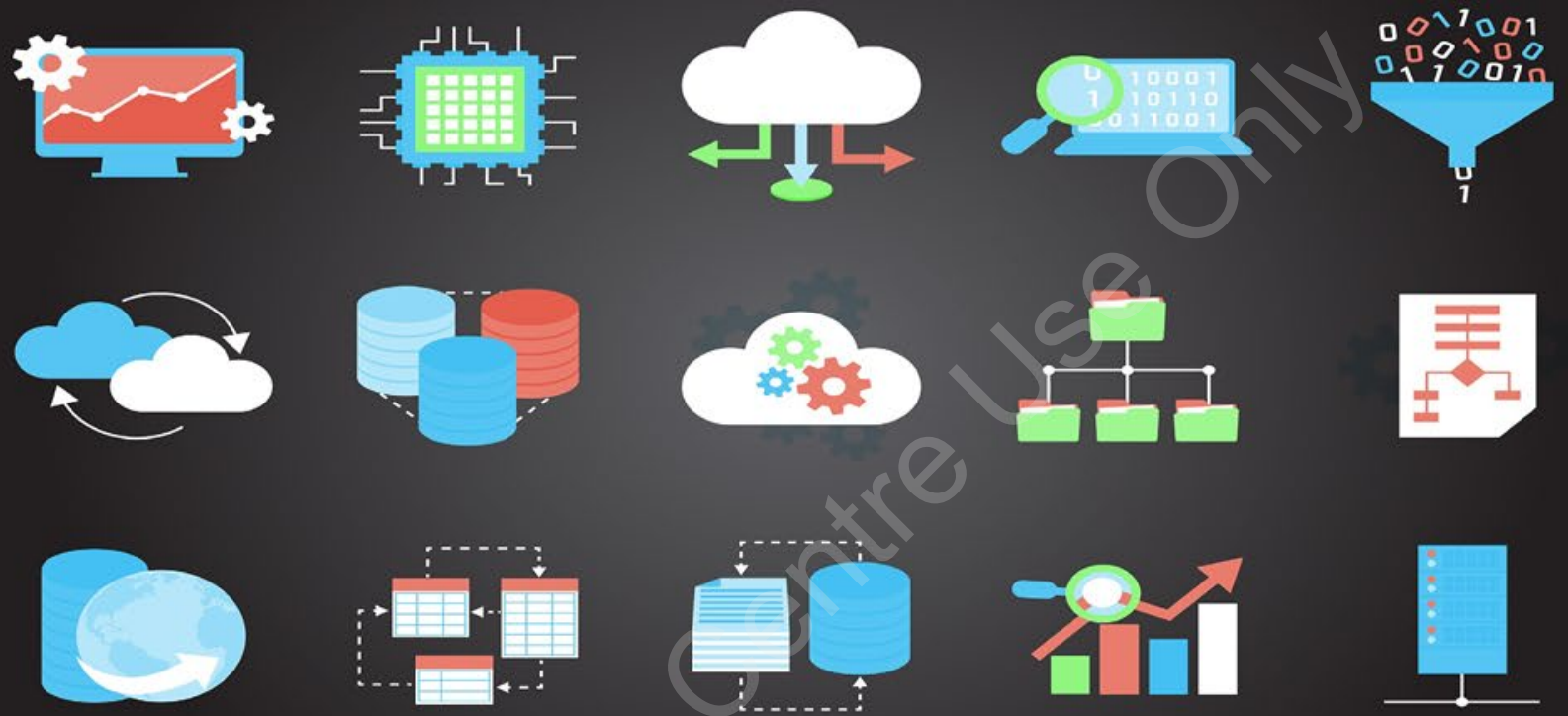
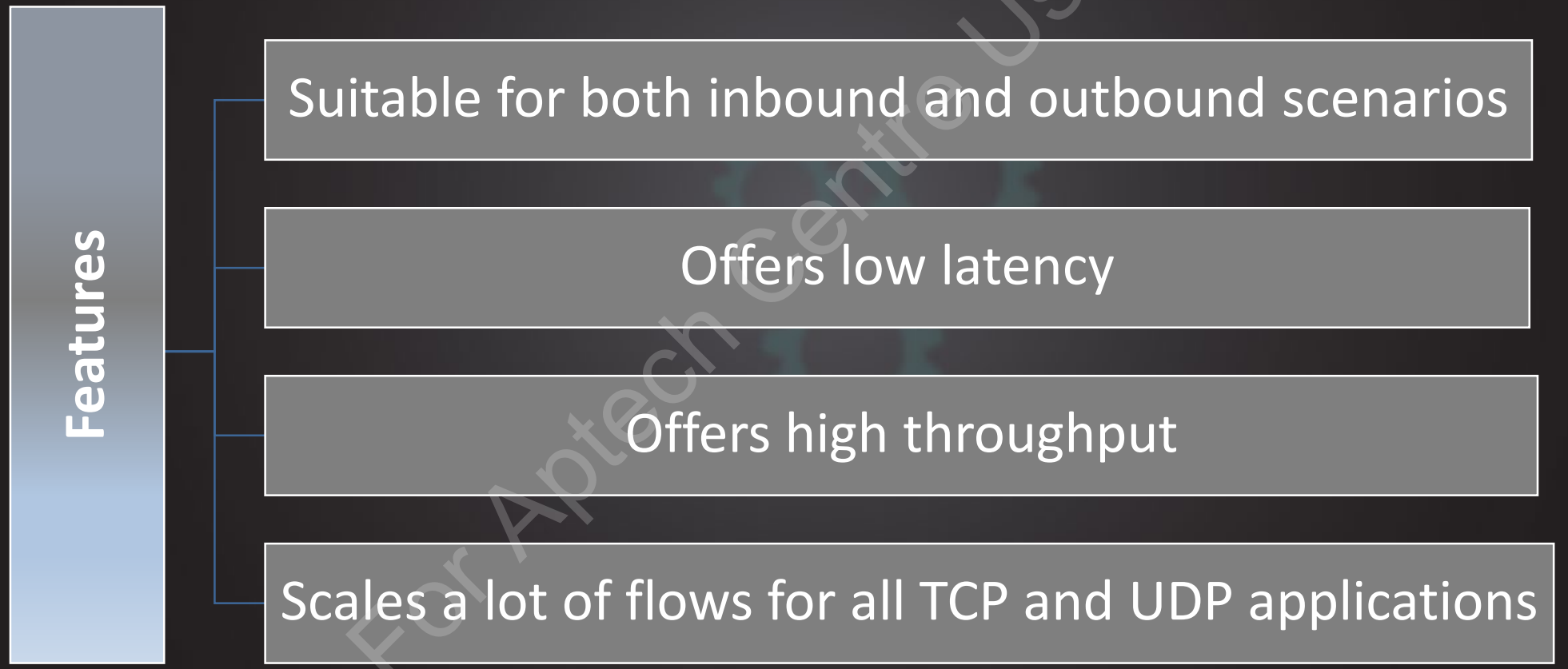


Session 12:
Implementing Traffic Management and Monitoring Strategies for Web Services

Session Overview

- Explain Azure load balancer and its components
- Describe how to work with Azure Application Gateway and Traffic Manager
- Explain Azure Application Insights and Log Analytics
- Explain how to configure Application Insights
- Describe Azure Event Hubs and Stream Analytics

Introduction to Azure Load Balancer [1-4]



Introduction to Azure Load Balancer [2-4]

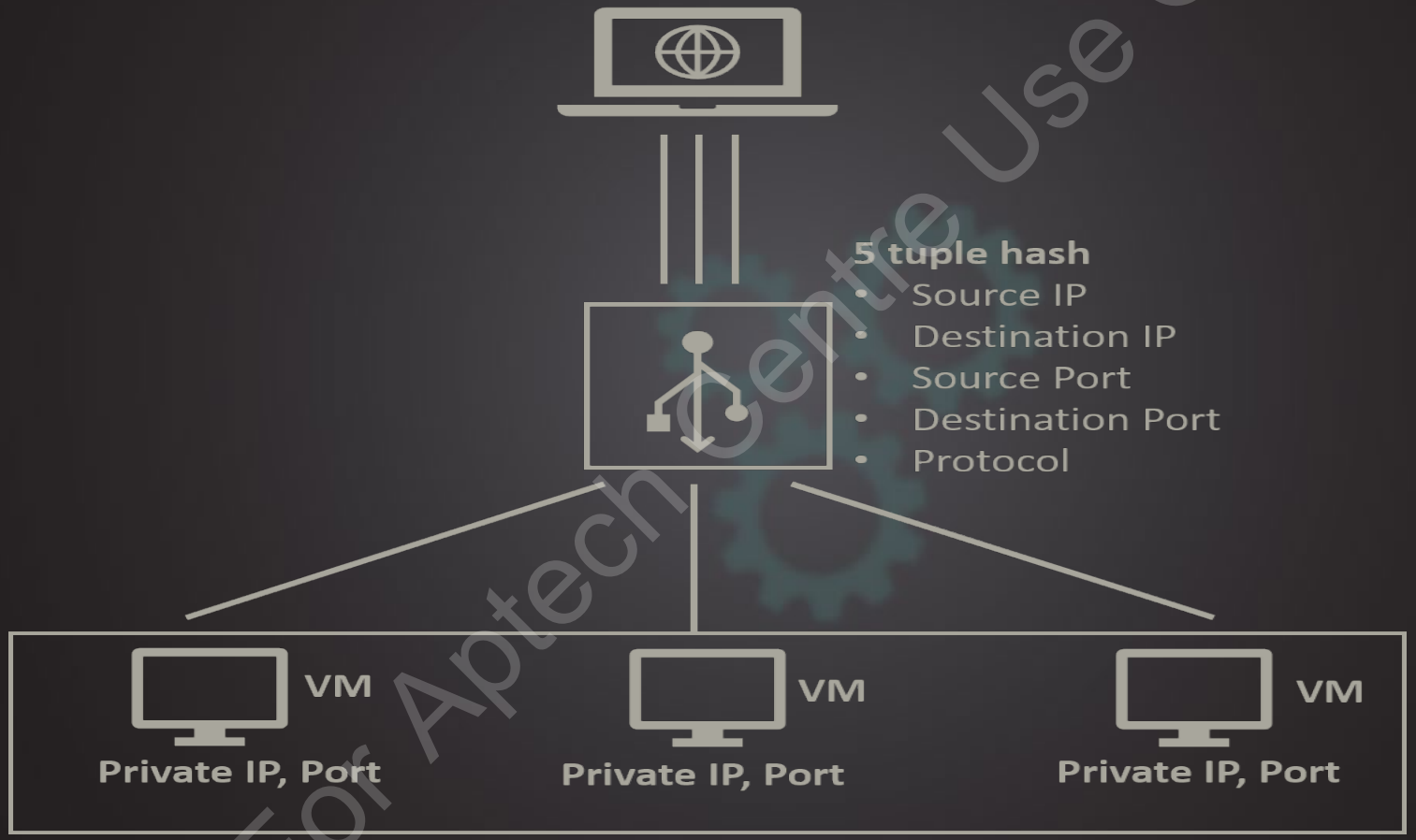
Load balancing of inbound Internet traffic to their VMs, which is called as a public load balancer.

Load balancing of traffic across VMs within a virtual network. Developers can go to the frontend of a load balancer from a given network in instances, such as a hybrid scenario.

Forwarding port traffic to the destined port on specific VMs with inbound rules of Network Address Translation (NAT).

Giving outgoing connectivity for VMs within the virtual network by employing a public load balancer.

Introduction to Azure Load Balancer [3-4]



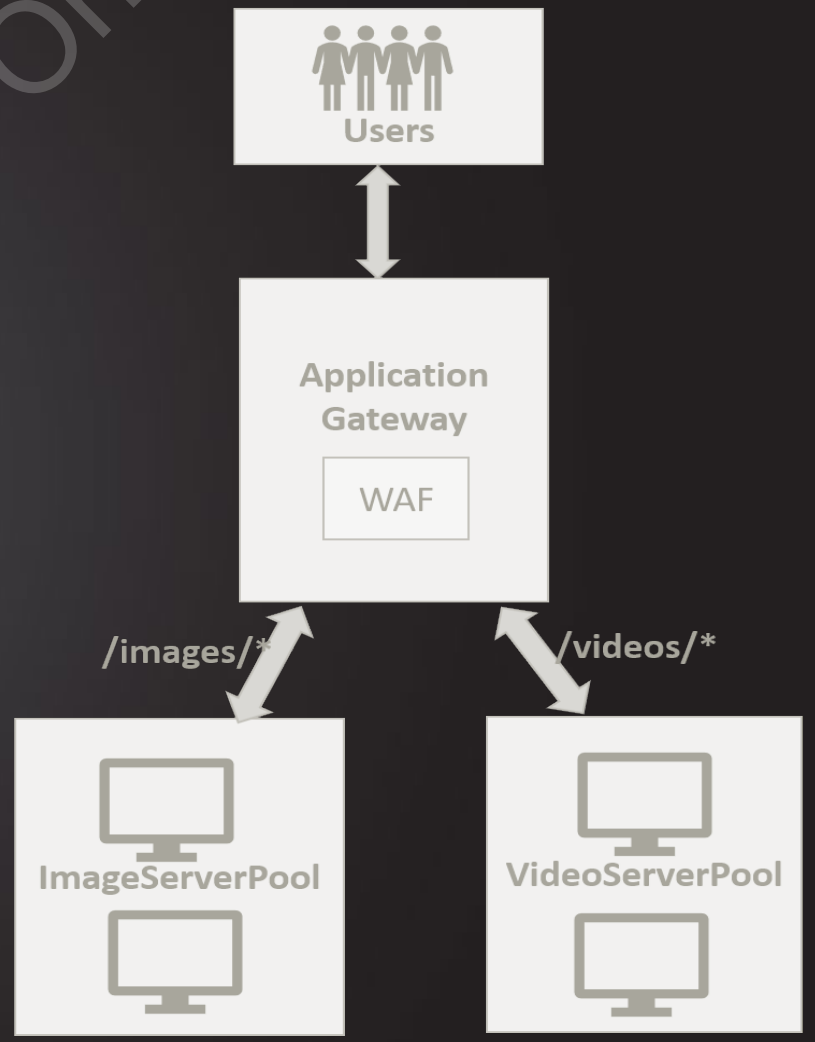
Hash-based Traffic Distribution by Azure Load Balancer

Introduction to Azure Load Balancer [4-4]

- Load balancing
- Port forwarding
- Automatic reconfiguration
- Health probes
- Application agnostic and transparent

Working with Azure Application Gateway and Traffic Manager [1-2]

The Azure application gateway can be defined as a load balancer suitable for handling incoming Web traffic and targeting it towards the Web applications.



Role of an Application Gateway

Working with Azure Application Gateway and Traffic Manager [2-2]

- URL-based routing
- Multiple-site hosting
- Redirection
- Session affinity

Azure Traffic Manager

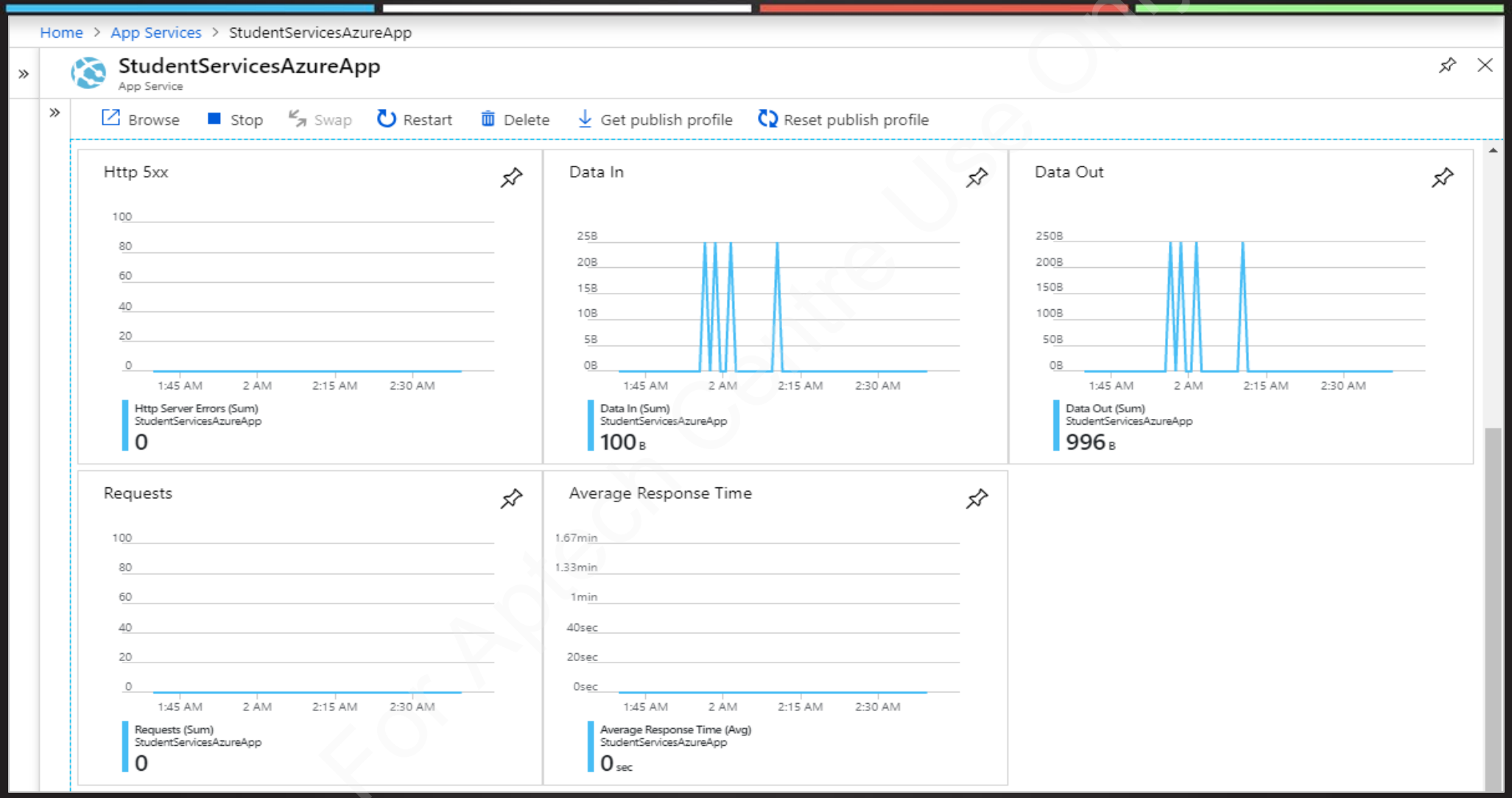
- Enhance application accessibility
- Perform maintenance without any deferment
- Distribute traffic in case of huge setups
- Enhance performance of applications
- Merge hybrid applications

Introduction to Azure Application Insights and Log Analytics [1-2]

Application Insights

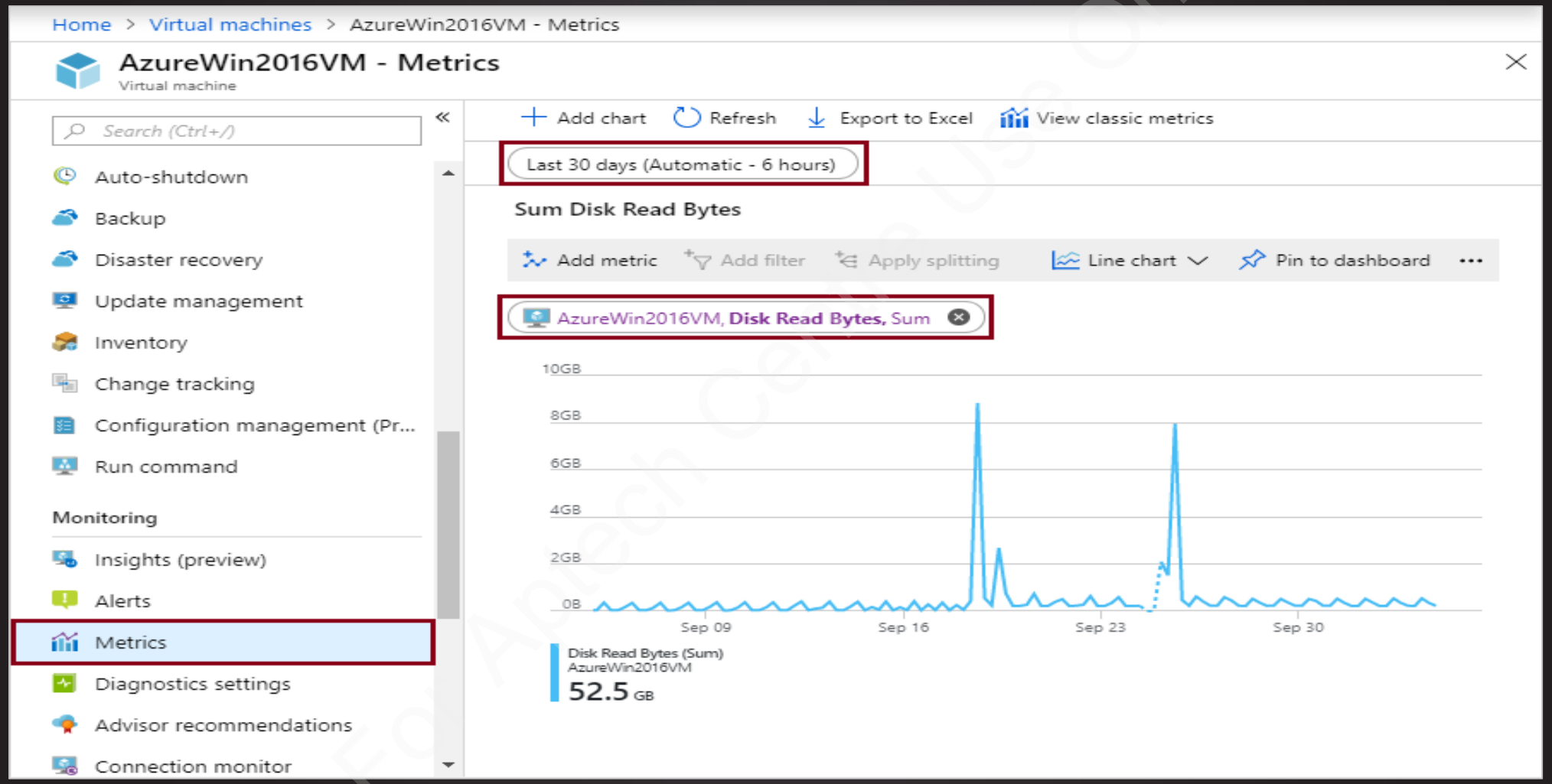
- Helps developers in Application Performance Management (APM) when working on numerous environments such as .NET, Node.js, and J2EE.
- Assists in tracking live Web applications and identify performance glitches through various analytics tools.
- Works on applications installed on the system or in the cloud.
- Supports DevOps process and provides connection points to various development tools.

Introduction to Azure Application Insights and Log Analytics [2-2]



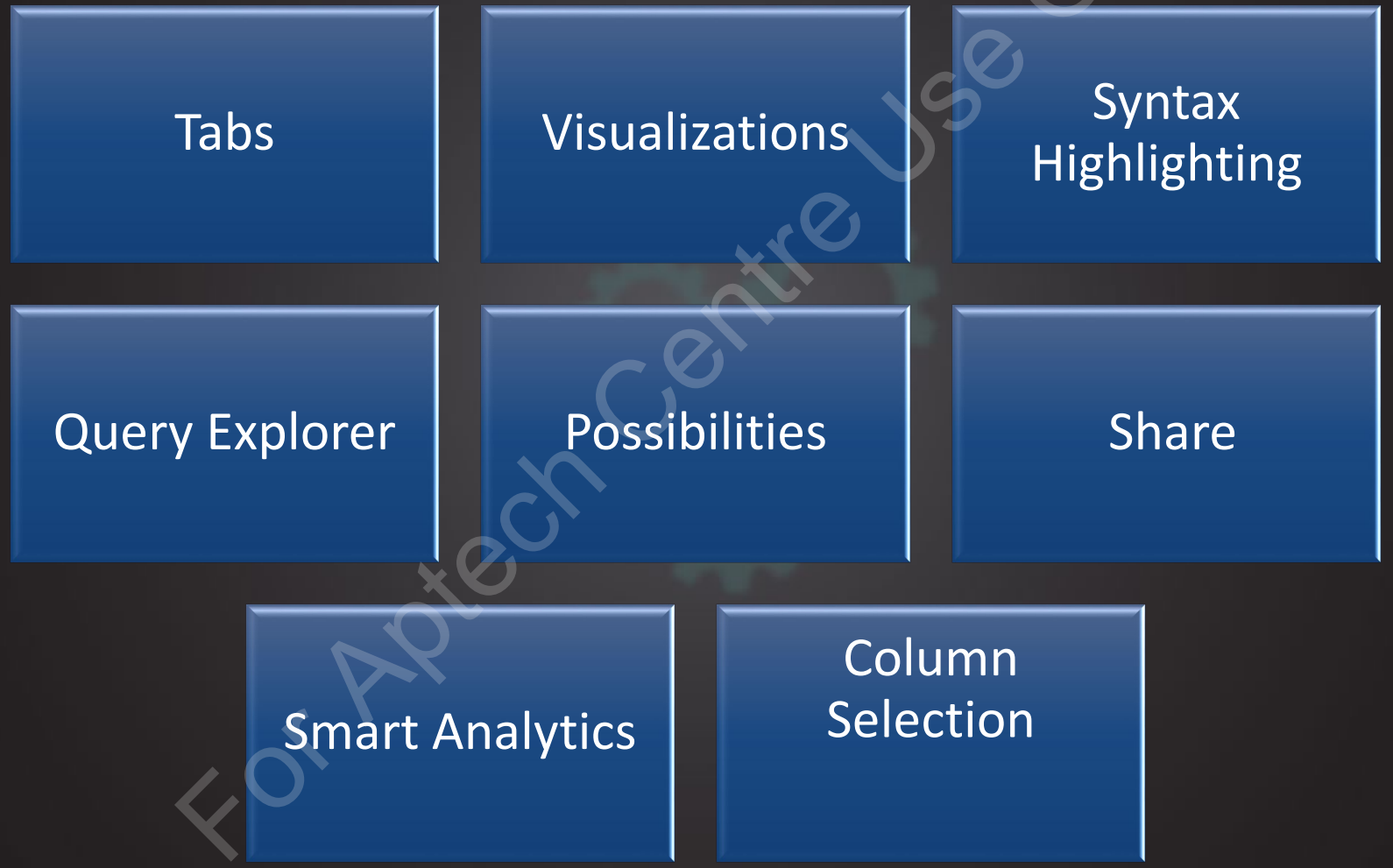
Application Insight for Azure Web App

Azure Log Analytics [1-2]



Azure Virtual Machine Metrics

Azure Log Analytics [2-2]



Configuring Application Insights [1-4]

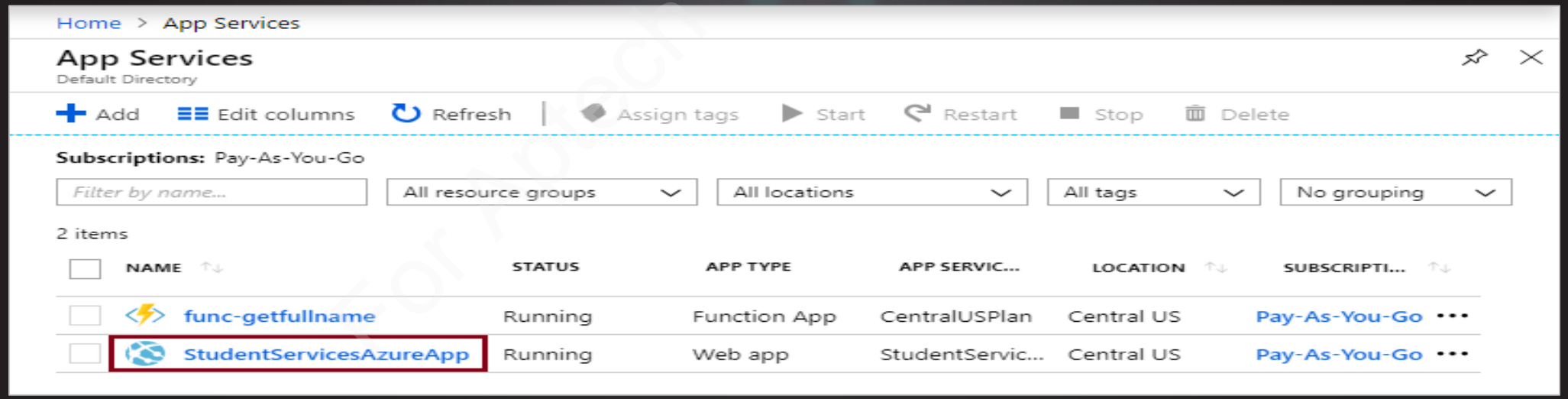
Step 1

Log in to Azure Portal with the login id and password.

Step 2

From the main menu on the left, click **App Services**, which loads the list of the running Web Application. Following Figure shows the Web Application List page.

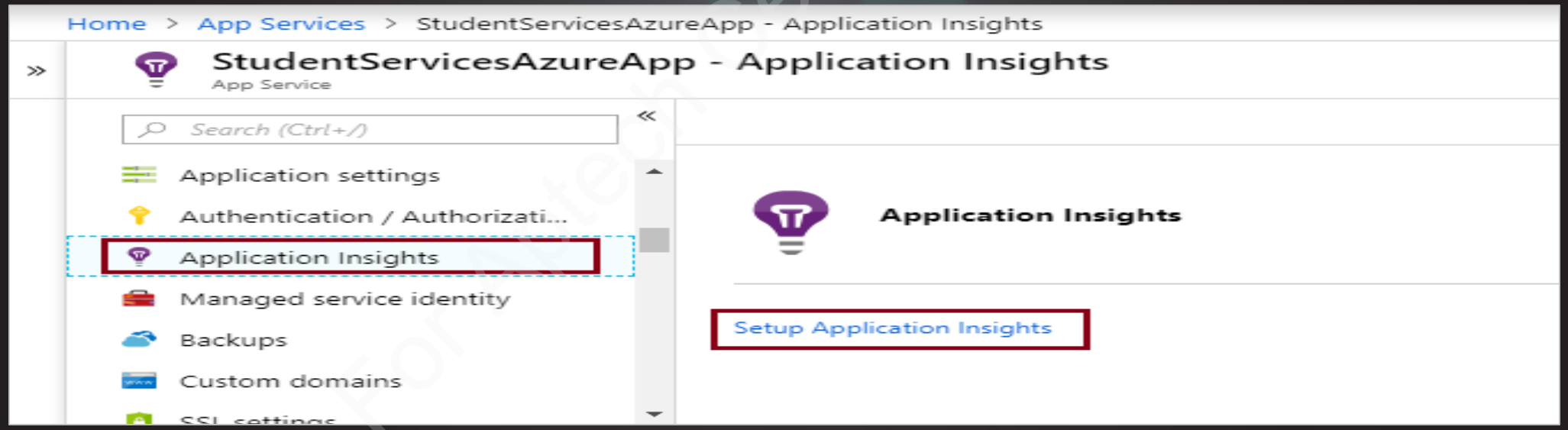
Web Application List Page



Configuring Application Insights [2-4]

Step 3

Select and click the Web App created and hosted earlier. This loads the **Web App** properties page. Click **Application Insight** from the menu on the left. As there is no Application Insight created yet, this loads an empty screen as shown in the following Figure.

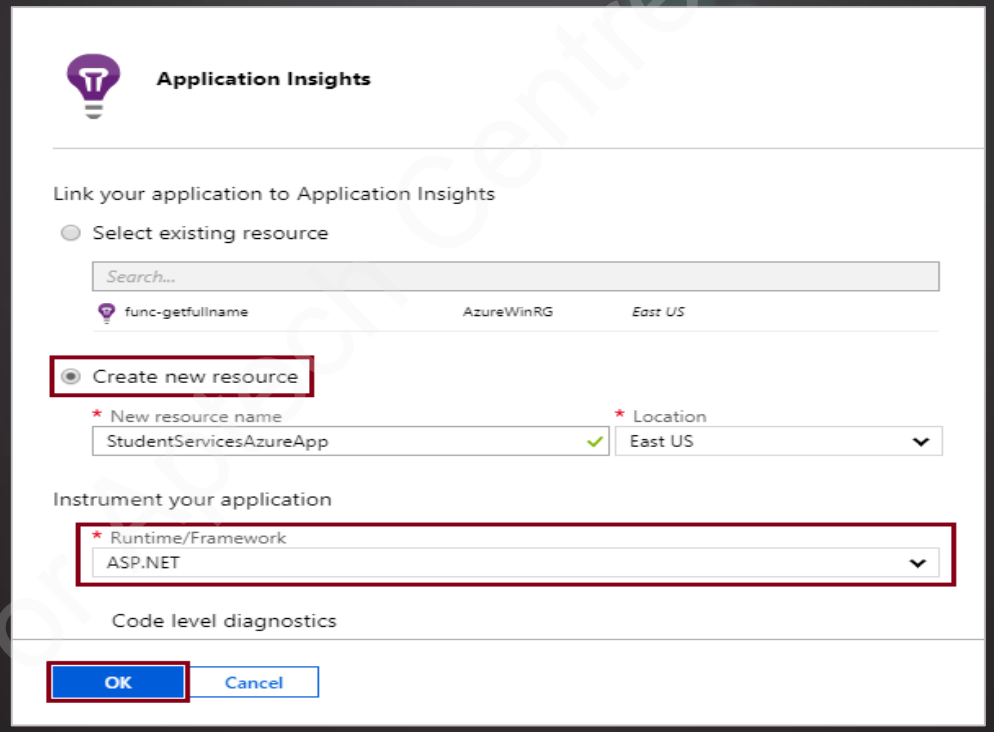


Web App Application Insight

Configuring Application Insights [3-4]

Step 4

In the **Application Insight** page, click **Setup Application Insights** button to start a new Application Insight. Following Figure shows the creation of a new Application Insight.

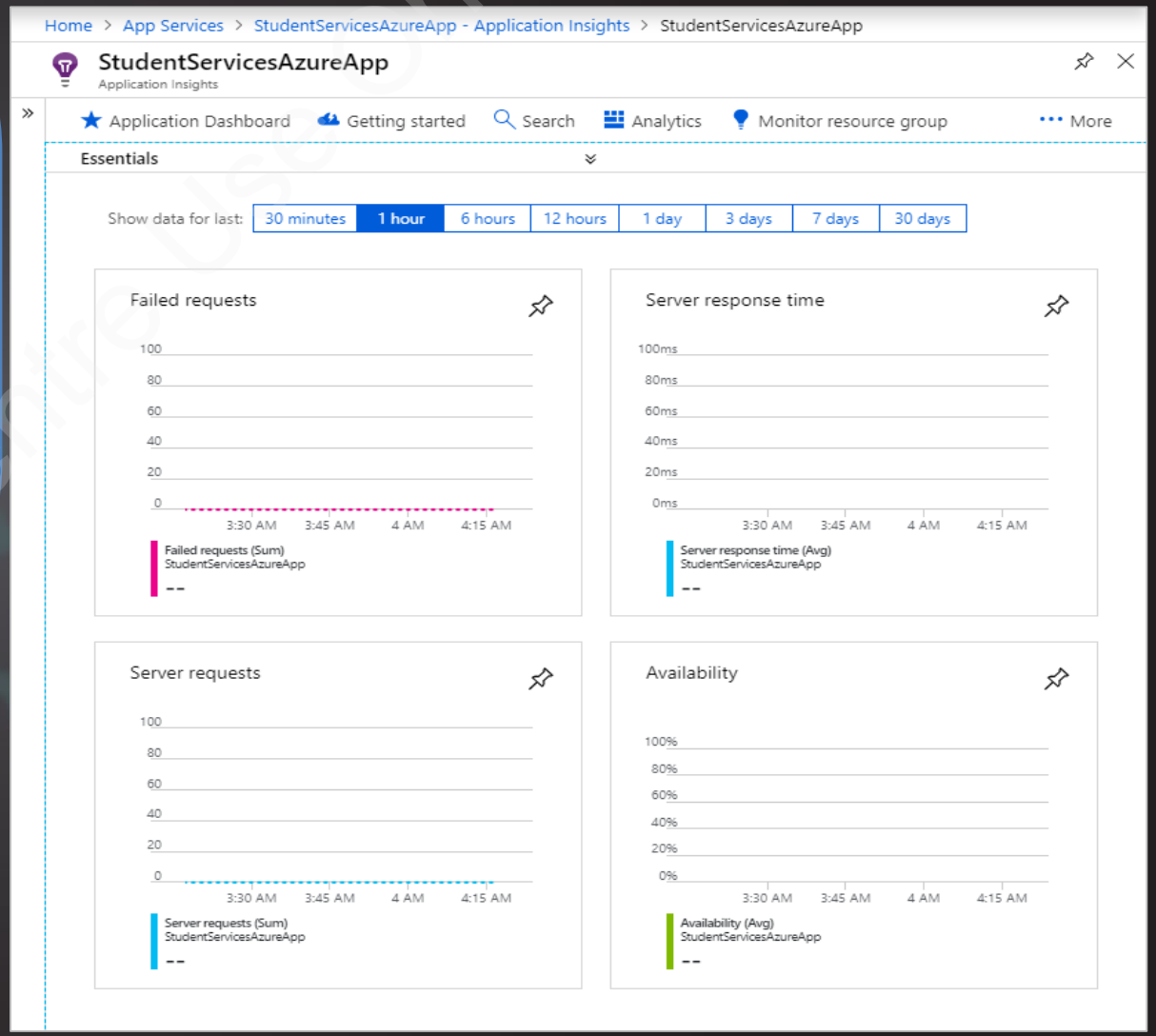


Creation of a New Application Insight

Configuring Application Insights [4-4]

Step 5

Provide the required information, such as New resource name, Runtime/Framework, and so on and click **OK**. A conformation window pops up. Click **Confirm** to continue the creation process.



Application Insight Graph

Introduction to Azure Event Hubs and Stream Analytics

- To identity any anomalies, such as fraud or outliers
- To implement logging in applications
- To perform analytics pipelines, for example, clickstreams
- To perform real-time dashboarding
- To archive information
- To process transactions
- To process user and device telemetry

Stream Analytics

- To perform Internet of Things (IoT) Sensor fusion and clickstream analytics.
- To perform Web logs.
- To implement geospatial analytics for fleet management and in cases where vehicles do not have drivers.
- To monitor remotely and maintain hi-value assets.
- To perform real-time analysis on Point of Sale (PoS) data for regulating inventory and detecting anomalies.
- To perform live device telemetry.

Summary

- Azure Load Balancer is a tool that helps developers to scale their applications, thus, providing high availability for their services.
- Azure Application Gateway is a load balancer suitable for handling incoming Web traffic and targeting it towards the Web applications.
- Azure Traffic Manager allows developers to allocate traffic globally. It is dependent on DNS and offers good accessibility and responds quickly.
- Application Insights is a service the helps developers in Application Performance Management (APM) when working on numerous environments.
- While Azure Event Hubs provides an environment that allows to stream Big Data, Azure Stream Analytics is an engine that executes events and allows developers to study large sections of information arriving from various devices.