Module 3

Hosting Web Applications on the Azure Platform

Module Overview

- Azure Web Apps
- Hosting Web Applications in Azure
- Configuring an Azure Web App
- Publishing an Azure Web App
- Lab Overview

Lesson 1: Azure Web Apps

- Azure Web Apps Overview
- Web App Tiers
- Prebuilt Web App Templates
- Demonstration: Creating a Web App

Azure Web Apps Overview

- Simple, scalable hosting for websites in Windows Azure with the following benefits:
  - Provides a quick way to host your web application in the cloud
  - Allows you to scale your web app without being required to redesign for scalability
  - Integrates with Visual Studio
  - Provides an open platform for many different programming languages

Web App Tiers

- Web Apps can be scaled to run in one of the three following modes:

Free

- Shared compute resources
- Limited bandwidth and CPU time
- Limited customization options

Shared

- Shared compute resources
- No upper-limit to bandwidth and CPU time
- Additional customization options

Web App Tiers (continued)

- Web Apps can be scaled to run in one of the three following modes:

Basic

- Reserved instance for multiple web applications
- Websites are pooled under the same instance

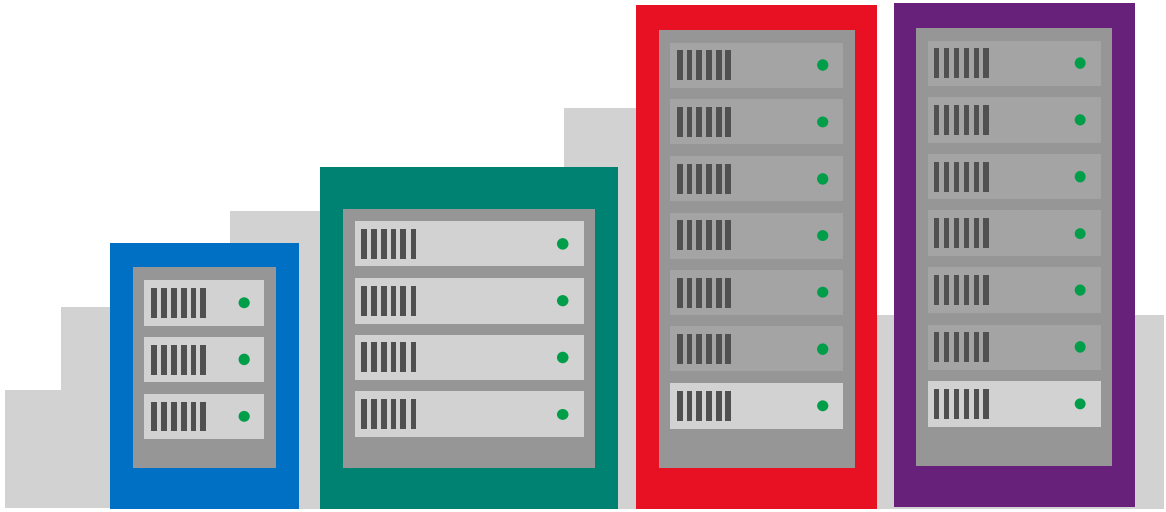
Standard

- Reserved instance for multiple web applications
- Websites are pooled under the same instance
- Supports auto-scale

Web App Tiers (continued)

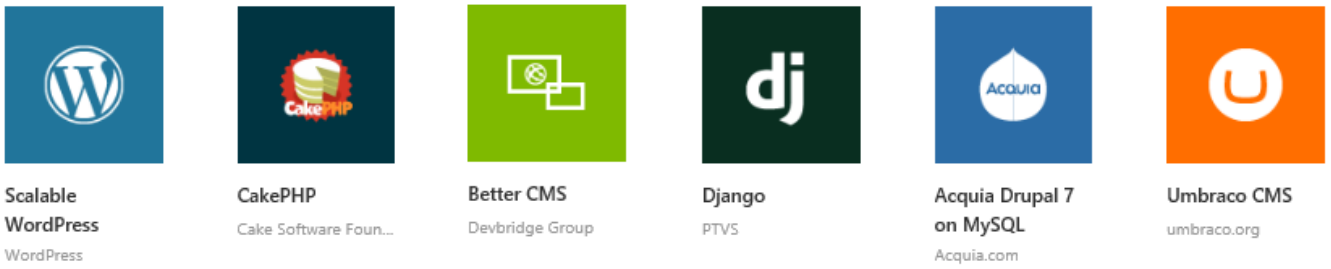
To host multiple Web Apps, use a Standard or Basic Web Hosting Plan

- Reserves a virtual machine for your Websites
- Billed based on number of virtual machine instances and not number of Websites



Prebuilt Web App Templates

Create a Web App using a pre-built template from the Azure Marketplace.
There are over 30 open source applications, frameworks and templates in the Marketplace:



Demonstration: Creating a Web App

- In this demonstration, you will learn how to:
  - Create a Web App instance by using the Azure Portal
  - Create a SQL Database instance by using the Portal
  - Manage the Web App and SQL Database instances as a Resource Group

Lesson 2: Hosting Web Applications in Azure

- Web App Configuration
- App Service Plans

Web App Configuration

- The Web App deployment package and it's configuration are both stored in an external store.
- App Settings and Connection Strings are intercepted and changed in the application during startup
- Applications can be scaled by:
  - Creating IIS web sites using the Web Deploy package
  - Applying configuration options from the external store

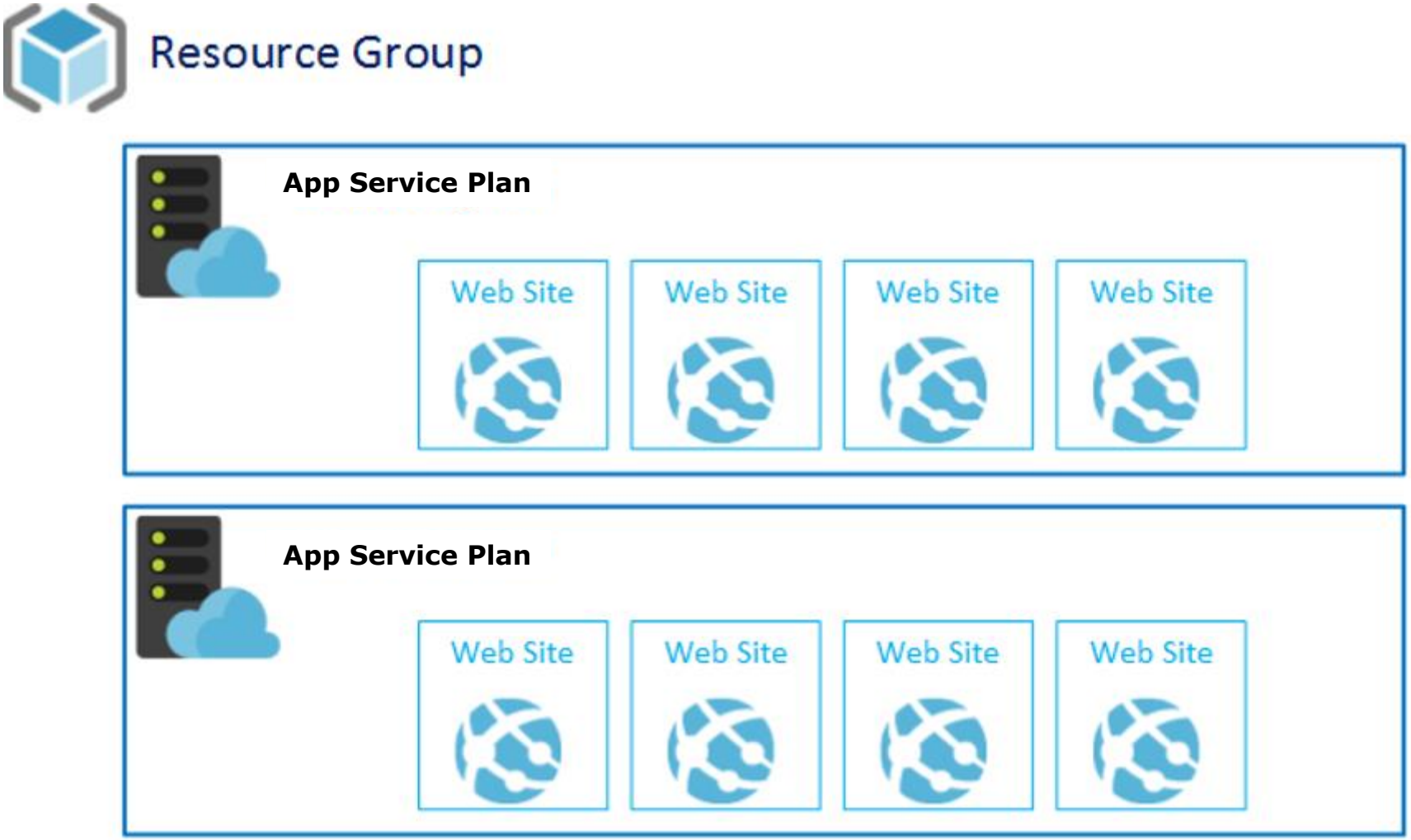
Web App Configuration (continued)

- Web Apps share functionality with IIS web sites
  - For Free and Shared instances, Web Sites are implemented similar to IIS web sites
  - For Standard instances, a reserved virtual machine is made available and each individual Website is similar to an IIS web site
  - Azure Websites can also be managed remotely using the IIS Manager

App Service Plans

- App Service Plans can logically group Web Apps within a subscription.
  - Characteristics such as features, capacity and tiers are shared amongst the Website instance in the group.
- Multiple App Service Plans can exist in a single Resource Group and multiple Web Apps can exist in a single App Service Plan.

App Service Plans (continued)



App Service Plans (continued)

- App Service Plans are a required parameter when creating a new Web App instance.
  - You can chose to add a new Web App to an existing plan.
  - You can also define a new App Service Plan as a part of creating a new Web App.

Lesson 3: Configuring an Azure Web App

- AlwaysOn
- Domain Names
- Autoscaling Web Apps
- Demonstration: Autoscaling a Web App

AlwaysOn

- Only available for Basic/Standard tier
- Ideal for continuous web jobs
- Generates a simple HTTP request regularly
  - Intended as a heartbeat to make sure that the Web App does not recycle the app pool
  - Prevents Web Apps from being unloaded and forced to rebuild on next request.

Domain Names

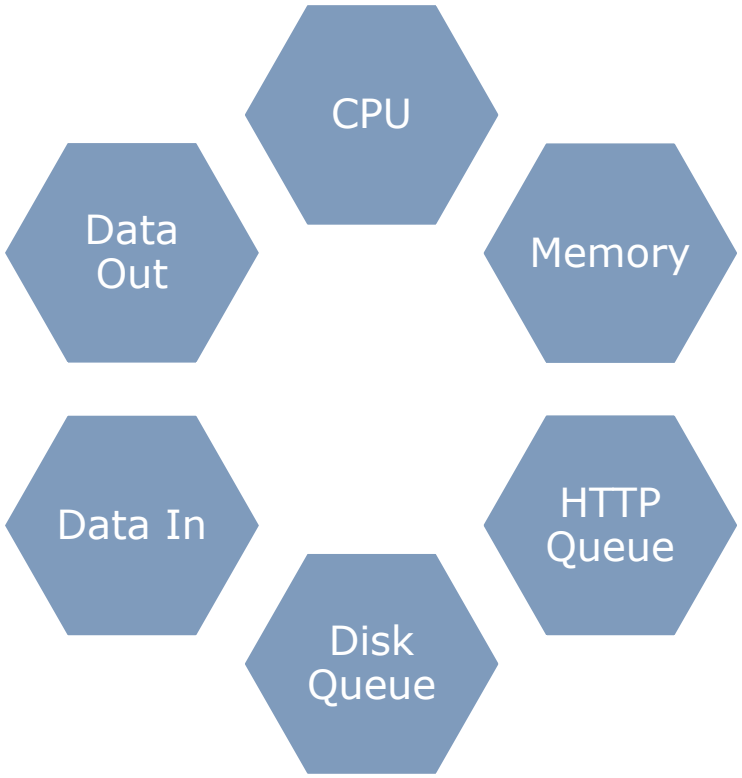
- Standard domain

  [http/https]://<sitename>.azurewebsites.net

- In Shared, Basic or Standard mode, you can configure the Web App to use a custom domain
  - This involves managing the A and CNAME records with your registrar
- Traffic Manager supports custom domain names

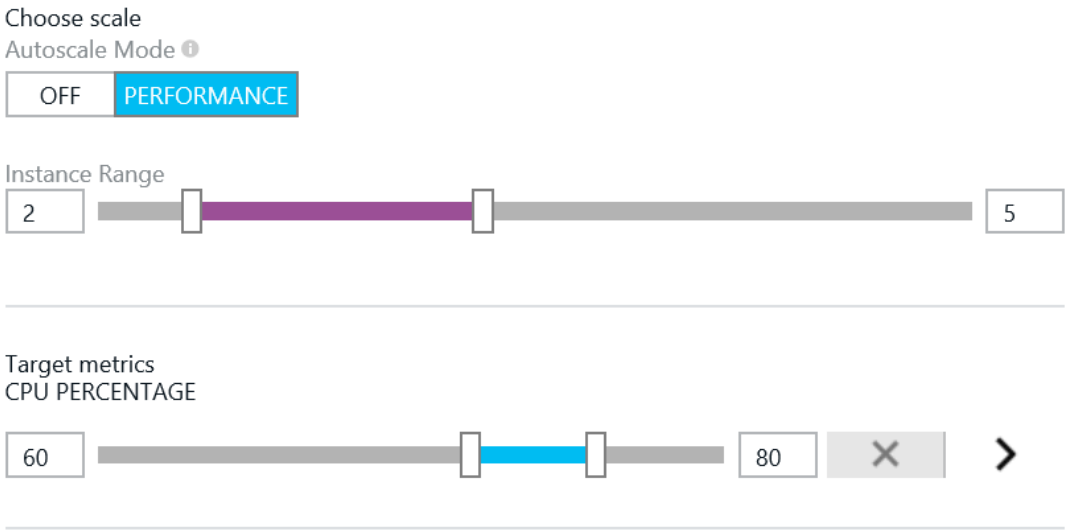
Autoscaling Web Apps

- Scaling rules are specific to a schedule
- Performance scaling can be configured using various metrics:



Performance Scaling

- The Instance Range setting defines a minimum and maximum quantity of instances
- You can use the CPU Percentage setting to set a CPU range
  - Minimum defines a threshold when instances should be removed
  - Maximum defines a threshold when instanced should be added



Demonstration: Autoscaling a Web App

- In this demonstration, you will learn how to:
  - Enable autoscale for a Web App

Lesson 4: Publishing an Azure Web App

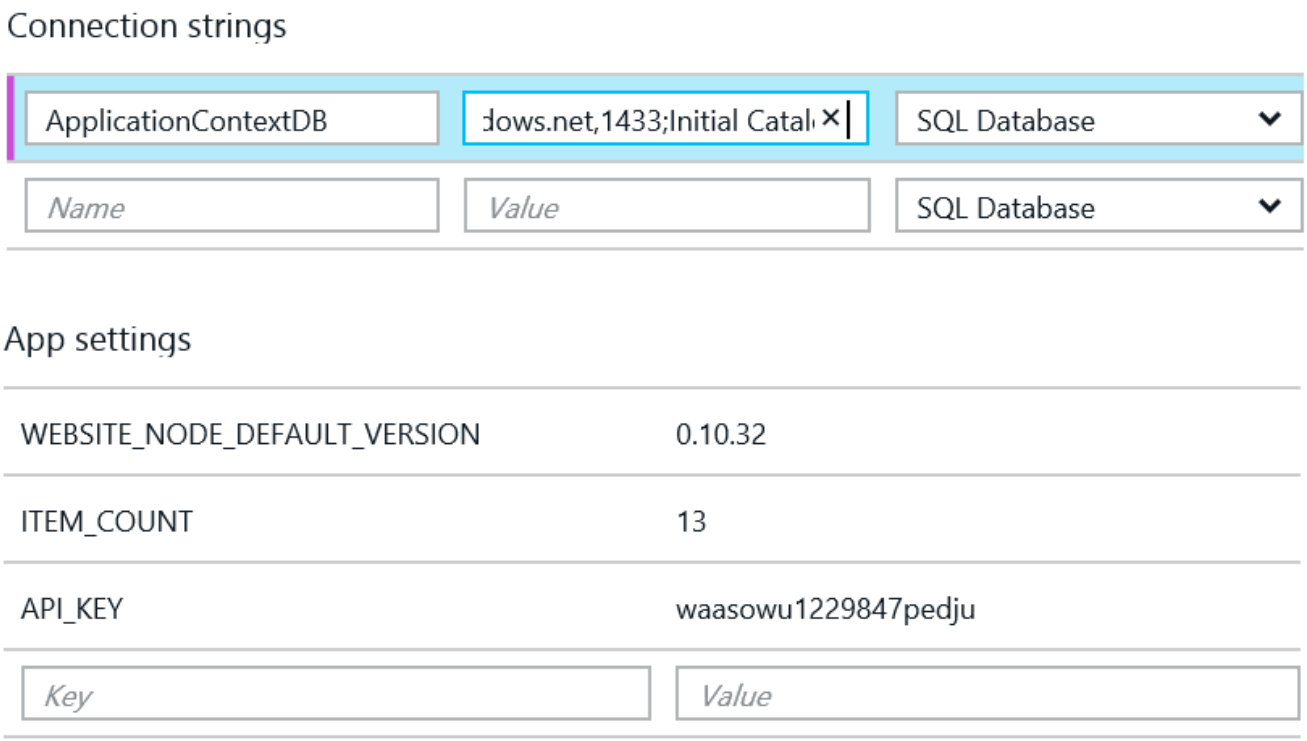
- The Web Deploy Protocol
- Demonstration: Managing Application Settings

The Web Deploy Protocol

- WebDeploy simplifies deployment of Web applications and Web Sites to IIS servers by providing a standard package format
  - Packages can be installed manually using IIS Manager, command line tools or PowerShell
  - Packages can be remotely installed by using the IIS instance remote deployment service
- Visual Studio and WebMatrix can deploy a web application to a Web Deploy endpoint

App Settings and Connection Strings

- Application settings and connection strings can be managed in the portal.
  - Connection strings are hidden by default.



Demonstration: Managing Application Settings

- In this demonstration, you will learn how to:
  - Manage connection strings for a Web App
  - Manage app settings for a Web App

Lab: Creating an ASP.NET Web App by Using Azure Web Apps

Estimated Time: 60 minutes

Module Review and Takeaways

- Review Question(s)
- Best Practice
  - https://docs.microsoft.com/en-us/azure/monitoring-and-diagnostics/insights-autoscale-best-practices