



### **Module 1: Development using the Microsoft Azure Platform**

In this module, students will review the services available in the Azure platform and the Management Portals used to manage the service instances.

#### **Lessons**

- Azure Services
- Management Portals

### **Module 2: Establishing a Development Environment using Azure Virtual Machines**

In this module, students will learn about Virtual Machine hosting options available in Azure. Students will be able to deploy custom workloads to an Azure Virtual Machine, manage the VM and its images and also monitor VMs.

#### **Lessons**

- Constructing Azure Virtual Machines
- Azure Virtual Machine Workloads
- Migrating Azure Virtual Machine Instances

### **Module 3: Managing Infrastructure in Azure**

In this module, students will explore the Infrastructure components in Azure. Students will be able to describe Virtual Networks and understand the relationship between the VNETs and the different services offered in Azure. Students will also be able to add Cloud Services and Virtual Machines to VNETs. Finally students will scale multiple instances of services in a VNET.

#### **Lessons**

- Azure Virtual Networks
- Highly Available Azure Virtual Machines
- Virtual Machine Configuration Management
- Customizing Azure Virtual Machine Networking

### **Module 4: Web Infrastructure in the Azure Platform**

In this module, students will learn how to create and host a simple website using Azure Web Sites. Students will also learn how to monitor and manage the website using the Management Portal.

#### **Lessons**



- Azure Web Sites
- Hosting Web Applications in Azure
- Configuring an Azure Web Site
- Publishing an Azure Web Site
- Monitoring an Azure Web Site

## **Module 5: Designing Cloud Applications for Resiliency**

This module covers the common practices and patterns for building resilient and scalable web applications that will be hosted in Azure.

### **Lessons**

- Application Design Practices for Highly Available Applications
- Building High Performance Applications using ASP.NET
- Common Cloud Application Patterns
- Caching Application Data

## **Module 6: Processing Background Logic using Azure**

In this module, students will learn how to use Cloud Service Worker Roles and Web Sites Web Jobs to process data in the background. Students will also be able to use Cloud Service Cache Roles to store data in the cache.

### **Lessons**

- Understanding Cloud Services
- Cloud Service Web Roles
- Customizing Cloud Service Configurations
- Updating and Managing Azure Cloud Service Deployments
- Cloud Service Worker Roles
- Cloud Service Worker Role Processing
- Caching Data using Roles
- Analyzing Applications in Cloud Service Role Instances

## **Module 7: Storing Tabular Data in Azure**

In this module, students will be able to use Azure SQL Databases to store and retrieve data. Students will also learn how to store data in Azure Table Storage.



### Lessons

- Azure SQL Databases Overview
- Managing SQL Databases in Azure
- Using Azure SQL Databases with SQL Server Data Tools
- Migrating Data to Azure SQL Databases
- Replication and Recovery of Azure SQL Database Instances
- Azure Storage Overview
- Azure Storage Tables Overview
- Table Entity Transactions

### Module 8: Storing Files and Media in Azure

In this module, students will learn how to store and access multimedia files in Azure using Blob Storage.

### Lessons

- Azure Storage Blobs
- Controlling Access to Storage Blobs & Containers
- Monitoring Storage Blobs
- Configuring Azure Storage Accounts
- Azure Files
- Uploading and Migrating Storage Data

### Module 9: Storing Data in Queues using Azure

In this module, students will use Azure Queue Storage to queue data for asynchronous processing. Students will also be able to identify the Service Bus offerings and identify which ones to use in appropriate scenarios. Students will be able to use the Azure Service Bus Relay to connect on-premise services with client applications.

### Lessons

- Queue Mechanisms in Azure
- Azure Storage Queues Overview
- Handling Storage Queue Messages
- Azure Service Bus
- Azure Service Bus Queues
- Azure Service Bus Relay
- Azure Service Bus Notification Hubs



## **Module 10: Implementing Security in Web Applications using Azure**

In this module, students will be able to use Azure Active Directory to implement security in a Cloud web application.

### **Lessons**

- Azure Active Directory
- Azure AD Directories
- Azure AD Access Control Service
- Azure AD Multi-Factor Authentication

## **Module 11: Deploying Web Applications to Azure**

In this module, students will be able to deploy web applications to Azure by using Web Deploy and Service Packages.

### **Lessons**

- Deployment Strategies for Web Applications
- Deploying Azure Web Sites
- Deploying Azure Cloud Services
- Continuous Integration
- Monitoring Cloud Applications

