ASP.NET Core Development with Docker

Course ID #: 1409-006-2.1-W
Hours: 14
CEU's: 1.4

Course Content

Course Description:

ASP.NET Core offers the exciting ability to develop, test, and deploy on different platforms. Our ASP.NET Core Development with Docker training class teaches students how to use Docker to create a consistent testing and deployment target for ASP.NET Core applications. Attendees also learn multi-container applications, orchestration, continuous integration, and deployment. This course has been updated for ASP.NET Core 2.1.

At Course Completion:

After completing this course, student will be able to:

- Gain a deeper understanding of the Docker platform and the benefits it can provide for ASP.NET Core development
- Use Docker to create a better development environment
- Gain experience with the new productivity features in Visual Studio 2017 for building Docker-based applications
- Learn how to configure and deploy multi-container applications
- Gain experience using several container orchestration platforms
- Understand how to deploy a Docker-based application to a load-balanced cluster in Microsoft Azure and Amazon Web Services (AWS)
- Learn how to configure a continuous integration / continuous deployment (CI/CD) pipeline

Prerequisites:

- Experience with the C# programming language and object-oriented programming concepts
- Some knowledge of the structure of an ASP.NET Core application

Topics:

Introduction

- Cross-Platform ASP.NET Core
- Goals and Benefits of Docker

Docker Essentials

- Docker Engine and Tools
- Docker Architecture
- Images and Containers
- Containers vs. Virtual Machines
- Linux Containers
- Windows Containers

Docker-Based Development Environment

- Dependencies as Containers
- SQL Server in a Container
- Container-Based Build Server

Docker Support in Visual Studio 2017

- Adding Docker Support to a Project
- Debugging Code Running in a Container

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Multi-Container Solutions

- Docker Compose
- Networking Configuration
- Visual Studio Support
- Debugging Across Containers
- Microservice Architecture

Container Deployment and Orchestration

- Docker Swarm
- Kubernetes
- DC/OS
- Azure Container Services
- Amazon EC2 Container Services
- Load Balancing
- Distributed Logging

Creating a CI/CD Pipeline

- Continuous Integration
- Continuous Deployment
- CD Tools for Visual Studio
- Azure and VSTS

Conclusion