

**20487BC**

**Developing Windows Azure and Web Services**

**5 DAYS**

**SATV : YES**

## Course Description

In this course, students will learn how to develop services using Web API and Windows Azure. The course will discuss Service Oriented Architecture and Cloud applications applications using Visual Studio 2012.

## Course Outline

### Module 1: Creating WCF services

- Advantages of creating services with WCF
- Creating and implementing a contract
- Configuring and hosting WCF services
- Consuming WCF services

### Module 2: Designing and extending WCF services

- Applying design principles to service contracts
- Handling distributed transactions
- WCF pipeline architecture
- Extending the WCF pipeline

### Module 3: Implementing Security in WCF services

- Transport security
- Message security
- Configuring service authentication and authorization

### Module 4: Overview of service and cloud Technologies

- Key Components of Distributed Applications
- Data and Data Access Technologies
- Service Technologies
- Cloud Computing
- Exploring Blue Yonder Airlines' Travel Companion Application

### Module 5: Querying and manipulating data using Entity Framework

- ADO.NET overview
- Creating an entity data model
- Querying data
- Manipulating data

### Module 6: Creating and consuming ASP.NET Web API services

- What are HTTP services?
- Creating an ASP.NET Web API service
- Handling HTTP requests and responses
- Hosting and consuming ASP.NET Web API services

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## **Module 7: Extending and securing ASP.NET Web API services**

- The ASP.NET Web API request pipeline
- The ASP.NET Web API response pipeline
- Creating OData services
- Implementing Security in ASP.NET Web API services
- Injecting dependencies into controllers

## **Module 8: Windows Azure Service Bus**

- Windows Azure Service Bus Relays
- Windows Azure Service Bus Queues
- Windows Azure Service Bus Topics

## **Module 9: Hosting services**

- Hosting services on-premises
- Hosting services in Windows Azure

## **Module 10: Deploying Services**

- Web Deployment with Visual Studio
- Creating and deploying Web Application packages
- Command-line tools for web deployment packages
- Deploying to Windows Azure
- Continuous delivery with TFS and GIT
- Best practices for production deployment

## **Module 11: Windows Azure Storage**

- Introduction to Windows Azure storage
- Windows Azure Blob Storage
- Windows Azure Table Storage
- Windows Azure Queue Storage
- Restricting access to Windows Azure Storage

## **Module 12: Monitoring and diagnostics**

- Performing diagnostics using tracing
- Configuring service diagnostics
- Monitoring IIS
- Monitoring services using Windows Azure diagnostics
- Debugging using IntelliTrace
- Collecting Windows Azure metrics

## **Module 13: Identity management and access control**

- Claim-based identity concepts
- Access Control Service
- Configuring services to use federated identities
- Handling federated identities in the client side

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## **Module 14: Scaling Services**

- Introduction to scalability
- Load balancing
- Scaling on-premises services with distributed cache
- Windows Azure caching
- Caveats of scaling services
- Scaling globally