



Module Presenter's Manual *for*

Enterprise Application
Programming in .NET

***Effective from: September, 2017
Ver. 1.0***

Amendment Record

Version No.	Effective Date	Change	Replaced Pages
1.0	September 2017	New	-

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1. Introduction

At the end of this course, students will be able to:

- Create HTTP-based services
- Create SOAP-based services
- Apply Design principles to service contracts
- Secure WCF services
- Host services on on-premises servers
- Deploy services on-premises and Windows Azure
- Access and store data in Windows Azure Storage
- Monitor and log services in Windows Azure
- Implement federated authentication by using ACS

2. Information on Session Allocation

Module	Online (No. of Hrs)
Enterprise Application Programming in .NET	40

Throughout this Presenter's Manual, the module **Enterprise Application Programming in .NET** will be referred to as **EAP**.



3. Module Deliverables available on OnlineVarsity









To aid the learning process, following are the deliverables

Student Deliverables:

1. Learner's Guide (eBook)

Resources available on OnlineVarsity for Students:

Icons	Feature - Description/Functionality
	Download Book - Student has the option to download the subject related e-book and read offline.
	Glossary - Student can access a list of subject related specialized words with their definitions.

	FAQ - Student can access frequently asked questions and their answers.
	Show Me How - Student can view a step-wise simulation/demonstration of the module related topics.
	Practice 4 Me - Student can test and evaluate their understanding of module related topics.
	Work Assignments - Student can solve scenario based lab assignments (Hands-on). The faculty will evaluate and give their feedbacks.
	Download Source code/Files – Student can download courseware related source files.
	References - Student can access additional subject related material for reading.
	Feedback - Student can provide feedback on the course material.
	Ask to Learn – Student can submit subject related technical queries. Queries submitted will be directed to the particular course coordinator/head.

4. Week-wise Session Schedule

- A Session has duration of 2 hrs
- The Concepts session is to be conducted in the classroom
- Lab session is to be conducted in the lab

➤ Week-Wise Schedule

Week	Day 1	Day 2	Day 3	Day 4
1	Session 1 EAP – TL1	Session 2 EAP – TL2	Session 3 EAP – TL3	Session 4 EAP – TL4
2	Session 5 EAP – TL5	Session 6 EAP – TL6	Session 7 EAP – TL7	Session 8 EAP – TL8
3	Session 9 EAP – TL9	Session 10 EAP – TL10	Session 11 EAP – TL11	Session 12 EAP – TL12
4	Session 13 EAP – TL13	Session 14 EAP – TL14	Session 15 EAP – TL15	Session 16 EAP – TL16
5	Session 17 EAP – TL17	Session 18 EAP – TL18	Session 19 EAP – TL19	Session 20 EAP – TL20

EAP: Enterprise Application Programming

TL: Online Session

5. Session Coverage

Session No.	Session Title	Session Details	Deliverables' Mapping
1	EAP – TL1	<p>All the topics as listed below from Session 1 and Session 2 of <i>Enterprise Application Development Using Windows Azure and Web Services</i> book should be covered in this session.</p> <p><u>Session 1 – Introduction to Windows Azure</u></p> <ul style="list-style-type: none"> ➤ Define and describe cloud computing ➤ Describe cloud computing delivery models ➤ Define and describe the Windows Azure platform ➤ Differentiate between Windows Azure platform and Windows Azure Operating System (OS) ➤ Define and describe Web Services ➤ Describe the Windows Azure Portal ➤ Explain the process to create, deploy, and test a cloud service using the portal <p><u>Session 2 – Understanding Windows Azure Architecture</u></p> <ul style="list-style-type: none"> ➤ Describe the Windows Azure platform architecture ➤ Describe the components of the Windows Azure architecture ➤ Explain the process to create, test, and deploy an Azure cloud service using Visual Studio ➤ Explain the process to create, test, and deploy a Web application on the cloud 	<p><u>Enterprise Application Development Using Windows Azure and Web Services</u></p> <p>SG - Session 1 & 2 XP - Session 1 & 2 TG - Session 1 & 2</p>

Session No.	Session Title	Session Details	Deliverables' Mapping
2	EAP – TL2	All the workshop topics given in Session 1 and Session 2 of <i>Enterprise Application Development Using Windows Azure and Web Services</i> course should be covered in this session.	<u>Enterprise Application Development Using Windows Azure and Web Services</u> Session 1 & 2 (OnlineVarsity)
3	EAP – TL3	<p>All the topics as listed below from Session 3 and Session 4 of <i>Enterprise Application Development Using Windows Azure and Web Services</i> book should be covered in this session.</p> <p><u>Session 3 – ASP.NET Web API Services</u></p> <ul style="list-style-type: none"> ➤ Define and describe ASP.NET Web API ➤ Define and describe HTTP, REST, and Media Types ➤ Explain how to implement a ASP.NET Web API Service ➤ Explain how to secure a ASP.NET Web API Service <p><u>Session 4 – Hosting and Consuming ASP.NET Web API Services</u></p> <ul style="list-style-type: none"> ➤ Define and describe how to host and manage a Web API service ➤ Explain how to consume a Web API service ➤ Explain how to host a Web API service in a Windows Azure worker role ➤ Define and describe the best practices to employ while developing Web API services 	<p><u>Enterprise Application Development Using Windows Azure and Web Services</u></p> <p>SG - Session 3 & 4 XP - Session 3 & 4 TG - Session 3 & 4</p>

Session No.	Session Title	Session Details	Deliverables' Mapping
4	EAP – TL4	All the workshop topics given in Session 3 and Session 4 of <i>Enterprise Application Development Using Windows Azure and Web Services</i> course should be covered in this session.	<p><u>Enterprise Application Development Using Windows Azure and Web Services</u></p> <p>Session 3 Session 4</p> <p>(OnlineVarsity)</p>
5	EAP – TL5	<p>All the topics as listed below from Session 5 and Session 6 of <i>Enterprise Application Development Using Windows Azure and Web Services</i> book should be covered in this session.</p> <p><u>Session 5 – Accessing and Manipulating Data</u></p> <ul style="list-style-type: none"> ➤ Define and describe various data access technologies ➤ Explain asynchronous data access using ADO.NET ➤ Explain XML data access and manipulation <p><u>Session 6 – Advanced Concepts of Data Access</u></p> <ul style="list-style-type: none"> ➤ Define and describe how to query data with Entity Framework ➤ Explain how to work with transactions ➤ Explain how to create and use Entity Framework data model 	<p><u>Enterprise Application Development Using Windows Azure and Web Services</u></p> <p>SG - Session 5 & 6 XP - Session 5 & 6 TG - Session 5 & 6</p>

Session No.	Session Title	Session Details	Deliverables' Mapping
6	EAP – TL6	All the workshop topics given in Session 5 and Session 6 of <i>Enterprise Application Development Using Windows Azure and Web Services</i> course should be covered in this session.	<p><u>Enterprise Application Development Using Windows Azure and Web Services</u></p> <p>Session 5 Session 6</p> <p>(OnlineVarsity)</p>
7	EAP – TL7	<p>All the topics as listed below from Session 7 of <i>Enterprise Application Development Using Windows Azure and Web Services</i> book should be covered in this session.</p> <p><u>Session 7 – Windows Azure Storage</u></p> <ul style="list-style-type: none"> ➤ Describe the characteristics of Windows Azure Storage ➤ Understand Azure Storage Services ➤ Explain how to use storage accounts ➤ Explain routing requests ➤ Describe URL patterns 	<p><u>Enterprise Application Development Using Windows Azure and Web Services</u></p> <p>SG - Session 7 XP - Session 7 TG - Session 7</p>
8	EAP – TL8	All the workshop topics given in Session 7 of <i>Enterprise Application Development Using Windows Azure and Web Services</i> course should be covered in this session.	<p><u>Enterprise Application Development Using Windows Azure and Web Services</u></p> <p>Session 7</p> <p>(OnlineVarsity)</p>

Session No.	Session Title	Session Details	Deliverables' Mapping
9	EAP – TL9	<p>All the topics as listed below from Session 8 of <i>Enterprise Application Development Using Windows Azure and Web Services</i> book should be covered in this session.</p> <p><u>Session 8 – Advanced Windows Azure Storage Concepts</u></p> <ul style="list-style-type: none">➤ Describe Blob storage➤ Describe Table storage➤ Describe Queue storage	<p><u>Enterprise Application Development Using Windows Azure and Web Services</u></p> <p>SG - Session 8 XP – Session 8 TG – Session 8</p>
10	EAP – TL10	<p>All the workshop topics given in Session 8 of <i>Enterprise Application Development Using Windows Azure and Web Services</i> course should be covered in this session.</p>	<p><u>Enterprise Application Development Using Windows Azure and Web Services</u></p> <p>Session 8 (OnlineVarsity)</p>

Session No.	Session Title	Session Details	Deliverables' Mapping
11	EAP – TL11	<p>All the topics as listed below from Session 9 of <i>Enterprise Application Development Using Windows Azure and Web Services</i> book should be covered in this session.</p> <p><u>Session 9 – WCF Services</u></p> <ul style="list-style-type: none"> ➤ Describe WCF services ➤ List the features of WCF that are not supported by ASP.NET Web API ➤ Explain the steps to create a WCF service ➤ Explain the process to define a service contract and implement it ➤ Explain how to host and configure a WCF service ➤ Describe the procedure to consume a WCF service from a client application ➤ Explain how to create and deploy a WCF cloud service to Azure 	<p><u>Enterprise Application Development Using Windows Azure and Web Services</u></p> <p>SG - Session 9 XP – Session 9 TG – Session 9</p>
12	EAP – TL12	<p>All the workshop topics given in Session 9 of <i>Enterprise Application Development Using Windows Azure and Web Services</i> course should be covered in this session.</p>	<p><u>Enterprise Application Development Using Windows Azure and Web Services</u></p> <p>Session 9</p> <p>(OnlineVarsity)</p>

Session No.	Session Title	Session Details	Deliverables' Mapping
13	EAP – TL13	<p>All the topics as listed below from Session 10 and Session 11 of <i>Enterprise Application Development Using Windows Azure and Web Services</i> book should be covered in this session.</p> <p><u>Session 10 – Service Bus in Windows Azure</u></p> <ul style="list-style-type: none"> ➤ Explain Service Bus in Windows Azure ➤ Describe queues, topics, and relays ➤ State the use of AMQP in Service Bus ➤ Describe the use of Service Bus relays in cloud hybrid applications <p><u>Session 11 – Windows Azure SQL Database</u></p> <ul style="list-style-type: none"> ➤ Describe SQL Database ➤ List and describe the features of SQL Database ➤ Explain the working of SQL database ➤ Compare between SQL Azure and SQL Server ➤ Describe the procedure to create a Cloud database ➤ Explain the process to configure Firewall ➤ Explain the process to manage the cloud database ➤ Describe connecting to SQL Database using SQL Server Management Studio ➤ Describe connecting to SQL Database using ADO .NET ➤ Explain the process to query SQL Database 	<p><u>Enterprise Application Development Using Windows Azure and Web Services</u></p> <p>SG - Session 10 & 11 XP - Session 10 & 11 TG - Session 10 & 11</p>

Session No.	Session Title	Session Details	Deliverables' Mapping
14	EAP – TL14	All the workshop topics given in Session 10 & 11 of <i>Enterprise Application Development Using Windows Azure and Web Services</i> course should be covered in this session.	<u>Enterprise Application Development Using Windows Azure and Web Services</u> Session 10 & 11 (OnlineVarsity)
15	EAP – TL15	<p>All the topics as listed below from Session 12 and Session 13 of <i>Enterprise Application Development Using Windows Azure and Web Services</i> book should be covered in this session.</p> <p><u>Session 12 – Advanced Concepts of SQL Database</u></p> <ul style="list-style-type: none"> ➤ Explain Windows Azure SQL Database Provisioning ModelEx ➤ Explain Windows Azure Table Storage versus SQL DatabaseEx ➤ Explain Troubleshooting and Error Handling <p><u>Session 13 – Application Lifecycle Management</u></p> <ul style="list-style-type: none"> ➤ Explain Application Lifecycle Management (ALM) ➤ Describe ALM Tooling ➤ Explain how to manage lifecycle on Windows Azure 	<p><u>Enterprise Application Development Using Windows Azure and Web Services</u></p> <p>SG - Session 12 & 13 XP - Session 12 & 13 TG - Session 12 & 13</p>
16	EAP – TL16	All the workshop topics given in Session 12 and Session 13 of <i>Enterprise Application Development Using Windows Azure and Web Services</i> course should be covered in this session.	<u>Enterprise Application Development Using Windows Azure and Web Services</u> Session 12 & 13 (OnlineVarsity)

Session No.	Session Title	Session Details	Deliverables' Mapping
17	EAP – TL17	<p>All the topics as listed below from Session 14 of <i>Enterprise Application Development Using Windows Azure and Web Services</i> book should be covered in this session.</p> <p><u>Session 14 – Deploying Web Application and Services</u></p> <ul style="list-style-type: none"> ➤ Explain planning and designing a deployment strategy for Web applications and Azure ➤ Describe configuring and implementing deployment ➤ Describe using NuGet for managing packages 	<p><u>Enterprise Application Development Using Windows Azure and Web Services</u></p> <p>SG - Session 14 XP - Session 14 TG - Session 14</p>
18	EAP – TL18	<p>All the workshop topics given in Session 14 of <i>Enterprise Application Development Using Windows Azure and Web Services</i> course should be covered in this session.</p>	<p><u>Enterprise Application Development Using Windows Azure and Web Services</u></p> <p>Session 14</p> <p>(OnlineVarsity)</p>
19	EAP – TL19	<p>All the topics as listed below from Session 15 of <i>Enterprise Application Development Using Windows Azure and Web Services</i> book should be covered in this session.</p> <p><u>Session 15 – Continuous Deployment</u></p> <ul style="list-style-type: none"> ➤ Describe an overview of Git and TFS ➤ Explain the process of using Git in Azure ➤ Define and describe TFS ➤ Describe Azure diagnostics 	<p><u>Enterprise Application Development Using Windows Azure and Web Services</u></p> <p>SG - Session 15 XP - Session 15 TG - Session 15</p>

Session No.	Session Title	Session Details	Deliverables' Mapping
20	EAP – TL20	All the workshop topics given in Session 15 of <i>Enterprise Application Development Using Windows Azure and Web Services</i> course should be covered in this session.	<u>Enterprise Application Development Using Windows Azure and Web Services</u> Session 15 (OnlineVarsity)

6. Library References

➤	Exam Ref 70-487 - Developing Windows Azure and Web Services by William Ryan, Wouter De Kort, and Shane Milton
➤	Learning Windows Azure Mobile Services for Windows 8 and Windows Phone 8 by Geoff Webber-Cross
➤	Developing Cloud Applications with Windows Azure Storage by Paul Mehner

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