

## **PROGRAM OVERVIEW**

This course is intended for IT professionals who are familiar with managing on-premises IT deployments that include AD DS, virtualization technologies, and applications. The participants typically work for organizations that are planning to locate some or all of their infrastructure services on Azure. This course also is intended for IT professionals who want to take the Microsoft Certification exam, 70-533, Implementing Azure Infrastructure Solutions.

This course is intended for:

- IT professionals who have some knowledge of cloud technologies and want to learn more about Azure.
- IT professionals who want to deploy, configure, and administer services and virtual machines (VMs) in Azure.
- IT professional who use Microsoft System Centre to manage and orchestrate server infrastructure.
- Windows Server administrators who are looking to evaluate and migrate on-premises Active Directory roles and services to the cloud.
- IT professionals who want to use Windows Azure to host websites and mobile app backend services.
- IT professionals who are experienced in other non-Microsoft cloud technologies, meet the course prerequisites, and want to cross-train on Azure.
- IT professionals who want to take the Microsoft Certification exam, 70-533, Implementing Azure Infrastructure Solutions
- After completing this course, participants will be able to:
  - Describe Azure architecture components, including infrastructure, tools, and portals.
  - Implement and manage virtual networking within Azure and connect to on-premises environments.
  - Plan and create Azure virtual machines.
  - Configure, manage, and monitor Azure virtual machines to optimize availability and reliability.
  - Deploy and configure web apps and mobile apps.
  - Implement, manage, backup, and monitor storage solutions.
  - Plan and implement data services based on SQL Database to support applications.
  - Deploy, configure, monitor, and diagnose cloud services.
  - Create and manage Azure AD tenants, and configure application integration with Azure AD.
  - Integrate on-premises Windows AD with Azure AD.
  - Automate operations in Azure management by using automation.

## **COURSE OBJECTIVES**

This course offers participants the opportunity to take an existing web application and expand its functionality as part of moving it to Azure. The course does not require any existing experience with the ASP.NET platform. This course focuses on the architectural considerations and decisions necessary when building a highly available solution in the cloud.

After completing this course, participants will be able to:

- Review the services available in the Azure platform and the Management Portals used to manage the service instances.
- Create a Virtual Machine using the Azure Management Portal and create an image of the VM.
- Create an Azure Web Site and publish an existing ASP.NET web application to the site.
- Create an Azure SQL server and database.
- Describe and identify the common practices and patterns for building resilient and scalable web applications that will be hosted in Azure.
- Create an Azure Cloud Service project in Visual Studio 2013 and debug locally.
- Create a background process using an Azure Worker Role.
- Create an Azure Table Storage table and manage the table data using the .NET API for Azure Storage.
- Create Azure Files SMB file share and store documents.
- Create an Azure Storage Queue instance to store requests.
- Create an Azure Service Bus queue instance to store requests.
- Create an Azure Service Bus namespace and use the namespace to connect a cloud web application to the local WCF service.
- Create a Virtual Machine using the existing SQL template and connect this Virtual Machine to the existing application.
- Create a test environment using PowerShell and the Azure Service Management CmdLets.
- Integrate ASP.NET Identity for the administration portal with Azure Active Directory.
- Deploy the web application projects to Azure.

## **COURSE CONTENT**

1. Introduction to Industry 4.0
2. Cloud Computing Overview
3. Implementing Microsoft Azure Infrastructure Solutions

### **Module 1: Introduction to Azure**

- Overview of cloud technology
- Overview of Azure
- Managing Azure with Azure portals
- Managing Azure with Windows PowerShell
- Overview of Azure Resource Manager
- Azure management services

#### **Lab: Using Azure Resource Manager to manage Azure**

- Using Azure portals
- Using Azure Resource Manager features via Azure portal
- Using Azure PowerShell

### **Module 2: Implementing and managing Azure networking**

- Overview of Azure networking
- Implementing and managing Azure virtual networks
- Configuring Azure virtual networks
- Configuring Azure virtual network connectivity
- Overview of Azure networking in an infrastructure as a service (IaaS) version 1 (v1)

Lab: Using a deployment template to implement Azure virtual networks

- Using GitHub to deploy the Azure Resource Manager template from the Azure portal
- Deploying the Azure Resource Manager template from Microsoft Visual Studio

Lab: Configuring connectivity between the IaaS v1 and IaaS version 2 (v2) virtual networks

- Using a PowerShell script to Connect IaaS v1 and IaaS v2 virtual networks
- Validating virtual network connectivity

### **Module 3: Implementing virtual machines**

- Overview of IaaS v2 virtual machines
- Planning for Azure virtual machines
- Deploying Azure IaaS v2 virtual machines
- Authoring Azure Resource Manager virtual machine templates
- Overview of IaaS v1 virtual machines

Lab: Deploying Azure IaaS v2 virtual machines via Windows PowerShell and Azure portal

- Using Azure portal and a Windows PowerShell script to deploy an IaaS v2 virtual machine
- Validating the outcome of the deployment

### **Module 4: Managing virtual machines**

- Configuring virtual machines
- Configuring virtual machine disks
- Managing and monitoring Azure virtual machines
- Managing IaaS v1 virtual machines

Lab: Managing virtual machines

- Configuring availability
- Implementing desired state configuration
- Implementing storage space-based volumes

### **Module 5: Implementing Azure Web App services**

- Introduction to the Azure App Service
- Planning for Azure Web App deployment
- Implementing and maintaining web apps
- Configuring web apps
- Monitoring web apps and WebJobs

- Implementing mobile apps
- Overview of Azure Traffic Manager

#### Lab: Implementing websites

- Creating web apps
- Deploying a web app
- Managing web apps
- Implementing Azure Traffic Manager

#### **Module 6:** Planning and implementing storage, backup, and recovery services

- Planning storage
- Implementing and managing storage
- Implementing Azure Content Delivery Networks
- Implementing Azure Backup
- Planning for and implementing Azure Site Recovery

#### Lab: Planning and implementing storage

- Creating and configuring storage
- Using Azure file storage
- Protecting data with Microsoft Azure Backup
- Protecting infrastructure as a service (IaaS) virtual machines with Azure Backup

#### **Module 7:** Planning and implementing Azure SQL Database

- Planning for storing relational data in Azure
- Implementing Azure SQL Database
- Managing Azure SQL Database security
- Monitoring Azure SQL Database
- Managing Azure SQL Database business continuity

#### Lab: Planning and implementing data services

- Creating, securing, and monitoring a Microsoft Azure SQL Database
- Migrating a Microsoft SQL Server database to the Azure SQL Database

#### **Module 8:** Implementing PaaS cloud services

- Planning, creating, and deploying PaaS cloud services
- Managing cloud services

#### Lab: Implementing PaaS cloud services

- Deploying a platform as a service (PaaS) cloud service
- Configuring deployment slots and Remote Desktop Protocol (RDP)
- Monitoring cloud services

## **Module 9: Implementing Azure Active Directory**

- Creating and managing Azure AD tenants
- Configuring application and resource access with Azure AD
- Overview of Azure AD Premium Storage

### **Lab: Implementing Azure AD**

- Administering Active Directory AD DS
- Configuring single sign-on (SSO)
- Configuring multifactor authentication
- Configuring SSO from a Windows 10 computer

## **Module 10: Managing Active Directory in a hybrid environment**

- Extending on-premises Active Directory into Azure
- Implementing directory synchronization (Azure AD Connect)
- Implementing federation with Active Directory Federation Services (AD FS) and Web Application Proxy

### **Lab: Implementing and managing Microsoft Azure Active Directory synchronization**

- Configuring directory synchronization
- Synchronizing directories

## **Module 11: Implementing Azure-based management and Automation**

- Implementing Microsoft Operations Management Suite
- Implementing Azure Automation
- Implementing Automation Runbooks
- Managing Automation

### **Lab: Implementing Automation**

- Configuring Automation accounts

## **METHODOLOGY**

The training is instructor-led training with access to remote training labs. Labs within a course can be accessed via the Microsoft Labs Online (MLO) platforms Microsoft Official Courses (MOC) On-Demand.

## **WHO SHOULD ATTEND**

- IT Professionals working in the software industry who wants to formally get the understanding of Cloud computing technologies.
- Software developers who want to start understand cloud technologies to be developing cloud applications in the future.
- Start-ups that want to build their IT infrastructure in the cloud at a fraction of the cost of traditional methods.

- DBAs who want to morph into Cloud Database Administrators.
- System Administrators who wants to manage cloud infrastructure and networks.

## **COURSE PREREQUISITES**

Some IT industry work experience or those pursuing further in the IT field

## **DURATION**

Total 8 days (mandatory to attend training) + 2 days (exam preparation & examination)

- 2 days Introduction to Industry 4.0
- 1 day Cloud Computing Overview
- 5 days Implementing Microsoft Azure Infrastructure Solutions

## **TRAINING DATES**

- Session 1: 22 Nov – 23 Nov
- Session 2: 12 Dec – 14 Dec
- Session 3: 20 Dec – 22 Dec
- Session 4: Exam Preparation & Examination (TBD)

## **CLOSING DATE**

9 November 2017

## **CERTIFICATION**

Microsoft Certified Professional (MCP) 70-533 – Implementing Azure Infrastructure Solutions

## **COURSE FEE**

FULLY FUNDED by

HRDF under Industrial Based Certification Programme (INBASE):

Centre of Excellence in Technology – Nect-Gen

## **TERMS & CONDITIONS:**

1. Participants must be Malaysian
2. Participants must be from company that is contributing to HRDF
3. Participants must fulfill the prerequisites of the program
4. Participants cannot withdraw once register
5. Participants must attend all the training days and sit for the exam
6. Any revision or re-examination attempt by participant will be at their own cost
7. Participants must complete the tracer study forms

**For further information, please contact**

Mr. Yusuf

Phone: 082-364198 (ext. 314)

Email: [yusuf@ppks.edu.my](mailto:yusuf@ppks.edu.my)