Course Name : Azure

Course Content

Azure Basics

Starting with Azure

* Overview of Azure
* Azure Free Account
* Creating an Azure Free Account
* Concepts in Azure
* Tour of the Azure Portal

Deploy and Manage Azure compute resources

* The Virtual Machine Service
* Deploying a virtual machine
* Hands-on - Building a Windows virtual machine
* Common issues when deploying a virtual machine
* Connecting to the Virtual Machine
* Hands-on - Installing Internet Information Services
* Costs Associated with the Virtual Machine
* State of the Virtual Machine
* Hands-on - State of the Virtual Machine
* Hands-on - Build a Linux Virtual Machine
* Hands-on - Deploying a web server on the Linux virtual machine
* Hands-on - Deploying a Linux machine - SSH keys
* Azure Virtual Machines - Data Disks
* Hands-on - Adding data disks
* Hands-on - Creating a VM with Premium Disks
* Disks - Understanding IOPS and Throughput
* Hands-on - Data Disks Snapshot
* Hands-on - Custom Script Extensions
* Virtual Machine - Boot Diagnostics

Azure Web App

* Azure App Service Plans
* Hands-on - Azure Web Apps
* Hands-on - Making simple changes to the Web App
* Use case scenario - Azure App Service Plans
* Hands-on - Azure Web App logging
* Azure Web Apps - Deployment Slots
* Hands-on - Azure Web Apps - Deployment Slots
* Azure Web Apps - Autoscaling
* Hands-on - Auto scaling a web app

Configure and manage virtual networking

Network Security Groups

Virtual Network Peering

* Hands-on - Virtual Networking Peering - Setup
* Hands-on - Virtual Networking Peering – Implementation

Implement and manage storage

* What are storage accounts?
* Different types of storage accounts
* Hands-on - Creating an Azure storage account
* Azure Blob service
* Hands-on - Blob service - Uploading a blob
* Hands-on - Blob service - Accessing the blob
* Azure Storage Accounts - Different authorization techniques
* Hands-on - Using Azure Storage Explorer
* Hands-on - Using Access keys
* Hands-on - Shared Access Signatures - Blob Level
* Hands-on - Shared Access Signatures - At the Storage Account Level
* Azure Storage Accounts - Data Redundancy
* Azure File shares
* Hands-on - Working with File shares

Manage Azure identities and governance

* Azure Subscriptions
* Creating an Azure subscription
* What is Azure Active Directory
* Hands-on - Creating a user in Azure AD
* Introduction to Role Based Access Control
* Hands-on - Role-based assignments

Monitor

* What is the Azure Monitor Service?
* Quick look at Azure Monitor
* Hands-on - Azure Monitor - Alerts
* What is a Log Analytics Workspace
* Hands-on - Creating a Log Analytics workspace
* Hands-on - Connecting virtual machine to the workspace
* Hands-on - Log Analytics Queries
* What is Application Insights?
* Quick Look at Application Insights

Azure Functions

Azure Serverless

* What is Serverless?
* Azure Serverless Services
* Azure Functions Documentation
* Serverless Use Case: ETL
* Serverless Use Case: Image Analysis

Introducing Azure Functions

* What are Azure Functions?
* Azure Functions Useful Resources
* Triggers and Bindings
* Triggers and Bindings Useful Resources
* Azure Functions Pricing
* Supported Languages in Azure Functions
* Benefits of Azure Functions
* When to use Azure Functions
* Development Environments

Creating Azure Functions in Portal

* Creating a Function App
* Creating Your First Azure Function
* Configure Azure Function
* Testing Azure Function
* Function Authorization Levels
* Function Invocation History
* Exploring Storage Account

Creating Azure Functions Locally

* Local Development Options
* Installing and Using Azure Functions Core Tools
* Setting Up Development Environment Using Visual Studio Code
* Test and Debug Azure Functions
* Deploy Function App to Azure

Create Azure Functions in Different Languages

* Create Azure Functions in C#
* Create Azure Functions in Python

Real World Use Cases

* Triggers and Bindings
* Image Thumbnail (Blob Trigger - Blob Output)
* Analyze Images with Computer Vision API (Blob Trigger-Cosmos DB Output)
* Notify User of Image Analysis Result (Cosmos Trigger - Sendgrid Email)
* Delete Old Blob Files (Timer Trigger - Azure Storage Queue Output)
* Notify User of Deleted File (Azure Queue Trigger - Sendgrid Email Out)
* Creating a REST api with HTTP triggers
* Analyze Tweets with Azure Cognitive Analytics (HTTP Trigger-HTTP Output)

Deploy Functions to Azure

* Ways to Deploy Azure Functions
* Deploying Function App from Visual Studio Code
* Deploying Function App from GitHub

Working in Production

* Monitoring Azure Functions
* Securing Azure Functions
* Azure Functions Proxies