Developing Solutions for Microsoft Azure

Varighed: 5 Days Kursus Kode: M-AZ203

Beskrivelse:

In this course you will gain the knowledge and skills needed to implement Azure IaaS services and features in their development solutions. The course covers provisioning virtual machines, using Batch Service to deploy/maintain resources, and how to create containerized solutions by using Azure Kubernetes Service.

We will cover the implementation of the Azure Platform as a Service feature and services in their development solutions. Students will learn how to create and manage Azure App Service resources, integrate push and offline sync in their mobile apps, and how to document an API. Students will also learn how to create and test Azure Functions.

Students will gain the knowledge and skills needed to leverage Azure storage services and features in their development solutions, covering Azure Table storage, Azure Cosmos DB, Azure Blob, and developing against relational databases in Azure.

We will look at including Azure authentication and authorization services in a development solution, learning how identity is managed and utilized in Azure solutions by using the Microsoft identity platform. Students will also learn about access control (claims-based authorization and role-based access control) and how to implement secure data solutions. Throughout the course students learn how to create and integrate these resources by using the Azure CLI, REST, and application code.

Students will gain the knowledge and skills needed to ensure applications hosted in Azure are operating efficiently and as intended. Students will learn how Azure Monitor operates and how to use tools like Log Analytics and Application Insights to better understand what is happening in their application. Students will also learn how to implement autoscale, instrument their solutions to support monitoring and logging, and use Azure Cache and CDN options to enhance the end-user experience.

This course will also address communication between apps and services. Students will learn how to create and manage their own APIs by using API Management, and how to use the different event- and message-based services in Azure within their development solutions. Throughout the course students learn how to create and integrate these resources by using the Azure Portal, Azure CLI, REST, and application code.

Målgruppe:

This course is aimed at students who are interested in Azure development or in passing the Microsoft Azure Developer Associate certification exam.

Agenda:

- Learn how to create and deploy virtual machines by using the Azure Portal, PowerShell, and through code.
- Learn how to create and deploy Azure Resource Manager templates by using the Azure Portal and Visual Studio.
- Understand the different encryption options and learn how to encrypt existing and new deployments.
- Understand how the Azure Batch service works
- Learn how to create and run batch jobs by using the Azure CLI
- Learn how to create and run batch jobs by using code
- Learn how to use the Azure Batch Service API to manage jobs
- Learn core concepts for Azure Kubernetes Service (AKS)
- Learn how to deploy AKS clusters
- Publish an image to the Azure Container Registry
- Know how to use the Azure Table storage REST service to manage data
- Understand core features and functionality of Azure Cosmos DB
- Be able to manage containers and items
- Be able to create and update documents
- Know how the Azure SQL Database service works
- Be able to perform database operations by using code
- Understand when and why to use Azure Blob storage
- Know how to set and retrieve Blob storage properties and metadata
- Know how to replicate and copy Blobs
- Understand how Azure Monitor works
- Know where and how Azure Monitor collects data

- Learn about Azure Container Instances and how to deploy to them
- Understand App Service core concepts and capabilities
- Know how to create App Service web apps by using Azure CLI, Azure Portal, and PowerShell.
- Be able to create continuous and triggered WebJobs
- Push their app on to the Mobile App service
- How to register apps for push notifications
- Know how to create an APIM instance and create a new API
- Know how to use Swashbuckle to create Swagger objects in ASP.NET Core
- Understand the core features and functionality of Azure Functions
- Be able to create functions, bindings, and triggers
- Know common patters for Durable Functions and be able to create them
- Understand the features and uses of Azure Table storage
- Know how to utilize Shared Key authorization
- Understand autoscale patterns and best practices for scaling their solutions
- How to use the Azure CLI to communicate with a specific copy of a resource
- How to handle transient faults in your solution
- Know how to add default code to web pages, console apps, and Windows desktop apps to support telemetry
- Know how to use dashboards and other tools to monitor and troubleshoot their app
- Understand how Azure Cache for Redis operates and how to configure and interact with it
- Know how to manage Azure CDN
- Create and manage Azure Logic Apps.
- How to provision the service, create an index, load data, and execute searches.
- How to provision the APIM service using the Azure Portal, secure APIs with subscriptions and client certificates, and use API policies to modify the behavior of an API.
- How the services work and how to integrate them in to their solutions.
- How to leverage Azure message-based services in their solutions.

Indhold:

Module 1: Implement solutions that use virtual machines

Students will learn how to properly plan for VM deployment. It covers VM creation by using the Azure Portal, PowerShell, and through code. It also covers creating and using ARM templates for repeatable deployments and how to use Azure Disk Encryption to secure information on the VM.

Module 2: Implement batch jobs by using Azure Batch Services

Azure Batch creates and manages a pool of compute nodes (virtual machines), installs the applications you want to run, and schedules jobs to run on the nodes.

Module 3: Create containerized solutions

You can build and run modern, portable, microservices-based applications that benefit from Kubernetes orchestrating and managing the availability of those application components. Kubernetes supports both stateless and stateful applications as teams progress through the adoption of microservices-based applications.

Module 4: Create App Service web apps

Azure App Service Web Apps (or just Web Apps) is a service for hosting web applications, REST APIs, and mobile back ends. Web Apps not only adds the power of Microsoft Azure to your application, such as security, load balancing, autoscaling, and automated management.

Module 5: Creating Azure App Service mobile apps

The Mobile Apps feature of Azure App Service gives enterprise developers and system integrators a mobile-application development platform that's highly scalable and globally available.

Module 6: Create Azure App Service API apps

This module covers how to create and document an Azure App Service API.

Module 8: Develop solutions that use Azure Table storage

Azure Table storage is a service that stores structured NoSQL data in the cloud, providing a key/attribute store with a schemaless design. Because Table storage is schemaless, it's easy to adapt your data as the needs of your application evolve.

Module 9: Develop solutions that use Azure Cosmos DB storage

This module covers Azure Cosmos DB storage. It instructs students on how it works, how to manage containers and items, and create and update documents by using code.

Module 10: Develop solutions that use a relational database

SQL Database is a general-purpose relational database managed service in Microsoft Azure that supports structures such as relational data, JSON, spatial, and XML

Module 11: Develop solutions that use Microsoft Azure Blob storage

Azure Blob storage is Microsoft's object storage solution for the cloud. Blob storage is optimized for storing massive amounts of unstructured data. Unstructured data is data that does not adhere to a particular data model or definition, such as text or binary data.

Module 12: Introduction to Azure Monitor

Azure Monitor is the central service that includes all of tools you need to monitor and optimize your solution.

Module 13: Develop code to support scalability of apps and services

This module covers how applications scale and how to handle some troubleshooting.

Module 14: Instrument solutions to support monitoring and logging

Module 15: Integrate caching and content delivery within solutions

This module shows students how to leverage Azure Cache for Redis and Azure CDNs to deliver assets to users more quickly.

Module 16: Develop an App Service Logic App

Logic Apps helps you build solutions that integrate apps, data, systems, and services across enterprises or organizations by automating tasks and business processes as workflows. This module covers what they are and how to create them.

Module 17: Integrate Azure Search within solutions

Azure Search is a search-as-a-service cloud solution that gives developers APIs and tools for adding a rich search experience over private, heterogenous content in web, mobile, and enterprise applications. In this module students will learn how to integrate Azure Search in to their solutions.

Module 18: API Management

API Management (APIM) helps organizations publish APIs to external, partner, and internal developers to unlock the potential of their data and services.

Module 19: Develop event-based solutions

This module covers developing event-based solutions in Azure by integrating Azure Event Grid, Event Hubs, and Notification Hubs in your applications.

Module 20: Develop message-based solutions

Microsoft Azure Service Bus is a fully managed enterprise integration message broker. Service Bus is most commonly used to decouple applications and services from each other, and is a reliable and secure platform for asynchronous data and state transfer. Azure Queue storage is a service for storing large numbers of messages that can

Module 7: Implement Azure Functions Azure Functions is a solution for easily running small pieces of code, or 'functions,' in the cloud. You can write just the code you need for the problem at hand, without worrying about a whole application or the infrastructure to run it.	This module covers adding code to your app to send the data to Azure Monitor.	be accessed from anywhere in the world via authenticated calls using HTTP or HTTPS.

Flere Informationer:

For yderligere informationer eller booking af kursus, kontakt os på tlf.nr.: 44 88 18 00

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