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Microsoft   AZ-203: Developing Solutions for Microsoft Azure

CODE:	DURÉE:	PRIX H.T.:
MCS_AZ203	5 Jours	€2,990.00

Description

Course AZ-203T01-A: Develop Azure Infrastructure as a Service compute solutions
In this course students 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.

Course AZ-203T02-A: Develop Azure Platform as a Service compute solutions
In this course will gain the knowledge and skills needed to implement 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.

Course AZ-203T03-A: Develop for Azure storage
In this course students will gain the knowledge and skills needed to leverage Azure storage services and features in their development solutions. It covers Azure Table storage, Azure Cosmos DB, Azure Blob, and developing against relational databases in Azure.

Course AZ-203T04-A: Implement Azure security
In this course students will gain the knowledge and skills needed to include Azure authentication and authorization services in their development solutions. Students will learn 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.

Course AZ-203T05-A: Monitor, troubleshoot, and optimize Azure solutions
In this course 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.

Course AZ-203T06-A: Connect to and consume Azure, and third-party, services
This course is all about 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.

Objectifs

Audience

•Students in this course are interested in Azure development or in passing the Microsoft Azure Developer Associate certification exam.
•Students should have 1-2 years experience as a developer. This course assumes students know how to code and have a fundamental knowledge of Azure.
•It is recommended that students have some experience with PowerShell or Azure CLI, working in the Azure portal, and with at least one Azure-supported programming language. Most of the examples in this course are presented in C\# .NET.

Prérequis

•Students should have 1-2 years experience as a developer. This course assumes students know how to code and have a fundamental knowledge of Azure.

•It is recommended that students have some experience with PowerShell or Azure CLI, working in the Azure portal, and with at least one Azure-supported programming language. Most of the examples in this course are presented in C# .NET.

Programme

Course AZ-203T01-A: Develop Azure Infrastructure as a Service compute solutions
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.
Lessons
•Provision VMs
•Create ARM templates
•Configure Azure Disk Encryption for VMs
After completing this module, students will be able to:
•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.
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.

Lessons	After completing this module, students will be able to:
•Azure Batch overview	•Understand how the Azure Batch service works
•Run a batch job by using the Azure CLI and Azure Portal	•Learn how to create and run batch jobs by using the Azure CLI
•Run batch jobs by using code	•Learn how to create and run batch jobs by using code
•Manage batch jobs by using the Batch Service API	•Learn how to use the Azure Batch Service API to manage jobs

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.

Lessons	After completing this module, students will be able to:
•Create an Azure Managed Kubernetes Service (AKS) cluster	•Learn core concepts for Azure Kubernetes Service (AKS)
•Create container images for solutions	•Learn how to deploy AKS clusters
•Publish an image to the Azure Container Registry	•Publish an image to the Azure Container Registry
•Run containers by using Azure Container Instance or AKS	•Learn about Azure Container Instances and how to deploy to them

Course AZ-203T02-A: Develop Azure Platform as a Service compute solutions Module 1: 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.
Lessons
•Azure App Service core concepts
•Creating an Azure App Service web app
•Creating background tasks by using WebJobs in Azure App Service After completing this module, students will be able to:
•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
Module 2: 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.
Lessons
•Getting started with mobile apps in App Service
•Enable push notifications for your app
•Enable offline sync for your app   After completing this module, students will be able to:
•Push their app on to the Mobile App service
•How to register apps for push notifications   Module 3: Create Azure App Service API apps
                                                                           Lessons
                                                                        •Creating APIs
This module covers how to create and document an Azure App Service API. •Using Swagger to document an API
                                        •Know how to create an APIM instance and create a new API
After completing this module, students will be able to: •Know how to use Swashbuckle to create Swagger objects in ASP.NET Core
Module 4: 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.
Lessons
•Azure Functions overview
•Develop Azure Functions using Visual Studio
•Implement durable functions   After completing this module, students will be able to:

•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 Course AZ-203T03-A: Develop for Azure storage
Module 1: 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.

Lessons
•Azure Table storage overview
•Authorization in Table storage
•Table service REST API   After completing this module, students will be able to:
•Understand the features and uses of Azure Table storage
•Know how to utilize Shared Key authorization
•Know how to use the Azure Table storage REST service to manage data
Module 2: 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.
Lessons
•Azure Cosmos DB overview
•Managing containers and items
•Create and update documents by using code After completing this module, students will be able to:
•Understand core features and functionality of Azure Cosmos DB
•Be able to manage containers and items
•Be able to create and update documents   Module 3: 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.
Lessons
•Azure SQL overview
•Create, read, update, and delete database tables by using code After completing this module, students will be able to:
•Know how the Azure SQL Database service works
•Be able to perform database operations by using code Module 4: 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.
Lessons
•Azure Blob storage overview
•Working with Azure Blob storage After completing this module, students will be able to:
•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

Course AZ-203T04-A: Implement Azure security   Module 1: Implement authentication
Microsoft identity platform is an evolution of the Azure Active Directory (Azure AD) identity service and developer platform. It allows developers to build applications that sign in all Microsoft identities, get tokens to call Microsoft Graph, other Microsoft APIs, or APIs that developers have built.
Lessons
•Microsoft identity platform
•Implement OAuth2 authentication
•Implement managed identities for Azure resources
•Implement authentication by using certificates, forms-based authentication, or tokens
•Implement multi-factor authentication
After completing this module, students will be able to:
•Understand the architecture of the Microsoft identity platform
•Be able to implement OAuth2 authentication in their solutions
•Be able to use Azure Key Vault to store and retrieve authentication information Module 2: Implement access control
                                                  Lessons
                                                  •Claims-based authorization
This module covers claims-based and role-based access control. •Role-based access control (RBAC) authorization
                                        •Learn how to use claims-based authorization in their development solutions
After completing this module, students will be able to: •How to manage access to resources using RBAC through the REST API
Module 3: Implement secure data solutions This module covers securing data at rest and during transmission.
Lessons
•Encryption options
•End-to-end encryption
•Implement Azure confidential computing
•Manage cryptographic keys in Azure Key Vault After completing this module, students will be able to:
•Understand encryption options
•Learn how to encrypt data with Transparent Data Encryption
•Manage and utilize encryption keys by using the Azure key Vault

Course AZ-203T05-A: Monitor, troubleshoot, and optimize Azure solutions Module 1: Introduction to Azure Monitor
Azure Monitor is the central service that includes all of tools you need to monitor and optimize your solution.
Lessons
•Overview of Azure Monitor After completing this module, students will be able to:
•Understand how Azure Monitor works
•Know where and how Azure Monitor collects data Module 2: Develop code to support scalability of apps and services
This module covers how applications scale and how to handle some troubleshooting.
Lessons
•Implement autoscale
•Implement code that addresses singleton application instances
•Implement code that handles transient faults   After completing this module, students will be able to:
•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
Module 3: Instrument solutions to support monitoring and logging
This module covers adding code to your app to send the data to Azure Monitor.
Lessons
•Configure instrumentation in an app or server by using Application Insights
•Analyze and troubleshoot solutions by using Azure Monitor   After completing this module, students will be able to:
•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
Module 4: 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.
Lessons
•Azure Cache for Redis
•Develop for storage on CDNs After completing this module, students will be able to:
•Understand how Azure Cache for Redis operates and how to configure and interact with it
•Know how to manage Azure CDN
Course AZ-203T06-A: Connect to and consume Azure, and third-party, services Module 1: 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.
Lessons
•Azure Logic Apps overview
•Create Logic Apps by using Visual Studio
•Create custom connectors for Logic Apps
•Create custom templates for Logic Apps   Students will understand how to create and manage Azure Logic Apps.
Module 2: 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.
Lessons
•Create and query an Azure Search Index
•Full text search in Azure Search
Students will know how to provision the service, create an index, load data, and execute searches. Module 3: API Management
API Management (APIM) helps organizations publish APIs to external, partner, and internal developers to unlock the potential of their data and services.
Lessons
•Introduction to the API Management service
•Securing your APIs
•Defining API policies
Students will know 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.
Module 4: 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.
Lessons
•Implement solutions that use Azure Event Grid
•Implement solutions that use Azure Event Hubs
•Implement solutions that use Azure Notification Hubs
Students will know how the services work and how to integrate them in to their solutions.
Module 5: 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 be accessed from anywhere in the world via authenticated calls using HTTP or HTTPS.
Lessons
•Implement solutions that use Azure Service Bus
•Implement solutions that use Azure Queue Storage queues

Students will understand how to leverage Azure message-based services in their solutions.

Test et Certification

Microsoft Azure Developer

Dates de session

Sur demande. <u>Merci de nous contacter</u>

Informations
Complémentaires

Cette formation est également disponible sous forme de formation sur site. Veuillez nous contacter pour en savoir plus.