Designing and Implementing a Microsoft Azure AI Solution – Intensive Training («AI102»)

This course is intended for software developers wanting to build AI-infused applications that leverage Azure AI Services, Azure AI Search, and Azure OpenAI. The course uses C# or Python as the programming language.

Duration: 4 days
Price: 2'550.–
Course documents: Official Microsoft Courseware and Microsoft Learn
Vendor code: AI-102

Content

Module 1: Prepare to develop AI solutions on Azure

- As an aspiring Azure AI Engineer, you should understand core concepts and principles of AI development, and the capabilities of Azure services used in AI solutions.

Module 2: Create and consume Azure AI services

- Azure AI services enable developers to easily add AI capabilities into their applications. Learn how to create and consume these services.

Module 3: Secure Azure AI services

- Securing Azure AI services can help prevent data loss and privacy violations for user data that may be a part of the solution.

Module 4: Monitor Azure AI services

- Azure AI services enable you to integrate artificial intelligence into your applications and services. It's important to be able to monitor Azure AI Services in order to track utilization, determine trends, and detect and troubleshoot issues.

Module 5: Deploy Azure AI services in containers

- Learn about Container support in Azure AI services allowing the use of APIs available in Azure and enable flexibility in where to deploy and host the services with Docker containers.

Module 6: Analyze images

- With the Azure AI Vision service, you can use pre-trained models to analyze images and extract insights and information from them.

Module 7: Classify images

- Image classification is used to determine the main subject of an image. You can use the Azure AI Custom Vision services to train a model that classifies images based on your own categorizations.

Module 8: Detect, analyze, and recognize faces

- The ability for applications to detect human faces, analyze facial features and emotions, and identify individuals is a key artificial intelligence capability.

Module 9: Read Text in Images and Documents with the Azure AI Vision Service

- Azure's Azure AI Vision service uses algorithms to process images and return information. This module teaches you how to use the Read API for optical character recognition (OCR).

Module 10: Analyze video

- Azure Video Indexer is a service to extract insights from video, including face identification, text recognition, object labels, scene segmentations, and more.

Module 11: Analyze text with Azure AI Language

- The Azure AI Language service enables you to create intelligent apps and services that extract semantic information from text.

Module 12: Build a question answering solution

- The question answering capability of the Azure AI Language service makes it easy to build applications in which users ask questions using natural language and receive appropriate answers.

Module 13: Build a conversational language understanding model

- The Azure AI Language conversational language understanding service (CLU) enables you to train a model that apps can use to extract meaning from natural language.

Module 14: Create a custom text classification solution

- The Azure AI Language service enables processing of natural language to use in your own app. Learn how to build a custom text classification project.

Module 15: Create a custom named entity extraction solution

- Build a custom entity recognition solution to extract entities from unstructured documents

Module 16: Translate text with Azure AI Translator service

- The Translator service enables you to create intelligent apps and services that can translate text between languages.

Module 17: Create speech-enabled apps with Azure AI services

- The Azure AI Speech service enables you to build speech-enabled applications. This module focuses on using the speech-to-text and text to speech APIs, which enable you to create apps that are capable of speech recognition and speech synthesis.

Module 18: Translate speech with the Azure AI Speech service

- Translation of speech builds on speech recognition by recognizing and transcribing spoken input in a specified language, and returning translations of the transcription in one or more other languages.

Module 19: Create an Azure Cognitive Search solution

- Unlock the hidden insights in your data with Azure Cognitive Search.

Module 20: Create a custom skill for Azure Cognitive Search

- Use the power of artificial intelligence to enrich your data and find new insights.

Module 21: Create a knowledge store with Azure Cognitive Search

- Persist the output from an Azure Cognitive Search enrichment pipeline for independent analysis or downstream processing.

Module 22: Plan an Azure AI Document Intelligence solution

- Learn how to use Azure AI Document Intelligence to build solutions that analyze forms and output data for storage or further processing.

Module 23: Use prebuilt Azure AI Document Intelligence models

- Learn what data you can analyze by choosing prebuilt Azure AI Document Intelligence models and how to deploy these models in a Document Intelligence solution.

Module 24: Extract data from forms with Azure Document Intelligence

- *Azure Document Intelligence* uses machine learning technology to identify and extract key-value pairs and table data from form documents with accuracy, at scale. This module teaches you how to use the *Azure Document Intelligence* Azure AI service.

Module 25: Get started with Azure OpenAI Service

- This module provides engineers with the skills to begin building an Azure OpenAI Service solution.

Module : Build natural language solutions with Azure OpenAI Service

- This module provides engineers with the skills to begin building apps that integrate with the Azure OpenAI Service.

Module 26: Apply prompt engineering with Azure OpenAI Service

- Prompt engineering in Azure OpenAI is a technique that involves designing prompts for natural language processing models. This process improves accuracy and relevancy in responses, optimizing the performance of the model.

Module 27: Generate code with Azure OpenAI Service

- This module shows engineers how to use the Azure OpenAI Service to generate and improve code.

Module 28: Generate images with Azure OpenAI Service

- The Azure OpenAI service includes the DALL-E model, which you can use to generate original images based on natural language prompts.

Module 29: Use your own data with Azure OpenAI Service

- Azure OpenAI on your data allows developers to use supported AI chat models that can reference specific sources of data to ground the response.

Module 30: Fundamentals of Responsible Generative AI

- Generative AI enables amazing creative solutions, but must be implemented responsibly to minimize the risk of harmful content generation.

Key Learnings

- Planning and managing an Azure AI solution
- Implementing decision support solutions
- Implementing computer vision solutions
- Implementing natural language processing solutions
- Implementing knowledge mining and document intelligence solutions
- Implementing generative AI solutions

Target audience

Software engineers concerned with building, managing and deploying AI solutions that leverage Azure AI Services, Azure AI Search, and Azure OpenAI. They are familiar with C# or Python and have knowledge on using REST-based APIs to build computer vision, language analysis, knowledge mining, intelligent search, and generative AI solutions on Azure.

Certification

This intensive training prepares you for:

- **Exam:** «AI-102: Designing and Implementing an Azure AI Solution» for the
- **Certification:** «Microsoft Certified Azure AI Engineer Associate»

Additional information

The workshops AI-3002: Develop Solutions with Azure AI Document Intelligence, AI-3003: Develop Natural Language Processing Solutions with Azure AI Services and AI-3004: Create Computer Vision Solutions with Azure AI Vision are integrated into this course.

Any questions?

We are happy to advise you on +41 44 447 21 21 or info@digicomp.ch. You can find detailed information about dates on www.digicomp.ch/courses-microsoft-technology/microsoft-azure/microsoft-certified-azure-ai-engineer-associate/course-designing-and-implementing-a-microsoft-azure-ai-solution-intensive-training-ai-102