

# Designing and Implementing a Microsoft Azure AI Solution (AI-102)

## Description

### Master AI Solutions with the AI-102 Certification

Are you looking to master advanced artificial intelligence (AI) technologies offered by Microsoft Azure? The course AI-102: Designing and Implementing a Microsoft Azure AI Solution is designed for developers eager to create solutions that integrate cutting-edge AI capabilities. This program empowers you to explore Azure AI services such as computer vision, language analysis, and intelligent search.

Built around powerful tools like Azure OpenAI and REST APIs, this course is perfect for those proficient in C# or Python. It combines theory with practical exercises to ensure an in-depth understanding and hands-on application of acquired skills. Join this training and develop your ability to design modern and responsible AI solutions.

### Why Choose This Training?

In a rapidly evolving digital landscape, AI solutions are at the forefront of innovation. This course targets professionals who want to enhance their expertise with groundbreaking tools. By completing this training, you'll gain a competitive edge to tackle current and future technical challenges.

### Course Content

#### Module 1: Preparing for AI Solution Development on Azure

- Define artificial intelligence and its concepts.
- Understand AI-related terminology.
- Explore considerations for AI engineers.
- Understand principles of responsible AI.
- Discover Azure Machine Learning features.
- Explore Azure AI and Azure OpenAI services.
- Understand Azure AI Search capabilities.

#### Module 2: Creating and Using Azure AI Services

- Provision an Azure AI services resource.
- Identify endpoints and keys.
- Use REST APIs and Azure AI SDKs.

#### Module 3: Securing Azure AI Services

- Implement authentication for Azure services.
- Apply network security measures.

#### Module 4: Monitoring Azure AI Services

- Monitor service costs and create alerts.

- View metrics and manage diagnostic logging.

## **Module 5: Deploying Azure AI Services in Containers**

- Understand containers for AI services.
- Use containers to deploy Azure AI services.

## **Module 6: Using AI Responsibly**

- Discover Azure AI Content Safety.
- Understand its functionality and applications.

## **Module 7: Analyzing Images**

- Provision an Azure AI Vision resource.
- Analyze images using Azure AI Vision.
- Generate smart thumbnails and remove backgrounds.

## **Module 8: Classifying Images**

- Provision resources for Azure AI Custom Vision.
- Understand image classification.
- Train an image classifier.

## **Module 9: Detecting Objects in Images**

- Understand object detection.
- Train an object detector.
- Explore image labeling options.

## **Module 10: Detecting, Analyzing, and Recognizing Faces**

- Identify options for face detection and analysis.
- Detect faces using Azure AI Vision.
- Understand the Azure Face service.
- Compare and match detected faces.
- Implement facial recognition.

## **Module 11: Reading Text in Images and Documents**

- Explore Azure AI Vision options for reading text.
- Use the Read API to extract text.

## **Module 12: Analyzing Video**

- Discover Azure Video Indexer features.
- Extract custom insights from videos.
- Use Video Analyzer widgets and APIs.

## **Module 13: Analyzing Text with Azure AI Language**

- Provision an Azure AI Language resource.
- Detect language and analyze sentiments.
- Extract entities and key phrases.

#### **Module 14: Creating Q&A Solutions**

- Create a knowledge base for question answering.
- Test and publish the knowledge base.
- Enhance Q&A solution performance.

#### **Module 15: Translating Text with Azure AI Translator**

- Provision an Azure AI Translator resource.
- Understand language detection, translation, and transliteration.
- Set up custom translations.

#### **Module 16: Building Voice Applications**

- Use Azure AI Speech-to-Text APIs.
- Leverage Azure AI Text-to-Speech APIs.
- Configure audio formats and voice settings.

#### **Module 17: Translating Voice with Azure AI Speech**

- Provision resources for voice translation.
- Translate and synthesize voice outputs.

#### **Module 18: Advanced Search Solutions**

- Manage components and indexing processes.
- Enhance indexing with tokenization and analyzers.
- Configure semantic ranking.

#### **Module 19: Extracting Data from Forms**

- Explore Azure Document Intelligence and predefined models.
- Train custom models for form data extraction.
- Assemble composite models for advanced solutions.

#### **Lab / Exercises**

- This course provides you with exclusive access to the official Microsoft lab, enabling you to practice your skills in a professional environment.

#### **Documentation**

- Access to Microsoft Learn, Microsoft's online learning platform, offering interactive resources and educational content to deepen your knowledge and develop your technical skills.

#### **Exam**

- This course prepares you to the AI-102: Designing and Implementing a Microsoft Azure AI Solution exam.

#### **Participant profiles**

- Software developers specializing in AI solutions.
- Cloud architects aiming to integrate Azure AI services.
- Digital transformation and AI consultants.
- Data scientists seeking to leverage Azure AI Services.
- Machine learning engineers using C# or Python.
- IT professionals aiming to deploy secure AI solutions.

## Prerequisites

- Knowledge of Microsoft Azure and ability to navigate the Azure portal
- Knowledge of either C# or Python
- Familiarity with JSON and REST programming semantics
- If you are new to artificial intelligence, and want an overview of AI capabilities on Azure, consider completing the Azure AI Fundamentals certification before taking this one

## Objectives

- Create AI solutions based on Azure AI services.
- Master the use of REST APIs and Azure AI SDKs.
- Implement voice recognition and translation models.
- Deploy AI services in secure containers.
- Analyze images, videos, and texts using Azure AI tools.
- Design advanced search solutions with Azure AI Search.
- Apply best practices for responsible AI.
- Optimize and monitor costs for Azure AI services.

## Description

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## Niveau

Intermédiaire

## Classroom Registration Price (CHF)

3200

## Virtual Classroom Registration Price (CHF)

3000

## Duration (in Days)

4

## Reference

AI-102T00