

**Designing and Implementing an Azure AI Solution (AI-102)**

**Course Number:** MOC-AI-102
**Duration:** 4 days

**Overview**

This official Microsoft Course, AI-102: Designing and Implementing an Azure AI Solution training, teaches attendees how to build AI-infused applications that leverage Azure Cognitive Services, Azure Cognitive Search, and Microsoft Bot Framework. This Azure AI course uses C# or Python as the programming language and prepares students for the [AI-102 exam](https://docs.microsoft.com/en-us/learn/certifications/exams/AI-102), for which every attendee receives a voucher.

**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

**Materials**

All Microsoft AI Azure training students receive Microsoft official courseware.

For all Microsoft Official Courses taught in their entirety that have a corresponding certification exam, an exam voucher is included for each participant.

**Software Needed on Each Student PC**

Attendees will not need to install any software on their computers for this class. The class will be conducted in a remote environment that Accelebrate will provide; students will only need a local computer with a web browser and a stable Internet connection. Any recent version of Microsoft Edge, Mozilla Firefox, or Google Chrome will work well.

**Objectives**

* Understand core concepts and principles of AI development and the capabilities of Azure services used in AI solutions
* Add AI capabilities into applications and create and consume these services
* Prevent data loss and privacy violations for user data
* Monitor Azure AI Services to track utilization, determine trends, and detect and troubleshoot issues
* Understand container support in Azure AI Services
* Create intelligent apps and services that extract semantic information from text
* Create intelligent apps and services that can translate text between languages
* Build speech-enabled applications
* Provision Azure resources for speech translation
* Train a model that apps can use to extract meaning from natural language
* Create an Azure AI Language Understanding app
* Build applications in which users ask questions using natural language and receive appropriate answers
* Build a bot by using the Microsoft Bot Framework SDK
* User the Bot Framework Composer to build sophisticated conversational bots without writing code
* Translate text with the Translator service
* Create a speech-enabled app
* Use the Azure AI Vision service with pre-trained models to analyze images and extract insights and information from them
* Use Azure Video Indexer widgets and APIs
* Use the Azure AI Custom Vision services to train a model that classifies images based on your categorizations.
* Use Azure AI Custom Vision to train a model to detect specific classes of objects in images
* Identify options for face detection, analysis, and identification
* Use the Read API for optical character recognition (OCR)
* Use the *Azure Document Intelligence* Azure AI service
* Create an Azure Cognitive Search solution
* Implement a custom skill for Azure Cognitive Search
* Create a knowledge store from an Azure Cognitive Search pipeline

**Outline**

* Introduction
* Prepare to develop AI solutions on Azure
* Create and consume Azure AI Services
* Secure Azure AI Services
* Monitor Azure AI Services
* Deploy Azure AI services in containers
* Extract insights from text with the Azure AI Language service
* Translate text with the Azure AI Translator service
* Create speech-enabled apps with Azure AI services
* Translate speech with the Azure AI Speech service
* Build a conversational language understanding model
* Publish and use an Azure AI Language Understanding app
* Build a question answering solution
* Create a bot with the Bot Framework SDK
* Create a Bot with the Bot Framework Composer
* Analyze images
* Analyze video
* Classify images
* Detect objects in images
* Detect, analyze, and recognize faces
* Read Text in Images and Documents with the Azure AI Vision Service
* Extract data from forms with Azure Document Intelligence
* Create an Azure Cognitive Search solution
* Create a custom skill for Azure Cognitive Search
* Create a knowledge store with Azure Cognitive Search
* Conclusion