

## AI-102T00 Designing and Implementing a Microsoft Azure AI Solution

Class Length: 4 Days

### Overview

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AI-102 Designing and Implementing an Azure AI Solution is intended for software developers wanting to build AI infused applications that leverage Azure Cognitive Services, Azure Cognitive Search, and Microsoft Bot Framework. The course will use C# or Python as the programming language.

### Prerequisite Comments

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Knowledge of Microsoft Azure and ability to navigate the Azure portal  
Knowledge of either C# or Python  
Familiarity with JSON and REST programming semantics

### Target Audience

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Software engineers concerned with building, managing and deploying AI solutions that leverage Azure Cognitive Services, Azure Cognitive Search, and Microsoft Bot Framework. 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 conversational AI solutions on Azure.

### Course Objectives

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- Describe considerations for AI-enabled application development
- Create, configure, deploy, and secure Azure Cognitive Services
- Develop applications that analyze text
- Develop speech-enabled applications
- Create applications with natural language understanding capabilities
- Create QnA applications
- Create conversational solutions with bots
- Use computer vision services to analyze images and videos
- Create custom computer vision models
- Develop applications that detect, analyze, and recognize faces
- Develop applications that read and process text in images and documents
- Create intelligent search solutions for knowledge mining

### Course Outline

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#### 1 - Introduction to AI on Azure

Introduction to Artificial Intelligence  
Artificial Intelligence in Azure

#### 2 - Developing AI Apps with Cognitive Services

Getting Started with Cognitive Services  
Using Cognitive Services for Enterprise Applications

### 3 - Getting Started with Natural Language Processing

Analyzing Text  
Translating Text

### 4 - Building Speech-Enabled Applications

Speech Recognition and Synthesis  
Speech Translatio

### 5 - Creating Language Understanding Solutions

Creating a Language Understanding App  
Publishing and Using a Language Understanding App  
Using Language Understanding with Speech

### 6 - Building a QnA Solution

Creating a QnA Knowledge Base  
Publishing and Using a QnA Knowledge Base

### 7 - Conversational AI and the Azure Bot Service

Bot Basics  
Implementing a Conversational Bot

### 8 - Getting Started with Computer Vision

Analyzing Images  
Analyzing Videos

### 9 - Developing Custom Vision Solutions

Image Classification  
Object Detection

### 10 - Detecting, Analyzing, and Recognizing Faces

Detecting Faces with the Computer Vision Service  
Using the Face Service

### 11 - Reading Text in Images and Documents

Reading text with the Computer Vision Service  
Extracting Information from Forms with the Form Recognizer service

### 12 - Creating a Knowledge Mining Solution

Implementing an Intelligent Search Solution  
Developing Custom Skills for an Enrichment Pipeline  
Creating a Knowledge Store

