MS-A13003: DEVELOP NATURAL LANGUAGE SOLUTIONS IN AZURE

DURATION	LEVEL	TECHNOLOGY	DELIVERY METHOD	TRAINING CREDITS
1 Day	Intermediate	Azure AI	Instructor-led	NA

INTRODUCTION

Natural language solutions use language models to interpret the semantic meaning of written or spoken language, and in some cases respond based on that meaning. You can use the Language service to build language models for your applications, and explore Azure AI Foundry to use generative models for speech.

AUDIENCE PROFILE

This course is designed for individuals who want to develop and implement natural language processing (NLP) solutions using Azure AI services. The primary audience includes:

− Software Developers
− Data Scientists
− IT Professionals

PREREQUISITES

Before attending this course, delegates must have:

− Familiarity with Azure and the Azure portal.
− Experience programming with C# or Python. If you have no previous programming experience, we recommend you complete the Take your first steps with C# or Take your first steps with Python learning path before starting this one.

COURSE OBJECTIVES

After attending this course, delegates will be able to:

− Learn to use Azure AI-Language services to extract semantic information from text.
− Develop applications that can answer user questions using natural language.
− Train models to understand and extract meaning from natural language.
− Build custom solutions for classifying text.
− Create solutions to extract entities from unstructured documents.
− Use Azure AI Translator service to translate text between languages.
− Develop applications that can recognize and synthesize speech.
− Implement solutions to translate spoken language

COURSE CONTENT

Module 1: Analyse text with Azure AI Language
The Azure AI Language service enables you to create intelligent apps and services that extract semantic information from text.
Lessons
− Introduction.
− Provision an Azure AI Language resource.
− Detect language.
− Extract key phrases.
− Analyse sentiment.
− Extract entities.
− Extract linked entities.
− Exercise - Analyse text.
− Knowledge check.
− Summary.
By the end of this module, you'll be able to:
− Detect language from text.

− Analyse text sentiment.
− Extract key phrases, entities, and linked entities.

Module 2: Create question-answering solutions with Azure AI Language
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.
Lessons
− Introduction.
− Understand question answering.
− Compare question answering to Azure AI Language understanding.
− Create a knowledge base.

− Implement multi-turn conversation.
− Test and publish a knowledge base.
− Use a knowledge base.
− Improve question-answering performance.
− Exercise - Create a question-answering solution.
− Knowledge check.
− Summary.
By the end of this module, you'll be able to:
− Understand question answering and how it compares to language understanding.
− Create, test, publish, and consume a knowledge base.

- Implement multi-turn conversation and active learning.
- Create a question-answering bot to interact with using natural language.

Module 3: 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.
Lessons
- Introduction.
- Understand prebuilt capabilities of the Azure AI Language service.
- Understand resources for building a conversational language understanding model.
- Define intents, utterances, and entities.
- Use patterns to differentiate similar utterances.
- Use pre-built entity components.
- Train, test, publish, and review a conversational language understanding model.
- Exercise - Build an Azure AI services conversational language understanding model.
- Knowledge check.
- Summary.
By the end of this module, you'll be able to:
- Provision Azure resources for Azure AI Language resources.
- Define intents, utterances, and entities.
- Use patterns to differentiate similar utterances.
- Use pre-built entity components.
- Train, test, publish, and review an Azure AI Language model.

Module 4: Create a custom text classification solution
The Azure AI Language service enables the processing of natural language to use in your own app. Learn how to build a custom text classification project.
Lessons
- Introduction.
- Understand types of classification projects.
- Understand how to build text classification projects.
- Exercise - Classify text.
- Knowledge check.
- Summary.
By the end of this module, you'll be able to:
- Understand types of classification projects.

- Build a custom text classification project.
- Tag data, train, and deploy a model.
- Submit classification tasks from your own app.

Module 5: Custom-named entity recognition
Build a custom entity recognition solution to extract entities from unstructured documents.
Lessons
- Introduction.
- Understand custom-named entity recognition.
- Label your data.
- Train and evaluate your model.
- Exercise - Extract custom entities.
- Knowledge check.
- Summary.
By the end of this module, you'll be able to:
- Understand tagging entities in extraction projects
- Understand how to build entity recognition projects

Module 6: Translate text with Azure AI Translator service
The Translator service enables you to create intelligent apps and services that can translate text between languages.
Lessons
- Introduction.
- Provision an Azure AI Translator resource.
- Understand language detection, translation, and transliteration.
- Specify translation options.
- Define custom translations.
- Exercise - Translate text with the Azure AI Translator service.
- Knowledge check.
- Summary.
In this module, you'll practice how to:
- Provision a Translator resource.
- Understand language detection, translation, and transliteration.
- Specify translation options.
- Define custom translations.

Module 7: 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.
Lessons
- Introduction.

- Provision an Azure resource for speech.
- Use the Azure AI Speech to Text API.
- Use the text to speech API.
- Configure audio format and voices.
- Use Speech Synthesis Markup Language.
- Exercise - Create a speech-enabled app.
- Knowledge check.
- Summary.
In this module, you'll practice how to:
- Provision an Azure AI Translator resource.
- Understand language detection, translation, and transliteration.
- Specify translation options.
- Define custom translations.
- Exercise - Translate text with the Azure AI Translator service.

Module 8: 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.
Lessons
- Introduction
- Synthesize translations.
- Exercise - Translate speech.
- Knowledge check.
- Summary.
In this module, you'll practice how to:
- Provision Azure resources for speech translation.
- Generate text translation from speech.
- Synthesize spoken translations.
- Translate speech to text.

Module 9: Develop an audio-enabled generative AI application
A voice carries meaning beyond words, and audio-enabled generative AI models can interpret spoken input to understand tone, intent, and language. Learn how to build audio-enabled chat apps that listen and respond to audio.
Lessons
- Introduction
- Deploy a multimodal model
- Develop an audio-based chat app
- Exercise - Develop an audio-enabled chat app
- Module assessment
- Summary
After completing this module, you'll be able to:
- Deploy an audio-enabled generative AI model in Azure AI Foundry.

–   Create a chat app that
submits audio-based prompts.

ASSOCIATED CERTIFICATIONS & EXAM

There is no Associated certification & Exam for this course, however, there is an assessment to achieve your Applied Skills credential. ([Assessment Link](#))