

AI-102: Designing and Implementing an Azure AI Solution

Content

Module 1: Introduction to AI on Azure

Learn about AI capabilities and their implementation in Microsoft Azure, with a focus on responsible AI solution design.

- **Lessons:**
 - Introduction to Artificial Intelligence
 - Artificial Intelligence in Azure
 - **Outcomes:**
 - Describe considerations for AI-enabled applications.
 - Identify Azure services for AI development.
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Module 2: Developing AI Apps with Cognitive Services

Explore the core building blocks for integrating AI, including provisioning, securing, monitoring, and deploying cognitive services.

- **Lessons:**
 - Getting Started with Cognitive Services
 - Using Cognitive Services for Enterprise Applications
 - **Lab:**
 - Get Started with Cognitive Services
 - Manage Cognitive Services Security
 - Monitor Cognitive Services
 - Use a Cognitive Services Container
 - **Outcomes:**
 - Provision and consume cognitive services in Azure.
 - Manage cognitive services security and monitoring.
 - Use a cognitive service container.
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Module 3: Getting Started with Natural Language Processing

Understand how to use cognitive services for text analysis and translation.

- **Lessons:**
 - Analyzing Text
 - Translating Text
- **Lab:**
 - Analyze Text
 - Translate Text
- **Outcomes:**
 - Use the Text Analytics service for text analysis.
 - Use the Translator service for text translation.

Module 4: Building Speech-Enabled Applications

Learn to build applications that handle spoken input and text synthesis using speech cognitive services.

- **Lessons:**
 - Speech Recognition and Synthesis
 - Speech Translation
 - **Lab:**
 - Recognize and Synthesize Speech
 - Translate Speech
 - **Outcomes:**
 - Use the Speech service for speech recognition, synthesis, and translation.
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Module 5: Creating Language Understanding Solutions

Train models for understanding natural language input and integrate them into applications.

- **Lessons:**
 - Creating a Language Understanding App
 - Publishing and Using a Language Understanding App
 - Using Language Understanding with Speech
 - **Lab:**
 - Create a Language Understanding App
 - Create a Language Understanding Client Application
 - Use the Speech and Language Understanding Services
 - **Outcomes:**
 - Create and deploy Language Understanding apps.
 - Integrate Language Understanding with Speech.
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Module 6: Building a QnA Solution

Develop AI solutions that intelligently respond to user questions using the QnA Maker service.

- **Lessons:**
 - Creating a QnA Knowledge Base
 - Publishing and Using a QnA Knowledge Base
 - **Lab:**
 - Create a QnA Solution
 - **Outcomes:**
 - Use QnA Maker to create and deploy knowledge bases.
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Module 7: Conversational AI and the Azure Bot Service

Build conversational bots using the Microsoft Bot Framework and Azure Bot Service.

- **Lessons:**
 - Bot Basics
 - Implementing a Conversational Bot
 - **Lab:**
 - Create a Bot with the Bot Framework SDK
 - Create a Bot with Bot Framework Composer
 - **Outcomes:**
 - Use the Bot Framework SDK and Composer to create bots.
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Module 8: Getting Started with Computer Vision

Explore how to use cognitive services to analyze images and videos.

- **Lessons:**
 - Analyzing Images
 - Analyzing Videos
 - **Lab:**
 - Analyze Images with Computer Vision
 - Analyze Video with Video Indexer
 - **Outcomes:**
 - Use the Computer Vision service for image analysis.
 - Use Video Indexer for video analysis.
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Module 9: Developing Custom Vision Solutions

Learn to create custom image classification and object detection models using the Custom Vision service.

- **Lessons:**
 - Image Classification
 - Object Detection
 - **Lab:**
 - Classify Images with Custom Vision
 - Detect Objects in Images with Custom Vision
 - **Outcomes:**
 - Implement image classification and object detection using Custom Vision.
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Module 10: Detecting, Analyzing, and Recognizing Faces

Discover how to use cognitive services for facial detection, analysis, and recognition.

- **Lessons:**
 - Detecting Faces with the Computer Vision Service
 - Using the Face Service
- **Lab:**
 - Detect, Analyze, and Recognize Faces
- **Outcomes:**

- Use the Face service for facial detection and recognition.
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Module 11: Reading Text in Images and Documents

Learn to extract text from images, documents, and forms using OCR and Form Recognizer services.

- **Lessons:**
 - Reading Text with the Computer Vision Service
 - Extracting Information from Forms with the Form Recognizer Service
 - **Lab:**
 - Read Text in Images
 - Extract Data from Forms
 - **Outcomes:**
 - Use OCR to read text in images and documents.
 - Use Form Recognizer to extract data from forms.
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Module 12: Creating a Knowledge Mining Solution

Build intelligent search solutions using Azure Cognitive Search and custom skills for knowledge mining.

- **Lessons:**
 - Implementing an Intelligent Search Solution
 - Developing Custom Skills for an Enrichment Pipeline
 - Creating a Knowledge Store
- **Lab:**
 - Create an Azure Cognitive Search Solution
 - Create a Custom Skill for Azure Cognitive Search
 - Create a Knowledge Store with Azure Cognitive Search
- **Outcomes:**
 - Develop intelligent search solutions and custom skills.
 - Create a knowledge store using Azure Cognitive Search.