

AI-102: Microsoft Azure AI Engineer Associate Exam Study Guide

May 18, 2022 by [manish](#)



Rate this post

Do you also want to establish your career as an Azure ai engineer? In order to embrace the AI revolution, there is a high demand for professionals who can assist create, integrating, designing, and deploying AI solutions on multiple tech platforms. To combat the evolving AI sector, one needs to be updated and have relevant certifications and skills to mark their presence.

The topics covered in this blog are:

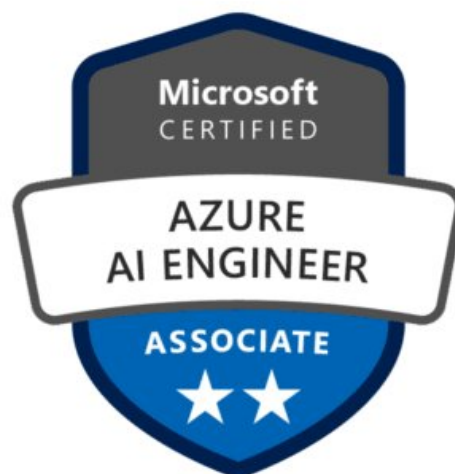
- [AI-102 Certification Overview](#)
- [Who is the Azure AI Engineer Associate?](#)
- [Why should you learn AI?](#)
- [Benefits of AI-102 Certification](#)

- [Who is this Certification for?](#)
- [AI-102 Exam Details](#)
- [Exam AI-102 Skills Measured](#)
- [How to Register for Azure AI 102 Exam](#)
- [Pre-requisites for AI-102 Certification](#)
- [AI 102 Study Guide](#)
- [AI-102 Exam Retake Policy](#)
- [Conclusion](#)

AI-102 Certification Overview

This exam assesses your ability to plan and manage an Azure Cognitive Services solution, implement Computer Vision solutions, natural language processing solutions, knowledge mining solutions, and conversational AI solutions.

AI-102 students should have knowledge of developing, managing and implementing AI systems. They should be versed in Azure Cognitive Services, Azure Cognitive Search, and Microsoft Bot Framework.



Azure AI Engineer
Associate

Are you new to Azure Cloud? Do check out our blog post on the [Microsoft Azure Certification Path 2022](#) and choose the best certification for you.



Who is the Azure AI Engineer Associate?

- As an Azure AI engineer, you create, manage, and deploy AI solutions using Azure Cognitive Search, Azure Cognitive Services, and Microsoft Bot Framework.
- From requirement conception and design to development, maintenance, deployment, monitoring, and performance tweaking, they are involved in all aspects of AI development.
- Solution architects are among your coworkers, and Azure ai engineer associate translate their vision with your abilities.
- They need to collaborate with IoT experts, data scientists, engineers, and AI developers to design end-to-end AI solutions.
- They develop natural language processing, computer vision, knowledge mining, and conversational AI solutions using REST-based APIs and Software Development Kits (SDKs).

Why Should You Learn AI?

According to research, the global Artificial Intelligence (AI) industry is anticipated to achieve \$250 billion or more by 2027. It highly indicates the world is prepping for an AI-driven future.

Many companies hunt for Azure ai engineer associate who can build, integrate, design, and implement AI solutions on various tech platforms to embrace the AI revolution. As a result, people must have the necessary IT certifications and understanding in the AI sector to demonstrate their abilities and competence to potential employers.

Benefits of AI-102 Certification

1. By pursuing the certification, you'll learn how to plan, construct, and

- manage knowledge mining, conversational AI, computer vision, and NLP systems on [Azure](#).
2. Students will collaborate with data scientists, solution architects, AI developers, IoT specialists, and data engineers to design end-to-end AI solutions.
 3. People will be able to demonstrate to the company your competence in developing AI solutions on Azure by acquiring the AI 102 certification.
 4. This program will assist Microsoft certified azure ai engineer associate in obtaining high-paying jobs.
 5. 26% of technical professionals have reported job advancements as a result of acquiring an AI-102 certification, and 35% of technical professionals reported compensation or wage increases as a result of getting certified.
 6. You can update your resume with an AI-102 certificate will help you develop your career and increase your chances of being hired.

Checkout: [Azure Data Factory Interview Questions](#)

Who is this Certification For?

AI-102 certification is for all those:

- Students with a keen interest in AI, Machine Learning, and Data Science.
- Data science, database engineering, and business intelligence professionals.
- IT specialists with a thorough understanding of SQL, Python, or Scala languages.
- On Azure, you'll find experts in computer vision, natural language processing, knowledge mining, and conversational AI solutions.

AI-102 Exam Details

Exam Name Exam AI-102: Designing and Implementing an Microsoft Azure AI Solution	Exam Duration 180 Minutes
Exam Type Multiple Choice Examination	Number of Questions 40 - 60 Questions
Exam Fee \$165	Eligibility/Pre-Requisite None
Exam validity 2 years	Exam Languages English, Japanese, Korean, and Simplified Chinese

Exam AI-102 Skills Measured

Plan and manage an Azure Cognitive Services solution	15–20%
Implement Computer Vision solutions	20-25%
Implement natural language processing solutions	20-25%
Implement knowledge mining solutions	15–20%
Implement conversational AI solutions	15-20%

How to Register for Azure AI-102 Exam

You can register for the Microsoft Azure AI Engineer Associate Exam (AI-102) by going to the [Official Microsoft Page](#).

Exam AI-102: Designing and Implementing a Microsoft Azure AI Solution

Languages: English, Japanese, Chinese (Simplified), Korean, German, French, Spanish, Portuguese (Brazil), Arabic (Saudi Arabia), Russian, Chinese (Traditional), Italian, Indonesian (Indonesia)

United States

\$165 USD*

Price based on the country or region in which the exam is proctored

Retirement date: none

This exam measures your ability to accomplish the following technical tasks: plan and manage an Azure Cognitive Services solutions; implement Computer Vision solutions; implement natural language processing solutions; implement knowledge mining solutions; and implement conversational AI solutions.

Schedule exam >

Pre-requisites for AI-102 Certification

The Candidates taking up this exam should be proficient in languages such as::

1. Python
2. Javascript
3. C#

AI-102 Study Guide

Plan and manage an Azure Cognitive Services solution (15-20%)

Select the appropriate Cognitive Services resource

- Select the appropriate cognitive service for a vision solution
 - [Choose a Microsoft cognitive services technology](#)
 - [Vision APIs](#)
 - [What is Computer Vision?](#)
 - [What is Custom Vision?](#)
 - [What is the Azure Face service?](#)
 - [What is Azure Form Recognizer?](#)
- Select the appropriate cognitive service for a language analysis solution
 - [Language APIs](#)
 - [What is Language Understanding?](#)

- [What is QnA Maker?](#)
- [What is Azure Cognitive Service for Language?](#)
- [What is Azure Cognitive Services Translator?](#)
- [What is Azure Immersive Reader?](#)
- Select the appropriate cognitive Service for a decision support solution
 - [Decision APIs](#)
 - [What is Univariate Anomaly Detector?](#)
 - [What is Azure Content Moderator?](#)
 - [What is Azure Metrics Advisor?](#)
 - [What is Personalizer?](#)
- Select the appropriate cognitive service for a speech solution
 - [Speech APIs](#)
 - [What is the Speech service?](#)
 - [What is speech-to-text?](#)
 - [What is text-to-speech?](#)
 - [What is speech translation?](#)
 - [Recognize intents with the Speech service and LUIS](#)
 - [What is speaker recognition?](#)

Plan and configure security for a Cognitive Services solution

- Manage Cognitive Services account keys
 - [Get the keys for your resource](#)
 - [az cognitiveservices account keys](#)
 - [What's New? A Single Key for Cognitive Services](#)
- Manage authentication for a resource
 - [Authenticate requests to Azure Cognitive Services](#)
- Secure Cognitive Services by using Azure Virtual Network
 - [Configure Azure Cognitive Services virtual networks](#)
- Plan for a solution that meets responsible AI principles
 - [Responsible AI](#)
 - [Build powerful and responsible AI solutions with Azure](#)

Create a Cognitive Services resource

- Create a Cognitive Services resource
 - [Create a Cognitive Services resource using the Azure portal](#)
 - [Create a Cognitive Services resource using the Azure CLI](#)
- Configure diagnostic logging for a Cognitive Services resource
 - [Enable diagnostic logging for Azure Cognitive Services](#)
- Manage Cognitive Services costs
 - [Plan and manage costs for Azure Cognitive Services](#)
- Monitor a cognitive service
 - [Monitoring Azure Cognitive Search](#)
- Implement a privacy policy in Cognitive Services
 - [Data, privacy, and security for Spatial Analysis](#)

Plan and implement Cognitive Services containers

- Identify when to deploy to a container
 - [Azure Cognitive Services containers](#)
 - [FAQ for Azure Cognitive Services containers](#)
- Containerize Cognitive Services (including Computer Vision API, Face API, Languages, Speech, Form Recognizer)
 - [Install Read OCR Docker containers](#)
 - [What is the Azure Face service?](#)
 - [Install and run Docker containers for the Speech service APIs](#)
 - [Install and run Form Recognizer v2.1-preview containers](#)
- Containerize other Cognitive Services
 - [Install and run Docker containers for LUIS](#)
 - [Install and run Docker containers for the Anomaly Detector API](#)

Implement Computer Vision solutions (20-25%)

Analyze images by using the Computer Vision API

- Retrieve image descriptions and tags by using the Computer Vision API
 - [Describe images with human-readable language](#)
 - [Apply content tags to images](#)
- Identify landmarks and celebrities by using the Computer Vision API
 - [Detect domain-specific content](#)
- Detect brands in images by using the Computer Vision API
 - [Detect popular brands in images](#)
- Moderate content in images by using the Computer Vision API
 - [Detect adult content](#)
- Generate thumbnails by using the Computer Vision API
 - [Generating smart-cropped thumbnails with Computer Vision](#)

Extract text from images

- Extract text from images by using the OCR API
 - [Computer Vision API](#)
 - [What is Optical character recognition?](#)
- Extract text from images or PDFs by using the Read API
 - [Read API](#)
- Convert handwritten text by using Ink Recognizer
 - [Recognize digital ink with the Ink Recognizer REST API](#)
- Extract information from forms or receipts by using the pre-built receipt model in Form Recognizer
 - [Form Recognizer receipt model](#)
- Build and optimize a custom model for Form Recognizer
 - [Build a training data set for a custom model](#)
 - [Train a custom model](#)
 - [Manage custom models](#)

Extract facial information from images

- Detect faces in an image by using the Face API

- [face detection data](#)
- Recognize faces in an image by using the Face API
 - [Use the Face client library](#)
 - Configure persons and person groups
 - [Add faces to a PersonGroup](#)
- Analyze facial attributes by using the Face API
 - [Face Detection Attributes](#)
 - [Get started with Face analysis on Azure](#)
 - [Detect and analyze faces with the Face service](#)
- Match similar faces by using the Face API

Implement image classification by using the Custom Vision service

- Label images by using the Computer Vision Portal
 - [Label images faster with Smart Labeler](#)
- Train a custom image classification model in the Custom Vision Portal
 - [Build an image classifier model with the Custom Vision web portal](#)
- Train a custom image classification model by using the SDK
 - [Create an image classification project with the Custom Vision client library or REST API](#)
- Manage model iterations
 - [Manage training iterations](#)
 - [Call the prediction API](#)
- Evaluate classification model metrics
 - [Evaluate the classifier](#)
- Publish a trained iteration of a model
 - [Publish your trained iteration](#)
- Export a model in an appropriate format for a specific target
 - [Export your model for use with mobile devices](#)
- Consume a classification model from a client application
 - [Consume an Azure Machine Learning model deployed as a web service](#)
- Deploy image classification custom models to containers

- [Perform image classification at the edge with Custom Vision Service](#)

Implement an object detection solution by using the Custom Vision service

- Label images with bounding boxes by using the Computer Vision Portal
 - [Tag images and specify bounding boxes for object detection](#)
- Train a custom object detection model by using the Custom Vision Portal
 - [Build an object detector with the Custom Vision website](#)
- Train a custom object detection model by using the SDK
 - [Create an object detection project with the Custom Vision client library](#)
- Manage model iterations
 - [Manage training iterations](#)
- Evaluate object detection model metrics
 - [Evaluate the detector](#)
- Publish a trained iteration of a model
 - [Publish the current iteration](#)
- Consume an object detection model from a client application
 - [Use the object detection model in Power Automate](#)
- Deploy custom object detection models to containers
 - [Azure Cognitive Services containers](#)

Analyze video by using Azure Video Analyzer for Media (formerly Video Indexer)

- Process a video
 - [Upload and index your videos](#)
- Extract insights from a video
 - [Video Indexer – Unlock Insights from your video](#)

- Moderate content in a video
 - [Video Moderation with Content Moderator](#)
- Customize the Brands model used by Video Indexer
- Customize the Language model used by Video Indexer by using the Custom Speech service
- Customize the Person model used by Video Indexer
- Extract insights from a live stream of video data
 - [Live stream analysis using Video Analyzer for Media \(Video Indexer\)](#)

Implement natural language processing solutions (20-25%)

Analyze text by using the Language service

- Retrieve and process key phrases
 - [What is key phrase extraction in Azure Cognitive Service for Language?](#)
- Retrieve and process entity information (people, places, urls, etc.)
 - [Supported Named Entity Recognition \(NER\) entity categories](#)
 - [What is NER in Azure Cognitive Service for Language?](#)
- Retrieve and process sentiment
 - [Sentiment analysis on streaming data using Azure Databricks](#)
- Detect the language used in text
 - [What is language detection in Azure Cognitive Service for Language?](#)

Manage speech by using the Speech service

- Implement text-to-speech
 - [What is text-to-speech?](#)
 - [Convert text to speech](#)
- Customize text-to-speech
 - [Get started with Custom Neural Voice](#)

- [Train your voice model](#)
- Implement speech-to-text
 - [What is speech-to-text?](#)
 - [Recognize and convert speech to text](#)
- Improve speech-to-text accuracy
 - [What is Custom Speech?](#)

Translate language

- Translate text by using the Translator service
- Translate speech-to-speech by using the Speech service
 - [Recognize and translate speech to text](#)
- Translate speech-to-text by using the Speech service
 - [Recognize and convert speech to text](#)

Build a initial language model by using Language Understanding Service (LUIS)

- Create intents and entities based on a schema, and add utterances
 - [Intents](#)
 - [Add intents to determine user intention of utterances](#)
 - [Entity types](#)
 - [Add entities to extract data](#)
 - [Utterances](#)
- Create complex hierarchical entities
 - [Using Hierarchical Entities in Microsoft's LUIS for Natural Language Processing](#)
 - [Hierarchical Entities in LUIS](#)
- Use this instead of roles
 - [Add contributors to your app](#)
- Train and deploy a model
 - [Train and test your LUIS app](#)
 - [Build your app in LUIS portal](#)

Iterate on and optimize a language model by using Language Understanding

- Implement phrase lists
 - [Patterns in LUIS apps](#)
 - [Using Phrase Lists in Microsoft's LUIS for Natural Language Processing](#)
- Implement a model as a feature (i.e. prebuilt entities)
 - [Patterns in LUIS apps](#)
 - [Entity types](#)
 - [Add a prebuilt entity](#)
 - [Prebuilt entities](#)
- Manage punctuation and diacritics
 - [Punctuation normalization](#)
 - [Diacritics](#)
 - [Diacritics normalization](#)
- Implement active learning
 - [How to improve a LUIS app](#)
 - [Log user queries to enable active learning](#)
- Monitor and correct data imbalances
 - [Review data imbalance](#)
 - [Evaluating the performance of your LUIS app](#)
- Implement patterns
 - [Patterns in LUIS apps](#)
 - [How to add patterns to improve prediction accuracy](#)

Manage a Language Understanding model

- Manage collaborators
 - [Add contributors to your app](#)
 - [How do I give collaborators access to LUIS?](#)
- Manage versioning
 - [Use versions to edit and test without impacting staging or](#)

- [production apps](#)
- [Application and version settings](#)
- Publish a model through the portal or in a container
 - [Publish your active, trained app](#)
 - [Install and run Docker containers for LUIS](#)
- Export a LUIS package
 - [Export packaged app from LUIS](#)
 - [Export and delete your customer data in LUIS in Cognitive Services](#)
 - [Export a version](#)
- Deploy a LUIS package to a container
 - [Deploy and run container on Azure Container Instance](#)
 - [Deploying Microsoft Azure Cognitive LUIS service on On-Premise as a Docker Image](#)
- Integrate Bot Framework (LUDown) to run outside of the LUIS portal
 - [LUDown](#)
 - [Creating a LUIS Service with LUDown and the CLI](#)

Implement knowledge mining solutions (15-20%)

Implement a Cognitive Search solution

- Create data sources
 - [Create Data Source \(Azure Cognitive Search REST API\)](#)
- Define an index
 - [Indexes in Azure Cognitive Search](#)
- Create and run an indexer
 - [Creating indexers in Azure Cognitive Search](#)
 - [Run the indexer](#)
- Query an index
 - [Querying in Azure Cognitive Search](#)
- Configure an index to support autocomplete and autosuggest
 - [Add autocomplete and suggestions to client apps using Azure Cognitive Search](#)

- [Create a suggester to enable autocomplete and suggested results in a query](#)
- Boost results based on relevance
 - [Add scoring profiles to a search index](#)
- Implement synonyms
 - [Synonyms in Azure Cognitive Search](#)

Implement an enrichment pipeline

- Attach a Cognitive Services account to a skillset
 - [Attach a Cognitive Services resource to a skillset in Azure Cognitive Search](#)
- Select and include built-in skills for documents
 - [Built-in skills for text and image processing during indexing](#)
 - [Document Extraction cognitive skill](#)
- Implement custom skills and include them in a skillset
 - [Add a custom skill to an Azure Cognitive Search enrichment pipeline](#)

Implement a knowledge store

- Define file projections
 - [Projecting to file](#)
- Define object projections
 - [Projecting to objects](#)
- Define table projections
 - [Projecting to tables](#)
- Query projections
 - [Knowledge store “projections” in Azure Cognitive Search](#)

Manage a Cognitive Search solution

- Provision Cognitive Search

- [Create an Azure Cognitive Search service in the portal](#)
- Configure security for Cognitive Search
 - [Security overview for Azure Cognitive Search](#)
 - [Configure customer-managed keys for data encryption in Azure Cognitive Search](#)
 - [Configure an IP firewall for Azure Cognitive Search](#)
- Configure scalability for Cognitive Search
 - [Availability and business continuity in Azure Cognitive Search](#)

Manage indexing

- Manage re-indexing
 - [Update Index \(Azure Cognitive Search REST API\)](#)
- Rebuild indexes
 - [Drop and rebuild an index in Azure Cognitive Search](#)
- Schedule indexing
 - [Schedule an indexer in Azure Cognitive Search](#)
- Monitor indexing
 - [Monitor indexer status and results in Azure Cognitive Search](#)
- Implement incremental indexing
 - [Incremental enrichment and caching in Azure Cognitive Search](#)
- Manage concurrency
 - [How to manage concurrency in Azure Cognitive Search](#)
- Push data to an index
 - [Pushing data to an index](#)
- Troubleshoot indexing for a pipeline
 - [Indexer troubleshooting guidance for Azure Cognitive Search](#)

Implement conversational AI solutions (15-20%)

Create a Knowledge Base by Using QnA Maker

- Create a QnA Maker service

- [Create a new QnA Maker service](#)
- Create a knowledge base
 - [Create, train, and publish your QnA Maker knowledge base](#)
- Import a knowledge base
 - [Move a knowledge base using export-import](#)
- Train and test a knowledge base
 - [Save and train](#)
 - [Test your knowledge base in QnA Maker](#)
- Publish a knowledge base
 - [Publish the knowledge base](#)
- Create a multi-turn conversation
- Add alternate phrasing
 - [Add alternate questions](#)
 - [Add additional alternatively-phrased questions](#)
 - [Accept active learning suggested questions in the knowledge base](#)
- Add chit-chat to a knowledge base
 - [Add Chit-chat to a knowledge base](#)
- Export a knowledge base
 - [Move a knowledge base using export-import](#)
- Add active learning to a knowledge base
 - [Active learning](#)
- Manage collaborators
 - [Collaborate with other authors and editors](#)

Design and implement conversation flow

- Design conversation logic for a bot
 - [Design and control conversation flow](#)
 - [How to design a conversation for a chatbot?](#)
- Create and evaluate *.chat file conversations by using the Bot Framework Emulator
 - [Debug your bot using transcript files](#)
- Add language generation for a response

- [Language generation in Composer](#)
- Design and implement adaptive cards
 - [Adaptive Cards Designer SDK](#)
 - [Designing Adaptive Cards for your Microsoft Teams app](#)

Create a Bot by Using the Bot Framework SDK

- Implement dialogs
 - [Dialogs library](#)
 - [Use dialogs within a skill](#)
- Maintain state
 - [Managing state](#)
- Implement logging for a bot conversation
 - [Add trace activities to your bot](#)
- Implement a prompt for user input
 - [Create your own prompts to gather user input](#)
- Add and review bot telemetry
 - [Add telemetry to your bot](#)
 - [Analyze your bot's telemetry data](#)
- Implement a bot-to-human handoff
 - [Transition conversations from bot to human](#)
 - [Bot to Human Handoff in Node.js](#)
- Troubleshoot a conversational bot
 - [General troubleshooting for Azure Bot Service bots](#)
- Add a custom middleware for processing user messages
 - [Middleware](#)
- Manage identity and authentication
 - [Bot Framework authentication basics](#)
 - [Add authentication to a bot](#)
 - [Identity providers](#)
- Implement channel-specific logic
 - [Implement channel-specific functionality](#)
 - [Implement channel-specific functionality with the Bot Connector API](#)

- [Publish a bot](#)

Create a Bot by Using the Bot Framework Composer

- Implement dialogs
 - [Dialogs as conversational building blocks in Composer](#)
- Maintain state
 - [Conversation flow and memory in Composer](#)
- Implement logging for a bot conversation
 - [Conversation logging](#)
- Implement prompts for user input
 - [Ask for user input in Composer](#)
- Troubleshoot a conversational bot
 - [Unable to publish my bot built with Bot Framework Composer](#)
- Test a bot by using the Bot Framework Emulator
 - [Test and debug with the Emulator](#)
- Publish a bot
 - [Publish a bot to Azure from Composer](#)

Integrate Cognitive Services into a Bot

- Integrate a QnA Maker service
 - [Use QnA Maker to answer questions](#)
 - [Add a QnA Maker knowledge base to your bot](#)
- Integrate a LUIS service
 - [Add natural language understanding to your bot](#)
- Integrate a Speech service
 - [Add speech to messages with the Bot Connector API](#)
 - [Voice-enable your bot](#)
- Integrate Dispatch for multiple language models
 - [Use Dispatch \(deprecated\) for intent resolution](#)
- Manage keys in the app settings file
 - [Update the settings file](#)

AI-102 Exam Retake Policy

The AI-102 exam retake policy is as follows:

1. If a candidate fails on the first attempt, they must wait for 24 hours before retaking the exam.
2. If a candidate again fails on the second attempt, then the candidate will have to wait for 14 days.
3. A candidate will be given a maximum of five attempts to retake an exam in a year.

Conclusion

Designing and Implementing a Microsoft Azure AI Solution is primarily aimed at applicants who desire to advance their careers in the Microsoft Azure area. The Microsoft Certified – Azure AI Engineer Associate exam certifies that the candidate has the essential knowledge and skills required to Design and Implement a Microsoft Azure AI Solution. It not only adds relevant skills but also you in getting a handsome package.

Related/References

- [AZ-600: Azure Stack Hub Operator Associate Exam Study Guide](#)
- [AZ-700: Azure Network Engineer Associate Exam Study Guide](#)
- [DP-203: Microsoft Azure Data Engineer Associate Exam Study Guide](#)
- [DP-100: Microsoft Azure Data Scientist Associate Exam Study Guide](#)
- [PL-300: Microsoft Power BI Data Analyst Associate Exam Study Guide](#)

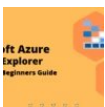


Leave a Comment

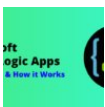
Save my name, email, and website in this browser for the next time I comment.

Post Comment

Recent Posts



Azure Storage Explorer: Download, Install, and Setup Overview



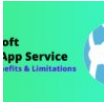
What are Azure Logic Apps: Components, Advantages and How it Works



Microsoft Azure Application Insights: A Complete Beginners Guide



Microsoft Azure Service Bus: A Complete Beginners Guide



Azure App Service: Types, Benefits and Limitations

[Privacy Policy](#) [About](#)

Copyrights © 2021-22, cloudkeeda. All Rights Reserved