Exam AI-100: Designing and Implementing an Azure AI Solution

Introduction

Microsoft Azure Exam AI-102 Designing and Implementing an Azure AI Solution certification program is designed for individuals who aspire to expand their knowledge and wisdom using cognitive services, machine learning. The candidate learns to do mining and implement Microsoft AI solutions involving common language processing, speech, computer vision, and conversational AI. Moreover, the candidate becomes capable to handle the responsibilities of an Azure AI Engineer such as analyzing requirements for AI solutions, designing and implementing AI solutions that meet scalability and performance requirements.

*** Exam AI-100 has been replaced by Exam AZ-102 (beta).*

*** Please note that Exam AI-100 will retire on June 20, 2021, at 11:59 PM CST (Central Standard Time), after which you wouldn't be* able to take this exam.

Course Outline

MODULE 1: Analyze solution requirements (25-30%)

- Recommend Azure Cognitive Services APIs to meet business requirements
  - select the processing architecture for a solution
  - select the appropriate data processing technologies
  - select the appropriate AI models and services
  - identify components and technologies required to connect service endpoints
  - identify automation requirements

- Map security requirements to tools, technologies, and processes
  - identify processes and regulations needed to conform with data privacy, protection, and regulatory requirements
  - identify which users and groups have access to information and interfaces
  - identify appropriate tools for a solution
  - identify auditing requirements

- Select the software, services, and storage required to support a solution
  - identify appropriate services and tools for a solution
  - identify integration points with other Microsoft services
  - identify storage required to store logging, bot state data, and Azure Cognitive Services output

MODULE 2: Design AI solutions (40-45%)

- Design solutions that include one or more pipelines
  - define an AI application workflow process
  - design a strategy for ingest and egress data
  - design the integration point between multiple workflows and pipelines
  - design pipelines that use AI apps
  - design pipelines that call Azure Machine Learning models
  - select an AI solution that meets cost constraints

- Design solutions that use Cognitive Services
  - design solutions that use vision, speech, language, knowledge, search, and anomaly detection APIs

- Design solutions that implement the Microsoft Bot Framework
  - integrate bots and AI solutions
  - design bot services that use Language Understanding (LUIS)
  - design bots that integrate with channels
  - integrate bots with Azure app services and Azure Application Insights

- Design the compute infrastructure to support a solution
    - identify whether to create a GPU, FPGA, or CPU-based solution
    - identify whether to use a cloud-based, on-premises, or hybrid compute infrastructure
    - select a compute solution that meets cost constraints

- Design for data governance, compliance, integrity, and security
    - define how users and applications will authenticate to AI services
    - design a content moderation strategy for data usage within an AI solution
    - ensure that data adhere to compliance requirements defined by your organization
    - ensure appropriate governance of data
    - design strategies to ensure that the solution meets data privacy regulations and industry standards

MODULE 3: Implement and monitor AI solutions (25-30%)

- Implement an AI workflow
    - develop AI pipelines
    - manage the flow of data through the solution components
    - implement data logging processes
    - define and construct interfaces for custom AI services
    - create solution endpoints
    - develop streaming solutions

- Integrate AI services and solution components
    - configure prerequisite components and input datasets to allow the consumption of Azure Cognitive Services APIs
    - configure integration with Azure Cognitive Services
    - configure prerequisite components to allow connectivity to the Microsoft Bot Framework
    - implement Azure Cognitive Search in a solution

- Monitor and evaluate the AI environment
    - identify the differences between KPIs, reported metrics, and root causes of the differences
    - identify the differences between expected and actual workflow throughput
    - maintain an AI solution for continuous improvement
    - monitor AI components for availability
    - recommend changes to an AI solution based on performance data

Prerequisites

Candidates for this exam should be proficient in C#, Python, or JavaScript.

Target Audience

Candidates for this exam should have subject matter expertise using cognitive services, machine learning, and knowledge mining to architect and implement Microsoft AI solutions involving natural language processing, speech, computer vision, and conversational AI. Responsibilities for an Azure AI Engineer include analyzing requirements for AI solutions, recommending the appropriate tools and technologies, and designing and implementing AI solutions that meet scalability and performance requirements.

Azure AI Engineers translate the vision from solution architects and work with data scientists, data engineers, IoT specialists, and software developers to build complete end-to-end solutions. A candidate for this exam should have knowledge and experience designing and implementing AI apps and agents that use Microsoft Azure Cognitive Services, Azure Bot Service, Azure Cognitive Search, and data storage in Azure. In addition, a candidate should be able to recommend solutions that use open source technologies, understand the components that make up the Azure AI portfolio and the available data storage options, and understand when a custom API should be developed to meet specific requirements.

Duration

32 Hours