Exam AI-900: Microsoft Azure AI Fundamentals – Skills Measured

The English language version of this exam was updated on April 29, 2022.

Following the current exam guide, we have included a table that compares the current study guide to the new one by functional group, showing the changes that were made to the exam on that date. We have also included the previous study guide for reference purposes.

NOTE: Passing score: 700. Learn more about exam scores.

Audience Profile

This exam is an opportunity to demonstrate knowledge of machine learning (ML) and artificial intelligence (AI) concepts and related Microsoft Azure services. Candidates for this exam should have familiarity with AI-900’s self-paced or instructor-led learning material.

This exam is intended for candidates with both technical and non-technical backgrounds. Data science and software engineering experience are not required; however, awareness of cloud basics and client-server applications would be beneficial.

Azure AI Fundamentals can be used to prepare for other Azure role-based certifications like Azure Data Scientist Associate or Azure AI Engineer Associate, but it is not a prerequisite for any of them.

Skills Measured

NOTE: The bullets that follow each of the skills measured are intended to illustrate how we are assessing that skill. Related topics may not be covered in the exam.

NOTE: Most questions cover features that are general availability (GA). The exam may contain questions on Preview features if those features are commonly used.

Describe Artificial Intelligence workloads and considerations (20—25%)

Identify features of common AI workloads

- identify features of anomaly detection workloads
• identify computer vision workloads
• identify natural language processing workloads
• identify knowledge mining workloads

Identify guiding principles for responsible AI

• describe considerations for fairness in an AI solution
• describe considerations for reliability and safety in an AI solution
• describe considerations for privacy and security in an AI solution
• describe considerations for inclusiveness in an AI solution
• describe considerations for transparency in an AI solution
• describe considerations for accountability in an AI solution

Describe fundamental principles of machine learning on Azure (25—30%)

Identify common machine learning types

• identify regression machine learning scenarios
• identify classification machine learning scenarios
• identify clustering machine learning scenarios

Describe core machine learning concepts

• identify features and labels in a dataset for machine learning
• describe how training and validation datasets are used in machine learning

Describe capabilities of visual tools in Azure Machine Learning Studio

• automated machine learning
• azure Machine Learning designer

Describe features of computer vision workloads on Azure (15—20%)

Identify common types of computer vision solution:

• identify features of image classification solutions
• identify features of object detection solutions
• identify features of optical character recognition solutions
• identify features of facial detection, facial recognition, and facial analysis solutions
Identify Azure tools and services for computer vision tasks

- identify capabilities of the Computer Vision service
- identify capabilities of the Custom Vision service
- identify capabilities of the Face service
- identify capabilities of the Form Recognizer service

Describe features of Natural Language Processing (NLP) workloads on Azure (25—30%)

Identify features of common NLP Workload Scenarios

- identify features and uses for key phrase extraction
- identify features and uses for entity recognition
- identify features and uses for sentiment analysis
- identify features and uses for language modeling
- identify features and uses for speech recognition and synthesis
- identify features and uses for translation

Identify Azure tools and services for NLP workloads

- identify capabilities of the Language service
- identify capabilities of the Speech service
- identify capabilities of the Translator service

Identify considerations for conversational AI solutions on Azure

- identify features and uses for bots
- identify capabilities of the Azure Bot service

The table below shows the changes that were implemented on April 29, 2022 to the English language version of this exam. Following the comparison table, the previous study guide is included.

<table>
<thead>
<tr>
<th>Old objective number</th>
<th>Subtask changes and new location</th>
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<tbody>
<tr>
<td>1.1 Identify features of common AI workloads</td>
<td>Revised subtasks</td>
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<tr>
<td>2.2 Describe core machine learning concepts</td>
<td>Revised subtasks</td>
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<td>2.3 Identify core tasks in creating a machine learning solution</td>
<td>Deleted</td>
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<tr>
<td>2.4 Describe capabilities of no code machine learning with Azure Machine Learning Studio</td>
<td>Revised title and subtasks; new 2.3</td>
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4.2 Identify Azure tools and services for NLP workloads

5.1 Describe features of conversational AI workloads on Azure

5.2 Identify Azure services for conversational AI

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Describe Artificial Intelligence workloads and considerations (15—20%)

Identify features of common AI workloads

- identify prediction/forecasting workloads
- identify features of anomaly detection workloads
- identify computer vision workloads
- identify natural language processing or knowledge mining workloads
- identify conversational AI workloads
Identify guiding principles for responsible AI

- describe considerations for fairness in an AI solution
- describe considerations for reliability and safety in an AI solution
- describe considerations for privacy and security in an AI solution
- describe considerations for inclusiveness in an AI solution
- describe considerations for transparency in an AI solution
- describe considerations for accountability in an AI solution

Describe fundamental principles of machine learning on Azure (30—35%)

Identify common machine learning types

- identify regression machine learning scenarios
- identify classification machine learning scenarios
- identify clustering machine learning scenarios

Describe core machine learning concepts

- identify features and labels in a dataset for machine learning
- describe how training and validation datasets are used in machine learning
- describe how machine learning algorithms are used for model training
- select and interpret model evaluation metrics for classification and regression

Identify core tasks in creating a machine learning solution

- describe common features of data ingestion and preparation
- describe feature engineering and selection
- describe common features of model training and evaluation
- describe common features of model deployment and management

Describe capabilities of no-code machine learning with Azure Machine Learning studio

- automated ML UI
- azure Machine Learning designer

Describe features of computer vision workloads on Azure (15—20%)

Identify common types of computer vision solution:

- identify features of image classification solutions
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Identify Azure tools and services for computer vision tasks

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Describe features of Natural Language Processing (NLP) workloads on Azure (15–20%)

Identify features of common NLP Workload Scenarios

identify features and uses for key phrase extraction
identify features and uses for entity recognition
identify features and uses for sentiment analysis
identify features and uses for language modeling
identify features and uses for speech recognition and synthesis
identify features and uses for translation

Identify Azure tools and services for NLP workloads

identify capabilities of the Text Analytics service
identify capabilities of the Language Understanding service (LUIS)
identify capabilities of the Speech service
identify capabilities of the Translator Text service

Describe features of conversational AI workloads on Azure (15—20%)

Identify common use cases for conversational AI

identify features and uses for webchat bots
identify common characteristics of conversational AI solutions

Identify Azure services for conversational AI

identify capabilities of the QnA Maker service
identify capabilities of the Azure Bot service