Study guide for Exam AI-900: Microsoft Azure AI Fundamentals

Purpose of this document

This study guide should help you understand what to expect on the exam and includes a summary of the topics the exam might cover and links to additional resources. The information and materials in this document should help you focus your studies as you prepare for the exam.

Useful links	Description
Review the skills measured as of May 4, 2023	This list represents the skills measured AFTER the date provided. Study this list if you plan to take the exam AFTER that date.
Review the skills measured prior to May 4, 2023	Study this list of skills if you take your exam PRIOR to the date provided.
Change log	You can go directly to the change log if you want to see the changes that will be made on the date provided.
How to earn the certification	Some certifications only require passing one exam, while others require passing multiple exams.
Certification renewal	Microsoft associate, expert, and specialty certifications expire annually. You can renew by passing a free online assessment on Microsoft Learn.
Your Microsoft Learn profile	Connecting your certification profile to Microsoft Learn allows you to schedule and renew exams and share and print certificates.
Exam scoring and score reports	A score of 700 or greater is required to pass.
Exam sandbox	You can explore the exam environment by visiting our exam sandbox.
Request accommodations	If you use assistive devices, require extra time, or need modification to any part of the exam experience, you can request an accommodation.

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Useful links	Description
Take a free Practice Assessment	Test your skills with practice questions to help you prepare for the exam.

Updates to the exam

Our exams are updated periodically to reflect skills that are required to perform a role. We have included two versions of the Skills Measured objectives depending on when you are taking the exam.

We always update the English language version of the exam first. Some exams are localized into other languages, and those are updated approximately eight weeks after the English version is updated. While Microsoft makes every effort to update localized versions as noted, there may be times when the localized versions of an exam are not updated on this schedule. Other available languages are listed in the **Schedule Exam** section of the **Exam Details** webpage. If the exam isn't available in your preferred language, you can request an additional 30 minutes to complete the exam.

Note

The bullets that follow each of the skills measured are intended to illustrate how we are assessing that skill. Related topics may 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.

Skills measured as of May 4, 2023

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.

- Describe Artificial Intelligence workloads and considerations (20–25%)
- Describe fundamental principles of machine learning on Azure (25–30%)
- Describe features of computer vision workloads on Azure (15–20%)
- Describe features of Natural Language Processing (NLP) workloads on Azure (25–30%)

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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 and facial analysis solutions

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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 Power Virtual Agents and Azure Bot service

Study resources

We recommend that you train and get hands-on experience before you take the exam. We offer self-study options and classroom training as well as links to documentation, community sites, and videos.

Study resources	Links to learning and documentation
Get trained	[Choose from self-paced learning paths and modules or take an instructor-led course](#)
Find documentation	[Anomaly Detector](#)
	[Language Understanding](#)
	[Azure Machine Learning](#)
	[Computer Vision](#)

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Study resources	Links to learning and documentation
	Natural language processing technology
	Azure Bot Service
	Speech to Text
	Speech Translation
Ask a question	Microsoft Q&A | Microsoft Docs
Get community support	Artificial Intelligence and Machine Learning Hub
Follow Microsoft Learn	Microsoft Learn - Microsoft Tech Community
Find a video	The AI Show
	Browse other Microsoft Learn shows

Change log

Key to understanding the table: The topic groups (also known as functional groups) are in bold typeface followed by the objectives within each group. The table is a comparison between the two versions of the exam skills measured and the third column describes the extent of the changes.

Skill area prior to May 4, 2023	Skill area as of May 4, 2023	Changes
Audience profile		No change
Describe Artificial Intelligence workloads and considerations	**Describe Artificial Intelligence workloads and considerations**	No change
Identify features of common AI workloads	Identify features of common AI workloads	No change
Identify guiding principles for responsible AI	Identify guiding principles for responsible AI	No change
Describe fundamental principles of machine learning on Azure	**Describe fundamental principles of machine learning on Azure**	No change
Identify common machine learning types	Identify common machine learning types	No change

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Skill area prior to May 4, 2023	Skill area as of May 4, 2023	Changes
Describe core machine learning concepts	Describe core machine learning concepts	No change
Describe capabilities of visual tools in Azure Machine Learning Studio	Describe capabilities of visual tools in Azure Machine Learning Studio	No change
Describe features of computer vision workloads on Azure	**Describe features of computer vision workloads on Azure**	No change
Identify common types of computer vision solution	Identify common types of computer vision solution	Minor
Identify Azure tools and services for computer vision tasks	Identify Azure tools and services for computer vision tasks	No change
Describe features of Natural Language Processing (NLP) workloads on Azure	**Describe features of Natural Language Processing (NLP) workloads on Azure**	No change
Identify features of common NLP workload scenarios	Identify features of common NLP workload scenarios	No change
Identify Azure tools and services for NLP workloads	Identify Azure tools and services for NLP workloads	No change
Identify considerations for conversational AI solutions on Azure	Identify considerations for conversational AI solutions on Azure	Minor

Skills measured prior to May 4, 2023

Audience profile

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- Describe fundamental principles of machine learning on Azure (25–30%)
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- Describe features of Natural Language Processing (NLP) workloads on Azure (25–30%)

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 workload
- identify knowledge mining workloads

Identify guiding principles for responsible AI

- describe considerations for fairness in an AI solution
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- 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
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- identify clustering machine learning scenarios

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- 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

Microsoft

Identify Azure tools and services for computer vision tasks

- identify capabilities of the Computer Vision service
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- 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