



# التحضير للاختبار Azure Microsoft الاصطناعي الذكاء حلول ونشر تصميم: AI-102

## التحضير للاختبار Microsoft Azure AI-102: تصميم ونشر حلول الذكاء الاصطناعي

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### Course Overview:

The "Microsoft Azure AI-102 Exam Prep: Design & Deploy AI Solutions on Azure Training Course" is an advanced, hands-on program crafted to equip AI Engineers and developers with the skills and confidence to design, implement, and manage Azure-based AI solutions. This course is aligned with the AI-102 Certification Training and prepares participants to pass the Microsoft Certified AI-102 Exam. Throughout the program, learners will master Azure Cognitive Services Training, Natural Language Processing in Azure, Azure Bot Service Development, Azure Computer Vision API Training, Azure Knowledge Mining Course, and how to Deploy AI Solutions with Azure SDK.

This training offers in-depth, real-world scenarios using C# or Python, REST APIs for Azure AI, and tools like Custom Vision, Azure Document Intelligence, and Azure Cognitive Search Implementation. This course is ideal for software engineers, data specialists, and technical leaders aiming to elevate their Azure AI expertise and obtain Microsoft Azure AI Engineer certification.

### Target Audience:

- AI Engineers
- Software Developers
- Data Scientists
- Machine Learning Engineers
- Solution Architects
- IT Consultants

### Targeted Organizational Departments:

- IT & Software Development Teams
- Data & Analytics Departments
- AI & Machine Learning Units
- Cloud Architecture and DevOps Teams
- Innovation and R&D Divisions

### Targeted Industries:

- Information Technology
- Finance & Banking
- Healthcare & Life Sciences
- Retail & E-Commerce
- Government & Smart Cities
- Education & Research Institutions

## Course Offerings:

By the end of this course, participants will be able to:

- Build secure AI-infused applications using Azure Cognitive Services and REST APIs for Azure AI.
- Implement Azure AI Services including NLP, vision, bots, and knowledge mining.
- Design and deploy custom solutions using Azure SDKs and containers.
- Analyze images, video, text, and speech using Microsoft Azure AI services.
- Pass the Microsoft Certified AI-102 Exam confidently.
- Utilize tools like Azure Document Intelligence Models, Custom Vision in Azure, Azure Bot Service, and Azure Cognitive Search.

## Training Methodology:

This course employs a blended training methodology including real-time case studies, interactive lab exercises, expert-led sessions, group discussions, and mock AI-102 practice tests. Participants will gain hands-on experience using Azure SDK, REST-based APIs, and C# or Python scripting to implement scalable AI solutions. The training -emphasizes real-world implementation through AI-102-aligned assessments. Interactive sessions with scenario based challenges, feedback loops, and demo labs covering Azure Machine Learning with AI and Speech-to-Text and Text-to-Speech with Azure will ensure knowledge retention and practical readiness.

## Course Toolbox:

- Study guide digital handout
- Sample projects using Azure Bot Framework & Azure Document Intelligence
- REST API reference sheets
- AI-102 Practice Tests and mock questions
- Access to Microsoft Learn labs via links
- Case studies, checklists, and Azure SDK templates

Note: Tool licenses or platforms are not provided. Instead, real-world tool use is demonstrated using publicly available Microsoft Azure resources.

## Course Agenda:

### Day 1: Planning, Security & Responsible AI

- Understand AI-102 Exam Scope & Azure AI Engineer Role **Topic 1:**
- Select the Appropriate Azure AI Services for Vision, Language, and Speech **Topic 2:**
- Plan for Responsible AI and Ethical Implementation **Topic 3:**
- Configure Security for Azure AI Services and Manage Authentication **Topic 4:**
- Create and Manage Azure AI Resources using Portal and SDK **Topic 5:**
- Plan for Container Deployments and CI/CD Integration of AI Services **Topic 6:**
- Reviewing exam weightings, key security practices, and planning checklists **Reflection & Review:**

## Day 2: Computer Vision & Image Intelligence

- Analyze Images using Computer Vision □ Tags, Categories, Objects Topic 1: •
- Extract Text from Images and Handwriting using OCR Topic 2: •
- Implement Custom Vision for Image Classification and Object Detection Topic 3: •
- Train and Evaluate Custom Models with Compact or Cloud Hosting Options Topic 4: •
- Export Models for Edge Deployment and Container Use Topic 5: •
- Process Videos using Azure Video Indexer □ Extracting Insights & Transcripts Topic 6: •
- Compare built-in vs custom vision tools, prepare for scenario-based vision questions Reflection & Review: •

## Day 3: Natural Language & Speech Intelligence

- Analyze Text □ Key Phrases, Entities, Sentiment, and PII Detection Topic 1: •
- Implement Text-to-Speech and Customize Voice Output with SSML Topic 2: •
- Implement Speech-to-Text and Enhance Accuracy with Custom Models Topic 3: •
- Translate Text and Speech in Real Time across Multiple Languages Topic 4: •
- Build and Optimize Language Understanding LUIS Models Topic 5: •
- Create Question Answering Systems with Multi-Turn Dialogue and Metadata Topic 6: •
- Exam tips for text analytics, LUIS structure, and voice service integration Reflection & Review: •

## Day 4: Bots, Orchestration & Multi-Channel Conversational AI

- Design Conversational Flows and Dialog Logic Topic 1: •
- Build Bots Using Azure Bot Framework SDK and Composer Topic 2: •
- Implement Multi-Language Support and Adaptive Cards in Bots Topic 3: •
- Integrate Language, QnA, and Speech Services into a Unified Bot Topic 4: •
- Test Bots in Emulator and Live Channels like Teams or Web Chat Topic 5: •
- Publish, Deploy, and Monitor Bots in Production Topic 6: •
- Discuss conversational architecture, troubleshoot bot failures, review adaptive flows Reflection & Review: •

## Day 5: Cognitive Search, Knowledge Mining & Exam Preparation

- Provision and Configure Azure Cognitive Search Topic 1: •
- Define Indexes, Data Sources, and Build Indexers Topic 2: •
- Apply AI Enrichment with Built-In and Custom Skills Topic 3: •
- Deploy AI Models using SDK, REST APIs, and Containers Topic 4: •
- Monitor Costs, Set Alerts, and Enable Diagnostic Logging for AI Services Topic 5: •
- Take AI-102 Practice Exam and Review Key Exam Domains Topic 6: •
- Final Q&A, Confidence Check, Mock Scenarios, Exam Strategy Planning Reflection & Review: •

FAQ:

What specific qualifications or prerequisites are needed for participants before enrolling in the course?

Participants should have working knowledge of Microsoft Azure, experience with programming in C# or Python, and familiarity with REST APIs.

How long is each day's session, and is there a total number of hours required for the entire course?

Each day's session is generally structured to last around 4-5 hours, with breaks and interactive activities included. The total course duration spans five days, approximately 20-25 hours of instruction.

What is the difference between Azure Cognitive Search and Azure Cognitive Services?

Azure Cognitive Services are pre-built APIs for vision, speech, and language, while Azure Cognitive Search combines indexing with AI enrichment to enable intelligent search experiences. Both are essential for AI-102 Certification Training.

How This Course is Different from Other Microsoft Azure AI-102 Exam Prep Courses:

-Unlike many AI-102 Exam Preparation programs that focus only on theoretical learning, this course provides a high impact, project-based training approach. It incorporates hands-on labs using REST APIs for Azure AI, Custom Vision in Azure, Azure Bot Framework, and Azure Document Intelligence Models. Participants will not only understand how to pass the Microsoft Certified AI-102 Exam but will be able to immediately implement AI-powered solutions in their work environments. This course also integrates insights from Azure Machine Learning with AI and emphasizes Responsible AI principles and real-world deployment scenarios, making it highly suitable for developers, engineers, and architects looking to apply their learning in enterprise-scale solutions.

## فئات الدورات التدريبية

|                                                    |                                                     |
|----------------------------------------------------|-----------------------------------------------------|
| الدورات التدريبية في مجال البيئة والاستدامة        | دورات إدارة الجودة وتطوير العمليات                  |
| دورات إدارة و تحليل البيانات ودورات علم البيانات   | دورات إدارة و تطوير الموارد البشرية                 |
| دورات الذهن السيرياني ودورات تقنية المعلومات       | دورات الاتصال الجماهيري و السياسات والعلاقات العامة |
| دورات التدريب القانوني والهشتريات والتعاقدات       | دورات التسويق وإدارة علاقات العملاء وإدارة المبيعات |
| دورات الحوكمة وإدارة المخاطر والامتثال             | دورات السكرتارية و إدارة المكاتب                    |
| دورات الصحة والسلامة والذهن المهني                 | دورات الصيانة ودورات المجالات الهندسية المتنوعة     |
| دورات المحاسبة و التهويل و دورات الإدارة المالية   | دورات المهارات الشخصية وتطوير الذات                 |
| دورات في مجالات القيادة والإدارة                   | دورات معتمدة من قبل هيئات دولية                     |
| دورات مكتب إدارة المشاريع وإدارة المشاريع الرشيقية |                                                     |



## معدن التدريب

|                                      |                                         |                                    |
|--------------------------------------|-----------------------------------------|------------------------------------|
| أكرا<br>غانا                         | أثينا<br>اليونان                        | أبوظبي<br>الإمارات العربية المتحدة |
| الجبيل<br>المملكة العربية السعودية   | استنبول<br>تركيا                        | أهستردام<br>هولندا                 |
| الرياض<br>المملكة العربية السعودية   | الدوحة<br>قطر                           | الدار البيضاء<br>المغرب            |
| المنامة<br>مملكة البحرين             | الكويت<br>الكويت                        | القاهرة<br>مصر                     |
| بانكوك<br>تايلند                     | باكو<br>أذربيجان                        | باريس<br>فرنسا                     |
| برلين<br>ألمانيا                     | برشلونة<br>إسبانيا                      | براغ<br>جمهورية التشيك             |
| تيليسي<br>جورجيا                     | بوكيت<br>تايلاند                        | بورتو<br>البرتغال                  |
| جنيف<br>سويسرا                       | جاكارتا<br>جمهورية إندونيسيا            | تورنتو<br>كندا                     |
| روما<br>إيطاليا                      | حلي<br>الإمارات العربية المتحدة         | جوهانسبرغ<br>جنوب أفريقيا          |
| سنغافورة<br>سنغافورة                 | سان دييغو<br>الولايات المتحدة الأمريكية | زنجان<br>تنزانيا                   |
| شيكاغو<br>الولايات المتحدة الأمريكية | شرم الشيخ<br>مصر                        | سيول<br>كوريا الجنوبية             |
| طوكيو<br>اليابان                     | طشقند<br>أوزبكستان                      | طرابزون<br>تركيا                   |
| فرانكفورت<br>ألمانيا                 | عن بعد<br>منصة زووم                     | عمان<br>المملكة الأردنية الهاشمية  |



## مدن التدريب

|                          |                                       |                    |
|--------------------------|---------------------------------------|--------------------|
| كيب تاون<br>جنوب افريقيا | كوالالمبور<br>ماليزيا                 | فيينا<br>النمسا    |
| لندن<br>المملكة المتحدة  | لشبونة<br>البرتغال                    | لانكاوي<br>ماليزيا |
| مسقط<br>سلطنة عمان       | هدريد<br>اسبانيا                      | ماربيا<br>اسبانيا  |
| ميونخ<br>ألمانيا         | ميلان<br>إيطاليا                      | مونترو<br>سويسرا   |
|                          | نيويورك<br>الولايات المتحدة الأمريكية | نيروبي<br>كينيا    |