Microsoft Azure AI-102 Exam Prep: Design & Deploy AI Solutions on Azure

19 – 23 July 2027
Addis Ababa

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Ref: 103600373_225193 **Date:** 19 – 23 July 2027 **Location:** Addis Ababa **Fees:** 4500 Euro

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

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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.

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Course Agenda:

Day 1: Planning, Security & Responsible AI

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

Day 2: Computer Vision & Image Intelligence

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

Day 3: Natural Language & Speech Intelligence

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

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

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

Day 5: Cognitive Search, Knowledge Mining & Exam Preparation

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

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 one week, 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.

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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.