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AI-300 Operationalizing ML & Generative AI Solutions

Deploy, monitor and govern machine learning and generative AI solutions on Azure.

Course description

This course is for AI engineers, ML engineers, data scientists and developers who want to take machine learning and generative AI solutions from experimentation to production on Azure. It builds the knowledge needed to operationalize AI at scale using Azure AI and Azure Machine Learning services, so that solutions stay reliable, scalable and deliver business impact.

Topics include deploying machine learning models with Azure Machine Learning, implementing MLOps concepts and pipelines, and choosing between real-time and batch deployment strategies. Learners explore how to monitor and tune model performance in production, and how to keep deployed AI solutions dependable over time.

The course also covers the operationalization of generative AI models and workflows, along with Responsible AI and governance practices. By the end, participants can build, deploy, monitor and manage AI solutions in production environments that meet enterprise requirements and deliver business value.

Course details

Level: Intermediate
Duration: 4 Days

Activities

This course includes presentations, demonstrations, and labs. Hands-on labs are designed around real-world business scenarios to build practical understanding and application skills.

Course objectives

In this course, you will learn to:

- Operationalize machine learning models using Azure Machine Learning.
- Deploy and manage AI solutions in production environments.
- Implement MLOps practices, including pipelines for continuous delivery.
- Apply real-time and batch model deployment strategies.
- Work with generative AI models and workflows in Azure AI Foundry.
- Operationalize generative AI solutions for enterprise use cases.
- Monitor, evaluate and improve model performance in production.
- Optimize AI solutions for reliability, scalability and business impact.
- Apply Responsible AI and governance practices across the AI lifecycle.
- Move AI solutions from experimentation to production using Azure AI and Machine Learning services.

Learning objectives of the AI-300 course

- Deploy machine learning and generative AI models in production on Azure.
- Implement MLOps pipelines for continuous delivery of machine learning solutions.
- Choose and apply real-time and batch deployment strategies for AI models.
- Monitor and optimize AI solutions to maintain performance, reliability and quality.
- Operationalize generative AI models and workflows for enterprise use cases.
- Apply governance and Responsible AI practices for secure and ethical AI solutions.
- Build scalable and reliable AI systems that move from experimentation to production.

Intended audience

This intermediate-level course is intended for professionals who want to operationalize machine learning and generative AI solutions on Azure, including:

- AI engineers and ML engineers.
- Data scientists moving to production roles.
- Cloud engineers working with Azure AI.
- Developers building AI-powered applications.
- Pre-sales professionals working on AI solutions.
- Technical leads and solution architects.

Prerequisites for the AI-300 Exam Course

Prerequisites for this intermediate-level course:

- Basic understanding of machine learning concepts.
- Familiarity with Azure fundamentals.
- Understanding of AI workloads and cloud concepts.
- Knowledge of Python (recommended but not mandatory).

Course outline

Module 1 Introduction to Operationalizing AI Solutions

Module 2 Azure Machine Learning for deployment

Module 3 MLOps concepts and pipelines

Module 4 Model deployment strategies (real-time & batch)

Module 5 Monitoring and performance tuning

Module 6 Generative AI operationalization

Module 7 Responsible AI and governance

Key features of the AI-300 course

- **Expert-led training:** learn from certified professionals with real-world AI deployment experience.
- **Hands-on labs:** gain practical exposure to Azure Machine Learning, AI Foundry and deployment pipelines.
- **Real-world scenarios:** work on use cases involving production-ready AI systems and generative AI applications.
- **Structured learning path:** step-by-step approach from model development to deployment and monitoring.
- **Access to LMS:** course materials, labs and assessments available through an integrated platform.
- **Industry-relevant curriculum:** aligned with Microsoft certification standards and enterprise needs, designed for certification readiness.

Why choose CloudThat as your training partner for AI-300?

- Certified trainers with extensive enterprise AI experience, offering practical, industry-relevant insights.
- Hands-on labs built around real-world business scenarios to strengthen practical skills.
- Industry-focused curriculum aligned with the latest trends in AI, cloud technologies and enterprise solution development.
- Continuous support and mentorship throughout the learning journey for clarity, confidence and skill growth.
- Proven success with Microsoft certifications and a strong record of learner achievement and career advancement.
- Outcome-driven training focused on building job-ready skills and delivering measurable business impact.

Certification details

- This course prepares learners for the **Microsoft AI-300 certification**, which validates the ability to operationalize machine learning and generative AI solutions using Azure.
- The certification focuses on real-world deployment, monitoring and governance of AI systems, which are critical for enterprise adoption.
- It is ideal for professionals aiming to transition from experimentation to production AI environments.
- AI-300 enhances your profile for roles such as AI Engineer, ML Engineer and Solution Architect in AI-driven organizations.

Frequently asked questions

What is the AI-300 course about?

AI-300 focuses on operationalizing machine learning and generative AI solutions on Azure, covering deployment, MLOps, monitoring and governance.

Who should take this course?

AI engineers, ML engineers, data scientists and developers working with AI solutions.

Is coding required for AI-300?

Yes, basic knowledge of Python and ML concepts is recommended.

Is AI-300 difficult?

It is an intermediate-level certification and requires an understanding of ML and cloud concepts.

What roles can I get after AI-300?

Roles like AI Engineer, ML Engineer and AI Solution Architect.

What are the next steps after AI-300?

You can specialize further in generative AI, MLOps or advanced Azure AI certifications.

Does AI-300 have an exam?

Yes, you need to pass the certification exam to earn the credential.

Is there a certification associated with this course?

Yes. The course prepares you for the Microsoft AI-300 certification, which focuses on operationalizing machine learning and generative AI solutions on Azure.

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Your course overview ends here.

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About CloudThat

Established in 2012, CloudThat is an award-winning company and the first in India to offer cloud training and consulting services for individuals and enterprises worldwide. Recently, it won Google Cloud's New Training Partner of the Year Award for 2025, becoming the first company in the world in 2025 to hold awards from all three major cloud giants: AWS, Microsoft, and Google. CloudThat notably won consecutive AWS Training Partner of the Year (APJ) awards in 2023 and 2024 and the Microsoft Training Services Partner of the Year Award in 2024, bringing its total award count to an impressive 12 awards in the last 8 years.

CloudThat specializes in Cloud Migration, Data Platforms, DevOps, IoT, and cutting-edge technologies like Gen AI & AI/ML. As a Microsoft Solutions Partner, AWS Premier Tier Training Partner, Google Cloud Platform Partner, and collaborator with leading organizations like HPE, Oracle, Nvidia and Databricks, CloudThat has trained over 850,000 professionals across 600+ cloud certifications, empowering students and professionals worldwide to advance their skills and careers.

To know more about our cloud certification training, email at sales@cloudthat.com or call us at +91-8880002200 or +1-8555588830 for those from outside India.