

## PROFESSIONAL COURSE OUTLINE

Microsoft

AI-300

# Machine Learning Operations (MLOps) Engineer Associate (beta)

This course prepares learners to design, implement, and operate Machine Learning Operations (MLOps) and Generative AI Operations (GenAIOps) solutions on Azure. It covers building secure and scalable AI infrastructure, managing the full lifecycle of traditional machine learning models with Azure Machine Learning, and deploying, evaluating, monitoring, and optimizing generative AI applications and agents using Microsoft Foundry. Learners will gain hands-on knowledge of automation, continuous integration and delivery, infrastructure as code, and observability by using tools such as GitHub Actions, Azure CLI, and Bicep. The course emphasizes collaboration with data science and DevOps teams to deliver reliable, production-ready AI systems aligned with modern MLOps and GenAIOps best practices.

AI

Intermediate

Azure Machine Learning, Microsoft Foundry

## PROGRAM CODE

AI-300

## DELIVERY

Virtual, On-site, or Hybrid

## DURATION

4 days

## CERTIFICATION

**Microsoft Certified: Machine Learning Operations (MLOps) Engineer Associate (beta)**

## AUDIENCE PROFILE

## Who This Program Is For

This course is intended for data scientists, machine learning engineers, and DevOps professionals who want to design and operate production-grade AI solutions on Azure. It is suited for learners with experience in Python, a foundational understanding of machine learning concepts, and basic familiarity with DevOps practices such as source control, CI/CD, and command-line tools, who are preparing to implement MLOps and GenAIOps workflows using Azure-native services.

## PROGRAM SUMMARY

## What This Course Covers

As a candidate for this Microsoft Certification, you should have subject matter expertise in setting up infrastructure for machine learning operations (MLOps) and generative AI operations (GenAIOps) solutions on Azure, together referred to as AI operations (AIOps).

## TAILORED DELIVERY

## Adapt the program around your team.

This outline can be adapted for virtual, on-site, or hybrid delivery, with emphasis adjusted for your team's platform priorities, role mix, and implementation goals.

### Enterprise-ready delivery format

VNode ITeS can align labs, examples, delivery pace, and assessment checkpoints to the required audience profile while preserving the official program sequence where applicable.



### Plan the next session

We can tune this outline around your delivery goals and team mix.

## TALK TO US

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Wework, DLF Forum Infinity Tower C, Gurugram, INDIA

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## COMPLETE MODULE SEQUENCE

## Module Flow and Topic Coverage

The structure below presents the current delivery flow for this program, including the associated topics covered under each module.

1

## MODULE 1

## Operationalize machine learning models (MLOps)

Learn the full MLOps lifecycle for machine learning models, from experimentation and pipeline automation to CI/CD, automated testing, and model deployment in production.

- Experiment with Azure Machine Learning
- Perform hyperparameter tuning with Azure Machine Learning
- Run pipelines in Azure Machine Learning
- Trigger Azure Machine Learning jobs with GitHub Actions
- Trigger GitHub Actions with feature-based development
- Work with environments in GitHub Actions
- Deploy a model with GitHub Actions

2

## MODULE 2

## Operationalize generative AI applications (GenAIOps)

Learn the full GenAIOps lifecycle for generative AI applications, from planning and prompt management to evaluation, automated testing, monitoring, and tracing in production.

- Plan and prepare a GenAIOps solution
- Manage prompts for agents in Microsoft Foundry with GitHub
- Evaluate and optimize AI agents through structured experiments
- Automate AI evaluations with Microsoft Foundry and GitHub Actions
- Monitor your generative AI application
- Analyze and debug your generative AI app with tracing



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