KOENIG SOLUTIONS · COURSE OUTLINE

AI & LLMOps Mastery with Azure

Learn to train, deploy, search, and operationalise AI and LLM solutions using Azure Machine Learning, AI Search, and AI Foundry.

4 Days	28	13
32 HOURS	TOPICS	HANDS-ON ACTIVITIES

COURSE OVERVIEW

Learn Machine Learning, AI Search, Generative AI, and LLMOps using Azure's advanced AI ecosystem.

WHO THIS COURSE IS FOR

- **Machine Learning Engineers**
- **AI Developers**
- **Data Scientists**
- **Search Solution Developers**
- **LLMOps Engineers**
- **Chatbot Developers**

TOOLS AND REQUIREMENTS

Note

- For the first three modules, official courseware from Microsoft will be provided.
- For the fourth module (LLMOps), a live demonstration will be shown by the trainer, and participants should have an Azure subscription for hands-on practice.

LEARNING OBJECTIVES

- Prepare data and compute for Azure Machine Learning workflows
- Train and track models using MLflow in Azure ML
- Deploy trained models to managed online endpoints
- Implement AI-powered search skills and enrich search indexes
- Integrate Azure AI Search with client applications
- Deploy and fine-tune models in Azure AI Foundry
- Build RAG-based agents and evaluate generative AI models
- Automate LLM retraining, monitoring, and secure deployment with LLMOps

COURSE SYLLABUS

28 Topics

DAY 1 Machine Learning with Azure ML

Learn how to prepare, train, track, and deploy ML models using Azure Machine Learning.

TOPICS

3 Hands-on Labs

- Make data available in Azure Machine Learning
- Work with compute targets in Azure ML
- Configure environments for ML workflows
- Run a training script as a command job
- Track model training using MLflow
- Register and manage MLflow models in Azure ML
- Deploy trained models to managed online endpoints

DAY 2 Implementing Search Solutions with Azure AI Search

Develop AI-powered search solutions using Azure AI Search.

TOPICS

3 Hands-on Labs

- Introduction to Azure AI Search & its capabilities
- Creating search resources in Azure
- Implementing AI-powered search skills
- Enriching search indexes for better retrieval
- Integrating AI Search with client applications

DAY 3 Generative AI with Azure AI Foundry

Learn to build and deploy generative AI applications in Azure AI Foundry.

TOPICS

3 Hands-on Labs

- Introduction to Azure AI Foundry
- Exploring & deploying models from the Foundry model catalog
- Developing LLM-based applications using Prompt Flow
- Building RAG-based agents with custom data
- Fine-tuning LLMs in Azure AI Foundry
- Evaluating Generative AI models for performance
- Implementing Responsible AI principles

DAY 4 LLMOps with Azure & Developing Bots — 8 hours

Mastering LLMOps for Large-Scale AI Deployment

TOPICS

- Understanding LLMOps & its role in AI model lifecycle
- Managing scalability, performance, and cost optimization
- Automating model retraining & deployment
- Monitoring LLM performance, drift, and biases
- Best practices for secure & responsible LLM deployment

Developing Bots with Azure Bot Services

4 Activities

TOPICS

- Introduction to Azure Bot Services & Conversational AI
- Designing and deploying AI-powered chatbots
- Integrating bots with Azure AI and OpenAI APIs
- Implementing Azure AI Speech & Language Services in chatbots

NOTES

- Key Takeaways: Deploy ML models with Azure ML; Implement AI-powered search solutions; Develop Generative AI applications using Azure AI Foundry; Master LLMOps for managing Large Language Models

HANDS-ON ACTIVITIES

Practise What You Learn

MODULE	ACTIVITY
Machine Learning with Azure ML	**HANDS-ON LABS** ■ Data preparation & compute setup in Azure ML ■ Running & tracking ML training jobs ■ Deploying a model to an endpoint
Implementing Search Solutions with Azure AI Search	**HANDS-ON LABS** ■ Setting up an AI-powered search solution ■ Implementing search enrichment & indexing ■ Integrating search with an external application
Generative AI with Azure AI Foundry	**HANDS-ON LABS** ■ Deploying models from the Azure AI Foundry catalog ■ Developing an LLM-powered application using Prompt Flow ■ Fine-tuning a language model & evaluating its performance

MODULE	ACTIVITY
Developing Bots with Azure Bot Services	**HANDS-ON LABS & DEMONSTRATION** ■ Automating LLM model retraining with Azure MLOps ■ Monitoring AI models for drift & performance issues ■ Implementing CI/CD pipelines for LLM applications ■ Building & deploying a chatbot with Azure Bot Services

WHAT IS INCLUDED

Everything You Need to Succeed

- Koenig course material for every module
- Delivery by certified instructors and subject matter experts
- Hands-on exercises throughout the course
- Course completion certificate from Koenig

ABOUT KOENIG

Who We Are

Established in 1993, Koenig Solutions is a globally recognised training provider with 35+ technology partnerships, 5,000+ training programmes and a network of certified instructors and subject matter experts, supporting individuals and enterprise teams worldwide.

FLEXIBLE DELIVERY

Learn the Way That Suits You

Classroom Training | Live Online Classes (ILO) | Fly-Me-A-Trainer (FMAT) | Flexi (Self-Paced) | 1-on-1 Training

Ready to Get Started?

Talk to a learning advisor about schedules, group training and customised delivery.

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