

# Course Overview

Hello, and welcome to the **Agentic AI with LangChain and LangGraph** course.

You'll begin by learning how to design agentic workflows using LangGraph, focusing on memory, iteration, and conditional logic. Through interactive lessons and labs, you'll explore how LangGraph builds on LangChain to support adaptive decision-making using nodes, edges, and shared state.

As the course progresses, you'll apply these skills to build self-improving agents using architectures like Reflection, Reflexion, and ReAct. You'll also learn how to coordinate specialized agents in multi-agent systems, including agentic retrieval-augmented generation (RAG) pipelines that route queries to relevant data sources. Each concept is reinforced through hands-on labs designed to help you confidently implement advanced agentic AI systems.

This course is part of the [IBM RAG and Agentic AI Professional Certificate](#), designed to provide you with the practical skills and knowledge to excel in developing advanced AI applications that leverage RAG, multimodal AI, and agentic AI systems.

## Prerequisites

Python programming skills and experience are essential for this course, as you will immediately start building AI agents. Additionally, familiarity with core AI concepts and the LangChain framework is highly recommended. Here are some recommended courses if you are not familiar with the prerequisites:

- [Python for Data Science, AI & Development](#)
- [Develop Generative AI Applications: Get Started](#)

It is also recommended that you complete the previous courses in this Professional Certificate.

## Objectives

After completing this course, you will be able to:

- Build agentic AI systems using LangChain and LangGraph to support memory, iteration, and conditional logic
- Design and implement self-improving agents using Reflection, Reflexion, and ReAct architectures
- Apply agent orchestration techniques to build collaborative multi-agent systems
- Implement agentic RAG systems that route queries and support retrieval-enhanced reasoning