
Developing Generative AI Applications on AWS

Duration: 2 Days Course Code: GK910010 Delivery Method: Virtual Learning

Overview:

Learn the fundamentals of Generative AI on AWS and how to build, customize, and deploy AI-powered applications using Amazon Bedrock.

This course provides software developers with a comprehensive overview of Generative AI on AWS. It is designed to cover the planning of a Generative AI project, the inner workings of Amazon Bedrock, the fundamentals of Prompt Engineering, and the architectural patterns for building Generative AI applications using Amazon Bedrock and LangChain.

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Virtual Learning

This interactive training can be taken from any location, your office or home and is delivered by a trainer. This training does not have any delegates in the class with the instructor, since all delegates are virtually connected. Virtual delegates do not travel to this course, Global Knowledge will send you all the information needed before the start of the course and you can test the logins.

Target Audience:

Software Developers interested in leveraging Large Language Models without the need for fine-tuning.

Objectives:

- **In this course, you will learn how to:**
 - Describe Generative AI, its alignment with Machine Learning, and its potential risks and benefits.
 - Identify the business value derived from Generative AI use cases.
 - Explain the steps for planning a Generative AI project.
 - Understand the functionality and operations of Amazon Bedrock.
 - Describe the typical architecture associated with an Amazon Bedrock solution.
 - Implement an Amazon Bedrock demonstration within the AWS Management Console.
 - Define Prompt Engineering and apply general best practices when interacting with Foundation Models (FMs).
 - Identify basic prompt techniques, including zero-shot and few-shot learning.
 - Identify the components of a Generative AI application and how to customize a Foundation Model (FM).
 - Describe how to integrate LangChain with Large Language Models (LLMs), prompt templates, chains, chat models, text embedding models, document loaders, retrievers, and agents for Amazon Bedrock.
 - Apply concepts to build and test sample use cases leveraging various Amazon Bedrock models, LangChain, and the Retrieval Augmented Generation (RAG) approach.
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Prerequisites:

Participants should have:

- AWS Technical Essentials (Classroom or Digital).
- Intermediate-level Python proficiency.

Testing and Certification

- AWS Certified Machine Learning - Specialty
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Follow-on-Courses:

- GK910033 - Advanced Generative AI Development on AWS
- GK910036 - Building Agentic AI with Amazon Bedrock AgentCore

Content:

Module 1: Introduction to Generative AI

- Generative AI concepts
- Benefits, risks, and business value
- Generative AI project planning

Module 2: Amazon Bedrock Fundamentals

- Amazon Bedrock features and capabilities
- Foundation Models
- Bedrock solution architecture
- Amazon Bedrock demonstration

Module 3: Prompt Engineering

- Prompt Engineering fundamentals
- Prompt design best practices
- Zero-shot and few-shot prompting

Module 4: Building Generative AI Applications

- Components of a Generative AI application
- Foundation Model customization
- Application architecture patterns

Module 5: LangChain and Amazon Bedrock

- LangChain integration with Amazon Bedrock
- Prompt templates and chains
- Chat models and embedding models
- Document loaders and retrievers
- Agents and orchestration

Module 6: Retrieval Augmented Generation (RAG)

- RAG concepts
- Building and testing sample use cases
- Implementing Generative AI solutions with Amazon Bedrock and LangChain

Further Information:

For More information, or to book your course, please call us on Head Office 01189 123456 / Northern Office 0113 242 5931

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