

Course Name:- Developing Generative AI applications on AWS

Duration: 2 days /8 hours per day

Module 1: Introduction to Generative AI

Module 2: *Planning a Generative AI Project*

Section 1: Technical Foundations and Terminology for Generative AI

- Generative AI Fundamentals
- Generative AI in Practice
- Generative AI Context

Section 2: Planning a Generative AI Project

- Steps in Planning a Generative AI Project

Section 3: Evaluating the Use of Generative AI for Your Project

- Risks and Mitigation
- Conclusion

Module 3: Amazon Bedrock Getting Started

- Introduction to Amazon Bedrock
- Architecture and Use Cases
- How Do You Use Amazon Bedrock?
- Learn More

Module 4: Foundations of prompt engineering

Introduction

- Introduction
- Basics of Foundation Models
- Fundamentals of Prompt Engineering

Prompt Types and Techniques

- Basic Prompt Techniques
- Advanced Prompt Techniques
- Model-Specific Prompt Techniques
- Addressing Prompt Misuses
- Mitigating Bias

Conclusion

- Course Summary

Module 5: Building Generative AI Applications using Amazon Bedrock

Section 1

Introduction to Amazon Bedrock

- Building Generative AI Applications on Amazon Bedrock

- Applications and Use Cases
- Topics Covered in Future Modules
- Conclusion

Section 2

Application Components

- Overview of Generative AI Application Components
- Foundation Models and the FM Interface
- Working with Datasets and Embeddings
- Additional Application Components
- RAG
- Model Fine-Tuning
- Securing Generative AI Applications
- Generative AI Application Architecture
- Knowledge Check
- Conclusion

Section 3

Foundation Models

- Introduction to Amazon Bedrock Foundation Models
- Using Amazon Bedrock FMs for Inference
- Amazon Bedrock Methods
- Data Protection and Auditability
- Knowledge Check
- Conclusion

Section 4

Using LangChain

- Optimizing LLM Performance
- Integrating AWS and LangChain
- Using Models with LangChain
- Constructing Prompts
- Structuring Documents with Indexes
- Storing and Retrieving Data with Memory
- Using Chains to Sequence Components
- Managing External Resources with LangChain Agents
- Knowledge Check
- Conclusion

Section 5

Architecture Patterns

- Introduction to Architecture Patterns
- Test Generation and Text Summarization
- Question Answering
- Chatbots
- Code Generation
- LangChain and Amazon Bedrock Agents
- Knowledge Check
- Conclusion

Section 6

Hands-on Labs

- Introduction to Labs
- Lab 1: Performing Text Generation
- Lab 2: Creating Text Summarization
- Lab 3: Using Amazon Bedrock for Question and Answering
- Lab 4: Building a Chatbot
- Lab 5: Using Amazon Bedrock Models for Code Generation
- Lab 6: Integrating Amazon Bedrock Models with LangChain Agents
- Conclusion