

## Amazon SageMaker Studio for Data Scientists

**Duration: 3 Days**    **Course Code: GK110001**    **Delivery Method: Company Event**

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### Overview:

Amazon SageMaker Studio helps data scientists prepare, build, train, deploy, and monitor machine learning (ML) models quickly. It does this by bringing together a broad set of capabilities purpose-built for ML. This course prepares experienced data scientists to use the tools that are a part of SageMaker Studio, including Amazon CodeWhisperer and Amazon CodeGuru Security scan extensions, to improve productivity at every step of the ML lifecycle.

Course level: Advanced

Duration: 3 days

### Activities

This course includes presentations, hands-on labs, demonstrations, discussions, and a capstone project.

### Company Events

These events can be delivered exclusively for your company at our locations or yours, specifically for your delegates and your needs. The Company Events can be tailored or standard course deliveries.

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### Target Audience:

Experienced data scientists who are proficient in ML and deep learning fundamentals

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### Objectives:

- In this course, you will learn to:
  - Accelerate the process to prepare, build, train, deploy, and monitor ML solutions using Amazon SageMaker Studio
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### Prerequisites:

We recommend that all attendees of this course have:

- Experience using ML frameworks
  - Python programming experience
  - At least 1 year of experience as a data scientist responsible for training, tuning, and deploying models
  - AWS Technical Essentials
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## Content:

### Day 1

#### Module 1: Amazon SageMaker Studio Setup

- JupyterLab Extensions in SageMaker Studio
- Demonstration: SageMaker user interface demo

#### Module 2: Data Processing

- Using SageMaker Data Wrangler for data processing
- Hands-On Lab: Analyze and prepare data using Amazon SageMaker Data Wrangler
- Using Amazon EMR
- Hands-On Lab: Analyze and prepare data at scale using Amazon EMR
- Using AWS Glue interactive sessions
- Using SageMaker Processing with custom scripts
- Hands-On Lab: Data processing using Amazon SageMaker Processing and SageMaker Python SDK
- SageMaker Feature Store
- Hands-On Lab: Feature engineering using SageMaker Feature Store

#### Module 3: Model Development

- SageMaker training jobs
- Built-in algorithms
- Bring your own script
- Bring your own container
- SageMaker Experiments
- Hands-On Lab: Using SageMaker Experiments to Track Iterations of Training and Tuning
- Models

### Day 2

#### Module 3: Model Development (continued)

- SageMaker Debugger
- Hands-On Lab: Analyzing, Detecting, and Setting Alerts Using SageMaker Debugger
- Automatic model tuning
- SageMaker Autopilot: Automated ML
- Demonstration: SageMaker Autopilot
- Bias detection
- Hands-On Lab: Using SageMaker Clarify for Bias and Explainability
- SageMaker Jumpstart

#### Module 4: Deployment and Inference

- SageMaker Model Registry
- SageMaker Pipelines
- Hands-On Lab: Using SageMaker Pipelines and SageMaker Model Registry with SageMaker Studio
- SageMaker model inference options
- Scaling
- Testing strategies, performance, and optimization
- Hands-On Lab: Inferencing with SageMaker Studio

#### Module 5: Monitoring

- Amazon SageMaker Model Monitor
- Discussion: Case study
- Demonstration: Model Monitoring

### Day 3

#### Module 6: Managing SageMaker Studio Resources and Updates

- Accrued cost and shutting down
- Updates Capstone
- Environment setup
- Challenge 1: Analyze and prepare the dataset with SageMaker Data Wrangler
- Challenge 2: Create feature groups in SageMaker Feature Store
- Challenge 3: Perform and manage model training and tuning using SageMaker Experiments
- (Optional) Challenge 4: Use SageMaker Debugger for training performance and model optimization
- Challenge 5: Evaluate the model for bias using SageMaker Clarify
- Challenge 6: Perform batch predictions using model endpoint
- (Optional) Challenge 7: Automate full model development process using SageMaker Pipeline

## Further Information:

For More information, or to book your course, please call us on 0800/84.009

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[www.globalknowledge.com/en-be/](http://www.globalknowledge.com/en-be/)