

Amazon SageMaker Studio for Data Scientists

Duration: 3 Days **Course Code: GK110001**

Overview:

Prepare, build, train, deploy, and monitor machine learning (ML) models with AWS SageMaker.

Amazon SageMaker Studio helps data scientists rapidly prepare, build, train, deploy, and monitor machine learning (ML) models.

To do this, it brings together a wide range of features specifically designed for machine learning.

This advanced-level training prepares experienced data scientists to use the tools integrated into SageMaker Studio—including the Amazon CodeWhisperer and Amazon CodeGuru Security Scan extensions—to improve productivity at every stage of the machine learning lifecycle. This course includes presentations, hands-on exercises, demonstrations, discussions between participants and the instructor, and a capstone project.

- **Course level:** Advanced

- **Duration:** 3 days

Updated June 2026

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.

Target Audience:

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

Objectives:

- **By the end of the training, participants will be able to:**
- Accelerate the process of preparing, building, training, deploying, and monitoring ML solutions using Amazon SageMaker Studio
- Identify critical points
- Use the Amazon CodeWhisperer and Amazon CodeGuru Security Scan extensions
- Improve machine learning productivity

Prerequisites:

Recommended previous knowledge:

- 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

Testing and Certification

None

Follow-on-Courses:

None

Content:

Day 1

- Module 1: Amazon SageMaker Studio Setup
- JupyterLab Extensions in SageMaker Studio
- Demonstration: SageMaker user interface demo
- Module 2: Data Processing
- Hands-On Lab: Analyze and prepare data using Amazon SageMaker Data Wrangler
- Hands-On Lab: Analyze and prepare data at scale using Amazon EMR
- Hands-On Lab: Data processing using Amazon SageMaker Processing and SageMaker Python SDK
- Hands-On Lab: Feature engineering using SageMaker Feature Store
- Using SageMaker Data Wrangler for data processing
- Using Amazon EMR
- Using AWS Glue interactive sessions
- Using SageMaker Processing with custom scripts
- SageMaker Feature Store
- Module 3: Model Development
- Hands-On Lab: Using SageMaker Experiments to Track Iterations of Training and Tuning Models
- SageMaker training jobs
- Built-in algorithms
- Bring your own script
- Bring your own container
- SageMaker Experiments

Day 2

- Module 3: Model Development (continued)
- Hands-On Lab: Analyzing, Detecting, and Setting Alerts Using SageMaker Debugger
- Hands-On Lab: Using SageMaker Clarify for Bias and Explainability
- SageMaker Debugger
- Automatic model tuning
- SageMaker Autopilot: Automated ML
- Demonstration: SageMaker Autopilot
- Bias detection
- SageMaker Jumpstart
- Module 4: Deployment and Inference
- Hands-On Lab: Using SageMaker Pipelines and SageMaker Model Registry with SageMaker Studio
- Hands-On Lab: Inferencing with SageMaker Studio
- SageMaker Model Registry
- SageMaker Pipelines
- SageMaker model inference options
- Scaling
- Testing strategies, performance, and optimization
- 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

Additional Information:

AWS Services

- Amazon CodeGuru
- Amazon Q
- Amazon SageMaker

Further Information:

For More information, or to book your course, please call us on Head Office Tel.: +974 40316639

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