



CDW Documentation

30 Day Plan to Deploy AI in AWS

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Here's a **30-day (5 weeks, 5 days/week, 8 hours/day)** hands-on **training plan for deploying AI in AWS**, focused on foundational knowledge, hands-on labs, deployment, and monitoring using key AWS AI/ML services.

□ **Goal: Learn to develop, deploy, and manage AI/ML models using AWS tools such as SageMaker, Lambda, Step Functions, and associated data services.**

□ WEEK 1: AWS AI/ML Fundamentals & Setup (40 hrs)

Focus: AWS ecosystem, IAM, AI services overview

Day	Topics	Activities
1	AWS account setup & IAM	Create AWS account, users, roles, permissions. Enable billing alerts.
2	Intro to AWS AI/ML tools	Overview of SageMaker, Rekognition, Comprehend, Lex, Polly
3	S3 & Data Preprocessing	Upload datasets, use S3 lifecycle, permissions, and Glue basics
4	Jupyter in SageMaker	Launch notebook instances, experiment with basic Python/ML
5	Use Amazon Rekognition & Polly	Analyze images and convert text to speech

□ WEEK 2: ML Workflows & Model Training in SageMaker (40 hrs)

Focus: Training, tuning, evaluating ML models

Day	Topics	Activities
6	SageMaker built-in algorithms	Use linear learner, XGBoost for regression/classification
7	Model training jobs	Launch training jobs, use spot training to save cost
8	Hyperparameter tuning	Use SageMaker HPO jobs, define search ranges, metrics
9	Model evaluation	Evaluate precision, recall, confusion matrix
10	Bring your own model	Train custom sklearn/Keras model and import to SageMaker

□ WEEK 3: Model Deployment & Monitoring (40 hrs)

Focus: Deployment, endpoints, A/B testing, monitoring

Day	Topics	Activities
11	Real-time endpoint deployment	Deploy trained model to SageMaker endpoint
12	Batch inference	Perform batch predictions with Batch Transform
13	A/B testing & blue/green	Use production variants for multiple model versions
14	CloudWatch & SageMaker Model Monitor	Set up monitoring for data drift, alerts
15	Cost tracking	Review and optimize training/deployment cost reports

□ WEEK 4: MLOps, Automation, & Lambda Integration (40 hrs)

Focus: Automation, pipelines, serverless AI

Day	Topics	Activities
16	SageMaker Pipelines	Build an end-to-end training + deployment pipeline
17	Step Functions for ML workflows	Orchestrate multi-step ML workflows
18	Integrate with Lambda & API Gateway	Create serverless API for model inference
19	CI/CD with CodePipeline & SageMaker	Automate retraining and deployment pipeline
20	Local mode testing	Use local SageMaker mode for dev/test on smaller models

□ WEEK 5: GenAI, Use Cases & Capstone Project (40 hrs)

Focus: Generative AI, use cases, final project

Day	Topics	Activities
21	Amazon Bedrock overview	Try Titan, Claude, and Jurassic models with prompts
22	Fine-tuning & custom GenAI	Fine-tune foundation models (if eligible)
23	Common AI use cases	Implement AI chatbot, fraud detection, or image tagging
24	Capstone project: build & deploy	Plan and develop an end-to-end ML solution
25	Review, demo, and optimize	Final testing, monitoring setup, and documentation

□ Suggested Resources

- [AWS ML Specialty Learning Path](#)
- [AWS Samples on GitHub](#)
- [Amazon Bedrock Labs](#)
- [AWS Well-Architected ML Lens](#)

[AI Cloud Managed Services Policies and Procedures](#)