

Deploying ML Models with SageMaker

FinTech
Lesson 13.2



Class Objectives

By the end of class, you will be able to:



Describe the pros and cons of using cloud services to deploy machine learning models.



Orchestrate a cloud solution by combining different AWS services.







Understand how Amazon SageMaker works and how it can be used to deploy machine learning models.

Deploying Machine Learning Models with Amazon SageMaker



Amazon SageMaker

Amazon SageMaker (Free Trial) 	Amazon Lex (12 Months Free) 	AWS Lambda (Always Free) 	Amazon S3 (12 Months Free) 
250 hours per month of t2.medium notebook usage for the first two months	10,000 text requests per month	1,000,000 free requests per month	5 GB of Standard Storage
50 hours per month of m4.xlarge for training for the first two months	5,000 speech requests per month	Up to 3.2 million seconds of compute time per month	20,000 Get Requests
125 hours per month of m4.xlarge for hosting for the first two months			2,000 Put Requests



Instructor Demonstration

Creating an Administrator user on IAM



Activity:

Creating an Admin user on IAM

In this activity, you will create an administrator user to manage your AWS account.

Suggested Time:
10 Minutes





Time's Up! Let's Review.

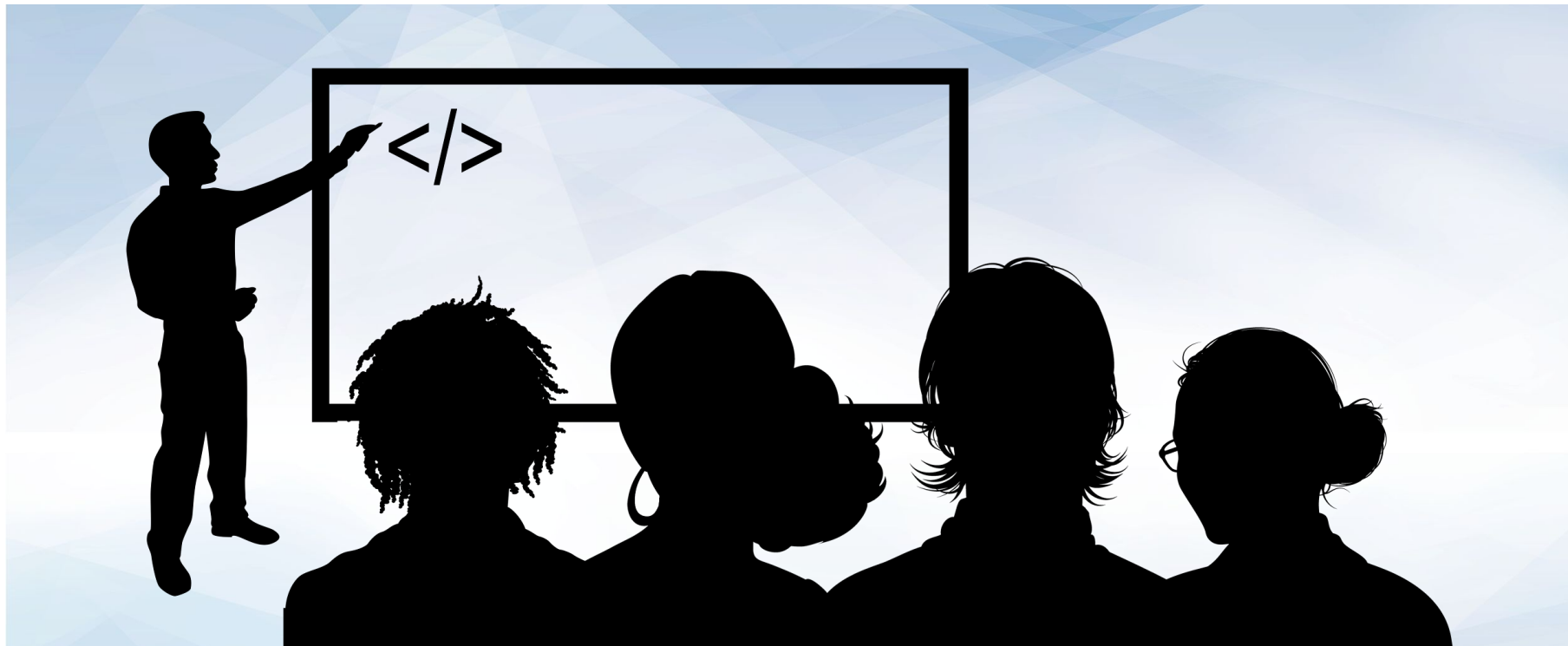


Activity: Create an Amazon SageMaker Notebook Instance

In this activity, you will learn how to create an instance of Amazon SageMaker, and how to use Jupyter notebooks on the AWS cloud.

Suggested Time:
20 Minutes





Instructor Demonstration

Create and Deploy a Machine Learning Model in Amazon SageMaker

A close-up, high-angle shot of a computer keyboard. The central focus is a large, white, rectangular key with rounded corners. On this key, there is a dark blue icon of a coffee cup with three wavy lines above it representing steam. Below the icon, the word "Break" is printed in a dark blue, serif font. The key is set against a light-colored, textured keyboard surface. Surrounding the main key are other keys, including one with a double quote symbol to the left and one with a dash/underscore symbol to the right, all slightly out of focus.

Break

Deploying ML Models with Amazon SageMaker

Pros:




- Data storage capacity
- Hardware / GPU
- Cost savings
- Availability
- RESTful API

Cons:



- Data privacy / security
- Visibility



Challenge: Credit Risk Evaluation with Amazon SageMaker

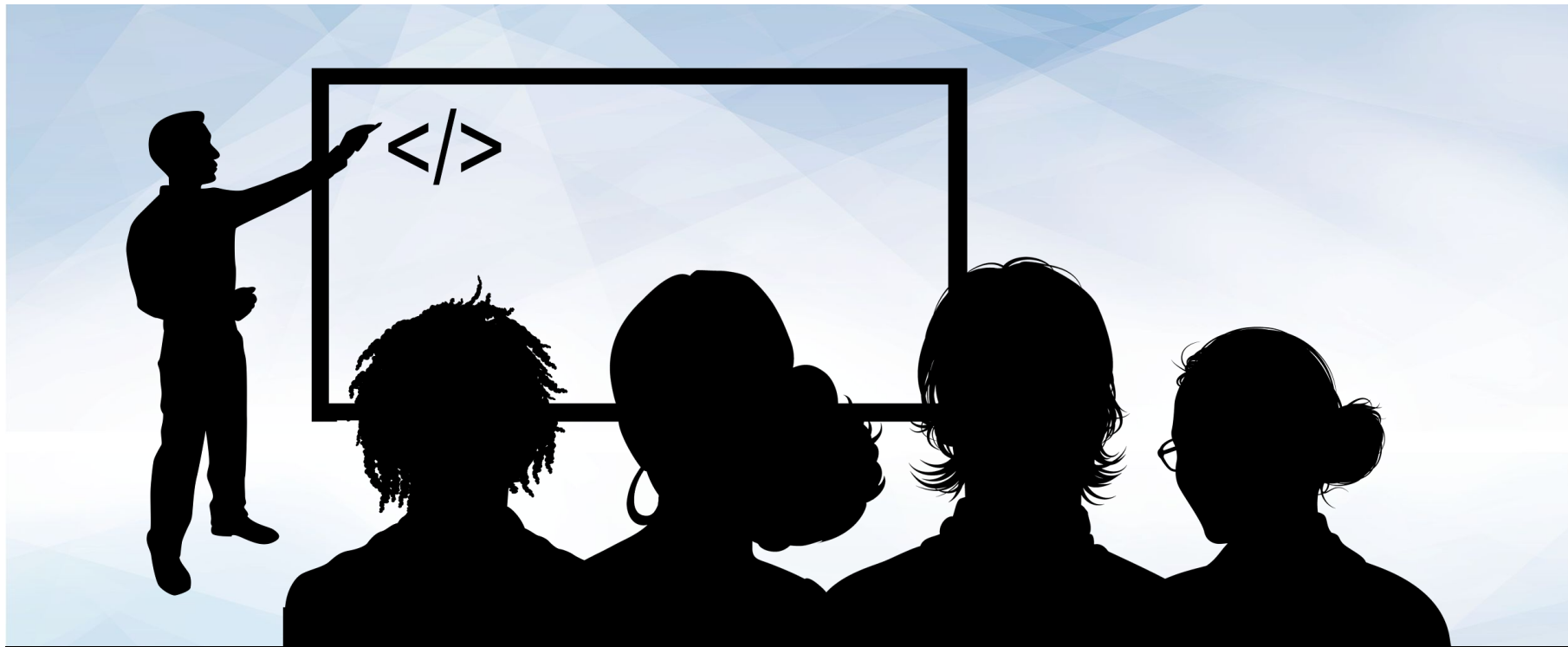
In this activity, you will train and deploy a binary classification model to predict the credit risk of a person using the [German Credit Risk](#) dataset and the SageMaker built-in `Linear Learner` algorithm.

Suggested Time:
30 Minutes





Time's Up! Let's Review.



Instructor Demonstration

Delete Notebook Instance



Activity: Delete AWS resources

In this activity, you will delete all the AWS resources created in Today's class to avoid additional charges.

Suggested Time:
15 Minutes





Questions?