aws INNOVATE

AI/ML EDITION

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Getting started to learn and experiment ML with Amazon SageMaker Studio Lab

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After this session, you learn how to

- Onboard with Amazon SageMaker Studio Lab

- Utilize the most commonly used features in Amazon SageMaker Studio Lab and Jupyter Notebook

- Use HuggingFace libraries to get started

- Get started with existing notebook using provided Amazon SageMaker Studio Lab examples on Github

- Easily migrate from Amazon SageMaker Studio Lab to Amazon SageMaker Studio

- Start your machine learning journey and have fun!

Agenda

- Democratizing machine learning for everyone

- Introduction to Amazon SageMaker Studio Lab

- Demo — Onboard with Amazon SageMaker Studio Lab

- Demo — Implement HuggingFace to get started

- Demo — Migrate from Amazon SageMaker Studio Lab to Amazon SageMaker Studio

- Final thoughts

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What do builders need?

Academics
I want the right skills for
a great career

Basic theory and
learn Python/R

Developers
I want to expand my technical
skills with data science

Learn Python/R
corporate data

+

Environment
to practice

Data scientists
I want experiment ML and move
them into production

Data science
communities

These are what you need

→ Jupyter notebook environment ············· Based on JupyterLab

→ Easy to get started ············· Free, no cloud infrastructure setup

→ Satisfactory compute ············· CPU (T3.Xl) and GPU (G4D.XL)

→ Time to code ············· Save ML project, pick up where left

→ Version control management ············· Integrated with Git

→ Supportive community ············· Integrated with GitHub

→ Full support of shell commands ············· Terminal access

Our vision

Make machine learning and data science accessible to all builders

What is Amazon SageMaker Studio Lab

Amazon SageMaker Studio Lab

A no-charge, no-configuration service that enable data scientists to learn and experiment with machine learning
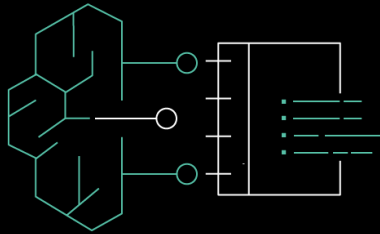
Create an account with an email address – at no charge

No setup or configuration required

15 GBs to save your work projects

As many compute sessions as you need – CPU (12 hrs)/GPU (4 hrs)

Access any notebook on GitHub

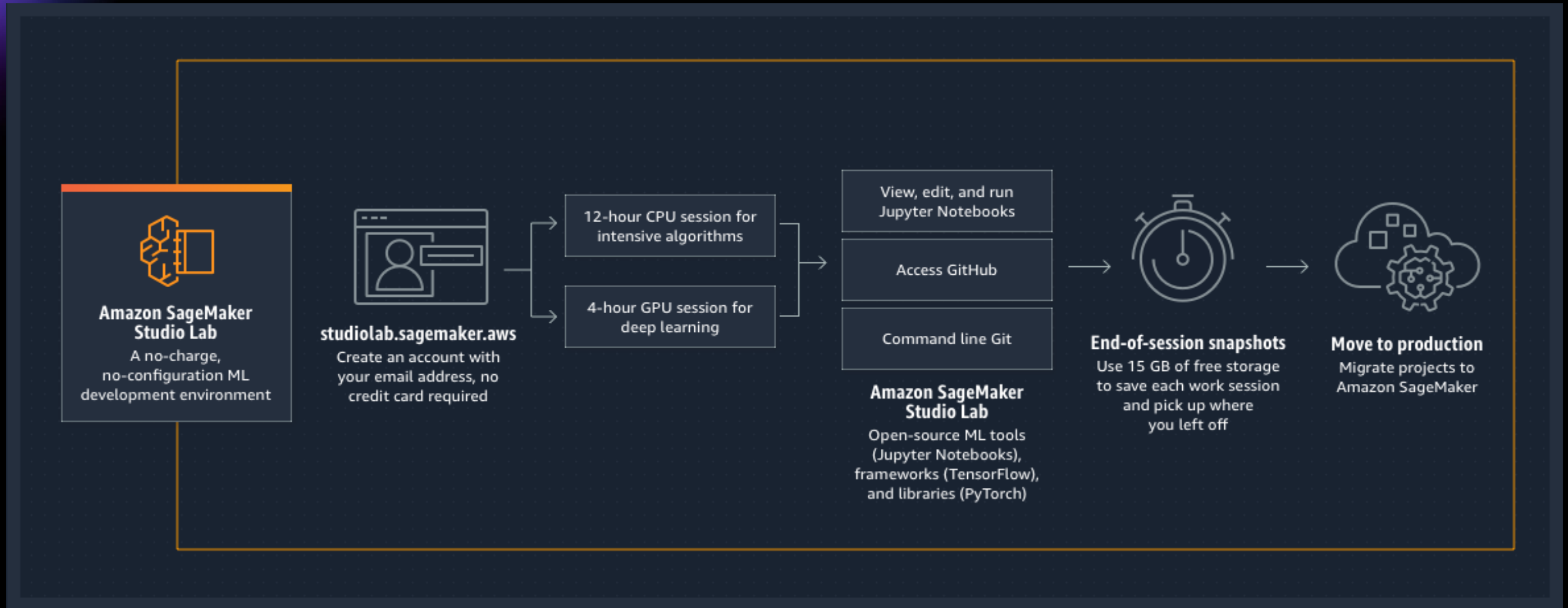Migrate to Amazon SageMaker Studio when ready

Demo

Onboarding with Amazon SageMaker Studio Lab

In this demo, learn how to

- Request an account
- Use the relevant materials to get started

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How does it work?

Amazon SageMaker Studio Lab
A no-charge, no-configuration ML development environment

studiolab.sagemaker.aws
Create an account with your email address, no credit card required

12-hour CPU session for intensive algorithms

4-hour GPU session for deep learning

View, edit, and run Jupyter Notebooks

Access GitHub

Command line Git

Amazon SageMaker Studio Lab
Open-source ML tools (Jupyter Notebooks), frameworks (TensorFlow), and libraries (PyTorch)

End-of-session snapshots
Use 15 GB of free storage to save each work session and pick up where you left off

Move to production
Migrate projects to Amazon SageMaker

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Let's get started with HuggingFace

- Transformers library: Easy to use Python library for variety of machine learning tasks

- Various pre-trained models: BERT, RoBERTa, GPT-2 or DistilBERT

- Implement various use cases easily. From text classification, information extraction, to image classification

Demo - Get started with Amazon SageMaker Studio Lab and HuggingFace
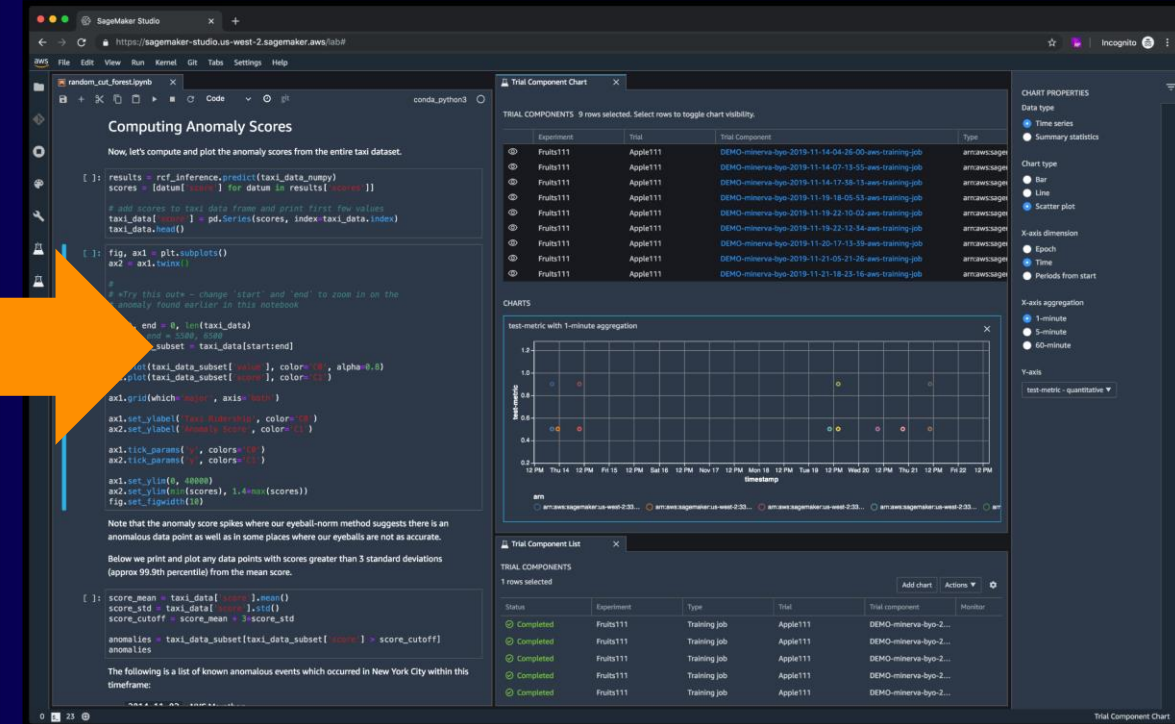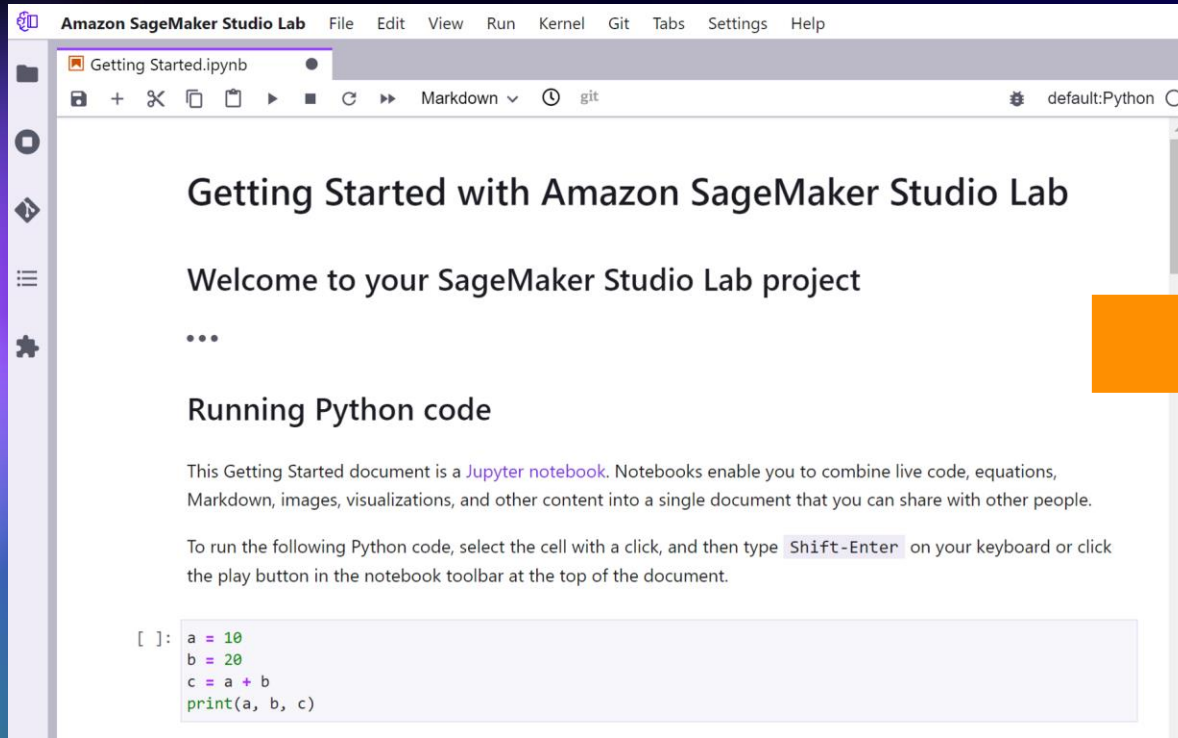
In this demo, learn how to

- Create environment with Conda
- Implement Transformers and Pipelines library

Migrating notebook

Amazon SageMaker Studio Lab

Amazon SageMaker Studio

Step 1:
Export environment

Step 2:
Git push all files

Step 3:
Clone repository

Step 4:
Create environment

Migrate from Amazon SageMaker Studio Lab to Amazon SageMaker Studio

In this demo, learn how to

- Export Conda environment
- Migrate notebook by using Git repository
- Import Conda environment and settings for Notebook kernel
- Run migrated notebook successfully

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Recap and highlights

- Access SageMaker Studio Lab: https://studiolab.sagemaker.aws/

- One account = one user session at a time, as many times as you want

- One user session is 12 max hours for CPU and max 4 hours for GPU

- Storage of 15GB available for you to use

- JupyterLab environment is open

- Easily migrate to Amazon SageMaker Studio!

Visit the AI & Machine Learning resource hub for more resources

Dive deeper into these resources, get inspired and learn how you can use AI and machine learning to accelerate your business outcomes.

- The machine learning journey e-book
- 7 leading machine learning use cases e-book
- A strategic playbook for data, analytics, and machine learning e-book
  Accelerate machine learning innovation with the right cloud services & infrastructure e-book
- Choosing the right compute infrastructure for machine learning e-book
- Improving service and reducing costs in contact centers e-book
- Why ML is essential in your fight against online fraud e-book
- … and more!

https://bit.ly/3mwi59V

Visit resource hub

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aws.training/machinelearning

Flexibility to learn your way

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explore.skillbuilder.aws/learn

Validate your expertise

Demonstrate expertise in building, training, tuning, and deploying machine learning models with an industry-recognized credential.

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Thank you!

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