Level 300

# Scalable data preparation using Amazon SageMaker Studio notebooks

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# Learning Objectives

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Level 300
For Data Scientists & Administrators

- Brief introduction to the capabilities of Amazon SageMaker Studio and Amazon EMR
- Understand benefits of a universal notebook for data analytics, data preparation and machine learning
- Understand though live product demonstrations that you can try yourself how you can easily incorporate scalable big data workloads using EMR as a part of your ML workflows on SageMaker Studio



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# Amazon SageMaker Studio

# Amazon SageMaker Overview


Not a comprehensive list. Visit https://aws.amazon.com/sagemaker for the latest information

# Amazon SageMaker Studio Notebooks

## Quick start

Start your notebook without spinning up compute resources

## Elastic

Easily dial up or down the available resources. Changes take effect transparently in background.

## Customizable

Bring your own images, packages, extensions. Automate customization with Lifecycle configurations.

## Managed

Administrators manage access and permission to the fully managed and secure environment

## Collaborative

Easily share notebooks with co-workers with a complete snapshot of your work.

## Integrated

Run end to end data prep and ML workflows in purpose built, performance optimized runtimes.



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# Amazon EMR

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## Easily Run Spark, Hive, Presto, HBase, Flink, and more big data apps on AWS

### Latest versions

Updated with latest open source frameworks within 30 days

Support for popular OSS like Flink, Hudi

### Best Performance at Lowest cost

Spark workloads run up to 3x faster compared to Open Source

50–80% reduction in costs with EC2 Spot and Reserved Instances
Per-second billing for flexibility

### Use S3 storage

Process data in S3 securely with high performance using the EMRFS connector

Scale Compute and Storage independent of each other

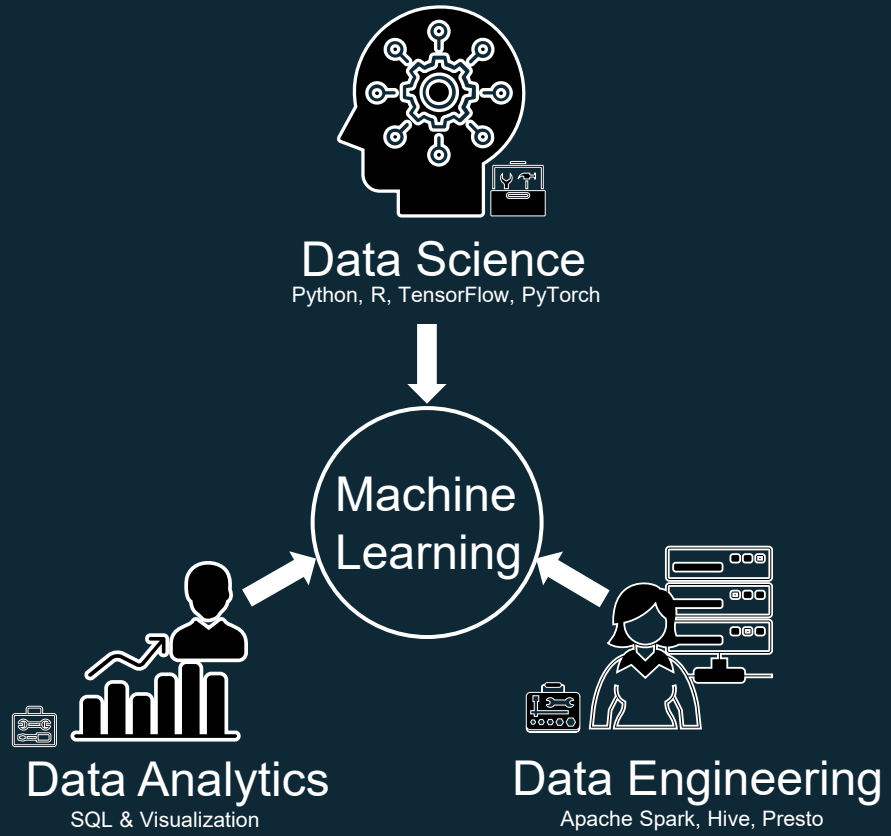
### Easy & Scalable

Fully managed, no cluster setup, node provisioning or cluster tuning

Vertical and Horizontal Auto-Scaling to suit workload demands

# Universal Notebook

# Universal notebook for data prep and ML: Drivers




- Data preparation and analytics are foundational components of ML workflows
- Switching between multiple notebooks, tools, and interfaces reduces productivity
- Security and access control need to be consistent across analytics and ML services



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# Product Demo