Amazon SageMaker Operators for Kubernetes

Use Kubernetes to train, tune, and deploy machine learning (ML) models in Amazon SageMaker

Using Kubernetes for ML is hard to manage and scale

Build and manage services within Kubernetes cluster for ML

+

Make disparate open-source libraries and frameworks work together in a secure and scalable way

+

Requires time and expertise from infrastructure, data science, and development teams

=

Need an easier way to use Kubernetes for ML

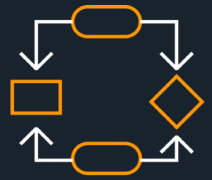
NEW

Introducing Amazon SageMaker Operators for Kubernetes

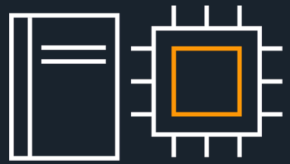
Kubernetes customers can now train, tune, & deploy models in Amazon SageMaker

Train, tune, and deploy models in SageMaker

Orchestrate ML workloads from your Kubernetes environments



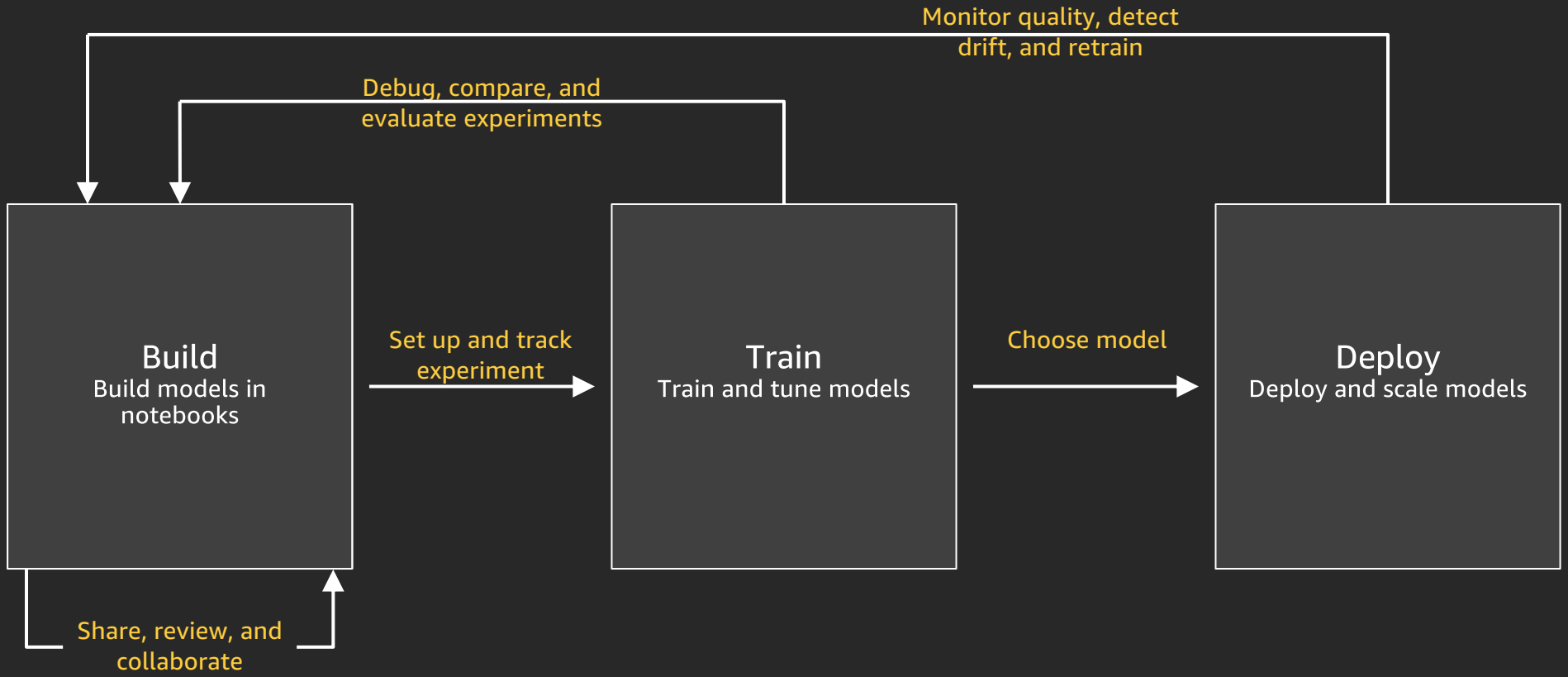
Create pipelines and workflows in Kubernetes



Fully managed infrastructure in SageMaker

Amazon SageMaker Studio

Machine learning is iterative



Introducing Amazon SageMaker Studio

Amazon SageMaker Notebooks

Quick start collaborative notebooks

Amazon SageMaker Experiments

Organize, track, and compare ML experiments

Amazon SageMaker Debugger

Debug models with real-time, automated alerts

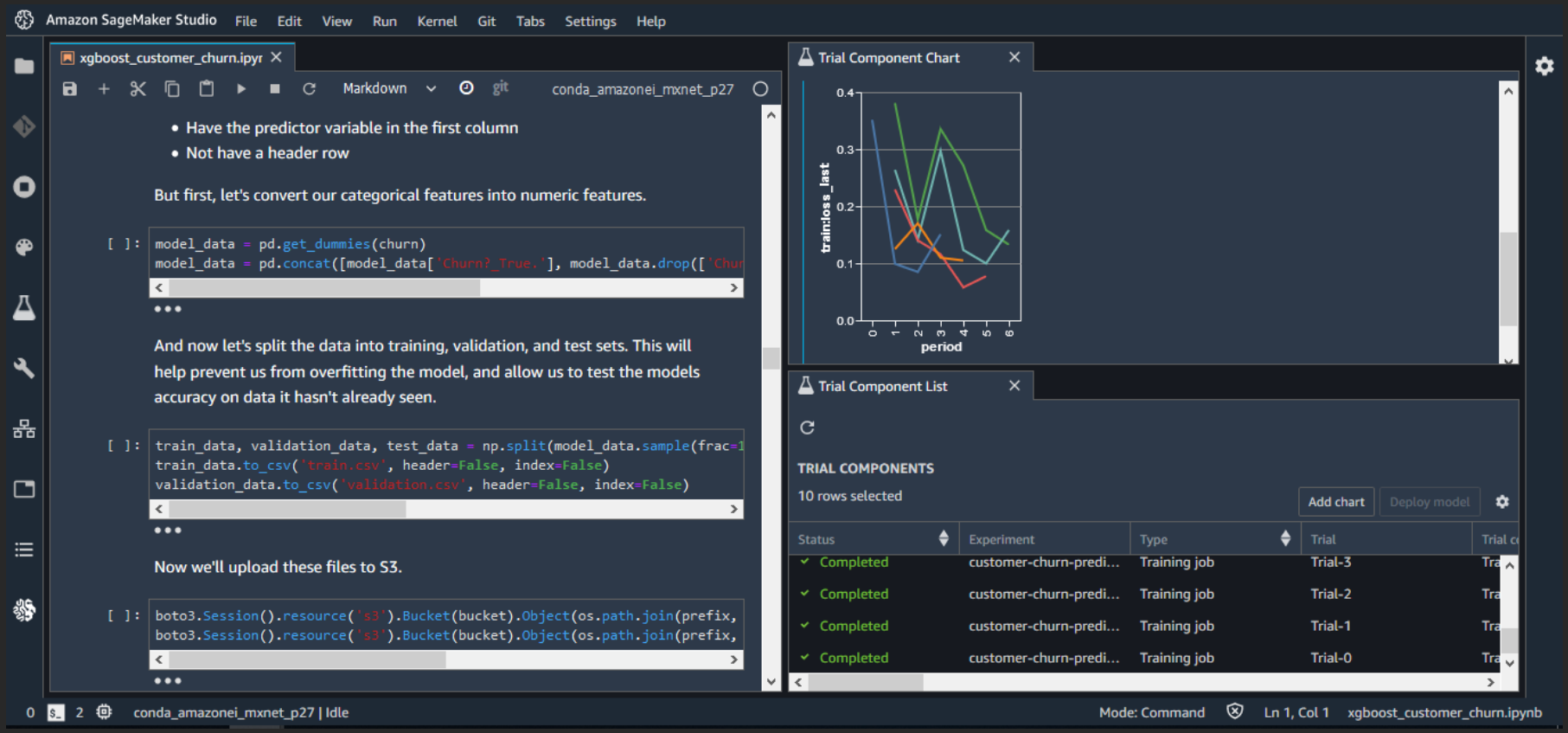
Amazon SageMaker Model Monitor

Monitor models in production and detect drift

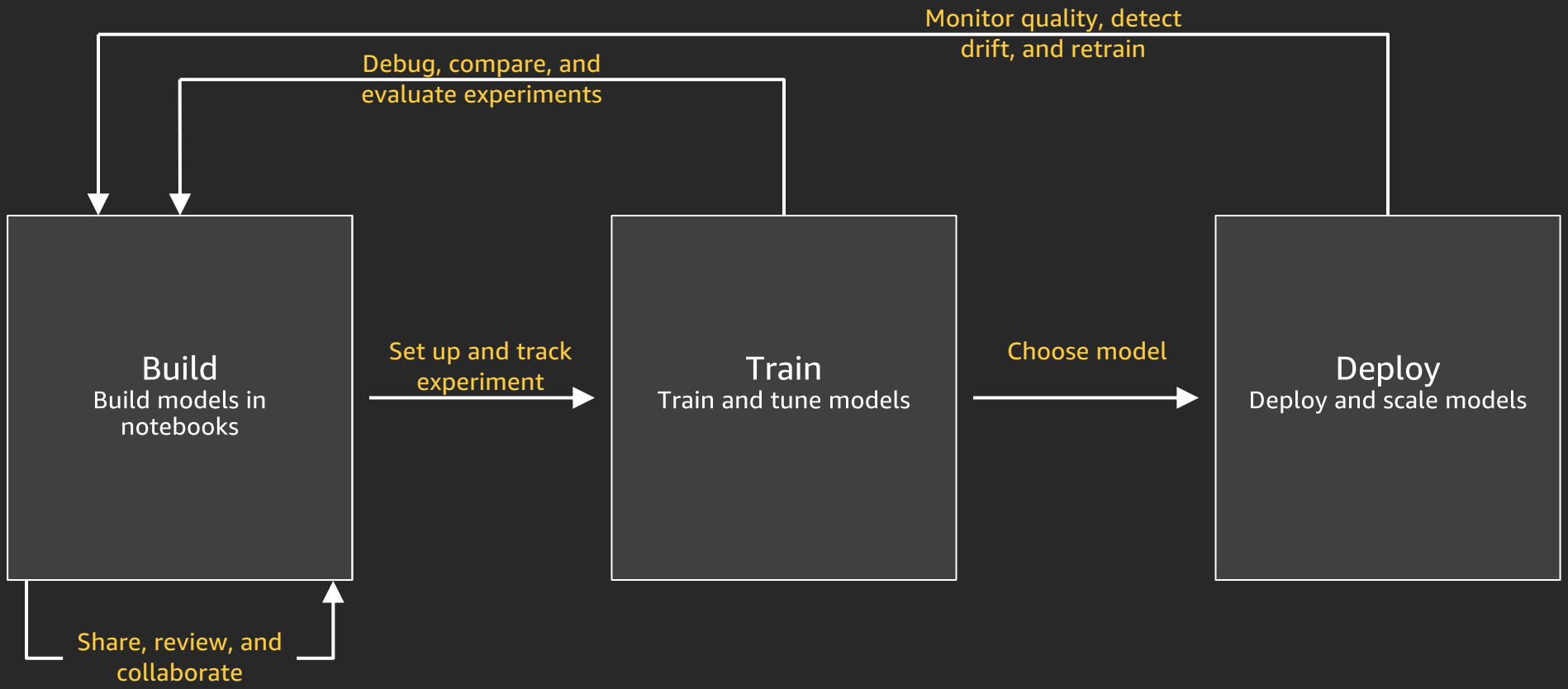
Amazon SageMaker Autopilot

Get from data to models automatically

Amazon SageMaker Studio



Build fast and collaborate



Quick Start collaborative Amazon SageMaker Notebooks (in Preview)

Single sign-on

Integrated with AWS SSO

Secure

Administrators govern access and permissions

Switch compute environments

Switch compute instances on the fly

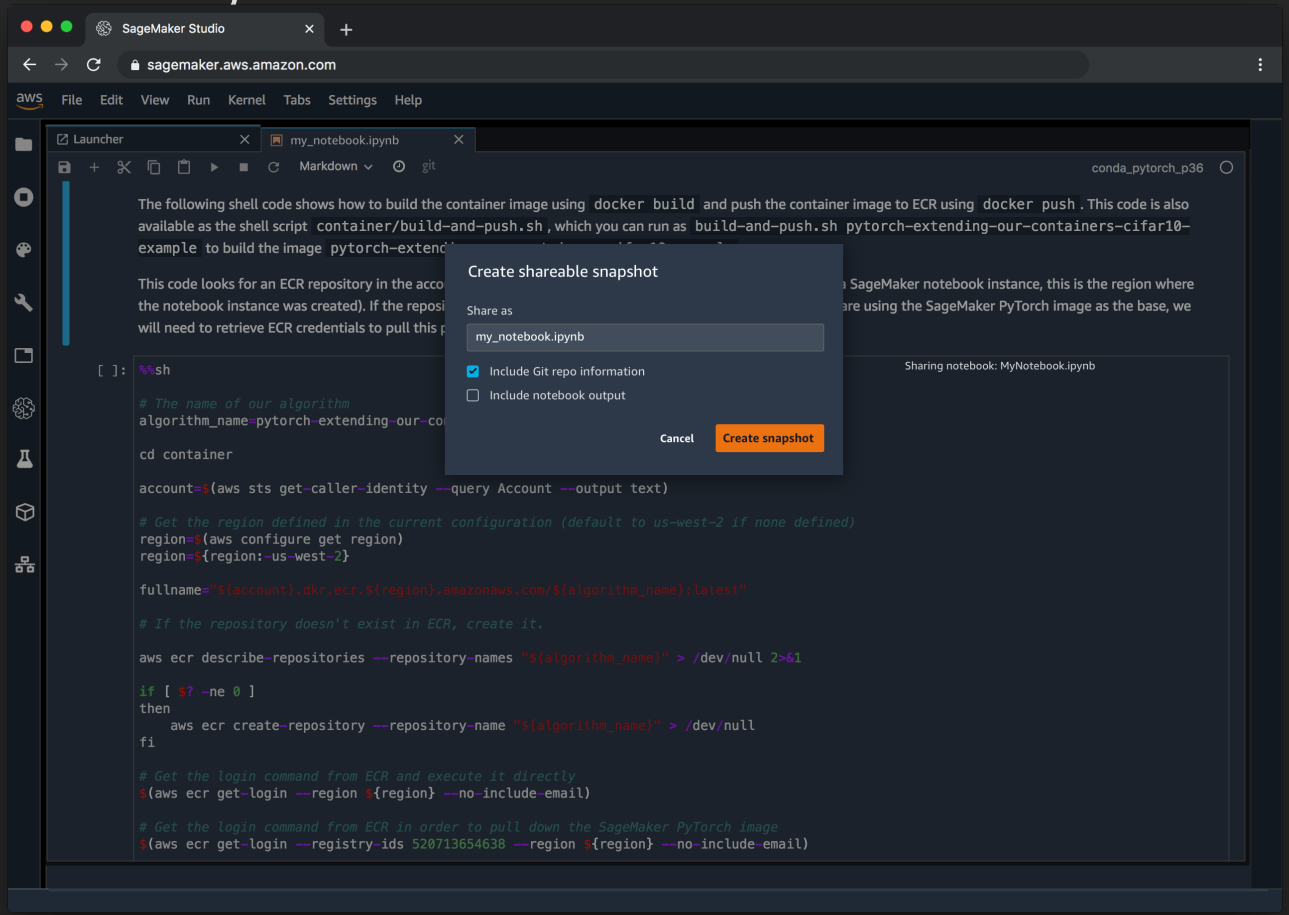
One-click share

Share URL with a single click

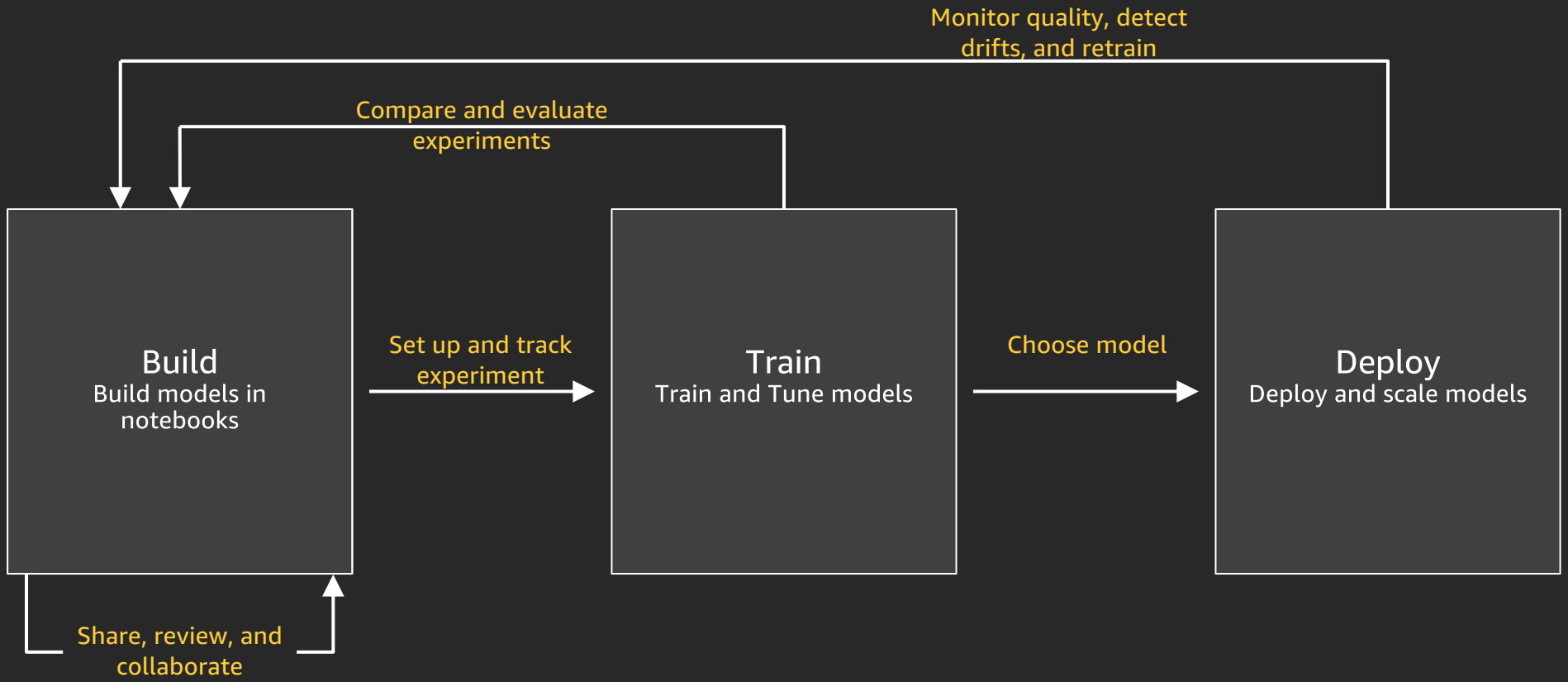
Reproducible notebooks

Easily reproduce and review notebooks

Amazon SageMaker Studio Notebooks



Manage Experiments



Amazon SageMaker Experiments

Track experiments

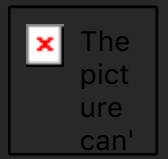
Track parameters, metrics, models, and more

Organize

Organize your experiments and trials

Compare experiments

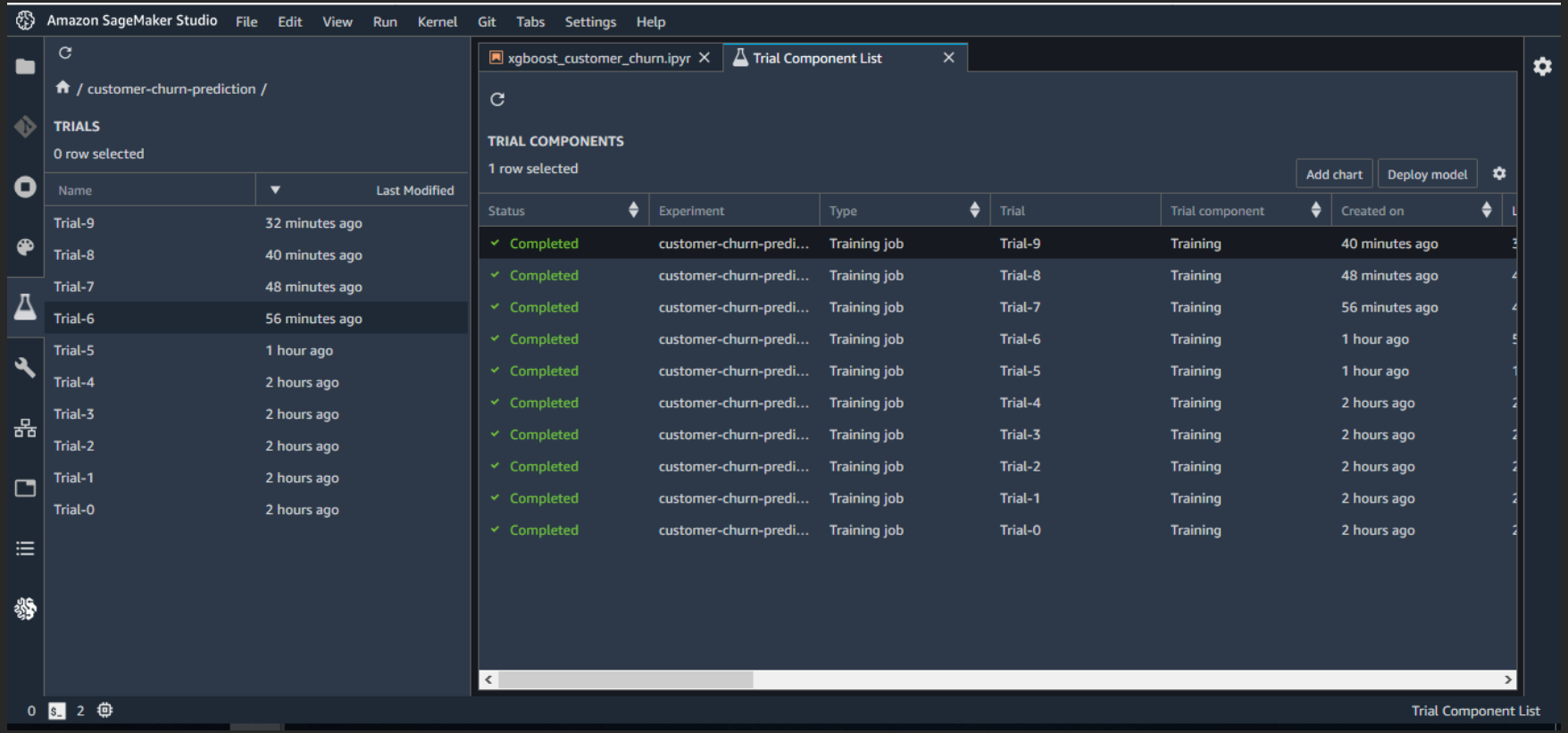
Compare, evaluate, and iterate



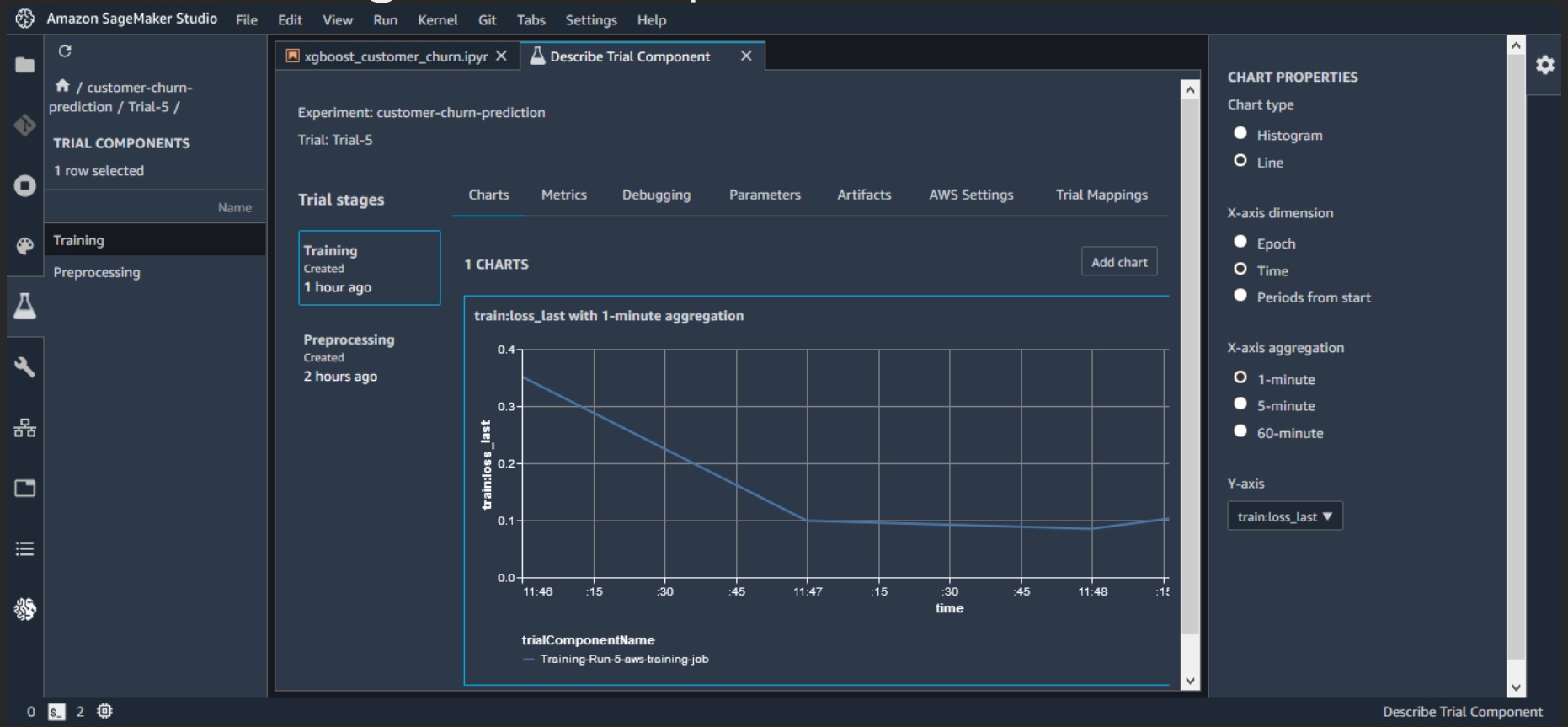
Python SDK

Tracking and analytics APIs

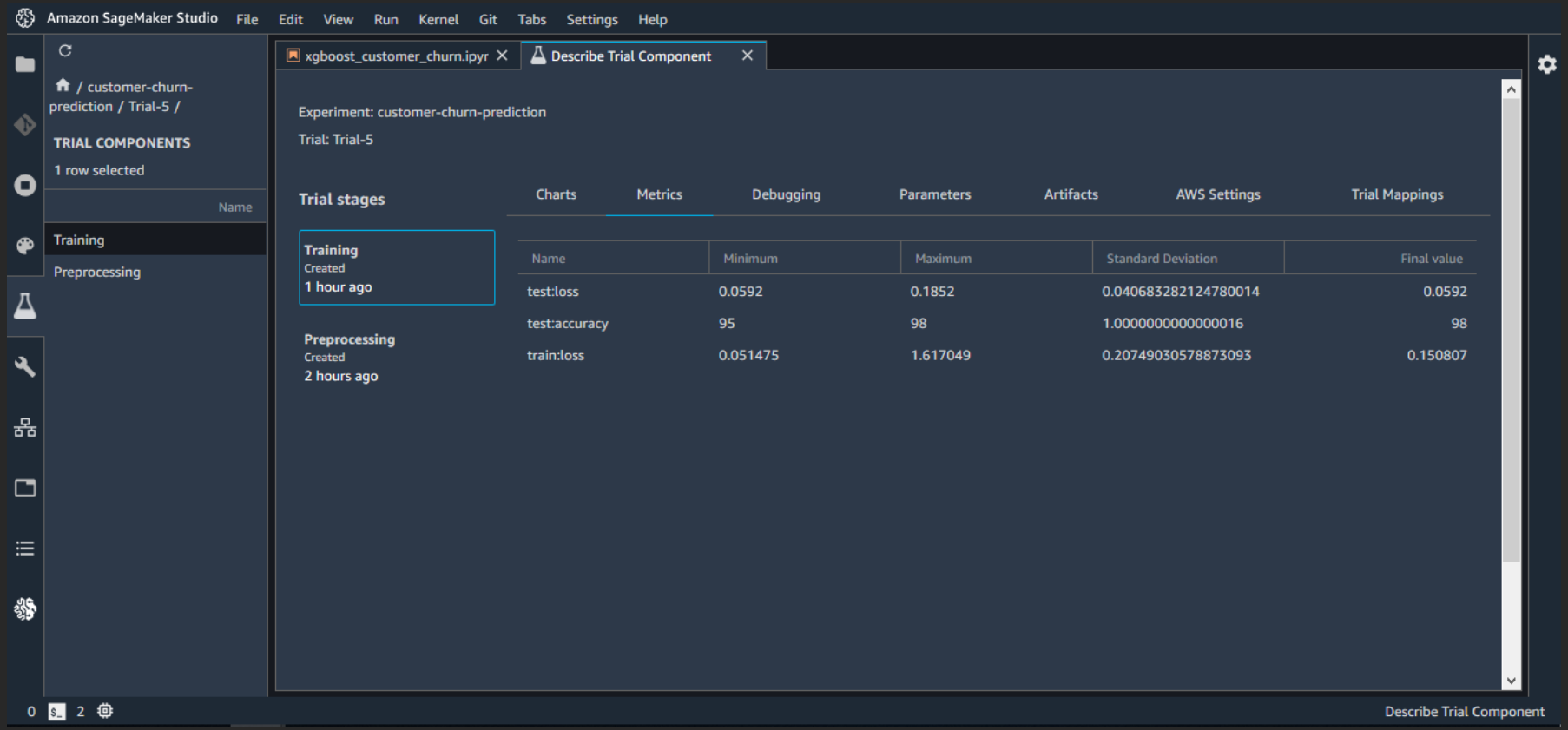
Amazon SageMaker Experiments



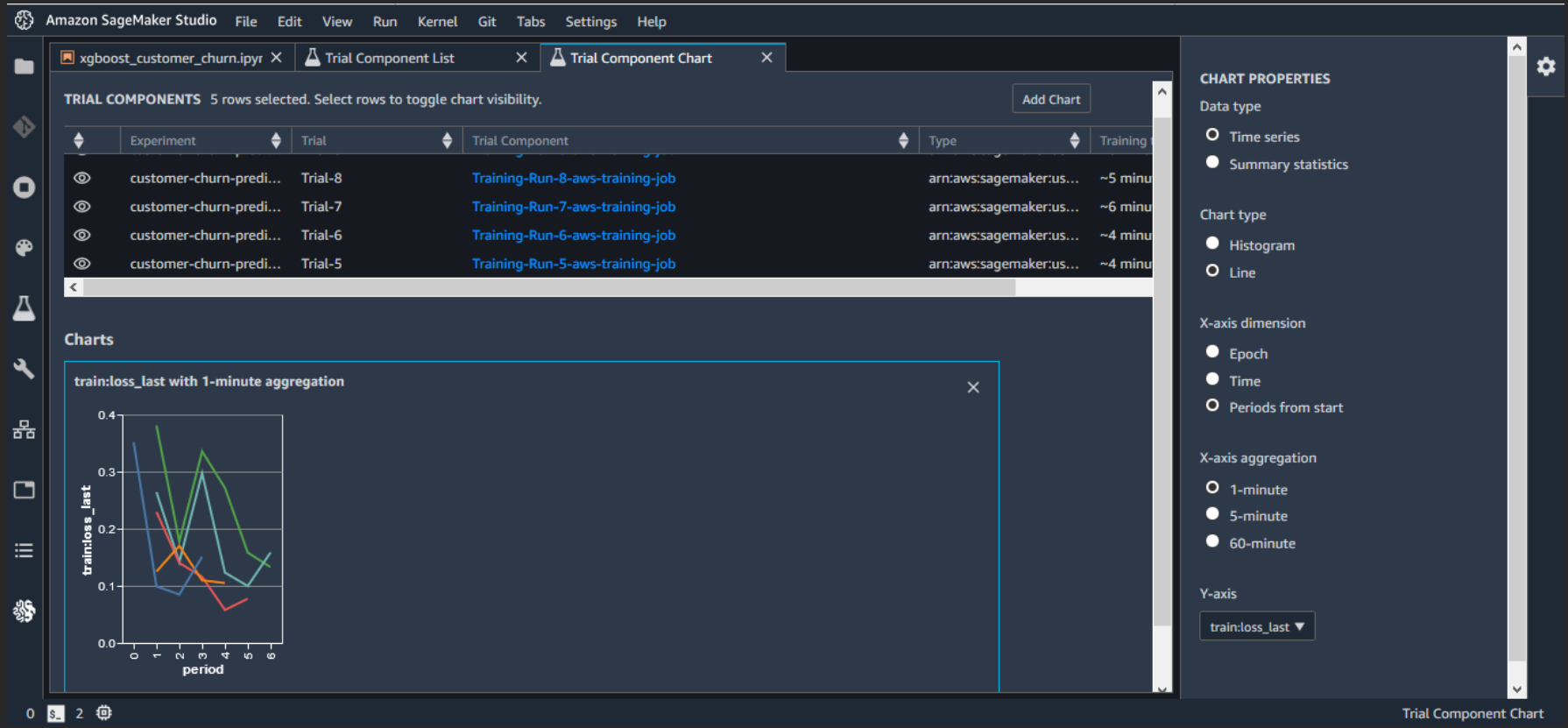
Amazon SageMaker Experiments



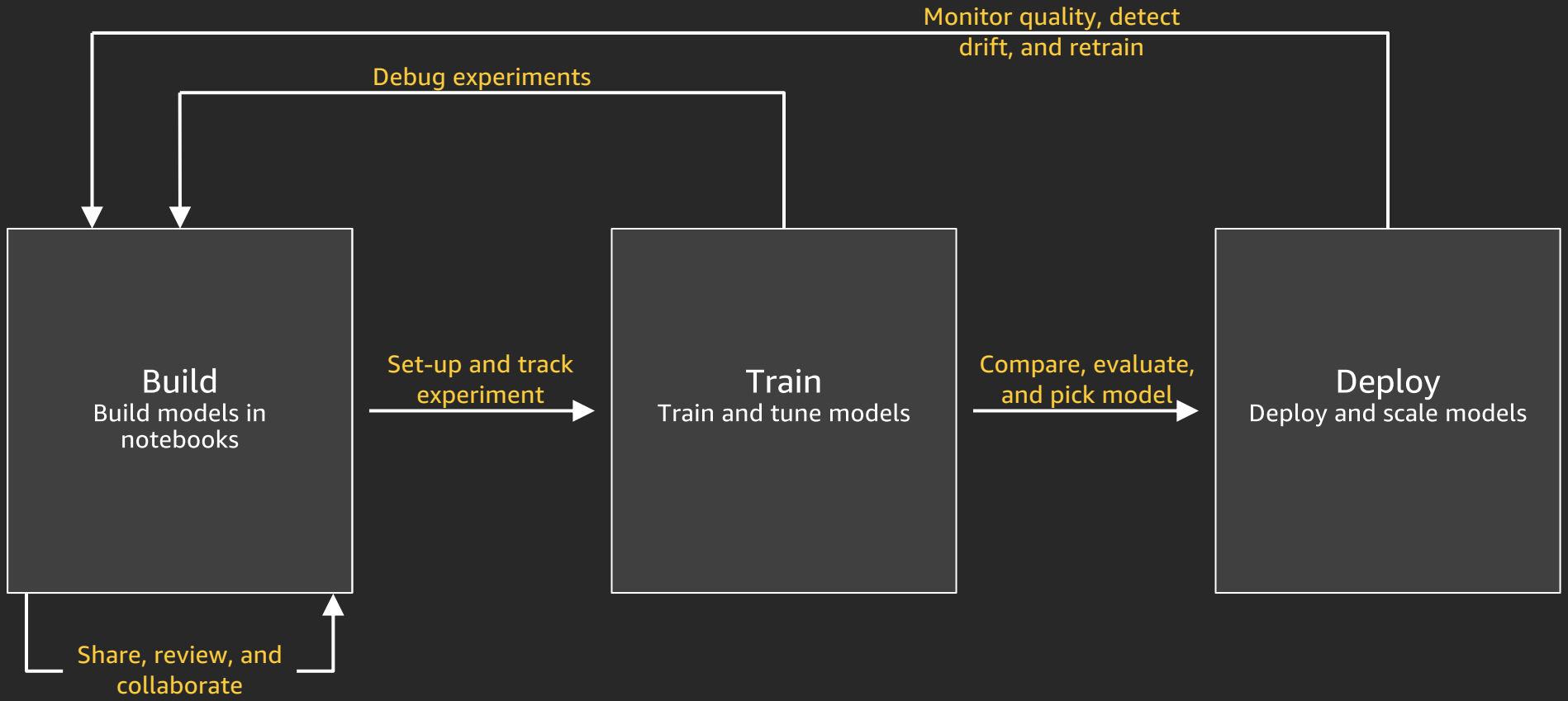
Amazon SageMaker Experiments



Amazon SageMaker Experiments



Debug training runs



Amazon SageMaker Debugger

Framework support

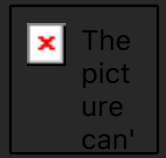
TensorFlow, Apache MXNet, PyTorch, XGBoost

Introspect models

Introspects, collects and analyzes tensors

Rules and Alerts

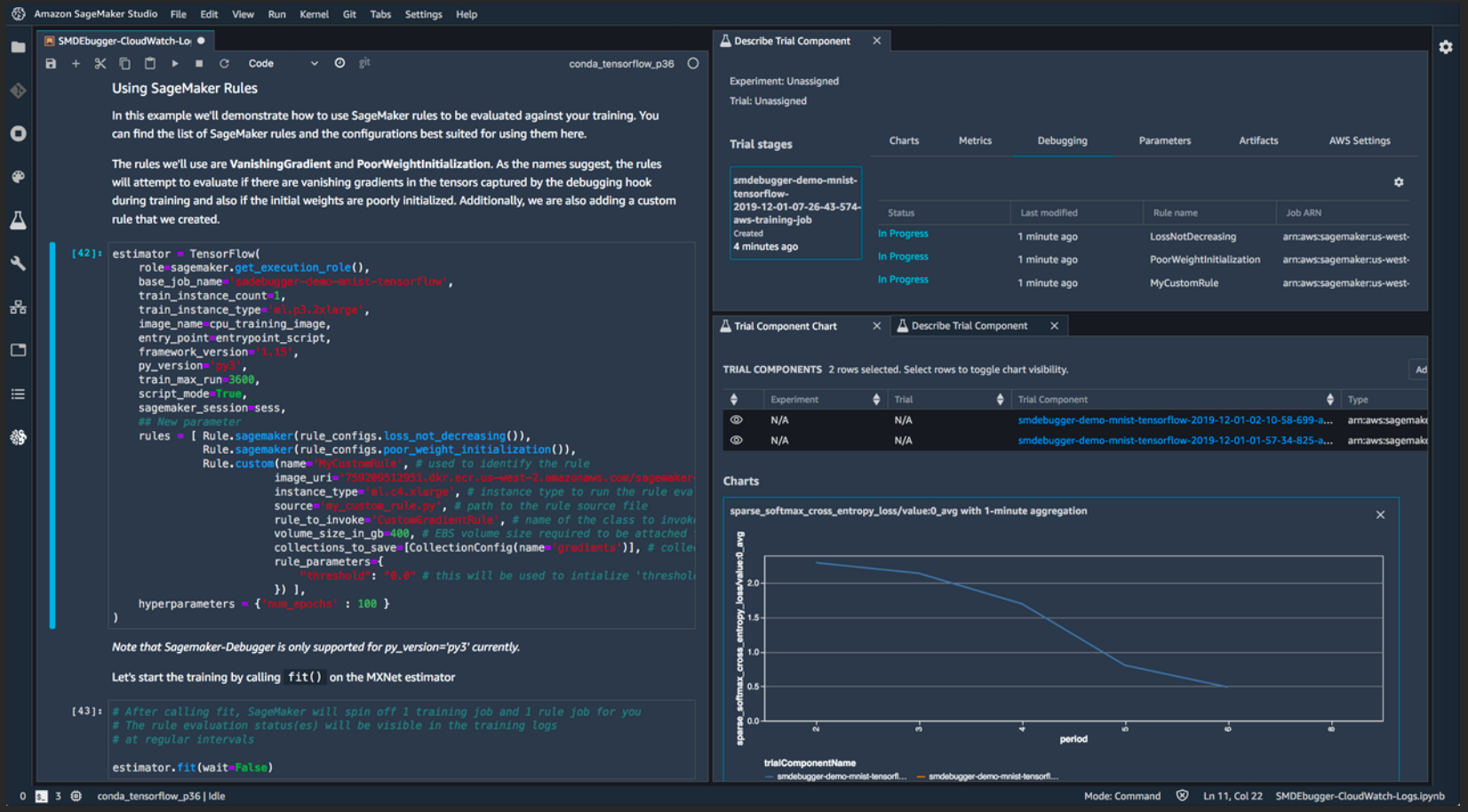
Provides real-time alerts when bottleneck is identified



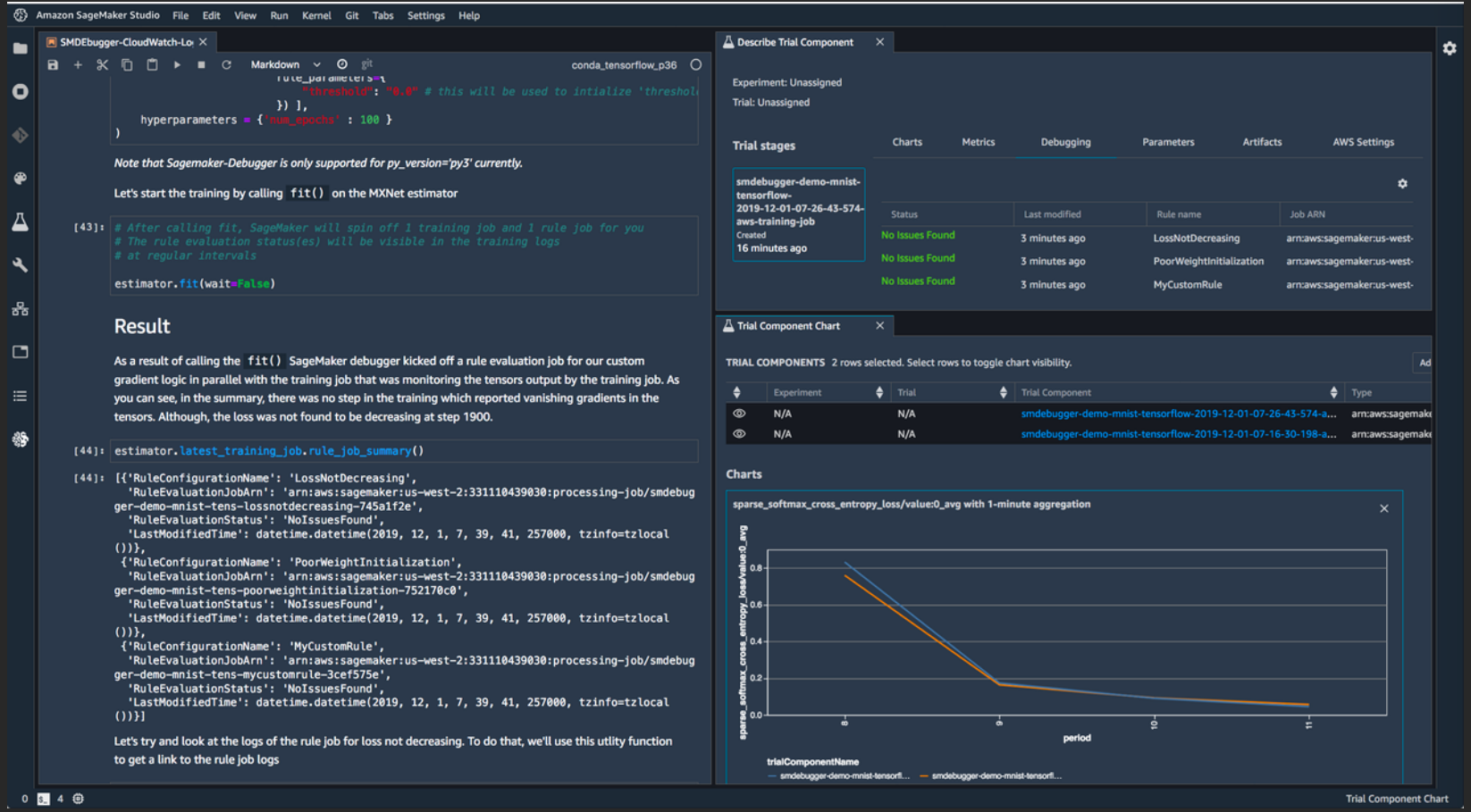
Python SDK

Write your own debug rules

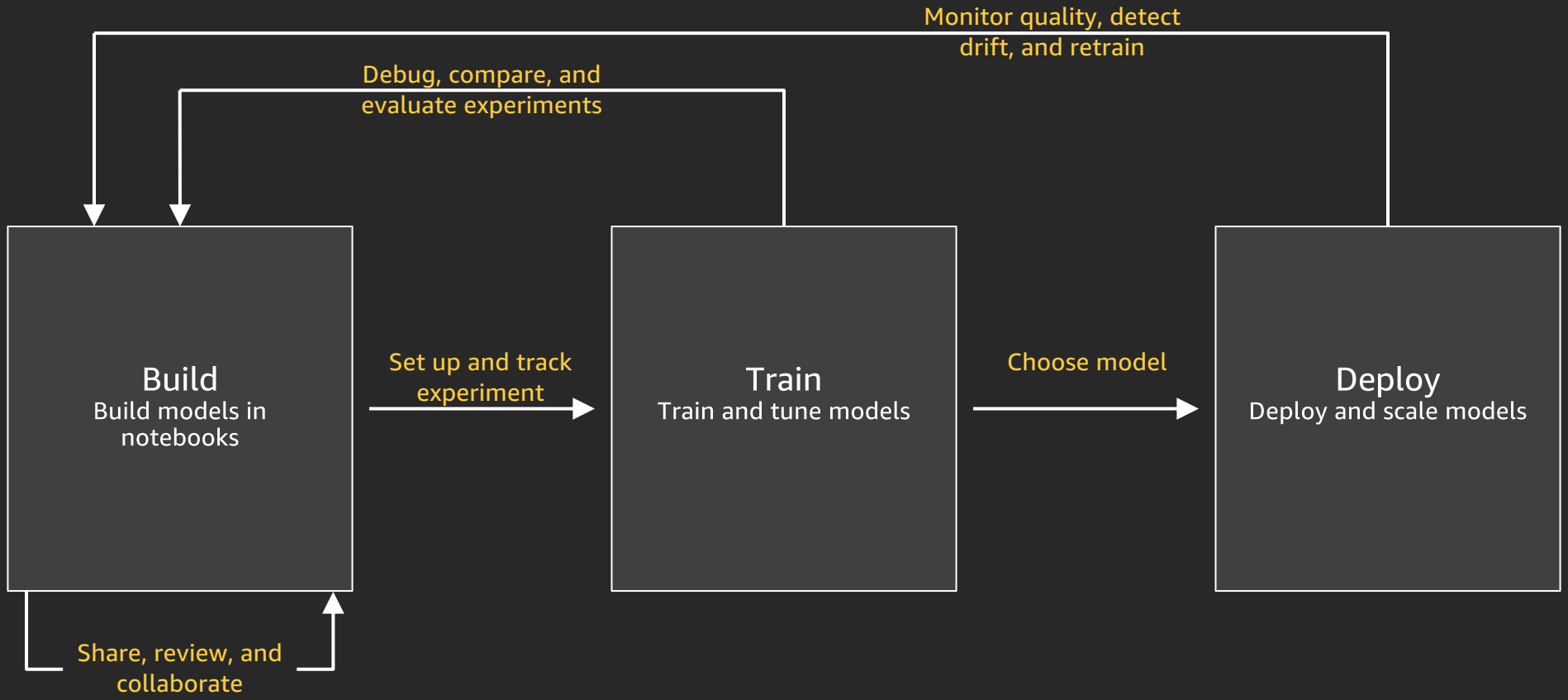
Amazon SageMaker Debugger



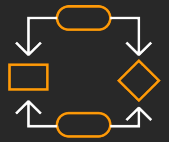
Amazon SageMaker Debugger



Monitor models



Amazon SageMaker Model Monitor



Collect data

Periodically collects data from endpoints into Amazon S3

Analyze

Computes feature statistics

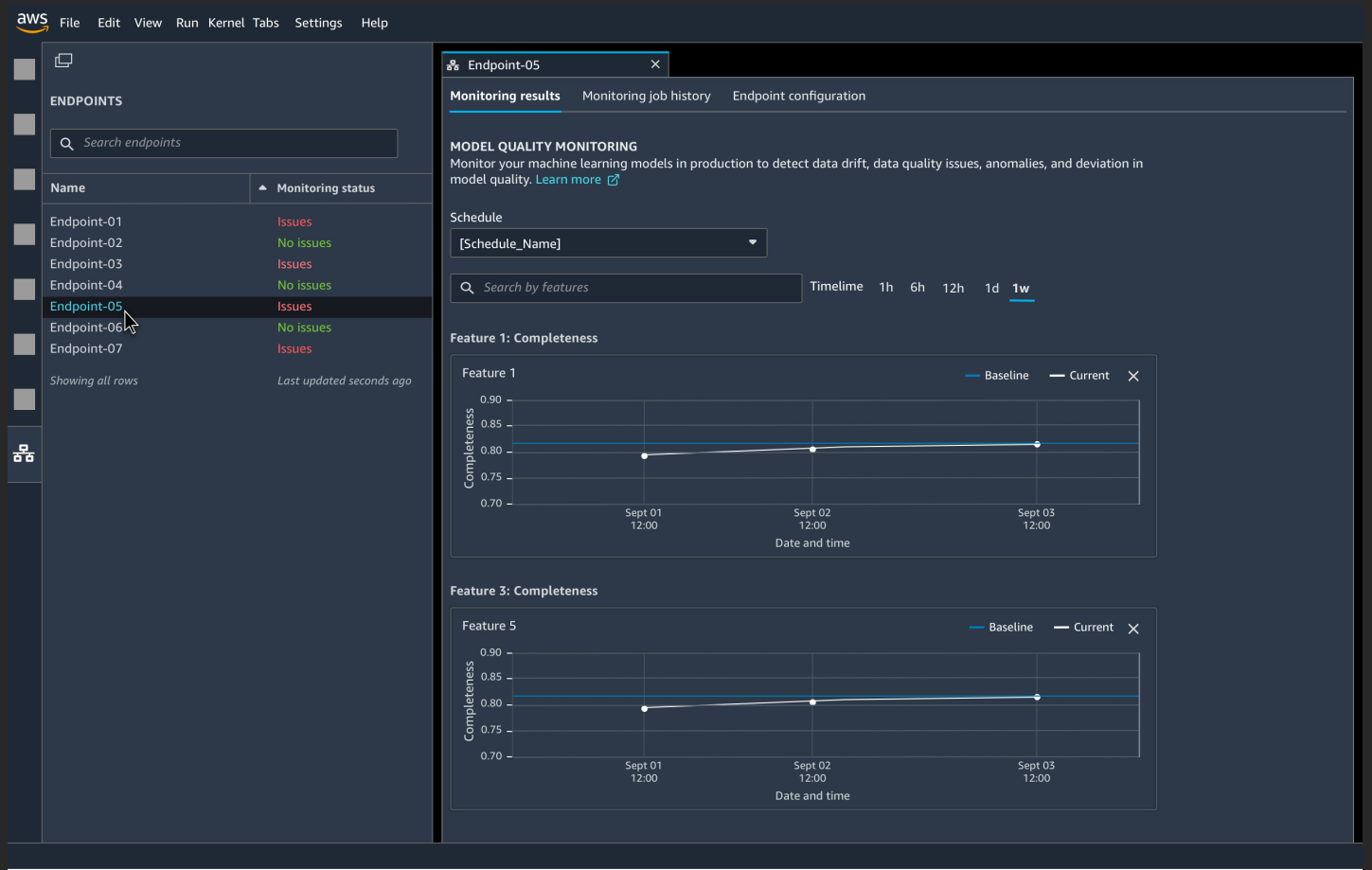
Monitor

Monitors trends in data and detects drifts

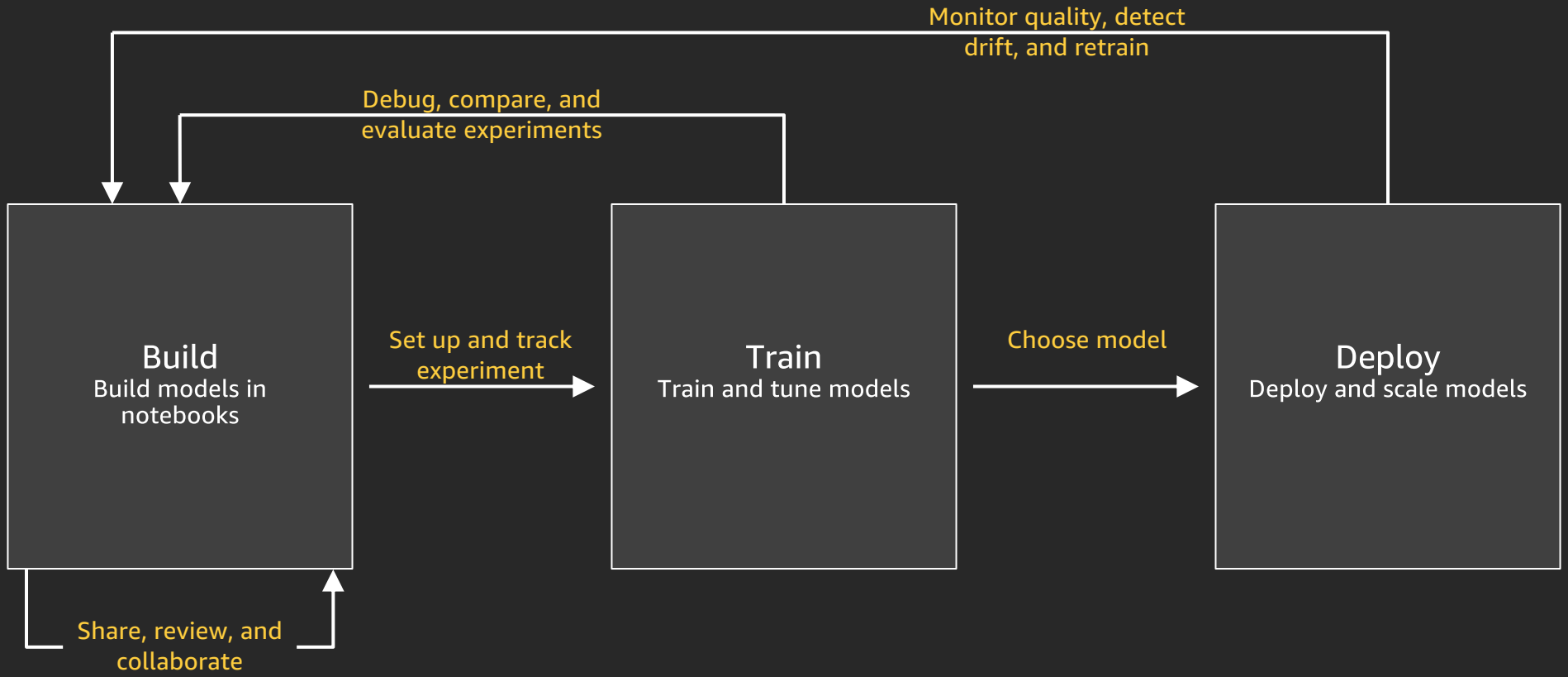
Alerts

Alerts on Amazon CloudWatch and Amazon SageMaker Studio

Amazon SageMaker Model Monitor



How else can we accelerate ML workflow?



Amazon SageMaker Autopilot

Provide data

Data in tabular form

Specify column to predict

Support for regression and classification

Create model

Feature generation, algorithm selection, and parameter tuning

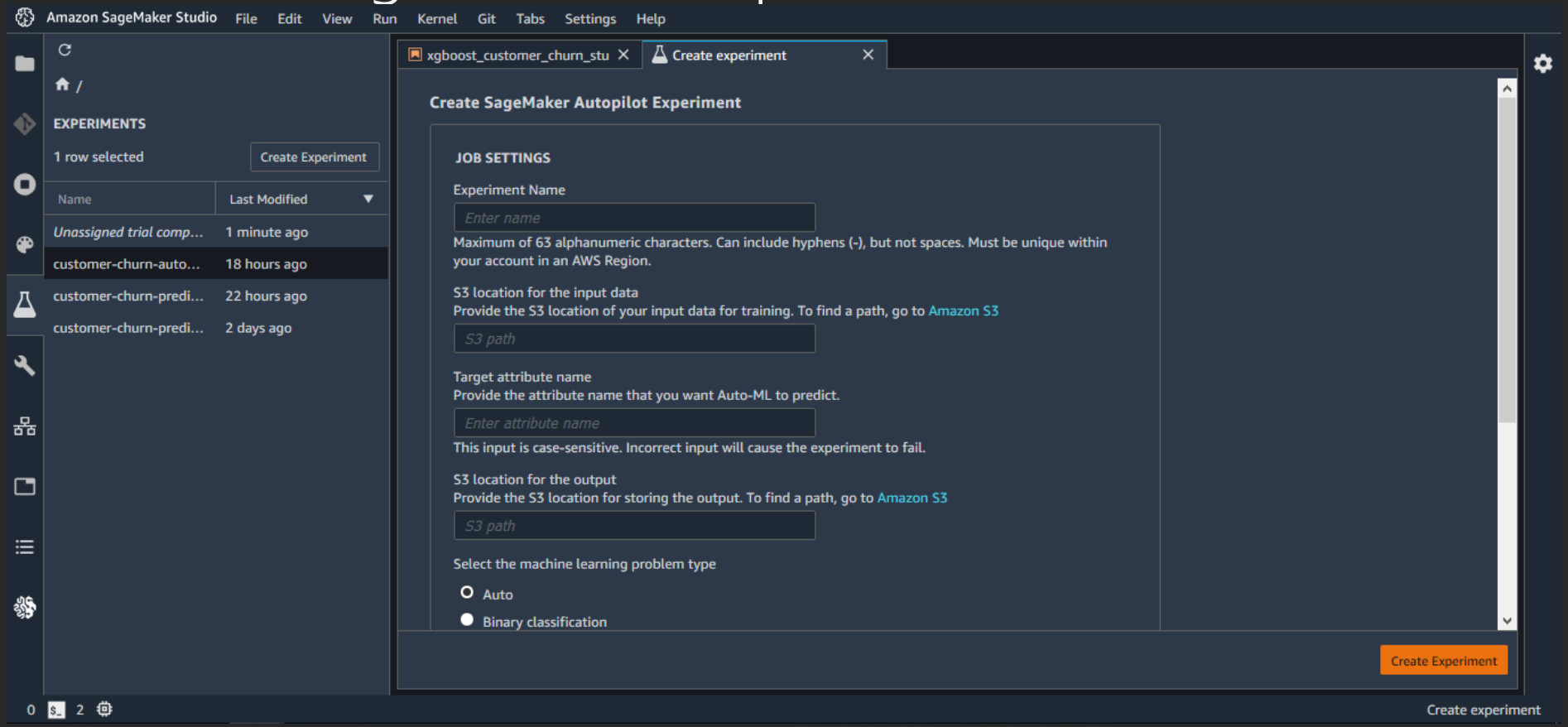
Track experiment

Automatically tracked as an experiment

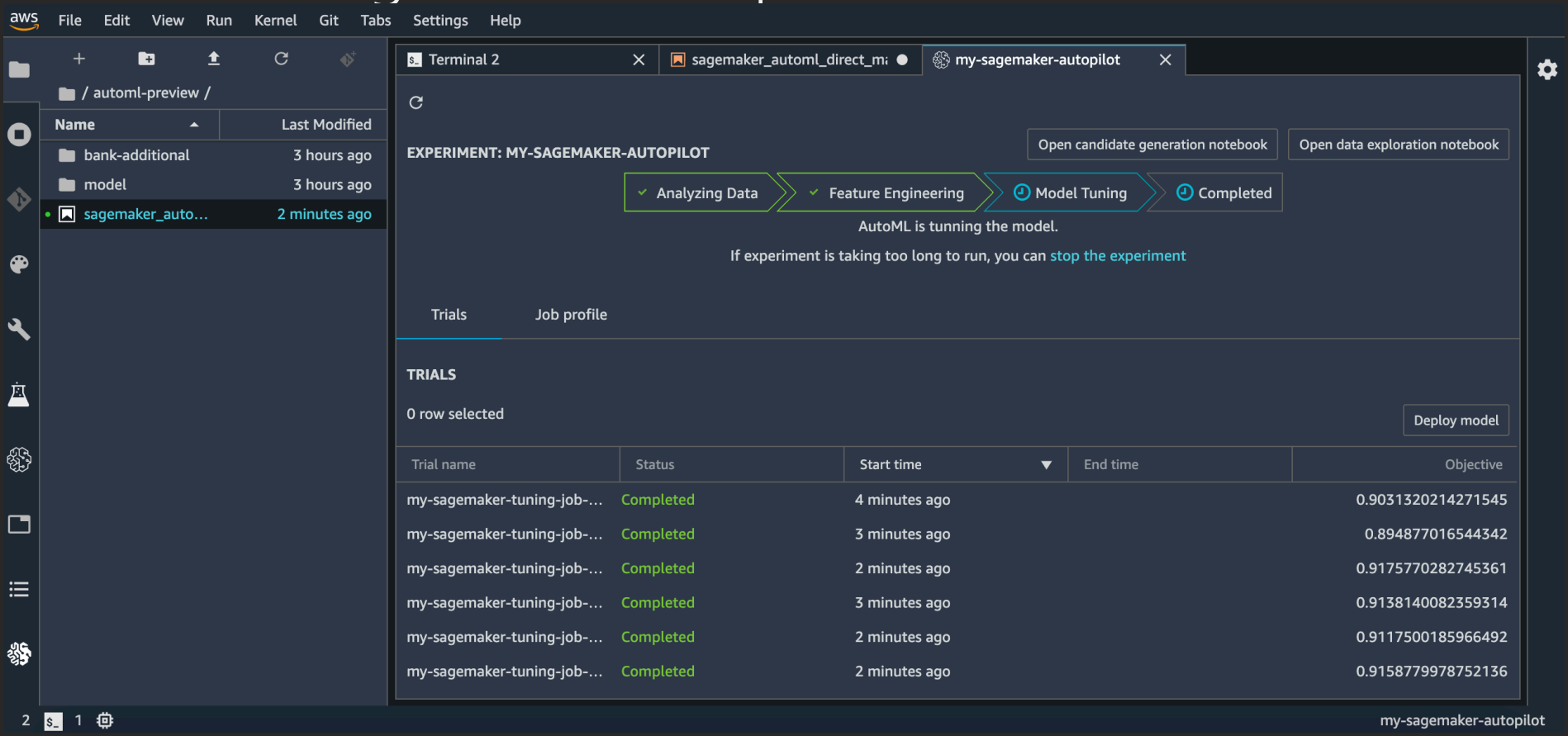
Transparent

Get notebook with source code

Amazon SageMaker Autopilot



Amazon SageMaker Autopilot



Q&A

aws partnercast

Thank You!

Please join us again for another PartnerCast session

aws training and certification