

Amazon SageMaker Canvas Workshop

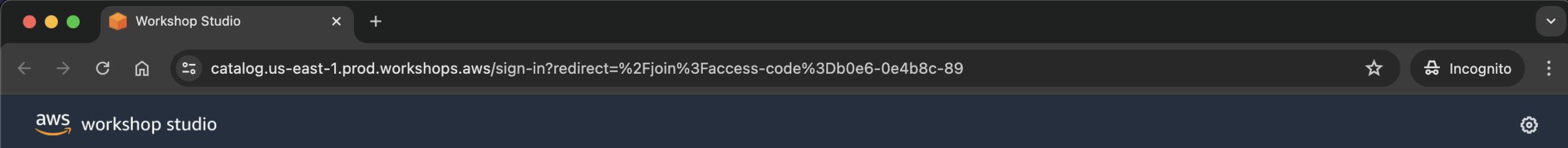
Michael Lin
Sr. Solutions Architect
Amazon Web Services



Lab Exercises

- Workshop Onboarding
- Classification Exercise with SageMaker Canvas
- Code Gen Exercise with SageMaker Canvas

<https://ppt.cc/fZHi7x>



[Workshop Studio](#) > Sign in

Sign in

Choose a preferred sign-in method

Email one-time password (OTP)

Enter your personal or corporate email to receive a one-time password

AWS Builder ID

Login with AWS Builder ID, a new personal profile for builders

Amazon employee

Login with your Amazon Corporate account. Only for Amazon Employees.

A screenshot of a web browser window. The title bar says "One-time email passcode". The address bar shows the URL: "login.us-east-1.auth.skillbuilder.aws/otp/input/response?redirect_uri=https%3A%2F%2Fgandalf-prod.auth.us-east-1.amazoncognito.com%2Foauth2%2Fidpr...". The page content is an "One-time email passcode" form. It has a heading "One-time email passcode", a sub-instruction "Send a passcode to the email below.", a label "Email" followed by an input field containing "michael.tw.lin@", and two buttons: "Back" and "Send passcode". There is also a link "Get help signing in" at the bottom. The AWS logo and "training and certification" text are visible in the top left, and a "English" language selector is in the top right.



English ▾

One-time email passcode

Send a passcode to the email below.

Email

michael.tw.lin@

Back

Send passcode

[Get help signing in](#)

A screenshot of a web browser window. The title bar shows the tab is titled "Verify one-time email passcode". The address bar contains the URL "login.us-east-1.auth.skillbuilder.aws/otp/challenge?redirect_uri=https%3A%2F%2Fgandalf-prod.auth.us-east-1.amazoncognito.com%2Foauth2%2Fidprespo...". The page content is an "One-time email passcode" verification screen for AWS training and certification.

aws training and certification

English ▾

One-time email passcode

We sent a passcode to michael.tw.lin@gmail.com. You should receive it within 5 minutes.

Passcode (9-digit) [Resend passcode](#)

529717102

Back

Sign in

[Get help signing in](#)

- Step 1
Enter event access code
- Step 2
Review and join

Review and join

Event details

Name	Start time	Duration	Level
TCC-Bedrock-Dryrun	7/27/2024 03:02 PM	72 hours	300

Description

TCC-Bedrock-Dryrun

Terms and Conditions

Read and accept before joining the event

Read and accept before joining the event:

1. By using AWS Workshop Studio for the relevant event, You agree to [the AWS Event Terms and Conditions](#), the [AWS Responsible AI Policy](#), and the [AWS Acceptable Use Policy](#).
2. If You are under 18 years old, you may participate in the relevant event using AWS Workshop Studio: (a) if You are at least the minimum age below based on the country or region in which You reside, and (b) with the involvement of a parent, guardian, or educator.



Country or region	Minimum age
All countries or regions not listed below (including the United States, Brazil, the United Kingdom, and India)	13
Canada, China, Republic of Korea (South Korea)	14
Australia	15

catalog.us-east-1.prod.workshops.aws/join

aws workshop studio

Philippines, Thailand, Turkey, and countries in Africa

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7. During the relevant event, while using this AWS-owned account, You will not process or run any operation on any data other than test datasets or lab materials that have been approved by AWS.

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10. If You access and use a service and/or third-party models that have their own terms during the relevant event, while in the AWS-owned account, You agree to review those terms and comply with them during the event.

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12. Your use of AWS Workshop Studio will comply with these terms and all applicable laws. If You fail to comply with any of these terms, Your access to AWS Workshop Studio may be immediately terminated, without notice to You.

I agree with the Terms and Conditions

Cancel Previous Join event

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I agree with the Terms and Conditions

[Cancel](#)

[Previous](#)

Join event



aws workshop studio

 michael_tw_lin ▾

1

Bedrock and Claude Deep Dive Workshop

- ▶ 0. Prerequisites
 - 1. Text Generation
 - 2. RAG and Knowledge Bases
 - 3. Image and Multimodal
 - 4. Tool Use
 - 5. Agents for Bedrock
 - 6. Security and Governance
 - 7. Summary
 - 99. Resource release

Event dashboard > Bedrock and Claude Deep Dive Workshop

Event information

Start tim

7/27/2024 03:02 PM

Duration

72 hours

Accessible regions

us-west-2, us-east-1

Description

TCC-Bedrock-Dryru

Workshop

Get started >

Title

Bedrock and Claude Deep Dive
Workshop

Complexity level

300

AWS services

Amazon Bedrock

Topics

Generative AI

Description

Showcase Bedrock and Claude 3 functionality with scenarios like Multimodal, Tool Use, Knowledge base, ChatBot, RAG, Agent and Guardrails.

Content preferences

Language

English



us-west-2.console.aws.amazon.com/console/home?region=us-west-2

aws Services Search [Option+S] Oregon WSParticipantRole/Participant @ 1561-5387-8293

EC2 VPC RDS S3 Support Amazon SageMaker AWS DeepRacer CloudFormation

Console Home Info

[Reset to default layout](#) [+ Add widgets](#)

Recently visited Info

-  Support
-  Service Quotas
-  EC2
-  IAM
-  Amazon SageMaker
-  Billing and Cost Management
-  Amazon OpenSearch Service

[View all services](#)

Applications (0) Info

Region: US West (Oregon)

[Create application](#)

us-west-2 (Current Region) [Find applications](#)

Name	Description	Region	Originating account
No applications Get started by creating an application.			

[Create application](#)

[Go to myApplications](#)

Welcome to AWS

Getting started with AWS

AWS Health Info

Open issues

Cost and usage Info

Current month costs **Cost (\$)**

Lab Exercises

- Workshop Onboarding
- Classification Exercise with SageMaker Canvas
- Code Gen Exercise with SageMaker Canvas

Amazon SageMaker
Canvas Immersion Day

What is Amazon SageMaker Canvas?

▼ Prerequisites

AWS Workshop Portal

Self-Paced Lab

▼ Use case labs

Lab 1 - Customer Churn (Marketing)

Lab 2 - Housing Prices (Real Estate)

Lab 3 - Demand Forecasting (Retail)

Lab 4 - Loan Default Prediction (Financial Services)

Lab 5 - Diabetic Patient Readmission Prediction (Healthcare & Life Sciences)

Lab 6 - Predicting Machine Failure Types (Manufacturing)

Amazon SageMaker Canvas Immersion Day >  Use case labs > Lab 1 - Customer Churn (Marketing)

Lab 1 - Customer Churn (Marketing)

⚠ Make sure you have performed the steps described in the [Prerequisites](#) section before beginning this lab.

Agenda

1. Overview
 2. The dataset
 3. Building the ML model
 1. Import the dataset
 2. Configuring the model training
 3. Exploratory Data Analysis and Data Preparation
 4. Training the model
 4. Using the model to generate predictions
 1. Single prediction
 2. Batch prediction
 5. Optional: Model Deployment
 6. Optional: View Notebook
 7. Next Steps

catalog.us-east-1.prod.workshops.aws/event/dashboard/en-US/workshop/1-use-cases/1-marketing

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Amazon SageMaker Canvas
Immersion Day

Prerequisites

- AWS Workshop Portal
- Self-Paced Lab
- Amazon Bedrock Setup

Beginner labs

- End-to-end Machine Learning
- Time-Series Forecasting
- Generative AI
- Computer Vision

Use case labs

- [Lab 1 - Customer Churn \(Marketing\)](#)
- Lab 2 - Housing Prices (Real Estate)

AWS account access

- [Open AWS console \(us-west-2\)](#)
- [Get AWS CLI credentials](#)

Content preferences

Language: English

Event ends in 23 hours 27 minutes.

Overview

In this lab, we assume the role of a marketing analyst in the marketing department of a mobile phone operator. We have been tasked with identifying customers that are potentially at risk of churning. We have access to service usage and other customer behavior data, and want to know if this data can help explain why a customer would leave. If we can identify factors that explain churn, then we can take corrective actions to change predicted behavior, such as running targeted retention campaigns.

The dataset

[Download the dataset](#)

For our dataset, we use a synthetic dataset from a telecommunications mobile phone carrier. This sample dataset contains 5,000 records, where each record uses 21 attributes to describe the customer profile.

Your marketing team has informed you that this column indicates whether the customer left the service (true/false). The last attribute, **Churn**, is the attribute that we want the ML model to predict. The target attribute is binary, meaning our model predicts the output as one of two categories (True or False).

▶ Overview of the dataset fields

Building and training the ML model

The first step in creating a model with SageMaker Canvas is to start with uploading your dataset. Let's head over to the **My models** section by clicking the second button in the left-side navigation menu, then click on **+ New model**.

	A1	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U
1	State	Account_Len	Area_Code	Phone	Intl_Plan	Vmail_Plan	Vmail_Messa	Day_Mins	Day_Calls	Day_Charge	Eve_Mins	Eve_Calls	Eve_Charge	Night_Mins	Night_Calls	Night_Charg	Intl_Mins	Intl_Calls	Intl_Charge	CustServ_Ca	Churn
2	PA	163	806	403-2562	no	yes	300	8.162204021	3	7.579173703	3.933034994	4	6.508638877	4.065759457	100	5.111623914	4.928160205	6	5.67320340	3	True.
3	SC	15	836	158-8416	yes	no	0	10.01899266	4	4.226288822	2.325004552	0	9.97259242	7.141039871	200	6.436187619	3.221747623	6	2.559749162	8	False.
4	MO	131	777	896-6253	no	yes	300	4.708489916	3	4.768159882	4.53746628	3	4.566714501	5.363234681	100	5.142450865	7.139023052	2	6.254156588	4	False.
5	WY	75	878	817-5729	yes	yes	700	1.268733772	3	2.567641585	2.528747882	5	2.333623629	3.773585578	450	3.814413422	2.245779327	6	1.080692041	6	False.
6	WY	146	878	450-4942	yes	no	0	2.696177237	3	5.90891587	6.015337072	3	3.670407748	3.751673372	250	2.796811997	6.905545285	4	7.134342911	6	True.
7	VA	83	866	454-9110	no	no	0	3.634775967	7	4.804891886	6.051944336	5	5.278436964	2.937879986	300	4.817958439	4.948816088	4	5.13532274	5	False.
8	IN	140	737	331-5751	yes	no	0	3.229420255	4	3.165082060	2.440152809	8	0.264543089	2.352273897	300	3.869176348	5.393439248	4	1.784764820	4	False.
9	LA	54	766	871-3612	no	no	0	0.567920182	6	1.950098388	4.507026828	0	4.473085755	0.688785147	400	6.132136688	5.012747240	5	0.417420939	8	False.
10	MO	195	777	249-5723	yes	no	0	5.81111576	6	4.331065016	8.104126146	2	4.475034292	4.208352014	250	5.974575349	4.750152912	7	3.320310789	7	True.
11	AL	104	657	767-7682	yes	no	0	2.714429979	7	5.138669203	8.529943776	6	3.321121008	2.342176971	300	4.328965742	3.433554181	5	5.67705785	4	False.
12	CA	137	676	185-4876	no	yes	800	3.859041609	3	3.805902920	1.958122519	2	5.865065967	5.601397036	350	3.436449462	4.95536629	9	1.035231207	7	False.
13	RI	78	827	276-8625	yes	no	0	6.872939363	2	6.534157344	3.696520173	2	5.826586241	3.497215843	150	6.71005192	6.194516763	4	3.072914598	7	True.
14	GA	184	716	815-7162	no	no	0	1.477758590	6	5.532156653	6.718964555	8	1.061149272	2.059022754	350	0.959632984	6.617656599	7	6.191955343	3	False.
15	PA	150	806	610-2756	yes	no	0	8.735239799	3	5.607474258	6.959893299	1	8.167985577	2.839336261	150	5.14919228	5.342917777	6	8.14319563	4	True.
16	ND	114	786	968-6867	yes	yes	300	6.215980906	4	6.705125866	5.839379502	4	4.240211918	2.700893798	250	7.533492315	5.491468774	5	0.470645091	8	True.
17	MS	114	778	756-1787	no	no	0	3.333268666	3	4.888256309	4.779260734	1	4.864775249	2.849921550	200	5.206421651	4.59893792	3	4.771388460	8	True.
18	WY	48	878	889-7926	yes	yes	100	9.81381371	3	7.759409290	8.670985701	3	6.47273218	4.728587845	250	6.254585699	4.284906030	5	5.661948755	5	True.
19	NY	142	788	248-9207	yes	no	0	0.631607107	4	0.817363560	4.399597542	0	2.024482318	3.156504871	200	6.124743096	5.644293002	3	1.532017351	10	True.
20	NJ	111	787	843-5355	yes	yes	700	11.61561855	2	7.898472493	9.791103721	0	7.375764469	5.144235388	250	6.855467798	4.413320414	4	8.499379730	6	False.
21	NM	63	787	360-2799	yes	yes	300	7.331254865	3	8.456739885	9.617906177	6	3.818931666	6.528778714	250	4.53991711	4.952046946	3	8.911840816	5	False.
22	ID	124	736	199-4929	yes	no	0	6.350164019	6	5.278668210	6.174900893	4	5.825235277	5.097930527	150	5.931793350	4.88224683	3	5.57614618	6	True.
23	DE	111	686	620-9126	no	yes	500	2.018493489	6	5.820356743	8.191135340	6	2.428186870	1.333267798	400	4.967204286	5.25609596	5	4.673462287	5	False.
24	WY	182	878	671-4825	yes	yes	200	1.675229820	6	3.999441247	0.642391947	8	4.680588723	3.5441479	100	5.530137404	5.882881558	1	3.308140600	4	False.
25	IN	162	737	822-7473	yes	yes	500	1.637895652	4	1.253564332	2.857913575	3	4.654391689	1.858334477	150	4.655465974	3.909770305	3	4.204922450	8	False.
26	IL	128	737	247-5360	no	no	0	3.255026005	3	6.437929879	7.138773608	4	3.031720998	2.851625127	300	5.172175164	4.161727937	4	3.922241844	7	True.
27	CA	14	676	641-1882	no	no	0	5.435168039	1	5.036441163	7.246933156	0	6.213823231	2.978703791	300	5.50635546	4.740097542	3	6.964495185	7	True.
28	NM	56	787	822-3322	yes	yes	200	4.57984313	2	2.00117805	2.525309572	5	0.024721852	3.731893514	150	1.667656350	3.882070668	2	6.690489282	3	False.
29	WA	17	876	870-2858	yes	no	0	3.648750846	6	5.789514629	6.37469181	8	4.005674596	4.315006821	200	3.851060790	5.904362433	3	7.297146002	2	False.
30	ND	48	786	998-3997	yes	yes	100	1.087469194	4	1.779403326	5.075619562	1	2.214029199	1.323951292	150	4.425674917	5.844585093	4	3.718192501	6	False.
31	NM	151	787	350-1439	no	yes	700	4.249924610	2	1.490768827	3.068626766	0	1.185363020	2.170142941	300	0.833541539	5.922975521	7	3.99151338	6	False.
32	UT	73	858	890-5917	no	no	0	6.216594914	1	6.043934742	6.767937272	1	6.510837217	0.942185235	250	6.157013719	4.927917533	4	4.677666600	8	True.
33	MI	143	777	991-1739	yes	yes	600	1.246611401	4	1.495736345	5.669159748	1	0.951160389	2.966821079	300	5.039623065	4.501992319	5	1.198848166	9	True.
34	WI	103	877	113-1209	yes	yes	500	5.532527933	7	5.376943589	6.50878036	4	6.008477077	4.003404087	350	4.739268576	5.066703951	6	3.225194431	7	False.
35	MA	77	776	381-2754	yes	yes	800	9.616257414	3	6.552164688	6.358484995	2	7.145676780	6.541534533	400	5.202255703	5.863795728	9	3.216214199	7	False.
36	UT	148	858	754-4268	yes	no	0	7.92084860	5	7.582889096	5.913302541	8	4.682967316	6.362098325	150	5.806430872	5.980888870	5	4.0925932	5	True.
37	IN	92	737	472-5869	no	yes	100	9.195333229	5	8.042031436	7.025432160	6	5.627695233	5.11198964	150	6.792773030	5.269097609	4	4.1369364	6	True.
38	MN	105	777	546-9974	no	no	0	3.238357148	2	4.218547113	3.705312565	3	4.062194810	4.843425606	250	4.018595413	5.351747502	5	5.57079474	4	False.

catalog.us-east-1.prod.workshops.aws/event/dashboard/en-US/workshop/1-use-cases/1-marketing

aws workshop studio

Amazon SageMaker Canvas
Immersion Day

Prerequisites

- AWS Workshop Portal
- Self-Paced Lab
- Amazon Bedrock Setup

Beginner labs

- End-to-end Machine Learning
- Time-Series Forecasting
- Generative AI
- Computer Vision

Use case labs

- [Lab 1 - Customer Churn \(Marketing\)](#)
- Lab 2 - Housing Prices (Real Estate)

AWS account access

- [Open AWS console \(us-west-2\)](#)
- [Get AWS CLI credentials](#)

Content preferences

Language: English

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▼ Prerequisites

[AWS Workshop Portal](#)[Self-Paced Lab](#)[Amazon Bedrock Setup](#)

▼ Beginner labs

[End-to-end Machine Learning](#)[Time-Series Forecasting](#)[Generative AI](#)[Computer Vision](#)

▼ Use case labs

[Lab 1 - Customer Churn
\(Marketing\)](#)[Lab 2 - Housing Prices \(Real
Estate\)](#)[Lab 3 - Demand Forecasting
\(Retail\)](#)[Lab 4 - Loan Default Prediction](#)

▼ AWS account access

[Open AWS console](#)[\(us-west-2\)](#) [Get AWS CLI credentials](#)

▼ Content preferences

Language

English



Exit event

▼ Overview of the dataset fields

Field	Description
State	The US state in which the customer resides, indicated by a two-letter abbreviation; for example, OH or NJ
Account_Length	The number of days that this account has been active
Area_Code	The three-digit area code of the customer's phone number
Phone	The remaining seven-digit phone number
Intl_Plan	Whether the customer has an international calling plan (yes/no)
VMail_Plan	Whether the customer has a voice mail feature (yes/no)
VMail_Message	The average number of voice mail messages per month
Day_Mins	The total number of calling minutes used during the day
Day_Calls	The total number of calls placed during the day
Day_Charge	The billed cost of daytime calls
Eve_Mins, Eve_Calls, Eve_Charge	The billed cost for evening calls
Night_Mins, Night_Calls, Night_Charge	The billed cost for nighttime calls
Intl_Mins, Intl_Calls, Intl_Charge	The billed cost for international calls
CustServ_Calls	The number of calls placed to customer service
Churn (TARGET)	Whether the customer left the service (true/false)

us-east-1.console.aws.amazon.com/sagemaker/home?region=us-east-1#/canvas-landing

AWS Services Search [Option+S] N. Virginia WSParticipantRole/Participant @ 6838-5306-5264

CloudFormation EC2 RDS S3 Amazon SageMaker Amazon Bedrock AWS DeepRacer

Amazon SageMaker

Getting started Studio Studio Lab Canvas RStudio TensorBoard Profiler

Admin configurations Domains Role manager Images Lifecycle configurations

SageMaker dashboard Search

JumpStart Foundation models

SageMaker Canvas

Generate accurate machine learning predictions — no code required

How it works

Get Started

Select user profile Open Canvas

Pricing (US)

AWS Free Tier

If you are new to SageMaker you are eligible for the AWS Free Tier which includes up to 10 models with up to 1M cells of data free for the first 2 months.



Ready-to-use models



 You must have the necessary permissions to make predictions with Ready-to-use models. Go to the [SageMaker Console](#) to enable permissions for this account if this hasn't been done already. If you don't have access to the [SageMaker Console](#), contact your administrator. [Learn more](#) 



New!

Accelerate your productivity using generative AI

Content generation, extraction, summarization, and many more tasks are easier to perform using foundation models from Amazon Bedrock and publicly available models from Amazon SageMaker JumpStart.



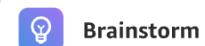
Summarize...



Write a blog post...



Explain...



Brainstorm ideas...



List key takeaways...



Improve writing...



Rewrite...



Outline...



Change tone...



Reply to this...



Simplify...



Compare...



Paraphrase...

Get started now



Search use case

Last used 

Grid

List

Can't find the right model? [Create a custom model](#)



Generative AI using foundation models

Our content generation models can help you craft engaging narratives, articles, answer questions, and more, tailored to your needs.





New! Amazon SageMaker Canvas supports comprehensive data preparation including a conversational interface for data transformation, Gen AI capabilities to access, evaluate, and fine-tune LLMs, configuration of parameters to build models, and the ability to directly deploy models to real-time endpoints. [Learn more](#)



My models

Search models

+ New model



Grid
My models

List



Filter by problem type: Fine-tune foundation model



Last viewed



Create new model

X

Model name

Model name

Churn

Use only letters, numbers, and underscores up to 32 characters.

Problem type

Select the problem type you want the model to solve.



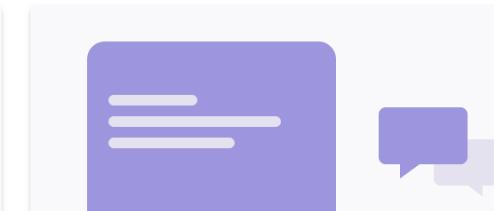
Predictive analysis

Build models using tabular datasets to predict single or multiple categories as well as regression and time-series forecast problems.



Image analysis

Build models using image datasets to predict single or multiple categories for image classification problems.



Text analysis

Build models using tabular datasets to predict single or multiple categories for text classification problems.



Fine-tune foundation model

Customize a foundation model on your data to improve its performance for a specific task or domain.

Cancel

Create

Amazon SageMaker Canvas | Amazon SageMaker Canvas | SageMaker Canvas

d-culcm7zcqhoq.studio.us-east-1.sagemaker.aws/canvas/default/models/Churn

My models > Churn > Version 1

Add version

Select Build Analyze Predict Deploy

Select dataset

You can import a tabular dataset or choose one that has already been imported. Your dataset must contain at least one input column and a target column.

+ Create dataset

Search datasets in Canvas

All Joined

Name	Columns	Rows	Cells	Created	Status

Red arrow pointing to the '+ Create dataset' button.

[Select](#)[Build](#)[Analyze](#)[Predict](#)[Deploy](#)

Select dataset

[+ Create dataset](#)[Join](#)

You can import a tabular dataset or choose one that has already been imported. Your dataset must contain at least one input column and a target column.

 Search datasets in Canvas

Create a tabular dataset



Dataset name

CustomerData

Use only letters, numbers, spaces, dashes, colons, and underscores up to 64 characters.

[Cancel](#)[Create](#)

Amazon SageMaker Canvas | Amazon SageMaker Canvas | Amazon SageMaker Canvas

d-culcm7zcqhoq.studio.us-east-1.sagemaker.aws/canvas/default/models/Churn

New Chrome available

CustomerData: Create Tabular dataset

Data Source: Local upload

Upload files to import

Drag a CSV or Parquet file here

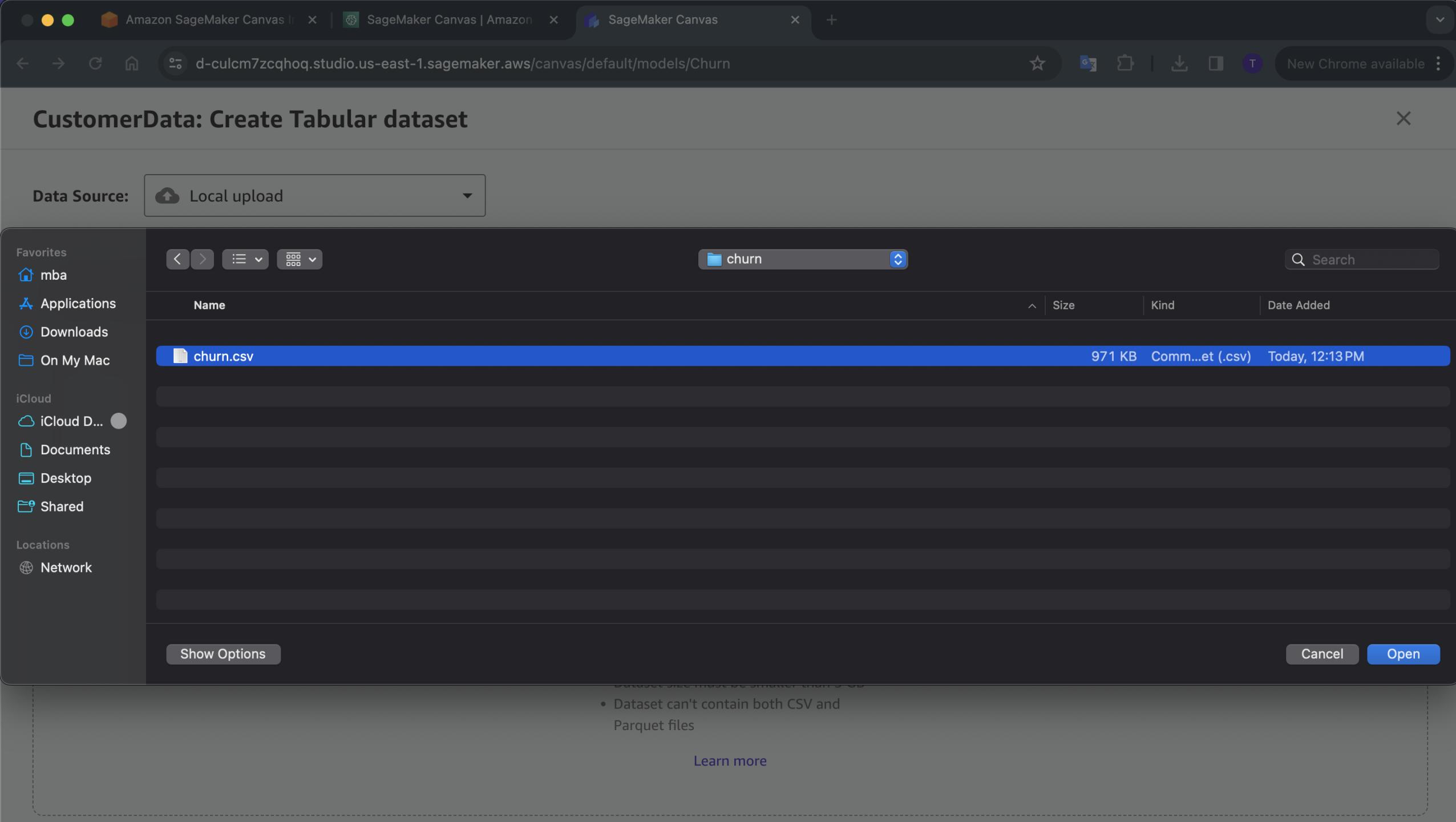
or

Select files from your computer

• Dataset size must be smaller than 5 GB
• Dataset can't contain both CSV and Parquet files

Learn more





Amazon SageMaker Canvas | x | SageMaker Canvas | Amazon | SageMaker Canvas x +

← → ⌂ d-culcm7zcqhoq.studio.us-east-1.sagemaker.aws/canvas/default/models/Churn ☆ | New Chrome available :

CustomerData: Create Tabular dataset

Data Source: Local upload ▾

Upload files to import

Drag a CSV or Parquet file here

or

Select files from your computer

- Dataset size must be smaller than 5 GB
- Dataset can't contain both CSV and Parquet files

Learn more

1 file ready to import

churn.csv

Delete all

Preview

The image shows a web browser window with three tabs at the top: 'Amazon SageMaker Canvas | x', 'SageMaker Canvas | Amazon | SageMaker Canvas x', and 'SageMaker Canvas x'. The main content area is titled 'CustomerData: Create Tabular dataset'. A 'Data Source' dropdown is set to 'Local upload'. Below it, a large dashed box contains instructions to 'Drag a CSV or Parquet file here' or 'Select files from your computer'. A note specifies that the dataset size must be smaller than 5 GB and cannot contain both CSV and Parquet files. A 'Learn more' link is provided. To the right, a panel shows '1 file ready to import' named 'churn.csv' with a delete link. At the bottom right, a red arrow points to a 'Preview' button.

Amazon SageMaker Canvas | Amazon SageMaker Canvas | Amazon SageMaker Canvas

d-culcm7zcqhoq.studio.us-east-1.sagemaker.aws/canvas/default/models/Churn

CustomerData: Create Tabular dataset

Data Source: Local upload

Upload files to import

Import preview Previewing first 100 rows Close preview Create dataset

churn.csv Use first row as header Delete

State	Account_Length	Area_Code	Phone	Intl_Plan	Vmail_Plan
PA	163	806	403-2562	no	yes
SC	15	836	158-8416	yes	no
MO	131	777	896-6253	no	yes
WY	75	878	817-5729	yes	yes
WY	146	878	450-4942	yes	no

A red arrow points to the "Create dataset" button.

[Select](#)[Build](#)[Analyze](#)[Predict](#)[Deploy](#)

Select dataset

[+ Create dataset](#)[Join](#)

You can import a tabular dataset or choose one that has already been imported. Your dataset must contain at least one input column and a target column.

 Search datasets in Canvas[All](#)[Joined](#)[Name](#)[Columns](#)[Rows](#)[Cells](#)[Created](#)[Status](#)[CustomerData](#)

V1

21

5,000

105,000

01/16/2024 12:19 PM

Ready

[Select dataset](#)

Amazon SageMaker Canvas | Amazon SageMaker Canvas | SageMaker Canvas

d-culcm7zcqhoq.studio.us-east-1.sagemaker.aws/canvas/default/models/Churn

Add version

My models > Churn > Version 1

Select Build Analyze Predict Deploy

Select a column to predict

Choose the target column. The model that you build predicts values for the column that you select.

Target column

Model type

SageMaker Canvas automatically recommends the appropriate model type for your analysis.

To see a recommended model type, specify a value for the target column.

Quick build

Preview model

CustomerData

Full dataset: 5.0k rows

Manage columns Manage rows Time series View all Data visualizer

Column name	Data type	Feature type	Missing	Mismatched	Unique	Mode
Vmail_Plan	Text	Binary	0.00% (0)	0.00% (0)	2	yes
Vmail_Message	Numeric	-	0.00% (0)	0.00% (0)	14	0
State	Text	-	0.00% (0)	0.00% (0)	51	RI
Phone	Text	-	0.00% (0)	0.00% (0)	4,999	614-5668
Night_Mins	Numeric	-	0.00% (0)	0.00% (0)	5,000	0.01
Night_Charge	Numeric	-	0.00% (0)	0.00% (0)	5,000	0.06

Manage columns

Select

Build

Analyze

Predict

Deploy

Select a column to predict

Choose the target column. The model that you build predicts values for the column that you select.



Target column

Model type

SageMaker Canvas automatically recommends the appropriate model type for your analysis.

To see a recommended model type, specify a value for the target column.

Quick build

Preview model

CustomerData

Full dataset: 5.0k rows

Vmail_Plan	A	State	A	Night_Mins	Night_Charge
2 Categories	Binary	51 Values	4999 Values	0.01	0.05
yes	300	PA	403-2562	4.065759457683862	5.1116239145545554
no	0	SC	158-8416	7.141039871521733	6.436187619334115
yes	300	MO	896-6253	5.3632346813680325	5.1424508654321

SageMaker Canvas | Amazon | SageMaker Canvas

d-culcm7zcqhoq.studio.us-east-1.sagemaker.aws/canvas/default/models/Churn

My models > Churn > Version 1

Target column

To see a recommended model type, specify a value for the target column.

Quick build

Preview model

CustomerData
Visualization sample: 100 rows

Manage columns

Manage rows

Time series

View all

Data visualizer

Visualizations

Analytics

Scatter plot

Bar chart

Box plot

Drop column here

Drag columns into the axis

Drop column here

State

Account...

Area_Co...

Phone

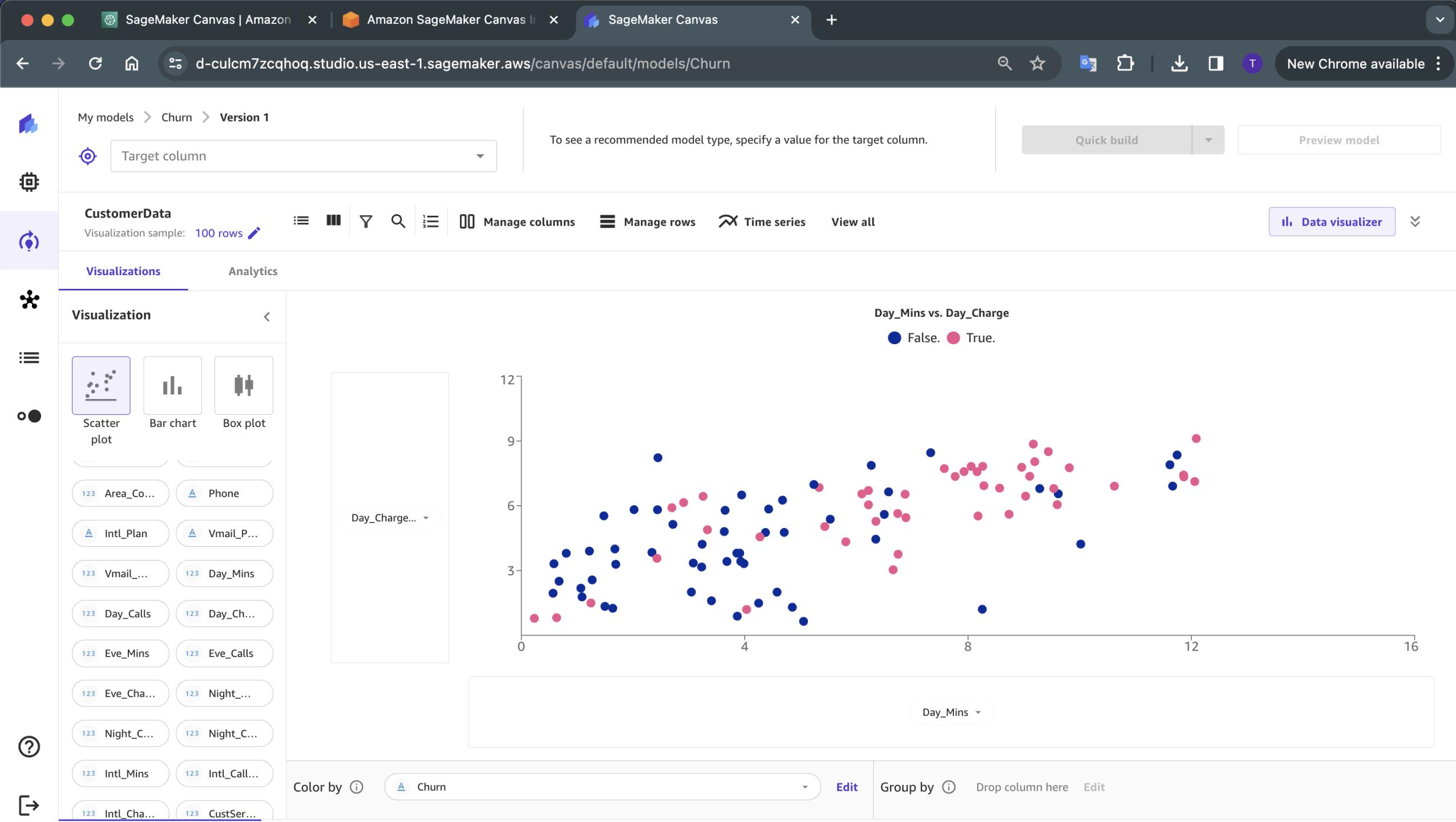
Intl_Plan

Vmail_P...

Vmail...

Day_Mins

Scatterplot



SageMaker Canvas | Amazon X | SageMaker Canvas X

d-culcm7zcqhoq.studio.us-east-1.sagemaker.aws/canvas/default/models/Churn

My models > Churn > Version 1

Target column

To see a recommended model type, specify a value for the target column.

Quick build

Preview model

CustomerData
Visualization sample: 100 rows

Manage columns

Manage rows

Time series

View all

Data visualizer

Visualizations

Analytics

Scatter plot

Bar chart

Box plot

Area_Co...

Phone

Intl_Plan

Vmail_P...

Vmail_...

Day_Mins

Day_Calls

Day_Ch...

Eve_Mins

Eve_Calls

Eve_Ch...

Night_...

Night_C...

Night_C...

Intl_Mins

Intl_Call...

Intl_Ch...

CustSer...

Drop column here

Drag columns into the axis

Drop column here

 Target column

To see a recommended model type, specify a value for the target column.

Quick build

Preview model

CustomerData

Visualization sample: 100 rows 

Manage columns

Manage rows

Time series

View all

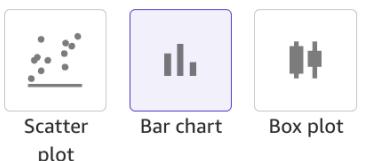
Data visualizer



Visualizations

Analytics

Visualization



Columns

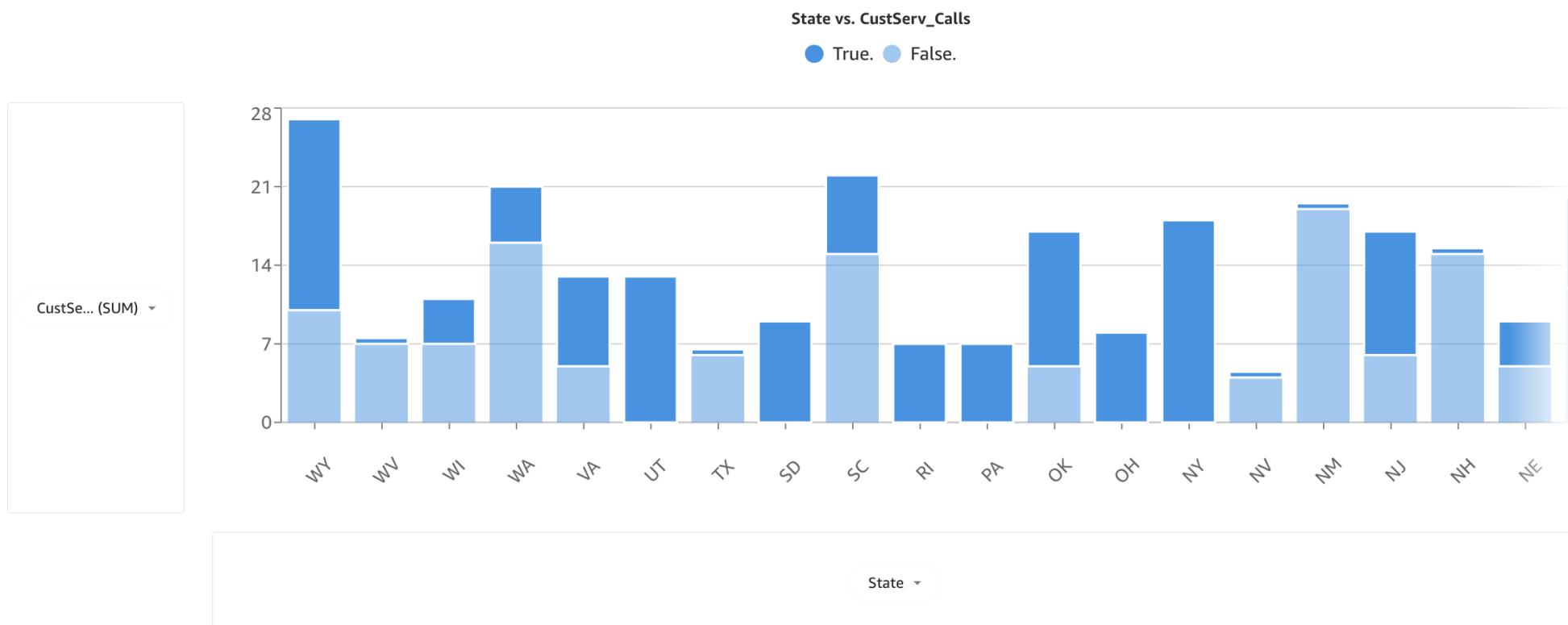
 State	 Account...
 Area_Co...	 Phone
 Intl_Plan	 Vmail_P...
 Vmail_...	 Day_Mins
 Day_Calls	 Day_Ch...
 Eve_Mins	 Eve_Calls
 Eve_Cha...	 Night_...
 Night_C...	 Night_C...

 Bar chart

Total columns: 21

Total rows: 5,000

Total cells: 105,000

 Show dropped columnsGroup by 

Drop column here

Edit

Stack by  Churn

Target column

To see a recommended model type, specify a value for the target column.

Quick build

Preview model

CustomerData

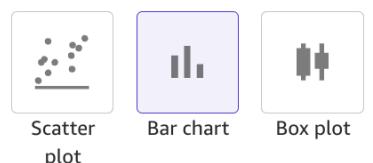
Visualization sample: 100 rows



Visualizations

Analytics

Visualization



Columns

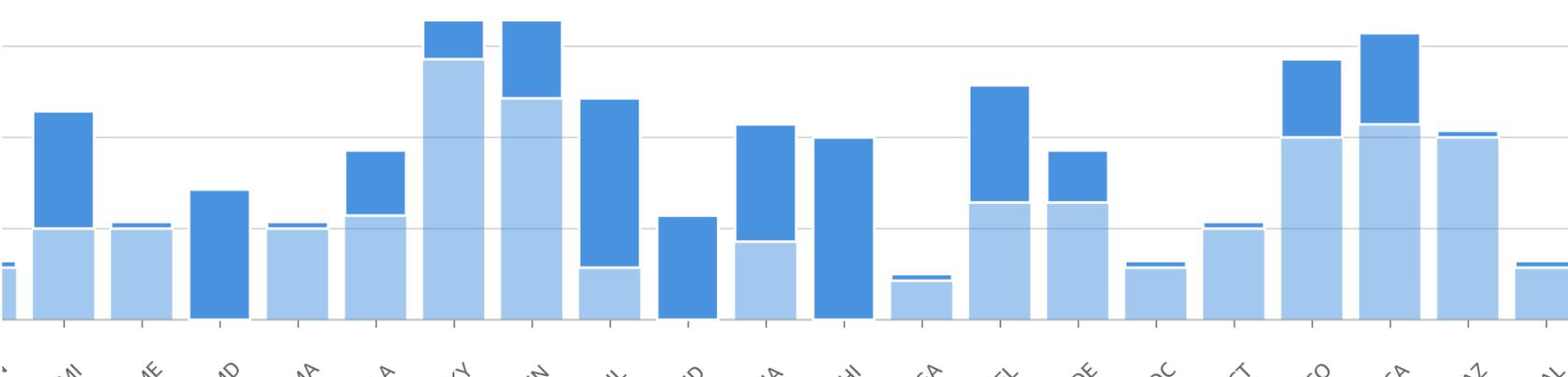
- State
- Account...
- Area_Co...
- Phone
- Intl_Plan
- Vmail_P...
- Vmail_...
- Day_Mins
- Day_Calls
- Day_Ch...
- Eve_Mins
- Eve_Calls
- Eve_Cha...
- Night_...
- Night_C...
- Night_C...

Bar chart

Group by ? Drop column here Edit

State vs. CustServ_Calls

True. False.



State ▼

Stack by ? Churn

Edit

Target column

To see a recommended model type, specify a value for the target column.

Quick build

Preview model

CustomerData

Full dataset: 5.0k rows



Manage columns

Manage rows

Time series

View all

Data visualizer

Visualizations

Analytics



Analytics



Correlation matrix

Columns All

Search columns

Account_Length

123

Area_Code

123

Intl_Plan

A

Vmail_Plan

A

Vmail_Message

123

Day_Mins

123

Day_Calls

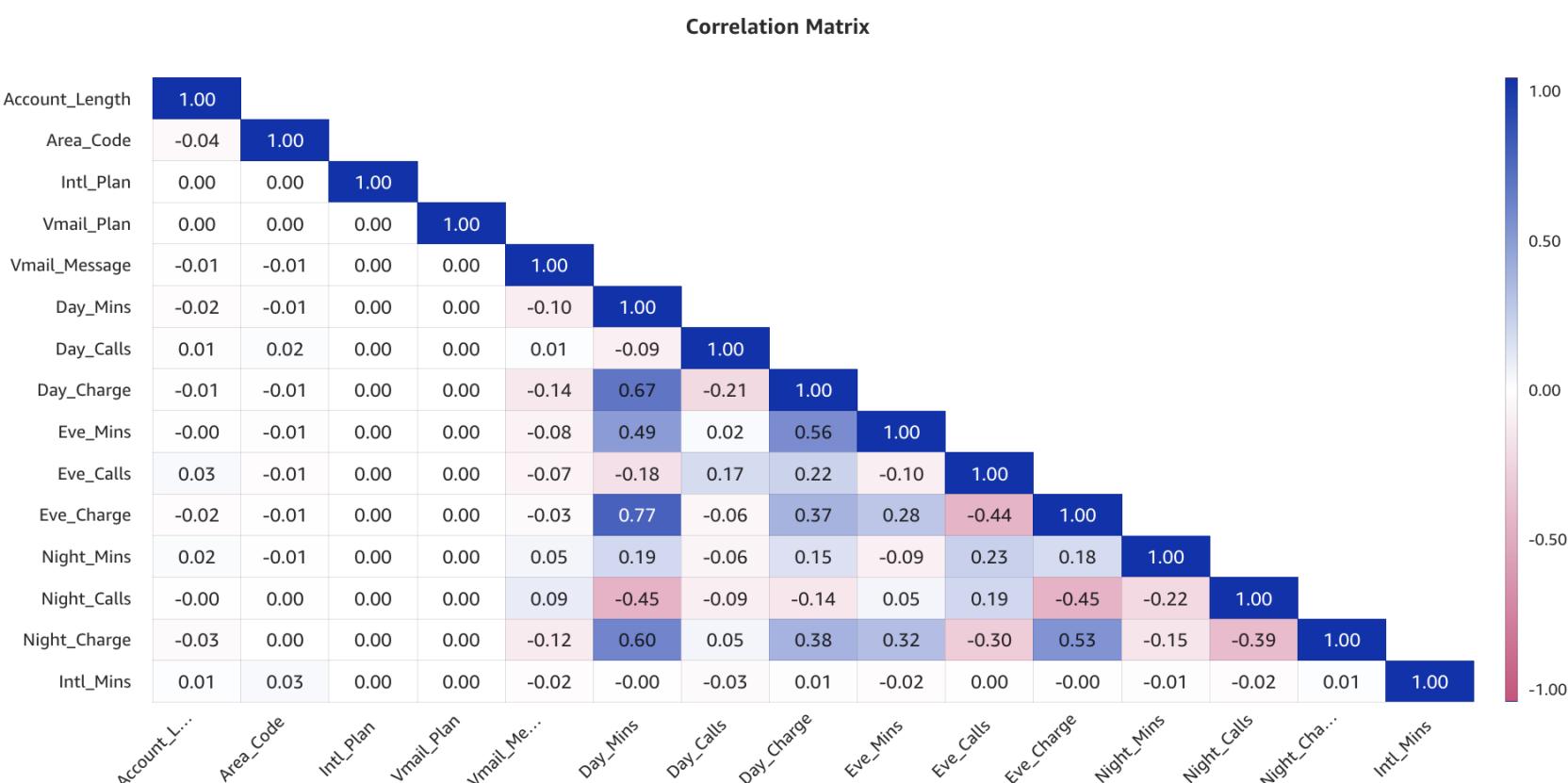
123

Day_Charge

123

Correlation matrix

+



Total columns: 21

Total rows: 5,000

Total cells: 105,000

Show dropped columns

Filter correlations

Min
-1.00

Max
1.00

Correlation type

Spearman & MI

Visualize by

Numeric

Size

Color selection

N

O

W

Target column

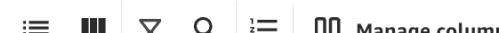
To see a recommended model type, specify a value for the target column.

Quick build

Preview model

CustomerData

Full dataset: 5.0k rows



View all

Data visualizer



Visualizations

Analytics

Analytics



Correlation matrix

Columns

All

Search columns

Account_Length

123

Area_Code

123

Intl_Plan

A

Vmail_Plan

A

Vmail_Message

123

Day_Mins

123

Day_Calls

123

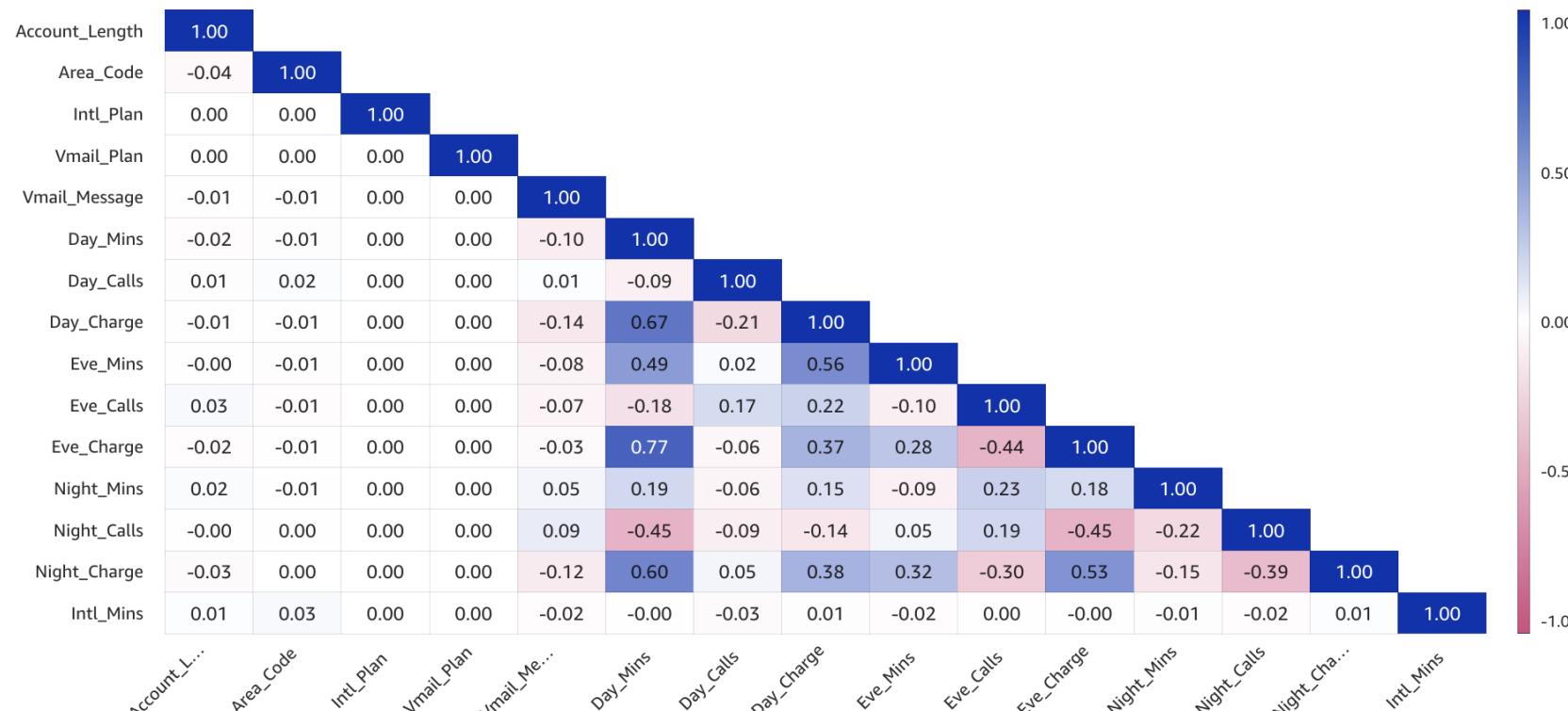
Day_Charge

123

Correlation matrix

+

Correlation Matrix



Filter correlations

Min
-1.00

Max
1.00

Correlation type

Spearman & MI

Visualize by

Numeric

Size

Color selection

SageMaker Canvas | Amazon | Amazon SageMaker Canvas | SageMaker Canvas

d-culcm7zcqhoq.studio.us-east-1.sagemaker.aws/canvas/default/models/Churn

Add version

New Chrome available

My models > Churn > Version 1

Select Build Analyze Predict Deploy

Select a column to predict

Choose the target column. The model that you build predicts values for the column that you select.

Target column

To see a recommended model type, specify a value for the target column.

Model type

SageMaker Canvas automatically recommends the appropriate model type for your analysis.

Quick build

Preview model

CustomerData

Full dataset: 5.0k rows

Manage columns Manage rows Time series View all Data visualizer

Column name	Data type	Feature type	Missing	Mismatched	Unique	Mode
Vmail_Plan	Text	Binary	0.00% (0)	0.00% (0)	2	yes
Vmail_Message	Numeric	-	0.00% (0)	0.00% (0)	14	0
State	Text	-	0.00% (0)	0.00% (0)	51	RI
Phone	Text	-	0.00% (0)	0.00% (0)	4,999	614-5668
Night_Mins	Numeric	-	0.00% (0)	0.00% (0)	5,000	0.01
Night_Charge	Numeric	-	0.00% (0)	0.00% (0)	5,000	0.06

SageMaker Canvas | Amazon | Amazon SageMaker Canvas | SageMaker Canvas

d-culcm7zcqhoq.studio.us-east-1.sagemaker.aws/canvas/default/models/Churn

Add version

New Chrome available

My models > Churn > Version 1

Select Build Analyze Predict Deploy

Select a column to predict

Choose the target column. The model that you build predicts values for the column that you select.

Target column: Churn

Value distribution: False. (blue bar), True. (blue bar)

Model type

SageMaker Canvas automatically recommends the appropriate model type for your analysis.

2 category prediction

Your model classifies Churn into two categories.

Configure model

Quick build

Preview model

CustomerData

Full dataset: 5.0k rows

Manage columns Manage rows Time series View all Data visualizer

Column name	Data type	Feature type	Missing	Mismatched	Unique	Mode
Vmail_Plan	Text	Binary	0.00% (0)	0.00% (0)	2	yes
Vmail_Message	Numeric	-	0.00% (0)	0.00% (0)	14	0
State	Text	-	0.00% (0)	0.00% (0)	51	RI
Phone	Text	-	0.00% (0)	0.00% (0)	4,999	614-5668
Night_Mins	Numeric	-	0.00% (0)	0.00% (0)	5,000	0.01



My models > Churn > Version 1

[+ Add version](#)

Select

Build

Analyze

Predict

Deploy

No issues have been found in your dataset X

Select a column to predict

Choose the target column. The model that you build predicts values for the column that you select.

Target column
 Churn

Value distribution

**Model type**

SageMaker Canvas automatically recommends the appropriate model type for your analysis.

2 category prediction

Your model classifies Churn into two categories.

[Configure model](#)

[Quick build](#)[Preview model](#)**CustomerData**

Full dataset: 5.0k rows

Column name	Data type	Feature type	Missing	Mismatched
-------------	-----------	--------------	---------	------------

 Column name ↓Data type [i](#)Feature type [i](#)Missing [i](#)Mismatched [i](#) Vmail_Plan

Text

Binary

0.00% (0)

0.00% (0)

 Vmail_Message

Numeric

-

0.00% (0)

0.00% (0)

 State

Text

-

0.00% (0)

0.00% (0)

 Phone

Text

-

0.00% (0)

0.00% (0)

Preview modelEstimated accuracy [i](#)**95.6%**

The model predicts the correct target (Churn) 95.6% of the time.

Column impact [i](#)

My models > Churn > Version 1

Add version



Select

Build

Analyze

Predict

Deploy

No issues have been found in your dataset

Select a column to predict

Choose the target column. The model that you build predicts values for the column that you select.

Target column
 Churn

Value distribution

False.

True.

Model type

SageMaker Canvas automatically recommends the appropriate model type for your analysis.

2 category prediction

Your model classifies Churn into two categories.

[Configure model](#)[Quick build](#)[Preview model](#)

CustomerData

Full dataset: 5.0k rows

|--|--|--|--|--|--|--|

Column name ↓

Data type

Feature type

Missing

Mismatched

Vmail_Plan

Text

Binary

0.00% (0)

0.00% (0)

Vmail_Message

Numeric

-

0.00% (0)

0.00% (0)

State

Text

-

0.00% (0)

0.00% (0)

Phone

Text

-

0.00% (0)

0.00% (0)

Eve_Calls

0.121

State

0.076

Intl_Plan

0.041

Phone

0.02





My models > Churn > Version 1

[+ Add version](#)

Select

Build

Analyze

Predict

Deploy

i You've made 2 changes. Revalidate your dataset before building a model.

[Re-check dataset issues](#)**Select a column to predict**

Choose the target column. The model that you build predicts values for the column that you select.

Target column

Value distribution

**Model type**

SageMaker Canvas automatically recommends the appropriate model type for your analysis.

i 2 category prediction

Your model classifies Churn into two categories.

[Configure model](#)[Quick build](#)[Preview model](#)**CustomerData**

Full dataset: 5.0k rows

<input type="checkbox"/>	Column name	Data type	Feature type	Missing	Mismatched
--------------------------	-------------	-----------	--------------	---------	------------

<input type="checkbox"/>	Vmail_Plan	A Text	Binary	0.00% (0)	0.00% (0)
<input checked="" type="checkbox"/>	Vmail_Message	123 Numeric	-	0.00% (0)	0.00% (0)
<input type="checkbox"/>	State	A Text	-	0.00% (0)	0.00% (0)
<input type="checkbox"/>	Phone	A Text	-	0.00% (0)	0.00% (0)

Model recipe[+ Add transform](#)

1 Drop column State

2 Drop column Phone



SageMaker Canvas | Amazon | SageMaker Canvas

You've made 2 changes. Revalidate your dataset before building a model.

My models > Churn > Version 1

Target column: Churn

2 category prediction

Configure model

Quick build

Preview model

CustomerData

Full dataset: 5.0k rows

Vmail_Plan: 2 Categories, Binary, yes (300), no (0)

Vmail_Message: 123 Values, 0.00 to 1286.46

State: 51 Values, PA, SC, MO, WY, VA, IN, LA

Phone: 4999 Values, 403-2562 to 871-3612

0.01

View all

Data visualizer

Add transform

Manage columns

Change data type

Custom formula

Replace missing values

Replace outlier values

Manage rows

Drop duplicate rows

Drop rows by formula

Re-check dataset issues

A red arrow points to the "View all" button in the top navigation bar of the data visualization interface.

SageMaker Canvas | Amazon | SageMaker Canvas

You've made 2 changes. Revalidate your dataset before building a model.

My models > Churn > Version 1

Target column: Churn

2 category prediction

Configure model

Quick build

Preview model

CustomerData

Full dataset: 5.0k rows

	Vmail_Plan	Vmail_Me...	State	Phone	
yes	300	PA	51 Values	4999 Values	4.06%
no	0	SC	1286.46	158-8416	7.14%
yes	300	MO	51 Values	896-6253	5.36%
yes	700	WY	4999 Values	817-5729	3.77%
no	0	WY	0.00	450-4942	3.75%
no	0	VA	1286.46	454-9110	2.93%
no	0	IN	51 Values	331-5751	2.35%
no	0	LA	4999 Values	871-3612	0.68%

Add transform

Manage columns

Change data type

Custom formula

Replace missing values

Replace outlier values

Manage rows

Drop duplicate rows

Drop rows by formula

Re-check dataset issues

Red arrow pointing to the "Custom formula" section.

SageMaker Canvas | Amazon X Amazon SageMaker Canvas Ir X SageMaker Canvas X | +

catalog.us-east-1.prod.workshops.aws/workshops/80ba0ea5-7cf9-4b8c-9d3f-1cd988b6c071/en-US/1-use-cases/1-mark... ↴ ⭐

New Chrome available :

aws workshop studio

Amazon SageMaker Canvas Immersion Day

What is Amazon SageMaker Canvas?

Prerequisites

- AWS Workshop Portal
- Self-Paced Lab

Use case labs

- Lab 1 - Customer Churn (Marketing)
- Lab 2 - Housing Prices (Real Estate)
- Lab 3 - Demand Forecasting (Retail)
- Lab 4 - Loan Default Prediction (Financial Services)
- Lab 5 - Diabetic Patient Readmission Prediction (Healthcare & Life Sciences)
- Lab 6 - Predicting Machine Failure Types (Manufacturing)

Content preferences

Language

unchecking uncheck those features in the Column View.

CustomerData(3)
Full dataset: 5.0k rows

Column name	Data type	Feature type	Missing	Mismatch
Vmail_Plan	Text	Binary	0.00% (0)	0.00% (0)
Vmail_Message	Numeric	-	0.00% (0)	0.00% (0)
State	Text	-	0.00% (0)	0.00% (0)
Phone	Text	-	0.00% (0)	0.00% (0)

Model recipe

- 1 Drop column State
- 2 Drop column Phone

+ Add transform

Let's perform some additional data transformation as well. For example, we noticed in our previous analysis that charged amount to customers has a direct impact to the churn. Let's therefore create a new column that computes the total charges to our customers by combining the "Charge", "Mins" and "Calls", for "Day", "Eve", "Night" and "Intl". To do so, we will use the **Custom Formulas** in Amazon SageMaker Canvas:

1. Click on the **View all** transformations button
2. Select **Custom Formula**
3. Use the following formula:
`(Day_Calls*Day_Charge*Day_Mins)+(Eve_Calls*Eve_Charge*Eve_Mins)+(Night_Calls*Night_Charge*Night_Mins)+(Intl_Calls*Intl_Charge*Intl_Mins)`
4. Give it a name like **Total_Charges**, then click **Preview**, then **Add**
5. You can verify that the transformation has taken place after clicking Preview by scrolling to the right to find the new column, as well as in the Model Recipe after clicking Add.

Copied!

SageMaker Canvas | Amazon | SageMaker Canvas

You've made 2 changes. Revalidate your dataset before building a model.

My models > Churn > Version 1

Target column: Churn

2 category prediction

Configure model

Quick build

Preview model

CustomerData

Full dataset: 5.0k rows

Source

Intl_Charge	Intl_Calls	Intl_Mins	Night_Charge
0.00	0.00	1.65	0.05
13.50	11.40	8.07	9.89
5.673203040696215	6	4.9281602056057885	5.1116239145545554
2.5597491623290343	6	3.221747623188701	6.436187619334115
6.254156588270942	2	7.139023052596313	5.142450865432123
1.0806920414898902	6	2.245779327608127	3.814413422187984
7.134342911307563	4	6.905545285710017	2.7968119977118326
5.13532274057697	4	4.948816088347728	4.817958439785448
1.7847648201298167	4	5.393439248879196	3.8691763484913535

Data visualizer

Σ Custom formula

Use mathematical functions to explore and distribute your data. [Learn more](#)

Formula (Required)

Enter a Formula

(Day_Calls*Day_Charge*Day_Mins)+
(Eve_Calls*Eve_Charge*Eve_Min)s+
(Night_Calls*Night_Charge*Night_Mins)+
(Intl_Calls*Intl_Charge*Intl_Mins)

New Column Name (Required)

Write a new name

Enter a column name. The name can have up to 64 characters.

Preview Cancel Add

SageMaker Canvas | Amazon X Amazon SageMaker Canvas Ir X SageMaker Canvas X | +

catalog.us-east-1.prod.workshops.aws/workshops/80ba0ea5-7cf9-4b8c-9d3f-1cd988b6c071/en-US/1-use-cases/1-mark... ↴ ⭐

New Chrome available :

aws workshop studio

Amazon SageMaker Canvas Immersion Day

What is Amazon SageMaker Canvas?

Prerequisites

- AWS Workshop Portal
- Self-Paced Lab

Use case labs

- Lab 1 - Customer Churn (Marketing)
- Lab 2 - Housing Prices (Real Estate)
- Lab 3 - Demand Forecasting (Retail)
- Lab 4 - Loan Default Prediction (Financial Services)
- Lab 5 - Diabetic Patient Readmission Prediction (Healthcare & Life Sciences)
- Lab 6 - Predicting Machine Failure Types (Manufacturing)

Content preferences

Language

unchecked those features in the Column View.

CustomerData(3)
Full dataset: 5.0k rows

Column name	Data type	Feature type	Missing	Mismatch
Vmail_Plan	Text	Binary	0.00% (0)	0.00% (0)
Vmail_Message	Numeric	-	0.00% (0)	0.00% (0)
State	Text	-	0.00% (0)	0.00% (0)
Phone	Text	-	0.00% (0)	0.00% (0)

Model recipe

- + Add transform
- 1 Drop column State
- 2 Drop column Phone

Let's perform some additional data transformation as well. For example, we noticed in our previous analysis that charged amount to customers has a direct impact to the churn. Let's therefore create a new column that computes the total charges to our customers by combining the "Charge", "Mins" and "Calls", for "Day", "Eve", "Night" and "Intl". To do so, we will use the **Custom Formulas** in Amazon SageMaker Canvas:

1. Click on the **View all** transformations button
2. Select **Custom Formula**
3. Use the following formula:

```
(Day_Calls*Day_Charge*Day_Mins)+(Eve_Calls*Eve_Charge*Eve_Mins)+(Night_Calls*Night_Charge*Night_Mins)+(Intl_Calls*Intl_Charge*Intl_Mins)
```
4. Give it a name like **Total_Charges**, then click **Preview**, then **Add**
5. You can verify that the transformation has taken place after clicking Preview by scrolling to the right to find the new column, as well as in the Model Recipe after clicking Add.

SageMaker Canvas | Amazon | Amazon SageMaker Canvas | SageMaker Canvas

You've made 2 changes. Revalidate your dataset before building a model.

My models > Churn > Version 1

Target column: Churn

2 category prediction

Configure model

Quick build

Preview model

CustomerData

Full dataset: 5.0k rows

Source

Intl_Charge	Intl_Calls	Intl_Mins	Night_Charge
0.00	0.00	1.65	0.05
13.50	11.40	8.07	9.89
5.673203040696215	6	4.9281602056057885	5.1116239145545554
2.5597491623290343	6	3.221747623188701	6.436187619334115
6.254156588270942	2	7.139023052596313	5.142450865432123
1.0806920414898902	6	2.245779327608127	3.814413422187984
7.134342911307563	4	6.905545285710017	2.7968119977118326
5.13532274057697	4	4.948816088347728	4.817958439785448
1.7847648201298167	4	5.393439248879196	3.8691763484913535

Data visualizer

Custom formula

Use mathematical functions to explore and distribute your data. [Learn more](#)

Formula (Required)

Enter a Formula

(Day_Calls*Day_Charge*Day_Mins)+
(Eve_Calls*Eve_Charge*Eve_Min)s+
(Night_Calls*Night_Charge*Night_Mins)+
(Intl_Calls*Intl_Charge*Intl_Mins)

New Column Name (Required)

Write a new name Total_Charges

Preview Cancel Add

Intl_Charge	Intl_Calls	Intl_Mins	Night_Charge
0.00	0.00	1.65	0.05
13.50	11.40	8.07	9.89
5.673203040696215	6	4.9281602056057885	5.1116239145545554
2.5597491623290343	6	3.221747623188701	6.436187619334115
6.254156588270942	2	7.139023052596313	5.142450865432123
1.0806920414898902	6	2.245779327608127	3.814413422187984
7.134342911307563	4	6.905545285710017	2.7968119977118326
5.13532274057697	4	4.948816088347728	4.817958439785448
1.7847648201298167	4	5.393439248879196	3.8691763484913535

SageMaker Canvas | Amazon | SageMaker Canvas

You've made 3 changes. Revalidate your dataset before building a model.

My models > Churn > Version 1

Target column: Churn

2 category prediction

Configure model

Quick build

Preview model

CustomerData (Full dataset: 5.0k rows)

Preview

Day_Mins	Total_Charge	Vmail_Plan	Vmail_Message
16.05	14436.00	A	1286.46
8.162204021739099	2533.997152374561	yes	300
10.01899266483425	9411.068303566357	no	0
4.708489916519045	2976.830656293691	yes	300
1.2687337723540173	6531.147630440587	yes	700
2.696177237539812	2934.278059802452	no	0
3.634775967167544	4630.007146771804	no	0
3.2294202559197576	2814.962566704951	no	0

Data visualizer

Custom formula

Use mathematical functions to explore and distribute your data. [Learn more](#)

Formula (Required)

Enter a Formula
(Day_Calls*Day_Charge*Day_Mins)+
(Eve_Calls*Eve_Charge*Eve_Min)s+
(Night_Calls*Night_Charge*Night_Mins)+
(Intl_Calls*Intl_Charge*Intl_Mins)

New Column Name (Required)

Write a new name: Total_Charges

Preview Cancel Add

Detailed description: This screenshot shows the SageMaker Canvas interface for building machine learning models. At the top, there are tabs for 'SageMaker Canvas | Amazon' and 'Amazon SageMaker Canvas'. Below the tabs, a message says 'You've made 3 changes. Revalidate your dataset before building a model.' The main area shows a 'CustomerData' dataset with 5.0k rows. A red box highlights the 'Preview' section, which displays a table of data for columns 'Day_Mins', 'Total_Charge', 'Vmail_Plan', and 'Vmail_Message'. To the right, a 'Custom formula' editor is open, showing a formula builder with mathematical functions and a preview button. A red arrow points to the 'Preview' button in the formula editor's bottom right corner.

SageMaker Canvas | Amazon | SageMaker Canvas

You've made 3 changes. Revalidate your dataset before building a model.

My models > Churn > Version 1

Target column: Churn

2 category prediction

Configure model

Quick build

Preview model

CustomerData

Full dataset: 5.0k rows

Preview

Day_Mins	Total_Charge	Vmail_Plan	Vmail_Message
16.05	26.44	A	1286.46
8.162204021739099	2533.997152374561	yes	PA
10.01899266483425	9411.068303566357	no	SC
4.708489916519045	2976.830656293691	yes	MO
1.2687337723540173	6531.147630440587	yes	WY
2.696177237539812	2934.278059802452	no	WY
3.634775967167544	4630.007146771804	no	VA
3.2294202559197576	2814.962566704951	no	IN

Data visualizer

Custom formula

Use mathematical functions to explore and distribute your data. [Learn more](#)

Formula (Required)

Enter a Formula

(Day_Calls*Day_Charge*Day_Mins)+
(Eve_Calls*Eve_Charge*Eve_Min)s+
(Night_Calls*Night_Charge*Night_Mins)+
(Intl_Calls*Intl_Charge*Intl_Mins)

New Column Name (Required)

Write a new name

Total_Charges

Preview

Add

Re-check dataset issues

SageMaker Canvas | Amazon | Amazon SageMaker Canvas | SageMaker Canvas

You've made 3 changes. Revalidate your dataset before building a model.

My models > Churn > Version 1

Target column: Churn

2 category prediction

Configure model

Quick build

Preview model

CustomerData

Full dataset: 5.0k rows

Intl_Calls Eve_Mins Eve_Charge

	Intl_Calls	Eve_Mins	Eve_Charge	
6	3.9330349941938634	6.508638877091394	4	8.162
6	2.3250045529370977	9.97259241534841	0	10.0
2	4.53746627560553	4.566714501754875	3	4.708
6	2.5287478822678833	2.3336236298897663	5	1.268
4	6.015337072056723	3.670407748359811	3	2.696
4	6.051944336178219	5.278436964531922	5	3.634
4	2.4401528097922234	0.2645430898924843	8	3.229
5	4.507026828401552	4.473085755958402	0	0.567

Standard build

Choose accuracy over speed. Building usually takes between 2–4 hours.

Quick build

Choose speed over accuracy. Building usually takes 2–15 minutes. You can't share quick build models.

Drop column State

Drop column Phone

Created Total_Charges from (Day_Calls*Day_Charge*Day_Mins)+(Eve_Calls*Eve_Charge*Eve_Mins)+(Night_Calls*Night_Charge*Night_Mins)+(Intl_Calls*Intl_Charge*Intl_Mins)

Re-check dataset issues

CustomerData

Full dataset: 5.0k rows

Intl_Calls Eve_Mins Eve_Charge

	Intl_Calls	Eve_Mins	Eve_Charge	
6	3.9330349941938634	6.508638877091394	4	8.162
6	2.3250045529370977	9.97259241534841	0	10.0
2	4.53746627560553	4.566714501754875	3	4.708
6	2.5287478822678833	2.3336236298897663	5	1.268
4	6.015337072056723	3.670407748359811	3	2.696
4	6.051944336178219	5.278436964531922	5	3.634
4	2.4401528097922234	0.2645430898924843	8	3.229
5	4.507026828401552	4.473085755958402	0	0.567

SageMaker Canvas | Amazon | Amazon SageMaker Canvas | SageMaker Canvas

You've made 3 changes. Revalidate your dataset before building a model.

My models > Churn > Version 1

Target column: Churn

2 category prediction

Configure model

Standard build

Preview model

CustomerData

Full dataset: 5.0k rows

Intl_Calls Eve_Mins Eve_Charge Eve_Calls

	Intl_Calls	Eve_Mins	Eve_Charge	Eve_Calls	
6	3.9330349941938634	6.508638877091394	4	8.162	
6	2.3250045529370977	9.97259241534841	0	10.0	
2	4.53746627560553	4.566714501754875	3	4.708	
6	2.5287478822678833	2.3336236298897663	5	1.268	
4	6.015337072056723	3.670407748359811	3	2.696	
4	6.051944336178219	5.278436964531922	5	3.634	
4	2.4401528097922234	0.2645430898924843	8	3.229	
5	4.507026828401552	4.473085755958402	0	0.567	

Model recipe

- Drop column State
- Drop column Phone
- Created Total_Charges from (Day_Calls*Day_Charge*Day_Mins)+(Eve_Calls*Eve_Charge*Eve_Mins)+(Night_Calls*Night_Charge*Night_Mins)+(Intl_Calls*Intl_Charge*Intl_Mins)

SageMaker Canvas | Amazon | Amazon SageMaker Canvas | SageMaker Canvas

d-culcm7zcqhoq.studio.us-east-1.sagemaker.aws/canvas/default/models/Churn

Add version

New Chrome available

My models > Churn > Version 1

Select Build Analyze Predict Deploy

Model overview

Your model is being created. Standard build usually takes between 2–4 hours. You can now leave this view.



Time elapsed	Expected build time	Build type	Detailed progress
3 sec	45 min	Standard build	Training models

SageMaker Canvas | Amazon | Amazon SageMaker Canvas | SageMaker Canvas | T.LY: World's Shortest URL S | +

d-culcm7zcqhoq.studio.us-east-1.sagemaker.aws/canvas/default/models/group/Churn

My models > Churn

Add version Share

Versions

Select a version to view details

Show advanced metrics

Version	Status	Created	Dataset	Accuracy	Shared	Model Registry
v1	Ready	01/16/2024 12:17 PM	Customer...	96.803%	--	Not Registered ⓘ

A red arrow points to the 'v1' button in the table header.

Select

Build

Analyze

Predict

Deploy

Model status

Accuracy ⓘ

F1 ⓘ Optimization metric

96.803% 0.968

The model predicts the correct Churn 96.803% of the time. ⓘ

[Predict](#)[Deploy](#)[Overview](#)[Scoring](#)[Advanced metrics](#)[Model leaderboard](#)

Column impact ⓘ

 Search columns...

1 Night_Calls

13.489%

2 Eve_Mins

9.538%

3 Day_Mins

9.261%

4 CustServ_Calls

8.767%

5 Eve Charge

Impact on prediction

False. ▾

5.26...

True. -2.80...

0.19...

-0.19...

-0.59...

-0.99...

-1.39...

-1.79...

-2.19...

-2.59...

-2.99...

-3.39...

-3.79...

-4.19...

-4.59...

-4.99...

-5.39...

-5.79...

-6.19...

-6.59...

-6.99...

-7.39...

-7.79...

-8.19...

-8.59...

-8.99...

-9.39...

-9.79...

-10.19...

-10.59...

-10.99...

-11.39...

-11.79...

-12.19...

-12.59...

-12.99...

-13.39...

-13.79...

-14.19...

-14.59...

-14.99...

-15.39...

-15.79...

-16.19...

-16.59...

-16.99...

-17.39...

-17.79...

-18.19...

-18.59...

-18.99...

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-20.19...

-20.59...

-20.99...

-21.39...

-21.79...

-22.19...

-22.59...

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-23.39...

-23.79...

-24.19...

-24.59...

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-26.19...

-26.59...

-26.99...

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-28.19...

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-36.59...

-36.99...

-37.39...

-37.79...

-38.19...

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-39.39...

-39.79...

-40.19...

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-42.59...

-42.99...

-43.39...

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-44.59...

-44.99...

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-45.79...

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-46.99...

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-47.79...

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-48.59...

-48.99...

-49.39...

-49.79...

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-79.79...

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-80.99...

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-81.79...

-82.19...

-82.59...

-82.99...

-83.39...

-83.79...

-84.19...

-84.59...

-84.99...

-85.39...

-85.79...

-86.19...

-86.59...

-86.99...

-87.39...

-87.79...

-88.19...

-88.59...

-88.99...

-89.39...

-89.79...

-90.19...

-90.59...

-90.99...

-91.39...

-91.79...

-92.19...

-92.59...

-92.99...

-93.39...

-93.79...

-94.19...

-94.59...

-94.99...

-95.39...

-95.79...

-96.19...

-96.59...

-96.99...

-97.39...

-97.79...

-98.19...

-98.59...

-98.99...

-99.39...

-99.79...

-100.19...

-100.59...

-100.99...

-101.39...

-101.79...

-102.19...

-102.59...

-102.99...

-103.39...

-103.79...

-104.19...

-104.59...

-104.99...

-105.39...

-105.79...

-106.19...

Select

Build

Analyze

Predict

Deploy

Model status

Accuracy ⓘ

F1 ⓘ Optimization metric

96.803% 0.968

The model predicts the correct Churn 96.803% of the time. ⓘ

[Predict](#)[Deploy](#)

Overview

[Scoring](#)

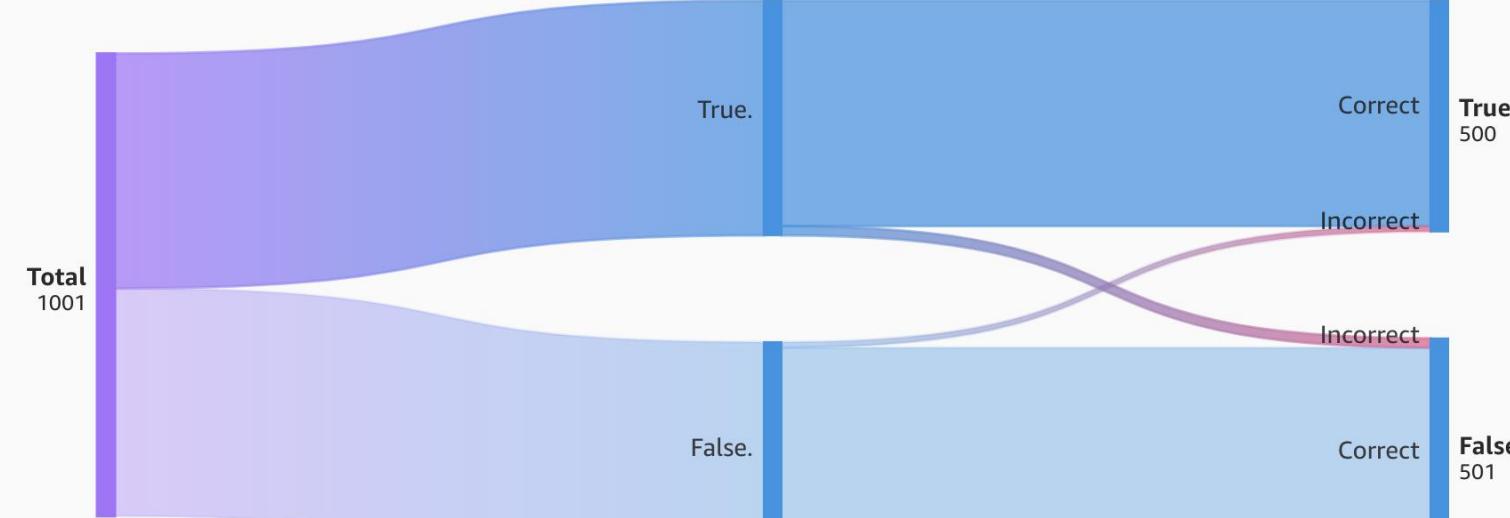
Advanced metrics

[Model leaderboard](#)

All predictions

Predicted

Actual



Model accuracy insights

If the model predicts **True.**, it is correct **96.063% of the time.** ⓘ

For the values that are **True.** in the dataset, the model **predicted 97.6% of them to be True..** ⓘ

Select

Build

Analyze

Predict

Deploy

Model status

Accuracy

F1 Optimization metric

96.803%

0.968

The model predicts the correct Churn 96.803% of the time.

Predict**Deploy**

Overview

Scoring

Advanced metrics **Model leaderboard**

Positive Class

F1 Optimization metric

True.

False.

96.825%

Accuracy

96.803%

Precision

96.063%

Recall

97.6%

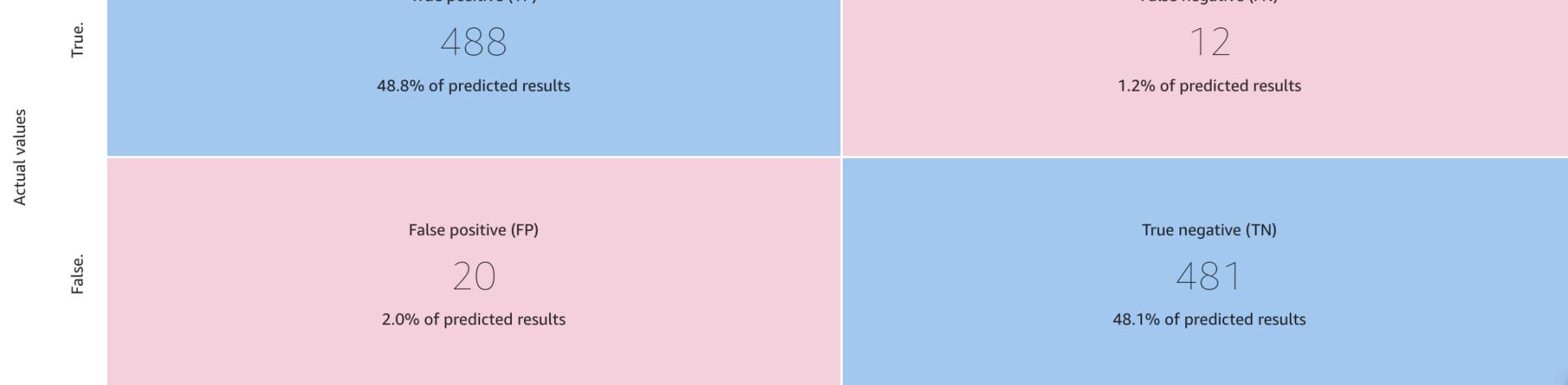
AUC

0.993

Metrics table

Confusion matrix

Precision recall curve



Select

Build

Analyze

Predict

Deploy

Model status

Accuracy

F1 Optimization metric

96.803%

0.968

The model predicts the correct Churn 96.803% of the time.

[Predict](#)[Deploy](#)

Overview

Scoring

Advanced metrics

[Model leaderboard](#)

Positive Class

F1 Optimization metric

True.

False.

96.825%

Accuracy

96.803%

Precision

96.063%

Recall

97.6%

AUC

0.993

Metrics table

Confusion matrix

Precision recall curve

		Predicted values	
		True.	False.
Actual values	True.	True positive (TP) 488 48.8% of predicted results	False negative (FN) 12 1.2% of predicted results
	False.	False positive (FP) 20 2.0% of predicted results	True negative (TN) 481 48.1% of predicted results

My models > Churn > Version 1

[+ Add version](#)

Select Build Analyze Predict Deploy

Model leaderboard

Search leaderboard

Model name ↓	F1 Optimization	Accuracy	AUC	Balanced Accuracy	Precision	Recall	Log Loss	Inference latency (seconds)
WeightedEnsemble-L2-FULL-t3	Default model 96.825%	96.803%	0.993	96.804%	96.063%	97.600%	0.099	0.109
WeightedEnsemble-L2-FULL-t9	93.148%	93.107%	0.977	93.108%	92.505%	93.800%	0.218	0.193
WeightedEnsemble-L2-FULL-t8	96.825%	96.803%	0.993	96.804%	96.063%	97.600%	0.099	0.120
WeightedEnsemble-L2-FULL-t7	94.985%	94.905%	0.985	94.907%	93.424%	96.600%	0.158	0.153
WeightedEnsemble-L2-FULL-t6	94.685%	94.605%	0.986	94.607%	93.217%	96.200%	0.149	0.091
WeightedEnsemble-L2-FULL-t5	94.685%	94.605%	0.986	94.607%	93.217%	96.200%	0.149	0.090
WeightedEnsemble-L2-FULL-t4	96.825%	96.803%	0.993	96.804%	96.063%	97.600%	0.099	0.109
WeightedEnsemble-L2-FULL-t2	94.985%	94.905%	0.985	94.907%	93.424%	96.600%	0.158	0.145
WeightedEnsemble-L2-FULL-t1	96.825%	96.803%	0.993	96.804%	96.063%	97.600%	0.099	0.132
NeuralNetFastAI-BAG-L1-FULL-t10	96.729%	96.703%	0.994	96.704%	95.874%	97.600%	0.095	0.102

Select

Build

Analyze

Predict

Deploy



Predict target values

Batch prediction

Single prediction

Modify values to predict Churn in real time.

Filter columns

Column	Feature importance	Value
State	0%	RI
Account_Length	1.499%	169
Area_Code	0.058%	777
Phone	0%	614-5668
Intl_Plan	0.444%	no
Vmail_Plan	0.605%	yes
Vmail_Message	0.767%	0

Churn Prediction

[Copy](#)**False.**

Average prediction

False.

99.984%

True.

0.016%

[Download prediction](#)

Select

Build

Analyze

Predict

Deploy

Predict target values

Batch prediction

Single prediction

Modify values to predict Churn in real time.

Filter columns

Column	Feature importance	Value	Churn Prediction	
State	0%	RI		
Account_Length	1.499%	169		
Area_Code	0.058%	777		
Phone	0%	614-5668	Average prediction	
Intl_Plan	0.444%	no	False.	99.984%
Vmail_Plan	0.605%	yes	True.	0.016%
Vmail_Message	0.767%	0		



Churn Prediction

False.

Copy

Average prediction

False.

99.984%

True.

0.016%

Download prediction ▾

Select

Build

Analyze

Predict

Deploy

Predict target values

Batch prediction

Single prediction

Modify values to predict Churn in real time.

Filter columns

Column	Feature importance	Value	🕒
State	0%	RI	
Account_Length	1.499%	169	
Area_Code	0.058%	777	
Phone	0%	614-5668	
Intl_Plan	0.444%	yes	
Vmail_Plan	0.605%	yes	
Vmail_Message	0.767%	0	

Churn Prediction

Copy

You made 1 change to the values. Update for a new prediction and feature importance metrics.

Update

False.

False.

99.984%



Download prediction ▾

Select

Build

Analyze

Predict

Deploy

Predict target values

Batch prediction

Single prediction

Modify values to predict Churn in real time.

Filter columns

Column	Feature importance	Value	🕒
State	0%	RI	🕒
Account_Length	1.499%	169	🕒
Area_Code	0.058%	777	🕒
Phone	0%	614-5668	🕒
Intl_Plan	0.444%	yes	🕒
Vmail_Plan	0.605%	yes	🕒
Vmail_Message	0.767%	0	🕒

Churn Prediction

[Copy](#)

You made 1 change to the values. Update for a new prediction and feature importance metrics.

[Update](#)**False.**

Average prediction

False.

99.984%

[Download prediction](#) ▾

Select

Build

Analyze

Predict

Deploy

Predict target values

Batch prediction

Single prediction

Modify values to predict Churn in real time.

Filter columns

Column	Feature importance	Value	Churn Prediction	
State	0%	RI	False.	Copy
Account_Length	0.553%	169		
Area_Code	0.115%	777		
Phone	0%	614-5668		
Intl_Plan	0.559%	yes		
Vmail_Plan	0.958%	yes		
Vmail_Message	0.082%	0		

 New prediction
 Average prediction

False. 99.982%

True. 0.018%

Download prediction

My models > Churn > Version 1

Add version

Select Build Analyze Predict Deploy

Predict target values

Batch prediction 

Generate predictions for an entire dataset. ⓘ

Manual Automatic

Predictions

All Jobs Configuration

Filter by configuration name: All

Send to Amazon QuickSight

Job name	Created	Input d...	Predicti...	Configuration na...	Rows	QuickSight	Status
<input type="checkbox"/>							

Select dataset for predictions



To make predictions on a dataset, select it or import it. The dataset that you select must have the same number of feature columns as the training dataset. [?](#)

[+ Create dataset](#)

Search datasets in Canvas

Name

Columns

Rows

Cells

Created

Status

CustomerData

V1

FinancialData-For-LLM-Finetuning

V1

canvas-sample-databricks-dolly-15k.csv

V1

canvas-sample-housing.csv

V1

canvas-sample-product-descriptions.csv

V1

canvas-sample-loans-part-1.csv

V1

Create a tabular dataset



Dataset name

churn-inference-20240116

Use only letters, numbers, spaces, dashes, colons, and underscores up to 64 characters.

Cancel

Create

19

1,000

19,000

10/04/2023 9:21 AM

Incompatible [?](#)

6

40,500

243,000

10/04/2023 9:21 AM

Incompatible [?](#)

9

1,000

9,000

10/04/2023 9:21 AM

Incompatible [?](#)

12

1,000

12,000

10/04/2023 9:21 AM

Incompatible [?](#)

[Close](#)

[Generate predictions](#)

SageMaker Canvas | Amazon | Amazon SageMaker Canvas | SageMaker Canvas | T.LY: World's Shortest URL | +

← → ⌂ ⌂ d-culcm7zcqhoq.studio.us-east-1.sagemaker.aws/canvas/default/models/Churn

☆ ⌂ ⌂ ⌂ ⌂ ⌂ New Chrome available :

churn-inferenc... : Create Tabular dataset

Data Source: Local upload ▾

Upload files to import

Drag a CSV or Parquet file here

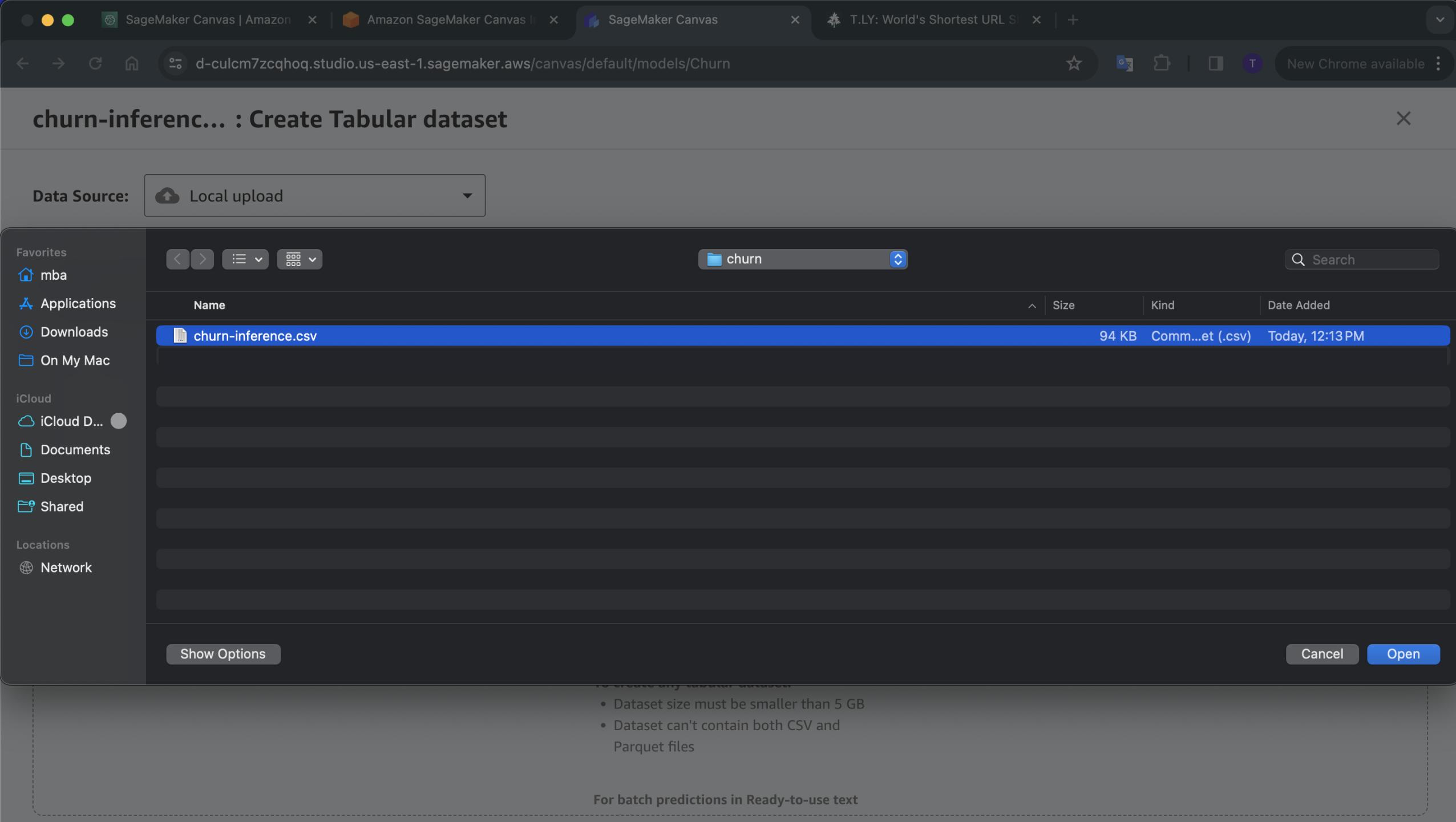
or

Select files from your computer

To create any tabular dataset:

- Dataset size must be smaller than 5 GB
- Dataset can't contain both CSV and Parquet files

For batch predictions in Ready-to-use text



SageMaker Canvas | Amazon | Amazon SageMaker Canvas | SageMaker Canvas | T.LY: World's Shortest URL | +

← → ⌂ ⌂ d-culcm7zcqhoq.studio.us-east-1.sagemaker.aws/canvas/default/models/Churn ☆ ⌂ ⌂ ⌂ ⌂ T New Chrome available :

churn-inference... : Create Tabular dataset

Data Source: Local upload

Upload files to import

Drag a CSV or Parquet file here

or

Select files from your computer

To create any tabular dataset:

- Dataset size must be smaller than 5 GB
- Dataset can't contain both CSV and Parquet files

For batch predictions in Ready-to-use text

1 file ready to import

churn-inference.csv

Delete all

Preview

A red arrow points to the 'Preview' button at the bottom right of the interface.

SageMaker Canvas | Amazon | Amazon SageMaker Canvas | SageMaker Canvas | T.LY: World's Shortest URL | +

← → ⌂ d-culcm7zcqhoq.studio.us-east-1.sagemaker.aws/canvas/default/models/Churn

☆ ⌂ ⌂ ⌂ ⌂ ⌂ New Chrome available :

churn-inference... : Create Tabular dataset

Data Source: Local upload

Upload files to import

Import preview Previewing first 100 rows Close preview Create dataset

churn-inference.csv Use first row as header ⓘ Delete

State	Account_Length	Area_Code	Phone	Intl_Plan	Vmail_Plan
MO	176	777	913-2699	no	yes
LA	41	766	667-1912	yes	no
VT	57	868	388-8558	yes	no
IL	108	737	171-7330	yes	no
MI	105	777	239-1413	no	yes

Select dataset for predictions

X

To make predictions on a dataset, select it or import it. The dataset that you select must have the same number of feature columns as the training dataset. [?](#)

+ Create dataset

 Search datasets in Canvas

Name	Columns	Rows	Cells	Created	Status
 churn-inference-20240116	V1	20	500	10,000	01/16/2024 1:47 PM



Close

Generate predictions



Select

Build

Analyze

Predict

Deploy

Predict target values

Batch prediction

Single prediction

Generate predictions for an entire dataset.

Manual

Automatic

Predictions

All Jobs

Configuration

Filter by configuration name:

All

 Send to Amazon QuickSight

<input type="checkbox"/> Job name	Created	Input d...	Predicti...	Configurati...	Rows	QuickSight	Status
<input type="checkbox"/> batchInfer-Churn-churn-infer.	01/16/2024 1:47 PM	chur...	V1	Manual	500	Not Sent	Ready

batchInfer-Churn-churn-inference-20240116-1705384070 predictions ready

View



batchInfer-Churn-churn-inference-20240116-1705384070



Prediction (Churn) ↑	Probability	State	Account_Len...	Area_Code	Phone	Intl_Plan	Vmail_Plan
False.	99.6%	MO	176	777	913-2699	no	yes
True.	99.9%	LA	41	766	667-1912	yes	no
False.	94.3%	VT	57	868	388-8558	yes	no
True.	82.7%	IL	108	737	171-7330	yes	no
True.	99.0%	MI	105	777	239-1413	no	yes
True.	99.9%	NV	171	788	638-6590	no	yes
False.	99.9%	NJ	30	787	777-8676	no	yes
True.	72.4%	LA	102	766	986-7915	no	no
False.	99.9%	MT	101	778	735-8094	yes	yes
True.	99.7%	PA	46	806	728-4797	yes	no

Send to Amazon QuickSight

Download



A1	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V
1 Churn	Probability	State	Account_Len	Area_Code	Phone	Intl_Plan	Vmail_Plan	Vmail_Mess	Day_Mins	Day_Calls	Day_Charge	Eve_Mins	Eve_Calls	Eve_Charge	Night_Mins	Night_Calls	Night_Charg	Intl_Mins	Intl_Calls	Intl_Charge	CustServ_
2 False.	0.996149063	MO	176	777 913-2699	no	yes		400	1.639329295	3	3.678888958	3.029621242	1	3.419607317	3.182920491	150	3.701859799	4.413037077	6	2.728670064	
3 True.	0.999592840	LA	41	766 667-1912	yes	no		0	7.794604050	5	5.312040367	6.854746883	0	6.273334217	3.207827895	150	6.706022102	6.154159148	6	4.683332958	
4 False.	0.94352734	VT	57	868 388-8558	yes	no		0	7.935873637	4	3.959684641	5.639986180	0	7.062839992	3.918374863	250	8.760670928	4.621756835	4	1.992496250	
5 True.	0.827966749	IL	108	737 171-7330	yes	no		0	7.930825936	5	5.798892880	5.839519585	4	5.875249487	5.680120605	200	6.812622764	5.96763955	5	2.449650220	
6 True.	0.990307450	MI	105	777 239-1413	no	yes		900	2.847955087	6	1.031570046	5.903580922	2	5.493426595	3.969359203	200	5.175925184	5.804561948	4	6.248761583	
7 True.	0.99992889	NV	171	788 638-6590	no	yes		0	2.506859718	0	7.538188755	4.820771773	4	2.329932496	2.165970494	300	5.942645545	4.763000674	2	0.04579997	
8 False.	0.99999362	NJ	30	787 777-8676	no	yes		1100	0.710676124	2	0.903222812	0.259421621	4	5.767228086	3.565753226	300	2.355918041	6.575657100	8	3.374632767	
9 True.	0.72443211	LA	102	766 986-7915	no	no		0	5.687887311	5	8.289093607	7.621895344	7	3.303542137	3.00063173	250	4.62309359	6.492643036	7	2.983794376	
10 False.	0.999885976	MT	101	778 735-8094	yes	yes		700	3.588360933	2	3.126002862	3.70330884	1	5.382883973	3.094817480	300	5.471600397	3.189040156	7	1.426463132	
11 True.	0.997230768	PA	46	806 728-4797	yes	no		0	7.897287971	2	6.801022121	6.790231591	2	5.639936788	3.634473745	250	6.164099356	4.657602211	6	3.824680795	
12 False.	0.999826371	KS	23	758 270-8731	no	yes		600	3.819756838	4	4.672136921	6.528779430	4	4.144668242	4.100951206	350	4.812553207	3.932426103	5	4.852580225	
13 True.	0.999739706	KY	108	758 700-3385	yes	no		0	8.018662062	3	5.559914005	5.731185438	1	5.56820765	3.396843773	150	7.031477708	4.61330192	7	2.460583226	
14 True.	0.999820291	RI	169	827 125-2719	no	yes		200	9.052106118	1	8.012623604	7.820856194	2	6.134068323	3.902298655	250	5.092406155	5.747864807	7	5.774729985	
15 False.	0.999692082	ND	144	786 966-3916	yes	no		0	0.08106538	3	2.175632441	3.986117368	2	2.90724298	3.961153432	250	3.034417793	5.297202667	5	5.307336505	
16 False.	0.999997437	NV	54	788 330-7816	yes	yes		700	0.790086700	6	1.112473159	4.405156972	1	5.215659304	4.446924515	400	4.61854573	3.927020027	7	1.038905372	
17 True.	0.999197840	ME	141	776 779-7963	yes	no		0	6.674579285	3	6.667759935	5.078776440	3	6.316001002	4.511903148	150	5.15755329	5.55073659	2	6.918213861	
18 False.	0.999775409	DC	37	686 918-8971	yes	no		0	1.070607533	4	4.894697527	5.879947166	7	0.890116111	2.719076326	300	1.974834771	4.805393185	6	5.191705209	
19 False.	0.999664723	GA	100	716 904-4319	yes	no		0	1.708152356	4	4.185130448	5.455722141	4	3.261758761	3.401571182	350	4.501701547	5.729775405	5	3.421922780	
20 True.	0.99320972	CA	89	676 983-9540	no	no		0	3.261827484	3	3.558901396	3.884221181	3	3.344603811	6.125512785	100	4.999853724	3.774787803	4	4.15041539	
21 True.	0.994603276	FL	104	707 614-2243	yes	yes		800	4.817981699	3	3.252117447	5.545940878	4	8.29080242	1.460915853	150	4.155818503	5.309736086	3	10.63035446	
22 True.	0.997396051	MS	150	778 413-5633	no	no		0	7.785414816	4	5.816155660	6.561309805	0	6.316268959	1.551120777	150	6.983801087	4.600664852	7	2.800768783	
23 False.	0.999271631	AR	182	658 321-2724	no	yes		600	2.242343403	3	4.977979462	4.911517328	4	3.430484313	5.319065548	300	1.922852194	5.94661786	7	5.354501525	
24 True.	0.99994004	NV	105	788 786-8009	no	yes		300	8.599592151	6	5.84498323	6.043468326	3	5.003471224	3.386103775	150	8.589278886	4.86574815	8	1.009917779	
25 False.	0.999710977	NV	79	788 933-1782	yes	no		0	2.679674465	0	4.944254908	3.422921451	4	2.593079903	7.942064873	200	1.203719422	5.591602786	7	6.599615830	
26 True.	0.996434807	NH	135	787 674-2934	no	no		0	9.481457922	5	9.544502019	8.027989573	6	5.919604961	3.860523637	200	4.424821909	5.156801233	7	7.022024020	
27 True.	0.999952435	MD	148	776 644-9701	no	yes		200	5.897349691	1	7.611285192	7.137412186	3	5.61636512	2.287753296	350	4.833572019	6.282663504	4	6.239499096	
28 True.	0.995718538	AK	109	657 106-8047	yes	yes		500	3.848942118	3	3.064606699	3.438418775	2	3.500655153	4.703801115	200	6.696541107	3.492173646	6	0.306549302	
29 False.	0.95031261	MA	74	776 747-4139	yes	no		0	6.737764666	3	4.220165319	4.984094817	0	6.12828385	4.239082550	200	6.690425252	5.711875928	6	1.78858282	
30 True.	0.999977469	KY	23	758 945-1397	no	yes		300	10.96080799	3	6.397697196	8.946602964	1	9.077496878	2.812568105	200	5.955784182	3.609352652	6	8.480270836	
31 False.	0.999652326	SD	46	836 537-5675	yes	no		0	2.070222965	6	3.410376406	3.918458955	6	4.202524278	4.335802955	300	5.932469514	3.607226800	2	2.30364425	
32 False.	0.999909460	WA	52	876 600-3390	yes	no		0	3.757761834	3	2.296125885	0.27262954	1	6.772100332	5.500355043	200	4.666465477	4.306713991	5	2.180330722	
33 False.	0.999997854	MS	131	778 472-6065	yes	yes		1000	7.749749354	2	5.028137258	4.000240439	1	7.599795049	5.919247149	250	3.560867481	3.905551619	9	5.141102956	
34 True.	0.999584615	UT	131	858 838-4335	yes	yes		400	8.009864918	2	4.581945511	8.054663831	2	7.444083523	2.92263123	200	6.130052396	5.885131325	5	6.583067081	
35 True.	0.999857306	ND	77	786 521-1178	yes	yes		100	8.805333140	4	7.717349134	7.882054204	3	5.172477490	3.015357761	200	7.354065098	3.988758649	6	1.199770749	
36 True.	0.999274909	OK	146	797 272-3591	no	no		0	5.727972654	7	4.129079300	2.613831826	6	5.212882783	7.097688668	50	5.892179343	6.34278728	4	3.22045198	
37 True.	0.998539030	WY	148	878 465-6115	yes	no		0	9.112387013	4	6.020881481	7.957600199	2	6.568827462	4.344151256	200	5.021052170	3.459779559	9	5.867195601	
38 True.	0.999247968	IA	109	736 493-4587	no	no		0	2.415676752	3	3.519686949	5.266656164	1	2.936771768	4.108227700	200	5.442857259	5.263973401	5	2.220411361	
39 False.	0.999756872	PA	53	806 495-4552	no	no		0	0.400337373	3	4.776804328	7.885220565	5	0.716801089	2.208718471	300	2.927605235	6.980603987	5	5.675343551	
40 False.	0.999997744	AT	27	778 100-2119	yes	no		0	2.210222102	2	5.761624057	5.928082861	7	4.160421600	5.526186672	400	2.022024122	5.772000100	8	4.450284200	

Lab Exercises

- Workshop Onboarding
- Classification Exercise with SageMaker Canvas
- Code Gen Exercise with SageMaker Canvas



Services

bedrock



Oregon ▾

WSParticipantRole/Participant @ 6534-0549-1536 ▾

Console

Services (1)

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Knowledge Articles (12)



Amazon



IAM



S3



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CloudWatch



RDS



EC2

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Services

Amazon Bedrock ☆

The easiest way to build and scale generative AI applications with foundation models (F...)

Resources / for a focused search



Introducing resource search

To search for resources, Resource Explorer must be active in at least one AWS Region and you must have permission to use the default view in the account. Learn more [Learn more](#)

Dismiss

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User Guide

Deleting an Bedrock Studio project [🔗](#)

User Guide

Getting started with Amazon Bedrock Studio [🔗](#)

User Guide

Deleting apps and components from an Amazon Bedrock Studio

40

Default layout

+ Add widgets

Create application



ns

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on ▾ | Originating account

lication.



s



40

A screenshot of the Amazon Bedrock service homepage in the AWS console. The browser title bar shows "bedrock-finetune-20240712" and "Amazon Bedrock | us-west-2". The AWS navigation bar includes "Services" and a search bar. A red arrow points to the three-line menu icon on the left. The main content area features the Amazon Bedrock logo and tagline: "The easiest way to build and scale generative AI applications with foundation models (FMs)". To the right is a "Try Bedrock" call-to-action button with an orange "Get started" button. The page also displays "Machine Learning" and "Oregon" region information.

Amazon Bedrock

The easiest way to build and scale generative AI applications with foundation models (FMs)

Machine Learning

Oregon

WSParticipantRole/Participant @ 6534-0549-1536

Try Bedrock

Get started

Machine Learning

Oregon

Overview

Amazon Bedrock is a fully managed service that makes FMs from leading AI startups and Amazon available via an API, so you can choose from a wide range of FMs to find the model that is best suited for your use case. With Bedrock's serverless experience, you can get started quickly, privately customize FMs with your own data, and easily integrate and deploy them into your applications using the AWS tools without having to manage any infrastructure.

Benefits

bedrock-finetune-20240712 x Amazon Bedrock | us-west-2 x +

us-west-2.console.aws.amazon.com/bedrock/home?region=us-west-2#/

aws Services Search [Option+S] Oregon WSParticipantRole/Participant @ 6534-0549-1536

Amazon Bedrock Machine Learning

Amazon Bedrock
The easiest way to build and scale generative AI applications with foundation models (FMs)

Try Bedrock
Get started

Getting started
Overview
Examples
Providers

Foundation models
Base models
Imported models [Preview](#)

Playgrounds
Chat
Text
Image

Safeguards
Guardrails
Watermark detection

Builder tools
Knowledge bases
Agents
Prompt management [Preview](#)
Prompt flows [Preview](#)

Assessment & deployment

Overview

Amazon Bedrock is a fully managed service that makes FMs from leading AI startups and Amazon available via an API, so you can choose from a wide range of FMs to find the model that is best suited for your use case. With Bedrock's serverless experience, you can get started quickly, privately customize FMs with your own data, and easily integrate and deploy them into your applications using the AWS tools without having to manage any infrastructure.

Benefits



bedrock-finetune-20240712 x Amazon Bedrock | us-west-2 x +

us-west-2.console.aws.amazon.com/bedrock/home?region=us-west-2#/

aws Services Search [Option+S] Oregon WSParticipantRole/Participant @ 6534-0549-1536

Foundation models

- Base models
- Imported models [Preview](#)

Playgrounds

- Chat
- Text
- Image

Safeguards

- Guardrails
- Watermark detection

Builder tools

- Knowledge bases
- Agents
- Prompt management [Preview](#)
- Prompt flows [Preview](#)

Assessment & deployment

- Model Evaluation

Model access [Preview](#) ←

Bedrock Studio [Preview](#)

Settings

User guide ↗

Machine Learning

Amazon Bedrock

The easiest way to build and scale generative AI applications with foundation models (FMs)

Try Bedrock

Get started

Overview

Amazon Bedrock is a fully managed service that makes FMs from leading AI startups and Amazon available via an API, so you can choose from a wide range of FMs to find the model that is best suited for your use case. With Bedrock's serverless experience, you can get started quickly, privately customize FMs with your own data, and easily integrate and deploy them into your applications using the AWS tools without having to manage any infrastructure.

Benefits

bedrock-finetune-20240712 x Amazon Bedrock | us-west-2 x +

us-west-2.console.aws.amazon.com/bedrock/home?region=us-west-2#/modelaccess

aws Services Search [Option+S] Oregon WSParticipantRole/Participant @ 6534-0549-1536

Amazon Bedrock

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- Custom models
- Imported models [Preview](#)

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Amazon Bedrock > Model access

What is Model access?

To use Bedrock, account users with the correct [IAM Permissions](#) must enable access to available Bedrock foundation models (FMs). View all [Bedrock Model Terms](#) for [Bedrock FMs](#).

[Modify model access](#)

Visit [Amazon Bedrock Quotas](#) for a quick guide to the default quotas and limits that apply to Amazon Bedrock.



Base models (29)

Not seeing a model you're interested in? Check out all supported models by region [here](#).

Find model [Collapse all](#) [Group by provider](#)

Models	Access status	Modality	EULA
▼ AI21 Labs (2)	0/2 access granted		
Jurassic-2 Ultra	Available to request	Text	EULA
Jurassic-2 Mid	Available to request	Text	EULA
▼ Amazon (6)	6/6 access granted		
Titan Embeddings G1 - Text	Access granted	Embedding	EULA
Titan Text G1 - Lite	Access granted	Text	EULA

us-west-2.console.aws.amazon.com/bedrock/home?region=us-west-2#/modelaccess

AWS Services Search [Option+S] Oregon WSParticipantRole/Participant @ 6534-0549-1536

Amazon Bedrock > Model access > Manage model access

Step 1 Edit model access Step 2 Review and submit

Edit model access

Base models (16/29)

Not seeing a model you're interested in? Check out all supported models by region [here](#).

Find model Group by provider

Models Access status Modality EULA

Models	Access status	Modality	EULA
AI21 Labs (2)	0/2 access granted		
Jurassic-2 Ultra	Available to request	Text	EULA
Jurassic-2 Mid	Available to request	Text	EULA
Amazon (6)	6/6 access granted		
Titan Embeddings G1 - Text	Access granted	Embedding	EULA
Titan Text G1 - Lite	Access granted	Text	EULA
Titan Text G1 - Express	Access granted	Text	EULA
Titan Image Generator G1	Access granted	Image	EULA
Titan Multimodal Embeddings G1	Access granted	Embedding	EULA
Titan Text Embeddings V2	Access granted	Embedding	EULA
Anthropic (5)	3/5 access granted		

A red arrow points to the checkbox icon next to the "Models" header.

<input checked="" type="checkbox"/>	Embed Multilingual	Available to request	Embedding	EULA
<input checked="" type="checkbox"/>	Command	Available to request	Text	EULA
<input checked="" type="checkbox"/>	Command Light	Available to request	Text	EULA
<input checked="" type="checkbox"/>	▼ Meta (6)	2/6 access granted		
<input checked="" type="checkbox"/>	Llama 3 8B Instruct	Access granted	Text	EULA
<input checked="" type="checkbox"/>	Llama 3 70B Instruct	Access granted	Text	EULA
<input type="checkbox"/>	Llama 2 Chat 13B	Unavailable	Text	EULA
<input type="checkbox"/>	Llama 2 Chat 70B	Unavailable	Text	EULA
<input type="checkbox"/>	Llama 2 13B	Unavailable	Text	EULA
<input type="checkbox"/>	Llama 2 70B	Unavailable	Text	EULA
<input type="checkbox"/>	▼ Mistral AI (3)	3/3 access granted		
<input type="checkbox"/>	Mistral 7B Instruct	Access granted	Text	EULA
<input type="checkbox"/>	Mixtral 8x7B Instruct	Access granted	Text	EULA
<input type="checkbox"/>	Mistral Large	Access granted	Text	EULA
<input checked="" type="checkbox"/>	▼ Stability AI (1)	1/1 access granted		
<input checked="" type="checkbox"/>	SDXL 1.0	Access granted	Image	EULA

Cancel

Next

bedrock-finetune-20240712 x Amazon Bedrock | us-west-2 +

us-west-2.console.aws.amazon.com/bedrock/home?region=us-west-2#/modelaccess

Services Search [Option+S]

Amazon Bedrock > Model access > Manage model access

Step 1 Edit model access

Step 2 Review and submit

Review and submit

Step 1: Edit model access

[Edit](#)

Model access modifications (10)

Models	Modifications
Jurassic-2 Ultra	Request access
Jurassic-2 Mid	Request access
Claude 3 Opus	Request access
Claude 3 Haiku	Request access
Command R+	Request access
Command R	Request access
Embed English	Request access
Embed Multilingual	Request access
Command	Request access
Command Light	Request access

A red arrow points to the bottom right corner of the table.



Model access modifications (10)

Models

Modifications

Jurassic-2 Mid	Request access
Claude 3 Opus	Request access
Claude 3 Haiku	Request access
Command R+	Request access
Command R	Request access
Embed English	Request access
Embed Multilingual	Request access
Command	Request access
Command Light	Request access

Terms

By selecting Submit, you are requesting access to the selected third party models through the AWS Marketplace. By doing so, you agree to the seller's pricing terms and End User License Agreements (EULA), and the [Bedrock Service Terms](#). You also agree and acknowledge that AWS may share information about this transaction with the respective sellers, in accordance with the [AWS Privacy Notice](#).

AWS will issue invoices and collect payments from you on behalf of the seller through your AWS account. Your use of AWS services is subject to the [AWS Customer Agreement](#) or other agreements with AWS governing your use of such services.

[Cancel](#)[Previous](#)[Submit](#)



Model access modifications (10)

Models

Modifications

Jurassic-2 Mid	Request access
Claude 3 Opus	Request access
Claude 3 Haiku	Request access
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Command R	Request access
Embed English	Request access
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[Cancel](#)[Previous](#)[Submit](#)

bedrock-finetune-20240712 X Amazon Bedrock | us-west-2 + us-west-2.console.aws.amazon.com/bedrock/home?region=us-west-2#/modelaccess

Services Search [Option+S] Oregon WSParticipantRole/Participant @ 6534-0549-1536

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Access request for 10 models failed

- Jurassic-2 Ultra - User: arn:aws:sts::653405491536:assumed-role/WSParticipantRole/Participant is not authorized to perform: aws-marketplace:Subscribe on resource: * because no identity-based policy allows the aws-marketplace:Subscribe action
- Jurassic-2 Mid - User: arn:aws:sts::653405491536:assumed-role/WSParticipantRole/Participant is not authorized to perform: aws-marketplace:Subscribe on resource: * because no identity-based policy allows the aws-marketplace:Subscribe action
- Claude 3 Opus - User: arn:aws:sts::653405491536:assumed-role/WSParticipantRole/Participant is not authorized to perform: aws-marketplace:Subscribe on resource: * because no identity-based policy allows the aws-marketplace:Subscribe action
- Claude 3 Haiku - User: arn:aws:sts::653405491536:assumed-role/WSParticipantRole/Participant is not authorized to perform: aws-marketplace:Subscribe on resource: * because no identity-based policy allows the aws-marketplace:Subscribe action
- Command R+ - User: arn:aws:sts::653405491536:assumed-role/WSParticipantRole/Participant is not authorized to perform: aws-marketplace:Subscribe on resource: * because no identity-based policy allows the aws-marketplace:Subscribe action
- Command R - User: arn:aws:sts::653405491536:assumed-role/WSParticipantRole/Participant is not authorized to perform: aws-marketplace:Subscribe on resource: * because no identity-based policy allows the aws-marketplace:Subscribe action
- Embed English - User: arn:aws:sts::653405491536:assumed-role/WSParticipantRole/Participant is not authorized to perform: aws-marketplace:Subscribe on resource: * because no identity-based policy allows the aws-marketplace:Subscribe action
- Embed Multilingual - User: arn:aws:sts::653405491536:assumed-role/WSParticipantRole/Participant is not authorized to perform: aws-marketplace:Subscribe on resource: * because no identity-based policy allows the aws-marketplace:Subscribe action
- Command - User: arn:aws:sts::653405491536:assumed-role/WSParticipantRole/Participant is not authorized to perform: aws-marketplace:Subscribe on resource: * because no identity-based policy allows the aws-marketplace:Subscribe action
- Command Light - User: arn:aws:sts::653405491536:assumed-role/WSParticipantRole/Participant is not authorized to perform: aws-marketplace:Subscribe on resource: * because no identity-based policy allows the aws-marketplace:Subscribe action

Amazon Bedrock > Model access

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canvas-dryrun-
20241023

Event dashboard > Beginner labs > Generative AI



Generative AI



⚠ Make sure you've read the warning and followed the instructions provided in the [Amazon Bedrock Setup](#) pre-requisite page before proceeding with this lab.



ℹ This lab takes approximately 30 minutes to be run, assuming the Kendra index is already available. Fine-tuning the model will add an additional 2-4 hours to the lab runtime.

Agenda

1. [Introduction to Generative AI](#)
2. [Generative AI Chat](#)
3. [Using Generative AI for your use cases](#)
4. [Query your own documents](#)
5. [Fine-tune your large language model](#)

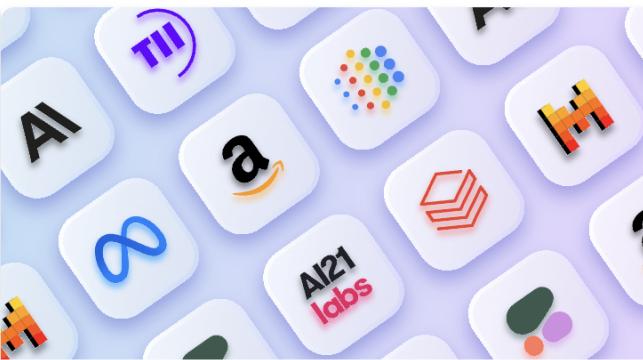
↪ Introduction to Generative AI

If you're new to Generative AI (GenAI), we suggest checking out the following Introduction to Generative AI paragraph. It will give you the basics that are needed to understand what is GenAI, where it comes from, and how it relates to what we'll be doing in SageMaker Canvas. If you're already familiar with this, feel free to skip and go to the next paragraph.

► [Introduction to Generative AI](#)

Generative AI

Access, customize, and deploy foundation models



Access foundation models powered by Amazon Bedrock and SageMaker JumpStart

Generate, extract, summarize, and compare content using models from leading AI companies.

[Learn about model access](#)

[Get started](#)



Query documents using Amazon Kendra

Query documents from your organization's data sources using a Kendra-based Retrieval Augmented-Generation (RAG) solution.

[Learn to setup Amazon Kendra](#)

[Query documents](#)



Fine-tune a foundation model

Customize and fine-tune a model on specific tasks using domain-relevant data, leading to more accurate model responses.

[Learn about fine-tuning](#)

[Fine-tune a model](#)



Select a foundation model

These models are pre-trained on large amounts of data so that you can perform a wide range of tasks, such as text generation, text summarization and question answering. Select the model you'd like to power your conversation.

Amazon Bedrock Models

These models are always active, and you can start a conversation with them at any time.



Claude 2
by Anthropic



Titan
by Amazon



Claude Instant
by Anthropic



AI21 Jurassic-2 Ultra
by AI21 Labs

AI21 Jurassic-2 Mid
by AI21 Labs

∞ Llama-2-13b-Chat
by Meta

∞ Llama-2-70b-Chat
by Meta

a Titan Express
by Amazon |  Fine-tune



Titan Lite
by Amazon



Command Text
by Cohere



Command Light
by Cohere

Amazon SageMaker JumpStart Models

These are publicly available open-source models in Amazon SageMaker JumpStart. Start them to power your conversation.

✓ In service: 1

∞ Llama-2-7b-Chat
by Meta

TII Falcon-7B-Instruct
by TII |  Fine-tune

TII Falcon-40B-Instruct
by TII |  Fine-tune

WA MPT-7B-Instruct
by MosaicML |  Fine-tune

TII Falcon-7B
by TII |  Fine-tune

TII Falcon-40B
by TII |  Fine-tune

D Dolly-3B-Instruct
by Databricks

D Dolly-7B-Instruct
by Databricks

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Claude 2
by Anthropic



Titan
by Amazon



Claude Instant
by Anthropic

AI21 labs Jurassic-2 Ultra
by AI21 Labs

AI21 labs Jurassic-2 Mid
by AI21 Labs

Llama-2-13b-Chat
by Meta

Llama-2-70b-Chat
by Meta

a Titan Express
by Amazon |

a Titan Lite
by Amazon

Command Text
by Cohere

Command Light
by Cohere

Amazon SageMaker JumpStart Models

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In service: 1
Llama-2-7b-Chat

Falcon-7B-Instruct

Falcon-40B-Instruct



Claude 2
by Anthropic

About

Claude-2 is Anthropic's most powerful model, which excels at a wide range of tasks from sophisticated dialogue and creative content generation to detailed instruction following. Claude 2 can take up to 100,000 tokens in each prompt, equivalent to about 200 pages of information. It can generate longer responses compared to its prior version. It supports use cases such as question answering, information extraction, removing PII, content generation, multiple-choice classification, role play, comparing text, summarization, and document Q&A with citation.

Use of this model is governed by the following [EULA](#)

Use cases

Thoughtful dialogue, content creation, complex reasoning, creativity, and coding. Claude 2 excels at the core capabilities of Claude Instant.

Model Developer

[Anthropic](#)

Pricing

Amazon Bedrock pricing applies. Learn more [here](#) to learn more.

Additional details

- Your data remains confidential and is not shared with the model provider

Close

Select



SageMaker Canvas | Amazon | Amazon SageMaker Canvas | SageMaker Canvas | T.LY: World's Shortest URL S | +

← → ⌂ d-culcm7zcqhoq.studio.us-east-1.sagemaker.aws/canvas/default/readyToUseModels/canvasChat ☆ ⌂ ⌂ ⌂ ⌂ T New Chrome available :

Ready-to-use models > Generate, extract and summarize content Ready-to-use model

+ New chat Query documents ⓘ

A Claude 2 ▾ + Compare

To get started, try these example prompts:

- Create a summary of KPIs (Key Performance Indicators) for monitoring and evaluating the success of a marketing campaign.
- Write a report outlining the potential benefits and ROI of implementing a customer relationship management (CRM) system.
- Compose an email with a summary of the following meeting notes: "Insert your meeting notes"



-
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SageMaker Canvas | Amazon | Amazon SageMaker Canvas | SageMaker Canvas | T.LY: World's Shortest URL S | +

d-culcm7zcqhoq.studio.us-east-1.sagemaker.aws/canvas/default/readyToUseModels/canvasChat

New Chrome available :

Ready-to-use models > Generate, extract and summarize content

Ready-to-use model

+ New chat

Query documents ⓘ

A Claude 2

Configure model

To get started, try these example prompts:

- Create a summary of KPIs (Key Performance Indicators) for monitoring and evaluating the success of a marketing campaign.
- Write a report outlining the potential benefits and ROI of implementing a customer relationship management (CRM) system.
- Compose an email with a summary of the following meeting notes: "Insert your meeting notes"

Temperature ⓘ 0.4

Top K ⓘ 250

Top P ⓘ 0.999



Home

Generative AI > Chat playground

+ New chat

Query documents ⓘ



Data Wrangler



Datasets



My Models



ML Ops



Ready-to-use



Gen AI



Help



Log out

A Claude 2



Assume you are data analyst. Build a xgboost classification model to predict flower species using iris dataset from sklean library, with good prediction accuracy. validate answer before returning python code with annotation.



Here is some sample Python code to build an XGBoost classifier on the Iris dataset from scikit-learn and validate the results:

python

```
1 from sklearn.datasets import load_iris
2 from sklearn.model_selection import train_test_split
3 from xgboost import XGBClassifier
4 from sklearn.metrics import accuracy_score
5
6 # Load iris dataset
7 iris = load_iris()
8 X = iris.data
9 y = iris.target
10
11 # Split data into train and test sets
12 X_train, X_test, y_train, y_test = train_test_split(X, y, test_size=0.2, random_state=42)
13
```

Ask me anything...





Amazon Bedrock

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Services



Amazon SageMaker



Build, Train, and Deploy Machine Learning Models

[examples](#)[Compare mode](#)

Features

[See all 5 results ▶](#)

SageMaker Studio

Amazon SageMaker feature

Notebooks

IoT Analytics feature

Autopilot

Amazon SageMaker feature

SageMaker Canvas

Amazon SageMaker feature

Resources / for a focused search



Introducing resource search

To search for resources, Resource Explorer must be active in at least one AWS Region and you must have permission to use the default view in the account. [Learn more](#)

[Define metric criteria](#)

Overall summary

[Define metric criteria](#)

bedrock-finetune-20240712 x Amazon SageMaker | us-west x taipei 101 - Google Search x +

us-west-2.console.aws.amazon.com/sagemaker/home?region=us-west-2#/studio

aws Services Search [Option+S] Oregon WSParticipantRole/Participant @ 6534-0549-1536

Amazon SageMaker X Learn more X

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Automatic Domain Migration

If you have existing Studio Classic domains, they will be automatically migrated to the new Studio experience starting June 2024. The new Studio experience provides better speed, efficiency, and productivity.

Amazon SageMaker > Domains

Domains Info

In SageMaker, a domain is an environment for your team to access SageMaker resources. A domain consists of a list of authorized users and users within a domain can share notebook files and other artifacts with each other. One account can have either one or multiple domains.

Domains (1) <small>Info</small>				
<input type="text"/> Find domain name				
Name	Id	Status	Created on	Modified on
amazon-bedrock-workshop	d-noqxdjm0rbmm	<input checked="" type="checkbox"/> InService	Jul 12, 2024 02:28 UTC	Jul 12, 2024 02:31 UTC

Create domain

SageMaker Studio | Amazon S SageMaker Studio | Amazon S taipei 101 - Google Search

us-west-2.console.aws.amazon.com/sagemaker/home?region=us-west-2#/studio-landing

AWS Services Search [Option+S] Oregon WSParticipantRole/Participant @ 6534-0549-1536

Amazon SageMaker

Automatic Domain Migration

If you have existing Studio Classic domains, they will be automatically migrated to the new Studio experience starting June 2024. The new Studio experience provides better speed, efficiency, and productivity.

Learn more

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SageMaker dashboard

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Foundation models

Amazon SageMaker

SageMaker Studio

The first fully integrated development environment (IDE) for machine learning.

Get Started

Select user profile

sagemakeruser

Open Studio

How it works

What is Studio?

Amazon SageMaker Studio provides a single, web-based visual interface where you can perform all ML development steps, improving data science team

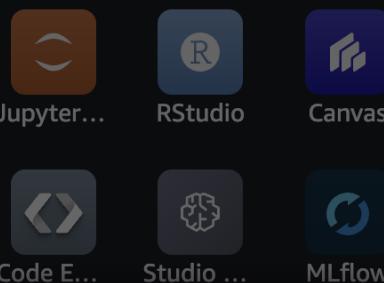
Pricing (US)

With Amazon SageMaker Studio, you pay only for





Applications (6)

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Launch workflows, manage your applications and spaces, and view getting started materials

Onboarding

To get the most ou



Take the t

Quick tour high
the new experie
to be productiv

[Take the tour >](#)

Not ready to use th

Welcome to the new
SageMaker Studio

We've built a new experience to empower you and your work.

Want to take a quick tour?

[Skip Tour for now](#)

[Take a quick tour](#)

Are you an existing Studio Classic user and looking to migrate
your data and notebooks? Click here to learn how.

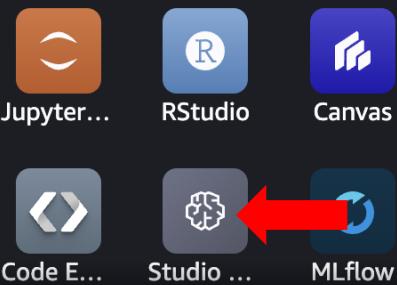
Overview

Start a new ML wor





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Home

Launch workflows, manage your applications and spaces, and view getting started materials

Onboarding plan

To get the most out of the new Studio experience, explore the onboarding steps below.



Take the tour

Quick tour highlights where you can find key features and how to navigate the new experience. See what's new and where to locate the tools you need to be productive.

[Take the tour >](#)

Migrate data and notebooks

Bring your previous work into the new experience. Transfer notebooks, data sources, and other artifacts so they remain accessible as you adopt the new environment.

[Learn more ↗](#)

Not ready to use the new experience? Revert to Studio Classic experience in domain settings. [Learn more ↗](#)

[Overview](#)[Getting started](#)

Overview

Start a new ML workflow or jump back into your workflow





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- JupyterLab
- RStudio
- Canvas
- Code Editor
- Studio Cl...
- MLflow

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SageMaker Studio Classic

[+ Create Studio Classic space](#)

About

Studio Classic is a legacy IDE that allows you to access the previous iteration of SageMaker Studio from within the new Studio experience.

[See features ↗](#)[Learn more about Studio Classic ↗](#) Search...Filter spaces:

Name	Application	Status	Type	Last modified	Action
sagemakeruser	Studio Classic	Stopped	Private	0 seconds ago	<input type="button" value="Run"/>

1 results

Results are cached

Page 1 of 1 < >

Introducing spaces New

JupyterLab and Code Editor now come with durable instances that allow for faster startup, privacy options, and configurable storage.

[Learn more ↗](#)



Applications (6)

- JupyterLab
- RStudio
- Canvas
- Code E...
- Studio ...
- MLflow

Studio Classic

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SageMaker Studio Classic

[+ Create Studio Classic space](#)

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[See features ↗](#) | [Learn more about Studio Classic ↗](#) Search...Filter spaces:

Name	Application	Status	Type	Last modified	Action
sagemakeruser	Studio Classic	Running	Private	15 seconds ago	<input type="button" value="Stop"/> <input style="background-color: #0072BD; color: white; border: none; border-radius: 4px; padding: 2px 10px; font-weight: bold; text-decoration: none; width: 100px; height: 30px; margin-left: 10px;" type="button" value="Open ↗"/>

1 results

Results are cached

Refresh

Go to page 1

Page 1 of 1 < >

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JupyterLab and Code Editor now come with durable instances that allow for faster startup, privacy options, and configurable storage.

[Learn more ↗](#)

Amazon SageMaker Studio Classic

File Edit View Run Kernel Git Tabs Settings Help

Home Data AutoML Geospatial ML **New** Experiments Notebook jobs Pipelines Models Deployments SageMaker JumpStart Learning resources

Untitled.ipynb Home Cluster Data Science 3.0 | Python 3 | 2 vCPU + 4 GiB Share

```
[18]: from sklearn.datasets import load_iris
from sklearn.model_selection import train_test_split
from xgboost import XGBClassifier
from sklearn.metrics import accuracy_score

# Load iris dataset
iris = load_iris()
X = iris.data
y = iris.target

# Split data into train and test sets
X_train, X_test, y_train, y_test = train_test_split(X, y, test_size=0.2, random_state=42)

# Train XGBoost model
model = XGBClassifier()
model.fit(X_train, y_train)

# Make predictions and evaluate accuracy
y_pred = model.predict(X_test)
accuracy = accuracy_score(y_test, y_pred)
print("Accuracy: %.2f%%" % (accuracy * 100.0))

# Accuracy is typically >95% on this dataset
# Check that it meets this threshold
assert accuracy > 0.95

# Examine confusion matrix to check for biases
from sklearn.metrics import confusion_matrix
cm = confusion_matrix(y_test, y_pred)
print(cm)

# Compute precision, recall and f1-score
from sklearn.metrics import classification_report
print(classification_report(y_test, y_pred))

# Use k-fold cross validation to evaluate model across different splits
from sklearn.model_selection import cross_val_score
scores = cross_val_score(model, X, y, cv=5)
print("Cross-validation accuracy: %.2f%%" % (scores.mean()*100.0))
```

Accuracy: 100.00%

Amazon SageMaker Studio Classic

File Edit View Run Kernel Git Tabs Settings Help

1-business-analyst / Personal Studio

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Untitled.ipynb Home X Cluster Data Science 3.0 | Python 3 | 2 vCPU + 4 GiB Share

```
Accuracy: 100.00%
[[10  0  0]
 [ 0  9  0]
 [ 0  0 11]]
precision    recall   f1-score   support
          0       1.00     1.00      1.00      10
          1       1.00     1.00      1.00       9
          2       1.00     1.00      1.00      11
accuracy                           1.00      30
macro avg       1.00     1.00      1.00      30
weighted avg    1.00     1.00      1.00      30

Cross-validation accuracy: 95.33%
```

Thank you!

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