

We will be opening the AWS Console through Udacity's **Launch AWS Gateway** button. It should be located on the lefthand side tool bar.



**Launch AWS Gateway**

Once you open the AWS Console, there is some setup that is required to get Sagemaker Studio up and running. You will be navigating to the Sagemaker studio page and creating your studio IDE. To do that, open up the search bar on the top of the AWS console and search for **sagemaker**.

**AWS Console**

**Sagemaker Search**

Navigating to the main Sagemaker page will allow you to then navigate to the Sagemaker Studio page.

The screenshot shows the Amazon SageMaker homepage under the 'Machine Learning' category. On the left is a sidebar with links like 'Amazon SageMaker Studio', 'Dashboard', 'Search', 'Images', and various 'Ground Truth' processing and inference options. The main content area features the text 'Amazon SageMaker Build, train, and deploy machine learning models at scale' and 'The quickest and easiest way to get ML models from idea to production.' Below this is a 'How it works' section with three icons: a person with gears, a document with gears, and a network of people with gears. To the right is a 'Get started' box with text about SageMaker Studio and a 'SageMaker Studio' button, which has a red arrow pointing to it. Another box below it contains information about pricing.

## Sagemaker Page

You'll be prompted to create a Sagemaker Studio instance. In order to do that, follow the **Quick start** settings. It will require you to create an **Execution role** if you do not have one already.

The screenshot shows the 'SageMaker Studio' configuration page. It starts with a 'Get started' section and a link to learn more. Below that is a 'Quick start' section with a note about standard encryption. The 'User name' field is filled with 'default-1623543013846'. The 'Execution role' section has a note about required permissions and a 'Choose an IAM role' dropdown menu. A red arrow points to this dropdown. The 'SageMaker Projects and JumpStart' section is collapsed. The 'Enable Amazon SageMaker project templates and JumpStart for this account and Studio users' option is selected. The 'Standard setup' option is also present. At the bottom are 'Cancel' and 'Submit' buttons.

## SageMaker Studio

Select the **Create a new role** from the drop down.

The screenshot shows the 'Create new sagemaker role' configuration page. It has three options: 'Choose an IAM role', 'Create a new role' (which is selected and highlighted in blue), and 'Enter a custom IAM role ARN'. A red arrow points to the 'Create a new role' option.

## Create new sagemaker role

When creating the IAM role, you can leave the defaults as they are, just click on

**Create role**.

## Create an IAM role

Passing an IAM role gives Amazon SageMaker permission to perform actions in other AWS services on your behalf. Creating a role here will grant permissions described by the [AmazonSageMakerFullAccess](#) IAM policy to the role you create.

The IAM role you create will provide access to:

- S3 buckets you specify - *optional*
  - Any S3 bucket  
Allow users that have access to your notebook instance access to any bucket and its contents in your account.
  - Specific S3 buckets
 

*Example: bucket-name-1, buck*

Comma delimited. ARNs, "\*" and "/" are not supported.
  - None
- Any S3 bucket with "sagemaker" in the name
- Any S3 object with "sagemaker" in the name
- Any S3 object with the tag "sagemaker" and value "true" [See Object tagging](#)
- S3 bucket with a Bucket Policy allowing access to SageMaker [See S3 bucket policies](#)

Cancel
Create role

### Default S3 Access

When it is successfully created, make sure it is selected in the **Execution role** drop down selection. You can then click the **Submit** button to start creating your Sagemaker Studio.

### Get started

[Learn more about getting started with SageMaker Studio](#)

Quick start  
Let Amazon SageMaker handle configuring account and setting the permissions that you or a team in your organization need to use SageMaker Studio. Choosing this option uses standard encryption, which you can't change. If you need more control over configuration, choose Standard setup.

User name

The user name can have up to 63 characters. Valid characters: A-Z, a-z, 0-9, and - (hyphen)

Execution role  
SageMaker Studio requires permissions to access other AWS services, such as Amazon SageMaker and Amazon S3. The execution role must have the [AmazonSageMakerFullAccess policy](#) attached. If you don't have a role with this policy attached, we can create one for you.

Success! You created an IAM role.  
[AmazonSageMaker-ExecutionRole-20210612T171185](#)

SageMaker Projects and JumpStart New  
Enable access and provisioning of AWS Service Catalog Portfolio of products in Amazon SageMaker Studio for Amazon SageMaker Projects and JumpStart. [Learn more](#)

Enable Amazon SageMaker project templates and JumpStart for this account and Studio users  
If enabled, the administrator can view the Amazon SageMaker provided project templates and JumpStart solutions published in AWS Service Catalog and users who are configured to use the domain execution are allowed to create projects using those templates and solutions with JumpStart. A launch constraint role and a project use role are automatically generated in IAM for your account.

Standard setup  
Control all aspects of account configuration, including permissions and encryption. Choose this option if you are an administrator setting up SageMaker Studio for your organization.

Cancel
Submit

### Sagemaker Studio Get Started

It will take some time for Sagemaker to provision your studio instance. When it's complete, you will see a new user in the Sagemaker Studio Control Panel.

To open up your Sagemaker Studio, click on the **Open Studio** button available to your Sagemaker User.

SageMaker Studio is ready  
Choose your user name, then choose Open Studio to get started.

Amazon SageMaker > SageMaker Studio > Control Panel

**SageMaker Studio Control Panel**

Choose your user name, then choose Open Studio to get started

User name	Last modified	Created
default-1623543013846	Jun 13, 2021 00:15 UTC	Jun 13, 2021 00:14 UTC

**Studio Summary**

Status: Ready | Studio ID: d-wyads7razqql | Execution role: arn:aws:siam::466356262471:role/service-role/AmazonSageMaker-ExecutionRole-20210612T171185 | Authentication method: AWS Identity and Access Management (IAM)

Use the Studio ID for troubleshooting and tracking usage.  
The status shown is for the SageMaker Studio service, and is not the status of compute resources such as EC2 instances to execute notebooks.

How to delete Studio | Delete Studio | Edit Settings

Open Studio

## Sagemaker Studio Ready

Sagemaker will open a new window where your Sagemaker Studio instance will be started. There you have several options, but on the left hand side there is a tool bar. Most importantly, you'll find a Git repository button to clone the course repository into Sagemaker Studio, as well as a running instance button, which controls which instances are running in Sagemaker Studio.

Amazon SageMaker Studio

File Edit View Run Kernel Git Tabs Settings Help

Launcher

Get started

- Explore one-click solutions, models, and tutorials
  - SageMaker JumpStart
  - Solution: Detect malicious users and transactions →
  - Solution: Demand forecasting →
  - Go to SageMaker JumpStart →
- Build models automatically
  - SageMaker Autopilot
  - Video: Get started with Autopilot →
  - Blog: Getting started with Autopilot →
  - New autopilot experiment →
- Run open-source models with one click
  - SageMaker JumpStart
  - Model: Popular image classification based on ResNet →
  - Model: State-of-the-art BERT text processing →
  - Explore models →

ML tasks and components

- New feature group
- New Autopilot experiment
- New data flow
- New project

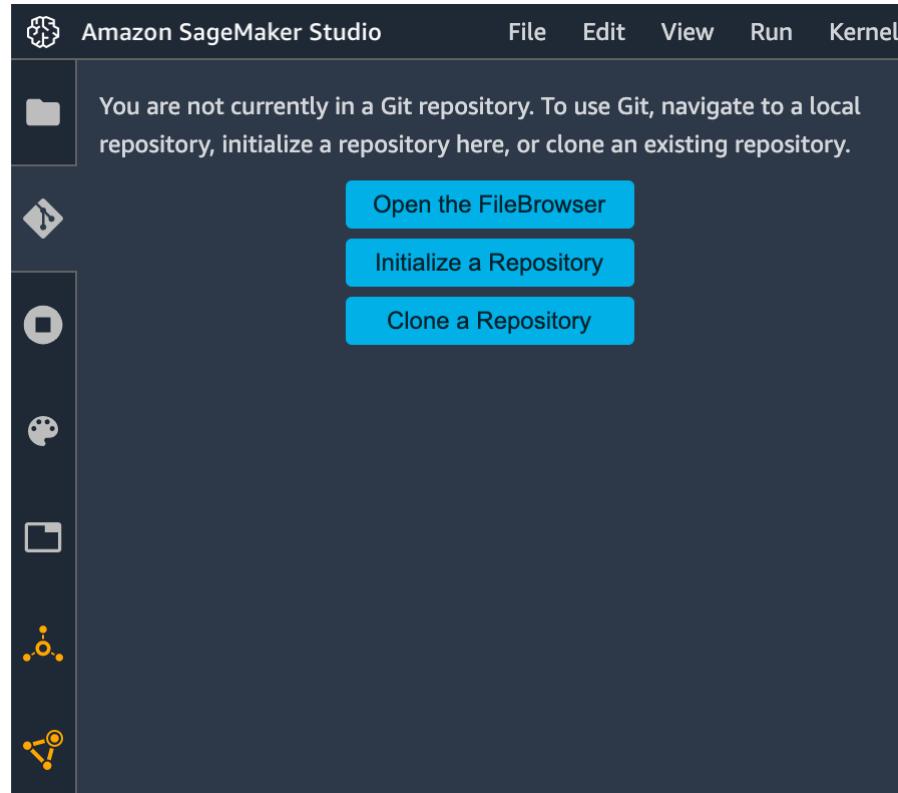
Notebooks and compute resources

- Select a SageMaker image: Data Science
- Notebook Python 3
- Console Python 3
- Image Terminal

## Sagemaker Studio IDE

To clone your git repository, click the git button on the left side, and select

Clone a Repository in the available options.

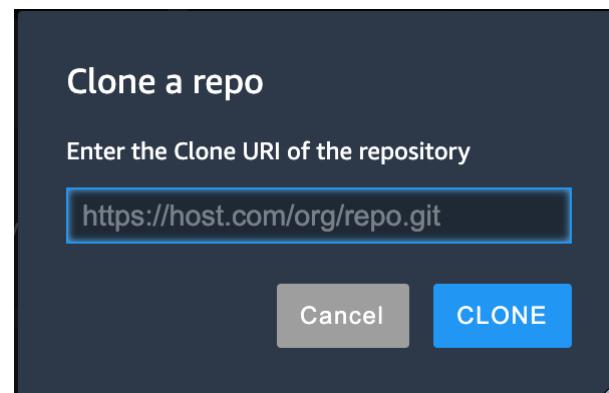


Clone Git Repo

Paste the Github link of the repository. Use this link to clone the repository:

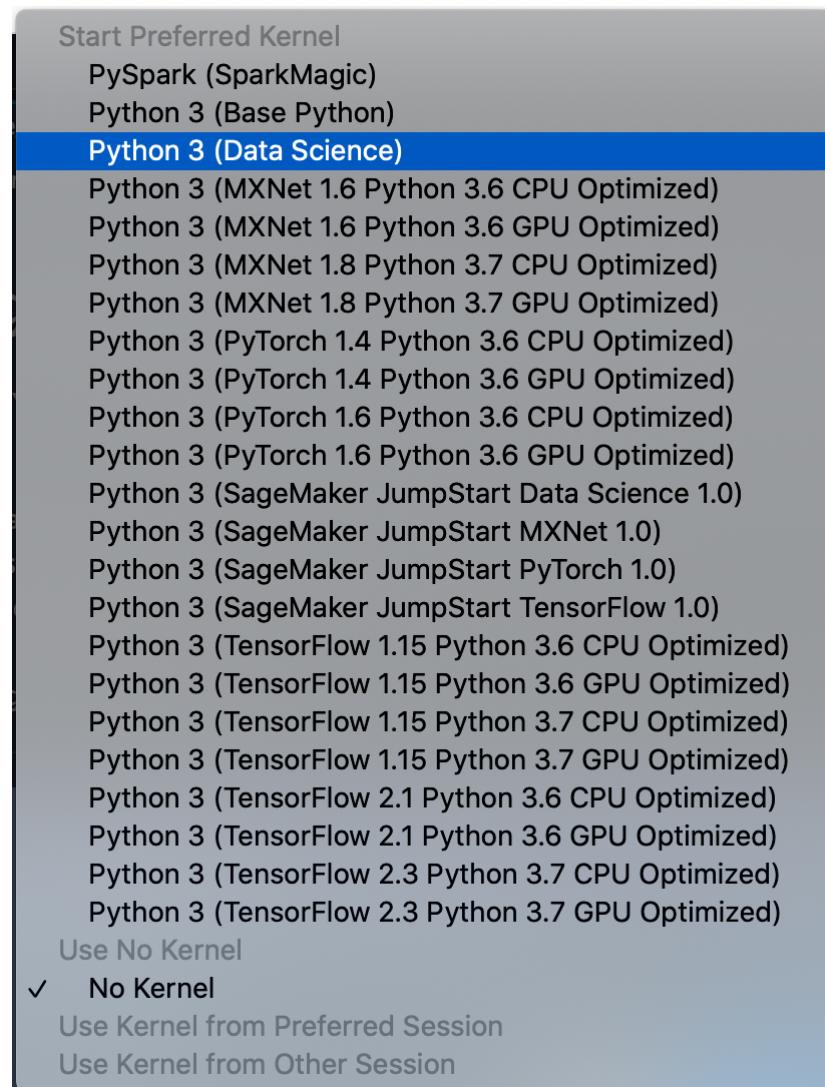
[nd009t-c1-intro-to-ml-templates](https://github.com/udacity/nd009t-c1-intro-to-ml-templates)

or in the raw form: <https://github.com/udacity/nd009t-c1-intro-to-ml-templates>



Enter Clone Repo

To run an instance you'll need to select a Kernel. Select [Python 3 \(Data Science\)](#).



### Select Kernel

Selecting a kernel will provision an compute instance to run your notebook on.

### Current Instance being Run

You can always adjust which instance you want to run. By default use the `m1.t3.medium` for the entire course.

## Select Instance

Running notebook  
**01\_exercise\_starter.ipynb**

Current instance type  
Unknown **unknown**

If you change your instance, existing settings for this notebook will be lost, and installed packages will not be carried over.

Instances 4 of 29  Fast launch only

Instance Type	Instance Category	vCPU	GPU	Memory	Fast Launch
<input checked="" type="radio"/> ml.t3.medium	General purpose	2	0	4 GiB	✓
<input type="radio"/> ml.g4dn.xlarge	Accelerated computing	4	1	16 GiB	✓
<input type="radio"/> ml.m5.large	General purpose	2	0	8 GiB	✓
<input type="radio"/> ml.c5.large	Compute optimized	2	0	4 GiB	✓

**Cancel** **Save and continue**

### Select Studio Instance Type If Needed

Before leaving your Sagemaker Studio workspace, always be sure to shut down all running instances and kernels. You access the running instances on the left hand side tool bar.

RUNNING INSTANCES 	
ml.t3.medium	2 vCPU + 4 GiB 
Jupyter Notebook	
RUNNING APPS 	
datascience-1.0	ml.t3.medium 
KERNEL SESSIONS 	
 01_exercise_starter.ipynb	ml.t3.medium 
TERMINAL SESSIONS	

Turn off instances