



LEARN. PLAY. CODE. REPEAT.

AWS – Getting started with AWS SageMaker


Welcome to your AWS Educate Account


AWS Educate provides you with access to a wide variety of AWS Services for you to get your hands on and build on AWS! To get started, click on the AWS Console button to log in to your AWS console.


Please read the FAQ below to help you get started on your Starter Account.

- [What are the list of services supported?](#)
- [What regions are supported with Starter Accounts or Classroom Accounts?](#)
- [I can't start any resources. What happened?](#)
- [Can I create users within my Starter or Classroom Account for others to access?](#)

Your AWS Account Status

 **Active**
full access ([weichenglau1991@gmail.com](#))

 **\$100**
remaining credits (estimated)

 **2:51**
session time

[Account Details](#)

[AWS Console](#)

Please use AWS Educate Account responsibly. Remember to shut down your instances when not in use to make the best use of your credits. And, don't forget to logout once you are done with your work!

Log in to your AWS console. For AWS Educate, Click on “**AWS Account**” -> “**AWS Console**”
Note: There is no GPU access with Educate. Use your (non-Educate) team account for GPU training


AWS Management Console

AWS services

Find Services
You can enter names, keywords or acronyms.

Amazon SageMaker
Build, Train, and Deploy Machine Learning Models


▼ Recently visited services

 Amazon SageMaker


► All services

Build a solution
Get started with simple wizards and automated workflows.


Launch a virtual machine
With EC2
2-3 minutes




Build a web app
With Elastic Beanstalk
6 minutes



Build using virtual servers
With Lightsail
1-2 minutes



Register a domain
With Route 53
3 minutes



Search for “Amazon Sagemaker”


Amazon SageMaker

MACHINE LEARNING

Amazon SageMaker
Build, train, and deploy machine learning models at scale

The quickest and easiest way to get ML models from idea to production.

How it works



Amazon SageMaker Studio

- Dashboard
- Search
- ▼ Ground Truth
 - Labeling jobs
 - Labeling datasets
 - Labeling workforces
- ▼ Notebook
 - Notebook instances**
 - Lifecycle configurations
 - Git repositories
- ▼ Training
 - Algorithms
 - Training jobs
 - Hyperparameter tuning jobs

Click on “**Notebook Instances**”



Amazon Elastic Inference

Amazon Elastic Inference adds GPU acceleration to any Amazon SageMaker or EC2 instance for faster inference at much lower cost, with up to 75% savings. Find out if Elastic Inference is right for you.

[Learn more](#)



Notebook instances



Actions

Create notebook instance



Search notebook instances



1



Name



Instance

Creation time



Status



Actions

There are currently no resources.

Click on “Create notebook instance”

Notebook instance settings

Notebook instance name

Maximum of 63 alphanumeric characters. Can include hyphens (-), but not spaces. Must be unique within your account in an AWS Region.

Notebook instance type

Accelerated computing

ml.p2.xlarge

ml.p2.8xlarge

ml.p2.16xlarge

ml.p3.2xlarge

ml.p3.8xlarge

ml.p3.16xlarge

Enter a name for your **notebook instance**
Example: "My-First-Notebook"

-For CPU only, Leave the **Notebook Instance type** as it is ("ml.t2.medium")

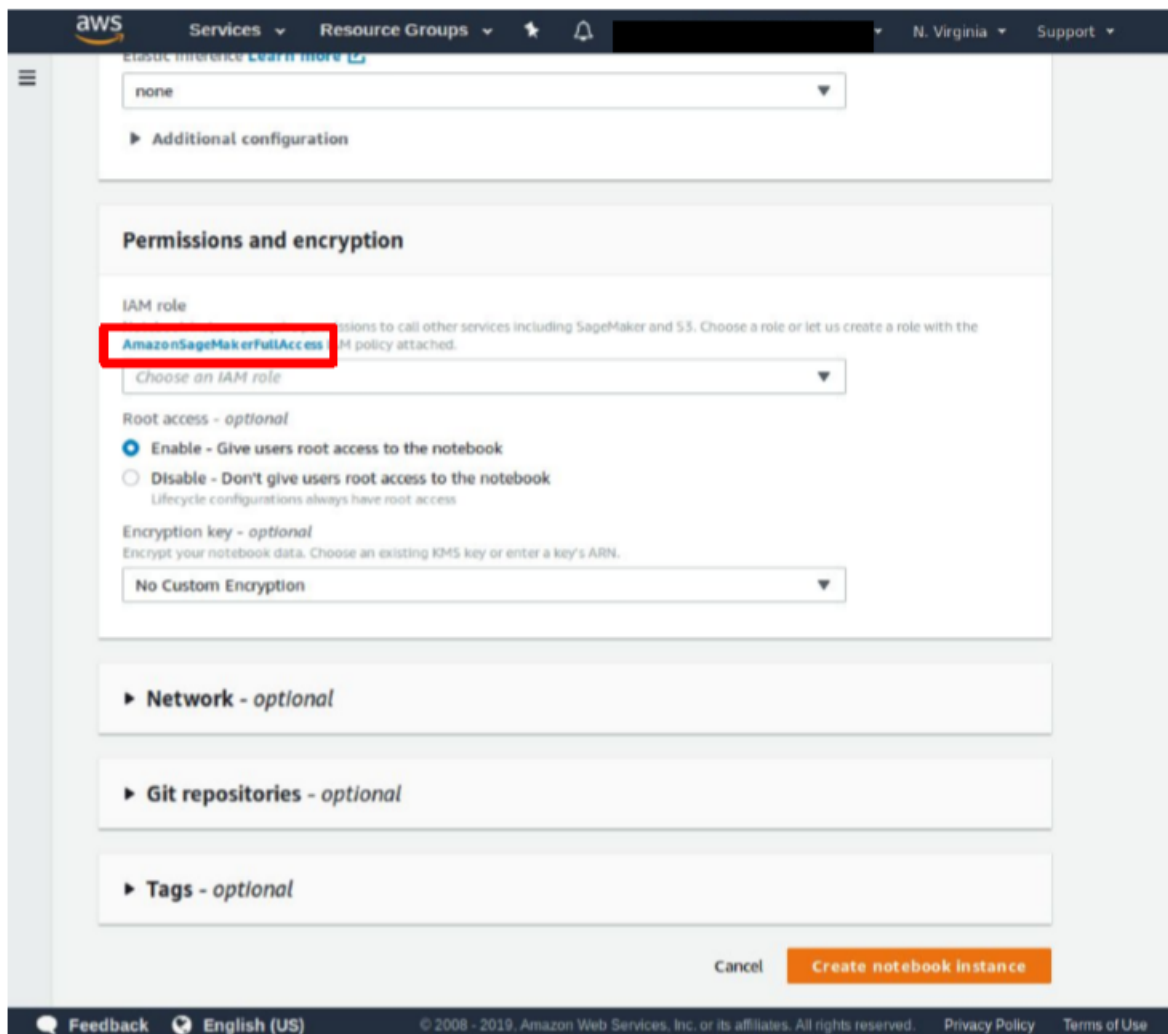
-For GPU, scroll down and select "ml.p2.xlarge". The differences in performance and cost are available here:

<https://aws.amazon.com/sagemaker/pricing/instance-types/>

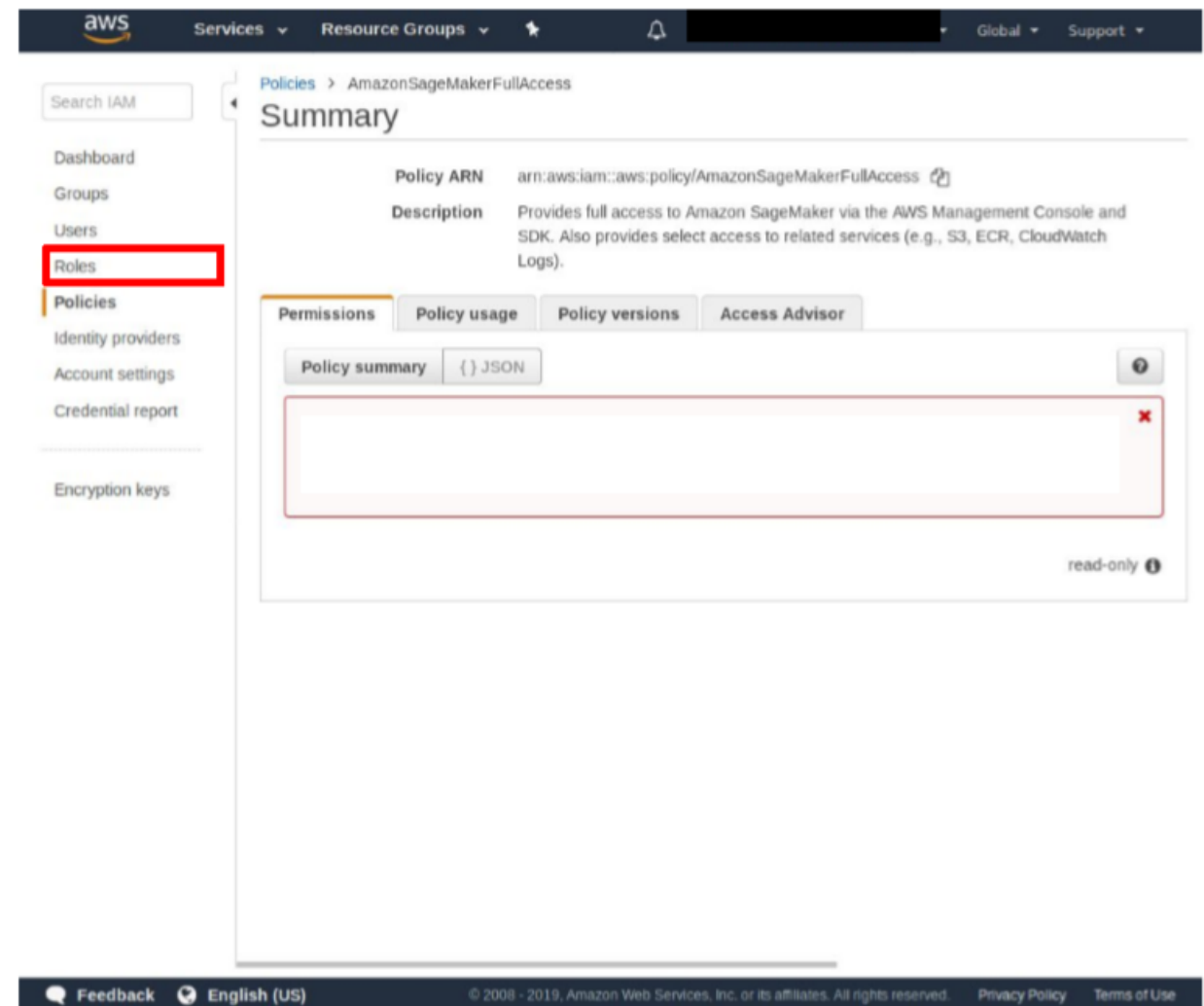
<https://aws.amazon.com/sagemaker/pricing/>

Note: GPU instances are **more expensive**, you can create a CPU instance first and make sure things are working before creating a new notebook with GPU instance type.

Note 2: You **cannot** access the GPU instance types with the Educate account. Use a non-Educate account and redeem the credit code for training credits.



Click on **AmazonSageMakerFullAccess** and a new tab will open



In the new tab (IAM page), click on **Roles**

The screenshot shows the AWS IAM console interface. In the left-hand navigation menu, the 'Roles' link is selected. At the top of the main content area, there are two buttons: 'Create role' and 'Delete role'. The 'Create role' button is highlighted with a red rectangular box. Below these buttons is a search bar and a table listing existing roles. The table has three columns: 'Role name', 'Description', and 'Trusted entities'. The footer of the console shows 'Feedback', 'English (US)', and copyright information.

Under Roles, click on **Create role**

The screenshot shows the 'Create role' wizard in the AWS IAM console. The title is 'Create role'. Below it is the instruction 'Select type of trusted entity'. There are four numbered steps at the top right, with the first step being active. Below the instruction are four options for the trusted entity: 'AWS service' (selected), 'Another AWS account', 'Web identity', and 'SAML 2.0 federation'. Below these options is a section titled 'Choose the service that will use this role'. It lists various AWS services in a grid. 'SageMaker' is highlighted with a red rectangular box. At the bottom right of the grid, there are two buttons: 'Cancel' and 'Next: Permissions'. The 'Next: Permissions' button is highlighted with a red rectangular box. The footer of the console shows 'Feedback', 'English (US)', and copyright information.

Select **SageMaker** and click **Next: Permissions** to proceed

aws

Services

Resource Groups

Global

Support

Create role

1

2

3

4

▼ Attached permissions policies

The type of role that you selected requires the following policy.

Filter policies

Search

Showing 1 result

Policy name	Used as	Description
AmazonSageMakerFullAccess	None	Provides full access to Amazon SageMaker vi...

► Set permissions boundary

* Required

Cancel

Previous

Next: Tags

Feedback English (US) © 2008 - 2019, Amazon Web Services, Inc. or its affiliates. All rights reserved. Privacy Policy Terms of U

Click **Next: Tags** to continue

aws

Services

Resource Groups

Global

Support

Create role

1

2

3

4

Add tags (optional)

IAM tags are key-value pairs you can add to your role. Tags can include user information, such as an email address, or can be descriptive, such as a job title. You can use the tags to organize, track, or control access for this role. [Learn more](#)

Key	Value (optional)	Remove
<input type="text" value="Add new key"/>	<input type="text"/>	

You can add 50 more tags.

Cancel

Previous

Next: Review

Feedback English (US) © 2008 - 2019, Amazon Web Services, Inc. or its affiliates. All rights reserved. Privacy Policy Terms of U

Click **Next: Review** to continue

aws Services Resource Groups

Create role

1 2 3 4

Review

Provide the required information below and review this role before you create it.


Role name*

Use alphanumeric and '+=, @-_' characters. Maximum 64 characters.

Role description

Maximum 1000 characters. Use alphanumeric and '+=, @-_' characters.

Trusted entities AWS service: sagemaker.amazonaws.com

Policies  AmazonSageMakerFullAccess [↗](#)

Permissions boundary Permissions boundary is not set

No tags were added.

* Required

Cancel Previous **Create role**

Feedback English (US) © 2008 - 2019, Amazon Web Services, Inc. or its affiliates. All rights reserved. Privacy Policy Terms of Use

Enter a **Role Name** (“aws-sagemaker-fullaccess”) and click **Create role**

aws Services Resource Groups

Search IAM

Dashboard
Groups
Users
Roles
Policies
Identity providers
Account settings
Credential report

Encryption keys

✓ The role **aws-sagemaker-fullaccess** has been created.

Create role Delete role

Search Showing 14 results

Role name	Description	Trusted entities
<input type="checkbox"/> aws-sagemaker-fullac...	Allows SageMaker notebook instances, training...	AWS service: sagemaker
<input type="checkbox"/> AWSServiceRoleForA...		AWS service: cloud9 (Service-Linked role)
<input type="checkbox"/> AWSServiceRoleForCl...		AWS service: events (Service-Linked role)
<input type="checkbox"/> AWSServiceRoleForEl...		AWS service: elasticache (Service-Linked role)
<input type="checkbox"/> AWSServiceRoleForO...	Service-linked role used by AWS Organizations...	AWS service: organizations (Service-Linked r...
<input type="checkbox"/> AWSServiceRoleForS...	Enables resource access for AWS to provide bil...	AWS service: support (Service-Linked role)
<input type="checkbox"/> AWSServiceRoleForTr...	Access for the AWS Trusted Advisor Service to ...	AWS service: trustedadvisor (Service-Linked ...
<input type="checkbox"/> EMR_AutoScaling_De...		AWS service: application-autoscaling and 1 more
<input type="checkbox"/> EMR_DefaultRole		AWS service: elasticmapreduce
<input type="checkbox"/> EMR_EC2_DefaultRole		AWS service: ec2
<input type="checkbox"/> robomaker_students		AWS service: robomaker
<input type="checkbox"/> vocareum		Account: 057583331198
<input type="checkbox"/> vocstarthard		Account: 057583331198

Feedback English (US) © 2008 - 2019, Amazon Web Services, Inc. or its affiliates. All rights reserved. Privacy Policy Terms of Use

Click on the **role name** “aws-sagemaker-fullaccess” you have just created

Search IAM

Dashboard
Groups
Users
Roles
Policies
Identity providers
Account settings
Credential report

Encryption keys

Roles > aws-sagemaker-fullaccess

Summary

Delete role

Role ARN: **arn:aws:iam::537118888888:role/aws-sagemaker-fullaccess**

Role description: Allows SageMaker notebook instances, training jobs, and models to access S3, ECR, and CloudWatch on your behalf. | [Edit](#)

Instance Profile ARNs: [Link icon](#)

Path: /

Creation time: 2019-06-02 17:33 UTC+0800

Maximum CLI/API session duration: 1 hour [Edit](#)

Permissions | Trust relationships | Tags | Access Advisor | Revoke sessions

Permissions policies (1 policy applied)

[Attach policies](#) [Add inline policy](#)

Policy name	Policy type
AmazonSageMakerFullAccess	AWS managed policy

Permissions boundary (not set)

Feedback English (US) © 2008 - 2019. Amazon Web Services, Inc. or its affiliates. All rights reserved. Privacy Policy Terms of Use

aws Services Resource Groups

none

Additional configuration

Permissions and encryption

IAM role
Notebook instances require permissions to call other services including SageMaker and S3. Choose a role or let us create a role with the [AmazonSageMakerFullAccess](#) IAM policy attached.

Choose an IAM role

Root access - optional

☒ Enable - Give users root access to the notebook
☐ Disable - Don't give users root access to the notebook
Lifecycle configurations always have root access

Encryption key - optional
Encrypt your notebook data. Choose an existing KMS key or enter a key's ARN.

No Custom Encryption

Network - optional

Git repositories - optional

Tags - optional

Cancel [Create notebook instance](#)

Feedback English (US) © 2008 - 2019. Amazon Web Services, Inc. or its affiliates. All rights reserved. Privacy Policy Terms of Use

Copy the **Role ARN**

For example: `arn:aws:iam::537118888888:role/aws-sagemaker-fullaccess`

Go back to the **“Notebook Instance”** browser tab

Permissions and encryption

IAM role
Notebook instances require permissions to call other services including SageMaker and S3. Choose a role or let us create a role with the [AmazonSageMakerFullAccess](#) IAM policy attached.

Enter a custom IAM role ARN ▼

Create a new role

Enter a custom IAM role ARN

Use existing role

☒ Enable - Give users root access to the notebook
☐ Disable - Don't give users root access to the notebook
Lifecycle configurations always have root access

Encryption key - optional
Encrypt your notebook data. Choose an existing KMS key or enter a key's ARN.

No Custom Encryption ▼

► **Network - optional**

► **Git repositories - optional**

► **Tags - optional**

Feedback English (US) © 2008 - 2019, Amazon Web Services, Inc. or its affiliates. All rights reserved.

Permissions and encryption

IAM role
Notebook instances require permissions to call other services including SageMaker and S3. Choose a role or let us create a role with the [AmazonSageMakerFullAccess](#) IAM policy attached.

Enter a custom IAM role ARN ▼

Custom IAM role ARN

arn:aws:iam::537118888888:role/aws-sagemaker-fullaccess

Root access - optional
☒ Enable - Give users root access to the notebook
☐ Disable - Don't give users root access to the notebook
Lifecycle configurations always have root access

Encryption key - optional
Encrypt your notebook data. Choose an existing KMS key or enter a key's ARN.

No Custom Encryption ▼

► **Network - optional**

► **Git repositories - optional**

► **Tags - optional**

Feedback English (US) © 2008 - 2019, Amazon Web Services, Inc. or its affiliates. All rights reserved.

Under the **IAM Role**, click on the dropdown selection and select **“Enter a custom IAM Role ARN”**

Paste in the copied ARN under the Custom IAM role ARN field. For example:
arn:aws:iam::537118888888:role/aws-sagemaker-fullaccess

IAM role

Notebook instances require permissions to call other services including SageMaker and S3. Choose a role or let us create a role with the [AmazonSageMakerFullAccess](#) IAM policy attached.

Enter a custom IAM role ARN

Custom IAM role ARN

arn:aws:iam::336605111628:role/aws-sagemaker-fullaccess

Root access - optional

- ☒ Enable - Give users root access to the notebook
- ☐ Disable - Don't give users root access to the notebook
Lifecycle configurations always have root access

Encryption key - optional

Encrypt your notebook data. Choose an existing KMS key or enter a key's ARN.

No Custom Encryption

► Network - optional

▼ Git repositories - optional

▼ Default repository

Repository

Jupyter will start in this repository. Repositories are added to your home directory.

Clone a public Git repository to this notebook instance only

Git repository URL

Clone a repository to use for this notebook instance only.

[Add additional repository](#)



aws Services Resource Groups

Encryption key - optional
Encrypt your notebook data. Choose an existing KMS key or enter a key's ARN.

No Custom Encryption

► Network - optional

▼ Git repositories - optional

▼ Default repository

Repository
Jupyter will start in this repository. Repositories are added to your home directory.

Clone a public Git repository to this notebook instance only

Git repository URL
Clone a repository to use for this notebook instance only.

[Add additional repository](#)

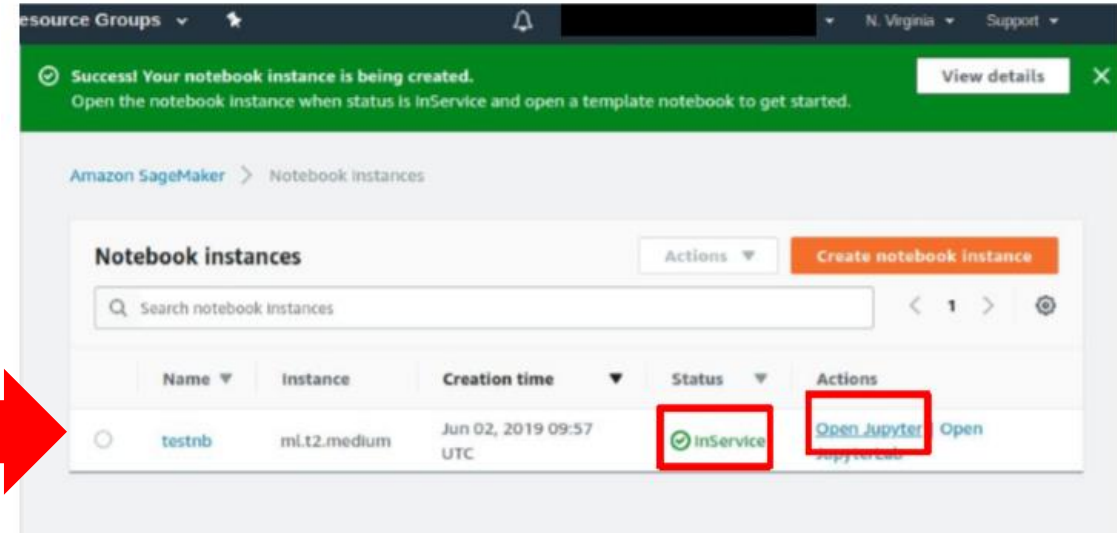
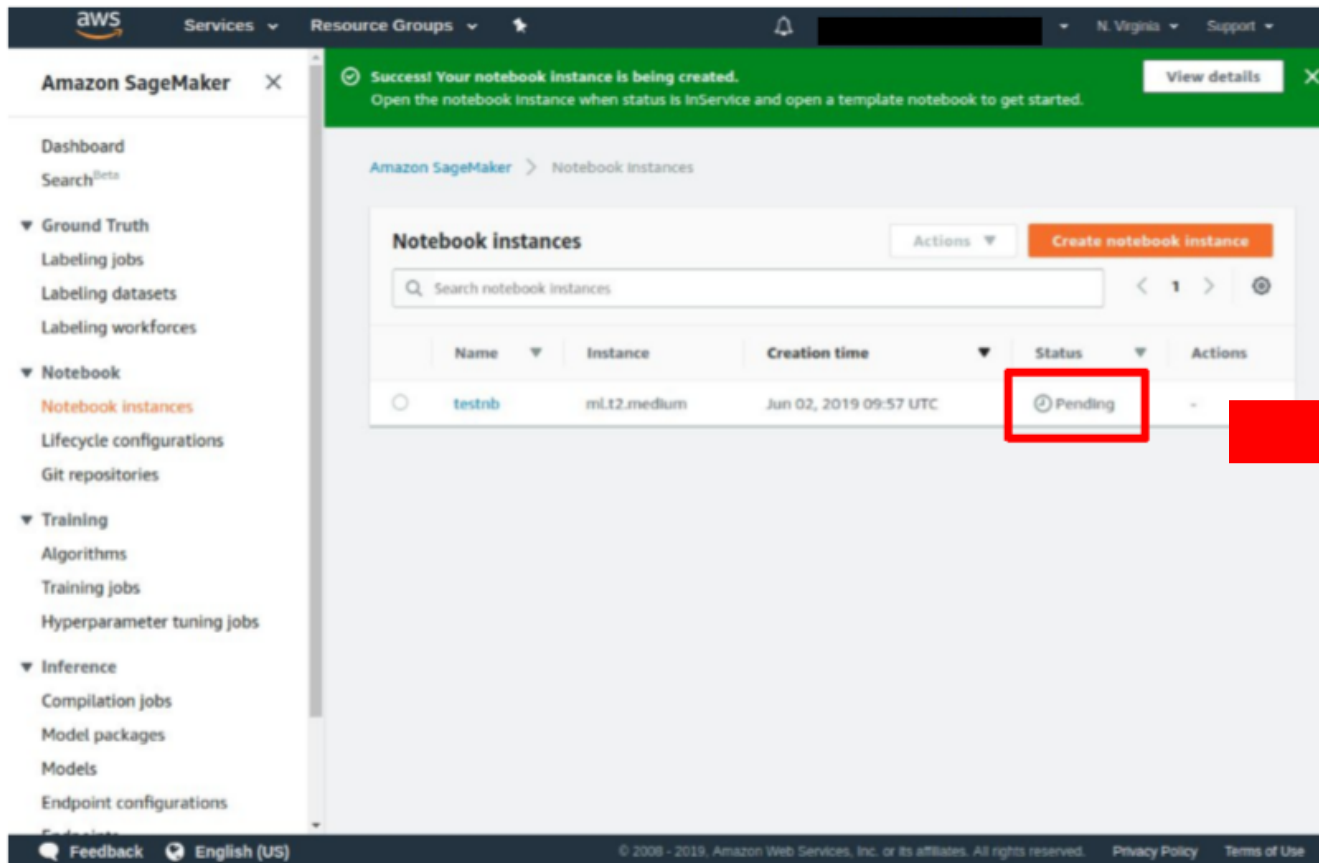
► Tags - optional

Cancel **Create notebook instance**

Feedback English (US) © 2008 - 2019, Amazon Web Services, Inc. or its affiliates. All rights reserved.

Optional: If you want to clone a github repo to use in this notebook, Scroll down to “**Git repositories**” and select “**Clone a public Git repository to this notebook instance only**”

Click on **Create notebook instance** to continue



Upon successful creation, you will be redirected to the Notebook Instance page. The notebook status is now **"Pending"**.

Wait for the status to change to **"InService"**. It may take a few minutes.

Once the status is updated, click **Open Jupyter** to access your notebook instance

Files

Running

Clusters

SageMaker Examples

Conda

Select items to perform actions on them.

Upload

New

☐ 0 ▾

/

If you have **cloned** a github repo, you will see it populated automatically here.

Create a notebook with the required backend. Ensure you select the **Python3** variant. **Open** the notebook and start coding!

Notebook:

R

Sparkmagic (PySpark)

Sparkmagic (Spark)

Sparkmagic (SparkR)

conda_amazonei_mxnet_p27

conda_amazonei_mxnet_p36

conda_amazonei_tensorflow_p27

conda_amazonei_tensorflow_p36

conda_chainer_p27

conda_chainer_p36

conda_mxnet_p27

conda_mxnet_p36

conda_python2

conda_python3

conda_pytorch_p27

conda_pytorch_p36

conda_tensorflow_p27

conda_tensorflow_p36

Other:

Text File

Folder

Terminal

Shutting down instances

Notebook instances

Search notebook instances

	Name	Instance	Creation time	Status	Actions
<input type="radio"/>	my-second-notebook	ml.t2.medium	Jun 06, 2020 06:58 UTC	Stopped	Start
<input checked="" type="radio"/>	My-First-Notebook	ml.t2.medium	Jun 06, 2020 05:46 UTC	InService	Open Jupyter Stop Start Update settings Add/Edit tags Delete

Create notebook instance

< 1 > ⚙

Select the **Notebook instance** that you want to stop. Under **Actions**, click **Stop**



Notebook instances

Search notebook instances

	Name	Instance	Creation time	Status	Actions
<input type="radio"/>	my-second-notebook	ml.t2.medium	Jun 06, 2020 06:58 UTC	Stopped	Start
<input type="radio"/>	My-First-Notebook	ml.t2.medium	Jun 06, 2020 05:46 UTC	Stopped	Start

Create notebook instance

< 1 > ⚙

Wait for the status to change from “**Stopping**” to “**Stopped**”. This may take a few minutes



vocstartsoft/user805316=wei... ^

Federated Login:

vocstartsoft/user805316=weichenglau1991@gmail.com

Account:

3366-0511-1628

My Account

My Organization

My Service Quotas

My Billing Dashboard

Orders and Invoices

Switch Role

Sign Out

You may click on **My Billing Dashboard** to check your spending and the credits you have left.
Finally, **Sign Out** from your account.