

# AWS Setup

Cloud Resources

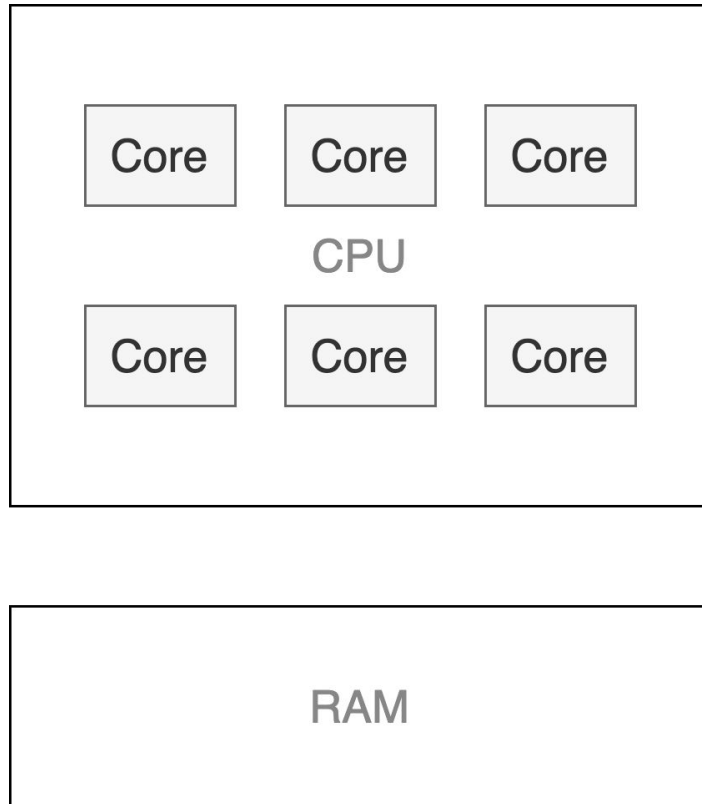
# Performance: Hardware

- Desktop CPUs

- Frequency = 2-4 GHz
- Cores = 1-12
- RAM = 8-64GB

- Server CPUs

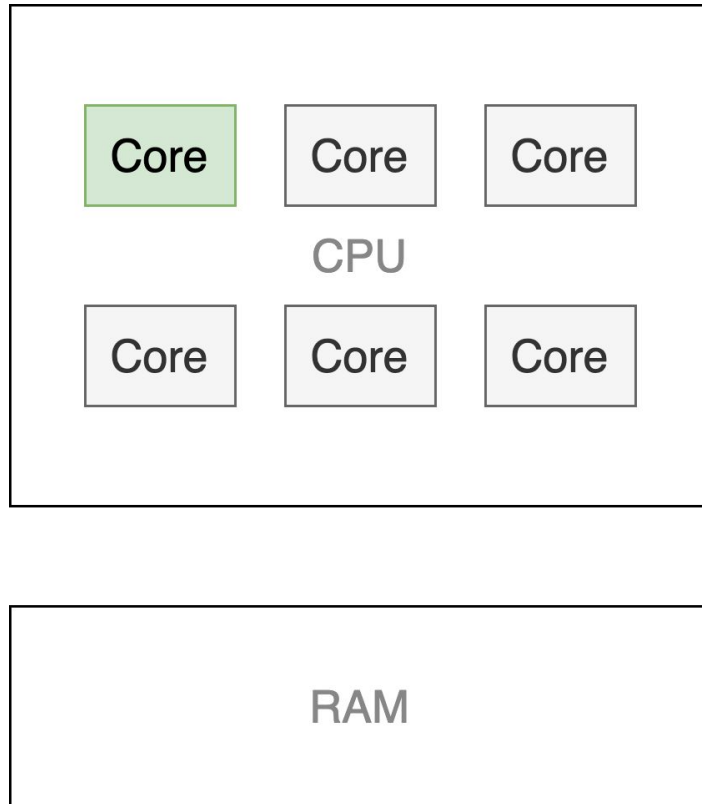
- Frequency = 2-4 GHz
- Cores = 1-96
- RAM = 1-1024GB



# Performance: Single-Process

Process 1: Python

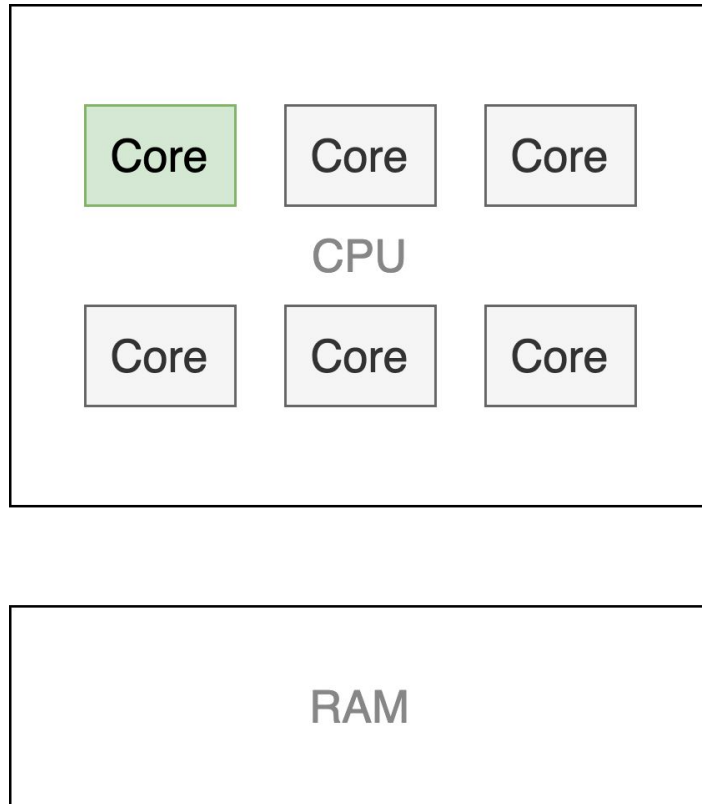
- Thread 1: Interpreter
  - Running your Python code



# Performance: Single-Process

## Process 1: Python

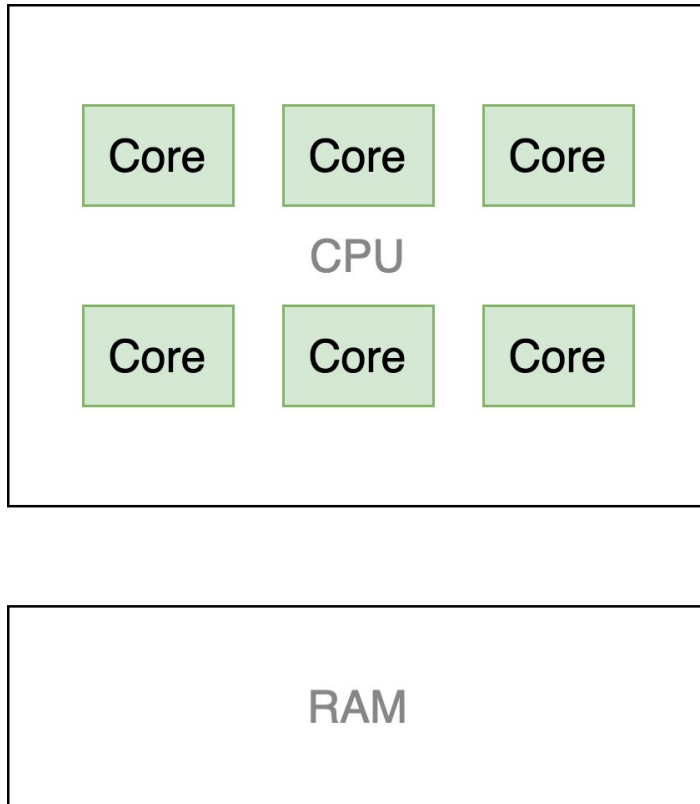
- Thread 1: Interpreter
  - Running your Python code
- Thread 2: NumPy/Tensorflow - C code
- Thread 3: NumPy/Tensorflow - C code
- Thread 4: NumPy/Tensorflow - C code
- Thread 5: NumPy/Tensorflow - C code
- Thread 6: NumPy/Tensorflow - C code
- Thread 7: NumPy/Tensorflow - C code



# Performance: Single-Process

## Process 1: Python

- Thread 1: Interpreter
  - Running your Python code
- Thread 2: NumPy/Tensorflow - C code
- Thread 3: NumPy/Tensorflow - C code
- Thread 4: NumPy/Tensorflow - C code
- Thread 5: NumPy/Tensorflow - C code
- Thread 6: NumPy/Tensorflow - C code
- Thread 7: NumPy/Tensorflow - C code



# Performance: Multi-Process

Process 1:

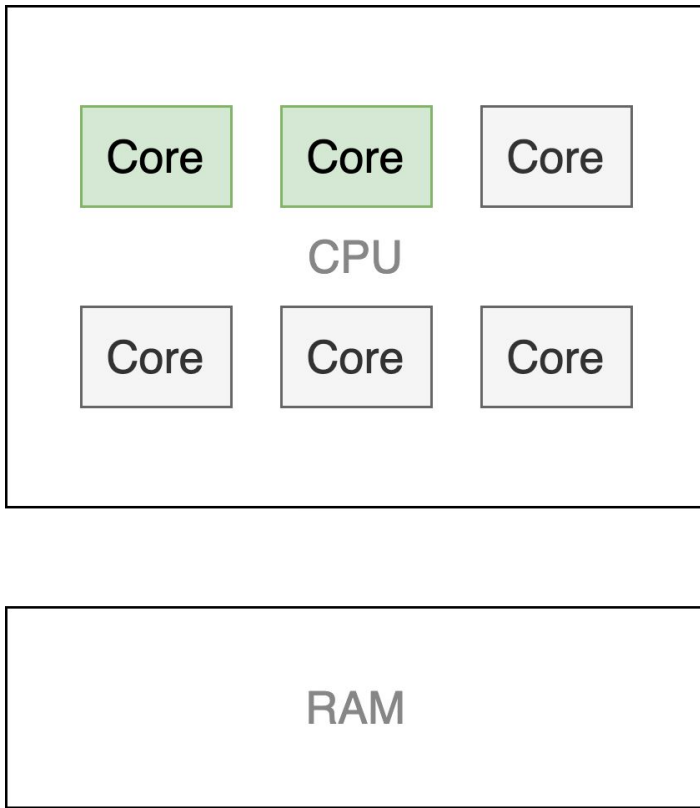
- Thread 1: Python Interpreter

Process 2:

- Thread 1: Python Interpreter

Examples:

- Jupyter notebooks / kernels
- Scikit-Learn (via Joblib)
- Tsfresh
- Dask



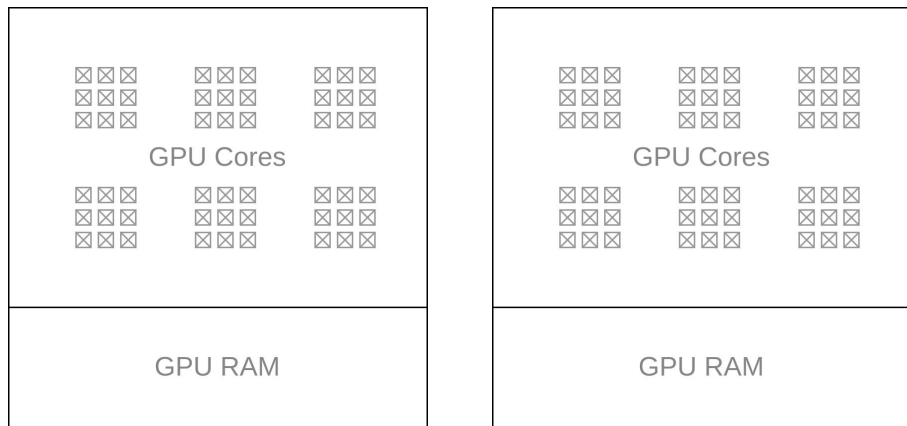
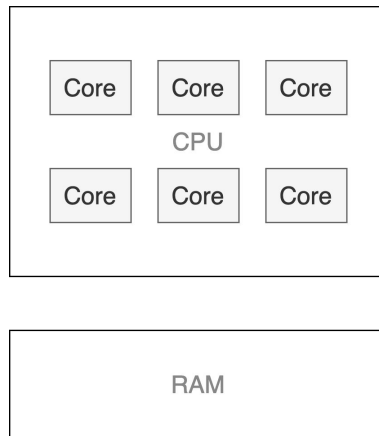
# Performance: GPU

- Desktop GPUs

- Frequency = 1-2 GHz
- Cores = 1000 - 2000
- RAM = 6-24GB
- Support for multiple GPUs

- Server GPUs

- Frequency = 1-2 GHz
- Cores = 3000 - 5000
- RAM = 12-16GB
- Support for multiple GPUs



# AWS Prices

Instance Types	CPU Cores	CPU RAM	GPU Cores	GPU RAM	\$ / hour	Hours / \$100
t3.medium	2	4			\$0.06	1666
t3.xlarge	4	16			\$0.23	434
t3.2xlarge	8	32			\$0.47	217
p2.xlarge	4	61	2,496	12	\$1.26	79
p3.2xlarge	8	61	5,120	16	\$4.28	23

<https://aws.amazon.com/ec2/pricing/>

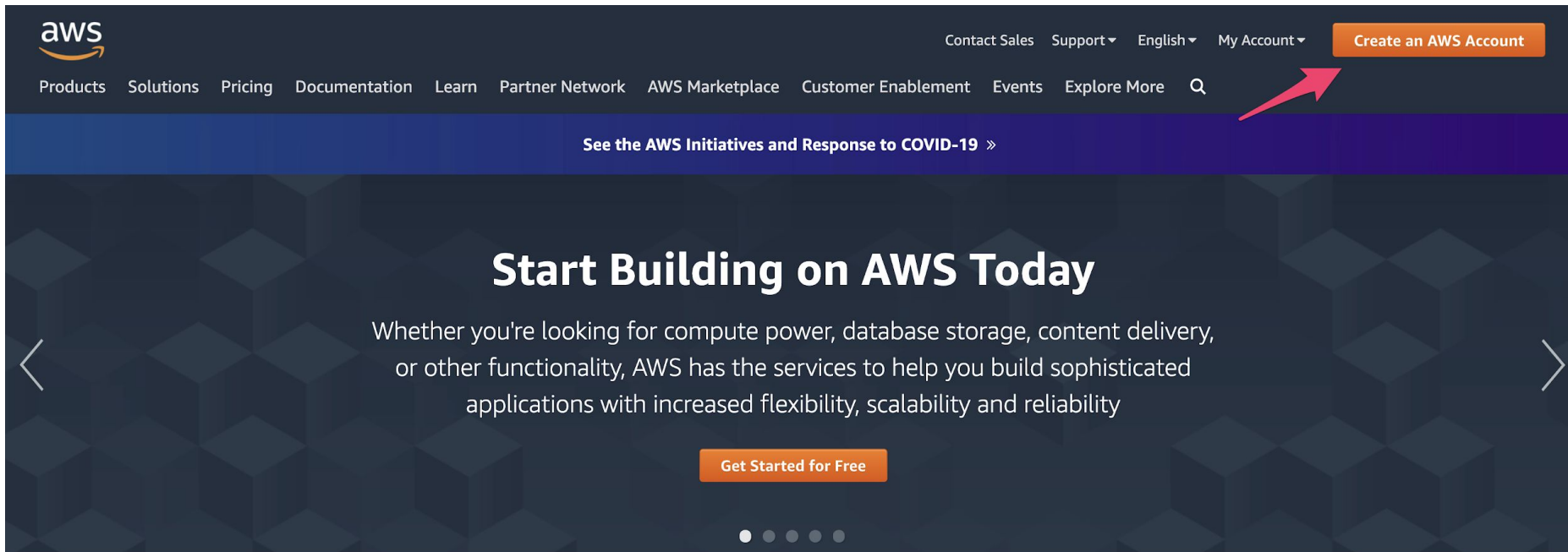


# AWS Prices

Storage Type	\$ / GB / month	Months / 50GB / \$100
Elastic Block Store	\$0.14	7
Simple Storage Service	\$0.023	87

<https://aws.amazon.com/ec2/pricing/>

# Create new AWS account



The image is a screenshot of the AWS website's homepage. At the top, the AWS logo is on the left. To its right is a navigation bar with links for 'Contact Sales', 'Support', 'English', and 'My Account'. Further right is an orange button labeled 'Create an AWS Account'. A red arrow points from the bottom right towards this button. Below the navigation bar is a dark blue banner with the text 'See the AWS Initiatives and Response to COVID-19' followed by a double arrow. The main section has a dark background with a geometric cube pattern. It features the heading 'Start Building on AWS Today' in large white text. Below this is a paragraph: 'Whether you're looking for compute power, database storage, content delivery, or other functionality, AWS has the services to help you build sophisticated applications with increased flexibility, scalability and reliability'. At the bottom of this section is an orange button labeled 'Get Started for Free'. Navigation arrows (left and right) are visible on the sides of the main section, and a series of five dots at the bottom indicates a carousel.

aws

Contact Sales Support English My Account

Products Solutions Pricing Documentation Learn Partner Network AWS Marketplace Customer Enablement Events Explore More

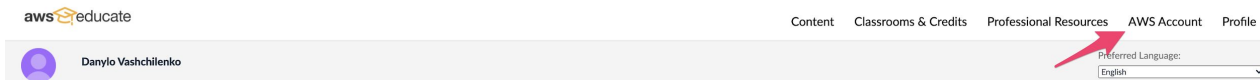
See the AWS Initiatives and Response to COVID-19 »

## Start Building on AWS Today

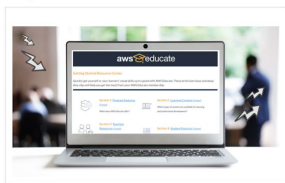
Whether you're looking for compute power, database storage, content delivery, or other functionality, AWS has the services to help you build sophisticated applications with increased flexibility, scalability and reliability

Get Started for Free

# Get Promo Code from AWS Educate



Hi, welcome back to Educate.



## Getting the Most out of AWS Educate

Looking to get the most from your AWS Educate membership? Seeking answers to frequently asked questions? The Getting Started resources Center provides brief overviews and deep-dive clips so you have everything you need to get started right away.

[Get Started Now](#)

## Featured Content

**Hands-On Activities and Guides**  
Engage your students in real-world activities aligned to in-demand cloud computing roles.

**AWS Educate Content Resource Kit**  
A content kit from AWS Educate to guide your content development process.

**Get Inspired**  
Read this month's AWS Educate Cloud Ambassador spotlight.

**Getting Started Resource Center**  
One-stop-resource to get up to speed with AWS Educate

[Go to My AWS Account](#)

## AWS Account

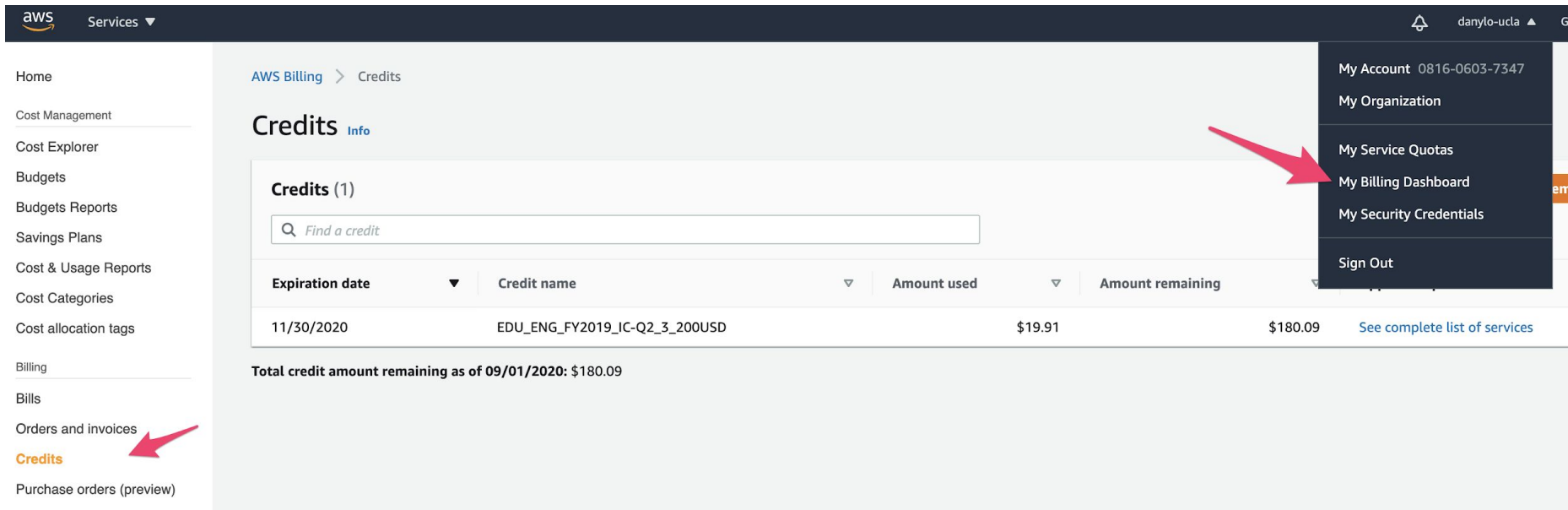
Use your AWS Account to access the AWS Console and resources, and start building in the cloud!

[Show my AWS Promotional Credit](#)

Learn how to redeem your AWS Promotional credit code  
Visit <https://aws.amazon.com/awscredits/>



# Apply promo code to your account



The screenshot shows the AWS Billing Credits page. On the left, a navigation menu lists various AWS services and billing options. A red arrow points to the 'Credits' link in this menu. The main content area is titled 'Credits (1)' and features a search bar with the placeholder text 'Find a credit'. Below the search bar is a table with columns for 'Expiration date', 'Credit name', 'Amount used', and 'Amount remaining'. The table contains one entry for a credit with an expiration date of 11/30/2020, a credit name of EDU\_ENG\_FY2019\_IC-Q2\_3\_200USD, an amount used of \$19.91, and an amount remaining of \$180.09. A red arrow points to the 'My Billing Dashboard' link in the user menu on the right. Below the table, a summary line states 'Total credit amount remaining as of 09/01/2020: \$180.09'. A link to 'See complete list of services' is also present.

aws Services ▼

Home

Cost Management

Cost Explorer

Budgets

Budgets Reports

Savings Plans

Cost & Usage Reports

Cost Categories

Cost allocation tags

Billing

Bills

Orders and invoices

**Credits**

Purchase orders (preview)

AWS Billing > Credits

Credits [Info](#)

Credits (1)

Find a credit

Expiration date	Credit name	Amount used	Amount remaining
11/30/2020	EDU_ENG_FY2019_IC-Q2_3_200USD	\$19.91	\$180.09

Total credit amount remaining as of 09/01/2020: \$180.09

[See complete list of services](#)

My Account 0816-0603-7347

My Organization

My Service Quotas

My Billing Dashboard

My Security Credentials

Sign Out

# Create new AWS access key

**Identity and Access Management (IAM)**

- Dashboard
- Access management
  - Groups
  - Users
  - Roles
  - Policies
  - Identity providers
  - Account settings
- Access reports
  - Access analyzer
  - Archive rules
  - Analysers

## Your Security Credentials

Use this page to manage the credentials for your AWS account. To manage credentials for AWS Identity and Access Management (IAM) users, use the [IAM Console](#).

To learn more about the types of AWS credentials and how they're used, see [AWS Security Credentials](#) in AWS General Reference.

- ▲ Password
- ▲ Multi-factor authentication (MFA)
- ▼ Access keys (access key ID and secret access key)

Use access keys to make programmatic calls to AWS from the AWS CLI, Tools for PowerShell, the AWS SDKs, or direct AWS API calls. You can have a maximum of two access keys (active or inactive) at a time.

Created	Access Key ID	Last Used	Last Used Region	Last Used Service	Status
<a href="#">Create New Access Key</a>					

Root user access keys provide unrestricted access to your entire AWS account. If you need long-term access keys, we recommend creating a new IAM user with limited permissions and generating access keys instead. [Learn more](#)

**Navigation Menu:**

- My Account 0816-0603-7347
- My Organization
- My Service Quotas
- My Billing Dashboard
- My Security Credentials
- Sign Out

# Increase service quotas to use large instances

The screenshot shows the AWS Service Quotas console. The breadcrumb navigation at the top indicates the path: Service Quotas > AWS services > Amazon Elastic Compute Cloud (Amazon EC2). A search filter 'On-Demand' is applied to the service quotas. A dropdown menu is open, showing options like 'My Account', 'My Organization', 'My Service Quotas', 'My Billing Dashboard', 'My Security Credentials', and 'Sign Out'. The table below lists various service quotas for EC2 instances, with columns for 'Service quota', 'Applied quota value', and 'Adjustable'.

Service quota	Applied quota value	Adjustable
Running On-Demand F instances	64	Yes
Running On-Demand G instances	8	Yes
Running On-Demand Inf instances	8	Yes
Running On-Demand P instances	20	Yes
Running On-Demand Standard (A, C, D, H, I, M, R, T, Z) instances	256	Yes
Running On-Demand X instances	0	Yes

# Increase service quota to use large CPU instances

## Request quota increase: Running On-Demand Standard (A, C, D, H, I, M, R, T, Z) instances ✕

Quota name

Running On-Demand Standard (A, C, D, H, I, M, R, T, Z) instances



Description

Maximum number of vCPUs assigned to the Running On-Demand Standard (A, C, D, H, I, M, R, T, Z) instances.

Utilization

0

Applied quota value

256

AWS default quota value

5

Change quota value:

Enter in the total amount that you want the quota to be. [Learn more](#) 



Must be a number greater than your current quota value




Cancel

Request

# Increase service quotas to use GPU instances

**Request quota increase: Running On-Demand P instances** ×


Quota name  
Running On-Demand P instances 


Description  
Maximum number of vCPUs assigned to the Running On-Demand P instances.

Utilization  
0


Applied quota value  
20

AWS default quota value  
0

Change quota value:  
Enter in the total amount that you want the quota to be. [Learn more](#) 



Must be a number greater than your current quota value

Cancel  Request