

Universidade Federal Fluminense

Amazon Web Services (AWS)

Primeiros Passos

Luan Teylo

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Agenda

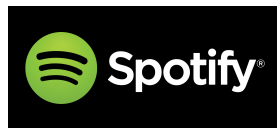
- 1 Introdução
- 2 Página Inicial
- 3 AWS Console
- 4 Management DashBoard
- 5 Elastic Computer Cloud (EC2)
- 6 Simple Storage Service (S3)

Amazon Web Services



AWS é uma plataforma de serviços em nuvem que oferecendo poder computacional, armazenamento, distribuição de conteúdo e MUITAS outras funcionalidades através da Internet.

Amazon Web Services



Página Inicial

<https://aws.amazon.com/pt/>

The screenshot shows the AWS homepage in Portuguese. The top navigation bar includes links for Contact Sales, Products, Solutions, Pricing, Getting Started, Documentation, AWS Marketplace, Support, Customers, Partners, More, English, My Account, and a Sign in to the Console button. The main banner features the headline 'Introducing Amazon EC2 C5d Instances' with a subtext 'Amazon EC2 C5 Instances backed by high performance block-level storage for compute-intensive workloads' and a 'Learn more' link. To the right of the text is a diagram of a C5 instance connected to a storage volume. Below the banner is a section titled 'Explore Our Products' with five product cards: Lightsail, Amazon EC2 I3 Bare Metal Instances, Amazon Aurora Backtrack, and AWS Database Migration Service. Each card includes an icon and a brief description. The bottom of the page shows a row of icons representing various AWS services.

Amazon Web Services (AWS)

<https://aws.amazon.com>

Menu **aws** Contact Sales Products Solutions Pricing Getting Started Documentation AWS Marketplace Support Customers Partners More English My Account Sign in to the Console

Introducing Amazon EC2 C5d Instances

Amazon EC2 C5 Instances backed by high performance block-level storage for compute-intensive workloads

[Learn more »](#)

Lightsail
Everything you need to get started on AWS—for a low, predictable price

Amazon EC2 I3 Bare Metal Instances
Deliver direct access to next-generation Nitro-based AWS hardware infrastructure

Amazon Aurora Backtrack
The undo button for your database

AWS Database Migration Service
Join the 70,000+ databases already migrated and converted

Explore Our Products



<https://aws.amazon.com/pt/education/awseducate/>

O AWS Educate é uma iniciativa global da Amazon que disponibiliza a alunos e professores os recursos necessários para acelerar o aprendizado relacionado à nuvem.



Alunos



Os alunos recebem créditos
para obter experiência prática
com a tecnologia, o
treinamento, o conteúdo, os
Career Pathways e o Job
Board da AWS.

Vídeo 1: [Inscrição no AWS Education](#)



AWS Educate Starter Account

An AWS Educate Starter Account is a free, capped-account that **doesn't require a credit card**. There are some Usage limitations including an approximately 25% reduction in access to AWS services. Because Starter Accounts are capped, a separate AWS promotional code is not provided.

 Services ▾ Resource Groups ▾ 

AWS services


Find a service by name or feature (for example, EC2, S3 or VM, storage).


> Recently visited services


> 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

**Connect an IoT device**
With AWS IoT
~5 minutes


**Start a development project**
With CodeStar
~5 minutes


**Register a domain**
With Route 53
~3 minutes


See more

Learn to build

Learn to deploy your solutions through step-by-step guides, labs, and videos.

Websites

3 videos, 3 tutorials, 3 labs

DevOps

6 videos, 2 tutorials, 3 labs


Backup and recovery

3 videos, 2 tutorials, 3 labs


Big data

Databases

Mobile

Helpful tips

**Manage your costs**
Monitor your AWS costs, usage, and reservations using AWS Budgets. [Start now](#)

**Create an organization**
Use AWS Organizations for policy-based management of multiple AWS accounts. [Start now](#)

Explore AWS

Machine Learning with Amazon SageMaker
The fastest way to build, train, and deploy machine learning models. [Learn more.](#)

Amazon Relational Database Service (RDS)
RDS manages and scales your database for you. RDS supports Aurora, MySQL, PostgreSQL, MariaDB, Oracle, and SQL Server. [Learn more.](#)

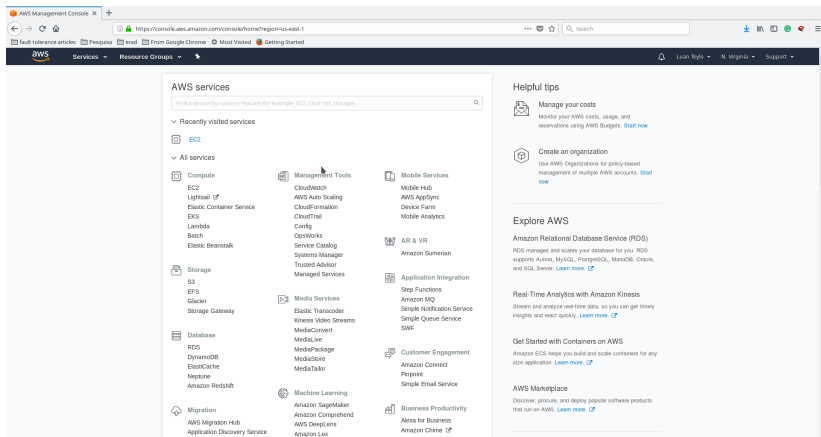
AWS Fargate Runs Containers for You
AWS Fargate works with Amazon ECS to run and scale your containers for you. Pay only for the compute resources you need, scale quickly, and run any size application. [Learn more.](#)

AWS Marketplace
Find, buy, and deploy popular software products that run on

AWS - Primeiros Passos

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<https://console.aws.amazon.com/>



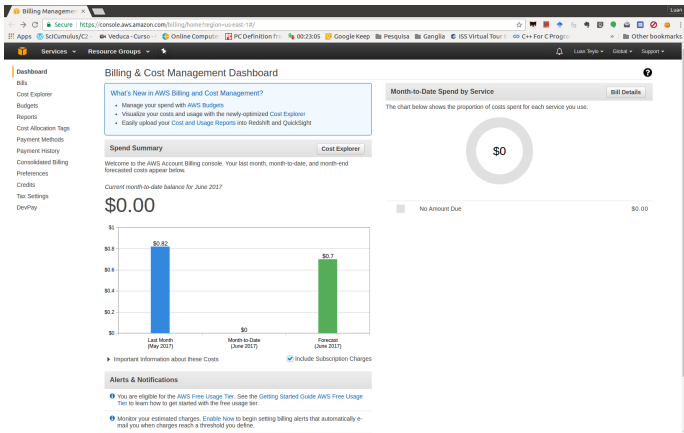
Console

- ▶ Billing Cost Management Dashboard
- ▶ Elastic Compute Cloud (EC2)
- ▶ Amazon Simple Storage Service (Amazon S3)

Console

Management DashBoard

<https://console.aws.amazon.com/billing/>



Elastic Computer Cloud

EC2

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

- ▶ Disponibiliza capacidade computacional segura e redimensionável na nuvem.
- ▶ A interface de serviço da Web do Amazon EC2 permite que você obtenha e configure o ambiente facilmente.
- ▶ Oferece um controle completo de seus recursos computacionais.

EC2

Tipos de Instâncias

<https://aws.amazon.com/ec2/pricing/on-demand/>

Region:	US East (Ohio) ▾				
	vCPU	ECU	Memory (GiB)	Instance Storage (GB)	Linux/UNIX Usage
General Purpose - Current Generation					
t2.nano	1	Variable	0.5	EBS Only	\$0.0058 per Hour
t2.micro	1	Variable	1	EBS Only	\$0.0116 per Hour
t2.small	1	Variable	2	EBS Only	\$0.023 per Hour
t2.medium	2	Variable	4	EBS Only	\$0.0464 per Hour
t2.large	2	Variable	8	EBS Only	\$0.0928 per Hour
t2.xlarge	4	Variable	16	EBS Only	\$0.1856 per Hour
t2.2xlarge	8	Variable	32	EBS Only	\$0.3712 per Hour
m5.large	2	10	8	EBS Only	\$0.096 per Hour
m5.xlarge	4	15	16	EBS Only	\$0.192 per Hour
m5.2xlarge	8	31	32	EBS Only	\$0.384 per Hour
m5.4xlarge	16	61	64	EBS Only	\$0.768 per Hour

EC2

Tipos de Instâncias

<https://aws.amazon.com/ec2/pricing/on-demand/>

Compute Optimized - Current Generation

c5.large	2	8	4	EBS Only	\$0.085 per Hour
c5.xlarge	4	16	8	EBS Only	\$0.17 per Hour
c5.2xlarge	8	31	16	EBS Only	\$0.34 per Hour
c5.4xlarge	16	62	32	EBS Only	\$0.68 per Hour
c5.9xlarge	36	139	72	EBS Only	\$1.53 per Hour
c5.18xlarge	72	278	144	EBS Only	\$3.06 per Hour
c5d.large	2	8	4	1 x 50	\$0.096 per Hour
c5d.xlarge	4	16	8	1 x 100	\$0.192 per Hour
c5d.2xlarge	8	31	16	1 x 200	\$0.384 per Hour
c5d.4xlarge	16	62	32	1 x 400	\$0.768 per Hour
c5d.9xlarge	36	139	72	1 x 900	\$1.728 per Hour
c5d.18xlarge	72	278	144	1 x 1800	\$3.456 per Hour

EC2

Conceitos Básicos

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

Etapa 1: Inicie as instâncias

Etapa 2: Conecte

Etapa 3: Utilize

Etapa 4: Encerre/**delete** as instâncias

EC2

Iniciando as Instâncias

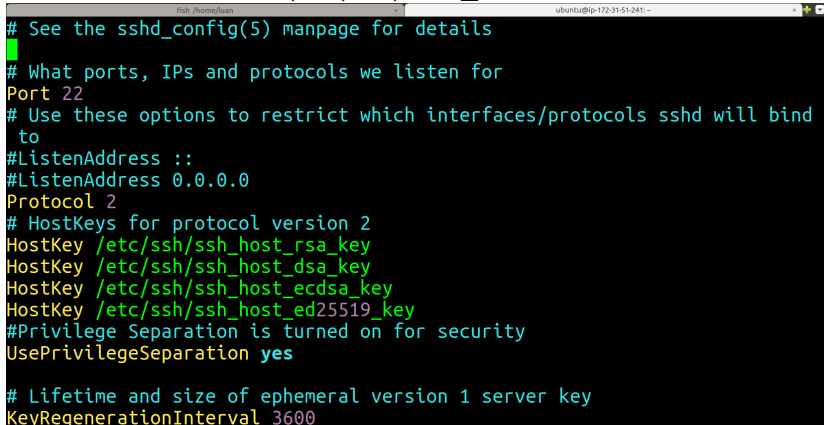
Vídeo 2: [Etapa 1: Iniciando as instâncias](#)

EC2

Conectando

- ▶ Iremos utilizar um cliente SSH instalado na máquina local.
- ▶ Atenção! Em um AMI padrão apenas a porta 22 está habilitada para receber conexão SSH.

/etc/ssh/sshd_conf

A terminal window with a dark background and light-colored text. The window title bar shows 'fish /home/luan' on the left and 'ubuntu@ip-172-31-51-241: ~' on the right. The terminal content shows the configuration for the SSH daemon (sshd) in the file /etc/ssh/sshd_conf. The configuration includes comments and settings for listening address, protocol, host keys, privilege separation, and key regeneration interval.

```
# See the sshd_config(5) manpage for details
# What ports, IPs and protocols we listen for
Port 22
# Use these options to restrict which interfaces/protocols sshd will bind
to
#ListenAddress ::
#ListenAddress 0.0.0.0
Protocol 2
# HostKeys for protocol version 2
HostKey /etc/ssh/ssh_host_rsa_key
HostKey /etc/ssh/ssh_host_dsa_key
HostKey /etc/ssh/ssh_host_ecdsa_key
HostKey /etc/ssh/ssh_host_ed25519_key
#Privilege Separation is turned on for security
UsePrivilegeSeparation yes

# Lifetime and size of ephemeral version 1 server key
KeyRegenerationInterval 3600
```

Vídeo 3: [Etapa 2: Conectando](#)

EC2

Utilizando

Dica:

Utilize o SCP para transferir dados/programas para a VM

```
luan@ubiratom-dell:~$ scp -i "teste.pem" helloworld.c ubuntu@ec2-54-91-209-68.compute-1.
amazonaws.com:~/
helloworld.c                                100% 251      0.3KB/s  00:00
luan@ubiratom-dell:~$ ssh -i "teste.pem" ubuntu@ec2-54-91-209-68.compute-1.amazonaws.com
DISPLAY "(null)" invalid; disabling X11 forwarding
Welcome to Ubuntu 16.04.2 LTS (GNU/Linux 4.4.0-1013-aws x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:    https://landscape.canonical.com
 * Support:       https://ubuntu.com/advantage

Get cloud support with Ubuntu Advantage Cloud Guest:
http://www.ubuntu.com/business/services/cloud

0 packages can be updated.
0 updates are security updates.

Last login: Sat Jun  3 17:45:53 2017 from 200.20.15.39
ubuntu@ip-172-31-51-241:~$ ls
helloworld.c
ubuntu@ip-172-31-51-241:~$
```

EC2

Deletando

Vídeo 4: [Etapa 3: deletando](#)

Simple Storage Service (S3)

<https://console.aws.amazon.com/s3/>

- ▶ É um serviço de armazenamento de objetos
- ▶ Foi projetado para oferecer uma durabilidade de 99,999999999% e escalar mais de 1 trilhão de objetos em todo o mundo.



Spotify®

Quora

GitHub

S3

Política de Cobrança

<https://aws.amazon.com/pt/s3/pricing/>

Região: Leste dos EUA (Ohio) ↕

Definição de preço

Armazenamento S3 Standard

Primeiros 50 TB/mês	0,023 USD por GB
Próximos 450 TB/mês	0,022 USD por GB
Acima de 500 TB/mês	0,021 USD por GB

S3

Política de Cobrança

<https://aws.amazon.com/pt/s3/pricing/>

Região: Leste dos EUA (Ohio) ↕

	Definição de preço
Dados retornados pelo S3 Select	0,0007 USD por GB
Dados verificados pelo S3 Select	0,002 USD por GB
Solicitações PUT, COPY, POST ou LIST	0,005 USD por cada 1.000 solicitações
Solicitações GET, SELECT e todas as outras	0,0004 USD por cada 1.000 solicitações
Solicitações de transição de ciclo de vida para Standard – Acesso infrequente ou One Zone – Acesso infrequente	0,01 USD por cada 1.000 solicitações

S3

Utilizando o S3

Vídeo 5: Criando um Bucket no S3

- ▶ Para criar um ponto de montagem do S3 utilizaremos o s3fs
 - ▶ Disponível em: <https://github.com/s3fs-fuse/s3fs-fuse>

Vídeo 6: Utilizando o S3 em uma instância EC2

Dúvidas ?

Todo os arquivos desta apresentação foram disponibilizados inicialmente em: <https://github.com/luantheylo/Tutorial-AWS>